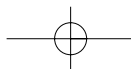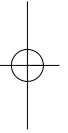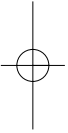# E-Gov. 2.0:
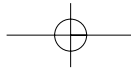# pave the way for e-Participation

Conception, planning and co-ordination:
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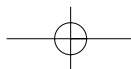# Index

E-Gov. 2.0: pave the way for e-Participation

The Digital Rights in the age of Technological Innovation

Resources, knowledge and new skills

Interoperability and Applicative Cooperation

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Foreword

Beyond efficiency, to empowerment

The new Information and Communications Technologies are gradually giving rise to a radical transformation in the current scenario. Globalisation, the new economy, the predominant role of finance in economic activity, the opening up of international markets: these are only some of the features of the epoch-making change underway. The introduction of the new digital media have resulted in a thorough-going transformation of communication and access to information, as well as reorganising the way in which the production processes of both businesses and government bodies are organised, all the while establishing and experimenting with new systems of training and instruction.
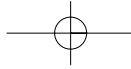
As far as the public sector is concerned, there is no mistaking the fact that the development of the information systems of the public administration has proven to be a formidable tool when it comes to restoring the efficiency and quality of services. Still, the process of reorganisation and innovation aimed at improving public-sector performance represents only one facet of the necessary adjustment of the modus operandi of democratic institutions to meet the demands of the new social context.

Political institutions are called on to respond not only to the challenge of raising levels of administrative efficiency, but also that of addressing the inadequacy of the channels traditionally used to process the demands of the political process. Being citizens of an information society means not only being able to access the services of a more efficient public administration, one capable of designing services that meet the needs of its users, but also being offered a new way of taking part in public life, in light of the growing level of cooperation between public operators and organised private subjects (stakeholders, businesses and institutions of particular socio-economic significance) in the formulation of policies and the supply of services. This new area of relations calls not only for a closer focus on the transparency of decision-making procedures and their implementation, but also for a more open approach to managing the proposals contributed by individual citizens, as well as the collective expressions of such proposals. An increasingly urgent task, therefore, is the preparation of the underlying conditions and tools needed to obtain increased involvement on the part of citizens in processes of policy-making and the supply of services (so-called interactive e-Government).

Seen in this light, *"Today, Information and Communication Technologies (ICT) can play an essential role by making EU citizens' participation in policy and political processes possible on a very large scale"*.

Web 2.0: new spaces for creativity, communications and participation

The advent of the digital era has laid the groundwork for the birth of a new mode of taking part in public life. Today's digital technologies allow users to obtain information, meet, discuss, share information and interests and reach collective decisions: a scenario that, only a short time ago, would have appeared unthinkable and, to say the least, futuristic. The change driven by the web over the last three or four years has amounted to an unprecedented technological revolution capable of totally reformulating the model of communications familiar to the adult generation.

While version 1.0 of the Web, which we are familiar with, presented us with a limited number of publishers able to offer a wide range of articles, news reports and reviews that can be accessed over the web, the new version 2.0 makes possible constant interaction among operators and individuals, creating value, opportunity and growth.
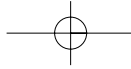
In the new interactive landscape, each process of communication unfolds as a dialogue in which it is difficult to arrive at a precise determination of who is the sender and who the receiver, seeing that any single user can fill either role when necessary. The wealth of resources made available by Web 2.0 lets users experiment and express themselves in a variety of active performances: interacting with the communications offerings already available on the web, utilising the on-line services in operation and reading the most frequently clicked pages; providing evaluations and reviews; or, finally, directly creating contents.

This last function would appear to be the most interesting and innovative development. With the assistance of the services and tools of the Web 2.0, each user can make the switch from consumer to participant, from passive user to author of contents potentially available to whomever connects up with Internet.

A perfect example is the blog, a full-fledged space for meeting, holding discussions and sharing contents, where anyone who wishes to can publish content, without needing to possess any special technological skill; then there is the Wiki, an exceptional tool of collective processing, where the new role of information producer assigned to the user is expressed in full force, further highlighting the deeply rooted *cooperative* character of the new digital devices. In this particular case, the interaction frees the individual, resulting in the birth of a shared cultural asset available for use, without charge, by everyone. No less interesting are the so-called social networks, veritable virtual communities whose members share multimedia contents regarding personal interests, photos, videos, poems or accounts of events. Direct user contributions to the publication of content are most evident in "peer-to-peer" communications, where the user function consists entirely of a reciprocal exchange.

It goes without saying that, in a similar scenario, the ordinary distinction between sender-receiver amounts to an artefact from a model of communications that is already obsolete, seeing that the advent of social web has had an especially disruptive effect on the traditional concept of source, with this being all the more true in the case of official sources. Thanks to the new version of the Web, users themselves can become the source, regaining control of the flow of communications. In other words, a bidirectional, many-to-many model of communications has taken hold, placing all the subjects involved on an equal footing, whether they are expert internet operators or simple users.

Participation in the creation of contents, however, is merely one facet of the more far-reaching transfer of authority to the final consumer ushered in by Web 2.0. In addition to being made the producer of the contents, as well as their primary judge, the user also serves as an irreplaceable benchmark for the design and supply of any online service. An apt example is the criteria of the number of links used by the search engine Google to establish the relevance of a site (page rank); then there is the so-called **reputation** mechanism, one of the distinctive characteristics of the Web, tied to the fact that every action carried out in an electronic environment can be traced. This means that, on all e-commerce sites, consumers can leave feedback regarding the products placed on sale, making it easier for subsequent purchasers to evaluate the reliability of the different sellers (e-Bay).

And so product reviews constitute another powerful tool in the hands of the consumer. The success of the largest on-line library in existence, Amazon.com, is due in large part to the fact that comments offered by other readers can be read on each of the books, in addition to which recommendations are offered on the basis of purchases made by readers with tastes similar to our own, in what amounts to an implicit review that has become the standard practice in electronic-commerce.

The general trend is to place increasing less trust in intermediaries behind consolidated brands, instead seeking out the opinions of users, as expressed through votes, feedback (as on e-Bay), reviews or the number of links, once again confirming the role of unquestioned dominance played by the user on the web.

The most glaring evidence of the authority of the final consumer, however, is the involvement of the same right from the design phase of any on-line service. This is made possible by the web's capacity to establish a channel of continuous feedback. At any point in time, it can be determine what the users are reading, exactly how they are using the site and what they would prefer as an alternative. This is why those offering new on-line services, rather than complete all the design phases and place it directly on the market, prefer to get the preliminary versions out quickly, so that the wisest and most experienced users can test them and point to any improvement to be made.

In short, participation, collaboration and the leading role of the user are the key concepts to employ in describing the new scenarios ushered in by web 2.0.

And if attention is now shifted from the world of internet to that of politics, there can be no ignoring the enormous contribution that digital technologies can make to reinforcing and consolidating democratic institutions: *"Through the adoption of Web 2.0 technologies, such as thematic blogs, wikis, online polls, discussion forums and online communities, Government will establish an open two-way consultation and feedback-generation channel through which citizens can take up a more active role in the shaping of policy".*

The goal of the present volume, an annual reference for all those interested in remaining constantly up to date on the latest developments in the field of Information Technology, is to address the following topic in-depth. More specifically, it is meant to throw light on how the new ICTs are radically transforming the current political scenario by encouraging and supporting eParticipation, meaning the effective use of new media to guarantee a more active involvement of citizens in decision-making processes.
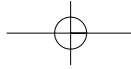
Gathered inside the volume are high-level contributions provided by the leading European government bodies and universities, for the overriding purpose of putting together an updated, thorough overview of the most noteworthy experiences of e-Participation and e-Democracy matured in Europe in recent years.

The volume is organised in four parts: the first focuses on ICT and policies promoting participation, the second on digital rights and the third on know-how, while the subject of the last part is interoperability and applied cooperation.

The topics in question were carefully selected, in an attempt to highlight the chief issues of debate in European discussions of this sector.
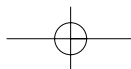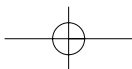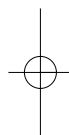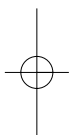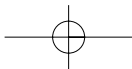
e-Democracy:
ICT and Policies for Participation
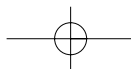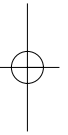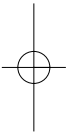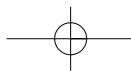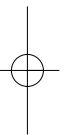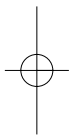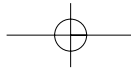
E-participation in the EU: new challenges, new actions

Vivian Reding,
Commissioner for Information Society and media, European Commission

The challenge of engaging and involving citizens in political life is great. European level legislation and decision-making is *increasingly affecting* the life and work of EU citizens. Recent Eurobarometer findings show that 8% of Europeans over the age of 21 (about 36 millions citizens) have *not* participated in politics in the past *three* years. The number of votes has consistently declined over time, for all political elections.

Today Information and Communication Technologies (ICT) can play an essential role by making EU citizens' participation in policy and political processes possible on a very large scale. Modern communication technologies, in particular the Internet, can empower decision-makers and citizens alike for a more informed and democratic engagement. ICTs are able to bring about more transparency and better information. They also can help engage citizens and provide the tools for better, simple, direct two-way communication.

The driving factors that make such a development possible are the network expansion and the explosive growth of social networking technologies, known as Web 2.0. With the growth of social networking technologies, citizen-led initiatives can create a wave of change in many areas including EU-level politics.

We have a young generation, Europeans up to 30 years old, who have never lived without the Internet or mobile phones. They have learnt how to socialise, make friends, complete their studies and find a job thanks to social networking technologies, like Web 2.0. It is precisely this generation which is disconnected from politics, or rather, that national and European politicians have disconnected from.
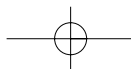
Can this generation wait until public sector organisations adopt the latest technologies and offer value services? Not for too long. Can this generation become a partner in the provision of public services, in decision-making, in political processes? Yes, already as of today. Can decision makers involve citizens to collect more efficient feedback to improve governance? Definitely yes. Can they increase young citizens' trust in politics? Yes, and ICTs can help answer these challenges.

Our EU funded effort to exploit the use of electronic Information and Communication Technologies to contribute to more citizen information and engagement in the European Union, is what we call our e-Participation action – an initiative that is supported by the European Parliament. The European Commission has also been working with Member States and has developed the e-Government policy framework. We believe that ICTs can make a difference over the years to come. Primarily, they can support citizens' involvement through "political technologies" and, even more importantly, maintain citizens' active role in all the key phases of political processes. Our objectives for the future are two-fold: enabling citizens' involvement on a larger scale and enabling citizens' dialogue, input and engagement around institutional processes.

We will continue also our activities on the eParticipation within the framework of the Competitiveness and Innovation Programme's – Europe's ICT Policy Support Programme. Our objective is to move from relatively small scale trials to larger scale pilot actions.

Connecting Europeans, especially the younger generation, with politics, increasing transparency and promoting democracy are the goals of all these initiatives. We know that ICTs can facilitate their achievement. But the bottom line is that success in this department depends on the strong commitment of each and every one of us.
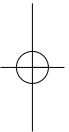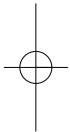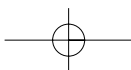
Recommendation CM/Rec(2009)1 of the Committee of Ministers to member states on electronic democracy (e-Democracy)

Adopted by the Committee of Ministers on 18 February 2009
at the 1049th meeting of the Ministers' Deputies, Council of Europe

The Committee of Ministers, in accordance with Article 15.b of the Statute of the Council of Europe,

Considering that the aim of the Council of Europe is to achieve greater unity between its members;

Reiterating that the promotion and protection of pluralist democracy have been central to the Council of Europe's work since its inception;

Reaffirming that the principles of individual freedom, political liberty, human rights and the rule of law form the basis of all genuine democracy;

Reaffirming, on the occasion of the 60th anniversary of its adoption, the continuing relevance and importance of the Universal Declaration of Human Rights;

Welcoming the fact that the United Nations has declared 15 September to be the International Day of Democracy, a day that was celebrated for the first time on 15 September 2008;

Reaffirming that the application of democratic values, effective democratic processes, good governance and the engagement and involvement of citizens and civil society are essential for preventing conflicts, promoting stability and facilitating economic and social progress and cohesion at all levels;

Acknowledging that, while democracy is the only mode of government ensuring lasting solutions to the political, economic, social and cultural problems facing Europe's societies, it can take different forms in different countries, depending on the political and constitutional traditions and political and legal culture of each member state;

Reiterating the need to develop and maintain effective, transparent and accountable democratic institutions that are responsive to the needs and aspirations of all;

Taking note of the alarming shortcomings in democratic processes that may be observed in Council of Europe member states and have been contributing to the growing feeling of political discontent and disaffection among citizens;

Emphasising the importance of maintaining and improving democratic institutions and processes in the context of the new opportunities and challenges arising from the information society;

Acknowledging the range of e-democracy initiatives in member states at local, regional, national, international and supranational level;

Recognising that information and communication technology (ICT) is progressively facilitating the dissemination of information about, and discussion of, political issues, wider democratic participation by individuals and groups and greater transparency and accountability in democratic institutions and processes, and is serving citizens in ways that benefit democracy and society;

Aware of the potential risks stemming, in particular, from the lack of access to ICT and the inadequate e literacy skills of certain sections of the population, and therefore aware of the need for training and the maintenance of adequate non-electronic channels;

Noting that ICT can, on the one hand, significantly enhance the enjoyment and exercise of human rights and fundamental freedoms and, on the other, adversely affect these and other rights, freedoms and values;

Noting that the World Summit on the Information Society (WSIS, Geneva, 2003, and Tunis, 2005) recognised the right of everyone to benefit from the information society and reaffirmed the desire and commitment of participating states to build a people-centred, inclusive and development-oriented information society that fully respects and upholds the Universal Declaration of Human Rights, as well as the universality, indivisibility, interdependence and interrelation of all human rights and fundamental freedoms;

Convinced that free and diverse media are a precondition for the full exercise of democratic rights;

Aware of the public-service value of the Internet, namely, people's reliance on the Internet as an essential tool for their everyday activities, and the resulting legitimate expectation that Internet services will be accessible and affordable, secure, reliable and ongoing;

Reiterating that communication using new information and communication technology and services must respect the right to privacy, as guaranteed by Article 8 of the European Convention on Human Rights (ETS No. 5) and the 1981 Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data (ETS No. 108), and as provided for in Recommendation No. R (99) 5 of the Committee of Ministers to member states on the protection of privacy on the Internet;

Convinced that access to official documents can be significantly facilitated by the use of ICT;
Taking into account the presentations and discussions at the Council of Europe symposium on "E democracy: new opportunities for enhancing civic participation" (23-24 April 2007), the Council of Europe Ad hoc Committee on e-democracy (CAHDE) workshops in 2007 and 2008 on regulatory issues arising in connection with e-democracy (London, Madrid), comprehensive e-Parliament (Vienna) and academic advice on standard-setting in e-democracy (Vienna, Krems, Madrid);

Taking into account the conclusions of the General Rapporteurs of the Council of Europe Forum for the Future of the Democracy, held in Madrid from 15 to 17 October 2008 on the theme "E-democracy: who dares?";

Stressing the importance of building on previous work by the Council of Europe and other international institutions such as the United Nations, the Organisation for Economic Co-operation and Development (OECD) and the European Union,

Recommends that member states:

1. consider making use of the opportunities afforded by e-democracy to strengthen democracy, democratic institutions and democratic processes;

2. consider and implement e-democracy as the support and enhancement of democracy, democratic institutions and democratic processes by means of ICT, and linked to the engagement and re-engagement of citizens in democracy;

3. introduce, develop or review e-democracy policies and practice and, where it is deemed appropriate, legislation, in the light of the principles and guidelines appended to, and constituting an integral part of, this recommendation;

4. consider, when introducing and expanding e-democracy, making use of the set of indicative guides, as further suggestions for possible action;

5. take steps, in co-operation with the appropriate local, regional, national and international partners and stakeholders, to develop concepts of, and standards for, e-democracy that uphold human rights, democracy and the rule of law;

6. when introducing, implementing and reviewing e-democracy, ensure that it:

    •   fully complies with obligations and commitments in respect of human rights and fundamental freedoms, and the principles governing the domestic organisation of democratic government;

    •   enhances the effectiveness of democracy, democratic institutions and democratic processes;

    •   is additional, complementary to, and interlinked with traditional democratic processes, so as to widen the choices available to the public for taking part in political processes;

    •   maintains and enhances citizens' trust in democracy, democratic institutions and democratic processes;

- supports the democratic roles of intermediaries between citizens and the state, such as democratic institutions, politicians and the media;

- promotes, ensures and enhances transparency, accountability, responsiveness, engagement, deliberation, inclusiveness, accessibility, participation, subsidiarity and social cohesion;

- provides opportunities for meaningful and effective public deliberation and participation in all stages of the democratic process, responsive to people's needs and priorities;

- is based on and implements the concepts of comprehensive and active information and a broad understanding of citizenship;

- takes account of the challenges, risks and barriers to e-democracy, addressing and overcoming them, in particular through sound risk-assessment and risk-management measures and mechanisms ensuring ongoing evaluation and progress;

- helps to narrow the digital divide by means of an inclusive and non-discriminatory approach and by empowering people through support for education and training, including education and training in e-literacy, and public information measures, and by combining electronic and non-electronic approaches;

- facilitates and enhances access, accessibility and interoperability by using, where feasible, transparent and technology-neutral means, open source solutions and open standards and specifications;

- is embedded in balanced, citizen-oriented rules and regulatory frameworks, including regulations adopted by public authorities, co-regulation and self-regulation;

7. fully implement the relevant Council of Europe recommendations, in particular Recommendation Rec(2004)11 of the Committee of Ministers to member states on legal, operational and technical standards for e-voting and Recommendation Rec(2004)15 of the Committee of Ministers to member states on electronic governance ("e-governance");

8. take into account and translate into specific action the conclusions concerning e-democracy of the Forum for the Future of Democracy held on the theme of e-democracy in Madrid from 15 to 17 October 2008;

9. bring this recommendation to the attention of all stakeholders in the public and civic domains, as well as media and businesses, encourage them to take all the measures needed to help achieve its objectives, and support them in the process;

10. disseminate this recommendation and the appendix widely, along with a translation where appropriate;

11. continue to address e-democracy, including regulatory issues, its use for consultation purposes, and bottom-up e-democracy, at the Council of Europe;

12. review this recommendation two years after its adoption, in the light of the experience gained in the field of e-democracy and, if possible, after open debates organised by a civil society institution and an academic conference;

Instructs the Secretariat to include e-democracy aspects, where appropriate, in the Council of Europe's democracy projects and in the work of other sectors of the Council of Europe, in the case of both external and internal activities.

Appendix to Recommendation CM/Rec(2009)1

Principles of e-democracy

When introducing or taking steps to improve electronic democracy, stakeholders should take account of the following principles of e-democracy:

P.1. E-democracy, as the support and enhancement of democracy, democratic institutions and democratic processes by means of ICT, is above all about democracy. Its main objective is the electronic support of democracy.

P.2. E-democracy is one of several strategies for supporting democracy, democratic institutions and democratic processes and spreading democratic values. It is additional, complementary to, and interlinked with traditional processes of democracy. Each process has its merits: none is universally applicable.

P.3. E-democracy is based on the democratic, human, social, ethical and cultural values of the society in which it is implemented.

P.4. E-democracy is closely linked to good governance, which is the efficient, effective, participatory, transparent and accountable democratic exercise of power in electronic form, and includes informal politics and non-governmental players.

P.5. E-democracy must respect and implement fundamental freedoms, human rights and minority rights, including freedom of, and access to, information.

P.6. E-democracy is an opportunity for enabling and facilitating the provision of information and deliberation, enhancing civic participation in order to broaden political debate, and fostering better and more legitimate political decisions.

P.7. E-democracy concerns all sectors of democracy, all democratic institutions, all levels of government, and a wide range of other parties.

P.8. E-democracy stakeholders are all individuals and institutions involved in and benefiting from democracy.

P.9. E-democracy, like democracy, concerns many different stakeholders and requires their co-operation. Member states, public authorities and their representatives are only some of the parties with a stake in e democracy. Citizens, civil society and its institutions, politicians and political institutions, the media and the business community are equally indispensable for the purposes of designing and implementing e democracy.

P.10. Recommendations on e-democracy cannot therefore be confined to public authorities, but must cover all e-democracy stakeholders.

P.11. Any type of participation can be achieved through e-democracy:
- the provision of information;
- communication, consultation, deliberation;
- transaction, empowered participation, co-decision and decision making.

P.12. E-democracy can be implemented with varying degrees of complexity, in different types of democracy and at different stages in the development of democracy. It is not linked to, and does not lead to, a specific type of democracy.

P.13. In particular, e-democracy can, through new technology, attract young people to democracy, democratic institutions and democratic processes.

P.14. NGOs can both benefit from e-democracy and at the same time provide a testing ground for e democracy for citizens.

P.15. E-democracy can be of particular benefit to regions that cut across national borders and encompass territorial political entities from different countries, to their institutions, and to persons living in different countries and sharing the same linguistic or cultural identity; it can facilitate the participation and decision making processes of international institutions.

P.16. Public authorities can benefit from discussions and initiatives concerning e-democracy activities developed by civil society and from co-operation with civil society in this field.

P.17. The goals of e-democracy – which are similar to those of good governance – are transparency, accountability, responsiveness, engagement, deliberation, inclusiveness, accessibility, participation, subsidiarity, trust in democracy, democratic institutions and democratic processes, and social cohesion.

P.18. Trust is indispensable for any type of e-democracy, at all stages and phases. It is closely related to accessibility, transparency and responsiveness.

P.19. E-democracy makes for greater individual and group participation, allows those whose voices are heard less often or are less powerful to express their views, and fosters participation on an equal footing. It can lead to more participatory forms of decision making and democracy.

P.20. E-participation is the support and enhancement of democratic participation and encompasses those sectors of e-democracy where civil society and businesses are involved in drawing up formal and informal agendas and shaping and taking decisions.

P.21. E-democracy does not in itself affect the constitutional and other duties and responsibilities of decision makers; it can provide them with additional benefits.

P.22. E-democracy requires information, dialogue, communication, deliberation and ongoing creation of open public spaces where citizens can get together to uphold their civic interests.

P.23. The media play a crucial role in e-democracy; among other things, they provide a forum where citizens can engage in public debate and defend their interests in the public sphere.

P.24. New media and providers of electronic services improve access to information and hence provide people with a better basis for engaging in democracy.

P.25. E-democracy is an integral part of the information society, which has ushered in a range of traditional and innovative tools that can usefully be applied in democratic processes and institutions.

P.26. Access to the new information and communications environment can facilitate the exercise of democratic rights and freedoms, in particular participation in public life and democratic processes.

P.27. If e-democracy is to be properly designed, it has to be based on the following concepts:

- the active provision of comprehensive, balanced and objective information designed to help the public understand problems, alternatives, opportunities and/or solutions to democratic issues; this concept is closely linked to freedom of information and freedom of speech;

- a broad understanding of citizenship, encompassing persons and groups of persons permanently residing and integrated in a political entity, irrespective of nationality;

- citizen participation – that is, the involvement of citizens and groups of citizens, such as interest groups, corporations, associations and non-profit organisations (NPOs), in public affairs, so that they can exert influence and improve the quality and acceptability of the results of democratic processes;

- empowerment – namely, policies and measures to support citizens' rights and provide resources for participation;

- inclusion – that is, the political and technological empowerment of citizens irrespective of age, gender, education, socio-economic situation, language, special needs and place of residence; such inclusion requires an ability to use electronic tools (knowledge, e-skills, e-readiness), available and accessible e-tools and a combination of electronic and non-electronic approaches;

- deliberation – namely, rational debate among equals, where people publicly discuss, endorse and criticise one another's points of view in a thoughtful, respectful discussion of an issue and action to be taken on it.

P.28. E-democracy can result in a form of democracy which can be seen and observed, accessed and interacted with from anywhere, by all stakeholders.

P.29. E-democracy can bring together policy makers and citizens in new forms of engagement and policy making. This can lead, on the one hand, to a better understanding of public opinion and people's needs by policy makers and, on the

other, to a better public understanding of the tasks and challenges facing policy makers, and thus to increased citizen identification with the democratic system and a higher regard for, and greater trust in, democracy.

P.30. Because it opens up new channels for information, communication, deliberation and participation and enhances transparency and accountability, e-democracy has the potential to address shortcomings in democratic institutions and processes.

P.31. E-democracy has great potential in the area of community building, including community-building among, and with, minorities.

P.32. By providing a means of reducing exclusion, e-democracy can foster social integration and social cohesion and thus contribute to social stability.

P.33. E-democracy can enhance the increasingly European, international and global nature of politics and facilitate the cross-border collaboration this entails.

P.34. E-democracy requires inter-disciplinary and cross-border research.

Sectors of e-democracy

P.35. E-democracy encompasses, in particular, e-parliament, e-legislation, e-justice, e-mediation, e environment, e-election, e-referendum, e-initiative, e-voting, e-consultation, e-petitioning, e-campaigning, e-polling and e-surveying; it makes use of e-participation, e-deliberation and e-forums.[1]

P.36. E-parliament is the use of ICT by elected representative assemblies, their members and political and administrative staff in the conduct of their tasks, in particular for the purposes of actively involving citizens. E parliament concerns legislative, consultative and deliberative assemblies at international, national, regional and local level; there are many stakeholders: members of parliament, political and administrative staff, electors, citizens, and the media.

E-parliament encompasses, inter alia, aspects of e-legislation, e-voting, e-petitioning and e-consultation, and can make for better information and improved management of communication with members, staff and administration, and for contact with citizens.

While e-parliament underpins the principle of representative democracy, it can provide tools for changing the culture of representation in such a way as to ensure a more inclusive, deliberative and participatory form of democracy.

P.37. E-legislation is the use of ICT for drafting, commenting on, consulting, structuring, formatting, submitting, amending, voting on and publishing laws passed by elected assemblies. E-legislation makes legislative procedures more transparent, improves the content and readability of legislation, provides better access to legislation, and thereby enhances public knowledge of the law.

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[1] A glossary explaining terms relating to e-democracy as used in this recommendation is available at www.coe.int/democracy.

P.38. E-justice is the use of ICT in the conduct of justice by all stakeholders of the judiciary in order to improve the efficiency and quality of the public service, in particular, to individuals and businesses. It includes electronic communication and data exchange, as well as access to judicial information.

As the judiciary is a key component of democracy, e-justice is an essential facet of e-democracy, its main goal being to improve the efficiency of the judicial system and the quality of justice. Access to justice is one aspect of access to democratic institutions and processes.

P.39. E-mediation is the use of ICT to find means of resolving disputes without the physical presence of the opposing parties: e-tools can serve as mediators.

P.40. E-environment is the use and promotion of ICT for the purposes of environmental assessment and protection, spatial planning, and the sustainable use of natural resources, and includes public participation. Using ICT to introduce or enhance public participation can improve democratic governance in respect of environmental issues.

P.41. E-elections, e-referendums and e-initiatives are political elections, referendums or initiatives in which electronic means are used at one or more stages.

P.42. E-voting is an election or referendum that involves the use of electronic means in at least the casting of the vote.

Remote e-voting speeds up procedures, enables voting to be electronically monitored and votes electronically registered, and facilitates participation from greater distances and by persons with special needs.

P.43. E-consultation is a way of collecting the opinions of designated persons or the public at large on a specific policy issue without necessarily obliging the decision maker to act in accordance with the outcome. There are various forms of e-consultation, formal and informal, public-authority-regulated and unregulated.

E-consultation can invite and collect various opinions whilst providing an inclusive space for deliberation or for simply following the debate; it allows decisions to be directly or indirectly influenced.

P.44. E-initiatives allow citizens to develop and put forward political proposals by means of ICT and thus engage in political agenda setting.

P.45. E-petitioning is the electronic delivery of a protest or recommendation to a democratic institution: citizens sign a petition and possibly engage in a discussion on the subject by putting their names and addresses online. As is the case with petitions to parliament in general, e-petitions take various forms.

E-petitions facilitate citizen input to parliament and other democratic institutions and discussion and deliberation among citizens.

P.46. E-campaigning is engaging by electronic means with people in a co-ordinated way and encouraging people to engage with one another in order to mobilise individuals in electoral and other campaigns and/or persuade them to promote a particular cause, in an endeavour directly or indirectly to influence the shaping or implementation of public policy.

E-campaigning includes e-electioneering, that is, e-campaigning in connection with elections, and e advocacy, that is, e-campaigning in connection with other issues.

P.47. E-polling/e-surveying allow opinions to be obtained informally, by electronic means, from random or selected persons, usually in connection with a proposal and a set of possible responses.

Technology

P.48. ICT has led to major changes in the structure and culture of communication, which have to be taken into account when designing or redesigning democratic institutions and processes.

P.49. While e-democracy is dependent on modern, suitably adapted ICT, more and better technology does not in itself lead to more and better democracy.

P.50. Technology is an enabler, not a solution; it is a tool that can support and enhance democratic processes.

P.51. Technology is of secondary importance to democratic considerations. It must not be the reason for introducing e-democracy.

P.52. Technology is not neutral but has built-in values and its own methodology. A general awareness of the characteristics of technology is necessary and needs to be promoted.

P.53. Responsibility for the technology used lies with the institution in charge of the e-democracy tool. It is of prime concern that the ICT in question should be designed to perform securely.

P.54. Making the source code available to the public enhances transparency.

P.55. The use of open-source solutions can enhance trust, as anyone can, to some extent, inspect the solution adopted. Open source is not a substitute for the open standards/specifications requirement.

P.56. The use of open standards and specifications promotes interoperability.

P.57. Applying the standards of accessibility design contributes to inclusion.

P.58. The use of environment-friendly, sustainable "green" technology for e-democracy is of benefit to the public and to democracy.

Introduction of e-democracy

P.59. E-democracy can be introduced by any stakeholder. It can be initiated top-down, namely, by public authorities, at all levels of government, or bottom-up, that is, by citizens. It can also be horizontally designed. Each approach has its merits.

P.60. In introducing e-democracy, account needs to be taken of political characteristics and the political culture. E-democracy may be introduced in order to put the emphasis on a specific type of democracy or specifically defined democratic values.

P.61. E-democracy requires a balanced mix of such factors as the will to engage, a process and tools that are of high quality, and analysis of the results.

P.62. The introduction and implementation of e-democracy and the accompanying measures require expertise from a broad range of fields and are best undertaken gradually, with sound methodology and reporting, monitoring and evaluation mechanisms.

P.63. E-democracy flourishes best where there are the political will and leadership to make it work effectively by introducing the structural changes needed to take account of the opinions expressed. The incorporation of ICT into democratic processes usually requires structural changes and procedural reform.

P.64. E-democracy requires education, training and measures to ensure inclusion. It is necessary to help stakeholders to acquire the ability to use e-tools and to ensure the availability of such tools, while recognising that there will be "unable willing" and "able unwilling" who may require individual help and necessitate special efforts.

P.65. The impact of e-democracy depends on the democratic nature of the state and the public authorities, and the extent to which they respect and safeguard fundamental human rights and minority rights and encourage democratic processes, including active political participation.

P.66. The introduction and operation of e-democracy methods and tools require democratic control by legitimate actors.

P.67. International co-operation can greatly enhance the development, introduction and evaluation of e democracy by individual public or civic bodies.

Enablers, challenges, barriers and risks

P.68. Enablers of e-democracy can be initiatives by any stakeholder or factors conducive to the introduction and operation of e-democracy, such as new ICT and ICT-readiness, government and public interest, legislation and regulations, adequate resources, a well-developed civil society and schemes to enhance democracy.

P.69. The challenges, barriers and risks to e-democracy can take many forms and may be political, legal, organisational, technological, economic, financial, social or cultural. It is necessary to address, overcome and safeguard against them.

P.70. The challenges facing e-democracy include ensuring that citizens and politicians are willing and able to engage in democracy by electronic means and have confidence in those means, closing the digital and social divides, responding to new forms of communication and new media, developing appropriate and reliable technology and making it generally available within a reasonable time, developing expertise, fostering multi-disciplinary co-operation and making timely agreements on appropriate expert regulation.

P.71. The potential barriers to e-democracy include, on the supply side, differing understandings of democracy, a lack of resources, organisational constraints and structural limitations, and, on the demand side, the differing interests of the various stakeholders and their misgivings.

P.72. The risks attached to e-democracy stem from technical and political misuse, undemocratic use and denial of the decision-making opportunities provided by ICT. Fragmentation of communities can be a danger to the universality of democracy. Safeguards against misuse and appropriate sanctions are necessary.

Rules and regulatory frameworks

P.73. E-democracy requires rules and regulations. Regulation needs to be citizen centred and carefully balanced: it is necessary to focus on citizens' needs, define and, where applicable, limit the powers of public authorities, avoid over-regulation and leave scope for initiatives by stakeholders, including civil society.

P.74. Regulation of e-democracy entails empowerment and safeguards. Regulation can take various forms and be undertaken by a variety of players at different levels, including public authorities, providers of tools and users themselves. A balance between rights of access and safeguards is the only way to uphold and protect citizens' interests.

P.75. All e-democracy participants have to act in a fully transparent manner and be responsible and accountable for their actions and for publicly expressed opinions.

P.76. The human rights standards established by inter-governmental organisations, in particular the United Nations, the Organisation for Security and Co-operation in Europe and the Council of Europe constitute a set of internationally adopted rules relevant and applicable to e-democracy.

P.77. In the light of the realities of present-day ICT, existing international and domestic rules should be adapted or new rules drawn up and implemented. Model rules and regulations prepared by competent bodies can be of use here.

P.78. Security issues are of major concern to e-democracy; they include information security, data security, including compliance with data protection requirements, document security, voting security, Internet security, networking security and information system security.

P.79. E-democracy requires attention to standardisation and interoperability. Standardisation in areas such as terminology, document format, applications and architecture can facilitate interoperability.

P.80. Standardisation of terminology can greatly enhance public understanding of terms, as well as trans border understanding of the decisions and documents of democratic institutions.

Guidelines on e-democracy

In implementing the above principles, all stakeholders should take account of the following guidelines, which cover e-democracy in general, including its democratic aspects, but not administrative and purely service oriented e-government, that is, e-administration and e-services. (E-government is the delivery of public administration at all levels by means of ICT in order to enhance the effectiveness and efficiency of public administration and the country itself; it is closely linked to changes in concepts, procedures and skills in respect of service provision by administrative departments).

G.1. When introducing, reviewing and improving e-democracy, the focus should be on democracy and its stakeholders – not on technology.

G.2. Technology should not be the reason or driving force for e-democracy: democratic institutions and citizens should be, and remain, responsible for e-democracy processes and tools.

G.3. E-democracy should be based on, and conducted in accordance with, the principles of democratic governance and democratic practice.

G.4. E-democracy should bring benefits to democracy and to stakeholders alike. Such benefits should be evident to stakeholders, in particular to citizens.

G.5. In order to enhance traditional political processes, e-democracy measures should supplement, and be compatible and integrated with, non-electronic forms of democratic engagement and participation (multi channel approach). If they are to be widely used, online devices require appropriate offline support.

G.6. The choice of specific tools should reflect democratic, human, social, ethical and cultural values.

G.7. E-democracy should allow for more citizen input into agenda setting, analysis and the formulation, implementation and monitoring of policy.

G.8. E-democracy, by overcoming barriers of space and time, should provide opportunities for people to receive information or communicate in real time and allow numerous people and institutions in different locations to establish close contact for deliberation purposes, so as to foster new democratic activities.

G.9. E-democracy should encompass a wide range of fields, including legislation, meeting and voting management, information and knowledge collection, management and sharing, as well as documentation and archiving.

G.10. E-democracy stakeholders should include, in particular, public authorities at all levels, politicians, elected representatives, political parties, civil servants, citizens, electors, members of (public law) corporations and associations, civil society and its organisations, the media and businesses, including providers of infrastructure.

G.11. E-democracy should target children and young people in particular, so as to take advantage of their interest and involvement in new technology to attract them at an early age and engage and include them in democracy, democratic institutions and democratic processes.

G.12. NGOs, regardless of size, should be given special support when they make use of e-democracy, as they are a testing ground for e-democracy for citizens.

G.13. When specific e-democracy measures are introduced, account should be taken of the stage of development of civil society, the general level and means of communication between public authorities and other stakeholders, in particular citizens, and the state of development of the information society in the country concerned.

G.14. Public authorities and representative assemblies should actively seek links with social networking activities concerned with political issues and draw upon ideas and discussions held in these new democratic participatory and deliberative spaces.

G.15. Transparency in e-democracy should include transparency in the participation process itself at all political levels and at all stages of deliberation and the decision-making process, and during implementation, monitoring and evaluation.

G.16. Efforts to reach out electronically to the public should cover many aspects, including ensuring full transparency, providing comprehensive information, sharing knowledge, providing for interactive communication, securing inclusiveness, fostering active citizenship and promoting international co-operation.

G.17. Public authorities and representative assemblies should use e-democracy to enhance dialogue and promote citizen-centred communication, thereby enabling citizens to engage in active, responsible and responsive citizenship and exercise wide-ranging oversight more effectively.

G.18. Trust in democracy, politicians, infrastructure providers, technology and users should be created and sustained by all stakeholders at all stages of e-democracy.

G.19. Stakeholders should encourage the use of ICT by politicians, citizens, civil society and its organisations and political parties for the purposes of democratic debate, e-activism and e-campaigning, so that they can voice their concerns and ideas, put forward initiatives, promote dialogue and debate with representatives and public authorities and scrutinise officials and politicians in matters of public interest.

G.20. When e-democracy measures are devised, all possible stakeholders should be involved and their interests taken into account at an early stage.

G.21. The introduction of e-democracy should actively involve, not circumvent, traditional democracy stakeholders, whose specific roles may be changing.

G.22. Politicians and political parties should harness e-democracy in order to maintain and, if possible, enhance, their essential role as democracy "intermediaries".

G.23. In particular, politicians and political parties should use the opportunities offered by e-democracy in order to connect with citizens and the society they represent, and with fellow party members and party bodies.

G.24. The media are invited to harness the opportunities offered by interactive technology to promote broader democratic debate and participation.

G.25. The media are encouraged to provide reliable, independent news and information for everyone, including in electronic form, separating information from comment, and have a strong commitment to context setting and analysis, to allow citizens to form their own opinions and make political choices.

G.26. The media, in particular the public-service media, are invited to also use electronic means to fulfil their essential role in educating people to become active and responsible citizens by providing a platform for public debate, open to the diverse ideas and convictions of society, and for disseminating democratic values. They are encouraged to provide appropriate electronic information about democracy, democratic institutions and democratic processes.

G.27. E-democracy should take account of the realities of the present-day information and communication society and provide tools which resemble those used by citizens in their everyday lives.

G.28. As the information and communication environment continues to develop, existing and emerging technologies and techniques should be examined with a view to exploiting ways in which people interact in order to promote democracy. This entails compiling and publishing information in the public domain.

G.29. People should be able to receive timely information and be actively involved in the community through the network of public authority information systems, so that the authorities can operate transparently and provide efficient service.

G.30. Public authorities should disclose, and provide free and constant access to, information, ensure the security of public and private data and reduce costs.

G.31. As e-democracy is heavily dependent on citizens' access to relevant and timely information, continual monitoring and a regular review of access to information are important requirements as e democracy methods develop.

G.32. In order to create an environment conducive to the widespread use of ICT for democracy and participation purposes, public authorities should, in co-operation with the private sector and civil society:
- provide a stable regulatory framework that offers an incentive to the private sector to invest in ICT infrastructure and services;
- promote the widespread availability and affordability of, and enhance access to, ICT infrastructure, the Internet and public online services, as well as relevant education and training.

G.33. E-democracy methods and tools should be devised in such a way that citizens can take part in a ubiquitous, non-stop democracy where participation is possible round the clock, at the same time and wherever they may be.

G.34. E-democracy games involving, for example, parliamentary procedure and budgeting should be devised in such a way as to provide citizens with a better understanding of the tasks and processes of democratic institutions.

G.35. While e-democracy may not be a panacea when it comes to addressing shortcomings in democratic practice, it should help to tackle existing democratic challenges such as declining numbers of participants, social, racial and regional segregation and the formation of splinter groups where no deliberation takes place, and to promote sustainable inclusion.

G.36. E-democracy methods and tools designed to reverse the trend towards a decline in the legitimacy and relevance of, and trust in, democratic institutions and processes should include, inter alia, the sharing of information and knowledge with third parties, the creation of new networks, the opening up of decision making processes, and transparency in respect of the individual.

G.37. In order to remedy shortcomings in democratic practice, e-democracy measures should focus on transparency, accountability, reactivity, speed and universal accessibility, empower people by allowing inclusive participation in formal and informal democratic processes, in particular decision making, and strive for more democracy.

G.38. In the context of the Europeanisation, internationalisation and globalisation of political affairs, e democracy should help to make regional and national democratic processes such as legislation and policy making increasingly collaborative and international.

G.39. Given the various approaches to, and views on, e-democracy in academia and the need to harness quality expertise in many sectors, governments, representative assemblies, the business community and international institutions should encourage and fund research on e-democracy.

Sectors of e-democracy

G.40. E-parliament should be devised as a comprehensive parliament, concerning elected representative assemblies at international, national, regional and local level and including many stakeholders: members of assemblies, political and administrative staff, electors, citizens and the media.

G.41. E-parliament should be devised in such a way as to increase transparency, accountability and citizen participation in the work of assemblies.

G.42. E-parliament should promote the role of its members as representatives of the people and as legislators, and therefore be designed in the light of their requirements.

G.43. E-parliament should enable citizens to communicate more often and more effectively with their assemblies and their members. It should also enhance citizen input into agenda setting and decision making.

G.44. By overcoming geographical and political borders, which restrict access to information, cross-border e-parliament – inter-parliamentary co-operation by electronic means – should enable information to be exchanged quickly and provide structured input to legislation, oversight and administration, drawing on the expertise and experience of other countries, regions or local authorities.

G.45. E-democracy should, by fostering broader, structured, informed participation, make legislative procedure more transparent, improve the content and readability of legislation, provide better access to legislation, and thereby enhance public knowledge of the law.

G.46. E-justice should improve the quality of judicial services for people and businesses by using ICT to speed up court proceedings, enhance general service quality and improve transparency.

G.47. E-justice should provide user-friendly access to legal and judicial information for the public, including the business and finance community, legal practitioners, the judicial authorities and the courts, with due respect for individual rights.

G.48. E-justice should include informative court websites, national and international portals, the development of online "case tracking" systems, the use of videoconferencing techniques and standards for the electronic exchange of information.

G.49. To enable the judiciary to function efficiently in the information age, electronic data exchanges between institutions within and across national borders should be legally recognised and widely used.

G.50. In order to create trust in e-petitions and e-consultations, parliament or another public authority should give adequate consideration to the opinions voiced and provide reasoned feedback to petitioners concerning decisions.

Technology

G.51. ICT should provide new additional means for enhancing the workings and image of democracy and democratic institutions, bringing about both qualitative and quantitative improvements in the efficiency and effectiveness of democratic institutions, especially in respect of communication and the dissemination and management of information. In particular, it should make for new forms of access to information and services provided and have a direct impact on work both inside and outside institutions.

G.52. Stakeholders should promote and support the development and use of technology appropriate to e democracy, in addition to existing networks and tools.

G.53. In e-parliament, ICT should ensure and enhance good governance on the part of elected assemblies in terms of efficiency, inclusiveness, openness, transparency and accountability; it should encourage better communication and co-operation among all stakeholders, provide user-centred services and reduce unnecessary bureaucracy.

G.54. In addition to the role of ICT as a means of sharing and disseminating information, its potential to improve the enjoyment of human rights and fundamental freedoms should be promoted and exploited.

G.55. The institution running an e-democracy tool should be familiar with, and responsible for, the components of the tool for verification and certification purposes. Whenever a method or tool is devised, it should be made clear from the outset which individual or institution is responsible for what, and at what stage. In the case of public authority tools, the public authority in question should ensure the reliability and security of the system.

G.56. Whenever a method is devised, it should also be made clear from the outset how and to what extent the opinions and consensus expressed through it will be taken into account when the relevant authorities shape or take decisions, and how these decisions will be explained in the light of the opinions and consensus expressed.

G.57. E-democracy software should either be open source software that can be inspected or, alternatively, be certified by an independent body.

G.58. Stakeholders should consider including an open source clause when contracting for e-democracy applications, as open source software and applications provide open frameworks and hence the opportunity to share developments and maintenance costs.

G.59. Open standards and specifications should be used to ensure that the various technical components or services of an e-democracy tool, which may be derived from a variety of sources, are interoperable.

G.60. E-democracy solutions based on open standards/specifications and open software should be preferred, as this not only prevents vendor lock-in but also promotes transparency and interoperability of the various technical components and services of an e-democracy tool, which may be derived from a variety of sources, as well as interoperability with other systems and components – including in a trans-border context.

Introduction of e-democracy

G.61. All stakeholders should consider making use of the opportunities provided by e-democracy, and foster and initiate such opportunities, in order to engage with and become involved in democratic processes and institutions. This should ensure that stakeholders' views are heard or passed on to political decision making institutions, and improve the work of these institutions.

G.62. Generic e-democracy tools based on a large number of e-democracy methods and tools employed in a number of countries at different levels can be used to develop and introduce individual e-democracy tools, as set out in the indicative guide to "Generic tools and policies for an electronic democracy" (see guide No. 1[2]).

G.63. E-democracy initiatives should aim for high quality and a balanced qualitative and quantitative mix in public participation in the process and public contribution to the outcome. Attention should therefore be paid to the number, legitimacy and representativeness of participants and to promoting and supporting democratic processes. The issue chosen should be relevant and the outcome should be taken into account in political decision making. The process should be designed in such a way as to ensure that different channels are available and that the tools employed are accessible, inspire trust and foster an effective, quality deliberation.

G.64. The introduction, development and refinement of e-democracy and its methods and tools should be well prepared, undertaken gradually and monitored for quality, and the lessons learned should be acted on.

G.65. A roadmap can be used to plan, implement and monitor e-democracy and e-democracy methods at all levels, as indicated in the indicative guide to "A roadmap approach to e-democracy" (see guide No. 2).

G.66. A review and readjustment of democratic processes via their electronic implementation should be accompanied by sound theory and methodology, and by a strategic development through political analyses of issues and their origins.

G.67. Processes of monitoring the risks involved in introducing new tools should be devised and implemented.

G.68. In order to decide when to introduce a particular e-democracy measure or technology, the specific democratic ideals and goals, the forms of communication needed to achieve them and the purposes those forms of communications serve should be agreed and defined, as set out in the indicative guide "A checklist for the introduction of e-democracy tools" (see guide No. 3).

G.69. Reporting frameworks can be effectively used to compare different e-democracy tools employed in different countries at different levels, as suggested in the indicative guide "A framework for reporting e-democracy initiatives" (see guide No. 4).

G.70. The same e-democracy method should not be employed indiscriminately for every community or every issue. When e-democracy is used, the broader context of democracy, including cohesion and legitimacy, should be taken into account.

G.71. Before a public authority introduces any e-democracy tool that is designed for broader participation, is of major importance or is intended to lead to a legally binding outcome, and at appropriate intervals thereafter, in particular after any changes are made to the system, an independent body appointed by the authority

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[2] This document is one of a series of five indicative guides. They are available at www.coe.int/democracy.

in question should check that the e-democracy tool is working properly and that all the necessary security measures have been taken.

G.72. E-democracy methods and tools require both quantitative and qualitative evaluation, if possible by an independent party. The evaluation should cover their democratic, governance, public participation and e democracy attributes, as well as user-friendliness, acceptability and the extent to which they are in fact accepted, as set out in the indicative guide "Evaluating e-democracy" (see guide No. 5).

G.73. In order to counteract any possible (further) widening of the gap between participants and non-participants in democratic processes and between "e-able" and "e-unable" persons, as well as "e-willing" and "e-unwilling" persons, broad, comprehensive, permanent and sustained measures of "e-inclusion" should be undertaken and, where possible, a combination of electronic and non-electronic approaches should be provided.

G.74. E-democracy should offer special opportunities to persons unable to be physically present at democratic meetings and elections, such as those travelling or living abroad, those with reduced mobility and those with pressing personal obligations.

G.75. E-democracy should offer suitable opportunities for the inclusive engagement of minorities and for multicultural democracy, for instance by means of multilingual e-tools and discussion forums.

G.76. Ongoing training in the skills necessary to engage in e-democracy should be offered by public educational institutions and by employers, including in the form of e-learning for users.

G.77. As the development of e-literacy is essential for sustainable democratic societies, not least in a human rights context, particular emphasis should be placed on:
- providing e-literacy training for everyone, in particular children, young people and people without access, or with limited access, to the Internet, so that they can participate fully and responsibly in public life;
- ensuring that (e-)technology and services are seen as useful tools, which should not be feared but rather embraced as a means of exercising rights and freedoms.

G.78. Early guidance should be provided and standards established and, if appropriate, e-democracy rules and regulatory frameworks, principles, methods and tools should be harmonised across borders.

Enablers, challenges, barriers and risks

G.79. When devising and implementing e-democracy, it is necessary to take account of enabling factors. These include:
- the political will and leadership of government and politicians;
- a developed and vibrant civil society;
- high levels of trust and transparency;
- extensive online and offline promotion of e-democracy, based on a strategy designed to increase awareness and maximise uptake;

- good participation, in qualitative and quantitative terms, in e-democracy processes;
- the fact that participation has an impact on the outcome;
- efforts to understand and address the wishes and reservations of all possible stakeholders;
- political objectives other than involvement for the sake of self-expression;
- initially low requirements for the identification of participants in order to facilitate engagement in e-democracy methods;
- widespread access to and accessibility of technology, including access for persons with special needs and those living in less-developed or remote regions (e-inclusion);
- effective co-operation among the different stakeholders;
- user-friendly, transparent, appropriate, differentiated and sustainable e-tools that can be scaled up;
- user-friendly but reliable identity authentication, where necessary;
- information for citizens from the outset about how their input will be used (no false promises or undue expectations raised);
- information on how citizen input has been used in decision making (feedback requirement).

G.80. Attention should be paid to the potential risks of providing misleading information, giving undertakings that are not followed through, defamation, the publication of obscene material, incitement to racial and religious hatred, and discrimination on grounds of age, gender, race and disability.

Rules and regulatory frameworks

G.81. The main purpose of rules and regulatory frameworks concerning e-democracy should be empowerment and the provision of safeguards. Regulations should ensure an effective right to participate in e-democracy. Key factors should be who participates, how and for what purpose, and which institutions are best placed to ensure participation in, and the transparency of, decision making and to evaluate the process.

G.82. The right of effective access to e-democracy and its tools, to information about e-democracy, to appropriate opportunities to learn without any barriers and communicate, and to transparency should be balanced against the need to protect the rights of others, including the need to protect (information) privacy and personal data, as well as intellectual property. There need to be adequate and effective safeguards and, where these do not exist, they should be introduced and enforced.

G.83. The advantages and disadvantages of anonymity and confidentiality, on the one hand, and identity and authentication, on the other, should be taken into account when devising specific applications.

G.84. The need to disclose public information should be carefully balanced against the need to ensure confidentiality in the interests of the people and institutions concerned.

G.85. Personal data held by public authorities should be actively disclosed and the persons in question given the right to check and correct personal data concerning them.

G.86. Rules concerning the editorial independence of media broadcasters should provide for fair, balanced and impartial electronic coverage of election campaigns as part of the general programme services provided by broadcasters, and be applicable to both public-service media and private broadcasters.

G.87. There should be safeguards and redress against the misuse of e-democracy methods (for example, undue control and restrictions, false claims of legitimacy) by government bodies, other authorities, politicians and citizens, and appropriate sanctions should be introduced.

G.88. Potential regulators of e-democracy – public and civic institutions, including infrastructure providers and users at any level – should co-operate in drawing up and refining rules and regulatory frameworks governing e-democracy in order to determine the type, level and content of regulation best suited to particular spheres.

G.89. All stakeholders should be allowed to participate in the drafting and refinement of rules and regulatory frameworks concerning e-democracy.

G.90. Before new rules are drawn up, existing international and domestic rules should be reviewed to see if they can be applied, adapted or expanded.

G.91. Existing standards for e-government and e-governance should be examined to see if they can be applied or adapted to e-democracy.

G.92. E-democracy rules and regulatory frameworks should guarantee respect for human rights and fundamental freedoms, as enshrined in domestic and international instruments, including personal privacy and the right to freedom of thought, expression, information, communication, conscience and religion, the right to respect for private life and correspondence, the right to education, the prohibition of trafficking in human beings and the protection of property.

G.93. Rules and regulations governing e-democracy should promote democracy and the rule of law, in particular by strengthening the involvement and participation of citizens in national, regional and local public life and decision-making processes, encouraging citizen initiatives, and improving public administration and services by making them more accessible, responsive, user oriented, transparent, efficient and cost-effective, thus contributing to the economic, social and cultural vitality of society.

G.94. Regulatory action should be taken in respect of Internet governance. The Internet should continue to operate on the basis of democratic values that guarantee its openness and accessibility.

G.95. Member states should devise and implement strategies for e-democracy that make effective use of ICT in democratic process and debate, in relations between public authorities and civil society and in the provision of public services, as part of an integrated approach that makes full and appropriate use of a number of communication channels, both online and offline.

G.96. When devising e-democracy methods and tools, special emphasis should be placed on e-security, which includes information security, data security (including compliance with data protection requirements), document security, voting security, Internet security, networking security and information system security.

G.97. Appropriate levels of security should be identified for each tool and in each setting. Security should be weighed up against considerations relating to the local culture to ensure that security issues do not become a deterrent to the inclusion of individuals and groups in democratic processes.

G.98. Document formats, applications and architecture should be standardised in order to simplify and speed up the use of political documents by representatives, the public and government bodies. This can be achieved by means of simple, self-explanatory formats that can feasibly be used in the long term.

G.99. Structured documents, with added metadata, in standard formats should be drawn up and made widely available and various display formats should be developed to make it easier to find relevant documents and document sections containing the information sought.

G.100. Local, regional, national and international document formatting standards should, as far as possible, comply with common guidelines, and be based on and, if necessary, customise existing international standards as proposed by such standardisation bodies as the United Nations and the European Committee for Standardisation (CEN).

G.101. In addition to standard formats available at local, regional, national and international level, interchange formats should be used to identify similarities in documents regardless of terminology.

G.102. Document format and technical terminology standards should be designed to increase the durability of documents and intellectual resources, regardless of current technology and restrictions stemming from intellectual property rights and patents.

When embarking on or improving electronic democracy, stakeholders should consider using the following guides/tools which are available at www.coe.int/democracy:

<u>Indicative guides for the implementation of e-democracy</u>

No. 1:   Generic tools and policies for an electronic democracy

No. 2:   A roadmap approach to e-democracy

No. 3:   A checklist for the introduction of e-democracy tools

No. 4:   A framework for reporting e-democracy initiatives

No. 5:   Evaluating e-democracy

<u>Glossary</u>
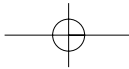
E-inclusion: paving the way for e-Participation

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Introduction

The term 'eParticipation', according to the European Commission's definition, refers to "increasing the involvement of citizens in decision-making". The "e" in front of the term, makes reference to the use of Information and Communication Technologies (ICT) as a means to improve the access to information and to give people more opportunities for debate and voice their opinions on issues that interest and affect them. In the words of Ann Macintosh (2006), eParticipation is defined as "the use of information and communication technologies to broaden and deepen political participation by enabling citizens to connect with one another and with their elected representatives".

E-participation is therefore about empowering citizens to take a more active role in our democratic societies. Today, with the technological advances in this field that have taken place in the last five to six years, it is not uncommon for most of us to be familiar with or to take part in the so-called 'social internet', also known as 'Web 2.0'. This *new* internet, which is best exemplified by products such as Facebook, Twitter, or Flickr, to name a few, has popularized a certain technology that allows greater interconnectivity between users, enhanced possibilities for networking and collaboration, real-time communication, etc., and to a certain extent, has consolidated the role of the internet as a means of canalizing participation and civil society initiatives. Nevertheless, one must not forget that any form of citizen participation towards the public sphere is an exercise of citizens' democratic rights. eParticipation is thus an open opportunity to strengthen our democratic systems with the help of and by using ICT.

E-participation

The possibility of achieving higher levels of participation and citizen involvement through the use of ICT is widely recognized by European governments as a valuable opportunity to enrich the democratic processes and to open more available channels to social engagement, potentially allowing for an administration that is more transparent and better capacitated to take citizens' needs into account (European Commission, 2009a). However, policy-makers and governments involved in the process should not ignore the fact that the way to reaching eParticipation is paved with challenges that will have to be met before the potential benefits can be obtained.

Digital inclusion, or *eInclusion* – to use the Commission's term – is a crucial pre-condition for eParticipation; in the case of eParticipation it gains much more importance than it does in relation with other eGovernment-related issues of different natures. The provision of public services via the internet, i.e. the service-delivery-oriented eGovernment projects, have to rely on high ICT penetration rates in order to be successful, or at least to be profitable for the deploying authority. However, in such

cases, obtaining or requesting a public service by using telematic channels remains as one option among others for the citizen. In the case of eParticipation, however, inclusion is an issue that has to be taken into account much more seriously, since participation is related to enhancing democracy and providing the citizens with more direct and easier ways of interacting with government and public administration.

The core principle of our Western democracies is the inclusion of the citizenry as a whole in the participatory processes that elect our representatives. In relation to eParticipation, ensuring eInclusion therefore becomes a crucial fact in order to ensure that no citizen is left behind in respect to the new channels of participation and democracy. Setting effective policies to ensure eInclusion is the key to the future of Europe's new empowered societies, with a more visible voice and more chances to express their concerns.

E-inclusion

eInclusion, according to the definition by the European Commission, aims to ensure that disadvantaged people are not excluded due to their lack of digital literacy or internet access (European Commission, 2009b). In the words of Commissioner Reding, "we cannot allow anyone in Europe to be excluded from the benefits of information society, simply because of their age, disability, gender, income, education, or because they live in remote areas" (European Commission, 2005). eInclusion also means involving people more actively, by taking new advantages of new opportunities offered by digital and technical services for the inclusion of socially disadvantaged people and less-favoured areas.

Our modern societies, often called knowledge societies, are fully dependent on information, but also have the potential to distribute knowledge more equally and to offer job opportunities that overcome the traditional barriers of distance or physical space. ICT have penetrated virtually all areas of our daily life: from ways of shopping to ways of communicating, sharing, networking, experiencing or working; the Web 2.0 has had a major impact in not only transforming the way in which citizens communicate in their private sphere, but also in the spheres of civil society and politics. Nevertheless, these technologies have neither reached everyone in our societies, nor have governments fully incorporated the potentials stemming from these technologies into their service-delivery or decision-making processes. The challenges for the future of eParticipation and for eGovernment as a whole in Europe thus depend on the success of inclusion policies aimed at closing the existing digital divide. It will, thus, not be possible to fully enjoy the benefits of improved participation and more citizen involvement, until the challenges of eInclusion have been met.

Benefit and Challenges to e-Inclusion

The potential benefits of eInclusion, however, go beyond enabling eParticipation. Closing the digital gap provides better opportunities for people and for companies, thereby contributing to the stimulation of the knowledge economy. In the fields of learning and education, better inclusion rates can enhance the learning processes and the popularization of lifelong learning programmes supported by internet platforms.

Secondly, public administration can use better inclusion rates as a way of cutting the cost of delivering public services. The savings would come from the progressive substitution of traditional services for their electronic equivalents, making interactions with the citizens easier, more customizable and cheaper for governments. This latter phenomenon is also known as the 'disappearing services'.

Thirdly, better digital inclusion has a strong potential for becoming an element of social cohesion, not only through enabling eParticipation, but also exploiting the potential for improving communication granted by the internet for community-building projects oriented towards integrating marginalized groups into society (FreshMinds, 2009).

eInclusion, on the other hand, poses some important challenges that European governments should be ready to meet in order to achieve its benefits and to prepare the way for eParticipation. Such challenges are directly linked to making the benefits of ICT available to the maximum number of citizens possible and can be distributed in the following categories:

1. improving accessibility;
2. promoting the newly available channels of participation as a means to have a more active citizenry;
3. to improve social cohesion and eliminate inequalities with regard to the access to ICT.

Meeting these challenges requires not only awareness, but also active policies and proactive planning. Regarding the first of the challenges, governments have reacted by deploying active policies aimed at improving the current ratios of ICT penetration through the promotion of ICT centres, sponsored broadband access and content creation, etc. as well as the better usability and accessible design of official websites. The second of the challenges concerns the promotion of what has already been achieved, either by local governments or at the European level. Increasing the visibility of the available services, for instance, as well as building citizens' trust in the privacy and security of electronic transactions with their governments, are important steps to be taken in order to increase the citizens' willingness to use and participate through these newly available channels. In third place, the policies aiming at closing the digital gap should not be neglected. Promoting digital skills and digital literacy should continue to be a top priority for our governments and public administration, since in order to realize the full benefits of the knowledge society, including eParticipation, skilled and well equipped citizenry is needed (EIPA et al., 2005).

In 2006, the Riga Ministerial Declaration on eInclusion highlighted the necessity to improve e-Accessibility for people with special needs and the elderly, as well as increasing competences, skills and familiarity with ICT – both in education and training, but also as part of the Lisbon Strategy for more and better jobs; by promoting socio-cultural changes that go in the direction of embracing the benefits of the Knowledge Society, as well as promoting eInclusion in relation with the EU Regional policies; and by bringing the benefits of ICT to all regions of the EU through actions undertaken thanks to the cohesion and structural funds (European Commission, 2006).

The current situation in Europe, as recorded by the latest Eurostat statistics related to information society, reveal that while governments and the European institutions have taken note of the challenges posted by eInclusion, and important achievements have

been made in comparison to previous measurements, there are still significant digital divides present across the EU that will have to be minimized (Eurostat, 2009). Moreover, while traditionally the main axis of the digital divide had been identified as age, gender and level of education/computer literacy, the latest statistics are indicating the existence of a severe digital divide between the countries of the EU-15 and most of the new Member States (ibid).

Following the traditionally known sources of digital divide, it is interesting to point out that in all of the EU-27 countries, the use of ICT has reached 56% of the Union's citizens, meaning that 60% of males have made use of these technologies at least once in the last three months, while 53% of women have done so. These figures also contrast from the fact that while these rates reach nearly 90% in countries such as The Netherlands, Denmark, Sweden or Finland, they are between 30 and 35% in countries like Greece, Romania and Bulgaria, but also Italy (fig. 1-2) (Eurostat, 2009).

Nevertheless, if such statistics are referring to the use of eGovernment services defined as "use of the internet at least one time in the last three months to interact with the public authorities", the numbers reveal that for the average of the EU-27 countries, the use of such services has barely reached 28% of the Union's citizens, meaning that 30% of males have made use of these technologies at least once in the last three months for the purposes of communicating with the public authorities, while 26% of women have done so. In correlation with the general use of ICT in daily life, these rates reach nearly 55% in countries such as The Netherlands or Finland, they are between 5 and 10% in Greece, Romania and Bulgaria (fig. 3-4) (ibid.).
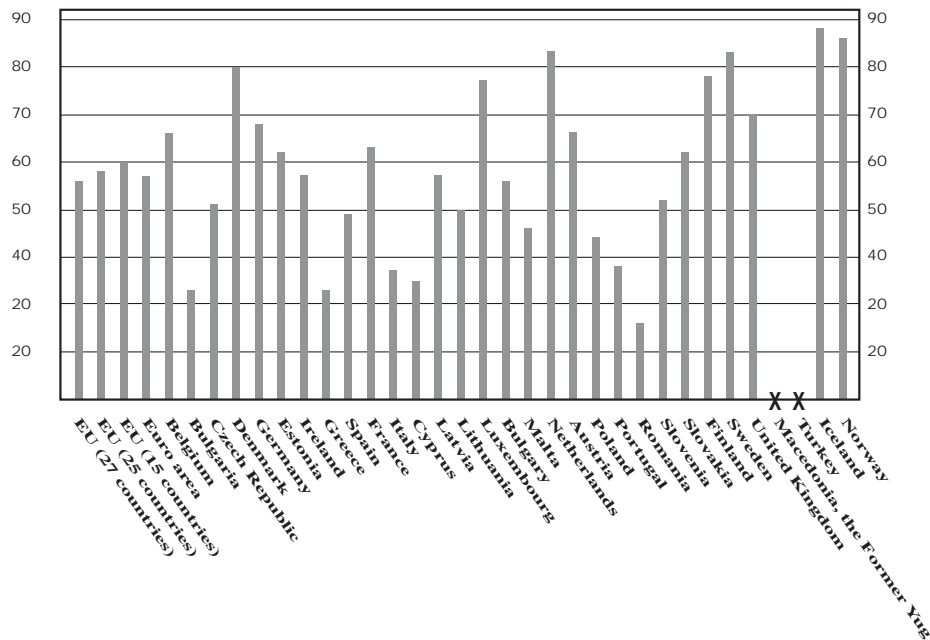
Figure 1: Individuals regularly using the internet, by gender and type of connection. (% of individuals ages 16 to 74). Source: Eurostat
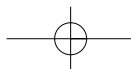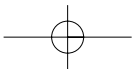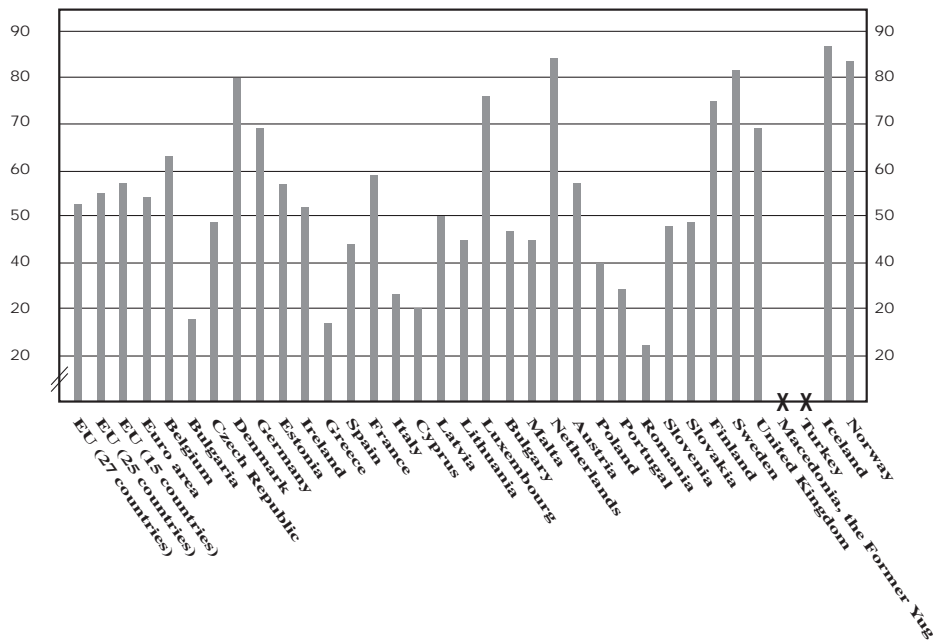
Figure 2: Individuals regularly using the internet at home. (% of individuals ages 16 to 74). Source: Eurostat
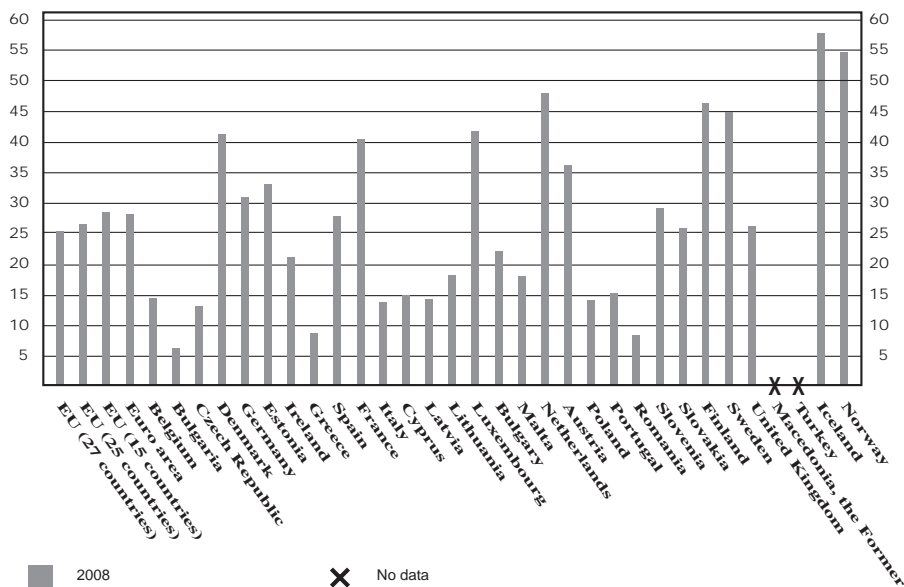
Figure 3: Individuals regularly using the internet for interacting with public authorities. Source: Eurostat

Legend (Data 2008)

6.4 - 14.0	14.0 - 18.2	18.2 - 29.2
29.2 - 41.8	41.8 - 57.7	N/A

Minimum value: 6.4 Maximum value: 57.7 eu 25:26.6 eu 15:26.5
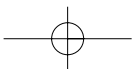
Figure 4: Individuals regularly using the internet for interacting with public authorities. Source: Eurostat

These statistics reveal the overall situation in Europe regarding the availability of ICT, the level of usage and the ratios of usage for eGovernment-related purposes (including transactions and participation). However, these statistics also reveal that there is still a long way to go in bridging the digital gap and that more efforts should be made by the public authorities in order to increase their presence on the internet, their availability, and to be appealing and engaging for citizens.

Coming back to the eInclusion policy priorities, the European Commission has taken framework actions which aim to encourage people in disfavoured groups to take part of the knowledge society and to benefit from the use of ICT. Thus, programmes such as the "Aging Well in the Information Society" or "Safer Internet for Children" aim to engage those two target groups in embracing the use of ICT in their daily lives in a safer and more motivating way.

National governments have also undertaken actions to bring their services and to encourage citizens' participation through the use of ICT. Focusing on the importance of digital literacy as a way to prevent exclusion, the "Lazio eCitizen" project is notable. This programme conducted in the Lazio region (Italy) was the first local implementation of the European e-Citizen programme; it responded to European directives on the Lisbon Strategy and its objectives were to increase residents' awareness of the importance of digital literacy, the benefits that e-skills bring to their personal and professional lives, and to fight against social exclusion[3].

NOTES
[3] See more at: http://epractice.eu/en/cases/lazioecitizen

Focusing more on the aspects of encouraging participation and the incorporation of Web 2.0 technologies into public websites, one can cite the pilot project conducted by the Municipality of Barcelona by setting up an online participatory platform linked to the reform projects of the Diagonal Avenue of the city. Through this platform, named "*i.de.a Diagonal*", citizens could express their views on how the renewed avenue should look, and submit pictures, drawings, etc. as well as participate in an online referendum to choose a final project to be built[4]. Nevertheless, these are only examples of the myriad cases existing across the EU. The message that should be extracted, however, is that encouraging citizens to participate making sure nobody is left behind, together with the deployment of better infrastructure and skills are the key factors for the success in eInclusion – the major enabler of ePartcipation.

Conclusions

This article has reviewed the importance of securing policies and putting in place technology and infrastructure to promote eInclusion and the closing of the digital divides existing nowadays in Europe. eInclusion has been revealed as one of the key enablers for ePartcipation, which offer enormous opportunities to enhance the democratic processes and to have richer participatory processes in our societies thanks to the use of ICT.

However, there are many challenges to be met in order to reach the benefits of eParticipation, the most important of which continues to be eInclusion, especially in relation to reaching people who have no or very limited computer literacy, the elderly and people who live in remote or depressed regions of the EU. In this regard, the Eurostat report has shown some improvement in the ICT penetration rates and usage with respect to previous years, despite that, significant differences are still observed in terms of ICT use by age, location and gender. Moreover, the difference between the number of people who use ICT for private or business matters and for communicating or doing transactions with public authorities is still noticed. The power of internet and ICT as a tool for enhancing participation and for coordinating civil society actions has been clearly demonstrated, a fact that proves that the potentials are enormous and still underdeveloped.

Finally, as representatives of the European Institute of Public Administration – EIPA, the authors would like to encourage government and involved policy-makers to make the necessary efforts not only to make eInclusion a reality for all, but to learn from the lessons of other colleagues from different administrations, countries or instances of administration. Encouraging learning from the best experiences of others working in the same field across Europe has been EIPA's raison d'être for over two decades, and in the fields of eParticipation and eInclusion.

The goals for the future of eParticipation in Europe are thus to meet the challenges and preconditions. To be prepared for enhanced citizen involvement, the existing gaps in digital inclusion have to be met, this being the only way of paving the way for eParticipation.

NOTES

[4] See more at: http://www.bcn.cat/diagonal/

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Madrid City Observatory: a municipal performance assessment tool

City Council of Madrid, Spain

1. Background

Article 7 of the Madrid City Council's **Organic Regulations for Citizen Participation**, dated 31 May 2004, describes the right of citizens to be duly informed of the municipal management performance. Therefore, two tools have been implemented: a set of indicators, which are published every year, and a Municipal Management Performance Observatory, in charge of conducting research, drafting reports, and ensuring that all the corresponding information is released and made accessible to citizens.

Following approval by Mayor's Decree dated 24 July 2006, a **City Observatory** was created to guarantee citizens' right of access to said information. This Observatory operates as the official body in charge of assessing municipal management procedures and ensuring the release and dissemination of the findings.

2. Goals and Roles of the City Observatory

The Madrid City Observatory goals are twofold: an external goal, to ensure that all citizens are provided information regarding the level of quality of the services provided by the Madrid City Council; and, secondly, an internal goal that focuses on providing the council the information required to ensure the improvement of the services provided to citizens.

The roles set for the City Observatory to ensure said goals are met are the following:

- Fostering and developing a culture of public management evaluation.
- Preparing and developing the methodology required for the implementation of a system of management performance indicators.
- Providing support to administrative units for the definition of said management performance indicators.
- Developing and standardising the general parameters for the analysis of indexes of citizen satisfaction with the quality of municipal services.
- Gathering and analysing all data corresponding to the needs and expectations of citizens, and to their level of satisfaction with service quality, through the General Survey on the City's Quality of Life and Satisfaction with Public Services.
- Providing advice and support to municipal services in the preparation of specific analyses of needs, expectations and satisfaction levels within their specific fields.
- Managing the Citizen Perception Evaluation Research Database.
- Assessing the level of compliance with the commitments undertaken under the Service Charters.
- Performing as a permanent organ in charge of coordinating and analysing all information related to the management and quality of municipal services gathered by the City Observatory's Information Systems.
- Participating in local, regional autonomous, national and, where appropriate, international institutions, in the area of public management performance assessment.

- Drafting the Municipal Service Management Assessment Observatory's Annual Report.
- Ensuring the release of all City Observatory-related information.
- Any other tasks that may be connected in any way to the City Observatory's goals.

3. The City Observatory's Performance Assessment Model

To perform these tasks, the City Observatory has designed and implemented a **Municipal Management Assessment Model** based on two key principles:

- Adaptation to the needs and interests of citizens.
- Adaptation to the intended city model.

This Assessment Model approaches all gathered data from two different perspectives:

- The municipal organisation's own **internal perspective**, which gathers information from several *performance indicator systems*.
- The **external perspective**, based on the opinions of citizens regarding the running of and satisfaction with municipal services.

ADAPTATION TO THE CITY MODEL

INTERNAL PERSPECTIVE

Operational Management System

Strategic Management System

Budget Management System

Management Performance Indicator System

EXTERNAL PERSPECTIVE

Service Chart System

Suggestions & Claims System

Citizen Perception Evaluation System

ADAPTATION TO CITIZEN NEEDS
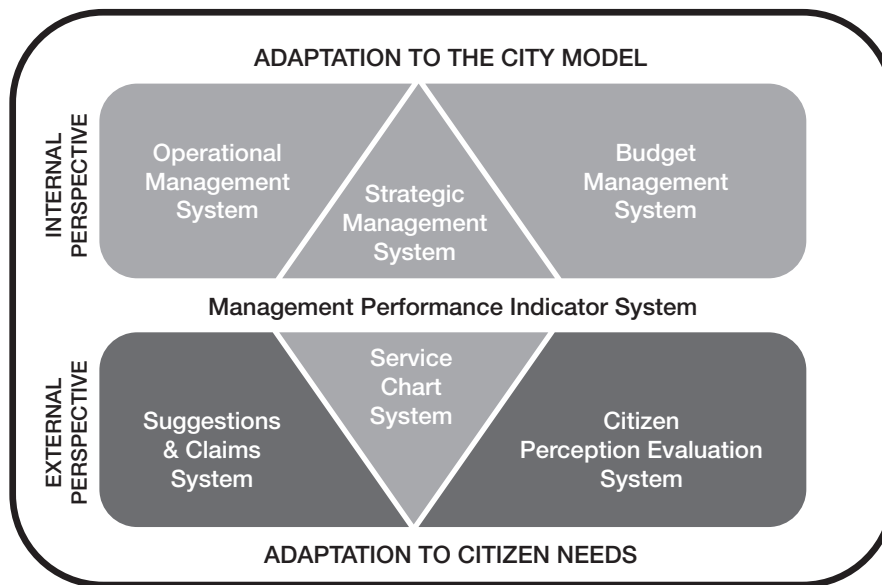
Madrid City Council's Management Performance Assessment Model

Thus, the City Observatory integrated data gathered from the following information systems:

- **Strategic Management System**: gathers data provided by the strategy set by the Board of the City Council designed to achieve the intended city model. This strategy is based on a combination of goals, which is graphically displayed on the Madrid

City Council's Strategic Map. The evaluation and monitoring of said Strategic Map is conducted in accordance with the indicators set for each specific strategic goal.

- **Operational Management System**: gathers data corresponding to the Council Operational Programme, as a tool for planning, monitoring and evaluation of the operating goals set by the City Council for a specific term of office, as well as of the projects and activities that must be carried out in order to achieve said goals during said term.

- **Budget Management System**: gathers data corresponding to the Madrid City Council, as a tool for planning and control of all income and expenses required for the development of Madrid City Council's mission according to the courses of action and priorities set for each year.

- **Service Chart System**: gathers data corresponding to the commitments included in the Service Charts, which involve indicators defined for assessing the level of compliance with said commitments.

- **Citizen Perception Evaluation System**: gathers data corresponding to citizens' needs, concerns and interest of citizens, and to their level of satisfaction with the services provided by the Madrid City Council. Several opinion polls and surveys, processed by the Citizen Perception Research Database, are used for this purpose.

- **Suggestions and Claims System**: gathers data corresponding to the running of services as seen from the citizen's point of view, and analyses the suggestions and claims submitted by citizens.

1.1. Strategic Management System

The purpose of the Strategic Management System is the definition and monitoring of the strategy set by the City Council to ensure that Madrid becomes *one of the world's most attractive cities*. This strategy is described on the **Strategic Map**, which includes 33 goals.

The strategic goals are structured around four parameters that together set the general guidelines of the City Council's policy:

- A socially integrative city.
- A city with a high quality of life.
- An international city.
- A well-managed city.

The first three parameters refer to the strategic goals set to ensure positive outcomes for both the city and its citizens: social integration, quality of life and economic development. The goals corresponding to the "Well-Managed City" parameter — connected with the effective and efficient management of financial / human resources and innovative process management procedures— are placed at the bottom of the map. The latter parameter's goals operate as agents for achieving the goals of the other three parameters.

MADRID One of the world's most attractive cities

SOCIALLY INTEGRATIVE CITY
- Promote all-encompassing, sustainable and fair housing policies
- Foster the best conditions for access to the job market for all citizens
- Increase individual and family welfare by providing quality and accessible social services to ensure the protection of the long-term disabled
- Foster independence of senior citizens and their involvement in society
- Support families, foster the development of minors and increase the quality of education
- Foster initiatives that help youth to find their own independent projects
- Promote a socially responsible city that stands as the flagship of gender equality and migrant integration
- Reach a sound balance in the development of all districts

A CITY WITH QUALITY OF LIFE
- Ensure that Madrid becomes a prototype of sustainable urban development
- Keep Madrid as a safe place where citizens feel protected
- Provide excellent response to all emergency situations
- Ensure that Madrid is an increasingly healthy place to live
- Revitalise neighbourhood trading and protect consumers
- Create a high quality urban environment featuring more green areas throughout the entire municipal area
- Configure welcoming and accessible public spaces where pedestrians are the main actors
- Further strengthen a system of sustainable mobility with the implementation of an integrated public transport system
- Build infrastructures to improve the city's mobility and competitiveness
- Develop our own town planning model to increase the value of the city's beauty and heritage
- Ensure a friendlier and cultural city centre that is more up with the times
- Provide readily available and easily accessible quality sports facilities and resources featuring a comprehensive programme of activities and services
- Boost the city's cultural atmosphere with modern institutions and attractive programmes for all citizens

AN INTERNATIONAL CITY
- Place Madrid in the international context of the world's major cities
- Support Madrid's Olympic Bid as the engine for international projection and urban development
- Consolidate the City of Madrid as a leading world tourist destination
- Ensure that Madrid becomes a major international cultural reference, and project Madrid's cultural potential beyond our borders
- Further build Madrid's image as an entrepreneurial city that is attractive to investors and competitive in international markets
- Reach a leading position in areas of innovation and technology to become an engine of competitiveness

A WELL-MANAGED CITY
- Foster a management model based on transparency, innovation and quality criteria
- Consolidate accessible and close relationship with citizens
- Foster citizens' participation as a continuous management strategy
- Ensure a more efficient and fair rate collection and management system
- Manage financial resources efficiently and responsibly
- Foster the professional upgrade of council staff's skills to ensure improved services to citizens

Madrid City Council's Strategic Map

The Strategic Map is a highly useful tool for providing citizens with clear and synthetic information on the city council's policies based on its 33 strategic goals. It is also essential for releasing information on results through a number of indicators set for each goal.

Strategic indicators refer to resources invested by the administration for the development of specific sector-specific policies, the activities required for the implementation of said policies, and to the outcomes reached. In relation to the strategic indicators, we must note that the Strategic Map includes indicators that are directly connected to municipal management. In addition, it also includes other indicators that — even though they do not have a direct relation to the outcomes of municipal action — do provide highly relevant information on the city's situation and may also be in some way affected by the application of specific city council policies. The Strategic Management System operates a computer tool for the purpose of monitoring all the aforementioned indicators.

1.2. Operational Management System

The Operational Management System focuses on the initiatives implemented by the city council to develop the strategy set for a specific term of office. These initiatives are included in the **Council Operational Programme**, which is a structured ensemble of goals set by the city council for a specific term of office, as well as projects and activities that need to be carried out in order to achieve said goals.

The operational nature of this planning tool is based on the identification of the persons in charge of each activity, the planning of tasks and benchmarks for the development of specific actions, and the determination of criteria and indicators that will be applied in the task of monitoring and assessing activities.

The Council Operational Programme is structured around 19 areas of action, which make up the framework of application of council policies. The areas of action do not correspond exclusively to the Administration Areas —understanding that the latter are a part of the organic structure and can be changed throughout the term where required— while the areas of action are essentially set for the longer term, as they are governed by a set of criteria that is more functional than organic.

Each area of action has a three-level hierarchical structure:

• *Operational objectives*: mid-term objectives that contribute to the attainment of a strategic goal. Operational objectives define the future course of action required for attaining the strategic goals, describing the path to be taken by the council policies in all areas of activity.

• *Projects*: they are the backbone of an ensemble of actions governed by a common specific purpose. The projects are designed for reaching one or more operational goals. A plan can also involve several projects.

• *Specific actions*: they are the key ingredient of the Council's Operational Programme, featuring the highest level of detail, and the basis for monitoring and assessment of the Council's Operational Programme. The same action can be included in several projects.

Independently of the fact that several management organs are required for the development of an action, an Activity Manager is in charge of planning and monitoring each action.
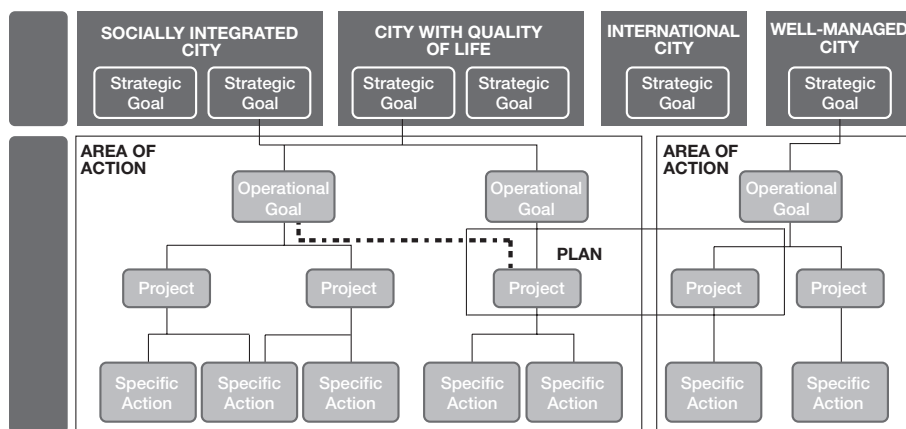
Structure of the Council's Operational Programme

To monitor and assess the Council's Operational Programme, a web application is used for the following purposes:

- Determining the level of advancement of each specific action as the planned benchmarks or set target values are reached.

- Assessing the level of compliance of each project and operational goal by aggregation of the status of all actions included in each project.

- Identifying any risk of deviation from the original plan, by setting a delay-calculation alarm system.

- Obtaining follow-up reports, filtering the information in accordance with several criteria: territorial (districts), functional (areas of action), strategic (by strategic and operational goals) and organic (by activity managers).

1.3. Budget Management System

Since 2004, the Madrid City Council has been implementing a model of budget management that has enabled the council to replace the traditional approach to the General Budget —which was focused on investing previously approved funds— by a newer approach that transforms the budget into a planning tool for distribution of council resources in accordance with the strategy set by the city council.
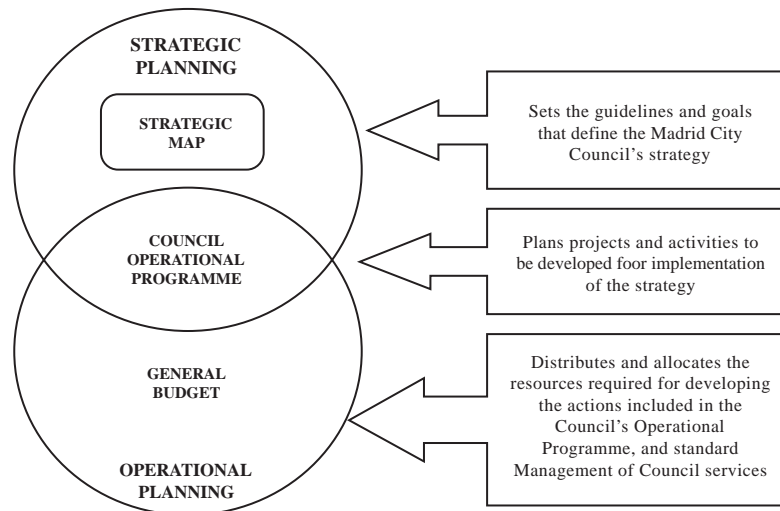
General planning system. Madrid City Council

The General Budget includes the Council's own Budgets, the budgets of all of its Autonomous Entities and the income and expenditure provision statements of Council Corporations. The General Budget is prepared on the basis of the expenses budget schedule.

The methodology involved in the budget preparation and planning has been designed for:

- Aligning the allocation of resources with the priority strategic goals and courses of action set by the local government.

- Connecting the needs of citizens with the distribution of resources.

- Planning under operational terms the goals sought by each budget schedule, and setting the indicators for outcome evaluation.

Each budget schedule involves setting the goals expected to be achieved with the requested loans, describing the activities to be carried out to achieve said goals, and specifying the indicators to be used for assessing the goals in accordance with the following methodology:

METHODOLOGY FOR PLANNING AND EVALUATION OF BUDGET SCHEDULES

Stage I: Alignment with strategy	Who is the programme for? What are the needs of its recipients? What is the mission of the programme? What general courses of action should be developed in the short term?
Stage II: Alignment with the Council's Operational Programme	What initiatives should be developed next year?
Stage III: Formulation of the Budget Schedule's goals	What is required to meet citizens' needs next year?
Stage IV: Definition of activities	How are we going to reach each goal?
MStage IV: Identification of indicators	How is the attainment of each goal going to be evaluated?
Stage IV: Setting predictions	What should be the value of indicators to consider that a goal has been reached?

Budget Schedule Planning and Evaluation Methodology

The results provided by budget schedule indicators are included in the Budget Schedule Target Achievement Report attached to the Madrid City Council's General Account.

1.4. Service Chart System

The Madrid City Council is undergoing a process of development, implementation and management of its Service Chart System, established following approval by the Mayor's Decree, dated 15 November 2005, which governs the Madrid City Council's Service Chart System — configured as a key element of the council's process of continuous improvement and modernisation, and a key tool for municipal management quality evaluations conducted by the City Observatory.
Three are the goals sought by the Madrid City Council with the implementation of the Service Charter System:
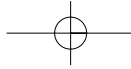
• informing citizens about the services provided by the units and the service quality commitments undertaken;

• assessing the quality of municipal management by implementing performance indicators and quality standards; and

• raising awareness of the available citizen participation systems to foster citizen participation in the assessment of municipal management quality.

The Service Charts are the documents used by all Madrid City Council units to establish and inform citizens of services provided and their quality; the responsibility for and commitment to providing services under a set of specific quality standards; citizen rights in relation to these services; the responsibilities undertaken by citizens as recipients of services; and participation systems, for the purposes of ensuring continuous improvement of public services, and fostering the participation of citizens in the assessment of municipal management quality.

The **preparation** of the Service Charts involves internal reflection and analysis of the unit, a process that must go through several stages, and which is gradually materialised in the preparation of several documents (see graphic below), put together and included in the Internal Technical Document or Master Document.

Master Document

1. Identification and regulatory information

2. Other information

3. Catalogue of Services

4. Rights and responsibilities

5. Citizen participation. Suggestions & Claims

6. Process analysis

7. Standards, indicators and commitments.

8. Service Chart text

9. Areas requiring improvement
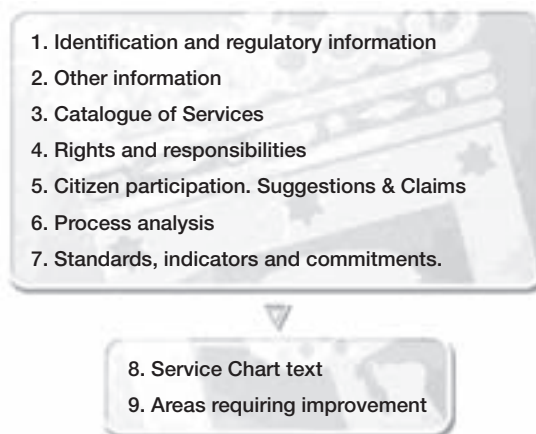
On the basis of the contents included in this global document, the unit drafts the text for the Service Chart, and subsequently **approved** by the Board of the Madrid City Council and published by the Official Gazette of the Madrid City Council.

The following clear, easy-to-read and concise information is **included** in the Service Charts:

- Statement of the council's commitment to excellence and the purposes of the Chart.

- Introduction to the members of the Council's Board and description of the Council's mission as provider of the services included in the Chart.

- An up-to-date reference of the applicable regulations governing the services and features included in the Chart.

- The rights of citizens in relation to the services and their responsibilities.

- The mechanisms and modes of citizen participation, featuring the Suggestions and Claims System.

- The services specified in the Chart, specifying whether they are free or subject to rates or public prices.

- The service quality levels that the council board is committed to provide (commitments).

- Localisation and contact information of the members of the council board in charge, and address of the sites where the services are provided, access routes and, where appropriate, transport information.

A further relevant feature in relation to the information included in the Master Document is the Areas for Improvement document, in which the unit lists any possible weaknesses detected throughout the process, and offers actions designed to ensure the improvement of underperforming areas.

Once a unit has been provided with the corresponding Service Chart, the Council's commitment to continuous improvement of their services leads to steady implementation of a monitoring and assessment process.

The monitoring process involves systematic gathering, recording and analysis of all data measured and provided by the indicators, which are in accordance with the level of compliance with the quality standards and commitments adopted by the unit providing the services. The monitoring task is conducted with the support of a computer application, which is accessible from the council's website to all citizens seeking information on the level of compliance with the commitments included in the Service Chart.

Approved SCs	
2006	
1. Samur - Civil Protection 2. 010 *Línea Madrid* 3. Taxpayer Ombudsman Office 4. Madrid Salud Suggestions and Claims 5. Community involvement promotion 6. Fire Department	7. Sports Services 8. Local Police Minors' Support 9. Sports Training and Schools 10. Sports Competition Activities 11. Sports Health
2007	
12. Comprehensive Taxpayer Services 13. Addictions Institute 14. Tourist Information & Support Service	15. *Línea Madrid* Citizen Advice Bureaus 16. Mobility Agents
2008	
17. OMIC, Council's Consumer Information Service 18. Local Police Citizen Support Service	19. Home Telecare 20. Statistics 21. Town Hall Register & Census
2009	
22. Employment Agency 23. Council Libraries	

1.5. **Citizen Perception Evaluation System**

The purpose of the citizen perception evaluation system is to identify any areas of council activity that citizens regard as priority, users' expectations in relation to the key aspects of services, and the level of citizen satisfaction with the council's services.

To ensure the sound development of this system, the City Observatory conducts the annual survey *Quality of Life in the City and Satisfaction with Public Services*, which is further complemented with specific research studies carried out by all council departments and municipal services.

In order to extract accurate conclusions from the information gathered by all surveys and studies, and independently of the department that issues them, the City Observatory operates the **Council of Madrid's Citizen Perception Evaluation Research Database**, which includes a wide range of surveys and studies:

• *Opinion polls on council management and municipal services*, designed for determining the citizens' perception of council policies, such as priorities, priority funding expenditure, etc. These polls offer highly valuable information for the council's action plans, and enable the adjustment of the management and operational goals of the services.

• *Sector-specific research conducted by a council department or specific service*, designed for assessing the satisfaction levels of citizens as users of specific services (Citizen Advice Bureaus, Rate Collection Agencies, Fines & Infringements, Social Services, Cultural Centres, etc.). These research studies analyse the value that citizens give to service quality attributes, and ensure the identification of all service areas that need to be improved.

Madrid City Observatory: a municipal performance assessment tool

- *Surveys on the impact of new services, programmes or projects*, designed for analysing citizen awareness of newly implemented services, and their perception of them in terms of user-friendliness, accessibility and satisfaction. These surveys can also be used to gather information on other issues such as perceived social benefits, and the perception of problems or issues associated with the service.

- *Citizen demands and needs assessments*, designed for determining the real problems of the city, and what citizens want and need, for the purpose of helping the Madrid City Council to set their public agenda and allocate council resources efficiently.

In addition, the Citizen Perception Evaluation Research Database also includes the *Citizen Surveys* that have been conducted by the Madrid City Council since 2004. These participatory processes are offered with the purpose of fostering the individual participation of district residents to help with the needs analysis and rating of council services. These processes enable direct access to citizen opinions and suggestions on how to improve the quality of life in the city, district or neighbourhood where they live.

The council has been conducting the survey **Quality of Life in the City and Satisfaction with Public Services** every year since 2006, a survey involving 2,500 interviews designed for gathering information on the following:

- Major problems affecting the city, and identification of possible solutions.

- Level of satisfaction with public services (cultural, sports, social, etc.) as well as evaluation of specific policies (implementation of controlled parking areas, city centre pedestrian area scheme, etc.).

- Problems affecting the interviewee's neighbourhood, whether available public facilities and buildings meet the needs of neighbours, and identification of the main courses of action to improve quality of life in the neighbourhood.

- Priority funding expenditure for several areas of council performance.

- The level of awareness of council matters, how they keep informed of council issues (media), and coverage level of all council information tools.

SURVEY ON QUALITY OF LIFE IN THE CITY AND SATISFACTION WITH PUBLIC SERVICES – FACT SHEET
Area: Madrid City Council.
Universe: survey for national and migrant residents over 18 years of age, whether registered as residents or otherwise, and who have been living in the City of Madrid most of the year for at least 6 months prior to the date of the interview.
Information gathering method: pre-coded structured questionnaire including a number of open-ended questions, provided in person at the respondents' homes.
Type of sample: multistage, with census section as first-stage unit and random selection in all sampling stages.
Sample: 2,500 individuals with proportional district-based allocation.
Sampling error: For a level of confidence of 95.5% (two sigma), where P = Q, real error is ±2'0% for the entire sample, using simple random sampling.

The analysis of the information gathered from this survey enables us to draw conclusions regarding the following:

• Citizen demand for council actions.

• Level of citizen awareness of and response to the efforts made by the Council in all areas requiring investment.

• The position of citizens in relation to ways of dealing with specific public issues or services (traffic restrictions, etc.).

• Attitudes of citizens towards the local institution, management performance and political climate.

• Identification of services requiring preferential approach and detail of possible improvements.

1.6. Suggestions and Claims System

Act 57/2003, dated 16 December, on Measures for Modernisation of the Local Administration, describes the need to provide citizens with new avenues of participation in public strategies, and demands from major cities the creation of a Special Suggestions and Claims Processing Commission to safeguard the rights of neighbours, and participated by representatives of all political groups that integrate the MCC Assembly.

To address said two requirements, the Madrid City Council decided to implement a Suggestions & Claims System following approval of the corresponding regulations (Organic Regulation of the Madrid City Council Assembly, dated 31 May 2004, and Mayor's Decree, dated 17 January 2005, on Regulation of the Madrid City Council's Citizen Advice Bureau Services), development and implementation of the supporting computer application (SYR) and the required provision of information and training on the process.

The Madrid City Council's Suggestions and Claims System guarantees all citizens and public / private institutions their right to participate in public management procedures, by offering them the opportunity to submit proposals for improvement of services provided by the Madrid City Council, —including complaints for delays, poor service, incidences or any other anomalies detected in said services— and ensuring swift response to all issues raised. Thanks to this system, the council is able to:

• Find out what citizens think of the services provided, and thus adapt public policies to their demands and preferences.

• Identify areas that need improvement as well as issues concerning council activities that, in the opinion of citizens, are underperforming.

• Further build avenues of communication between citizens and the council, to ensure swift, personalized and appropriate response to their demands.

- Foster the image of a caring and helpful council administration that listens to citizens and takes into consideration their needs and expectations, and that is looking forward to improving any essential aspects in the view of citizens.

- Develop a culture of public participation to expand their vision and level of involvement in council matters.

The Suggestions and Claims System is run by the Madrid City Council's **citizen advice bureau services**, which encompass all procedures, resources and systems offered by the City Council to ensure that all citizens can exercise their rights, meet their obligations and gain access to all public services.

Accordingly, all individuals and businesses, whether residents in the City of Madrid or otherwise, are invited to use the Suggestions and Claims System, and contact, whether privately or as groups, the Council to submit their complaints, proposals or suggestions for improvement of services provided by the Council or issues of local interest.

The Madrid City Council has made available to all citizens several **channels** (offices, telephone, online / email, fax, standard mail) for submission of suggestions and claims. Independently of the channel used by the citizen, all suggestions and claims undergo identical **processing** by the same SYR computer application system implemented for this purpose. The SYR system enables operators to provide swift and personalized response, managers and citizens to check the status of the claim or suggestion, and provides statistics and reports.

The City Observatory's Annual Report features a comprehensive in-depth analysis of the suggestions and claims received for the purposes of identifying the areas that need improvement and to speed up the corresponding courses of action.

4. Integration of Information Sources

The arrangement of data provided by several sources of the City Observatory will enable the design and development of an integrated data model that will make it possible to monitor council service management performance from a wide range of angles. The added value offered by the City Observatory is precisely the synergetic effect triggered by simultaneous analysis of all said sources of information, as the collective vision they provide add objectivity, credibility and validity to the conclusions drawn from the assessment and evaluation of council management performance and services provided.

Independently of the fact that each source of information used by the City Observatory operates its own data gathering system, with a single common repository for all indicators, the Council is currently planning to use a single Business Intelligence tool to enable the processing and personalized distribution to recipients of all information provided by all systems with a single global data repository.
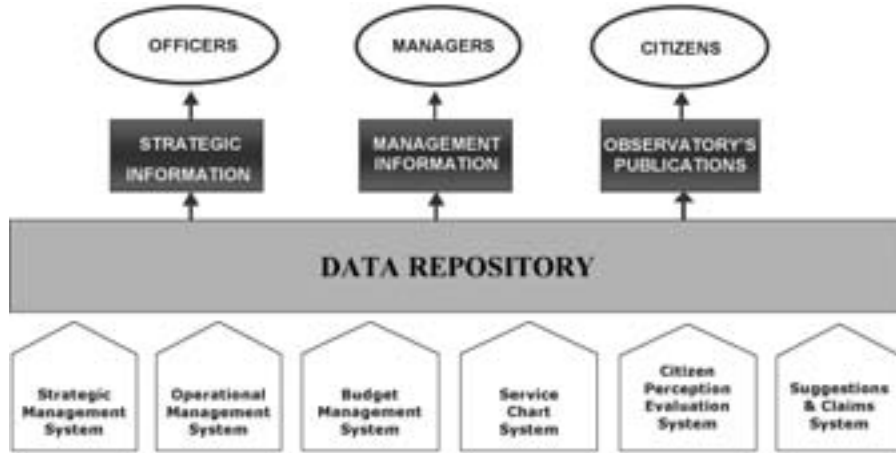
Paper submitted at the 6th Conference of the Spanish Society for Evaluation of Public Policies. April 2009
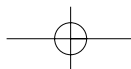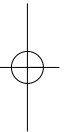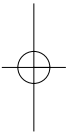
Evaluating e-Democracy[5]

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Introduction

The evaluation of eParticipation is related to defining and assessing the quality of democracy and democratic governance.

Evaluation of e-participation intends to provide evidence of whether e-participation *extends* (from a quantitative point of view) and *enriches* (from a qualitative point of view) participation, or not.

As there are various approaches to deepening the quality of democracy, evaluation is charged with measuring interrelationships and the impact of e-participation on policymaking: Lessons learnt from previous evaluations show that neither the use of quantitative nor qualitative approaches / indicators alone is sufficient to meet these challenges.

Consequently, a flexible combination of quantitative and qualitative approaches is needed. As political culture and participative behaviour differ from case to case, combinations must be modified for each participation process.

In addition, evaluation of any kind of political participation, whether online or offline, necessitates comparative analyses alongside a well-defined timescale.

Starting points for evaluation exercises:

- As values define the perspective of measurement, clear pre-defined evaluation criteria including values/norms/expectations are recommended.

- As each case is individual, political culture and participative behaviour may differ from case to case.

- The evaluation of a participative process includes an *ex ante-* and an ex post diagnosis: an assessment of traditional ways of negotiation, participation and decision-making.

- Comparative analyses can be recommended, *i.e.* mixed and various approaches to measure the quality of democracy, including finding intended and unintended effects.

NOTES
[5] Prepared for the Council of Europe's Ad Hoc Committee on e-democracy (CAHDE) as Indicative Guide No.5 to Recommendation Rec (2009) 1 of the Committee of Ministers to Council of Europe member states on e-democracy

Key questions for an evaluation include:

- Does eParticipation improve democracy and democratic governance and, if so, how?

- To what extent does it strengthen democracy? What are the intended/unintended effects?

- What is the impact on policy making and policies themselves?

Evaluation dimensions

1. Quality of Democracy

The following principles or criteria could be used as a measurement framework:

- The institutional order of a social system is based on ideas of freedom and equality (e.g. freedom of speech, freedom of assembly, human rights).

- Referring to the heterogeneity of a society, inclusive citizenship is the leading idea (equal rights to vote, voting systems including minorities).

- Contestation and alternation within an – at least – two party system is self-evident.

- Popular control of policy making is based on the transparency of the decision making processes or "enlightened understanding".

- The existence of a well established and active public sphere.

Methods include, *e.g.*, analyses of party systems and voting procedures (voter turnout and other contestation indicators); media analyses (variety, content, sources), analyses of organisation of interests, the variety of sources of information, decision making (e.g. polling expert opinion), etc.

2. Quality of Governance

There are two different notions of quality: one understood in terms of "democraticness" and the other understood in terms of "effective governance". Criteria-based methods, as described above, are useful in accessing the democratic "hardware" of formal entities, such as the functioning of governmental and institutional orders, but they do not enable data to be gathered on the democratic "software" – the informal day-to-day practices of actors within hierarchies, in network-structures, partnerships and other hybrids.

Interpretative approaches try to capture the different notions of quality by moving beyond the analysis of institutional nodes in order to understand the democratic performance of a wider government "multi-dimensional" network.

Methods include, e.g., narrative analyses, network analyses or participating observation and qualitative case studies, providing routes into the so called democratic software, etc.

3. Quality of public participation

Participation represents and comprises the specific expressions of democratic practice. Its scope may range from very wide definitions including any form of public input to more narrow ones involving a claim for direct democracy and empowerment of the public. As a participative procedure does not only stand for itself, the linkage to government practice and institutional decision making procedures, the effects on political decision making and on policies and their implementation, are additional aspects of comprehensive evaluation of the quality dimension of public participation.

Methods include on the one hand, measuring *process* criteria, for example inclusiveness, transparency, interaction, continuity and fairness, by discourse and content analysis, monitoring, participating observation, etc; on the other, measuring *outcome* criteria, such as the incorporation of public views into decision making, resolution of conflicts among competing interests, the increase/decrease of trust in public agencies, representativeness of public opinion by comparative approaches as policy based document analysis, ex post interviews with various stakeholders, media resonance, etc.

4. Quality of e-democracy

The interactive features of digital ICT open up unprecedented opportunities for more inclusive public engagement in the design of policy issues and for the general quality of participation in democratic decision-making. Therefore, our main question is perhaps:

To what extent do digital technologies contribute to the realisation of democratic objectives that both governments and citizens are trying to achieve?

For a start, differentiating between levels of participation is advisable. Three levels of participation focus concretely on the role of ICT's in digital democracy initiatives: e-enabling, e-engaging and e-empowering. As a further example, based on these criteria, a framework for the comprehensive evaluation of e-democracy initiatives could be:

Key dimensions of **e-democracy initiatives**:

- Type of engagement (information-consultation-active participation).
- Stage in decision-making.
- Actors involved.
- Technologies used.
- Rules of engagement.
- Duration and sustainability.
- Accessibility.
- Resources and Promotion.
- Evaluation and Outcomes.
- Critical success factors (to be agreed on before starting the initiative).

Additionally, the following criteria can be recommended:

- Gender aspects.
- Understanding of democratic principles, actors' images of democracy.

Generally speaking, **tool quality criteria** can be distinguished by:

Social acceptability
- Trust and security.
- Relevance and legitimacy.

Usefulness
- Accessibility.
- Appeal.
- Content clarity.
- Responsiveness.

Usability
- Navigation and organisation.
- Efficiency and flexibility.
- Error recovery.

Methods of evaluating the quality of e-democracy include:

Qualitative Methods
- Semi-structured interviews.
- Field tests of e-democracy tools (incl. usability tests).
- Online questionnaire.
- Discourse analysis.
- Analysis of talk policies.
- Internal (government agency) documentation.
- Measuring interactivity.
- Analysing log files.

Quantitative measuring of online engagement
The e-democracy tools themselves provide evidence of the breadth and depth of their use, measurable in terms of numbers of:

- Registered users – usage statistics.
- Responses to questionnaires.
- Messages posted to discussion fora.
- Petitions raised.
- Names added to petitions.

A further example of evaluating e-democracy is benchmarking:

Benchmarking approaches focus on a supply side measurement of e-participation offerings. Two examples which include a measurement of e-participation in one way or another are:

- The *eParticipation Index* (United Nations Global E-Government Readiness Report 2005) assesses the quality and usefulness of information and services provided by a country for the purpose of engaging its citizens in public policy making through the use of egovernment programs. As a qualitative assessment of selected government websites based on the relevancy of participatory and democratic
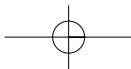
services, it should be used with caution. Measurement is based on questions grouped under three categories of e-information; e-consultation; and e-decision-making. Each country is assessed on a scale of 0-4.

- The *Citizen Participation Measure* (Rutgers-SKKU Report Digital Governance in Municipalities Worldwide 2005) has been developed as part of an instrument for evaluating city and municipal websites consisting of five components altogether (the others focus on Security and Privacy; Usability; Content; and, Services). In this case, indicators for citizen participation comprise six questions surveying the presence and functions of municipal forums, online decision-making (e-petitions, e-referenda), and online surveys and polls.
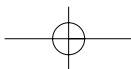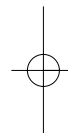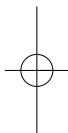
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E-democracy: ICT and policies for participation, e-Democracy in Austria

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Introduction

A new-networked economy and a knowledge-based information society have emerged in our midst. The way people live, learn, work and relate to each other is being unalterably changed. The digital revolution is leading to the development of entirely new forms of social and economic interaction and new communities in a borderless cyberspace. Free flow of information and ideas has sparked an explosive growth of knowledge and its myriad new applications. As a result, economic and social structures and relations are being transformed. In the private sector, citizens have become used to using the Internet for business transactions and more and more in the field of eGovernment.

Electronic democracy is a multidimensional concept, as the technology grants new forms of interaction between society, the political system and legislation, and the same time, aims to increase public interest, communication and co-operation between citizens, government institutions and non-profit/non-government institutions. It is not meant to replace traditional forms of democracy; it is about modernisation, endorsement and development of the ideal, interactive democracy.

As a fundamental principle of democracy, participation includes engagement in acts of representative democracy such as communication with politicians and political parties, elections and corresponding opinion formation – like eCampaigning or interactive virtual „polling booths" regarding national politics (for Austria esp. www.politikkabine.at) and European elections (http://wahlkabine.at/eukabine).

„Electronic participation" is the use of electronic technology in all public activities and societal processes, including participation in political opinion, decision-making and provision of public services („eServices"). It is able to strengthen constitutional principles, direct democracy and public engagement by individual citizens as well as interest groups. Ideally, this increased interaction between citizens and politicians can strengthen democracy.

Online participation is also possible in other non-governmental areas including socio-political commitments, citizen-to-business (C2B), citizen-to-citizen (C2C) and non-governmental organisations (NGO) activities. ICT can support and encourage democratic change particularly in the third sector, for example with its internal communication.

Four stages of eDemocracy:

- *eInformation* is the essential foundation providing the basis - the public is informed or may even be indoctrinated by the decision makers, without being able to actively influence.

- *eConsultation* enables the involved parties (citizens, companies, NPOs) to express their opinion on questions posed, make proposals or official statements on submitted drafts.

- *eCo-operation* of the state and civil society allows participants to have their say.

- *eVoting* when citizens make a decision.

Using ICT is particularly attractive to a number of target users, including Austrian citizens living abroad; the young IT-generation as well as companies and organizations which would not be able to participate otherwise. But ICTs also offer a number of other advantages.

- *Flexibility* - electronic participation is the new form of societal involvement which is replacing the traditionally tighter relationships to political parties or other lobbies. One of its main benefits is its flexibility in terms of time and location as well as the choices available to the participants. This Flexibility can be geographical – here electronic participation combines both the advantages of centralisation and decentralisation so that it can support participants who are not able to travel away from their home (e.g. disabled or older citizens) as well as those participants who rely on travel for different reasons such as going on holiday or business travel. But flexibility can also be understood in terms of time.

- *Personalisation and Modularisation* - personalisation allows the users to modularise, customise and personalise their user profiles, thus increasing the usability of online services and applications. So each individual user can decide to what extent she or he wish to participate and the wanted amount of information. Customisation means that all users are offered a standard „default" mode, and users can then add and change features or the layout according to their needs and roles (business, citizen, etc.).

- *Multimedia Integration* - the internet as the networks of networks integrates all technologies (including fax, TV, smartphones, PDAs) and formats (such as newspaper articles, podcasts, videos, live streaming).

- *Interactivity* - is an increasingly important and necessary aspect of the internet. Previously all user feedback was given by emails or using the electronic guest book (up to 2005, Austrian political parties offered only this form of interaction/feedback). Today there are a number of ways users can give feedback and using non-linear features like maps, construction documents, Web 2.0 modules, Computer Supported Cooperative Work (CSCW). Interactivity also improves the services offered by public administration as it puts them in the position to react quickly, provide further information when required and thus directly improve the relationship to users and indirectly strengthen voter loyalty.

- *Multiple Communication Channels* - modern and interactive ICTs offer a number of opportunities to communicate synchronously (at the same time) as well as asynchronously (with a time difference) at the individual or at the mass level. Given the high number of users, the internet is a popular additional channel for providing information. The internet's particular potential is its many-to-many communication,

hypertext linking and networking. The user is not restricted to the recipient role, but enabled to co-produce and broadcast information. Thus several channels can add to strengthening the democratic discussion as well as the horizontal networks between individuals and organisations.

- *Transparency* - discussions, comments and feedback are automatically logged making it easier to participate in the discussion. This allows for user evaluation and control which in turn can increase trust and acceptance. Transparency can be combined with privacy, so that personal information is not displayed, while users can be identified as members of a specific group.

The Central Tenets for an eDemocracy Strategy

Austrian has been honoured by the first rank in the Capgemini EU-Benchmarking for its eGovernment strategy twice in a row, but like in most states electronic government in Austria focuses on administrative procedures and information services. There still is unexploited potential for electronic participation, using new forms of interactive software and web 2.0 to integrate the public – citizens, NGOs and other stakeholders.

As „eDemocracy" is not a new form of democracy, rather it is about using interactive media to strengthen and further develop the existing forms of democracy. Digitalisation and networks support flexibility, usability and a user-centred approach. ICTs allow for a new way of preparing and presenting information; communication and interaction can be used to support democracy.

As transparency is central for democracy and participation, the government and public administration are to provide open, objective information allowing citizens to actively participate, contribute information and exert control over public projects. Digitalisation makes the advantages of participation and cooperation easily available to all parties involved and ensures that citizens can be included in the process using a number of communication channels. An electronic democracy strategy must be based on set standards for public participation, but at the same time ensure the inclusion and accessibility for persons with special needs.

Participation projects should be statutory, the rights and regulations must be clear to all involved, albeit the target group and the stake holders defined. The institutions involved must be held accountable for their projects; the results obtained implemented and must respond appropriately to comments, suggestions and criticism.

Citizens and public administration officers must be able to easily access and use any information or applications. This means that the principles of usability and a user-centred approach must be adopted.

Having said that digitalisation of procedures and the linking of information make government and society more transparent. Yet it is important to strike a balance between transparency and privacy: Citizens must be in a position to check whether their personal data is correct, report any errors and to know who has access to their personal data.

Projects in Austria

The last couple of years saw a number of electronic participation projects, and although these have led to a number of interesting results and conclusions, it is important that such projects be coordinated, monitored and evaluated so that results and experiences gained can be implemented and used for projects.

Mitmachen.at

Led by the Austrian Federal Computing Centre, the project „mitmachen.at – move your future" was a youth eParticipation process which provided young Austrian citizens aged 15–25 years the opportunity to use the internet for presenting and voicing their concerns about the future.

The project was based on four eParticipation phases:

- information & communication.
- analysis.
- validation.
- publication & transfer.

The project mitmachen.at was the first e-participation project to add the fourth phase, publishing the results (on the website www.mitmachen.at) and making them available to political actors. The results show that electronic participation is accepted and will be used by young people. This target group is interested in being involved and participating in validation processes, although it is clear that in order to reach a high number of participants more information channels and adapting the participation process to the target group's needs are central to effective electronic participation. This project showed that there is interest in online deliberation and the internet certainly offers a new possibility of involving citizens in political discussions.

Jugend2help

In 1997, Austria was the first European country to enable a nationwide public portal, help.gv.at, where users could find information in several languages and process transactions at all administrative levels. The comprehensive portal is highly acclaimed both nationally and internationally – for instance, it was awarded the Open Access Award „Goldene BIENE" („Barrierefreies Internet eröffnet neue Einsichten" – open access opens up new insights) as well as with the eEurope Award for the best eGovernment portal.

As HELP is optimised to the needs of the user, the main focus is the citizen's view of the governmental information and services offered: The internal structure of the Austrian administration is not visible to the users. Rather the individual's so-called personal circumstances are his or her starting point in the web-portal, these are: „Citizen", „Economy", „Senior" and – the most current development – „Youth".

The youth participation project Jugend2help was based on the experience gained through the mitmachen.at, using the proven 4-step participation model. From October 2007 until April 2008 all adolescent Austrian residents were invited to create their own open-access space on the popular eGovernment web portal HELP.

While Austria already offers many useful services for young people (see www.yourchoiceinfo.at and www.politikkabine.at), the special feature of this electronic participation project is the consequent, sustainable integration of the concerned persons. On jugend2help.gv.at the young users, among them many pupils, students and trainees, were enabled to create the content themselves.

The results from this project confirmed that young Austrian residents wish to participate and "have their say" even though they are sceptical about some aspects of eGovernment (e.g. eVoting). They prefer to use online platforms for a number of different subjects ranging from further education to information about public transportation, driving schools and renting apartments. However they claim a reliable platform for their interests, which should neither contain advertising nor reflect partisan politics. The young users confirmed that they disapprove of content supported or sponsored by a political party, yet they accept neutral information about different youth organisations, political parties and NGOs such as political debates where all stakeholders are involved and can plead their case.

After all the results of jugend2help revealed, that youngsters only want to participate if they know that their contributions are taken seriously and will be acted upon as far as possible. At present, some helpful ideas for improving Austrian eGovernment provided by the young users already have been implemented on the HELP platform, other service features and participation possibilities are in the planning stage. In the long run, this collaboration of civic society, public administration and various partners – from schools to unemployment agencies – should create a better, more user-friendly solution for the provision of public services.

MeinParlament.at

On the one hand, the Austrian legislative branch for some time now offers comprehensive information; in particular on www.parlament.gv.at you can find parliamentary inquiries, matters of debate, stenographic records of national council sittings and other features, even including the auxiliary income of the delegates. On the other hand most of these are plain information services, in other words remain at the first level of electronic participation. Even when the e-mail addresses of most representatives are displayed, this just allows one-to-one-communication. So there still exists a need for extensive, user-friendly public participation possibilities.

When in September 2008 early elections for the Federal Assembly found place in Austria, the website meinparlament.at was launched. While the portal operator „Politik Transparent" is completely independent, the project was enabled by a cooperation with its partner-site and ten Austrian newspapers. At the same time it is supported by all three presidents of the Federal Parliament (from different political parties).

MeinParlament allowed the citizens to view and compare the political programs of seven parties, find more than 2.000 profiles of candidates, to ask them questions und read all the collected answers. In this public online dialogue, neutral moderators make sure that the codex of conduct is observed. Furthermore the statements and principles of the parties for different subject areas were presented in a clear, comprehensible way.

Most important is the user-friendly localisation facility on meinparlament.at. The voter gives his/her zip code, the electoral constituency is found automatically and a profile of the respective candidates displayed. This feature is a significant advantage, because in Austria by a „direct mandate" also persons with a lower-ranking party list position can be voted directly into the parliament. So using MeinParlament the citizens are actually able to get a picture not only of the party they are considering to vote for but also a certain person.

During the month of this campaign, around 2.500 questions were asked online and 75 % of the candidates provided answers. After the election, on basis of the gained experience and feedback, MeinParlament is continued as a durable participation site. The citizens are able to watch all 183 elected members of parliament, view collected and relevant information about them on their profile, which the parliamentarians can also extend for a fee. In 2009 the users can also search the members of a committee for specific matters, to deal directly with the responsible person. MeinParlament is permanently working on the development of new features, like webcasts, a three-dimensional model of the Austrian parliament and a timeline to check each politician's work track – including speeches and decision making record. Also documents like bills and motions are ongoing recorded in the database, colour-coded – whether red (rejected), yellow (still discussed in committee) or green (voted through) – and can be retrieved by a key word search.

In addition to the national Federal Assembly, meinparlament.at also features regional election campaigns, like in January 2009 in the Austrian provinces Salzburg and Carinthia. The population of these regions is enabled to directly communicate with the candidates, an attractive possibility because as a matter of fact many citizens are more interested and involved in local politics.

After all the users can also consult the 18 Austrian MEPs on European matters. This supernatural participation possibility is of special relevance in view of the Elections to the European Parliament in June 2009. Thereby MeinParlament joins the efforts to enhance the challenging idea of "European citizenship", aiming to give citizens a better understanding of the European dimension by pointing up how far the EU policy affects their everyday live and so to promote civic involvement.

To summarise, from the local to the supranational level, the cooperative project MeinParlament encourages the dialogue between voters or rather citizens and their responsible representatives, striving for truly accessible Members of Parliament. Instead of one-way-communication or private mail, here transparency is improved because every user can easily find all information and answers given. So first and foremost the citizens are politically involved and empowered; yet furthermore also the politicians can profit by the easily organised communication system and are offered a welcome possibility to present themselves.

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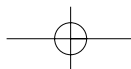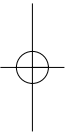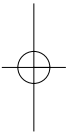
Participation and active democracy in the era of Web 2.0: from theory to practice

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E-democracy: ICT and participation policies in Emilia-Romagna (Italy)

For people Information Society also means fostering the use of new technologies to enable an increased and active participation for citizens, associations and civil society at large on topics of general interest and public decision-making processes. Starting from this understanding, Emilia-Romagna Region has chosen to pay great attention to e-democracy and so-called Web 2.0, within the framework of programmes and activities which have been planned and implemented through its Telematic Plan.

E-democracy made in Emilia-Romagna: Partecipa.net project

Following a specific national Call[6], the commitment for e-democracy of the Region and local bodies and Authorities in Emilia-Romagna started in 2005, with the project Partecipa.net (www.partecipa.net).

21 Local Authorities participated, under the Region's coordination, for the promotion of new methodologies – technological as well as organisational – enabling the adoption of new digital and networking technologies in order to assure an increased participation by citizens and associations in the decision-making processes of Local Authorities.

The first result of the project was the e-democracy kit, a real "toolbox for digital participation", which consisted in a series of IT tools developed in an open source setting, and procedural methodologies for the creation, development and activation of the following, in the institutional websites of participating bodies:

- customised newsletters targeted to recipients' groups.

- multimedia libraries for the building of shared knowledge and know-how.

- on line forums and polls.

- specialised advice/consulting services.

The idea for the kit had sprung out of the understanding that citizens and associations which are more informed regarding services, programmes and public policies are more outspoken and willing to contribute more actively with ideas, opinions and points of view to the drafting of new programmes, initiatives and decisions by institutions.

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[6] In 2004, the Ministry of Technological Innovation launched a national Call for the selection of projects aiming at the development of e-democracy and digital citizenship for Local Authorities. Following the Call, the Ministry co-funded around fifty projects, including Partecipa.net
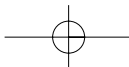
As a confirmation and reinforcement of this idea, the Region and other bodies participating in the project promoted 6 pilot actions in 6 local areas, calling for the use and adoption of some, or all, of the kit tools, according to features and needs expressed during individual participation processes.

And the outcome of this exercise often exceeded the "pilot" dimension of implemented activities. In Modena for example, the Municipality used the kit to continue and innovate the management of 75 newsletters previously activated within the *UnoXUno* information system, to start up a specialised consulting service on themes of general interest, and to promote an on-line forum on inner city issues. The latter saw the participation of hundreds of citizens, area operators and councillors; the project ended with the drafting of a document and a proposal presented to city administrators.

In the Municipality of Ferrara, the pilot testing of Partecipa.net led instead to the creation of 22 theme newsletter and the implementation of the project Agorà: la *piazza virtuale dei ferraresi*, promoted and managed by the Mayor himself, which contributed to the creation of the on-line community discussion in a forum, concerning 10 projects which the Administration considered as priority actions The kit was also installed in the Municipal Intranet network and used for the creation of a forum for Municipal employees, which also involved them in a survey about energy consumption and saving.

Figure 1 – Agorà: Ferrara's virtual square

Also in Ferrara, but in this case by its Province, the adoption of the kit brought about the activation of 4 newsletters and 4 forums dedicated to housing, production areas, infrastructures, environment and tourism. The pilot project on the Structural Plan, in association with the Municipalities of Argenta, Migliarino, Ostellato, Portomaggiore and Voghiera, enabled the start-up of a specialised consulting actions and an on-line poll dedicated to the effects of the Plan implementation on housing. After two years, *Partecipa.net*, in view of its highly positive outcome, moved out of its pilot dimension, following the national Call on e-democracy, and entered fully into the new regional
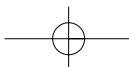
planning concerning digital innovation and development of information society (Telematic Plan 2007-2009). This has taken place mostly through the supply of the e-democracy kit to all local authorities interested in promoting and applying similar initiatives of digital participation in their communities; and with the promotion of face-to-face and on-line training pathways to make this task easier (within the collaboration project *Self – Sistema di e-learning federato delle PA dell'Emilia-Romagna*) with special attention paid to methodologies and tools developed for Partecipa.net, and in general to the themes of e-democracy and e-participation.

Region-wide e-democracy: the Io Partecipo project

The institutionalisation of e-democracy goals and activities within the framework of the Regional Telematic Plan led to the start-up of the project *Io Partecipo*, the spin off of *Partecipa.net*, in 2008 with the goal of setting up a participation-based regional community. The heart of the project is the portal www.iopartecipo.net, where the tools of the e-democracy kit – together with functionalities of the so-called web 2.0 – are applied and used to foster processes of information and advice, the creation of shared knowledge and listening approaches, as well as the comparison within services, programmes and policies promoted by Emilia-Romagna Region.

If therefore with *Partecipa.net* the Region, in its coordinating role, promoted participation and involvement of citizens and associations with respect of decision-making themes and processes pertaining to Local Authorities, with *Io Partecipo* the focus of participation and involvement has been enlarged to a Regional scale: in this case, in fact, citizens and associations are invited to approach directly, and learn first hand what is implemented and promoted by the Regional body, so that they can judge for themselves, comment on, and influence the process.

Figure 2 - Portal "Io partecipo"
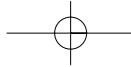
When entering the project website, citizens may:

- surbscribe to thematic newsletters produced by sectors, offices and services of the Regional Administration, and coordinated by a central editing board.

- request and receive customised consulting services free of charge by experts and professionals on matters of general interest.

- participate in thematic polls having as input the needs and expectations expressed by users themselves.

- participate in on-line forums dedicated to themes and topics of specific public interest.

- produce know-how and knowledge directly, by sending news, reports and articles to the editing board of the project.

The opportunity offered net surfers to become news editors represents the link between e-democracy as it was conceived and developed in the early years of promotion and dissemination of this practice, and the new approach to the Internet, more horizontal, participated and "bottom up", which has become more popular and central in recent years, under the conceptual umbrella of web 2.0.

If the Net becomes the "image and likeness" of its inhabitants, namely all of us, then we should update and enrich ideas and concrete practices of the so-called e-democracy: from that understanding Emilia-Romagna Region has taken its first evolutionary step towards the web 2.0 for its initiatives and policies for digital participation and citizenship.

Pilots and experiences with 2.0

For the Region and the EELL (Local Authorities) in Emilia-Romagna *e-democracy* means also designing and piloting solutions and application modes and use of Web 2.0 tools for participation and two-way communication between Public Bodies and their citizens.

The co-production of contents and the interaction between users, the drivers of today's Internet, have been tested in two projects: Bloomap.org, the social network of creative work, and Power, Web2.0 portals for Emilia-Romagna's PA's.

Being creative is not enough

Bloomap.org, on line since early 2009, intends experimenting new forms of cooperation and exchange between "creative" young surfers (people who work either professionally or para-professionally in creative areas), public institutions and private organisations working in the regional territory. The "creative" have often acquired skills in a non conventional way and are often keen surfers of the Web especially as "*prosumers*", namely consumers and producers of contents in the so-called social *networks*.
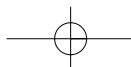
Bloomap.org has been designed with that in mind, and now works as a social network prototype, modelled after LinkedIN[7], Facebook[8], Myspace[9], etc... In this case the service intends carrying out two main functions. On the one hand, promoting surfers' autonomous designing skills and activities within a large *Web community* (also comprising market players looking for creative professionals). On the other hand, fostering the exchange of information, skills and projects between subscribers.

All this in a very close "physical" connection with the regional territory: a rather "novel" feature for this kind of experiences which makes bloomap.org different from other examples of social *networking*, turning it into a tool "for and pertaining to" Emilia-Romagna territory.

On the demand side, bloomap.org enables young subscribers to present themselves on the Web not only with the usual CV, but also by publishing new creations and broadcasting reviews and comments about their work made by other qualified users, thus enriching their professional reputation. On the supply side, the website opens a direct communication channel linking public bodies, private organisations, groups of creative people or individual artists (either established or aspiring to), through which messages and opportunities (job offers, calls, projects, grants, etc…) would circulate.

The power of writing what you want

Alongside actions tailored to creative people, a small but highly skilled group in terms of Web technologies, other actions and pilot projects have been designed for the general public. New collaborative forms mediated by technologies, where citizens can speak up and interact with Administrations more directly, will be tested within the project Power, Web2.0 portals for Emilia-Romagna PA's in the Municipalities of Piacenza, Reggio Emilia, Modena, Bologna and Ferrara.

In Bologna the project will develop in two directions: video interviews will be made to former partisans, to enrich the multimedia content of the Virtual Museum of *Resistenza*; a few pages of the portal will be translated in other languages besides Italian, thanks to users' contribution. In this case, together with the project "Tandem Linguistico" of Municipal Informagiovani, the texts will be translated into English, French, Spanish and German. In the near future, the translation will also cover other languages spoken by communities living in town, thanks to the direct contribution of multicultural centres and associations.

In Ferrara citizens will be able to report the presence of architectural barriers via the web, and the Municipality will report their removal, also via the Web. In Modena users may assess the quality of information contents published on thematic web sites "Cultura" and "Tempi e orari della città". Their opinions may be posted anonymously, and in this case citizen can assign a score or simply state whether they like/dislike the contents, or through comments but in this case they will have to register on-line.

In Piacenza videos, music, photos and other works will be published on the new on-line Archive for local young artists, together with comments and reviews.

NOTES
[7] www.linkedin.com
[8] www.facebook.com
[9] www.myspace.com

An on-line competition will be promoted involving emerging bands and groups, ending with a concert broadcast live on the Web. A Reggio Emilia the project already started in 2008 with the opening of a blog on the youth portal will be extended, enabling young people to publish videos, photos and audio materials via the Web or mobile phone.

E-democracy 2.0: participation in Emilia-Romagna, always and everywhere

In view of the successful projects and pilot actions promoted in recent years, the EELL system of Emilia Romagna Region intends paying increased attention and energy to digital participation, by trying to reconcile and integrate *top down* and *bottom up* approaches in order to offer citizens, associations and civil society at large more venues and opportunities to participate in, have their say about, and influence public decision-making processes.

On the one hand, this will confirm and strengthen the *e-democracy* process by promoting a progressive contamination of platforms and models, which were designed for *Partecipa.net* in 2004 and later for *Io Partecipo*, with web 2.0 functions and tools.

On the other hand, experiences and pilot actions, promoted through *Power* and *Bloomap* projects, will continue in order to design, plan and implement a web environment which - although preserving its institutional outlook, role and influence - would embrace horizontal, open and participatory practices now changing the Internet and with it a bit of the world.

More in general, and in order to further integrate these action lines, the system of Local Authorities in Emilia-Romagna Region is now planning and working for the near future, when a full-fledged *e-democracy* 2.0 is established. Independently from individual contexts, applied approaches and tools, the course which has been taken tends to exploit the potential and richness of new networks to the fullest , and in particular the minds and knowledge of their surfers and "inhabitants", in order to make of active participation one of the main drivers for the growth and development of information society, made in Emilia-Romagna.
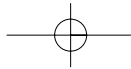
The Role of the Digital Public Utility in the e-Participation Programme

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1. Premises

The article proposes to present category „e-Democracy: ICT and policies for participation"
in a Hungarian context.

According to the EU terminology „**eParticipation is about reconnecting ordinary people
with politics and policy-making and making the decision-making processes easier to
understand and follow through the use of new Information and Communication
Technologies (ICTs)**."

„ICTs provide a range of tools which can give citizens easier access to information about
what decisions are being taken which affect their lives and how the decision-making
process works. They can also help foster communication and interaction between
politicians and government bodies on the one side, and citizens on the other.

Internet, mobile phones and interactive television can be used to channel information to
citizens and canvass their views. Increasing transparency and public participation
benefits democracy and should improve the quality of legislation being adopted."

2. eParticipation

We propose to describe the results achieved by the realisation of programmes from the
point of Hungarian users in the area of eParticipation with a view on similar developments
of EU 25 Member States (MSs).

2.1. eParticipation in the EU

According to the eParticipation survey conducted in EU 25 MSs at the end of 2008, there
have been 258 identified and reported cases from 18 countries in 34 languages. However,
because of overlaps – as registered cases relate to more than one below areas and are
accessible in different languages – these do not represent 258 single cases.
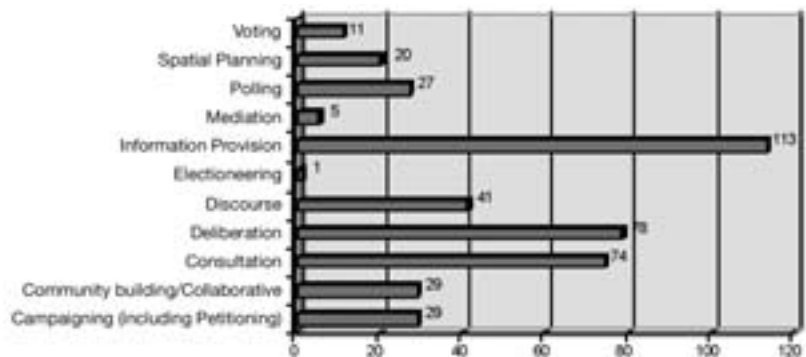
Source: eParticipation good practice cases, D4.2b January 2009

At European level, the vast majority of eParticipation cases were information provision cases (113 cases), deliberation cases (78 cases) that - with regard to the volume - were followed by consultations and discourses. The survey notes that only one case concerned electioneering. Apart from the known political parties, a number of civil initiatives and social groups have commenced electronic electioneering in the frame of the preparations for the European Parliamentary elections during the first semester of 2009, that is considered as a milestone in the development of the Hungarian information society.

2.2 Hungary.hu portal

The internet portal „Hungary.hu" (or, in Hungarian: Magyarorszag.hu)has been operating since February 2003. It provides a wide range of services to citizens, businesses and administrative institutions. The portal has been the most important place of eGovernment services and thereby gives space to public discourse forums and to the exchange of information and communication among social actors and state administration.

2.2.1. e-Democracy site of the portal

The portal
• Clamps Hungarian websites that provide information on EU and Hungarian public administration institutions (Parliament, President, Constitutional Court, Ombudsmen and local authorities)[10].

• Provides with a database that presents government proposals according to Hungarian legal provisions.

• Beyond emailing, it enables a closed and secured central system for directly contacting officials of government administration[11]. It only needs a simple registration via the "Client Gate" service.

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[10] https://www.magyarorszag.hu/segitseg/edemokracia_r
[11] https://www.magyarorszag.hu/segitseg/edemokracia_r/edemokr_korm.html

2.2.2. Forum of the Government Portal

- Ensures citizens with a communication channel with public bodies. Citizens need to be registered and identified through their personal „Client Gate" for that.

- Operates a vote-counting machine that serves as a tool for citizens to evaluate the appearance of themselves and of actors of the public administration.

- According to the categorisation of the EU, this portal serves as a tool of consultation and discourse and - given that it operates in Hungarian - it can be considered as a national level measure. An additional feature becoming ever more substantial is community opinion-shaping and the exposition of positions and views of different social and stakeholder groups. Referring to the categorisation of the eParticipation survey, some forums of the portal are to be considered as Community Building/Collaborative areas, such as the heading of National Civil Fund. Another important feature of the website is the professional consultation option for visitors among each other and a free assistance to citizens with foreign citizenship in concrete cases of administration. An example is the "Professional questions for accountants and entrepreneurs'" option.

The forum has currently been used by 2000 citizens. Users of the forum can initiate new topics and give their views on current issues of public interest without having to identify themselves. During the six-year operation of the forum, its main topics were the following (1140 topics with 110 thousand comments):

- Agora – nation, nationalities, environment, Government Portal, other issues.

- Economy – taxation, state and local authority expenditures, energy, transport, agriculture, employment, enterprises.

- Culture – media, art, education, religion.

- Science – philosophy, natural sciences, other sciences.

- Health, social situation – healthy lifestyle, sport, health and social services.

- Public life – EU, public administration, current political issues, international relations, information society.

- Forum – issues concerning the operation, moderation and regulation of the Hungary.hu portal.

2.2.3. eGames service related to the forum

The service measures and demonstrates the success of the various public administration forum topics compared to other topics of public interest[12]. The application has been short listed at the eEurope Awards Call for Applications of the European Commission and has officially been named as an "eGovernment Good Practice 2005".

NOTES
[12] https://www.magyarorszag.hu/kapcsolat/forum/kozelet/politika/politikusok/mineln/egames.html?topicid=336

2.3. Other eParticipation cases

Additional eParticipation project cases are presented below with regard to their impacts (not their source of origin):

- *Internet Democracy Party EP election (http://ide-oda.hu/)*
  The above Electioneering initiative application has started operation with a view to the 2009 EP elections. It aims to elect independent delegate(s) or (a) delegate(s) who joined the initiative. The initiative could facilitate a civil person becoming MP independent from leading party politicians.
  The supporting Internet community can participate in the EP's work by articulating their views on a continuous basis.

- *Referendum initiative and campaign (http://www.seresmaria.hu/)*
  The web site has presently launched a number of referendum initiatives via publishing and information dissemination on the Internet. Most important referendum has been the initiation of taking account of expenditures of Hungarian Members of the Parliament that has collected 600.000 supporting signatures.
  The web site as well operates as a public discourse forum for the dissemination of individual opinions. It can mainly be identified as a Campaigning (incl. Petitioning) activity.

- *Civil Movement (CM) community building (http://www.civilmozgalom.hu/)*
  The main goal of the movement was to build a team of citizens agreeing the mission of the movement and who take part in the elaboration of the CM's programme. It is the fundamental task of the CM to contribute to the active participation at the 2009 EP election. To achieve its goal it has published a call on its website to collect vote coupons.
  The web site can be considered as a Community Building/Collaborative initiative within the system of eDemocracy.

- *TÉRPORT territorial planning (http://www.terport.hu/)*
  TÉRPORT is a professional portal that has been operated by the VÁTI Hungarian Public Non-profit Company for Regional Development and Town Planning (VÁTI Kht.) on the assignment of the Ministry for National Development and Economy. It is a free internet service which forms part of the National Territory Development and Territory Management Information System.
  The website disseminates the most important documents related to territorial development and management (Spatial Planning) – analyses, evaluations, news, professional law, directives, methodological help guides, examples of good practices, professional terminology glossary, EU documents. The goal of the website is to provide up-to-date information for professionals and interested visitors on territorial, settlement, rural development, territorial management and construction issues.
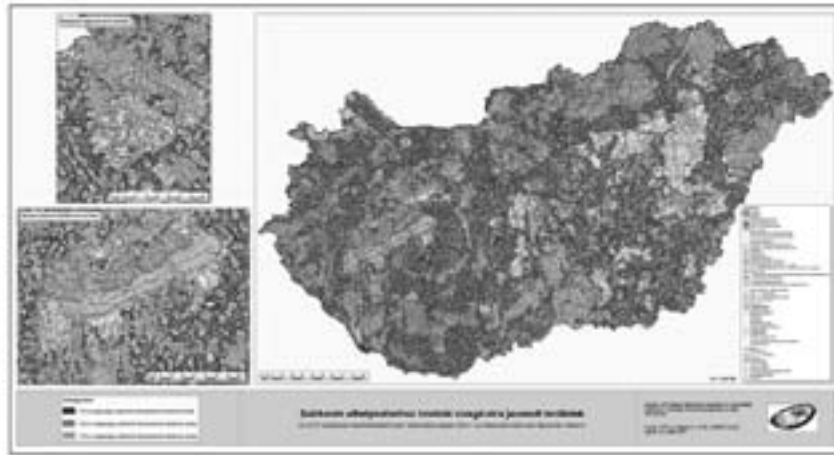
Example of planning: The possibility of locating wind wheels in Hungary

3. Technological justification

Communication of the European Commission "Preparing Europe's digital future i2010 Mid-Term Review" on eParticipation launched on 21 May 2008 has highlighted the following priorities as to the digital future of Europe:

„a) the need to develop European Information Society policies that improve competitiveness and address the gaps in performance, thus countering fragmentation within Europe in areas such as research and innovation, broadband developments, digital literacy, delivery of interoperable public services, and ICT take-up by businesses, with particular attention being paid to SMEs;
[...]
e) that ICT has a role to play to close major gaps in the Single Market, streamline procedures and reduce the administrative burden for citizens and businesses, notably through eGovernment, e-inclusion and cross-border and pan-European interoperability of public services with continuous effort given to the definition and broader uptake of open technical standards and publicly available specification;
[...]
k) the importance of broadband coverage of the population for the inclusion in the information society;
[...]
l) the strategic importance of the development of fixed and mobile very high speed broadband networks. This development is a condition for European competitiveness, disruptive innovations and next generation services."

It can be seen that the application of ICT technologies is an essential and integral part of initiatives on electronic networks, platform initiatives and development programmes. The accessibility of modern networks providing broadband connections for users has a decisive role in all EU MSs.

Full range broadband coverage and services are to be considered as conditions of the operation and wide-scale usage of eParticipation applications.

The „Analytical Framework" document prepared for the European Commission on eParticipation notes that meeting with the necessary socio-technical conditions with regard to eParticipation projects is one of the cornerstones of the three-aspect-scaling system. The above analytic document sums up the inductive and inhibiting effects on eParticipation processes:

„Drivers and barriers can relate to specific policies and actions (government or public sector policies related to economic development, infrastructure, education and training, policies by other economic sectors, actions by consumers, civil society, etc.) that create synergies or disturbances for an eParticipation project.
[...]
Technological drivers and barriers are relevant throughout but critical at the base level,
...
[...]
Examples of barriers
[...]

• Base level. Is the required ICT infrastructure available on the market at an affordable price? How well does the project fit within the technological environment?"

On the base level technological definitiveness of eParticipation concerns IT tools and applications (ex. eConsultation systems, webcast, blogs, search) and communication network channels. Main network channels:

• Conventional Internet channel for use by PC.

• Mobile channel supporting the use of the tool through mobile phones, palmtops etc.

• Public Kiosks providing the eParticipation tool. May facilitate use by disabled people.

• Digital TV (likely to be more important in future).

• Access facilitated by an intermediary or proxy access.

Referring to the analysis, it can be concluded that a viable and well-operating eParticipation project necessitates the existence of the above mentioned socio-technical conditions. It is also obvious that there is a need for a basic infrastructure network, that is robust, fast, secure, uses modern ICT technologies and adaptable to future service and operation needs.

The European Commission has approved its ICT Research and Development Work Program in line with the FP7 Framework Programme „ICT - Work Programme 2009-10". This Work Programme includes Challenge 1: Pervasive and Trustworthy Network and Service Infrastructures chapter that relates to future networks, Challenge 7: ICT for Independent Living, Inclusion and Governance that relates to eParticipation.

These Future Network R&D K+F plans in particular support the idea that it is necessary to establish a basic infrastructure network with a public utility feature that provides very high capacity optical transport/access network, and is able to provide independent convergent services that do not depend on the heterogeneous technologies of local networks reaching end users.

We fully agree with the objectives of the European Commission's Work Programme, that contains: it is the application of the newly developed eParticipation system that will effectively enable relevant groups of the society and communities to obtain authorization and thereby to participate in the process of drafting law at different levels of administrations (local, regional, national). The system will enable the inclusion and the cooperation of the mass in the procedure.

It will furthermore enable administrations to insert opinions while maintaining a high-level of security. Tools will need to facilitate the process of widening knowledge, learning, sharing and following-up that will tackle translation and cultural differences. It will be necessary to visualise and present opinions, mass data-mining, filtering and cumulating in real time. Tools will need to enable the analysis of simulated activities and needs of individuals, groups and communities in order to be able to estimate potential consequences of government proposals, decisions and laws. Tools and technologies to be developed will support the understanding, modelling, simulation, examination of new generation public administration services – as complex services in an environment with social networks, cooperating society with specific attention paid on the needs of the younger generations. The Hungarian Government intends to meet the above criteria within the frame of the Digital Public Utility development project previously launched.

4. Introducing the Digital Public Utility

4.1. Antecedents

The Ministry for National Development and Economy has drafted a proposal to the government on the modification of the Operational Programmes of the New Hungary Development Plan in the context of the financial crisis. The primary focus of the proposal is to support national micro-, small and medium sized enterprises and the retention of jobs. To support the above goals, the Senior State Secretary for Informatics has given great priority to the elaboration of an Operational Programme of concern, in line with the Lisbon Strategy.

4.2. Analysis of the initial situation

Before launching the Digital Public Utility Project, the Hungarian broadband market status had been analyzed in different dimensions by responsible offices and government bodies with particular attention on consumer prices, provider supplies, real broadband coverage and service usage specialties. The studies have made a number of important statements and consequently a more realistic state of play has been outlined as it could have been drawn from statistic data resources.

The relative spending on telecommunications in Hungary is extremely high, while the networks are technologically obsolete; usability is prominently limited by the low access rate.
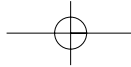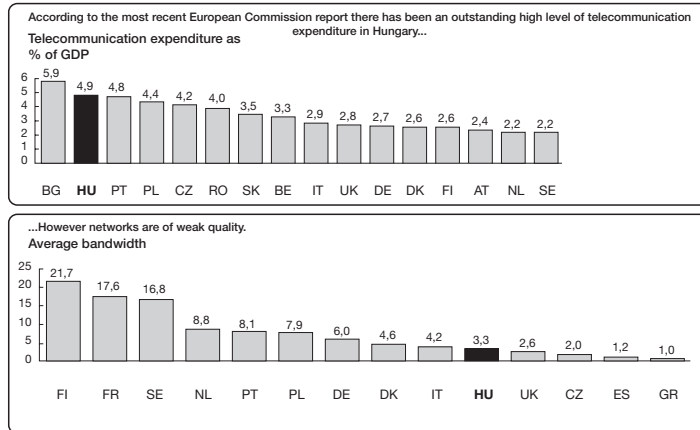
According to the most recent European Commission report there has been an outstanding high level of telecommunication expenditure in Hungary...

Telecommunication expenditure as % of GDP

BG	HU	PT	PL	CZ	RO	SK	BE	IT	UK	DE	DK	FI	AT	NL	SE
5,9	4,9	4,8	4,4	4,2	4,0	3,5	3,3	2,9	2,8	2,7	2,6	2,6	2,4	2,2	2,2

...However networks are of weak quality.
Average bandwidth

FI	FR	SE	NL	PT	PL	DE	DK	IT	HU	UK	CZ	ES	GR
21,7	17,6	16,8	8,8	8,1	7,9	6,0	4,6	4,2	3,3	2,6	2,0	1,2	1,0

Source: Internethajó 7 May 2009. május 7., Senior State Secretary for Informatics of the Prime Minister's Office
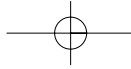
Although notable price reduction could be achieved recently, Hungarian ICT service prices are more expensive compared to both with regional and EU prices and this is especially valid for the price of broadband access. The nominal value of broadband access announced by the service providers falls very often to a tenth of the values guaranteed in the service level agreements. Empirical examinations showed up a result that the real speed values are rather different by region, settlement, service provider, network technology and segment saturation. A growing number of users is using applications exceeding the 2 MBps access rate demand and those applications wouldn't work on the 256 kbps bit rate which is primarily defined for Internet download speed.

A serious problem in Hungary is the existence of outdated aggregation network which directly blocks the last mile developments and indirectly limits the user's accessibility to the high bandwidth demand services.
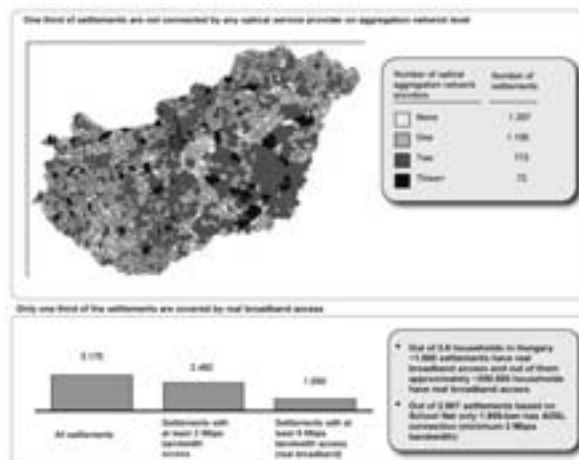
Source: Internethajó 7 May 2009. május 7., Senior State Secretary for Informatics of the Prime Minister's
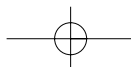
Real – presently 6 Mbit/s speed – broadband access is available in only one third of the settlements in Hungary that is 5,26% coverage for households.

The analyses have brought to surface the below main problems:

Supply side problems – weak basic infrastructure

- Inadequate backbone network capacity.

- Obsolete aggregation network (vast majority of the settlements are not connected by optical cables).

- Old copper network access.

Demand side problems – informatics culture and content lagging behind

- Low PC penetration.

- Digital illiteracy.

- Limited number of applications.

4.3. Concept

The idea of the Digital Public Utility is intended to support the availability of the technical conditions for the new broadband network basic infrastructure with the construction of the necessary backbone, aggregation network capacities, network topology and network services – to tackle problems on the supply side.

What will the Digital Public Utility be like?

1. The objective of the Digital Public Utility is to provide **real broadband** (6+ Mbps) in the whole territory of Hungary (capacity for real mass broadband in every settlement)

What kind of infrastructure will the Digital Public Utility have?

2. Digital Public Utility will be a **homogeneous, open access optical backbone and aggregation network**. Social goal: real broadband access in every settlement.

Who will benefit from the Digital Public Utility?

3. Digital Public Utility will be beneficial **for all**: residents, corporations, actors of the ICT industry and the state.

What is the current state of play?

4. The Digital Public Utility has a well-defined, comprehensively elaborated concept. There have been notifications taking place at present with the EU, competent decision-making forums (government, representatives of the EU) have given a **positive initial feedback** on the project.

Source: Internethajó 7 May 2009. május 7., Senior State Secretary for Informatics of the Prime Minister's

To get quick insight, network technology can be seen in the below figure. The most important feature is that it intends to construct optical transport/access network providing for a full range, real broadband coverage in the whole territory of Hungary that is able to meet current and near future application needs.
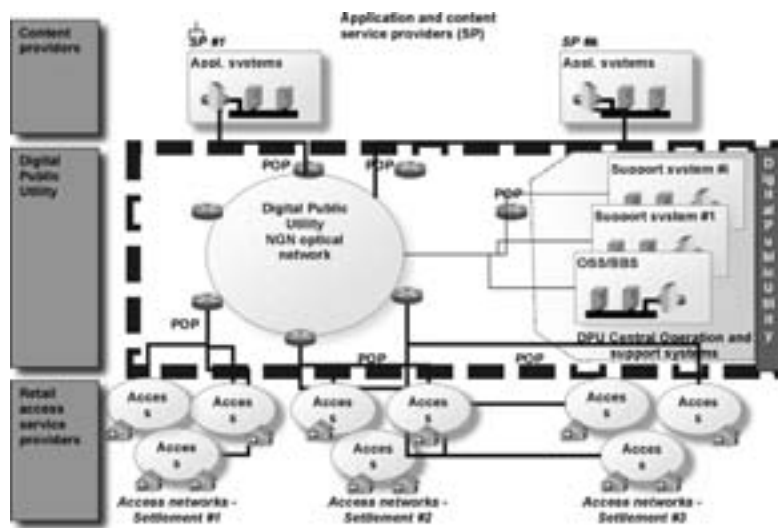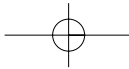
Source: Internet Ship 7 May 2009. május 7., Senior State Secretary for Informatics of the Prime Minister's

4.4. Planned solution

Its premises are the following:

- It is necessary to construct an infrastructure that is available/accessible for all, interactive and provide for full scale communication access.

- To means of it are: future proof, homogenous and integrated optical backbone and access network expanded to every settlement provided by the state.

- Ensure the possibility to provide full scale services with particular focus on interactive internet connections including voice, data and moving image services.

- The Digital Public Utility project can be realisable in 1,5 years and could have a decisive role in a government and social aspect and in general from the point of view of the financial crisis.

- The state has directly, as well as via its state-owned corporations a number of optical network infrastructure elements that with completion, improvements and consolidations could directly and substantially contribute to the construction of the Digital Public Utility infrastructure.

- The Digital Public Utility presents an opportunity for public administration and every provider for the full-scale provision of services to users.

- Digital Public Utility can ensure future proof infrastructure conditions system for the realisation of eGovernment that could integrate government-administration infrastructures that presently function separately.

4.5. Expected benefits

Optical Digital Public Utility provides a full scale solution with a view to basic functions. It would thereby:

- Lead to concrete and effective realisation of e-Government, cost-effective operation of public administration.

- Promote equal opportunities, the bridging of the digital divide, close up to Europe – promoting the realisation of the objectives of the eParticipation Initiative.

- Provide the opportunity for complex close up programmes (health, education).

- By means of various services – ex. telediagnostics - it may present direct assistance to the transformation of the health sector.

The proposal directly supports fostering competition and employment, as the two fundamental objectives of the government proposal.

It would further provide substantial additional scaleable economic benefits:

- Effective utilisation of presently fragmented state ICT means / sources leading to real savings and creating added-value.

- Digital Public Utility can be realisable in the present government cycle (2006-2010); implementation may provide for additional employment opportunities by means of creating public work and can present real work opportunities to enterprises of the industry.

- Will directly switch most disadvantaged areas into social-economic life by cumulated social-economic benefits.

- Digital Public Utility as an infrastructure in Hungary with available human resources will contribute to the marketability of the country by providing conditions for the creation and operation of service provider centres for Europe and the wider world.

- Telework, e-learning – with special regard to low Hungarian mobility rate – will provide for real work opportunities.

- In will result in the provision of a real infrastructure-based competition for the ICT industry in conformity with European industry approaches. This will result in the provision of low entrance threshold for service providers to enter the market and a natural market state for the decrease of prices in real, significant volumes.

- Last, but not least the basic infrastructure of the Digital Public Utility will directly support and generate the development and swift spread of eParticipation tools.

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Citizens' participation and electronic democracy. A new way to involve officials and citizens

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"Democracy is not the best form of government, but is the only acceptable one"
Plato

"Democracy is the government of the people, by the people, for the people"
Quote by Abraham Lincoln

Over the last two centuries, humanity has tried every form of government, from autocracy to dictatorship over corporatism and communism. Only democracy has durably survived all other forms.

Why is this? Because until now citizens – that is to say subjects, "beneficiaries" - have applied themselves, because "serving the public cause" has always had a certain aura to it, a certain nobility and grandeur. More importantly, also thanks to citizens' permanent contribution to policy making, either through pamphlets or an involvement (be it partial) of the population. Today, in our representative democracies, we still use the expression that people "vote with their feet" if voters do not turn up. Our society is becoming increasingly opened up to the outside world, increasingly digitalised but also increasingly individualistic. This raises the question whether we are putting ourselves at risk of a new participation crisis by leaving it all to the "professionals" of participation and decision-making. The political class, under growing attack and increasingly threatened from inside, is struggling with doubts and criticism (sometimes justified, unfortunately). Will it soon be singled out?

Yes, if no action is taken to boost civic spirit, the will to participate in reflection, decision-making and – more importantly – assessment of actions. How then to raise consciousness among citizens that they do not only have rights – in most cases guaranteed by law, in texts that are often difficult to read or only accessible to insiders – but also, and even more importantly, duties, which are note limited to voting and paying taxes?

Apart from a systematic application of the ethical principles of good governance and transparent decision-making and management, it is necessary to show citizens ways – be they new or not - to participate, among which we can mention:

- Voting.
- People's referendum (either on public or on popular initiative).
- Concertation.
- Interpellation of public authorities (at public meetings town council meetings, for instance).
- Petition.

- Consultation of « representative movements » (neighbourhood councils, trade unions, all kinds of special interest groups, …).

- « Institutionalised » participation (such as participating budgets or the concertation committees for town and country planning).

But, you will say to me, we already have numerous instruments of that kind, we regularly question the population and it works! Yes, that is, if we content ourselves with an impression rather than a reality "in the field". And then there is also the NIMBY syndrome (Not In My Back Yard), so important to sociologists and political analysts.

So, what to do then? Our changing society certainly offers a new opportunity, notably digitalisation (without neglecting the "good old methods", though). The expansion of our virtual world over the pas twenty years has enabled everybody to see in real time what is happening at the other end of the globe, suppressing distance and time barriers and sometimes even privacy.

We can use this "superb tool", this technology (which should remain a mere medium) to bring together citizens, decision-makers and administrations in a vast virtual village, a global platform, to improve the presence of the "subjects of right" or stakeholders, in order to strengthen participation and communication among all parties concerned, so as to allow each of them to take knowledge of the others' views and communicate their own views.

We would thus create the digital space of democracy and participation!

How to achieve this?

Below we present a methodology, principles and guidelines issued by the Council of Europe in its recommendation of 18 February 2009 on electronic democracy, as drawn up by the Ad hoc Committee on E-Democracy of the Council of Europe (CAHDE), presided by Dr. Thomas Buschbaum (Austria).

This comprehensive and rather long text (80 principles and 102 guidelines), was the result of several years of concertation between governments, the academic world and international non-governmental organisations (INGOs).

What does it purpose to achieve?

When implementing legislation, working methods or procedures involving electronic consulta¬tion, public authorities should make sure that their participation instrument :

- fully complies with obligations and commitments in respect of human rights and fundamental freedoms, and the principles governing the domestic organisation of democratic government;

- enhances the effectiveness of democracy, democratic institutions and democratic processes;

- is additional, complementary to, and interlinked with traditional democratic processes, so as to widen the choices available to the public for taking part in political processes;

- maintains and enhances citizens' trust in democracy, democratic institutions and democratic processes;

- enhances the democratic roles of intermediaries between citizens and the state, such as democratic institutions, politicians and the media;

- promotes, ensures and enhances transparency, accountability, responsiveness, engage¬ment, deliberation, inclusiveness, accessibility, participation, subsidiarity and social cohesion;

- provides opportunities for meaningful and effective public deliberation and participation in all stages of the democratic process, responsive to people's needs and priorities;

- is based on and implements the concepts of comprehensive and active information and a broad understanding of citizenship;

- takes account of the challenges, risks and barriers to e-democracy, addressing and over-coming them, in particular through sound risk-assessment and risk-management measures and mechanisms ensuring ongoing evaluation and progress;

- helps to narrow the digital divide by means of an inclusive and non-discriminatory approach and by empowering people through support for education and training, including education and training in e-literacy, and public information measures, and by combining electronic and non-electronic approaches;

- facilitates and enhances access, accessibility and interoperability by using, where feasible, transparent and technology-neutral means, open source solutions and open standards and specifications;

- is embedded in balanced, citizen-oriented rules and regulatory frameworks, including regulations adopted by public authorities, co-regulation and self-regulation.[13]

E-democracy, like democracy, concerns many different stakeholders and requires their co-operation. Member states, public authorities and their representatives are only some of the parties with a stake in e democracy. Citizens, civil society and its institutions, politicians and political institutions, the media and the business community are equally indispensable for the purposes of designing and implementing e democracy.

Recommendations, engagements and encouragements cannot therefore be confined to public authorities, but must cover all e-democracy stakeholders. Similarly, financial resources for implementing e-democracy should be shared by all stakeholders, whether institutional or not.

However, a certain form of regulation, a certain "moderating" control (regarding formal aspects and not contents, of course) is required to allow free expression of all opinions and standpoints and guarantee reciprocal respect and freedom of speech for everyone.

NOTES
[13] «Preamble» of Recommendation CM/Rec(2009)1 of the Committee of Ministers to member states on electronic democracy (adopted by the Committee of Ministers on 18 February 2009 at the 1049th meeting of the Ministers' Deputies)

The goals and principles of e-democracy – which are similar to those of good governance – are transparency, accountability, responsiveness, engagement, deliberation, inclusiveness, accessibility, participation, subsidiarity, trust in democracy, democratic institutions and demo¬cratic processes, and social cohesion.

Trust – which is linked to the type of channel used, especially with regard to security in a broad sense - is indispensable for any type of e-democracy, at all stages and phases, at the receiving end as well as at the giving end, since both the "citizens/clients/users" and the "elected representatives/decision-makers/managers" should trust the technology and its users. Good faith, accountability of stakeholders and sound technology must ensure that data are exchanged in a loyal manner and that opinions expressed are taken into account (and also respected).

While e-democracy is dependent on modern, suitably adapted ICT, more and better technology does not in itself lead to more and better democracy. Technology is an enabler, not a solution; it is a tool that can support and enhance democratic processes.

Moreover, technology is of secondary importance to democratic considerations. It must not be the reason for introducing e-democracy.

Technology is not neutral but has built-in values and its own methodology. A general awareness of the characteristics of technology is necessary and needs to be promoted. Responsibility for the technology used lies with the institution in charge of the e-democracy tool. It is of prime concern that the ICT in question should be designed to perform securely.

The use of open-source solutions can enhance trust, as anyone can, to some extent, inspect the solution adopted. Open source is not a substitute for the open standards/specifications requirement. The use of open standards and specifications promotes interoperability.

In addition, we should bear in mind the basic principles underlying the use of electronic devices in exercising democratic rights. I list them in full below, based upon the Recommendation of the Council, because they constitute the framework within which public managers and decision-makers should act:

• the active provision of comprehensive, balanced and objective information designed to help the public understand problems, alternatives, opportunities and/or solutions to democratic issues; this concept is closely linked to freedom of information and freedom of speech;

• a broad understanding of citizenship, encompassing persons and groups of persons permanently residing and integrated in a political entity, irrespective of nationality;

• citizen participation – that is, the involvement of citizens and groups of citizens, such as interest groups, corporations, associations and non-profit organisations (NPOs), in public affairs, so that they can exert influence and improve the quality and acceptability of the results of democratic processes;

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Citizens' participation and electronic democracy. A new way to involve officials and citizens

- empowerment – namely, policies and measures to support citizens' rights and provide resources for participation;

- inclusion – that is, the political and technological empowerment of citizens irrespective of age, gender, education, socio-economic situation, language, special needs and place of residence; such inclusion requires an ability to use electronic tools (knowledge, e-skills, e-readiness), available and accessible e-tools and a combination of electronic and non-electronic approaches;

- deliberation – namely, rational debate among equals, where people publicly discuss, endorse and criticise one another's points of view in a thoughtful, respectful discussion of an issue and action to be taken on it.[14]

These principles are even more important when we look at the most "crucial" and most sensible area of the e-democracy : elections or referendums in which electronic means are used at one or more stages.

- E-voting is an election or referendum that involves the use of electronic means in at least the casting of the vote.

- E-consultation is a way of collecting the opinions of designated persons or the public at large on a specific policy issue without necessarily obliging the decision maker to act in accordance with the outcome. There are various forms of e-consultation, formal and informal, public-authority-regulated and unregulated. E-consultation can invite and collect various opinions whilst providing an inclusive space for deliberation or for simply following the debate; it allows decisions to be directly or indirectly influenced.[15]

Why this specification? Historically, voting is the moment when the people hold the "reins of power", the keys to the democratic institutions, for a relatively short period of time (during the election period), while the legislative (=the members of parliament) and the executive (=appointed by the members of parliament) powers no longer have a democratic existence.

Historically speaking therefore, voting is a controllable expression of the will of the voters, controlled by them.

At the transition from the traditional "paper" support (with the remark that we have evolved from white and black stones to an "intellectual and modern" support) to technological supports (magnetic strip cards, cable-transmission or internet transmission, for instance), many citizens, or at least a marginal part of the electoral body (only about 3%, profiting from disproportioned media coverage), tend to show concerns about the respect of their votes or opinions, about the safety of the transfer and about whether their votes or opinions will be registered.

They claim a possibility for control which is accessible to all citizens. In brief, they want to be able to control whether the principles of democracy are respected.

NOTES
[14] Principle 27 of the Recommendation, op. cit.
[15] Principles 42 and 43 of the Recommendation, op. cit.

Citizens' participation and electronic democracy. A new way to involve officials and citizens

The current Belgian experience[16] and the prototypes developed spontaneously by the worldwide society want to meet these objections and remarks. It looks like this improvement will be possible thanks to modern technologies, for instance with regard to the durability of the vote and therefore the impossibility to change it without the voter's approval.

Also the voting procedures – which are now still linked to a (real or diplomatic) territory – have to deal with a new phenomenon: remote e-voting speeds up procedures, enables voting to be electronically monitored and votes electronically registered, and facilitates participation from greater distances and by persons with special needs (an interesting experiment has been developed in Lithuania, but it implies a level of trust we are not familiar with in our "old" electoral democracies).

It is however clear that the electronic democracy encourages the participation of individuals and groups, without distinguishing between members and non-members, strictly on an equality basis, and enables those whose voices are less often or less strongly heard to express their opinions and to promote participation. It also offers the citizens the means to contribute more to the definition of programmes and to the analysis, formulation, implementation and follow-up of policies.

All sorts of participation are possible thanks to the electronic democracy:

•   information supply;

•   communication, consultation, deliberation;

•   negotiation, enlightened participation, co-decision and decision making.

Therefore, we can arrive at more participative ways of making decisions.

Nevertheless, technology should not be the only motive or the driving force behind the electronic democracy. It is the democratic institutions and the citizens that should be and remain responsible for the procedures and the tools.

Certain territories are better suited for the use of electronic tools: cities – because there you are often alone in the crowd -, rural areas – the geography is often a handicap for an effective participation – and the electronic democracy could be particularly beneficial for border regions that take up territorial political entities of several countries and for their institutions, for people living in different countries and sharing the same cultural or linguistic identity; it can simplify the international – institutional or otherwise - decision-making and participative processes.

The implementation of the electronic democracy authorises various degrees of complexity, in different types of democracy and in different stages of its development. It is not attached to nor does it lead to a particular type of democracy. E-democracy can bring together policy makers and citizens in new forms of engagement and policy making.

NOTES

[16] The Kingdom of Belgium uses an electronic support (a magnetic strip card) to collect, count and distribute about 50% of the votes since 1994. The federal Government ordered a study from a consortium of Belgian universities resulting in a proposal for a new system that will normally be tested during the federal elections of 2011.

This can lead, on the one hand, to a better understanding of public opinion and people's needs by policy makers and, on the other, to a better public understanding of the tasks and challenges facing policy makers, and thus to increased citizen identification with the democratic system and a higher regard for, and greater trust in, democracy

Because it opens up new channels for information, communication, deliberation and participation and enhances transparency and accountability, e-democracy has the potential to address shortcomings in democratic institutions and processes.

Neither can it be denied that e-democracy has great potential in the area of community building, including community-building among, and with, (ethnic, cultural, linguistic or philosophical and religious) minorities. Nevertheless, we risk that the regional government gets more and more power and we risk a communal or identity withdrawal, which always causes rifts and divisions within the entity, even when using electronic tools. And yet, e-democracy can enhance the increasingly European, international and global nature of politics and facilitate the cross-border collaboration this entails, going beyond the classic borders.

The globalisation of society should not be limited to only the economic aspects: the "virtual village" we are creating will leave no more space for dictators, autocrats and other unique thinkers!

The – ever more widespread – tools of the information and communication technology will enable the potential burgeoning of a more open, more democratic and more transparent virtual world.

Without any doubt!

This enthusiasm must however be curbed by two remarks:

- **on the one hand**, we must not forget that in our countries with old cultural traditions, knowledge may be widespread (though we can't forget, in the margin, all those to whom reading and writing fluently is a daily struggle, that is to say about 10 to 15% of our European and North-American populations), but that such is not necessarily the case in numerous countries and regions, where oral traditions have always prevailed over written traditions. Similarly, access to education or culture is not generalised : too many populations are still deprived from educational and cultural resources, thus remaining far away from our digitalised world. As the development of e-literacy is essential for sustainable democratic societies, not least in a human rights context, particular emphasis should be placed on:

  - providing e-literacy training for everyone, in particular children, young people and people without access, or with limited access, to the Internet, so that they can participate fully and responsibly in public life;
  - ensuring that (e-)technology and services are seen as useful tools, which should not be feared but rather embraced as a means of exercising rights and freedoms.

- **on the other hand**, and to me this is at the heart of the matter, the question arises as to the funding of such tools and, even more importantly, the costs of information on the existence of e-democracy.

Let's take a closer look at the latter issue : irrespective of the e-democracy sector concerned (voting, consultation, concertation, evaluation, follow-up of decisions, co-decision process, participating budget, …), **anything goes, but as long as its remains unknown, it will serve no purpose**!

In order to create an environment conducive to the widespread use of ICT for democracy and participation purposes, public authorities should, in co-operation with the private sector and civil society:
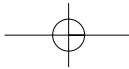
- provide a stable regulatory framework that offers an incentive to the private sector to invest in ICT infrastructure and services;

- promote the widespread availability and affordability of, and enhance access to, ICT infrastructure, the Internet and public online services, as well as relevant education and training.

Attention should be paid to the potential risks of providing misleading information, giving undertakings that are not followed through, defamation, the publication of obscene material, incitement to racial and religious hatred, and discrimination on grounds of age, gender, race and disability.

Any operation aimed at implementing e-democracy should be supported by a public budget to cover publicising and information campaign costs, along with dynamic multimedia marketing.

When devising and implementing e-democracy, it is necessary for public (and private) partners to take account of enabling factors. These include:

- the political will and leadership of government and politicians;

- a developed and vibrant civil society;

- high levels of trust and transparency;

- extensive online and offline promotion of e-democracy, based on a strategy designed to increase awareness and maximise uptake;

- good participation, in qualitative and quantitative terms, in e-democracy processes;

- the fact that participation has an impact on the outcome;

- efforts to understand and address the wishes and reservations of all possible stakeholders;

- political objectives other than involvement for the sake of self-expression;

- initially low requirements for the identification of participants in order to facilitate engagement in e-democracy methods;

- widespread access to and accessibility of technology, including access for persons with special needs and those living in less-developed or remote regions (e-inclusion);

- effective co-operation among the different stakeholders;

- user-friendly, transparent, appropriate, differentiated and sustainable e-tools that can be scaled up;

- user-friendly but reliable identity authentication, where necessary;

- information for citizens from the outset about how their input will be used (no false promises or undue expectations raised);

- information on how citizen input has been used in decision making (feedback requirement).

Conclusions:

For many politicians and high-ranking officials, e-democracy – and in a wider perspective e-governance – is all too often still limited to creating a dull and static website.

To be present on the web is now generally a goal in itself, not a means to obtain a goal!

The Recommendation (2009)1 of the Committee of Ministers of the Council of Europe has the enormous merit that it gives substance to the principles and the general guidelines for the introduction of e-democracy tools. The use of these terms suggests more than just an alternative wording for the terms used in this text.

It is indeed important to remember that the e-democracy is one of the numerous strategies that enhances the effectiveness of democracy, democratic institutions and democratic processes, and that can help spread the democratic values. The e-democracy is based on the democratic, human, social, ethical and cultural values present in the society where it is implemented.

It is interlinked with and complementary to traditional democratic processes. Each process having its advantages, none being universally applicable.

The actors of the e-democracy should encourage political leaders, citizens, the civil society and its organisations and political parties to use ICT for starting up democratic debates, militant actions and online campaigns in order to display their preoccupations, ideas and initiatives, to promote dialogue and discussions with elected officials and authorities, and to control the influence of civil servants and politicians on matters of public interest.

But apart from joining the will and means to act, apart from making sure that all advice is taken into account and a follow-up is assured, e-democracy should also incorporate from the beginning the necessary human and financial resources and foremost a planning of the strategies for informing the targeted audiences (citizens, administrations, associative structures, elected officials and political leaders and last but not least the media).

Without the possibility to denounce, there can be no praise; without active participation, there can be no democracy, whether it be electronic or not!
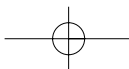
An e-Participatory framework for Malta

Austin Gatt,
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Abstract

This paper provides a background to Malta's democratic scenario. It focuses on the country's current state of play and opens the discussion on Government's thoughts for the future of e-Participation as an important component of e-Democracy. It presents a number of perspectives that have provided the impetus for Malta to envisage roles for information communication technologies (ICT) in the public consultation process together with a general overview of what Malta has achieved and the levels of citizen participation obtained. The paper also considers local issues and challenges which Government plans to take into account when formulating future ICT and strategic considerations for e-Participatory measures.

Background to the local democratic scenario

Historically, Malta's voter turnout has not been correlated to the citizens' dissatisfaction with Government's policy making. Earlier trends in Maltese past voter turn outs have been remarkably high in parliamentary elections[17].

Polls conducted by the global research consulting company Gallup to assess key issues and concerns of citizens within the European Union indicate that 20% of EU citizens who claim to have participated in the European Parliamentary elections which were held in 2004 are not planning to vote in the next European Parliamentary elections[18]. It is widely known that Europeans have not yet reached a satisfactory level of citizen participation. Further research from Eurobarometer, reveals that 8% of Europeans over the age of 21 (36 million) have not participated in politics in the past three years[19]. Citizen dissatisfaction in Europe has been translated in low voter turnouts, whereby in many European countries turnouts at national and European elections have been declining[20].

Malta's citizens have increased expectations of public services and of transparency in public institutions. The need for public service transformation has challenged the electoral representatives' abilities to confront citizen scrutiny in this regard. In March 2008, the Administration endeavoured to introduce further citizen empowerment and involvement, with the appointment in Cabinet of a Parliamentary Secretary for the Public Dialogue and Information.

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[17] Elections generally exceed 90 percent of the registered voters. The local council elections, however, have produced substantially lower voter participation of less 70 percent in most electoral rounds since inception of local councils. Yet they are high by comparison to local elections in most Western democracies. (Source: Voter Participation, 1993-2007. Retrieved April 14, 2009, from http://www.maltadata.com/tr-turnout1.htm)

[18] Dr. Alan Deidun (April 15, 2009). What makes European tick? Malta Today midweek Retrieved 24th April 2009 from http://www.maltatoday.com.mt/2009/04/15/alan.html

[19] Eurobarometer, Retrieved 20th May 2009 from http://ec.europa.eu/public_opinion/index_en.htm

[20] Chrissafis T, European Commission DG INFSO eGovernment and CIP Operations (2007). The e-Participation Initiative of the European Commission empowering citizens in Europe. E-CITIZEN event, 11 December 2007, Brussels. Retrieved 20th April 2009 from http://www.baltic.org/mp/db/file_library/x/IMG/15540/file/TC-eCITIZEN2.0-11December2007.pdf14.

This role has enabled Government to launch a series of consultation processes with citizens on various policy making initiatives within the wider spectrum of national issues. Amongst various initiatives, the Office has reinforced the vision of The Malta Council for Economic and Social Development (MCESD)[21] and re-established the Malta-EU Action Steering and Action Committee (MEUSAC)[22] to serve as national consultation fora on matters of high importance. This Secretariat has also launched a consultation process to reform Local Councils and in the very near future it will initiate a consultation process with several commercial sectors with the aim of reducing the regulation burden and bureaucracy.

As part of its agenda to enhance public dialogue, the Secretariat has launched a revamped customer care website[23] whereby citizens are allowed to requested information, pose comments, offer suggestions or lodge complaints about Public Services and local/central government. Furthermore, citizens can review the full history (including the organisation and representative handling their case) and status of their request. Since its inception, this system has registered an average of 110 requests per day.

Discussion and consultation processes on various reforms taking place, have also been initiated by various Government Ministries. A Parliamentary Committee was set up to discuss the strengthening of democracy and transparency in Malta and the Freedom of Information Act. Through these initiatives, Government ensures that the formulation of policy is complemented by consultation, thus acknowledging the important role that the general public can have in the running of a democratic country. Through such consultation processes, Government also confirms its belief in the concept of subsidiarity through which the citizen is placed at the centre of the decision making process.

E-democracy and Malta's efforts at introducing e-Participation.

In general, the notion of e-democracy has been defined as the use of ICT to support the democratic decision-making processes[24]. Within the definition of e-Democracy, e-voting is one of the multitude mechanisms whereby citizens can influence democratic decision-making. Another aspect of e-Democracy is e-Participation. Addressing citizens' participation in the decision-making process of Government reform is crucial. The concept of e-Participation sets out greater opportunities for consultation and dialogue between government and citizens or government and businesses. Through ICT, active participation can be maximised as a wider audience is reached and engaged in issues.

Malta's ICT strategy reflects Government's strong commitment to make the country a centre of ICT excellence. The Malta Information Technology Agency (MITA) is the driving force for implementing the ICT Strategy, including a challenging programme of e-Government initiatives. The programme sets out by putting the citizen and business at the nucleus and emphasises the role of e-Participation.

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[21] MCESD (Malta Council for Economic and Social Development) , Retrieved 20th May 2009 from http://www.mcesd.org.mt/mcesd/home.aspx

[22] MEUSAC (Malta-EU and Steering Action Committee), Retrieved 20th May 2009 from https://opm.gov.mt/meusac?l=1

[23] Customer Care Portal, Retrieved 20th May 2009 from www.servizz.gov.mt

[24] Macintosh, A. (2004). Characterizing E-Participation in Policy-Making. Proceedings of the 37th Hawaii International Conference on System Sciences – 2004. Retrieved 20th April 2009 from http://www.google.com.mt/search?hl=mt&q=Characterizing+E-Participation+in+Policy-Making%2C+Professor+Ann+Macintosh&meta=

The strategic principles are outlined in The Smart Island Strategy 2008 – 2010[25], a series of objectives which are built on the success of the previous ICT Strategy 2004-2006[26] and the White Paper on the Vision and Strategy for the attainment of e-Government, in October 2000[27].

E-participation will be introduced across a cross-thematic horizontal programme to ensure that its application is entrenched in e-Government 2.0. Through the adoption of Web 2.0 technologies such as thematic blogs, wikis, online polls, discussion fora and online communities Government will establish an open two-way consultation and feedback-generation channel through which citizens can take up a more active role in the shaping of policy. The implementation of e-Participatory tools therefore encompasses sophisticated technology that enables the dissemination of information, formation and the gathering of opinions. The revamped website for Malta's Ministry ICT champion, the Ministry for Information Transport and Communication[28], has been the forerunner in implementing Web 2.0 technologies. The website includes RSS syndication, search functions, polls, videos, and contains an information repository that includes all press releases, speeches, new articles, events calendar and downloads which are made available to the public.

The design and application of a homogenous framework for public consultation requires the input of a number a diverse group of stakeholders who are each in their turn dependant on the particular context. Gov 2.0 enables policy-makers to directly address those citizens and businesses who are affected by Government policy. Through e-Participation, the end users are given greater potential to directly influence the content of policy during its formation process.

On a national scale, the first proposal for a central Government of Malta portal date back to the *White Paper on the Visions and Strategy for the Attainment of eGovernment* published in October 2000. In its endeavours at exploring new ways of communicating directly with citizen, the Government of Malta launched a single point of access portal *gov.mt.* The functions of this entry point serves as the key link to the multiple levels of government jurisdiction. It also contains information of general interest to the public such as Press Releases, Government tenders, online Government gazette, Ministries and Departments. In line with Government's vision to introduce the proper placing of e-Democracy within this ambit, there are plans for the gov.mt to be revamped in order to host greater ministerial and departmental web presences in order to disseminate more information, engage public opinion and interact through the most diffused bi-directional communication medium which is the Internet. The information streaming from the central portal to citizens will be managed and coordinated by a political champion appointed by Government, thus reflecting coherent links of information. Furthermore, however, and even more importantly, is the consideration that a Government's portal, in the light of the EU i2010 agenda, should not only feature information and links but also be the lynchpin in active citizen participation.

NOTES
[25] Ministry for Information, Transport and Communication (MITC) Website, The National ICT Strategy for Malta 2008 – 2010, retrieved 20th May 2009 from https://mitc.gov.mt/MediaCenter/PDFs/1_ICT%20Strategy%202008-10.pdf
[26] Ministry for Information, Transport and Communication (MITC) Website, The National ICT Strategy for Malta 2004 – 2006, retrieved 20th May 2009 from https://mitc.gov.mt/MediaCenter/PDFs/1_National%20ICT%20Strategy%202004%20-%202006%20.pdf
[27] Ministry for Information, Transport and Communication (MITC) Website, White Paper on the Vision and Strategy for the attainment of e-Government, retrieved 20th May 2009 from https://mitc.gov.mt/MediaCenter/PDFs/1_e-Gov%20Vision%202000.pdf
[28] Ministry for Information, Transport and Communication (MITC) Website, www.mitc.gov.mt.

Malta has been going through improvements in Government's consultation processes and a number of potential participation areas from citizens are being supported by diverse information and communication technologies. The most recent intensive e-Participatory exercise launched in April 2009 is aimed to obtain feedback from citizens regarding a draft energy policy document for Malta. The document was posted on the Ministry of Resources website[29] so that interested parties may post their electronic feedback on Malta's strategy for an energy policy that honours international commitments and ensures proper regulation for the sustainability of the environment. Such participatory initiatives ensure the commitment of various stakeholders with fiscal, educational and research objectives to merge their ideas and reach a common framework for energy policy.

The consultation process on Rent Reform has incorporated the provision of information, and support for feedback over the Web. Through a Web portal[30], the general public was given a number of opportunities to put forward concerns and proposals in order to enhance this very important development. Citizens are able to download the Whitepaper, view document archives, make reference to FAQs, submit and view the feedback provided via email and establish links related to the subject under reform.

Another e-Participatory exercise carried by Government was through a public forum website which the Ministry for Finance, Economy and Investment had launched and introduced a pre-Budget document prior to the Budget for financial year 2008. It has implemented the same initiative for this year's Budget.

In addition to providing citizens with information on the budget processes, forum enabled tools allow interested parties to express their opinion and put forward proposals in preparation for the Budget. Administrators of the system ensured that the questions and feedback from citizens posted on the e-Forum were given an adequate reply.

An enhanced form of participation has been provided by the Parliamentary Secretary for Public Dialogue and Information at the initiation stages of consultation initiatives on Local Council reforms. Citizens were given the opportunity through the use of web-blogs to contribute their ideas towards reforming their localities.

Other prominent initiatives include live audio broadcast and parliamentary recordings, sittings information and parliamentary questions database which reside on the House of Representatives website[31].

Government also takes note of online debate which takes place on the websites of the independent owners. The main printed press has gone online: publishing its papers and drawing readers to post comments. Most topics of wide public interest are brought to light by journalists or letters to the editor. Policy makers also make frequent contributions through articles in the press. Subsequently topics are publicly debated through the online fora which are an excellent source for gauging public opinion in policy making and implementation.

NOTES

[29] Ministry for Resource and Rural Affairs (MRRA) Website, Retrieved on 20th May 2009 from http://www.mrra.gov.mt/
[30] The need for Reform, Sustainibility, Justice and Protection Website, retrieved on 20th April 2009 from http://www.rentreform.gov.mt/
[31] Maltese Parliament Online, retrieved on 20th April 2009 from http://www.parliament.gov.mt/
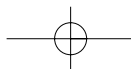
The implementation framework of e-Democracy within the local context

An e-Participatory framework common for the whole of Government will be led by a strong and experienced team involving both experts and stakeholders. The framework involves ICTs but, more importantly it needs a regulatory and administrative structure. The themes for discussion and target audience/s will be established together with the form in which e-Participation will take place. Marketing strategies and the monitoring of take-up techniques are crucial for the initiative's success. The decision on how results and feedback of e-Participation are used, differ for each consultation exercise but remain the most important component of the initiative.

Although objectives and policies prepared on a national level fall more within the competence of politicians and professionals, citizens should be involved in the implementation of such policies. The envisaged ideal set-up for participation is within a framework of discussions, drafts and alternative proposals in which citizens are actively engaged. If the public feels that the planning processes of strategies and decisions can be influenced by its involvement, it will more willingly seek out information and contribute ideas. Government may increase the citizens' level of participation by granting greater access to information regarding crucial issues and provide education through all kinds of media, brochures and through open public consultations.

The Government's e-Participation framework will be based on active participation whereby a partnership with Government, its institutions and the people is established and citizens actively engage in defining the process and content of decision making prior to the informational and consultational stages of reform. The public may participate in planning either as individuals, directly or indirectly through voluntary entities, pressure groups or neighbourhood communities. Due consideration will be given to making e-Participation initiatives, accessible to all citizens including the visibly impaired. Participation from youths especially through the application of e-Participatory tools in schools and youth organisations presents opportunities for them to put their 'active citizenship' role to the test of their 'participatory powers' within society. By the same principle, voluntary organisations will be given official recognition of their efforts, consultation powers and adequate representational roles in citizen e-fora. Through this form, citizens are given a right to participate and the actual organisation of the decision-making process will be carried out in such a way that it encourages the sharing of authority.

Challenges

It has been widely recognised that the implementation of e-Participation poses a number of challenging issues of social complexity (integration and responsiveness), political (involvement of elected representatives), ministerial culture (the right structure for the context) and technological dependencies.

Social diversity poses a challenge in designing an effective e-Participation program. Stakeholders have various roles that need to be better understood in order to design e-Participation methods that cater for their preferences and needs. Malta has a diversified array of ICT skills of its citizens and the gap tends to remain wide amongst citizens who use technology at its minimal levels and citizens who are proficient in the latest technologies.

In addition, there will be citizens who prefer participating in discussions and talk-shows about civic issues and request for more opportunities to do so and there will be citizens who will only be involved when an issue is close to their own interests.

One of the major barriers to e-Participation is the lack of trust of the citizens in political institutions. Citizens may also doubt whether their participation and contributions of ideas to particular issues are taken seriously and contribute to policymaking, particularly when they are made through electronic. In Malta commitment from politicians and public administrations to interact with citizens via e-Participatory tools has been a relatively recent initiative. Politicians place at the centre of the model of democracy. E-Participation applications should reflect the growing demands of the elected representatives to be able to listen and to better respond to the citizens they represent. A challenge to e-Participation would be to understand how to support the work of politicians.
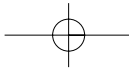
A means of ensuring e-Participation commitment is by addressing how Ministries and government institutions need to integrate e-Participation into their routine structures and policy processes. E-Participation goes beyond citizens' interaction implementation. There have to be formalised mechanisms that process inputs, respond to them and feed them into the policy. This will also form part of e-government in the transformation of public service. The need for change management and process reform are seen as crucial for the success of new forms of public service delivery. Similarly if Malta is introducing technology to support participation, it must be expected that similar reforms will be required. Even though there is no structure or system of participation and therefore the reform process cannot take place, the challenge to this is to support the design and application of new processes to define online engagement and associated organisational structures.

The implementation of technology can only be considered as successful if it is installed in strong political, economic and organisational contexts. Technology is the tool by which the contexts are reshaped. E-Participation entails a range of practices, techniques and technologies which must be integrated into a broader adaptation of government-citizen relationship-building.

E-Participation carries so much information that this requires structuring and user-centric representation of the information. There is need for a better understanding on the manner of presenting meaningful information to the public.

Conclusions and recommended approach for e-Participation

E-Participation is an area which involves further research. Evaluation research is not yet mature. The Government is committed to promote informed debates on political issues. It is not merely re-engaging with citizens but ensuring that citizens have the informed capability to participate. Although there remains a portion of citizens who do not participate, there is still the need of creating participatory representative models of democracy that will allow civil society to do more than just vote during election times. The problem of scale does not apply to Malta. In this case, it does make it highly possible in building active citizenship, commitment and coherence. It also makes the evaluation of e-Participation in Malta easier.

The design of an e-Participation framework should be based on an analysis of civic participation to make sure that the system is adapted to the exigencies of Malta. An effective e-Participation system should be integrated with face-to-face participation; should be comprehensive, flexible and easy to use; should be open, affordable and sustainable. Since Malta has considerable consultation experiences and relatively little participation experience, it will draw on successful e-Participation systems and experiences of European countries.

The objectives will be achieved by analyzing e-Participation research across Europe, the tools and techniques used to create instances of e-Participation. There needs to be co-operation between government, academics and industry to improve the quality of research and understanding of e-Participation concepts.

The success of e-Participatory framework for Malta will take place under a strong e-Government framework and sound corporate ICT governance. A formalized legal structure will provide strong foundations for security, accessibility, and user-centric criteria and bridge strategic efforts of Government to build successful e-Participatory projects. Having a strong e-Participatory framework will not only strengthen ties amongst local citizens but will also serve as a stepping stone to cross-border e-Participatory initiatives that enable the sharing of information and decision making policies that cover a multitude of economic and social perspectives across multiple administrations.

Malta has embedded its commitments to implement 'citizen-enabler' participatory applications of ICTs in its national ICT strategic priorities for 2009 – 2012. Public administration barriers and obstacles to increase participation will be overcome to continue to progress and reach the desired levels of expectations. The expectations from e-Government implementation strategies in Malta derive from the demand-driven transformation of the Public Services in general. Adhering to such forces within the correct legal framework will put Malta in an advantageous position vis-à-vis powerful European Member States.
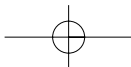
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As simple as possible for as many as possible

Mats Odell,
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Abstract

As the Minister responsible for central government administration, I have put eGovernment high on the political agenda. I want Sweden to be a world leader in this area along with the whole of the EU, thus laying the foundation for long-term economic development that focuses on first-class service to citizens and businesses. To succeed in this work we have to improve the potential for inter-agency cooperation, integrated eServices and the re-use of public sector information. In Sweden the Government recently appointed an eGovernment Delegation with the mission to implement the Government's reform programme. It is made up of the Directors-General of the most IT-intensive agencies and will take a concerted approach to government-wide matters like eIdentification, information security and IT standardisation. It is my objective that by 2015 we will have simplified and improved the everyday life of citizens and business in Sweden and throughout Europe.

New foundation for IT-based operational development

Sweden has a decentralised model of government; the Government Offices are relatively small, some 4700 employees, and there are around 400 central government agencies with some 230 000 employees. The Government Offices is led by the Prime Minister and has the role of supporting the Government in its task of governing the country. In practice this means that the Government Offices prepares various types of government business that is then decided jointly by the Government. The task of the government agencies it to conduct the activities decided on by the Government and the Riksdag (the Swedish Parliament). Within the framework of general regulations and agency-specific governance through objectives and results targets, government agencies have a relatively large amount of freedom to develop their own activities. Responsibility for their organisation, staff, salaries and investments has been delegated to the agencies themselves.

This decentralised model has also formed the basis for the governance of eGovernment. This approach has been relatively successful for many years and led to rapid development of eServices at individual agencies. This has also been seen in international comparisons, several of which gave Sweden a top-ranking early on. Services that can be carried out on the Internet or using text messages are filing tax returns, reporting for parental benefit and registering vehicles and companies. For instance, this year 3.9 million people in Sweden chose to file their tax return via the Internet, a text message or the phone. This corresponds to 53 per cent of the people who could file an electronic tax return.

However, certain governance and coordination problems are associated with this decentralised model for developing eGovernment. For example, there is some duplication when different agencies develop and procure different solutions in similar

areas. Sometimes development work is done without being clear about its value for users. Joint projects can be hampered by a lack of clarity about financial, organisational and legal aspects. The interoperability of technical systems varies.

A strategic government-wide approach to eGovernment is needed to achieve the improvements and efficiency gains that developing eGovernment brings within reach. The action taken by individual agencies needs to be coordinated at central level. This is why the Government has launched a reform programme to accelerate developments.

Political leadership and inter-ministry coordination

The key to the successful implementation of reform programmes is clear political leadership and inter-ministry coordination. One of the first steps in this area when the Alliance Government took office after the 2006 election was therefore to appoint an eGovernment group at state-secretary level tasked with establishing inter-ministry consensus on strategic issues before the formal preparation of government business begins.

This group is led by the State Secretary of the Ministry of Finance and consists of State Secretaries from six other ministries and the Prime Minister's Office. The main task of the State Secretary Group is to strengthen the coordination within the Swedish Government Offices of issues that are strategically important for the development of eGovernment.

The issues handled in this constellation include:

•   the steering and funding of inter-agency development projects;

•   a strategy for harvesting rationalisation gains; and

•   legal conditions.

Concerted approach to IT issues in central government

Last year the Government adopted an action plan that will form the basis for future work. The overall objective set up was:

In 2010 it will be as simple as possible for as many as possible to exercise their rights, fulfil their obligations and access central government services. Where it benefits citizens and businesses, and where quality, security or productivity can be raised, agencies will work jointly in sectors. By doing so, Sweden will regain a leading position in eGovernment.

The overarching objective shall be achieved with the help of actions in four areas.

Each area has its own target which the measures aim to meet. Areas 1 and 2 aim to improve the conditions for eGovernment on different levels. Area 3 aims to harmonise some of the administrations' support processes. Area 4 will ultimately produce visible results for citizens and businesses in terms of simplified contact.

The relationship between the different areas can be illustrated as follows:
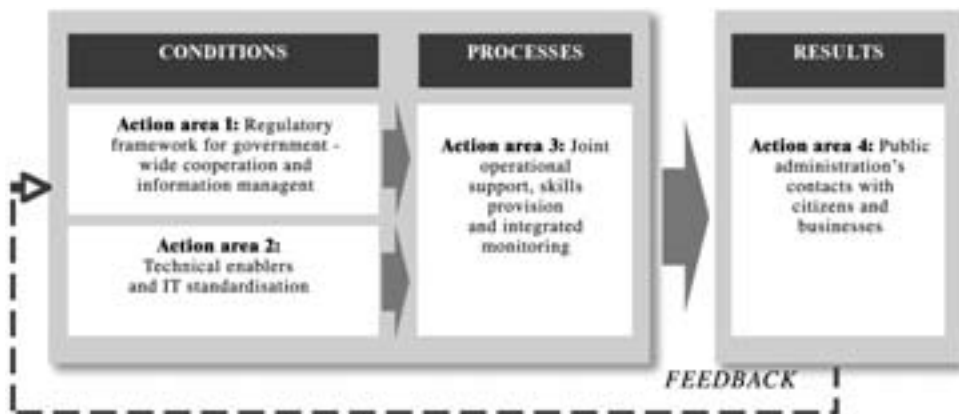
Figure 1: Relationship between the four action areas

Action area 1:
Regulatory framework for government-wide cooperation and information management

Simplifying contact with citizens and businesses requires more efficient government-wide information management and greater sector-wise cooperation among administrations. This action area aims to improve regulatory frameworks for government-wide cooperation and information management.

Action area 2:
Technical enablers and IT standardisation

Greater information security, some technical infrastructure and access to e.g. information on common standards, requirements and interfaces are needed in order for administrations to be able to cooperate to a greater extent than is currently the case. eGovernment solutions should, in as large extent as possible, build on open standards, utilise open source software and step by step liberate the public administration from the dependency to one single platform or solution. The safeguarding of the long-term supply and financing of electronic identifications (eIDs) is, for example, fundamental to the future development of eGovernment. This action area aims to improve the combined information security of public administration and its ability to cooperate on technical issues and terminology.

Action area 3:
Joint operational support, skills provision and integrated monitoring

The Government is responsible for ensuring high efficiency and good resource management in central government activities. Work duplication should be prevented and a high level of internal and external return on development work be ensured through an appropriate level of inter-administration cooperation. The initiatives aim to achieve sector-wise harmonisation of operational support and skills provision in public administrations along with the systematic monitoring of combined central government IT expenditure.

Action area 4:
Public administration's contacts with citizens and businesses

The initiatives aim to create a greater degree of user orientation and citizen participation in the development of public services. The public administration should utilize the possibilities now available through social media and web 2.0 technologies. The needs of the user must be in focus. IT development enables new services to be created where matters involving several administrations can be managed through one single contact point, referred to integrated eServices. IT development also creates new opportunities for improving services for those who don't have access to a computer or the Internet. Local service offices with common IT support and joint telecommunication service centres are two such examples.

A vigorous organisation for implementation in the centre

The Government has appointed an eDelegation with an operational role that will press the Government's reform programme forward until December 2014. The Delegation consists of the Directors-General of the most IT-intensive agencies and will coordinate the development of eGovernment at inter-agency level. This will involve both coordination of eGovernment projects of a strategic nature, i.e. individual projects that affect the overall direction of the development of central government administration, and coordination of the agencies that have their own responsibility for developing work or a sector so that each sector takes account of the interest for the whole of central government in its development work.

The main remit of the Delegation is to:

- shape a strategy for agency work on eGovernment that includes:
    - providing the public sector with eIdentification,
    - technical interoperability at both government-wide and sectoral level,
    - the development of e-services supporting the transition to new technologies such as IPv6;
    - the concentration of administrative support services;
    - the development of integrated eServices,
    - better services for citizens and businesses in rural areas;

- coordinate IT-based development projects in central government agencies;

- monitor and follow up the effects for citizens, business operators and staff;

- coordinate certain IT standardisation matters; and

- assist the Government in international cooperation in the area.

Transparency and re-use of public sector information

The principle of public access to official documents has existed in Sweden since 1766 and is enshrined in the Constitution in the Freedom of the Press Act. The principle of public access to official documents is based on the idea that citizens are to have access to such

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documents in order to gain insight into, and exercise controls over, the activities of the Government and municipalities. The main purpose of the principle of public access to official documents is to guarantee legal certainty and efficiency in administration and representative democracy, but also to promote the free exchange of opinions and a well-balanced provision of information.

The fact that all information from government agencies is now basically produced and stored electronically creates entirely new opportunities for the government agencies to work more proactively than before to ensure that this information benefits citizens and businesses and can be used for purposes other than those for which it was originally produced.

What makes this matter so important?

To a large extent, the public sector's collection of data can be considered a kind of public resource, even a national treasure, that should be of benefit to as many people as possible in society. Moreover, it is a collective good that, with the help of technology, can be used by many people at the same time without limiting access to it.

This information can be used in many different ways. Apart from purely commercial re-use, information can also be used to develop citizens' knowledge, as the basis for participation in the public debate and political decision-making processes and as a basis for welfare choices. By making information concerning how schools, care facilities and hospitals are run and managed more accessible, citizens can take more informed decisions when it comes to making choices concerning public services. Moreover, this information can be used to support the development of civil society, in terms of both traditional civil society organisations and new ones that are emerging on the Internet.

The Government now wants to establish stable foundations for a growing market based on public information, so that businesses can develop new, innovative information services.

The Government intends to establish a clear legal framework for the growing market for services based on public information, based on the PSI-Directive. A draft proposal for new PSI-legislation was presented on 30 June 2009. The law comprises rules e.g. on non-discrimination, charges for information and redress. The law is planned to come into force on 1 July 2010. The proposed PSI-Law will establish a level playing field for commercial as well as non-commercial re-users. However, this will not be the end of the work: ministries, agencies and municipalities will then have to work jointly and intensively to ensure that the legislation is fully implemented and has an impact on actual activities.

Teaming up for the eUnion

Never before in the almost fifteen years that Sweden has been a member of the EU has the importance of international cooperation to meet international challenges been clearer. Now that European economies are being more and more integrated, much of this process will take place with the aid of eGovernment.

The Services Directive is a good example of this. We believe that article 8 in the Services Directive is an indication of a larger trend.

Egovernment is becoming an increasingly important method for tying public administrations of the Member States together so that they can cooperate. eGovernment is emerging as a key factor for the integration of the European public administrations. As such it is also an important factor for the ultimate success of the Single Market.

Since several years, Swedish authorities have become intertwined with their European counterparts. They form growing numbers of public administration networks within different sectors. Most of them have a component of IT at there core. The trend has been there for a long time, and it is only natural that we see eGovernment becoming a central feature in an increasing number of EU-Directives.

eGovernment is rapidly becoming the tool with which we are integrating public administrations in Europe. In spite of our difference in culture, in language and in institutions, we therefore see the emergence of what we may call a Common Area of Public Administration.

The technical development does not make our differences disappear or make them less important. But it does help us to overcome them. This is the European promise of eGovernment. It is one important clue to how we will make the Single Market work in the future. How we team up around eGovernment therefore becomes important.

As EU Council President, Sweden will press joint work on eGovernment forward. On 18–20 November Sweden will host a Ministerial Meeting on eGovernment followed by a conference on the same theme: Teaming up for the eUnion. In the preparations for the meeting we are working and drafting a Ministerial Declaration that will form the basis for further active work on eGovernment within the EU.

The Ministerial Declaration and the subsequent conference will focus on common objectives and measures in three policy areas, which I believe offer major gains from the innovative use of IT in central government services. My objective is that in 2015 we will see a clear difference in these areas resulting in the creation of an eUnion.

These priority areas are:

- eGovernment empowering citizens and businesses: Providing inclusive and user-centric public services, ensuring high accessibility to public information and giving people a voice in political and administrative processes.

- eGovernment supporting the single market: Making it easier for citizens to study, work and retire in any member state of the EU and for businesses to start a company and provide and procure services and goods anywhere in Europe.

- eGovernment enabling administrative efficiency and effectiveness: Developing collaboration and information exchange between public administrations across national boundaries and reducing the ICT related carbon footprint.

E-government in Lithuania - Local Self - Government Layer

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Introduction

E-government development is important throughout Europe and is relevant in Lithuania. Its development is still faced with the technical, legal and methodological problems, which are not sufficient to maintain e-government effectiveness. The necessity and the relevance of e-government development highlights facts that countries do not implementing e-government are less attractive to investors than other where e-services are constantly and actively developing. Essential Lithuanian economic policy challenge today is to increase the country's competitiveness. As shown by the various national and international studies, the low level of efficiency in public administration (including corruption) is a potent factor in lowering the competitiveness of firms and the attractiveness of investing in the country and live there.

E-government in the development of Lithuania is a continuing process, implemented in phases. E-government's conception of the 2002 provides the implementation of many projects. It should be noted that prior to this period a number of work projects and implementations of e-government concept are realised. But still quite many noticeable e-government development plans for the remaining outstanding problems are unsolved. It should be noted that the main obstacles impeding the e-government development do not help the public sector to achieve the strategic objective - to create a transparent, effective, results-oriented and proper persons and business services, public administration system, based on the Information Technology & Telecommunications (ITT) achievements. Significant role in implementing effective e-government must have municipal authorities.

E-government development problems

Citizens want to receive support from the state (public) a similar level as in the business sector. Unfortunately, state institutions are still lagging behind the business and can not provide high level e-services. This means that it is not fully resolved the effective use of internal information, financial, human resources. Different information systems of Lithuanian state institutions constitute a barrier for communication and cooperation. Lithuania has started the project "Interoperability Infrastructure for Information Systems of Public Administrations" (VAIISIS), which is intended for data exchange between public institutions and provide complex online electronic services for citizens. But so far the results of the project authorities used a weak. Therefore cannot function electronic document exchange system at the suitable level. The Taxpayers are forced to go to different institutions in order to obtain public services and the required information or documents.

In order to provide efficient public services necessary to create a safe and compatible information systems and registries for the main business areas and promote e-billing for services and procurement.

It is necessary to promote the electronic signature in both the public and the private sector for implementation of e-government, who would lead the easy and safe to identify the electronic user. Currently, although the steps are carried out - three organizations registered as a qualified certification service provider - this is still a problematic area for such the amount. The realization of e-government is important to modernize the concept of governance, which should be more open, democratic and more responsible.

The analysis of Lithuania e-government [2] the current situation, noted that the majority of goals were left to not realized or implemented only partially. So far, the public e-service levels ranging from information and application forms submitted online to the interactive, integrated and tailored to each user according to his personal needs. The main public e-service goal is to improve needs and simplify their communications of the three main parties - residents, businesses and government. Therefore, each public authority must be interested in installing, upgrading and improving its internal information system taking into account the obligatory standardized requirements of State authorities and move all possible e-services in the electronic space.

Public administration in Lithuania, as in many countries, is often a target of criticism. The reason is all the same - the taxpayers want to have a better quality of public services. The information society requires that authorities ensure the availability, reliability of information and advantageous business conditions. But often the question arises - why authorities cannot quickly and effectively to resolve taxpayers' problems? Why must so many times to go and wait for a decision? Countries, businesses and citizens are raising requirements for better quality of the public services.

E-government Implementation is comprehensive provision public services in the electronic way, final system implementation of the electronic identification, wide use of the electronic signature, effective state institution communication using unified information systems and exchange standardized e-documents without any obstacles. So far, the Lithuanian authorities are sufficiently inert and conservative in their provision of e-services and quality of services is not sufficient and efficient. Every public authority shall carry out the functions assigned to it and do not coordinate sufficiently their actions with other partners. It is not suggesting effective way for solving problem of interest group. It is inadequately dealt with in public administration to promote better quality opportunities. The objective should be efficient utilization of Information Technology & Telecommunications for information management and better relationships with service recipients, partners and suppliers.

In the concept of e-government [2] adopted in 2003 is reported the approach to e-government phenomena in Lithuania, which aims is to improve (using digital technology) the provision of services to state and municipal authorities, the Lithuanian population, the business operators. In the concept is taken into account the specific conditions in Lithuania and European policy initiatives on the e-government. The concept of the e-government essentially describes the provision of services by electronic means for business and citizens in the foresight, the development and design, implementation, and compatibility principles of projects.

This document provides opportunities for e-government development: the objective is to define the specific e-government subject-matter, the processes or decisions. The main objective of the e-government conception is to provide public services through the Internet. The document stresses that this will change the legal environment: the implementation of e-government law and to change certain laws. A lot of time passed from e-government concept approving. It is implemented variety of related projects and there are the first positive results, but there are still a number of obstacles disturbing e-government development and therefore conceptual model of e-government is functioning partially. As noted in the concept implementation plan until the end of 2004 must accessible the public services (20 main public services) to all project parties (but it still does not). All citizens must be assured by the public online access. The density of public Internet access point is one of the highest in the EU after implementation of number related projects. According to the World Economic Forum report of Lithuania the Information Technology & Telecommunications using index (The Networked Readiness Index rankings) took place in 35 of 134 countries.

EU policy initiatives provide that member countries had to seek to enter wide channel connection in all public institutions by 2005. Lithuania in 2008 implemented the RAIN project and brought together in a broadband network 467 rural localities. The second phase the aim will be to further reduce the informatics usage difference between urban and rural areas and substantially accelerate the knowledge and information society development in Lithuania. The implementation of this project will reduce the gap in Internet usage between urban and rural areas, which in 2008 was more than 20 percent. The main barriers are internal problems of state institutions, public authorities, heterogeneity of information systems and lack of e-government strategy. To seek of higher public e-service level it is necessary to remove existing obstacles related to the internal problems: the web sites of state authorities should satisfy the general Government requirements, shortage of the state authority's information systems, the introduction of technological resources and the negative approach of public servants to the provision of public services in the electronic way. Total public e-service availability rate reaches 68.7% in Lithuania. The average percentage public e-services provided to business is higher than is available to citizens and moving to the Internet the 4-level e-services remained the same (40%) in recent years and changing slightly. It should be noted that in Lithuania the State Tax Inspectorate has already begun to provide personalized (5 level) public e-services.

Most of the public authorities do not have a document that would anticipate for the development of electronic services, the provision of official information in the Internet, the institution's website improving visions. In some institutions, especially municipalities, the problems arise from not updated, outdated, non-compliant Web sites, as there is no regulated activity and often there is responsible person who does not have the general requirements and documents or a specific order instruction for web sites. And this is already part of the barrier to the public and businesses to obtain up-to-date comprehensive information and public services using e-way. In order to remove such obstacles the institutions should have document with the obligatory work: the development of electronic services, the provision of official information, the Internet, the authorities' web site development, renovation, and other documents. In order to implement the set quite an ambitious goal for Lithuania - up to 2010 be in the same or similar electronic level of public service like in Europe - should be done energetic movement for all public sector institutions.

It is rationally use the funding model of Public Private Partnerships (PPP) for development of public e-service to be more efficient.

Analysis surveyed Internet users' showed that the electronic public services use 38.6 percent of all Internet users. The most popular public-sector e-services is the income tax declaration - 40.9 percent and look for a job - 29.8 percent. Since 2008, autumn rose by twice using the Internet to health-related services - 24.1 percent. The biggest problems are the computer viruses – for 70.2 percent users and unwanted email (spam) - 53.4 percent. It should be noted that in the time of the economic crisis the majority of respondents in the next 12 months does not intend to buy a personal computer - 81.8 percent. Does not intend connect to the Internet certainly to 28.7 percent respondents, however, considering possibility for such connection - 43 percent. 20.2 percents home computer interviewees think connect to the Internet this year. Among respondents with home computers, the most popular remains the ordinary personal computers (80.5 percent). Fewer interviewees have laptops at home (31.7 percent). Computer is usually used at home (86.3 percent) and at work (31.6 percent). The most popular payment method for online service is a fixed subscription fee (96.6 percent).

E-government at Municipal LEVEL

Lithuanian Minister of Internal Affairs in 2004 30 April approved Order Nr. 1V-148 "Municipal Model of public services using digital technologies" [1]. It should be noted that a list of very detailed - it even identifies the 27 service groups. Some of the services group consists of even 36 services. It should also be noted that the services in the Order are associated with individual municipal departments. It can be observed that does not exist any other document about the municipal public services and the classification list. Can be mentioned only the European Union's regulatory documents, validated list of 20 services, which are more oriented to the nature of services.

The assessment made in Lithuania of the municipal Web sites showed that the municipalities are diversifying services and do not always follow the classification. The analysis revealed a number of fundamental problems;

• Municipal websites represent the same public services in different ways: e.g. some Web sites show public services and in the others department titles and assigned to them the public service;

• most municipal Web sites publish information about the public services unstructured, not divided to residents and business operators provided services;

• the municipal authorities search engine does not work or are not adapted to find provided public services, so took a lot time to perform a search;

• most municipal Web sites does not have a comprehensive list of public services or the list is not detail.

Although the overall context of the municipality meets the requirements sufficiently, but many municipalities still are in the early stage of provision of electronic public services. Observation of Lithuanian municipalities shows that dominate I and II level public service transfer.

The transfer of services is still low enough - identified only one public service of IV level and only in one municipality that moved to e-service – issue of the note "a statement of the population received social income".

In the Municipal web site analytic result, it is noted that:

- Site structure is presented inconvenient not functional structural form. Sometimes the user cannot find e-services or do not notice that related information to it is contained in a given column.

- It is appropriate to stress specific e-services section in the Home page in order the user do not navigate wrongly and immediately see where can find information about the e-services.

- Only less than half of municipal web sites that have e-services column provide a suitable, convenient electronic service delivery structure. It is convenient and informative to consumer: detailed list of services, each service is described in detail, e-services have Task Group, category, purpose, department it provides, described the procedure for obtaining the public service, the contacts in the form (requests, applications, declarations forms, documents for example), which you can download, fill in and print or fill in e-way. Other municipal web sites provide e-services only in primary level, it is published only information about public services.

- Provided public services in different municipalities' websites are unequal: some describe only a few public services others more. In addition is different provision of public services to individuals and legal persons.

- In the assessment of municipal Web sites under the promotion criteria of electronic services, it can be stated that there are no municipal web sites with promotion of e-services. You can highlight only a few municipal web sites, which have the promotional film with some kind of advertising the public e-services.

Survey showed that the main obstacles to the development of municipal electronic services are the lack of legal basis for adaptation (21%) and lack of interest of municipal officials to change their activities, adapting to new changes (23%). However, in comparison with other groups of public authorities, municipalities and counties have encountered such obstacles as lack of ITT, lack of staff with sufficient computer literacy. The municipalities themselves should eliminate such obstacles as lack of ITT, staff literacy shortcomings, awareness and involvement of their officials to the e-government projects.

Municipal officials conducted the survey showed that the computer literacy of municipal staff is at least average (58 percent Municipalities) or high (42 percent Municipalities). The survey results show that the computer literacy is higher than average. During several interviews, respondents stated that their municipal workers participated in the ECDL (European Computer Driving License) course, and for this reason, the staff computer literacy increases. Municipal Personnel opposition to technological change assessment, based on these data, is lower than the average. These data suggest that the municipal civil servants are not very likely to resist technological change.

But only a fifth of staff welcomes the opportunity to relocate their activity to the Internet. Respondents have not a better view of the e-service provision. Only a quarter of respondents have positive view to the provision of public services electronically. The specialists' computer literacy can have significant impact on the negative attitude to the work in the virtual space. The respondents' evaluation of some systems may improve the responses. But their opinion about relocation business to the Internet raise doubts about the smooth and efficient development of e-services at municipal level. Attention should be given to heads of departments and specialists with negative opinion about the relocation to the virtual space and electronic public services development. Such an approach can have several reasons, for example low computer literacy or to leave the possibility of abuse and corruption.

The EU directives and the Lithuanian Government strategy suppose that to increase the democracy, to improve public service quality, to reduce phenomena of corruption, it should be relocated as much as possible public services to the Internet.

Most of the municipalities see that e-services increase the efficiency of workers speeded the decision-making process. Some of the municipalities are considered e-services that this is only a benefit to residents but for administration of municipality is the additional workload and additional usage of resources. The central authorities consider that the providing public services e-way benefits to the institutions with publicity and transparency, activity growth, speeding the decision-making process, authorities' savings. They assume - the public service electronic way saves time not only time for citizens, but the authorities also, saves the funds, if properly prepared for e-government implementation.

Institution should have sufficient level of ITT, properly trained specialists which maintain and improve e-services and their activities are properly regulated. Initial investments are needed but the proper use, an estimate of their future dividends.

The analysis of the key measures proposed by e-services increase knowledge about services shows that it is identified different means. Central government authorities opinion say that public relations campaign (26%) is the most appropriate means for strengthen public authorities and citizens interaction. Also could be used such measures as informing about the e-services (17.4%) using media and direct communication with the citizens in the institutions (17.4%).

Municipalities propose that first of all, it is necessary to inform the public about the e-services through the media (22%), and to take means to increase the web sites efficiency (21%). Increasing information efficiency in the institutions web sites depend on implemented e-government strategy, and, if there is no such strategy, it is necessary to prepare and integrate it into a common management strategy. Public relations campaign informing the media are excellent means to enhance knowledge of public e-services, but their use also requires strategic planning: the time, the end, the information intensity, through which channels, which intermediaries, the funds needed.

The analysis of the internal documents (e.g. authority instruction) of municipalities participating in the survey show that 41% municipalities do not regulates the activities of workers in virtual space by internal documents. Almost half of the states institutions do not have the internal document regulating their activities in cyberspace.

Some municipalities suppose that it is only documented the protection of information or regulate only a particular civil servant work with the institution's website including the obligatory additional item in the instruction of authority. Unregulated activity mainly is fragmented and its effectiveness and accuracy and performance depend on the availability of personnel skills. Therefore, each institution with systematic and targeted internet activity should describe, formalize and train the officials to work in the e-space.

In the opinion of representatives of municipalities surveyed services moved to the virtual environment would make them more available. They specify a number of reasons that restrict the use of public electronic services:

• A large portion of the public service is not providing in a virtual environment.

• Lack of information and advertising about these services.

• Inconsistency of public services among the Lithuanian financial institutions.

• There is no overall plan, the vision of development of an e-services in the virtual space.

• Inconvenient e-service system for users and the administrators.

• Small amount of electronic documents signed by the qualified electronic signature and insufficient use of electronic signature; big part of the documentation does not exist in electronic form at all (e.g. old archival records).

• Legislation is not adapted to move services into the electronic space.

• Absence of inter-institution integrated network and the big prices of services (e.g. registry service centre).

During modernization of public administration it is important to know what ITT level are state and municipal authorities implementing e-government projects, the ability to assimilate and exploit the new information technologies and telecommunications, financial, intellectual, human resources, use them to systematic work. In the case of the need e-government projects found that the number of municipal projects, which are associated with e-government development and its implementation, municipality authorities does not consider as important.

As is estimated benefits from public e-service you can make conclusions about the current problems. Quite often, it is supposed that in the origin implementation stage there is only a benefit to consumers, saving them time but resources are used of the institutions.

The expansion of e-governments in the institutions changed slightly the opinion and the implementing authorities' starts to see benefits of targeted e-services projects. They foresee that providing public services e-way increasing the transparency and publicity of institution and accelerate decision-making process, saving institutions resources.

Municipalities see that increase also staff work efficiency, speeded the decision-making process. Is it noticeable that the authority or institution is waiting for assistance from outside, but the initial internal modifications must be carried out themselves.

The needs of assistance for municipalities are: in wide use of electronic signatures, permanent additional funds, internal documents regulating the internal order for provision of e-services, the overall validation and submission of samples, complete electronic service information system common to all municipalities, the development of collective projects.

Study found that the most demanded public e-services in Lithuanian municipalities are:

- The social benefits calculation and social services payment and other social support providing.

- The maintenance of buildings, the design conditions and construction permission issue in accordance with the procedure established by laws.

- State support to housing management, social housing providing, regulations of market and other services in other public places, issue the permits (licenses) in the cases defined by law.

- Organization of passengers transport on domestic routes.

- Archival documents.

Sufficiently developed public electronic services, which enable taxpayers to use e-government opportunities, are:

for population: the income tax declaration, the public library, a job search, health-related services;

for business: a VAT declaration, Income tax declaration, social contributions for employees, Customs Declarations, Statistical data, procurement. In the opinion of surveyed municipalities representatives are that moving services to the virtual environment would make them more available. But only in one municipality have been made consumer satisfaction research about providing public e-services.

According the studies are configured a list of the public service to be moved as soon as possible in the virtual environment. Also is defined level of moving services into the virtual environment. The list of services includes 12 services for residents, 7 services for business and 12 services for citizens and businesses. In the process of preparation of this electronic list has been assessed: first - ability to provide services electronically and second - most popular services for residents and companies. The evaluation according to the first aspect was referring assumption - the service can be provided in the space, but it may be different in their transfer rates. It should be noted that the list is mainly influenced by municipal staff opinion, that many of the service has to be moved to virtual space. But also should be noted that many local authorities suggest that it is necessary direct communication with the client – to save a direct link with community. Some of the municipalities speak that the relocation is blocking by lack of laws, so most of the activities cannot be achieved in the virtual space.

Electronic Public Services Development Environmental Field

The field of environmental protection one of the biggest problems facing society is a waste management. In the legislation of Environment Ministry is not defined which public services must be provided in the waste management field. Currently in Lithuania is not formed the concept – list of the services including public e-services that should be provided for waste management. According the best and worst assessments of electronic public services in the environment protection field the level of public services in Lithuania is low. [6]

In the e-government concept the waste management public services are not defined and mentioned as relevant. This time many regions and municipalities systems are rapidly developing the waste management systems, so it is the suitable time to carefully look at the system from taxpayers provided public services point of view. The development of modern waste management system is one of the most difficult problems in Lithuania mentioned in the National Sustainable Development Strategy. [4]

Further we will analyse the waste management area, which is important for population and majority of enterprises, i.e. municipal waste management system. In the waste management is currently provided only to the first level electronic public services. Currently critical municipal waste management system elements, from the public service aspect are [5]:

- Waste holders.

- Municipalities.

- Regional Waste Management Centers (ATC).

- Waste collection operators (ASO).

- Landfill operators.

These elements constitute the municipal waste management system and interacting with each other. Municipal authorities are responsible for the development waste management system. County municipalities had established the Regional waste management centers, or county waste management centers to deal with waste management problems. Waste handlers or operators are responsible for municipal waste collection from the containers. Regional landfill operators are responsible for municipal waste, disposal and record keeping.

According to the analysis of waste management system elements, the system elements interaction analysis and data flow analysis between the elements, it is reasonable to apply to public services in the field of waste management such models: "Government to Government", "Government to Business", "Government to Citizens".

In the public service provision of waste management model, "government - government" distinguishes the following elements:

- Municipalities.

- Waste management centers.

Since waste management centers are responsible for the implementation of waste management functions, so they also have to manage the electronic public services. In the field of public service provision of waste management using model, "Government to Business" distinguishes the following elements:

• Waste management centres.

• Waste collection operators.

• Landfill operators.

• Waste holders of legal persons.

Public service provision of waste management model, "Government to Citizens" distinguishes the following elements:

• Waste management centres.

• Citizens - waste holders.

In this module also reflected part of the electronic service "Government to Business". Since part of the holders, paying the fee is the business companies.

Summary

Lithuanian public e-services at the level of municipalities are lagging behind the central authorities. This is due to many factors, which leads to a slight lack of good position. A large proportion of the municipal authorities do not have e - service development strategies, or governing documents the activities of the virtual space. It should be noted that this situation is in the part of central authorities too.

This leads to the situation that the strategy aims is not fully realized. Although individual government institutions have been successful and effectively developing e - services, e.g. the State Tax Inspectorate at the fifth level of public service.

In order to improve the needs of society and citizens, was formed a public service list, which services should be transferred as soon as possible in the virtual space, and provided a levels of public e-services. The implementation of established goals can expect significant improvement in this area.

Important, but still weak moved to the virtual space of the public service areas is the environment area. There isn't public e-service concept for environmental area in Lithuania yet. The article describes models of public e-services in the field of waste management.

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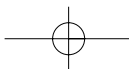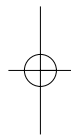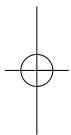
ICT Hyperbole and the Red Queen Syndrome: e-Participation Policy and the Challenge of Technology Change

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Abstract

With rare exceptions, individuals, organisations, governments and societies are poor not only at anticipating technological developments, but at making judgments about the impact of new technologies as they emerge. A combination of excessive enthusiasm and the constant need to adapt to the new before the old is fully understood can result in misguided policies and consequent failure and waste. Information and communications technology (ICT) is a particular problem because of its speed of change and rate of innovation. e-Participation is just as susceptible to this form of dysfunctional behaviour as other spheres of business and public life. The combination of excessive optimism and continual adjustment to new technical possibilities poses formable challenges for anybody trying to formulate an effective second generation e-participation policy. History suggests that the long term success or failure of a technology often depends on infrastructural and environment considerations. There are useful lessons for e-participation policy in this.

IT Hyperbole

Most people working the field of information and communications technology (ICT), be they practitioners or academics, are familiar with the hype curve. The hype (short for hyperbole) curve (see figure 1) was developed by the Gartner Group as a way of visualising a widely observed phenomenon in ICT.

Gartner noted that there is a tendency to overrate the potential of new technologies when they first emerge. This often leads to ill founded expectations of what the technology will deliver and consequent over optimism and over investment. Then, as the limitations of the technology start to emerge, a backlash sets in leading to overreaction and disillusionment.

Subsequently, a more balanced understanding emerges and eventually the technology, possibly in a modified form, finds its level and is adopted and used in an appropriate and effective manner. Good though the model is, it needs two modifications to reflect the whole picture. First, some technologies never make it to the 'slope of enlightenment'; they simply die. Who remembers bubble memory or *The Last One*? Secondly, though rarely, the hyperbole is justified and a technology instantly realises the initial hopes and dreams of developers and users. Spreadsheets are a good example. But such technologies are exceptions. For many more technologies, the hype curve is a reasonably accurate description of how they evolve.
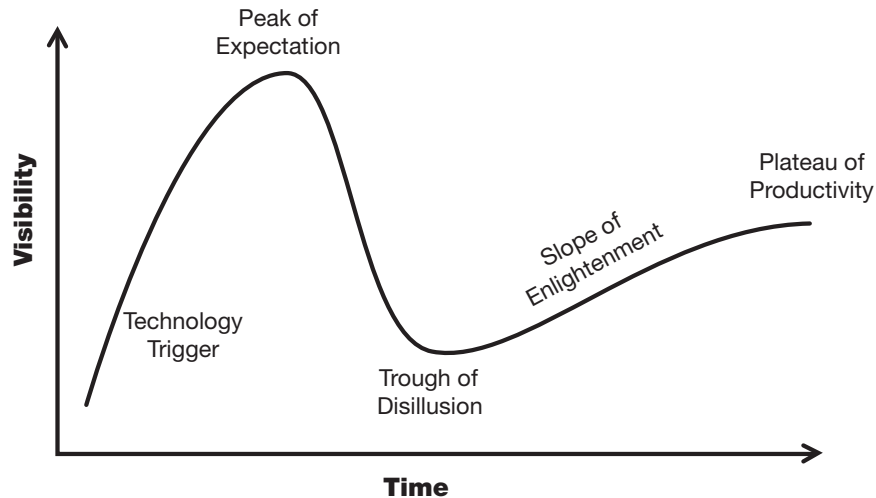
Figure 1: The Gartner Hype Curve

Hyperbole in ICT is driven by a number of forces including those created by the industry, the media and what are sometimes called mavens (Rogers 1995), i.e. individual thought leaders or people of influence. Even a cursory study of the history of ICT over the past three decades will show many examples of technologies whose impact was grossly overestimated during their early years.

The dot.com era was the acme of this trend, but the phenomenon neither started in the late 1990s, nor did it end with the dot.com crash in 2001. Technologies such as expert systems, executive information systems, network computers, wireless access protocol (WAP) phones amongst many others were the subject of much excitement when they first appeared - most delivered little at the time.

However in the long run, many such technologies survive, albeit only after some painful (and often expensive) lessons have been learned. Network computers, for example, have only now started to (re)emerge (in the form of netbooks) as a practical proposition, some 20 years after they were first touted as the future of computing. Third generation mobile telephony is only now becoming a reality, a decade or so after the hyperbole about WAP.

The reasons why technologies fail to match up to initial expectations can be broadly classified into technical and human. Technologies sometimes fail simply because they don't work well (or in some cases, not at all), because they fail to become a standard or because they are overtaken by something better.

The second reason, the human dimension, is of more importance and is of particular relevance when it comes to e-democracy and e-participation. How human factors can stymie a technology (temporarily or permanently) can be seen by considering briefly two examples: executive information systems and on-line shopping.

IT hyperbole: Two examples

Executive information systems (EISs) were first introduced in the early to mid 1980s. Many businesses bought them, at considerable expense, only to find that they were underused or not used at all (Watson et al, 1991; McBride 1997). As Wildt bluntly observed "*Top officers don't use executive information systems*" (Wildt, 1991 p. 38). One of the reasons for failure was that the people who designed these systems did not understand the information that top executives used or how they used it. They assumed that chief executive officers and other senior executives used the same type of information that middle managers used, only in a more summarised form. However while such information is important, the critical information used by top executives tends not to come from the internal management information systems or even external feeds, but from a variety of 'soft' internal and external sources such as meetings, casual conversations, telephone calls, newspapers and so on. The world-view and mind set of the people who designed executive information systems was quite different from that of the targeted user community.

A second and more recent example occurred in the dot.com era when it was suggested by many 'gurus' that in the future up to 20% of consumers would do their routine shopping on-line (Economist 2001). Several new companies were created with this market in mind, most notably WebVan whose chief executive famously talked of the re-engineering of an entire industry. Ten years on, a small number of people still shop for their vegetables on-line, but most people still prefer to go to the market, shop or supermarket for their groceries. Some forms of on-line shopping, notably travel, books and music have thrived. But while it is possible to buy everything from cars to chilli powder on-line, on-line retailing remained a niche industry (Spurgeon, 2001). The same problem can be observed here, namely a gap in world-view. Two fundamental problems for technology forecasting continue to be the assumption that the rest of the world thinks and behaves the way the forecaster does and that because something make technical sense, it makes human sense.

IT hyperbole and e-democracy

e-Democracy and e-participation are by no means immune from IT hyperbole. The emergence of the Internet as a mass phenomenon in the 1990s led to a parallel outbreak of enthusiasm for new forms of political participation in general and for direct democracy in particular. A variety of initiatives and pressure groups such as the Minnesota e-democracy project (e-Democracy.org), Vote.com and Dowire argued that developments in communications technology created the possibility of much greater use of direct democratic tools such as referenda and plebiscites along the lines of the Swiss or Californian models (Levine 2002). Some saw technology as facilitating a return to direct democracy on the Athenian model (Morris 2000; Gross and Kaufmann 2002).

Some of the more visionary predicted that citizens would soon be using their personal computers or interactive television for voting (Colman and Gøtze 2001, UK Government 2002). Not only was Internet perceived as a means whereby declining citizen interest in public affairs and political engagement could be revitalised, the Internet/Web was viewed as a potential vehicle for public votes on all major policy issues (Westen, 1998, 2000). There was much discussion of the potential of electronic voting.

On-line voting in particular was seen, *inter alia*, as a way to both counter falling voter turnouts and engage younger citizens in the democratic process. With e-mail citizens could communicate with government directly and *vice versa*. On-line polling would keep governments in touch with citizen opinion at much lower cost and with greater regularity than expensive traditional polling methods. On-line petitioning could be used to initiate popular votes, California style.

In practice, nearly all of this turned out to be hyperbole. Politicians found their in-boxes swamped, particular as pressure groups organised mass e-mail campaigns. On-line polling was statistically suspect.

The futility of on-line petitioning was nowhere better illustrated than by the Canadian politician Stockwell Day who suggested in 2000 that a referendum could be initiated by 3% of Canadian citizens signing a petition. A few days later comedian Rick Mercer gathered over 600,000 signatures (well over 3% of the population) for a referendum to change Stockwell Day's name to 'Doris Day'. He did this simply by putting an appeal on his show's website.

Even e-voting, arguably the most fundamental use of ICT for e-participative democratic purposes, has had mixed fortunes. It has worked well in some countries, notably in India and Brazil, but elsewhere it has been fraught with problems and contention. Ireland, Germany and the Netherlands have all abandoned e-voting systems (Michael and Roach, 2009) and battles continue to be fought over such systems in the USA and elsewhere (Hunter, 2008).

The Irish case is particularly instructive. Here a government driven initiative led to what can only be described as a popular revolt. Eventually in April 2008, after a long rearguard action, the government was forced to abandon the system because they realised that voters simply did not trust the technology. On-line voting is even more problematic. Given the right circumstances, on-line voting can be highly effective.

The Swiss canton of Geneva has managed to operate an on-line voting system since 2003, though almost exclusively for referenda; it has not, as yet, been used for cantonal or federal elections. Research has shown several positive impacts of this system including increases in participation rates, but the problem of managing things like identity, security and secrecy, even in a country like Switzerland with its long tradition of direct democracy, are formidable (Ruth and Mercer, 2007, Chevallier 2009). It is unlikely that on-line voting in national or local elections will become widespread any time in the near future.

There have, of course, been many successful applications of e-participation and e-democracy. e-Voting works well in several countries and there are many effective applications of the Web to enhance local democracy and citizen engagement. Technology is particularly good at delivering transparency (Miller and Williamson, 2008). However the most successful applications tend to be local, specialist and/or single issue focussed.

Many operate only for a limited time and purpose or have not proved durable. Web 1.0 has proved so far to have at best a marginal impact on citizen engagement at national level. Will Web 2.0 be different? This raises the second phenomenon mentioned at the outset – the red queen problem.

Technology Evolution: The Red Queen Syndrome

The speed at which the ICT industry creates new technological possibilities is remarkable. Within the last six years alone, several technologies which have potential for use in e-participation and e-democracy have emerged. Amongst these are virtual worlds, the best known of which is *Second Life* which was launched by Linden Laboratories in 2003. In *Second Life* a number of countries already have embassies and political parties are active. Social networking has exploded.

The first social networking system (*Friendster*) was also launched in 2003. By mid 2009, it was estimated that there were 200 million users of *Facebook* alone and the number was growing rapidly. On-line video has grown at a phenomenal rate. *Youtube*, the most popular of these sites, was only created in 2005.

Most recently *Twitter*, yet another form of on-line communication, was launched in 2006. Beyond these are other bottom-up technologies including the blogosphere, mashups, wikis and folkonomies. And this is only what has emerged in the past few years. There is no reason to believe that new and as yet unanticipated Web 2.0 or even Web 3.0 tools will emerge over the next decade.

All of these technologies can be used, and have been used, for political ends and have been applied in the world of e-participation and e-democracy. A telling reflection of the implications of this technology was the request by US government in the summer of 2009 to *Twitter* to delay a global maintenance programme so that Iranians could continue to use their system to communicate with one another.

At the time of writing, US satellite twitter transmissions to Iran are being jammed by an unidentified source (Information Warfare Monitor, 2009). Social networking has been cited as a factor in recent political developments in a number of countries including Moldova, Egypt and Georgia.

The constant stream of new technologies has led to an ongoing arms race between governments and the politico-technology community. This is sometimes referred to as the red queen syndrome after a story in Lewis Carroll's book *Alice Through the Looking-glass* where the red queen has to run faster and faster to stay in the same place. Governments of countries which seek to control the media (such as China and Iran) must engage in a running battle to do so. Even democratic governments struggle to control the inherent anarchy of the Internet.

The US government's long, and ultimately unsuccessful fight to control encryption (Levy 2001) and the more recent PATRIOT act shows that this is more than just an issue for totalitarian or repressive regimes.

For those seeking to formulate an e-participation policy, the speed of such developments is a continuing challenge. How does one formulate a coherent policy in a constantly evolving technological environment? In this regard, Web 2.0 has been particularly disruptive. Before governments had even fully understand the possibilities and limitations of Web 1.0 based top down consultation, deliberation and transparency (see below), the citizenry have been presented with a whole new toolset which enables them to control a large part of the agenda.

Challenges for Policy

What does all of this mean for e-participation policy? The answer to that depends on the form of e-participation. From a government perspective, e-participation can take a number of forms including:

• Informing.

• Listening.

• Networking.

• Deliberating.

• Consulting.

• Collaborative decision making.

The first of these is straightforward and scalable. The second is also straightforward, though not scalable without some sort of filtration mechanism. The remaining four are much more challenging. The difficulties are not primarily technological, but logistical. For example, setting up and managing a dialogue on even a moderately complicated issue may require politicians, public servants, professionals (for example legal advisors), experts, representatives of stakeholder groups and ordinary citizens to be involved at different stages.

It requires skilled management of the process and may need other specialist support staff such as translators, researchers and rapporteurs. No matter how sophisticated the technology, this is hard to set up, get right and maintain. It also needs considerable commitment, not to say political will, from all parties. Crouch (2004) argues that many contemporary democratic governments are not even good at consulting their own parties or parliaments; how likely are they to pay attention to individual citizens?

Despite this, electronically enabled consultative democratic forms can work if the commitment and resources are there. Where they are, research in the UK by the Hansard Society and the UK Justice Department, suggests that four criteria are needed for effective e-participation:

• Engagement must be embedded, i.e. it must be in the culture of the organisation.

• The means of engagement, the toolset used, must be driven by need, not by the technology.

• Engagement only works when organisations are prepared to listen.

• Reflexivity, the ability to react, adapt and change in response to dialogue, is necessary for success.

This suggests that the key to effective e-democracy lies more in internal changes within public administrations that with technology.

Support for this comes from research in the field of information systems into technology adoption (Venkatesh et al 2003). This research shows that, *inter alia*, the adoption of technology is heavily influenced by two factors: the usefulness of the technology and its ease of use. One of the factors leading to overestimation of the potential of a technology and thus the hype curve, is the failure to understand that ease of use does not imply usefulness. A supposed consultation website will rapidly fall into disuse if the citizens do not perceive that they are influencing policies or decisions (in this context, the decision by the UK government to scrap over 550 websites in 2007 (BBC News, 2007) is a useful warning). Nonetheless, and despite failures of the dot.com era, the 'build it and they will come' philosophy remains strong in some areas of government.

What are the lessons for policy? Perhaps the most important lesson from the hype curve and the red queen syndrome is *festine lente*: make haste slowly. History suggests the reasons that technologies can take a long time (sometimes decades) to realise their potential is due to a number of factors including:

- the technology is not sufficiently mature;

- the infrastructure is not adequate;

- the absence of standards;

- the need is not well understood;

- the wider environment is not suitable/ready.

Technological maturity is not a policy issue. Technologies mature and, stabilise with time. Infrastructure and standards are policy matters. While infrastructure provision per se is not the business of the modern state, ensuring that the private sector delivers an adequate infrastructure may require appropriate policies and legislative support. Similarly governments, and particularly supranational organisations like the EU, can create or set standards and/or support and encourage the process of standardisation.

Understanding need requires study, research, talking with users and rigorous evaluation (see below). This is the (relatively) easy part. Changing the environment, which may include changes in such areas as law, practice, structures or culture, is much more difficult. Policy should therefore be aimed not just at facilitating new technologies and pilot studies or experiments, but at changing internal structures and cultures - a far more demanding task than setting up an on-line polling system or inviting the public to submit their views to a website.

During the 1990s, the era of business process re-engineering (BPR) and the dot.coms, it became fashionable to consider technology as a driver of change. Subsequent experience, including the failure of many BPR projects and the dot.com crash have (for those who wish to learn) yielded a better understanding of the limitations of technology driven change. The continuing problems of democracy: excessive centralisation, decreasing influence and relevance of parliaments, increasing use of semi or non accountable state agencies, the power of lobby groups and special interests, falling election turnouts and decreased trust in politicians and elites (Keane, 2009) will not be ameliorated by technology alone.

Reflections and Conclusion

In terms of the hype curve, first wave of e-participation, the Internet and Web 1.0, have now moved well beyond the peak of expectation, but would appear to still be some distance from the plateau of productivity. Although the Internet and Web 1.0 have not led to the democratic revolution expected by some of the early and more enthusiastic advocates, the extent of their impact on citizen engagement and policy is hard to tell, not least because to date there has been little research into the effectiveness of e-participation (Macintosh and Whyte, 2008). As Macintosh and Whyte point out, the jury is still out on many of the first generation of e-participation projects.

Nonetheless the first generation of Web technology has provided a series of useful, and in some cases powerful, tools which have the potential be harnessed in a variety of democratically useful ways. They have certainly contributed to transparency and information provision, from drill down budgets sites to video streaming of parliamentary committee meetings. But the limited evidence to date suggests that the more consultative and participative forms of e-democracy, including involvement in decision making, will only be effective if institutions and prevailing political institutional cultures change. Even then such tools may only be effective in local and/or quite narrowly focused contexts which suggests that decentralisation and devolution may be prerequisites to effective and widespread e-democracy.
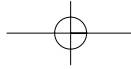
At more aggregate levels of the polity, there are problems of scale, cost, maintenance of commitment and ensuring that special interest groups do not hijack such systems for their own ends.

What of Web 2.0? Unsurprisingly, there has been recent hyperbole about this technology from the use of social networking by the Obama presidential campaign team to the role of *Twitter* in the recent upheavals in Iran. With Web 1.0, governments were able control the both technology and, if they so wished, the agenda.

Web 2.0 is different in that control of the technology is in private hands and the citizen can set the agenda. But a cooler look at the actual role of these technologies so far suggests that they are only a part, and possibly a quite small part, of a much bigger picture. In this instance, the red queen syndrome suggests that it might make more sense to monitor these technologies as they evolve in order to build up a better understanding of their potential and implications before rushing to apply them in some grand e-democracy project.

Some years ago in an influential article (later a book), Anderson (2004) argued that a key impact of the economics of the Internet was to create markets for niche products. The same may be true of contemporary e-democracy, i.e. the Internet has created the opportunity for hitherto disenfranchised or marginalised groups to influence and impact on the polity and the political process.

There seems to be some evidence for this happening. However, to assess the potential for more profound impacts, a better analogy might be the network computer. If netbooks are to succeed where network computers failed (and this remains to be seen), it will be because the necessary infrastructure and environment, in this case in the form of cloud computing, are not only in place, but are supported by powerful and influential companies such as Amazon, Google and IBM.

In a similar manner, the real flowering of e-participation may only occur when the necessary infrastructural and environment changes in terms of political institutions, power, structures and culture, not least the culture of political elites, occur.

Policy might, therefore, focus not so much on encouraging the use of second and subsequent generations of on-line technology, because that will happen anyway, but on the provision of infrastructure and on reformation of the public sector and political classes in ways that will make them responsive, flexible and willing to listen.

Until then, the best answer to the question: what is the likely impact of information and communications technology on democracy may be the same as that attributed to Zhou En-lai when he was allegedly asked about the historical impact of the French revolution namely that it is too early to tell.
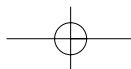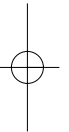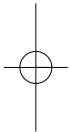
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E-gov 2.0: Improving participation with interactive features

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Abstract

Under the name of web 2.0, a new wave of web-based applications has emerged and has recently found successful take-up in different domains. These applications rely on the concept of the user as a producer or co-producer. Web 2.0 technologies also provide new ways to improve public governance. Involvement and active online participation of citizens, businesses, interest groups and employees of public, private and non-profit organisations becomes possible in an easy and unconventional way. Web2.0 entails various kinds of activities for citizens: political participation, community building and opinion forming, advising of other citizens, providing service ratings, assisting in monitoring and law enforcement, acting as producer of government information and services, etc. Also staff of agencies may use these new social media for cross-agency interaction and collaboration, good practice exchange and knowledge management. This contribution provides a reflection of web 2.0 introduction into e-government applications.

Web 2.0 Will Change e-Government

Under the name of Web 2.0, a new wave of web-based applications has emerged and has found successful take-up. Web 2.0 means a paradigm shift, i.e. understanding the Internet "… as platform, spanning all connected devices. Web 2.0 applications are those that make the most of the intrinsic advantages of that platform: delivering software as a continually-updated service that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an 'architecture of participation', and going beyond the page metaphor of Web 1.0 to deliver rich user experiences" [9].

Web 2.0 also provides a recently emerging but important way to improve public governance. Social media can be used in government-related activities.

Through web 2.0 technologies and the respective paradigm shift from citizens as consumers to citizens as co-producer, influence can be largely exerted on democratic deliberation and participation in policy making.

Likewise, the principles of public governance – transparency, efficiency/effectiveness, responsiveness, forward vision, rule of law - stressed by the OECD ([10], p. 58) can be supported and implemented in a better way.

In the following sections the discussion starts sketching the basics: so the demands of e-participation and the diverse possibilities the Web 2.0 is offering. Then the influence of Web 2.0 on Public Governance is treated in three aspects: the citizen side; the administration side; the special case of Less Developed Countries. As the literature is vast, some general citations are given in a paradigmatic way. The examples selected reflect also the active role that both, the EU and the Council of Europe exert: so on e-government the eEurope Awards overviews [1], [2]; concerning Web 2.0 [9, 3, 4]; concerning participation [5, 6, 7 and 9].

Participation on the Rise

Developing Government has to support the formation of a democratic culture. Thus e-Participation develops and implements new forms of participation. Communication in e-participation involves citizens, public authorities, elected representatives etc. One challenge is the perceived democratic deficit requiring new relationships between state and citizens. Public responsiveness should be improved. Reconnecting citizens with politics and policy making is high on the agenda. Given the complexity of decision making and legislation, knowledge and expertise of citizens should be tapped in a well. All those who are concerned by a decision should be directly or indirectly part of the decision making process. Within the DEMO-net project, the various views and concepts of participation via technology have been investigated and have brought forward a structured way of conceptualizing e-participation research and practice. For further details, the reader is referred to the project website www.demo-net.org, including the number of deliverables and technical reports available at the project website, as well as a number research publications (see e.g. [11, 12, 13]).

The foci of e-Participation have changed. Initial investigations on e-democracy have focused on e-Voting and transparency. There were several projects using the web for voting (see e.g. the proceedings of the e-voting conferences[32]). But most projects ran without digital signature and were often directed to rather special groups.

Further interest was put on transparency. There is a close connection between transparency and participation in the form of a mutual promotion. In recent years some new foci have come in. Several projects show direct ways to the top, so in e-Petition which gives communication to the Prime Ministers Office.

Besides several initiatives by public agencies and examples of successful projects the overall picture remains equivocal. Many projects are isolated, they lack commitment from elected representatives, and they may experience political resistance.

Then online consultations are not inter-connected with other activities on same public-policy issue. Problems of size, numbers, space, distances, and different languages have to be overcome. There is a need to create environment and culture favourable to engagement in e-Participation. So the to-do list is long: active participation; innovative solutions; responding to greater diversity; better outcomes at less cost. One has to support all forms of community development.

NOTES
[32] See http://www.e-voting.cc/topics/ to investigate the e-voting conferences in 2006 and 2008.

The Web 2.0 Symbolising a New Web

Under the name of Web 2.0 a new wave of web-based applications has emerged [9]. These applications rely on the concept of the user as a producer of information. As a consequence Social Webs are emerging. The creation of collaborative content is done in several ways. So blogs are online notes open to comment for other users, while wikis are built by collaborative edition of content. Further important is tagging that result in co-sharing of information, so it may be organized by references such as bookmarks and URLs. Web 2.0 is a broad and emerging concept, so best it is regarded as a set of features involving technologies, applications, and values.

The user roles are diverse in Web 2.0 applications. One may distinguish for qualitative different roles: (a) Producing content such as blogs or contributions to wikis; (b) providing ratings and reviews; c) using content provided by other users; (d) providing attention such as using on-line services or going to a most read page. As the level of engagement decreases, the number of users increases. There is a paradox on uptake: Low uptake for large scale online public services; high uptake for low-budget user-driven services. Thus also communities are diverse, so Communities of Practice may involve professionals while Communities of Interest brings together persons with different background. With a social web new ideas are diffusing much more rapidly. Time (25 Dec 2006) made the User the Person of the Year. Therefore the front-page of that edition had a reflecting foil mirroring the spectator.

Web 2.0 Creating Social Networks

There are big drivers accelerating the trend. So comes together new ICT possibilities and a new net generation. The labour field is entered by young people with a proper understanding. More knowledge workers come in the scene and more organisations become network based. Also informal learning with peers by "communities of practice" becomes common. Last but not least, on-Governmental Organizations (NGOs) are drivers. Through the promotion of public awareness and the participatory involvement of citizens NGOs make an essential contribution to the realization and development of democratic societies.

There are hindrances as well. Institutions in power often fear that with the Web 2.0 technology a power-shift may come. So they may try to block and hinder dissemination of information. On the side of the user a common hurdle is a lack of trust. In trust one is willing to ascribe good intentions to and have confidence in the words and actions of other people.

On the side of the user destructive behaviour occurs – as well coming from individuals and groups. Destructive behaviour of individuals is not uncommon, so insults and harassment in chat rooms, false claims on wikis or illegal content. Groups may act in systematically influencing ratings or mobbing of users. An inherent problem of social websites is privacy. As the main purpose of social media is facilitating the demand for privacy somehow contradicts. This concerns as well one's own privacy as that of other persons. To some extent proper legislation may help; although the user remains the decisive instance. It is beholden to the user in making right judgements.

Web 2.0 Improving Public Governance

In the public sector transformation of Government and improving Public Governance is high on the agenda. E-Transformation has changed nearly domain of performing work. Transformation takes place for any kind of relationship: seller-to-buyer, administrator-to-citizen, and teacher-to-student are just some examples. Thus Electronic Government is about transformation: changing fundamentally the way Government does what it does. The permanent e-Transformation of the public sector spurs the discussion on entirely new ways for Public Governance.

The scope of Public Governance is rather broad: democratic and cooperative policy formulation; citizen and civil society involvement; a transparent and efficient implementation of policies; a continuous evaluation of their results; an accountability of public decision makers; ways to improve policy making in the future. With this agenda it becomes clear that Web 2.0 applications are going to improve Public Governance. There are several government-related activities that can be affected:

- Democracy and participation.

- Petitions.

- Campaigning.

- Monitoring politicians.

- Advice and ratings on public service.

- Law enforcement.

- Suggestions and Feedback.

- Cross-agency collaboration.

- Knowledge Management.

- Good Practice Exchange.

Web 2.0 and Public Governance: The Citizen Side

E-Democracy is the support and enhancement of democracy, democratic processes and institutions. So empowerment is the red thread in many activities. The idea of empowering means: giving someone the power that he was deficient before. Participation is the way, democracy is the goal. E-Participation will transform the nature of representative democracy by facilitating more direct and more numerous links between representatives and individual voters.

Initiatives are split: In some participation projects Governments have started the initiatives. In other cases, the civil society has organized participative actions. Often some facilitation of participation is organized and will improve procedure and outcome.

There are quite distinct forms of participation and a list compiled from the eEurope Awards 2007 in Lisbon may give an impression. The finalists in the category "Participation and transparency" include the following examples: Internet voting in Estonia; Mypage self-service citizen's portal (Norway)[33]; Citizens' e-Consultation in Madrid[34]; VirtuoCity – virtual cities over one thousand words (Apeldoorn)[35]; e-Petition (UK); e@sy Connects - transformational petitioning (South Yorkshire)[36]; PortalU (Germany)[37]; Vicky – a virtual assistant for social security (Italy)[38], etc.

For e-Petitions two examples are given: 1) The European Parliament has an e-Petitioning system for complaints or requests on certain issues. The Petitions Committee of the European Parliament examines electronic petitions and takes action considered appropriate to resolve the issue in question. The initiators of the petition are informed on the process and outcome.
2) Also the UK has an e-Petition system. This System allows citizens to submit petitions directly to the Prime Ministers Office. It reached 2 million subscribers in 6 months.

Citizens may become quite active in supporting their representatives at elections. Earlier Campaigning was performed by print media, party meetings, rallies, public speeches. Then electronic media, radio and TV, arrived. Since the mid-Nineties the Web 1.0 got used, a new medium but an old message. Now there is a move to Web 2.0 as new medium bringing additional messages. E-Campaigning is about raising awareness about issues as well as engaging with people and encouraging people to engage with each other. So it channels the power of public opinion to advance a progressive drive. The tools used are quite diverse, so blogging, forwarding campaign information via email or twitter, producing videos, making fund raising sites, etc. The new contexts are different: e-Campaigning is citizen-based, decentralised, and individualistic using social micro-networks.

Citizens are not only supporting their representatives, they are also watching and observing them in a critical disposition. Diverse forms of monitoring have become a leading issue in citizen participation. The targets of monitoring are diverse. They include events such as elections, groups such as political unions, persons such as politicians, modes such as proper fund spending and spaces such as parks.

There are many cases where law is enforced and citizens help with monitoring. Such cases may involve negative behaviour such as insults on race. Other cases are that citizen may be involved in documenting trespasses of the travel code. As an example citizens have posted photos of cars parking in a bike lane. Such a form of monitoring has been nick-named as little-brother-role.

Other forms of contributions by citizens include e.g. providing advice and ratings of public services therefore helping other citizens. Some lay persons are very skilled in re-writing public information in a form that is better understandable as the official jargon used for. Further, experienced citizens may give hints how to better deal with special administrative problems such as making applications to a certain public agency.

NOTES
[33] MyPage Self-service Citizen Portal, www.norge.no
[34] Madrid participa: citizens' eConsultation in the city of Madrid, www.madridparticipa.es
[35] VirtuoCity: Virtual Cities – over ine thousand words, www.virtueelapeldoorn.nl
[36] e@SY –Connects: Transformational Petitioning, www.easyconnects.org.uk
[37] PortalU, The German Environmental Portal, www.kst.portalu.de
[38] Vicky, A virtual assistant for social security in Italy, www.inps.it

Then the Web 2.0 may be used for suggesting administrative improvements. There is a common critic that e-Government is too much supply oriented with too much focus on efficiency.

The citizens may contribute by giving proposals for amendment via social media. So Burgerlink was created in The Netherlands and suggests an e-Citizen Charta[39]. The demands stated include: Choice of channel, overview of rights and duties, comprehensive procedures and convenient services etc.

Web 2.0 and Public Governance: The Administration Side

With Web 2.0, the border between e-Democracy and e-Government is blurring. In many cases, the Web 2.0 is used as a means to improve Public Administration. One important point is: citizens suggest an improvement.

This is a valuable feedback to agencies and makes administration more accessible. As an example, the Dutch ministry of the Interior set up a portal posing the question: How would you improve government? From many answers the best three were voted. The winning ideas included: (a) Help me with this e-Form; (b) Government makes it possible - a proactive system; (c) A portal that makes government services more accessible.

Web 2.0 tools can be used for cross-agency cooperation and managing administrative knowledge. In administrations the usage for cross-agency cooperation is substantial – so different agencies may write joint reports. In the public sector problems may occur as cooperation is informal skipping hierarchies. Further some moderation may be needed, as it comes to sharing of rather sensitive data.

Another field is lawmaking – an effort involving politicians, administrations, citizens and experts. Connecting stakeholders will make law-making more effectively. Empowered through ICT law making may become more transparent, accessible and accountable. Further, citizen will be more engaged in public life when they get better access to parliament.

Knowledge Management is an important application for larger communities of knowledge workers and public administration is a typical example for them. The usage for Knowledge Management means especially sharing of informal and tacit knowledge among. Also the persons involved get a better understanding what other persons of the community do.

In addition, analyzing and visualizing the flow of knowledge may reveal trends. Different social interaction scenarios may be investigated. For the professionals information exchange is of utmost importance.

Taking as example the field of e-Government the professional community has different stakeholders, such as politicians, administrators, companies, researchers. For them, the portal www.epractice.eu was created and promoted by the European Commission.

NOTES
[39] e-CC, e-Citizen Charta, see www.burger.overheid.nl
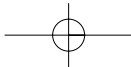
Web 2.0 and Less Developed Countries

In particular for Less Developed Countries (LDC) Web 2.0 becomes important. For LDCs one has to put emphasis on low-cost, grassroots, sustainable solutions that makes emails and mobile phones fundamental. In Less Developed Countries mobile phones can substitute other ways of communication; so mobile phones have undergone a transformation to a multi-purpose tool of ubiquitous nature. Thus a priority is to deploy content and applications for mobile phone applications.
There are other factors as well promoting mobile phones. So with regard the political situation in Less Developed Countries prepaid mobile phones are popular because they cannot be tracked back to particular citizen. It is a way to organize participation in the case of unstable democracies and authoritarian regimes. In addition, economic factors count also for the mobile phones.

One example is that air-time from prepaid phones has become a substitution for money in transactions (thus competing financial couriers which have high fees for transactions). Then banking for micro-credits is often done supported by phones. Such micro-credits (less than 30 Dollars) were invented by Mohamed Yunus who afterwards became a Nobel Laureate.
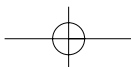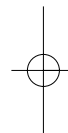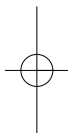
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Giving citizens from the regions their voiceS in EU legislation with WEB 3.0 tools

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Abstract

The knowledge of citizens about activities and competencies of the European Institutions is very poor, specially concerning the decision making and legislative processes within the European Union, which are seen by citizens as a complex and incomprensible procedure.

The VoicE project established an Internet platform with the objective to solve that lack of information by promoting the dialogue between citizens from European regions and "their" policy makers from the EU.

*With the aim of improving VoicE platform by incorporating semantics and serious games, the **VoiceS** project will create a state-of-the-art solution for eParticipation 3.0. Besides effective marketing and promotional efforts, especially focused on social networking, are undertaken. After extensive testing within the existing structures, the solution will be made available to other regions via an easy-to-use toolkit. The paper introduces the objectives and expected results of those both projects: VoicE and VoiceS.*

Introduction

Citizens participation in European legislative processes is very low as a consequence of language barriers and lack of information. More recently, as a sign of this lack of interest we can point the low participation (46%)[40] in the 2009 elections of the European Parliament.

eParticipation aims to tackle these problems through the establishment of new forms of information and participation in political decision making. Yet, despite increasingly sophisticated technological solutions, problems remain for eParticipation projects, especially on the European stage [1, 5, 6, 10] resulting from different cultural and lingual background, lack of acceptance of eParticipation services, little evidence of decision-makers incorporating eParticipation results.

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[40] See http://www.europarl.europa.eu/parliament/archive/elections2009/en/hist_turnout_eu_en.html
[41] VoicE – Giving European people a voice in EU legislation, www.give-your-voice.eu

To overcome these difficulties, the project **VoicE**[41] takes a novel, more focused approach. The Internet platform has the objective to promote mutual understanding of European citizens an European politicians, improving the access to relevant topics, enabling citizens to interact with decision-makers, by:

• Promoting the dialogue between citizens and their EU decision-makers and other political stakeholders in the field of consumer protection in two regions (Valencia Region in Spain and Baden-Württemberg in Germany).

• Giving voice to the citizens. Citizens and civil society need to be aware of the participation opportunities.

• Creating communication channels between consumers and politicians, allowing immediate access to citizens to complex legislative issues.

• Informing citizens about which matters are being debated in Brussels as well as the final decisions taken.

The **VoiceS**[42] project is based on the existing VoicE model and web 2.0 platform and complements it by some new and innovative tools. By incorporating semantics, serious games and social networks, the VoiceS project creates a state-of-the-art solution merging the results of different eParticipation projects. This way, VoiceS goes beyond web 2.0 and provides eParticipation 3.0. While the term web 2.0 combines different new trends like social networks, blogs, wikis, integration of audio visual media and mobile technologies, etc. web 3.0 means the combination of web 2.0 with semantic web technologies [4].

After extensive testing within the existing structures, the improved VoiceS platform and all the processes that have been set in place around will be made available to other regions via an easy-to-use toolkit.

The present paper introduces the objectives and expected results of the projects. The next section describes the scope of the VoicE and the VoiceS project. Section 3 introduces the regional platform. Finally some concluding remarks are given.

The VoicE and VoiceS project

A regional approach

VoicE and VoiceS are pilot projects co-funded under the eParticipation Preparatory Action of the EC. Both projects address citizens from two European regions, namely Baden Württemberg, Germany[43] and Valencia, Spain[44] and policy makers from the European Parliament, the Committee of the Regions as well as from other EU institutions and regional assemblies. In terms of contents, the project focuses on the policy field of consumer protection in the EUIt is targeted at the legislation proposal formation stage and the debate on draft legislation. [2, 9]

NOTES

[42] VoiceS – Integrating semantics, social software and serious games into eParticipation, http://www.eu-voices.eu
[43] http://www.bw-voice.eu
[44] http://www.voice.gva.es

In the frame of VoicE project two digital platforms (www.voice.gva.es for the Valencia Region and www.bw-voice.eu for Baden-Wuerttemberg) have been created; allowing citizens / consumers to get information on legislative processes, to communicate with their politicians and to participate in the decisions taken at the European level that impact directly on the consumer's daily life.

Both platforms were launched on 29th September 2008 and they are supposed to run as pilot experience until the end of 2009, but the EC approved the VoiceS project within the third call of the eParticipation preparatory action.

VoiceS will allow improving the VoicE platforms with a serious game, the use of social networks, and other new generation Internet tools. This will allow to run both platforms until the end of 2010.

VoiceS will update and complement the VoicE Internet platforms with the objective to promote the dialogue between citizens from European regions and "their" regional policy makers from the European Parliament or the Committee of the Regions – hence creating a direct link between citizens and the representatives from their region.

Thematic Focus

Voice and VoiceS projects are focused on the policy field of consumer protection because the legislation in this area has a tangible impact on everyday life of European citizens and sometimes the European legislation is hardly comprehensible for citizens.

In this regard, Meglena Kuneva, EU Commissioner for Consumer Affairs, states "There are now more than 490 million consumers in Europe and their expenditure represents over half of the EU's gross domestic product (GDP).

Consumers are essential to economic growth and job creation..."[45]. This underlines the fact that consumers are the key players in the European economy.

However, EU legislation in the area of consumer protection is hardly comprehensible for many consumers and raises a multitude of questions. Issues like: 'How is the safety of toys guaranteed?' - 'Which additives are allowed in food?' - 'Will the European market for electricity be liberalised?' bother Europeans more and more. Thereby the discussion focuses on four main topics: Energy, Telecommunications, and Nutrition.

Regional Platforms

The regional VoicE platfoms (www.voice.gva.es in Figure 1 and www.bw-voice.eu in Figure 2) have been created through the customization of Gov2Demoss, an already tested platform which provides a mechanism of interaction for citizens with their local authorities.

NOTES
[45] A personal message from Commissioner Kuneva on http://ec.europa.eu/consumers/index_en.htm (last accessed on 28th May, 2009)

It provides institutions and organizations the possibility to keep their target groups informed, manage their information repositories, gauge public opinion, interact directly with their constituents, and involve them in the decision making process.

Those platforms explain in a plain language the legislative proposals that are being discussed in the European Parliament, the modifications that are being debated, and how theses decisions may impact on citizens. Citizens have the opportunity to know in a clearly way what is decided by the European institutions, and provide them over channels to give their opinion.

Figure 1: Regional platform of Valencia

A set of technical tools and features were defined since the beginning in close correspondence with the regional editors of the platforms.

The technical features facilitate a constructive debate on EU-legislation, to enable the citizens of Europe's regions to:

• Get in touch with regional EU-representatives and further political stakeholders.

• Establish a network of stakeholders interested in EU legislative processes.

• To support and encourage interested citizens in taking part in EU policy consultation processes, etc

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Figure 2: Regional platform of Baden-Wuerttemberg

VoiceS will add a whole array of new features to the VoicE platform, thus significantly enhancing its functionalities for both citizens and EU decision makers [7]:

- by incorporating semantic applications and ontologies, platform users (citizens, MEPs, platform management) will gain access to a multitude of advanced platform features such as an improved search engine. The field of consumer protection and EU legislation is very broad and the VoicE platforms already provide a huge amount of information. Therefore, one of the main objectives of the VoiceS project is to apply semantic technologies to organise and structure legislative and consumer protection information in order to improve access and use of such information by non-specialists. At the same time, it will be used to improve the level of communication and interaction between citizens and MEPs.

- by including a serious game as a learning component, the VoiceS platform will make the complex EU co-decision procedure accessible to a large audience (especially younger citizens), thus providing necessary understanding and enabling and encouraging them to contribute to the platform. VoiceS will attempt to create an interactive scenario, which will allow the player to explore the EU co-decision procedure from various perspectives: as a member of the European Commission, a MEP, a member of the Council of Ministers or a lobbyist. In this way, the player will not only familiarize himself or herself with the complex legislative process in a playful manner, he or she will also learn about a legislative subject.

- by including social networking tools such as facebook or twitter into the strategy for platform marketing and promotion, access to new user groups and stakeholders will be provided and therefore increase the platform's outreach [8]. Until now, two VoiceS groups, one for Valencia[46] and one for Baden-Württemberg[47], have been created on Facebook. In addition, one twitter account[48] has been established for the Baden-Württemberg region. Users are regularly informed about project and platform news as well as related topics.

Apart from new functions, via its toolkit for regional eParticipation initiatives, VoiceS will deliver services to help other regions in setting up similar initiatives, beyond the limited framework of this initiative. The toolkit addresses interested regional, national and European institutions that plan to initiate, implement or finance projects to foster participative models towards EU decision-making and can be used to evaluate, plan and manage those initiatives. Being module-based, the toolkit allows the implementation of certain elements only (e.g. the serious game, also in other, non eParticipation contexts) as well as for the implementation of the whole package of tools. [7]

Conclusions

Political participation is one of the domains where the impact of web 2.0 is now visible [3]. Information and communication technologies (ICTs) have considerable potential to make government more transparent and to open new channels for participation, but the incorporation of new technology into democratic processes can also be fraught with difficulties and controversy. Upcoming web 3.0 features even provide more possibilities for the effective use of these features.

The VoicE portal can be considered as a means that has the potential to support and facilitate participatory and deliberative democracy and enhance transparency and accountability in democratic decision-making. Its success however also turned the platform into an ideal testing ground for advanced eParticipation tools drawn from fields such as semantics or serious gaming, which might greatly enhance the understanding of the processes possible here. As described, VoiceS updates and complements the VoicE Internet platforms and adds a whole array of new features to them, thus enhancing its functionalities for both citizens and EU decision makers significantly. To incorporate these functions in a usable way, VoiceS encompasses a preliminary phase of requirements analysis to address the problems which shall be solved, and define the boundaries of the envisaged system.

Acknowledgement

NOTES
[46] http://www.facebook.com/group.php?gid=61489905839
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[9] Christian Schneider, Matthias Holzner, and Maria A Wimmer. Giving European People a VoicE in EU-Legislation: Methodology and strategy of the VoicE project. In E. Ferro, H. J. Scholl, and M. A. Wimmer, editors, Electronic Government: Proceedings of ongoing research and projects of EGOV 08. 7th International Conference, EGOV 2008, Informatik # 27, pages 273–278, Linz, 9 2008. Trauner.

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Making e-Participation possible

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Last year I participated in the grand Ministerial Conference on e-Inclusion in Vienna. Apart from experiencing first hand many of the latest assistive technologies and e-Inclusion projects from around Europe, one thing that inspired me very much was Professor Cristiano Codagnone's presentation of the main conclusions from his "Vienna Study on Inclusive Innovation for Growth and Cohesion"[49].

Here there was clear evidence that basic e-Skills have a significant positive impact on employability, salary, growth and societal cohesion. We may have suspected this all along of course, but nevertheless Professor Codagnone's report is important because it demonstrates some of these connections.

The positive effects of possessing e-Skills are mirrored by significant negative effects of not having them: higher risk of being unemployed, higher risk of social exclusion and, in the context of the subject area of this volume, a decreased possibility for making use of ICT enabled public services *and for participating in the democratic processes of society*.

e-Skills thus become a basic pre-condition for participation and inclusion in society, and the positive effects of possessing such skills will in all probability increase in the years to come – at the same time increasing the risk of exclusion for the digitally illiterate.

Another important point in Professor Codagnone's report is that ICT *appropriation* matters – and in some cases it may even need more focus than infrastructure and skills for that very simple reason that if ICT is not *appropriated* by the citizens it will not be used expediently, at least when viewed from an administrative point of view. However, as will be explained below, infrastructure, skills and appropriation are very much interrelated themes.[50]

In the case of Denmark, the general level of e-Skills is high, as is broadband penetration. ICT is fairly inexpensive and widely available, also in the form of public internet access points, etc. Even so, a large group of people still have no or very limited skills, and thus are unable to make use of anything but the most basic digital tools and online services. Another group may have the sufficient skills, but for one reason or other do not make use of public online services. If we really want socially and otherwise inclusive e-Participation, e-Skills therefore become one of the primary focus areas. The need for e-Skills and the Danish way of including the digitally illiterate and the possibly e-Skilled "opt-outs" will be elaborated on below and is the main subject of this article.

NOTES

[49] Published by the EC Commission in March 2009 on http://ec.europa.eu/information_society/activities/einclusion/library/studies/eco_impact/index_en.htm

[50] The concept of appropriation will be further elaborated on below, but in short the difference between acquiring skills and actually appropriating them is the difference between possessing skills on the one side, and using them actively in everyday life on the other.
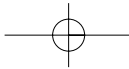
The importance of appropriation

It is a commonly held misconception in some circles that if we just give computers and broadband connection to the people, they will also start using it. And while it is true that access to the technical instruments needed to use digital services – infrastructure - is a necessary precondition for acquiring and using e-Skills, it is not a sufficient precondition. This is a point which is also stressed in the Vienna Study.

For a person, particularly an adult, to actively acquire new skills, he has to perceive them as relevant, as enabling him to do something useful. Consequently it is not enough to offer the courses and provide the infrastructure.

What is on offer must also be relevant. And when it is relevant, it must be conveyed to the prospective users in a way that is meaningful to them. The users have to see the offer as relevant to their everyday life and integrate it into their daily routines – this is what *appropriation* is all about. Only then will the digitally illiterate acquire the skills that enable them to use computers better and to "*e-participate*".

If we want inclusive e-participation, therefore, three factors must be properly dealt with:

- The infrastructure needs to be widely available and fairly inexpensive to use.

- The population must have sufficient e-Skills to actually use digital public services.

- The citizens have to consider ICTs, particularly digital public services, to be relevant in their everyday life.

Infrastructure

It is not unusual to focus on infrastructure as the root of most problems related to the appropriation of technology. In the case of Denmark, however, we assume that infrastructure is *not* the main problem. We have excellent broadband coverage. More than 99 percent of the population is able to get broadband at home, and the remaining few will get the option within the next year. However, even when 100 percent of the Danish population are able to get broadband at home, it will still be far from certain that the estimated 40 percent of non-computer users or users with low e-Skills will use ICTs.

On a side note, another technical issue of particular relevance to social inclusion is the accessibility of the digital public services on offer. An inaccessible web site is a major obstacle to dyslexics and the visually impaired (among them a large percentage of the over 60s), but the solution to this problem is well-known, if not easy to implement: compliance with the WCAG standard for accessible web sites.

This has been become a mandatory standard for Danish governmental web sites on both a local, regional and national level.

While acknowledging the importance of these issues, I will not elaborate further on them in the present article, but instead focus on skills and appropriation.

The need for up-skilling

Denmark generally scores high in international benchmarks on the use of ICTs. The country has been named the best ICT nation in the world three times in a row by the World Economic Forum (2007, 2008, 2009). However, our own national survey, the ICT Barometer, indicates that while 60 percent of the population between 18 and 89 has good or very good e-Skills, about 40 percent of the population consider themselves to be low-skilled or even no-skilled ICT-users. It is hardly surprising that a large percentage of the population in the older age groups have never touched a computer. It is more surprising, and a cause to some concern, that even people in their 20s and 30s, who have grown up in the digital age, claim to have no or low e-Skills.

Truly inclusive e-participation requires that all or most of the population are able to participate. Otherwise, some often already disadvantaged groups will be left out of the democratic processes. A positive side-effect of this is the possibility of reaching (and be reached by) elderly as well as disabled citizens: persons who already may be at some disadvantage in relation to more traditional forms of participation. Unfortunately, these groups, as well as those with short-term educations, are also some of the groups with the poorest e-Skills. So, if e-Participation is to become something more than just another communication channel for those already participating in society, up-skilling seems an absolute necessity.

Danish initiatives: Targeted and motivational up-skilling

To address the challenge of including the 40 percent with no or low e-Skills in the information society, the National IT and Telecom Agency, in collaboration with various governmental, non-governmental and private partners, has launched a set of interrelated initiatives aimed at up-skilling the population on various levels.

A common denominator for most of these is that they have been developed in cooperation with public and private organisations and NGOs in multi-stakeholder partnerships.

"Learn More about IT"

First and foremost of the up-skilling initiatives is the "Learn More about ICT" Network, which is an offshoot of a national Action Plan from December 2007. The network consists of trade unions and associations, libraries, public citizens' service centres and adult educational associations. One of the starting points of the network was a flexible ICT-pedagogical concept developed specifically for the network. The concept is particularly useful when teaching those with the very lowest level of e-Skills, but is flexible enough to be applicable for higher levels as well.

Most of the member organisations are characterised by having everyday personal contact with the citizens. As such, their employees are used to supervise and instruct people in basic tasks as a part of their job. This could be by telling them how to make a search on a library computer, write a CV at the job centre, or fill out digital government forms.

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The pedagogical concept of the "Learn More" network enables the organisations to take their educational efforts a step further. By using the concept, the employees themselves can run small courses aimed at more people and at more advanced tasks.

The people teaching by this concept are referred to as "ICT Communicators" rather than teachers, acknowledging that when aiming to enable certain target groups to do something new, presentation and "people skills" may sometimes be much more important than traditional professional competences.

The basic idea of the concept is to make ICTs relevant and intuitive to the citizens. The starting point for the communicator is a "manuscript" divided into three phases: problem, principles and procedure. I will explain these phases in some details, because they are related on an overall level to the connections I have described above.

The stating of the *problem* at hand is essential in order for the course participants to see the particular skill they are being taught as relevant. It is formulated as a short story, which the course participants can relate to, thus providing a more contextualized learning experience, and it is essential for the *appropriation* of ICTs.

The problem thus sets the scenes for the rest of the course and helps the students to become motivated and to remember.

The *principles* for solving the problem are then explained without the use of computers. This ensures a higher level of focus on what is actually being said, instead of the participants being diverted by trying to find out what to do with the mouse. It is also aimed at giving the participants a better image of how or why the system work as it does, making it easier for them to understand the *procedure*, which is basically the phase where they are being told "click this, then this, then this".

To support the individual member organisations in organising their courses, the National IT and Telecom Agency has created a website (it-formidler.dk) where it is possible for everyone to download and collaborate on making courses. The resulting documents are free and may be modified by the end-user (the Communicator) to better accommodate specific target groups or needs by creating a relevant context for the course.

We have high hopes for this project, and it is amazing how enthusiastic organisations across society have been and how many new organisations have contacted us with intent to join since we "went public" in January 2009. This has also meant that the network has been transformed into something much more than a cooperation concerning ICT education. Today it is in effect a multi-stakeholder partnership concerned with the general improvement of e-Skills across society.

Partnership with Industry

With appropriation and relevance being as important as it is, a partnership was announced in May 2009 between the Ministry of Science, Technology and Innovation and major employers' associations and trade unions within the manufacturing and service industries. The aim of this partnership is to put focus on the importance of e-Skills on the basis of the Vienna Study.

The partnership is open-ended but organisations within the manufacturing and service industries were chosen in the first place because of their high number of employees with a short educational background. These often have good competences within specialised areas, but lack the general e-Skills necessary to make use of digital self service solutions, etc.[51]

Besides initiating various awareness-raising initiatives in the press, the organisations have also decided to promote e-Skills specifically with regards to the continuing education of their members. Again, the point is that people do not take ICT courses just because they are there; only when they see them as being relevant to their everyday life.

Nation-wide radio and television campaign

To supplement these initiatives, a major campaign will be broadcast on national radio and television in the fall of 2009. This will include 8-10 television programmes; each will give examples of the many uses of ICTs for various target groups that score below average on the ICT Barometer mentioned above. The dedicated programmes will be supplemented by mentions and special themes in more general popular TV and radio shows.

We have taken great care not to make this just another public service educational programme series. It is our experience that the people watching educational programming are those who are already motivated to learn something, and we believe we are already able to reach those through other channels. Rather, the aim of the campaign is to motivate the ones who do not realise what they are missing out on.

Content – a few remarks

A subject which I have hitherto neglected in this article is that of content or the quality of the public service on offer. We cannot get people to appropriate our services if the services themselves are not worth using because of lack of relevance or because they are so difficult to use that they do not really help citizens in their everyday life. If these things do not function properly, we can spend many resources on promoting them without ever getting the result we want.

We do of course focus on this and have recently assisted in running the first ever e-election in Denmark in connection with the 2008 parochial church council elections. We also put much work into our national citizens' portal, "borger.dk" (the Danish word "borger" meaning "citizen"), which is being promoted by some of the partners in our "Learn More about IT" network in a yearly borger.dk Week.

I will not go further into the subject of content in this article, but this just to stress that while motivating the citizens into acquiring e-Skills and making ICT seem relevant to them is most important, it will be an exceedingly difficult task if the services we want them to use are not of a sufficient quality.

NOTES
[51] To clarify: this is not the standard description of an employee working in service or manufacturing, but there is a large number of people in these sectors who paradoxically may be heavily specialized in operating advanced ICT equipment, without using ICTs outside of the work place. This is clearly a case of not having appropriated ICTs despite using it for certain work related tasks.

Conclusion

Taking inclusive e-Participation seriously requires dealing with the three inter-related pre-requisites of infrastructure, skills and appropriation. In this article I have described some of the current Danish initiatives being realised with a view to securing inclusive e-Government and e-Participation.

The broadband penetration and availability of computers being what it is, what need the most focus in the case of Denmark is skills and the wider issue of appropriation.

People have to see ICTs as important, relevant and helpful to their everyday life – otherwise they most likely will not acquire e-Skills, or they have the skills but do not use the digital public services. This is the challenge.

We have come to the conclusion that up-skilling the low- or no-skilled, and getting the somewhat skilled "opt-outs" to actively use digital public services can be done only through broad public-private partnerships including representatives from various organisations from all parts of society. What is essential for one group of citizens may be entirely irrelevant to another and what "triggers" the curiosity of one person may cause nothing but total indifference in another.

Therefore we have to communicate through various channels, making use of user representatives and the front desk employees who actually know and have frequent contact with the people for whom we ultimately want to make a difference.

This is why we have entered into partnerships with libraries, citizens' service centres and job centres, trade unions, industry associations and various special interest groups, each of them realizing the particular wants and needs of their members or target groups.

And this is also why the television campaign which is due to air around the time of publication of this article is not aimed at educating people but at motivating them to seek education and to use available services.

As has been pointed out by both academics and field workers in recent years, ICTs is not just a possibility for further inclusion but also a risk for exclusion. It is vitally important; therefore, that we understand what is needed to include the excluded and to ensure that no previously included groups risk exclusion because of the increased use of ICTs in all parts of society. We think that we have developed an appropriate strategy for dealing with some of these issues, particularly with regards to the low- or no-skilled and to the "opt-outs" – key elements in our strategy are motivation and education through multi-stakeholder partnerships, and a focus on communicating the message rather than relying on traditional and structured professional educational competences. This only works for some, of course, which is also one of the basic premises of our strategy.

One size do not fit all – which is exactly why we need specifically targeted initiatives for all who needs up-skilling or motivation or any other help, to appropriate ICTs and participate in the information society.

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Second Life, could it actually be useful for the Public Administration in Contexts of e-Partecipation?

Second Life, could it actually be useful for the Public Administration in contexts of e-Partecipation?

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I recently came back from London where I attended a conference on E-Partecipation which included a specific session devoted to Second Life. Before joining the workshop I already had my own idea, but the debate and the other participants' opinions strengthened my conviction concerning the use of SL in public contexts and, of course, the usefulness of the new device in solving real problems of real citizens and companies.

What is SL? What is the meaning of Avatar and the other terms connected to SL? All these questions find a lot of answers just searching on the Web or reading the specialized press. That's why I will avoid to face such topics (after all, I wouldn't be able to add more details about them). Nevertheless, I prefer to focus our attention on the meaning of SL virtual world in order to answer to a frequently asked question: could SL become something more than a simple video game, gaining a widespread usefulness in different contexts?

Admitting the procedure of hiding ourselves behind an Avatar (and this implies the possibility of becoming or creating whatever we want), it's clear that a connection between the new device and the reality of usual bureaucracy is quite hard. However, assuming that the SL virtual world can't be useful in Public Administrations context is not correct. When the front office is necessary, I would exclude the substitution of the real employee by his Avatar, because the time to be spent in building up his second identity could be more usefully spent in solving the problem. Personal fairness and responsibility can't be repealed in part. Many citizens nowadays criticise Public Administrations' lack of identification signs in public employees, which should be always well visible by the citizen asking for a service. The employee's physical identity is not after all separable by his responsibility in answering the users.

On the other hand the Public Administrations need to know who's contacting them. This is a great problem needing to be solved, because of the uncertain correspondence among digital and real identity. We can hardly imagine what the use of an Avatar could mean in such a context! Otherwise, if we had a certain identities decoder, hiding ourselves behind a second identity wouldn't make sense. The possibility of building up an alter ego, which can't be referred to the real identity hidden behind him, negate the idea of physical identity Public Administrations usually must deal with.

Why, then, should we recreate in the virtual world the setting of the Public Administrations, since our target is avoiding people to 'personally' get in to them?

So, which is the possible employment of Second Life in the Public Administration if we exclude that its Avatars could be believable surrogates for those tired public employees, often unwilling to accept their status of public operators in the service of citizens and not only of the Administration herself? The media we are talking about is of course progressive, both for its technology and the way it offers its 'performances'.

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However, just in a few cases it could be a really useful device to change the actual relationship between citizens and the Public Administration (that is the real problem of the Italian administrative system). Second Life becomes useful when it doesn't matter who's doing something, and the attention is just focused on the device and the product themselves increasing the value of an idea's representation.

Second Life asks to find new communication ways in order to define rules and rendering classes fitting with the new device (or rather the virtual new world) to be used to evaluate products made by its inhabitants. By this point of view, Second Life usefulness (if we want to measure it using the real world criteria) is not involved in the solution of a specific problem concerning an individual or the community. Nevertheless, understanding its possible employment is needed, because everything available on the Web belongs, as a matter of fact, to all the navigators surfing on the net for business, studies or simple entertainment.

In this frame of mind, it would be desirable to make Second Life a world to be used whenever a citizen or a community are asked by the administration to express their opinion about a project. This way, that citizen or that community are able to suggest the replacement of some parts of the project, or rather actual changes to the project itself, getting involved in a collective work in progress permanently under evaluation. Adding a new device, even if not yet widespread, in order to increase citizens participation fits with the effort of trying every technology which could help in improving community's life more and more. Besides, a person which usually wouldn't easily keep in touch with the Public administration, could find a motivating force in such a device. All this deals with the Administration's effort to involve citizens in building the new community arrangement in terms of active cooperation. In the context of E-Participation Second Life can be considered useful and its employment should be encouraged by Public Administrations interested in their citizens' needs.

Second Life can moreover be actually useful in the education system, mainly when it would be hard to find in real life all the devices that could be instead easily found in the virtual one. As regards the Avatar-Teacher, I rather keep the doubts concerning the Avatar-Employee. The responsibility of teaching can't be divided from the real person charged with teaching and the teacher can't obviously be allowed to maintain himself anonymous. In the education system a clarification is therefore needed: a virtual classroom can make the participation easier for a student which otherwise would have relational problems in the real one. Leaving the classroom metaphor and getting in to the "island" space, it's clear that, in a community in which nobody is anonymous, every role is useful and the product of cooperation is the result of a collective effort. In such a context, building one ore more than one Avatar could be a way to release a knowledge not able to express himself in real world.

Second Life identities replacement is a sort of game, but it surely is more engaging than the digital identities algorithms. In Second Life we don't want to hide ourselves, but we want to be seen as we actually would like to be. The mask we wear and the world we idealise on our island can become the Avatar's "real" world, provided that he doesn't want to hide himself behind an other Avatar and so on, reproducing himself as many times as he likes. In Second Life the identities behind whom we can hide ourselves in order to avoid the question concerning our "real" identity are once more one, one hundred and one hundred thousand.

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Second Life, could it actually be useful for the Public Administration in Contexts of e-Partecipation?

Coming back to the real world of Public administration, where imagination usually goes over reality, I think that building a parallel world in order to solve some problems doesn't actually help (provided that we want to negate that anything else can't be realised in real world, with the resulting decision to conceive a futile imaginary reality). Public administrations know anyway the opportunity of using Second Life as a developed showcase for resources that need to be displayed in more suitable settings than the real ones in which they are placed at present. Virtual museums are not a novelty.

So, can Second Life be the future of public portals, even of those which are not devoted to Cultural Heritage and tourism? Do we really think that a citizen would be happier in having to do with a polite Avatar kindly telling him that he hasn't got a solution for his problem and suggesting him to turn to the next "island"? This is no laughing matter. Real citizens in a real state should less and less address themselves to real front offices. However, even if they do that, they should leave the front office being sure that Public administrations will be able to reach them in order to give them the answers they need.

Is Second Life a way to show an other Public administration's mask? Or is it a useful device to make its services and products clearer? The device itself can surely be considered useful to public communication and it joins all the other devices addressed to citizens interested in last generation technology. Thus, it wouldn't be able to reach the largest part of population which hasn't got an access to the digital technologies (the required skills, as a matter of fact, still remain quite hard for people considering mobile phone the simplest way to keep in touch and e-mail a problematic one). Young generations will take it for granted, using it in order to create a new way to be on line, or rather to be part of a new "archipelago". They will be able to test new ways of communication which will let them create products to be shared in the virtual reality they were born in.

I don't think that someone could like to plunge in the papers of a sort of "Public administration island", even if we are dealing with the best of all reformed worlds. Otherwise, it's predictable that people ask more and more for a simplification concerning contacts with bureaucracy, which should become minimal and essential. Public administrations should then work on them, in order to make the services useful for all the community. This matter, regardless of Second Life, strengthens the idea that Public administrations' efforts should nowadays point elsewhere.

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Culture, a common heritage. Culturalazio.it: an open platform for user generated contents

Culture, a common heritage. Culturalazio.it: an open platform for user generated contents

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Preface

Culturalazio.it, is the portal of the Department of Culture, Entertainment and Sports of the Lazio Region and was created with the aim of spreading the concept that culture is accessible to all. Inside the portal, citizens are not only seen as users of its contents but as its first producers.

The main idea of the Culturalazio.it portal is indeed that culture is a collective resource, in both economic and social terms. It is a "common heritage" and a regional portal on culture can be useful to promote knowledge on a territory's cultural heritage, history, customs and traditions.

Introduction

Putting citizens in a condition of managing their own information is not a new idea and the debate on how ICT can foster their social and democratic involvement, allowing them to participate in decisions taken by local administrations, dates back to the 1970s with American cities' BBS.

In the last three years, along the lines of this tradition and using typical web 2.0 applications, the culturalazio.it portal has been offering citizens a tool that gives them a leading role in regional cultural policies.

Since the beginning, one of the main aims of the portal on the Lazio Culture (www.culturalazio.it) was to stimulate cultural consumption and tourism activities to develop an increased demand and meet any unsatisfied needs, marketing at the same time the less well-known areas in order to promote their cultural attractions and increase their interaction with the rest of the territory.

A key objective of the portal is also to promote **transparency**, **innovation** and **involvement** in the production and consumption of culture. How can this be done? Our idea is to provide digital resources to overcome difficulties such as lack of information, knowledge gap as well as geographical, physical, cultural, language and generational barriers proposing new communication formats that are able to reach out to the youth.

We therefore adopted the following strategy:

• Making cultural information available by organizing data that was already contained in the archive and museum systems.

• Recovering and organizing non-digital information on shows, events and exhibitions.

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Culture, a common heritage. Culturalazio.it: an open platform for user generated contents

- Realizing information systems that can support and integrate cultural demand and consumption, such as the case of the "Great Cultural Attractions of Lazio".

- Improving management processes within the relevant administrative bodies.

- Creating areas for free creative expression (with a multimedia gallery in Creative Commons).

- Putting citizens in contact with their institutional representatives (through an open blog where users can read and write their own contents).

Our challenge was to develop and foster the growth of the territory's economy through cultural and tourism promotion "taking art works out of the museums so that culture can be enjoyed inside citizens' homes". In this way, the cultural heritage is accessible to all and institutional initiatives are not only focused on financial support and conservation but mainly communication. This activity increases knowledge on all aspects related to the cultural heritage and creates an opportunity to discover the territory, its history and the people who live there. It stimulates earnings and employment, increasing the attention towards the less renowned places. The promoters of this project are convinced that the cultural heritage not only transmits knowledge but is a leading sector of the economy, either directly or indirectly through tourism.

The portal was also created due to the awareness that it would have been impossible to convey the vast, varied and complicated cultural heritage of Lazio and the many events taking place through a web site, even with a large editorial board. The only way in which the web site could become a doorway to this rich cultural heritage was by making its users become narrators.

The narrators are envoys from each area describing the territory they come from. This is an extended idea of editorial board, through which the selection and production of the portal's contents are realized. The cultural production can therefore be accessed and enriched by all, while following general principles of relevance, topicality and reliability of the information given. The portal has become a community place where each citizen can be an active producer of communication and interaction goods.

History

The Culturalazio portal was first published online in May, 2006. It was realized with a reduced budget and in a short time due to the cooperation between the Department of Culture, Sports and Entertainment of the Region and its technological partner AIT (ICT company of the Lazio Region). The editorial board included staff from the Regional Directorate for Cultural and Sports Activities and interns from "La Sapienza" University of Rome.

The first step was to convey the Department's operational structure in a transparent way, describing the various offices and departments and indicating the persons in charge of single areas. A section was also created for users to consult regional **laws** and **decrees** and to download **tenders**, **public notices** and documents related to **procurements** and **administrative acts**.

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In this way, the Region could comply with regulations in force on public administration communications, and specifically with law no. 150 of 2000 regulating information and communication activities in the institutions.

New objectives were soon added, such as protecting the memory, cultural diversity and new forms of art in the Region. These processes were facilitated by the use of new technologies which made it possible to **digitally include** citizens, making it possible for them to access digital resources to deepen their knowledge on some aspects of culture. In the sections dedicated to museum, archive, library systems but even European projects, cinema and live entertainment, citizens could access material and links, both institutional and private, on issues of interest.
As we proceeded to compose and organize the contents of the web site it was immediately clear that we had to respect some basic rules in order that it could be used by all citizens, and therefore it had to be **accessible** and **user-friendly**.

Newsmaking

Since the beginning of the project, our main newsmaking principles included the need to highlight local events, which may even have a small relevance but which directly involve small towns and their neighbourhood. We gave particular attention to the vital cultural activities offered by the small towns of Lazio, which are normally not featured by the *mainstream* media since they are local and are often organized by small bodies that have budgetary constraints and cannot afford communication and marketing activities to promote their events.

Thanks to the tools that were made available and the quality of the contents, in May 2009 the portal could already boast **220 thousand users** per year. This result made us increase our attention on services dedicated to the community, which required the direct involvement of users. Apart from the periodical **newsletter** we gave importance to common spaces open to all users for citizens to express themselves, especially through the **blog**.

By extending the editorial board, citizens were offered the possibility of writing news. In addition, on the Blog they could hold actual discussions on cultural themes. For example, citizens could see a play and write a review that could be read and commented by other users. This enriched the debate and facilitated the exchange of ideas among all those who actively participated in the cultural life of the territory. Even passive readers felt involved.

Today, the 3.0 release of the portal has renewed its graphical layout taking into account the increased active participation of users. It focuses on a multimedia approach, which is a real innovation with respect to standard policies of public administrations. It invites users to participate through the video channel "**CulturalazioTV**", where users can upload contents; the webtv "**Laziolive**", realized by the editorial board and the multicultural webradio "**Melting Pod**", which offers news in original language for immigrant communities as well as cultural information for the "new Italians". This multimedia system is supported by the **georeferencing** of news and navigation inside the web site by means of **virtual three-dimensional reconstructions** of the Great Cultural Attractions of Lazio: Vulci, Fossanova, Tivoli, the Via del Sale and the polygonal Walls.
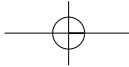
Participation

Transforming the user into a producer of contents would not have been possible if the primary objective of Culturalazio.it had not been to initiate a **virtuous democratic process** whereby all citizens actively participate in the territory's cultural life.

Indeed, the society that is coming out through internet and its social use is one that cannot do without the direct involvement of individuals in the construction of projects, products and services for their consumption. But what happens if the same institutions propose the debate and create an active community?

The main characteristic of an institution is that it exists thanks to the cooperation between those who offer a service and those who use it and it establishes a direct relationship of mutual exchange with the territory and the population, whose needs are a top priority for the service. Technologies offer new opportunities of enriching and facilitating this exchange, bringing improvements to the whole society. However, we would risk falling into technological determinism if we stated that technology can improve the community on its own. To increase its use for this purpose, public administrations need to make a clear choice and promote the direct involvement of citizens, for example by creating a virtual community that is able to propose actual improvements for the territory.

For this reason, the portal only considers high-standard events, such as exhibitions, plays, classical music concerts and even festivals and religious processions, small sports events that have a meaning for local communities and contribute to enhancing their identity. It is important to represent the culture of the Lazio region in a transversal way, featuring traditions and lifestyles as well as the local folklore that depict the real aspects of towns and make citizens feel represented by the community. The connection with the Culturalazio.it **community** is fundamental for the local society, which feels involved in the social network, leaving aside cyberspace stereotypes that are more detached from the actual local life.

Culturalazio.it tries to fully represent the territory through the direct involvement of citizens, operators and cultural associations and it also addresses all those who are interested in Lazio and do not live in the region, such as tourists, immigrants, experts and amateurs. In this way, the network is constantly open and gives priority to new inputs in the web flow.

Even if it is based on a local context, the experience of the Culturalazio portal aims at encouraging the participation of a larger number of users, opening up to a more universal and global community.

It would seem contradictory to create a community based on a local territory that is the symbol of a global non-territorial communication network at the same time, but this is only apparent. The most intimate need for information of human beings is related to the area in which they live in order that they can move and interact with the local community. However, being able to exchange views with people living abroad created the need to provide information on the portal in different languages. This was done by involving cultural mediators, foreign media and associations existing in the Region dealing with exchanges with other cultures.

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In this way, the collective culture proposed by Culturalazio became a cultural exchange and strengthened the local identity.

Another value that was highlighted by the portal was to represent culture as a common heritage and not as property. It was enhanced through the use of **Creative Commons**; licenses for all the material published on the web site. Through these licenses, authors of the portal's contents give other users the opportunity of using them, extracting and amending the material and choosing the limits to this freedom. This is based on the principle of overcoming the "extremisms of intellectual property", which lead to the limiting of innovation and creativity, as expressed by the jurist Lawrence Lessig by extending the duration of a copyright to an undefined period. The adoption of flexible licenses by a public administration therefore reflects the will to consider the contents produced by the portal as everyone's contents. This is the "brand character" of portal: "**Culture, a common heritage**".

A sociological look at e-Democracy

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Introduction

E-democracy implies the need to refocus the discussion on e-governance which, like any other form of governance, gives rise to the need to focus on cultural and anthropological dimensions. It mainly involves maintaining a satisfactory balance between citizens' participation and autonomy and the correct exercise of State duties; mainly defence, control and social justice.

Our purpose is to focus on five main points: (i) the need for a metatheoretical framework on the relationship between society and technology: (ii) the need to (re)define the concept of e-democracy in the context of e-governance practices and plans and (iii) the concept of citizenship behind political actions, as regards the implementation and evaluation of e-democracy procedures.

There has been an increase of literature analysing globalization and its socio-economical and cultural effects, a great part of which mostly arise from the compression of time and space. However, in modern societies e-democracy raises important sociological queries that are worth being brought up at public discussions giving them the same status of significance as conferred to programs and action plans prepared for technicians and politicians (Simões (2005)[52]. Among other features, e-democracy implies the immateriality and co-presence of political practices. The same intangibility and physical distance is also presupposed to permeate relations between citizens and institutions, as well as those between the citizens themselves. Therefore, its modes of appropriation as well as its degrees of applicability are deeply ingrained in ever more cultural and social milieus, whose analysis and interpretation demand more interdependent and dialogic relationships between the different scientific areas involved during its course of implementation.

Alongside the discussion of concepts such as politics and power relationships, sociology provides an important contribution both on the theorization of e-democracy as a specific type of governance and the actual actions that it involves – from e-commerce and e-work to e-votes and e-learning. The theme of e-participation incorporates powerful analytical dimensions of modern world, beginning with central debates on the radical changes of time and space usage and appropriation. In order to understand them, we need to reinterpret the various paradigms that lie behind the understanding of relations between science, technology, society and culture.

NOTES

[52] Simões, Maria João (2005) Política e Tecnologia – Tecnologias da Informação e da Comunicação e Participação Política em Portugal. Lisbon: Celta.

E-democracy and its relation with science, technology and society

A significant part of e-government projects and their implementation are based on the idea of technological determinism. This is supported by the thesis that technology has a certain set of properties which are transferable to and absorbed by societies, in such a way that planned goals and achieved results can match each other almost perfectly. Since the origins of the socio-technical perspective, first developed by Emery and Trist and greatly reflected by Gouldner, sociology (mostly sociology of organizations, sociology of work and sociology of time) has been denouncing the complex nature of that relation, stressing the linearity of social change implicitly sustained by that reasoning. Generally speaking, organizational characteristics such as management systems, forms of leadership and cultural frames of action are extremely relevant for the achievement of the proposed objectives. Parallel to these features there are a multitude of other variables and processes that can be analysed over certain periods of time, which deeply affect the route to change but their main feature is that they are unknown, intangible and informal. In general, these variables and processes encompass different values and misconceptions that deeply condition their cognitive frames and therefore their actions towards the reception, acceptability, negotiation and use of technical procedures.

At this point, e-governance cannot be defined as a technological process analysed according to its objective features and implications. It is an actual object-nodule, made up of several relations and networks of dependence which include material and immaterial things having a *performing* power, insofar as they actually reshape social reality. Even if promoters of e-governance may feel more or less the need to ideologically justify a certain implementation process with a view to impose their power, we still need to highlight its intense constructiveness.

Based on several empirical evidences, e-governance can be referred to as "the project of digital cities". These programs envisage equipping cities to intensively use ICT, also providing wide networks of actors each having different interests in it. The project addresses the potential risk that developing cities may go through isolation, industrial delocalization and population exodus. Considering the analysis made on them, we may put forward that these projects of creating digital cities demand a concrete orientation towards including effective measures committed to people, territories and collective and individual actors' biographies. This, in turn, also stresses the importance given to the strategic diagnosis of regional needs and potentials and their ability of being integrated in macro plans (Simões, 2008)[53].

Even in social sciences, technological determinism was for a long time extremely powerful because there was a strong political idea that only science and technology would build the roots for development. The belief in science and technology was the leitmotiv for understanding history in a linear and cumulative perspective. Western society indeed built such a powerful representation of science and technology that progress entered the political debate as the main focal point for action. The intrinsic value of science and technology becomes explicit in the discussions and practices of the actors involved in its implementation, mostly in cases when they have a specific interest. Therefore, e-governance deterministically conceived and implemented ends up being involved in changes which are mainly based on issues such as infrastructures, hardware and software as well as on the production of indicators and evaluation of results.

NOTES
[53] Simões, João (Ed.) (2008), Dos Projectos às Regiões Digitais: que desafios?, Lisboa: Celta

E-participation is then interpreted and discursively assumed both as necessarily positive and efficient and basically achievable by implementing the right technical devices. E-voting indicates the highest point of e-democracy. In our modern world, extremely ruled by flexible and diverse time regimes, e-voting would increase the chances of reducing the high levels of absenteeism which characterized recent elections, a phenomenon occurring in societies that are already democratic. The use of electronic means would provide the possibility of increasing citizens' interests and making them more involved, despite their lack of time or restricted movement. It is evident that since the 1980s all democratic countries have been suffering from a progressive lack of public interest and involvement in politics. Besides, the need to actually provide information to increase citizens' knowledge of social and political issues and the ways of operating with ICT makes it paramount to provide more means for them to access and express their views and their purposes, as well as avail more mechanisms to control fraud and increase citizen and government levels of confidence. A large part of these requirements does not depend on technology but is effectively ingrained in values, culture and social traits.

On the basis of studies dating back to the 1960s, it is fundamental to highlight that technology and society are mutually related. There is a reciprocal conditioning (Simões, 2005) between the two systems. E-governance requires acknowledging the importance of cognitive frames as well as the ideological, normative and evaluative features of governance itself. In this way, "e-government is better government" (Ibid, 2003: 1). In democracy, this means that certain conditions regarding citizenship, inclusion and transparency, as well as security and identity, are taken into consideration and effectively integrate the process of implementation.

Some authors, such as St- Amant (2005)[54], present three inter-related domains of e-government: e-administration, e-democracy and e-society. The first stands on the administrative modernization issue. The focus consists in analysing whether electronic services do or do not improve services to citizens seen as customers. In the domain of e-democracy the debate considers the extent with which ICT can enhance the power of relationships between governing and governed actors. In the domain of e-society the attempt is to verify whether ICT contributes or not to strengthening relations between government and civil society organizations. In practice, all these three domains are interlinked and deeply presuppose giving a high importance to public participation, although they are often studied separately for a more comprehensive research.

Sociology, though, has provided an in-depth analysis of the way the State and its institutions relate with citizens raising interesting issues such as social justice, inequalities and politics of social and regional inclusion. In the case of Southern European Countries, most authors have pointed out the great distance that lies between the two instances and have ended up concluding that the State's control and detachment may influence the citizens' lack of confidence. As noticed, e-democracy (like democracy itself) requires informed citizens who equally have chances to access and manage ICT in order to actively exercise their right to participate either by using formal and legal procedures or in a more spontaneous manner. We are considering two main different types of contents: those referring to participation before some action takes place and those concerning evaluation of action and, more importantly, reformulation of action.

NOTES
[54] St-Amant, Gilles (2005), "E-gouvernent: cadre d'évolution de l'administration électronique", Systèmes d'Information et Management, vol. 10, n°1, ABI/INFORM Global, pp. 15-39.

One could also include another type of participation, (that sometimes includes a denunciation) which contributes to anticipate a certain event, request for specific action or is envisaged to generate political awareness about a series of problems that directly affect citizens' lives.

As stated, some countries are already ahead with "material" participation with respect to others. This experience depends a lot on historical and cultural backgrounds which closely foster the strengthening of certain ethics of confidence and reliance between citizens and the State. Most social movements in several spheres of society emerged in these societies and the actual use and effectiveness of ICT for the purpose of participation was rapidly assimilated. For countries that are historically more attached to bureaucratic power, the challenge of implementing and effectively using ICT to improve and transform participation mechanisms are much greater. This is because they still conceive visibility and presence as conditions of existence of actors, processes and actions. One undeniable focus of analysis concerns the concept of the citizen himself. On the basis of Barber (1984), Oldfield (1998) and Held (1996) one can state that there are two different types of paradigms when analyzing citizenship: the liberal citizenship model and the active participation model.

By definition, as Oldfield sustains (1998:1)[55], the former one confers a definitive epistemological, ontological and moral priority to citizens. Citizenship is imminently configured as a legal status whose accomplishment supposes the intervention of State and other institutions, so these are seen in a utilitarian perspective. They are expected to allow the conditions for individuals to maximize their own interests and reach their goals (Oldfield, 1998). This implies that citizens are demanded to follow a certain set of civic obligations, which require the presence and authoritative power of the State, as is the case with voting, fiscal regime and national defence. Indeed, to liberals, politics is the realm of the government, including politicians, specialists, political parties and bureaucrats (Barber, 1984: 122[56] e 137, Held 1996[57]). This liberal mode of understanding and implementing citizenship is normally based on a vertical and hierarchical model of communication, which privileges the application of laws and measures that give less importance to listening.

This model of thinking and action prevails in the majority of ICT implementation processes for the enhancement of e-democracy. As stated by Barber (1984), the channels of participation, as in the case of e-voting, are previously defined and determine the timing, formats and possibilities for almost all information flows. The degree of spontaneity and originality is therefore normally low. One could also add e-learning projects.

An active participation model, instead, considers the citizen as a member of the political community, in which he/she has centrality and importance. In this case, citizenship is more than a matter of legal status, insofar as the work consists in fostering actual participation by providing channels of information and communication with an adjustable degree of flexibility that is able to facilitate individuals' experience and their identity as citizens encouraging them to take part in collective and public decisions.

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[55] Oldfield, Adrian (1998) Citizenship and Community: Civil Republicanism and the Modern World, Londres: Routledge (2° ed.).
[56] Barber, Benjamin (1984), Strong Democracy: Participatory Politics for a New Age, Berkeley, University of California Press.
[57] Held, David (1996), Models of Democracy, Cambridge, Polity Press (2ª ed.).

E-democracy brings about important questions regarding the fulfilment of a certain set of requisites, which make ICT actually provide better and faster channels of communication between State, institutions and citizens. The success of the ICT process lies on the ability of counting on already fixed political and cultural grounds. This facilitates and enhances not only the application of ICT but also its actual usage and effectiveness. There are at least three conditions to consider: resources, participation opportunities and motivation (Oldfield, 1998: 27-8). We could also include political and social rights, key economic and social resources (a reasonable income, health and education, among others) as well as cultural disposition to political activity (Held, 1996, Oldfield, 1998).

E-democracy cannot be practiced without participation opportunities. These imply the creation and widening of an appropriate institutional setting at several levels (local, national, global and also at horizontal and specialized level) that stimulate civic participation, rational understanding as well as improved information on public activities by defining adequate moments and channels of participation (Barber, 1984, Held, 1996 and Oldfield, 1998). Individuals also have to be encouraged to participate and to execute their political rights and duties; in other words to be citizens. One cannot expect, as Oldfield writes (1998), that citizenship praxis and civic conscience appear spontaneously.

The active participation model lies on a broader conception of politics, involving all public issues in which citizens have the right to participate in (Barber, 1984:123). Access to information is considered essential in order to practice citizenship, as well as the kind of delivered information. Indeed, information has to focus on actual problems which citizens face and have to deal with. Therefore, information has to be contextualized and justified explaining what consequences it has for political choices. However, efforts made in removing communication barriers are not enough (Barber, 1984, Yankelovich, 1991, Hale et al., 1999; Yakenlocich,1991[58]). There is a need to enhance upward listening between rulers and citizens. Political choice demands deliberation, since individuals involved in collective participation often tend to disagree with governmental programs both politically and civically. Deliberation makes them go beyond their individual interests and achieve a broader discussion, which relocates political action where it should always be: aimed at common good. As several authors remark, moments of discussion and confrontation act in favour of the deconstruction of values and beliefs and go a step further in building up a framework for transparent citizen political engagement (Barber, 1984; Yankelovich[59], 1991; Oldfield, 1998).

E-learning may be included in several features of e-governance. It is basically an institutional and educational e-governance, dealing with knowledge, processes of interaction and bureaucratic processes. Several studies have been highlighting the advantages of e-learning nowadays. They mention the high level of competition and concurrence between institutions, new forms of managing material and human resources, increasing professional valorisation of mobility and significant change of students' socio-demographic profiles.

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[58] Hale, Matthew et al. (1999), "Developing digital democracy: evidence from Californian municipal web pages", in Barry Hague e Brian Loader (eds.), Digital Democracy: Discourse and Decision Making in the Information Age. Londres: Routledge:96-115 and Yakenlocich.
[59] YANKELOVICH, Daniel (1991) Coming to Public Judgement – Making Democracy Work in a Complex World, Syracuse: Syracuse University Press.

In the e-learning realm there is the possibility of increasing participation not only because the people involved feel more at ease in doing so, but also because e-learning can effectively reduce the use of various types of resources, including time. However, e-learning platforms have been spread out over the various universities following very different formats and incorporating distinct types of abilities. In general, they allow for an a-synchronical and mostly upward flow of information, which cannot be actually observed or distinguished in order to know to what extent they are actually adequate to foster students' and teachers' participation.

What grows to be more problematic in e-democracy is that deliberation, interaction and engagement on political action has become de-personalized, demanding that actors (rulers and ruled) re-adapt their processes of interaction. However, this clearly requires more commitment from governments because only they can analyse the traditional forms of participation and decide whether there are the conditions to exercise participation through the use of ICT.

The main point is that e-governance expands the meaning that is already attached to governance as a system of management. It implies a great level of uncertainty as well as a high degree of decentralization, not exactly in terms of regionalization but in terms of power diffusion and unpredictability. On this same line, e-democracy requires a form of governance basically centred on a high precision of coordination not exactly over actors but over networks of actors and processes (Canet, 2004[60]; Mayoukou et al., 2003[61]) all shaped by the citizenship model adopted. The option of considering the governance paradigm brings the advantage of incorporating several dimensions, as already indicated by Edgar et al. (2006)[62] and OECD (2004)[63]. These are: (i) commitment, strategic vision and leadership; (ii) organization and performance; (iii) participation of civil society organizations and the population and (iv) accountability.

Below is a table interpreting the effects of the two models of participation discussed in this paper.

Figure 1 – e-governance dimensions by citizenship model

	Passive citizenship	Active citizenship
Leadership and strategic vision	Government leads and mobilizes internal human and physical resources	Government leads and mobilizes internal human resources, partners and citizens
Partners and citizen participation	Government makes decisions and delivers information to citizens and partners. It establishes downward communication devices	Government fosters public debate, provides significant information relating to each kind of target groups: citizens, companies and civil society organizations. It establishes downward and upward communication devices and also horizontal communication devices for deliberation

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[60] Canet, Raphaël (2004), "Les Nouveaux Modes de Gouvernance et la Place de la Société Civile", in : Conférence de la Chaire MCD, Montréal.
[61] Mayoukou, Célestin et al (2003), Gouvernance du Développement Local, Paris: L'Harmattan.
[62] Edgar, Laura et al (2006), "Partnerships: putting good governance in practice, Institute on Governance", available at http://www.iog.ca/publications/2006_partnerships.pdf [2007].
[63] OECD (2004), Principles of Corporate Governance, available at http://www.oecd.org/dataoecd/32/18/31557724.pdf [2008].

Performance and organisation	Internal hierarchical organization is put in place; equipment for service dematerialization is made available; online services are established according to offer and demand (predominantly according to the supply).	Internal reorganization of institutions to streamline bureaucratic procedures to respond to citizens' and partners' needs; services are defined after partners and citizens have been listened to; attention is given to citizen mobilization and info exclusion.
Monitoring and evaluation	Back office, process and customer satisfaction indicators	Back office, process, output and demand indicators and also citizen satisfaction
Accountability	At election time	Frequently

Source: own construction

In this way, government agencies, actors coming from private and nongovernmental sectors and civil society organizations altogether form actual clusters of networks which include both material and intangible actors. In terms of management and leadership e-democracy, as a form of e-governance, should include (i) commitment and strategic vision; (ii) organization and performance; (iii) participation of civil society and (iv) accountability (Edgar et al., 2006)[64] and OECD (2004)[65]. According to Simões (2008)[66], a point of discussion is whether e-government does or does not articulate and integrate the domain of e-governance. In each case, the e-government project, the devices, their operation, the indicators and the choice of the citizenship model will also be different. After this brief consideration on different forms of e-governance as well as different manners of understanding participation and defining citizens, it becomes clearer how important it is to learn from technological and scientific determinism and understand the reciprocal influence that science, technology and society have on each other and their power of shaping governance.

Conclusions

Despite the growing standardization of innovation processes that is cross cutting Europe and the world, which is closely related to the expansion of financial capitalism and economies of scale, we are assisting growing historical differences between countries both regarding the pre-existing ethics and values in terms of collective and individual political confidence and engagement and with respect to understanding technology and science as driving forces of each society. Innovation cannot, obviously, be reduced to change. Innovation is mainly a process that includes actors, things and objects and in this sense its results are permeated by values, beliefs and ideologies. Thus e-democracy, as an integrant part of an innovative process made possible by means of ICT and also extended to the realm of other spheres of social life, deeply requires that countries work hard on values, fostering a balanced manner of appropriating technology and putting their potentials into practice. Public participation is undeniably the focus of this action as well as citizens' awareness of their power and duty of participation, which is what democracy actually implies.

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[64] Edgar, Laura et al (2006), "Partnerships: putting good governance in practice, Institute on Governance", available at http://www.iog.ca/publications/2006_partnerships.pdf [2007].

[65] OECD (2004), Principles of Corporate Governance, available at http://www.oecd.org/dataoecd/32/18/31557724.pdf [2008].

[66] Simões, Mª João and Santos, D. (2008), "Challenges in the Digital Cities and Regions in Portugal", in P. Cunningham and M. Cunningham (Eds.), Collaboration and Knowledge Economy - Issues, Applications, Case Studies, IOS Press, Amsterdam, Vol. 5, Part 1, 2008, pp. 546-554

E-dialogos: an holistic approach for enhancing e-Participation in local governance

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Abstract

The Internet these past years has proven its power as a citizen mobilization tool at local, national or international level. This paper presents an integrated and holistic approach to eDemocracy and eParticipation, called e-Dialogos, which aims to tackle the needs and particularities of local governance and local communities.

The approach includes three main elements: a) an innovative methodology, which builds on aggregated knowledge of existing cases at a pan-european level, b) an integrated platform that incorporates a variety of tools in a way to provide unified services to the citizens supporting efficiently the multi-step participation processes of the e-Dialogos methodology, and c) a political memory, that adds a semantic layer to the system aiming to enrich, on the basis of a common ontological model, the large amount of information and knowledge exchanged in the platform during the public dialogue.

The e-Dialogos approach has been implemented and evaluated as a pilot in the Municipality of Trikala, a small city of seventy thousand citizens in central Greece, with the goal to actively engage citizens to local decisions that affect their daily lives and the community at large.

1. Introduction

The emergence of e-Democracy and e-Participation theory and practice these past few years was accompanied by a rhetoric affirming the potential of ICTs to rejuvenate our "old democracy", giving it the tools to redefine itself in its everyday functioning. A lot of projects and research are carried out in this field, funded in most cases by governments or European Institutions.

The latter are encouraged by high expectations on the inherent capacity eDemocracy would have in reverting the increasingly worrying trend of massive citizen disengagement and mistrust towards politics and government in general.

Following the appearance of many reports (CoE, European Commission, U.N. etc) that documented this worrying disengagement trend [1] in combination with the failure of the European Institutions and National Governments to properly communicate and convince European Citizens on the European Constitution Project, the need to find ways to re-engage with the citizens is pressing.

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The European Commissioner for Communication has recently launched its so called Plan-D [2], calling for a better understanding and adoption of a participatory approach in policy formulation and citizen engagement in the decision making processes.

Most European Countries have some eDemocracy or eParticipation Project going on; few even have integrated this spin in their own National Strategies. Local Authorities and Municipalities were seen as the ideal test-bed to experiment and develop eDemocracy initiatives and projects. The UK was one of the leaders in this respect with their Local eDemocracy National Project [3], which beyond the projects themselves created a wealth of literature [4] that has guided developments in other countries as well.

In Greece, things start to move in that direction as well, although at a slower pace. Some of the reasons are the low internet penetration compared to other EU Member States, and limited understanding of ICT related issues and challenges at top and middle management level in both National and Local Government and Public Administration. This rather difficult "environment" certainly poses challenges but creates opportunities as well for innovative policy makers and initiatives to stand out.

The e-Dialogos initiative could provide such opportunities. It has been deployed in one of the most advanced and innovative digital municipalities of Greece by an innovative team. It is supported by a mayor and a team with a clear vision and strategy which incorporates both the optimal use of ICTs as well as the will to discuss exchange and collaborate with citizens to formulate policies for a better future.

2. e-Dialogos Approach and Methodology

2.1. Overview

In our effort to offer an integrated and holistic approach to eDemocracy and eParticipation for the specific needs and particularities of the Greek municipality of Trikala, we have studied and analyzed many experiments and pilot projects that have been carried out throughout Europe these past few years. The bulk of the cases taken into account came from the UK [5], [6]. [7], [8], as they offered not only an extensive pool of different approaches and environments in which these experiments were carried out, but extensive reports on findings and outcomes from these experiments [9].

In most of the cases reviewed, one particular approach or eDemocracy / eParticipation Tool was tested. Some experiments focused on trialing and implementing ePetition systems, other focused on online discussions, others on eVote techniques and other in interactive municipal councils. Each of these techniques and methods enhance in their own way the delivery of better eDemocracy and eParticipation services and opportunities to the citizens and policy makers. In our approach we selected the tools and methods that have proven their value in experiments we have studied and combined them in a unique and innovative based on a tight methodology.

This methodology is based on three different processes that can run separately complementing each other efficiently, covering in the best possible way the online channels of citizen participation in the decision making process of the Municipality.

All three processes are implemented through the e-Dialogos web-site, assisted by e-mail and offline actions where needed.

The first process is the e-Consultation (or e-Survey) process, which is initiated by the municipality (top down approach). The objective is to provide an efficient and easy way for the municipality to collect intelligent feedback from its constituents on different policy planning or implementation issues. It is implemented through a structured questionnaire that is made available to citizens online through the e-Dialogos website, complemented where needed by e-mailed forms.

The second process is the e-Petition process, i.e. the electronic equivalent of the well known Petitioning process. The e-Petition process is initiated by the citizens themselves (Bottom up approach). The objective is to offer an easy and intuitive online platform where citizens can raise issues that they consider important for the municipality, but have been inadequately addressed by it. Ultimately and according to the number of signatories the issues raised can lead to a discussion and decision of the Municipal Council.
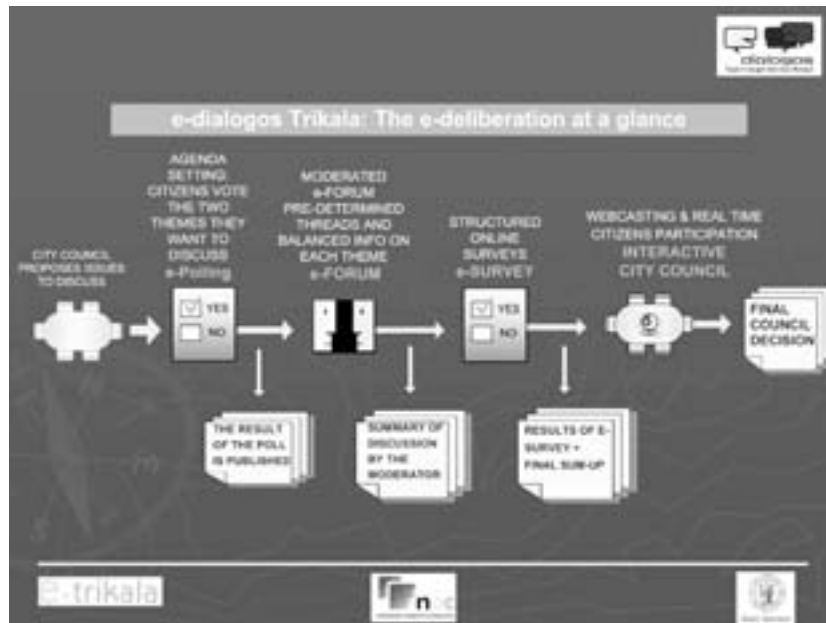
The third process is the e-Deliberation process, which requires a closer collaboration of the Municipal authorities with the Citizens in order to formulate better policies and achieve consensus on the important issues of the Municipality. This is a much more sophisticated process, which uses a mix of different techniques assembled in a serial process, through which citizen participation in the decision making process of the Municipality is effectively achieved.

Through these three different set of tools we believe to have covered a major part of all available tools and techniques of eDemocracy and eParticipation that have been trialed to date, providing a comprehensive and holistic approach and methodology for the Municipality. The specific methodology and combination of tools has never been tried before and thus constitute an innovative step towards achieving better and more efficient citizen participation in policy making at local level.

The target group of the e-Dialogos project is not limited to permanent residents of the municipality or voters. The objective here is to massively engage with citizens that are concerned one way or the other with the Municipality. This means that the Municipality will deliberate with expatriates from Trikala that live abroad, people that work but do not reside in Trikala, people originating from Trikala but living in other cities, etc. This leads to a much richer and creative process, than projects that rely on scientific or random samples. It really gives the opportunity to all those that want, to have their say.

2.1. e-Deliberation in Detail

e-Deliberation is a serial process with a specific time-frame and with several well defined and concrete steps embedded in the deliberative cycle, a process where the different corresponding e-tools are put to particular use. In brief, the process is best seen at the following diagram.

In particular, the e-Deliberation process comprises the following steps:

1. The Mayor and Councillors decide on a pool of potential topics for deliberation (the focus being on topics that have a strategic and long term developmental impact on the City).

2. Information is gathered on this pool of topics. The objective is to create short condensed and meaningful insiders documents on each of the proposed issues, written in plain language and a journalistic style, for the information to be accessible to all citizens. This is uploaded on the website.

3. Citizens must register on the e-Dialogos site in order for them to participate, where they also create their own demographic profile. The demographics will also be used to weigh the results accordingly, balancing the views of over or under represented segments of the population, facilitating statistical analysis at the end of the deliberation cycle. An important aspect is that of catering for the registration of citizens who are not necessarily "permanent residents". Let's not forget that there are more stakeholders to this discussion, people that have some sort of "vested interest" in the well-being of the city (like students, regular commuters, businesses etc). Moreover, there are citizens that live and work permanently in another city or even abroad but keep close ties locally.

4. e-Polling: The pool of suggested issues is put to an online e-Polling process where citizens can decide which topics will finally be part of the deliberative process. They are also allowed to add issues they consider important that have not been picked up by the municipality. If they get enough "votes", they are included in the topics to be discussed hereafter. This is essentially an agenda setting stage.

5. e-Forum: The selected topics are then discussed among citizens in professionally moderated online forums with the participation of the Mayor, civil society, experts etc. The forums feature two or three pre-determined discussion threads so that the discussion will be well-focused. The moderator – a journalist -is trained by the team to follow carefully drafted guidelines in order to keep the momentum and foster constructive discussion. The background information is always accessible easily.

6. The moderator uploads a well drafted user-friendly and balanced summary of the main points discussed.

7. These codified results of the discussion, lead to the drafting of a detailed and thorough questionnaire which is uploaded in the form of an e-survey that will record the quantifiable final position of citizens on the specific issues. A novelty of the platform is that for every question there is a button which allows a pop-up window to appear with the necessary background information needed to answer this particular question (the "fact bank"). This feature, not found in other e-survey platforms, fosters real and substantial informative opinions.

8. The results of the e-forum and the e-survey are forwarded to the City Council, which will discuss and decide on these issues in a dedicated session which will be webcasted, with a citizen-envoy collecting and reporting emails and chats sent by citizens injecting their views and questions into the debate at regular intervals.

9. The City Council finally decides on the issues discussed, the result is uploaded and a new deliberation cycle can now commence.

2. e-Dialogos Platform

The e-Dialogos platform incorporates a variety of tools in order to effectively support the methodology presented in the previous section. These tools can be used on their own merit, as in most eParticipation cases so far. However, it becomes a challenging task to integrate all the tools in a way to provide unified services to the citizens that are also aligned with the multiple-step participation process of e-Dialogos.

The high level requirements that have been collected during the design phase of e-Dialogos could mainly fall into two basic categories; services for the citizens and services for the moderator. The services for the citizens can be classified as following:

• **Education**. The platform should educate citizens to understand the participation processes, learn how the platform works, understand how and when they can participate to the public dialogue and what their rights and obligations are.

• **Information**. The platform should inform the citizens about the events occurring in the platform e.g. when a new process commences or changes status, provide background knowledge about the public dialogue themes and give access to an archive of past deliberations.

• **Participation**. The platform should provide user-friendly tools for supporting the interaction and engagement of citizens in the participation processes.

The role of moderator is critical in the overall participation process and tools should cater for his/her particular needs. The moderator has access to all the citizen services and also to specific services for the moderator that are the following:

- **Dialogue Management**. The platform provides the moderator with tools to manage the overall deliberation process as well as the subprocesses of every deliberation step, e.g. the discussions in e-forums.

- **Access Management**. The moderator has also administration rights to control citizen access for safeguarding the eParticipation process from manipulation, offensive behaviors etc and in general enforce the rules of the e-Dialogos platform.

A four layer architecture has been developed for the e-Dialogos platform. The layers are analyzed as following:

- **Presentation Layer**. The different tools utilized by e-Dialogos have been integrated at the presentation level so that the citizens perceive e-Dialogos as a unified system and not as a loose toolkit. The citizens receive educational, information and participation services as described above and the moderators can manage the e-participation processes by having access to services for public dialogue management and user access management.

- **Application Layer**. Open source tools have been incorporated to the platform and custom applications have been developed to support the several aspects of functional requirements for the various roles in the system, namely citizens and officials, moderators and system administrators.

- **Semantic Layer**. This layer includes applications that support ontology editing and maintenance along with an ontology engine that provides a run-time environment for the application of ontologies in the platform.

- **Data Layer**. A semantic repository provides the storage means for ontologies and their instances as well as for the data and information collected by the system.
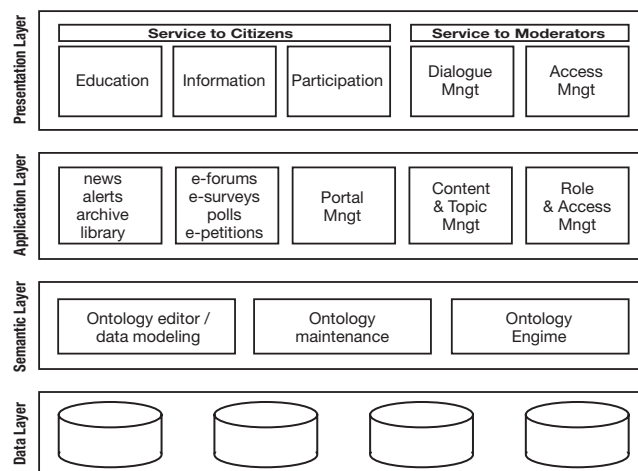
3. The Political Memory

Of particular importance to the above architecture is the semantic layer that along with the data repository creates a **political memory** of the eParticipation system. Effective participation involves a large amount of information and knowledge that must be stored and made explicit in different formats throughout the lengthy process of the public dialogue. This includes knowledge from many different expert sources and participation channels. The political memory enriches semantically, stores and manages this information based on a formal ontological model called the **e-Dialogos Ontology**.

The e-Dialogos ontology serves as a knowledge backbone that offers a standard level of commonly agreed understanding of the implemented eParticipation methodology. To do that it provides a complete knowledge model of the eParticipation processes, namely e-consultation, e-petition and e-deliberation, described in the previous section. The common characteristic of all these processes is that they are modelled in a way that makes them independent of the particular topic or domain on which they are applied. Thus, for example, the e-deliberation process can be applied to the domains of environment and public works equally well without needing any particular adjustments. With that in mind, one could suggest that the e-Dialogos ontology is more an information ontology rather than a domain one.

For developing the e-Dialogos ontology we followed an approach that identified different components and layers within the ontology. Our goal was to minimize term redundancy, enable reusability, and make the ontology more maintainable. The component ontologies comprising the e-Dialogos ontology are show in the figure below:

Upper Ontology
Deliberation Ontology

Consultation Ontology	Petiton Ontology
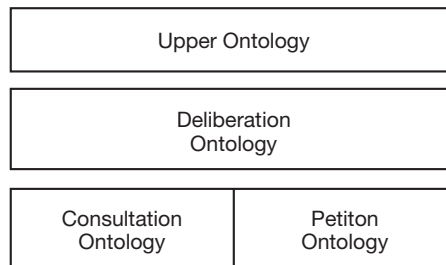
The upper ontology provides an abstract knowledge model of the eParticipation processes of the implemented methodology. Each of these processes consists of a number of subprocesses, called actions, and a number of roles that can be assumed by the potential participants of the e-Dialogos platform. The consultation ontology models the electronic consultation process by describing the main form that an online consultation can take, namely a questionnaire.

Generally, the structure of a questionnaire in a survey is case-specific depending on the particular kind of results that the conductor of the consultation wishes to extract. In the context of the e-Dialogos project we came up with a questionnaire structure that is suitable for the project's purposes, yet it can be easily adapted to a large range of other applications.

The petition ontology corresponds to the electronic petition process and its main responsibility, apart from the modelling of the process itself, is also the modelling of the process participants and their characteristics. Finally, the deliberation ontology provides a complete knowledge model of the electronic deliberation process that corresponds to the analytical description of this process within the eParticipation methodology. An important characteristic of this process is that it entails the processes of consultation and public dialogue, therefore the deliberation ontology reuses the corresponding ontologies described in the previous paragraphs.

The deliberation ontology maps all the stages of the electronic deliberation process by elaborating the corresponding actions included in the upper ontology. This elaboration includes primarily the extended description of the process's actions, the orchestration of these actions and their mapping to the process's participants.
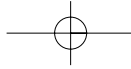
The basic idea behind the concept of the political memory is to gather and annotate in a commonly agreed manner the overall information provided and captured during a consultation or during several consultations over time and make this enriched information receptive to advanced navigation, searching, analysis and filtering facilities. In other words, a political memory is ideally a dynamic computer-supported archive that actively supports the full range of eParticipation processes.

4. Evaluation

The e-Dialogos project is now entering its final phase and the overall results will have to be assessed when the project will be concluded. At the same time, it must be considered that a similar project has never been implemented in Greece before, thus there is no availability of historical or comparative data for the development of benchmarks to asses progress. Nevertheless, there are already some early indicators on which we can judge performance. These are:

- Number of citizens who have registered at the platform: 310.

- Number of citizens who participated in the first agenda setting e-poll: 195.

- Number of citizens who posted to the e-forum: 21 with 26 posts.

- Number of e-surveys submitted: 31 (ongoing currently).

- The monthly average site statistics are: 350 visits, 250 unique visitors, 1.900 page views.

These figures, though relatively small, have exceeded expectations so far, considering that in the City of Trikala (with a population of 51.802 people), there are between 8.000 and 13.000 internet users out of which only between 950 and 1.550 have broadband access (figures calculated and based on official data from the "Observatory for the Information Society" eEurope/i2010 July 08 report and the "Census 2001" population data of the "Greek National Statistics Office"). Assuming that broadband users are the ones most likely to use such a sophisticated platform, we can very roughly - estimate that 25% of them became registered users and 15% participated in one way or another.

These numbers justify our claim that the project is already an unqualified success, especially after taking into consideration the fact that it is not yet concluded and that it is a novel project for the City of Trikala and Greece as a whole, with all the constraints and problems that this entails.

5. Conclusions
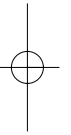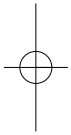
e-Dialogos is one of the first efforts to address the issue of eParticipation in Local Authorities in a comprehensive and holistic way in Greece. The main innovation of e-Dialogos is that it offers an integrated and holistic approach to eDemocracy and eParticipation by addressing successfully the methodological, organizational and technological issues that arise from enabling the participation of citizens in local governance. The approach achieves this by providing an innovative methodology, that tackles local governance needs and requirements, an integrated platform that provides unified access to a variety of tools in a seamless manner, and a political memory, that adds a semantic layer to the system in order to semantically enrich, store and manage the large amount of information and knowledge exchanged in the platform during the public dialogue based on a common ontological model.

The approach has been exhaustively tested in a controllable environment using small groups of citizens and it has provided some very encouraging feedback, in terms of usability, user-friendliness and aesthetic quality. In particular, citizens have evaluated e-Dialogos as a portal that is easy to navigate and comprehend, easy to engage in the participation processes, and easy to find helpful and in context information. e-Dialogos is currently in public use from which very important findings and lessons learned will be drawn for assessing eParticipation status and potential at local level in countries with the characteristics of Greece (the majority in the expanded EU) and for further evaluating the overall approach in methodological, technical and organizational term. In this direction, e-Dialogos is considered to be important for Greece as it can open-up the way for more generalized adoption of such participatory approaches to decision making both at the local and national level.
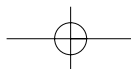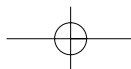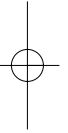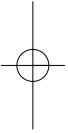
6. References
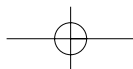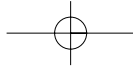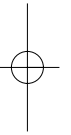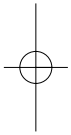
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       as the lack of translations of such reports from their original languages to English
       were identified as major setbacks in our effort to study and learn from many other
       similar efforts and experiments carried out in other EU countries (eg. Germany,
       Austria, and to some extent France, Spain, etc.)
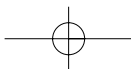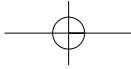
The Digital Rights in the age of Technological Innovation

New Web 2.0 services and the law

Luc Gathy,
Chancellery of the Prime Minister, Agency for administrative simplification, Belgium

The user's central role is often showcased as a key feature of Web 2.0. More so than with the first generation of web development and design there is a ubiquitous network where professional and non-professional users along with public and private regulators play key roles in terms of content and operating processes.

We propose to look at the following issues one after another:
•   The requisite regulatory dynamic processes.
•   Protection of privacy.
•   The responsibility of hosting service providers.
•   Web 2.0 and a code of practice for civil servants.

The following text is a free summary of the conference of October 10th, 2008 "Crossed views on Web 2.0" organized by the CRID in Brussels.

A. Regulating Web 2.0

The Web 2.0 regulatory environment may be planned on the basis of a risk management model. An effective regulatory environment means balancing the need to make life riskier for those undertaking problematic activities against the need to manage the risks of bona fide users.

A.1. A new scale of risks

Day after day we witness one change after another: a rising tide of production and distribution in the open spaces (written, audio and visual), knowledge being decontextualised as a result

of search engines, frames of reference being dismantled, the categories of participants being blurred, spatial and temporal reference points being altered, certain systems for safeguarding several basic entitlements on the wane, such as systems for protecting a person's reputation or privacy.

A few examples:

• Several Web 2.0-related environments, such as social networking sites (Facebook and MySpace) offer unprecedented facilities for comments made in the personal sphere to be broadcast in the public arena.

• Businesses can exploit information revealed when comments are being formulated so as to sound out the market, sexual predators may hunt for potential victims by seeking vulnerable profiles, potential employers may visit personal spaces (LinkedIN).

• Those disseminating images do not respect intellectual property rights (applicable to Flickr.com) or fail to show any concern about seeking the consent of the interested parties, while the tide of illegal content continues to swell.

The facts are clear, Web 2.0 participants are changing the scale of risks and even creating them for others and this vests in them a regulatory capacity.

In other words, those producing standards in the nodes of the network cannot claim sovereignty in cyberspace but they continue to be eminently capable of developing rules that create risks for those who are interrelated.

A.2. Network and site regulation

Once they have been pinpointed the risks create precautionary obligations. A state or another regulator may apply harsh criminal or civil laws backed up with a monitoring and prosecution system to increase the risks of certain types of behaviour (or activities), or lower the risks associated with acceptable patterns of behaviour.

Conversely, a state enjoying considerable immunity will allow other types of activity to develop. For example, it is hardly likely that sites such as YouTube or Ratemyprofessors.com would have appeared online in a legal environment not providing immunity from article 230 of the American "Communications Decency Act"...

Citizens and businesses generally seek to ensure that the actions of their partners are in keeping with the obligations in the light of which they may be held liable. Hence, they will rely on contracts or other agreements, precautions, obligations and adjustments to practices so as not to be out of step with the requirements. For example, a Canada-based company planning to do business in the United States and Europe will make sure its activities are consistent with Canadian, American and European laws.

What are generally involved are laws concerning competition (misleading advertising, false pretences), consumer protection, copyright and intellectual property (identifying works, copyleft or otherwise), regard for privacy (people's honour and reputation) and right of personal portrayal.

International forums are increasingly becoming the most effective locations for preparing meta standards (in the light of a very broad spectrum of contexts) designed to be featured in national pieces of legislation according to the subsidiarity principle.

Acknowledged in global forums, these abstract concepts are then reflected in specific cultural frameworks where they are effectively put into practice. For example, Myspace.fr ensures its user conditions adopt an educational approach (awareness-raising) to warn about the risks inherent in public profiles.

Other types of action that are generally taken include monitoring mandatory rules and intervening where necessary under the supervision of a webmaster (or the latter's moderators), while dealing with users' complaints about content or behaviour. Use is made of techniques involving prior or retrospective inspection, rating or flagging suspicious content, automatic masking and arbitration in respect of electronic commerce sites (such as SquareTrade for e-Bay) but the time taken to deal with complaints can vary a lot. HOTorNOT (rating people's attractiveness), Dailymotion and Wikipedia avail themselves of these techniques.

B. Privacy 2.0 = Zero privacy?

That the Web 2.0 phenomenon constitutes a major challenge in terms of protecting privacy or personal information has a lot to do with Web 2.0's position as the hub of an overall dynamic process involving the increasing digitalisation of communications and the production of content, against the background of media convergence.

B.1. Threats
The range of issues includes the upsurge in the level of information actively provided by users as well as that gathered without their knowledge, the partial, misleading or erroneous disclosure of information about third parties, worryingly vague standards and a failure to restrict the right of access to personal data.

We have all been faced with a request to provide certain types of information to be allowed to gain access to a platform and this in itself creates a problem for the validity of consent. Another common and now widespread practice is a social network provider (such as LinkedIN or Unik.com) being provided with the user's address book, with permission for this to be used. Consequently, incitement or indeed even constraint is much in evidence.

Users availing themselves of these sites and applications also generally allow (more or less consciously) information about their behaviour (the content accessed, movements around the network, contacts with other users, the time connected) to be processed. Google's AdWords and AdSense and Facebook's DoubleClick are two examples of the process of building up a user profile for marketing purposes on the basis of the IP address of the person's computer. Should the IP address be protected as "personal data"?

MySpace does not have the status of a profile information controller but it does make a reference in its "Privacy policies" to determining the ultimate aims of gathering, using and disclosing the registration details you supply. US-based Facebook is entitled to process personal data gathered in the European Union simply as a result of being covered by the so-called "Safe harbour" agreement and the TRUSTe programme, even though these operators might reasonably be expected to apply the standards applicable in all the countries where they provide their services.

The "aggregation of records" (transfer of data between applications) creates a real threat, as it is becoming more and more of a struggle trying to delete information everywhere where it has been duplicated (tags, caches, archives, other applications) or already taken over by third parties.
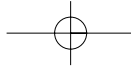
B.2. Solutions

The current situation is obviously beset with serious pitfalls and is now creating risks for those who do not use Web 2.0 services.

The European Data Protection Supervisor has identified the key protection challenges in Community law: the definition of "controller" and the enforceability of standards and criteria relating to the processing location.

Consideration may also be given to the question of whether the distinction between personal data (name, address, gender, date of birth) and other information (interests, hobbies, lifestyle, affiliation groups, videos or photos, private messages, newsletters or personal statements) can be maintained in the Web 2.0 environment. The first stage under this heading is recognising a specific protection system for data traffic and location information.

Further protection may be established as a result of regulating any information that may identify the objects we find around us: computers, portable telephones, MP3 players and other multipurpose appliances. These devices leave unexpected electronic fingerprints concerning our activities.

"On Facebook, 273 people know I'm a dog.
The rest can only see my limited profile."

C. Responsibility of Web 2.0 hosting service providers

The European Directive on electronic commerce (8 June 2000) features a series of measures about the liability of Internet intermediaries. In the meantime Web 2.0 (social networks, wikis, auctioning and content swapping platforms) has significantly changed the "network of networks" landscape.
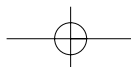
What are the new obligations that should be imposed on the licensee or (intermediary) of Web 2.0 services (those already cited along with Netlog, Plaxo, Second life, ...) in the case of hosting, content provided by Internet users, temporary data storage (in caches), ...?

C.1. Definition of "Hosting 2.0"

Web 2.0 has significantly increased the segmentation that existed between the host, publisher and access provider. The boundaries are now more blurred than was the case with Web 1.0 (standard web sites).

What is now required is to adopt a model where the Web 2.0 provider hosts the content provided by users, while playing other roles at the same time (designing and managing the platform or the structure for accommodating the said content).

Consequently, rather than being simply a technical service, hosting covers all systems for storing information provided by third parties. This "role" is accompanied by a publishing role (distributing a work to the public) involving a judgement about value and relevance and a willingness to disseminate the content. In this case, providers have a duty to oversee and make a selection while being able to exert an influence, shape and make an impact on the content.

Case law reflects this analysis of the various categories of Web 2.0 services: auction platforms, wikis, discussion forums that are not moderated or are retrospectively moderated, etc. This creates an editorial responsibility for hosts but, if care is not taken, disqualifies a collaboration-based encyclopaedia such as Wikipedia for the benefit of its counterpart "Knol" (created by Google), where the contributions are not anonymous because they are signed by the contributor and validated by a review board!

C.2. What are the 2.0 host's obligations in the context of this new model?

Providers have to act promptly, as soon as they learn about illegal activities or information, to withdraw or bar access to the content in question. Reporting systems and notification (and withdrawal) procedures are strongly recommended by the European legislator rather than blaming the users alone for any offence (even though a provider may have deliberately provided the means of committing an offence).

As service designers/managers providers are held liable owing to the design of the structure of a content-sharing site, for the types of themes on offer in a forum (sections asking visitors to report rumours, inform on people or defame their characters) or the management of an auction site (seller rating system, seeking the serial numbers of items to avoid the sale of counterfeit goods, offering safe payment methods). What have to be found in all cases are resourceful solutions that make service providers accountable without curbing the Internet's expansion (innovative capacity). In any event, three key ("reasonable") obligations have to continue to be met. These involve:

• Active general monitoring with filtering (and blocking if need be) which could graduate into targeted monitoring on a temporary basis at the request of the authorities (police, the courts).

• The retention of data to help fight against illegal activities and pinpoint the recipients of these services with a view to possible cooperation with the relevant authorities (in return for preferential treatment as part of the publishing role).

• Providing sufficient warning information.

D. Web 2.0 and a code of practice for civil servants

Setting up social networks run by the administration might be a complex and less than ideal operation but there is nothing to prevent an administration from helping citizens to find the information they are looking for as a result of participating in the blogs and forums already available.

Answers (and the question) continue to be featured in the network so they can be used again by another person. An information officer may also create references to the administration's databases, thereby raising the profile of these tools. Many companies offer e-mail addresses free of charge but there is no guarantee that the services will continue in future or that they will be of a high standard nor that the correspondence will be kept confidential. In any event they should not be used as a main mailbox. This mailbox should also feature a generic word referring to the institution and the officer's identity, all of this in a secure domain. General mailboxes should be earmarked for the distribution of non-confidential information.

E-mails should be archived electronically. This task should be undertaken just as carefully and conscientiously as with paper versions of correspondence (and faxes) while extending to the keys used to encode the e-mails so as to guarantee longevity and accessibility. A message may constitute a document only if it is electronically signed (a signature does not always have to be "qualified"). An electronic acknowledgement of receipt (but not of being read) is also provided for in some cases.

Web 2.0 platforms have also developed rating sites. The officer should avoid discrediting his/her institution in the context of public ratings where there is no guarantee of reliability or scrutiny of the comments

"You can read my decision on my blog: www.yougotjustice.com."

E. Conclusion

Against the background of Web 2.0 it is apparent that the law offers a system of social control. Equally apparent is the need for new forms of suitable and balanced intervention because:

- "Peer-to-peer" activities call for an urgent reflection on the copyright issue.

- The question of intermediary accountability is once again raised in the light of new fields of activity in addition to the role of simply being a host, the advertising-driven economy (as payment for services) and profiling.

- As a result of the societal impact of technological innovation, crossing perspectives (multidisciplinary) are required before the law can deliver its verdict on the (increased) risks, (non-) transparency and limitations (of creativity).

- Technology has to lend its support to the legislative process by providing it with the effectiveness it lacks. Technical regulations (such as "Privacy settings") now being applied in the background have displaced the balancing of competing interests sought by laws. The same applies to licensing agreements, privacy policies and codes of practice.

The digital identity issues:
one, nobody, one hundred thousand

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At my secondary schools times, when I read the text by Luigi Pirandello *UNO, NESSUNO, CENTOMILA* (*IN ENGLISH ONE, NOBODY, ONE HUNDRED THOUSAND*), I would have never imagined that, many years after, not only this title but also the contents, would have been useful for me in order to propose some personal thinks about the digital identity issue.

A new concept of identity, not alternative but a more extensive and destabilizing one, in respect of the idea of himself that human beings had before the digital technologies income more and more pervasively in their life. In such a way that many people are asking themselves questions on the role played in the development of services and, more generally, in the net digital applications, by the identity that the single users exhibit to access.

The protagonist of *One, nobody, one hundred thousand* accidentally discovers that the other people have got an image of himself that is completely different from the idea that he has got about himself: the idea to be perceived by the others in one hundred strange thousand shapes stimulates to him the attempt to break these images in order to discover his real identity, who he is truly and veritably is and not what the others think, in thousand different ways, that it is. Hence, our literary hero, Vitangelo Mostarda, activates a mechanism by which, having some difficulties to acquaint himself identity, every time his identity tries to face the reality, is capable to make him disappeared.

At the end of the story, Vitangelo Moscarda becomes, for the others, mad. But the mad sees better than the healthy one, clearing the habits that the society imposes to him, comprised his name, which is the basic and static element for excellence, applied to a human life that we know to be obviously not static. He refuses his name in order to be not characterized in only way, aware of the facts that the human being has not only one character, that the objective truth does not exist, and abandons himself to material sliding of the life, *dying* and immediately *re-borning*, always new and without memories, stranger to the society and its imposed shapes.

What does Pirandello and his madness matters with the digital identity issue that I want to discuss in these pages? A lot, in my opinion, taken the necessity of the human beings of the third millenium to be, unwillingly but in absolutely aware way, "one hundred thousand" identities in the net, in order to get the possibility to exercise his different performances and also to be perceived peer to the others or equal to what the others need to manage. In the net the users enter, like Vitangelo, aware to expose what is needed for that particular application, but knowing that it is effectively difficult to remain without having "to renegotiate" the terms of their own permanence.

The possibility given to the net user is to reject his name, the static and only one by which it is usually identified *facetoface*, or, if he wants, to use some different versions of it, in all the varying applications he is asked for, in order to open contacts or to insert traces use-and-throws or reusable.

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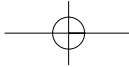
But now, apart from the literary references and the philosophical issues, who designs technologies, nets, information systems in order to offer services to citizens and business, which objective point of view must get analyzing the digital identity? In the text books the term identity is always led back to some elements that features the single person, static information such as the name, the last name and other attributes of the person considered invariable. When the same person must interface with a computer based system, assuming effectively the dimension of *digital identity*, it has to be protected by an authentication system, by which it is possible to verify the reliability of the digital identity presented to the information system.

So, the scenario is changing, but the substance remains exactly the same one. We are requested to demonstrate to be who we are claiming to have access or to transact. If in the real world, where the interaction is typically *facetoface* and the people involved can be physically identified, the requester is a person that can be identified through his own identity documents, in the net, the contact can happen in such a way that security and reliability are not ensured. Even if, in the majority of the cases, what is really important for the service provider, on the other side of the net, is the information or the transaction requested by the user, rather than to the precise identity of the person who is asking for. Only in some cases, those for which the personal identity is indispensable presupposing for the usage, what we called before static and conventional characteristics are needed to be revealed and controlled.

The low interest about the requester is typical of many on-line contacts, even if this fact can seem paradoxical. The interest regards, like in the real life, to one or more specific attributes, with the difference that in the reality the primary credentials are always the same ones and the specificities are defined by a number (code) or a wording description. In net, instead, we can say that all the information shall be managed by algorithms and descriptions that are completely independent from the single user.

When portions of physical identity are needed to be exposed, in how much that we are asking for or because we must however demonstrate to have some prerogative or being exactly who can only authorize that particular transaction, what changes or can change in the attitude of the net user? Is it true that the fear of being intercepted or recognized limit the access? And if some fear or worry exist, does this state of mind accompany whichever transaction on-line, or depend on the correspondent or the service provider with which we try to interoperate? If on the other side there is a Public Administration branch or a private or a bank, is it the same thing? How much the relationship that we have in the truth with other human beings and with institutions influences our behaviors on the net? And how much the changes our attitude the perception that we get about the "seriousness" of who has designed a system in order to contact and to answer to our requests, offering us services that are normally supplied de *visu*? In addition to these questions and to many others that we could ask, one more, perhaps, is suggested us by the context in which we are acting: how much the fear is not linked to the specific contact that we activate, but about the fact that individuals, entities or third untrusted parties are capable to intercept on the net the digital dialogue between us and the chosen interlocutor, in order to steal pieces of our identity that, for privacy we want to hide. It is perhaps just the idea that a violation of the choice and the right of anyone to not show himself for that it does not want, to push the afraid potential user than every other thing to leave the net also when for knowledge, acquaintance and available tools he could easily use it?

Surely, the Internet expert user, who frequently visits websites and portals and carries out transactions on-line with or without payments, is very aware of which can be the weak points of all the system and knows that, depending upon the service he requests, he has to go through successive steps of identification, authentication and authorization. It is possible that he does not know the detailed specific technologies supporting the protection of the several operations, but it knows that in every step it can be hidden the danger of a theft. The new and inexpert user of the net either is fascinated or is ready to emphasize first efficiency and emergency of the net and then just to use it because, not knowing the technical operations and their critical aspects, he uses the net with distrust. Then, there are all that are unwilling forced to remain outside from this global digital world, populated in Italy by 23 million of web-user according to CNIPA data (2005), for lack of infrastructures, learning and other reasons, suffer the so-called *digital divide* and, because of that, they are not allowed to insert themselves in the digital scenario that, both in the public and in the private services, outlines new behavioral rules and new organizational structures. Finally, there are people who watch with optimistic and trusted eye all what the technology is capable to offer and are pragmatically ready to risk the loss of portions of their identity in order to not lose the global advantages that the web world supplies to its users. Always the same people may think that all the activities addressed to analyze and consequently profile their own characteristics are useful, in how much it is just to belong to that web virtual community what it is mainly interesting for them on the net.

It is obvious that the web-users community is very differentiated and the design of access policies is an important objective both for who that are in the position to manage processes that comprise the use of the digital identity and for who that are the owners of the identity. These two points of view can be also a lot divergent. In this paper we reasoned assuming the part of the owner subject and pointing out the perceptions of who read in his new identity not a simple algorithm parameter, but a status information, interpretable and considerable beyond the simple request of a service, in order to understand the deeper perceptions that everyone gets of his identity. On this side it is possible to propose philosophic thinks and Pirandello can be cited. It can be acknowledged that in the net the identity control can completely be *in the hands of others*: for who that does not want, in the on-line interaction with some risks, technicalities and mechanisms capable to create and destroy entities after usage are needed. And all this is not like Pirandello forecasted?

The digital identity to access the PA services

Continuing with the literary references, in many countries and unfortunately, often, also in Italy, the relationship between citizens and PA are very well described by Kafka, when he succeeds to transmit to the reader many feelings which the same reader catches and rethinks when he is in front of one or several public shops, where it is necessary to go both in order to get many rights and to fulfill the citizenship duties. Not all the national administrative structures are equal and the democracies are not all *mature* in the same way, but the disappointment that everyone perceives in his own country when he asks for a *granted service*, is equally and negatively perceived by the citizens all over the latitudes. Who is accustomed to being dealt from his PA in its several articulations like A class citizen, is however disappointed to implement many of the requested procedures, because, even understanding the rational, he consider about quite all these procedures
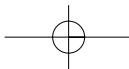
not necessary for him, but for the PA that should provide him the service. Who is dealt like B class citizen, not knowing the A class facilities, attribute an important marginal usefulness also to the minimal improvements of the *iter* that he must perform. But in both cases, the state of necessity determines disappointment and intolerance for what comes too much complicated and time spending to be carried out. Using ICTs in a generalized manner, and more easily by Internet, do things can be improved?

Since many years the national, regional and municipality governments try to answer to this question with dedicate more or less innovative projects towards eGovernement. It is inside these projects that the way of managing the digital identity of the citizen-customer is discussed, designed and verified in comparison with those necessities of security and privacy which we have pointed out and for which specific regulations give precise indications and standards.

Facing the PA, the citizen can be one, nobody, one hundred thousand? I think that this is not possible, or, at least, is not desirable. We already know this situation and it is the real bureaucracy. The primary objective for the true PA innovator is avoiding to transfer such inefficiency also in the digital bureaucracy, with which we should interact to feel ourselves A class citizens, with clear, simplified and fast interactions, secure and suitable procedures capable to answer to our requests or needs. Hence, facing the PA, the citizen is disposed to get a single one identity, also to feel himself free from heavy procedures and paths born inside of an organizational structure that often makes him not allowed to fully exercise his sense of responsibility.

Indeed he wants to be a single digital entity, recognized by the different Administrations with which he must address when it is not possible that a single PA branch carries out all the operations for the provision of a service. If we decide to follow this strategy, in absence still for some year in Italy of the right tool (CIE, Carta di Identità Elettronica) it takes shape, also another concept of identity: the so-called *federal* identity, which today many systems utilize to solve the complexities deriving from the management of the digital citizenship. If this task is not accomplished, we could find ourselves in the unpleasant situation to reproduce on-line the same difficulties and problems which we want to end, with the aggravating circumstance of wasting substantial public resources, creating digital systems not capable to improve the inner efficiency and effectiveness of the PA, declining more and more the relationship with a digital, aware and self-conscious citizen.

The *federal digital identity*, based on the concept of service chain of identity to which more service suppliers, with different functions, cooperate under various profiles, can support the access to the PA services until the completed spread of the CIE, being aware that the identity of a citizen is so complex because of the changes that the life introduce and is not easy to manage when the information systems are not interoperable. Moreover, an interoperable and *federal* plan pushes the PA to build and share a common language, dictionary and precise technical rules that can overcome interoperability problems. This operation is very complicated and difficult for the stratification and interpretation that in many and many years has been gotten both on the *words* and on the *periods* of the bureaucracy. Opening to the new and simplified language that the digital federal service calls for is a very difficult and heavy accomplishment. The firstcomer and deserving administrations, that have been taken risks in the eGovernement plans, are aware of this fact, facing the problems arising from the federal digital identity management.

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Such projects like People, ICAR, IRIDE, Inter Prama emphasize the federal identity management in order to increase the impact of the services of eGovernement in favor of the citizens. The possible approaches can be listed in following four typologies:

- Liberty Alliance.

- OASIS-SAML.

- WS-Federation.

- Transport Layer Security.

But what is truly useful in this context, is the combined solution of the federated entities to the issue of security inside a trusted relationship to build *ex novo*, firstly between the different public agencies and then with the citizen that, being in first row with its identity credentials to expose, has in the perception of protection of his privacy, the basic and founding moment to be in net.
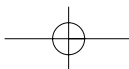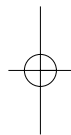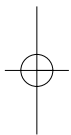
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Easy to use methods for Valuation of Intellectual Property should facilitate open innovation, knowledge diffusion
and have implications for private and public sectors

Easy to use methods for Valuation of Intellectual Property should facilitate open innovation, knowledge diffusion and have implications for private and public sectors

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The defensive model of managing IP is changing. Recently, some big companies are making available most of their not used patents. This is defined as open innovation. Most of these patents are going to be transferred to small companies and start-ups that should receive new technologies in change of royalty payments when the technology enter the market. Universities should be part of this process and some new models for collaboration are emerging. In this context, the number of available technologies that need valuation by subjects looking to new technologies is higher than in the past and easy to use methods should facilitate and increase efficiency in the process of technology transfer.

Valuation is a prediction of an asset's price where price is the amount actually paid for an asset in an arm's length exchange. Asset liquidity affects valuation. Less liquid asset have farther apart valuation and price, Intellectual property is an intangible, highly non-liquid asset. In the logic of open innovation, between others, there is also the consideration that intellectual property is a perishable asset.

Technology value is extracted over time by deal makers and valuation may occur at many different points in the invention cycle. Objective input about an invention's likely value becomes more available over time, as one moves through each phase. However, it should be necessary to assess value of technologies at very beginning of the cycle.

The importance of intangible assets has created an urgent need to value these assets in many contexts including intellectual property management, acquisitions, sales, joint ventures, and licensing. Many Subjects may need to value technologies: Universities, Start-ups, Big companies, willing sellers and buyers in general, Investment Bankers, Secured creditors. Technology is valued prospectively by deal makers and retrospectively by litigators.

In the technology transfer, the royalty rate for a biotechnology license deal depends on a large number of factors. One important factor that determine the royalty rate is the strength and scope of Intellectual Property (IP) protection. The economic value of a patent depends fundamentally upon the nature and extent of non-infringing substitutes. Stronger patent protection translates to higher royalties: For example, a technology fenced using multiple patents will generally command higher licensing royalties than one covered through a single weak patent.

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A number of methods are available to value technology: Look back Cost, Look around Industry Standards – Comparables, Look at the pieces Ranking/Rating, Look down Rules of Thumb, Look forward Discounted Cash Flow, Look to the dice Monte Carlo, Look to others Auction, Look no farther Common sense, Look to the market Equity. Normally a mix and mach is used. The IP valuation methods that have been developed are either inexpensive, but yielding very coarse results, or expensive, but yielding more detailed valuation results.

Additional techniques as the Competitive Advantage Valuation® (CAV) are available. The CAV method was specifically developed to strike a unique balance between cost and precision. This method measures the principal determinants of IP value in an affordable, easy-to-use way. The major premise of the CAV method is that intellectual property assets have no inherent value; the value of intellectual property assets resides entirely in the value of the tangible assets which incorporate them. The minor premise of the CAV method is that the value of a given intellectual property asset can best be measured by the competitive advantage which that asset contributes to a product, process, or service. In comparison to other valuation methods, the CAV method combines a number of unique features: it is easily understandable, is affordable in terms of time and cost, is flexible and scalable, precise and repeatable.

Not expensive and easy to use methods for technology valuation should be useful for small companies and start ups, Universities, technology brokers and other subjects involved in technology transactions to valuate the high number of technologies that become available in the context of open innovation.

Introduction

It is an established notion that technology innovation plays a vital role in building national competitiveness, and every state and corporation is concentrating on fortifying their global competitiveness with high technology development capability that is difficult to imitate. In order to facilitate the advancement and development process of high technology, a market for technology transfer must be promoted.

Institutional support such as technology brokerage and exchange is necessary for active trade and transfer of technology, but information, especially reliable information on the value of technology is as important.

The problem arises because information on technology cannot be provided like general goods, and, thus the role of a technology valuation as a complementary measure becomes very important. There is a special need to evaluate the value of a specific technology from an objective perspective in order to encourage technology transfer. As the market price is used for the basis on price negotiation in trading goods, an objective value of a specific technology must be presented in advance for the negotiation to be carried between buyers and sellers of technology. Accordingly, much attention need to focused on evaluating the objective value of technology.

Technology valuation is the method of valuing technology acquisitions which, in addition to the purchase price and startup costs, also include current market value adjustments and the risk premium of the acquisition.

Many organizations have been using various valuation models to perform evaluations for aiding decisions regarding investment. Valuation models thus far have assessed the value of technology from the perspective of the firm in possession of the technology, but such assessment is greatly influenced by the firm's technological capability, capitalization, brand, and human resources. However, what the market needs is the worth of technology as a product to be traded in the market, and this calls for an impartial and objective value that is not influenced by the specific company that owns it.

The systems that encourage technology transfer can be classified into two in general: a simple system that just builds and offers data on the information about the technology to transfer and the other one that encourages technology transfer by making evaluations of technologies in various perspectives.

This paper's objective is to present a summary of the most relevant methods for technology valuation, with the scope of educate non-economist people involved in technology transfer on the methods that should be used for technology valuation.

Concept of technology valuation

Technology, which becomes the object of technology valuation, is divided into broad and narrow definition of technology. Narrow concept of technology refers to intellectual property including patent, utility model patent, and trademark in addition to disparate technology such as know-how, trade secret, and computer software. Broad concept is not limited to individual technology, but covers the firm's total technological capability as well.

Technology is valuable as an asset and is identified as an intangible asset. Valuation is a prediction of an asset's price where price is the amount actually paid for an asset in an arm's length exchange. Asset liquidity affects valuation: less liquid asset have farther apart valuation and price and Intellectual property is highly non-liquid asset. Intangible assets with technical basis are varied in character and include patent rights, trade secret, knowhow, computer software, database, and operations guide. Intellectual property (IP) alludes to those whose possession is recognized and protected by the law, and it is comprised of patent, patent application, registered trademark, common law trademark, trademark application, registered copyright, unregistered copyright, copyright application or domain name.

Payments for a technology should be made by cash with upfront and milestones payments or through royalties or equity (in stock of a company). Up-front fees are a lump-sum payment that represent the "present" or "now" value of the technology. Running royalties represent a "future" payment for the technology. In the technology transfer, the royalty rate for a biotechnology license deal depends on a large number of factors.

One important factor that determine the royalty rate is the strength and scope of Intellectual Property (IP) protection. The economic value of a patent depends fundamentally upon the nature and extent of non-infringing substitutes. Stronger patent protection translates to higher royalties: For example, a technology fenced using multiple patents will generally command higher licensing royalties than one covered through a single weak patent.

Technologies that are not defined as intellectual properties are mostly those that are difficult to recognize or difficult to assess their value independent of the owner (company, individual), and it is rare for such technology to become the object of valuation. Economically speaking, the value refers to the opportunity cost, which becomes the standard of the transaction, while the market price becomes the exchange value when a perfect market is assumed. However, as the market for technology cannot be created easily, a difficulty arises in determining the exchange value of technology through the market mechanism efficiently.

Accordingly, additional effort in estimating the fair market value, supposing a competitive market, is required. Generally, the fair market value is defined as 'the price at which willing parties, who have not been coerced and possess rational information, have agreed to trade their asset' (Seol, 2000). It is really difficult, however, to come across such a perfect deal in reality, and, thus this value assumes a transaction between virtual buyer and seller. Particularly, it presupposes an economic or market condition occurring at a specific point of evaluation. Such fair market value is at times simply called the market value, and it assumes that the capital market is in its advanced stage where it remains in a nearly perfectly competitive form. The technology valuation attempts to estimate this market value.

Methodology for technology valuation

Many different methods for technology valuation have been used: Cost Analysis (look back), Industry Standards–Comparables (look around), Ranking/Rating (look at the pieces), Rules of Thumb (look down), Discounted Cash Flow (look forward), Auction (look to others), Equity (look to the market). Normally a mix and mach is used. Additional techniques are available.

First, the cost approach methods estimates the cost of recreating the future utility of the technology being valuated, and assumes this value to be the future returns from the technology (Smith and Parr, 2000). Technology assessment is done by calculating the reproduction cost of acquiring the same technology or the substitute cost of acquiring a similar asset, and then reflecting depreciation. The cost approach method is useful when assessing intangible assets such as software, but its weakness lies in that equal amount of investment does not always result in the same level of technology and that it does not take into account important elements such as future risks and economic benefits that can be obtained from the assets.

The Industry Standards–Comparables (look around) is probably the most important method for academic licensing. Source of comparable transactions are: internal databases (licenses previously done by the same institution), published survey, public announcements (ie required disclosures such that contained in the SEC filing for public companies), documents from litigations.

The Ranking/Rating method is based on panels of expert reviewing technology from various perspectives (ie market size, patent protection, stage of development, probability of success). This method need scoring criteria and decision tables. Pros are that it prepare for license negotiations and allow for comparison of technologies. Cons are that it need a comparable to which to apply the results and is highly subjective.

The Rules of Thumb (ie the 25% rule) is based on the Goldscheider Principle: "the Licensor should receive 25% and the Licensee 75% of the pre-tax profits from a licensed product" (Goldscheider, 1980). It is expressed in % of net sales in license royalty rate (25% of expected profit margin). Normally, this should be the starting point for negotiation, turning up or down based on the significance of Intellectual Property (IP) portfolio and who bears principle burden of risk. IP means a patent, patent application, registered trademark, common law trademark, trademark application, registered copyright, unregistered copyright, copyright application or domain name.

The economic value of a patent depends fundamentally upon the nature and extent of non-infringing substitutes. Stronger patent protection translates to higher royalties: For example, a technology fenced using multiple patents will generally command higher licensing royalties than one covered through a single weak patent. This method has a limited value in academic licensing negotiations because of uncertainty of ultimate profitability: academic technologies are generally very early stage and it is almost impossible to do realistic cost of good or selling price projections at time of licensing.

The Discounted Cash Flow/Net Present Value is widely used. It takes into account the facts that: expenses are certain and early, return is later and uncertain (product may not succeed and/or market may not be there). This method is based on the time value of the money (ie getting 1,000$ next year is not the same of getting 1,000$ today). The discounted cash flow first subtracts expenses from the cash flow received from the usage of assets, and then this net cash flow is adjusted at a proper discount rate. This method, while suitable for patents, registered trademarks, copyright, and other intellectual properties that can create a future profit, it has the disadvantage of being unable to accurately reflect the value of technology that does not create a direct profit but, nevertheless, bring value to the company, or technologies where future profits are hard to estimate.

A typical R&D Project in the biotech that should looks like a good deal: $10 mm invested over 6 years with sales start in year 7, peak profits of $15 mm in years 12-14 over by year 19, a Total Net Income of $136 mm and Net Profits exceed expenses by $126 mm.

The Auction is growing in the interest of sellers and buyers of technologies. It only works for a hot technology with seller's market. Need at least 3 bidders. The technology must be readily understood and evaluated and if unacceptable bids, technology will be perceived as damaged, because of visibility of the process. The case of Rockefeller University/Leptin should be an example. Jeffrey Friedman, a HHMI investigator cloned the ob gene, which codes for leptin, in 1994.

Friedman was a founder of Millennium, who wanted a license; HHMI insisted on an auction. On August 1994 a patent was filed with USPTO and in October the Rockefeller University announced the intention to license ob. In December Nature paper appeared (Y.R. Zhang et al., Nature, 372:425-32, 1994) and in January 95 the Rockefeller University invited final bids selecting 3 finalists. On February 28, 1995 the University announced Amgen winner. Terms of the transfer were $20 mm upfront and $50 mm additional via milestone payments (total $ 70 mm). Stock price of Amgen increased 5.4% on February 28, increasing company value by $451 million. So far, technology hasn't panned out.

Equity is another possibility to make value from a technology. In a license, Equity should substitute for one or more cash components, generally the upfront fee: can allow to pay early milestone payments in stock. Some consideration on Equity payment of technologies: the value of equity in a start-up can escalate rapidly; equity gives a return if licensed technology fails but company succeeds with something else; hedges the risk to licensor; is illiquid till IPO or acquisition. An example is Allegra, fexofenadine (terfenadine carboxylate), a metabolite of terfenadine (Seldane).

A US patent filed on August 1992 was then obtained by James Young (Sepracor) and Raymond Woosley and Yiwang Chen (Georgetown University). Georgetown University exclusively licensed its interest to Sepracor in October 1990 and January 1993 for some royalties and assigned the patent on August 25, 1998 for $10 mm in cash and 100,000 shares of stock. On June 1993 in the transaction between RPR, Marion Merrell Dow (MMD) and Sepracor, MMD had the patent for $7.5 mm upfront, $10 mm stock purchase and future royalties. The FDA Approved Allegra on June 1996. Sales of Allegra are now $2 billion and 10% royalty to Sepracor are $200 million per year. Georgetown reported royalty income of $26 million in 2000 survey. If Georgetown got 25% of Sepracor's income this accounted for $50 million/year.

New, easy to use method

Competitive Advantage Valuation™ (CAV) is a new method to value intellectual property assets. The CAV method was developed over a many years through a scores of research projects undertaken in the Technology Commercialization Research Center at Syracuse University on behalf of a variety of client organizations. These research projects assessed the commercial potential of many different types of early-stage technologies by analyzing the scientific and engineering, marketing, licensing and intellectual property advantages and disadvantages associated with these technologies. (Hagelin, 2002)

The major premise of the CAV method is that intellectual property assets have no inherent value; the value of intellectual property assets resides entirely in the value of the tangible assets which incorporate them. The minor premise of the CAV method is that the value of a given intellectual property asset can best be measured by the competitive advantage which that asset contributes to a product, process, or service.

In comparison to other valuation methods, the CAV method combines a number of unique features: it is easily understandable, is affordable in terms of time and cost, is flexible and scalable, precise and repeatable: (a) the CAV method is easily understandable to the broad cross-section of professionals practicing in the fields of licensing and intellectual property management.

The easier a valuation method is to understand, the lower the transaction costs of negotiation and the quicker the parties can know whether an agreement can be reached. (b) The method is affordable in terms of the time and cost of obtaining necessary information and performing the valuation analysis. More affordable a valuation method is, the more broadly it can be adopted and the more likely it can be standardized. This method is the only intellectual property valuation method that is implemented in a software program.

The software makes intellectual property valuation analyses quicker, easier and even more precise. (c) The method is flexible and can be used to value any type of intellectual property as well as licenses, prospective research and development investments, and pre-market products. The more flexible a valuation method is, the more it can be shared across business divisions and used as a common benchmark. (d) The CAV method is scalable. A simple analysis can be performed using built-in default formulas to calculate values and more advanced analyses can be performed using statistical software tools to calculate values.

The more scalable a valuation method is, the greater the user's ability to choose the trade-off between the time and cost of the valuation, and the desired degree of accuracy of the result. (e) The method is precise and it can be used to determine the exact dollar value of individual intellectual property assets and to calculate differences in dollar value within a group of related intellectual property assets. The more precise a valuation method is, the more useful it is in managing intellectual property assets and in comparing intellectual property asset values. (f)

The CAV method is repeatable and not dependent upon the subjective choices of individuals or groups. The more repeatable a valuation method is, the easier it is for parties to focus their attention on the variables and value inputs on which they agree or disagree.

The CAV method is a novel combination of the income and disaggregation approaches to valuation. In its most general form, the CAV method consists of seven basic steps:

- The intellectual property asset to be valued is associated with a pre-market product and the net present value of the total profits in the pre-market product's intended application market is calculated.

- The net present value of the total profits in the pre-market product's intended application market is then disaggregated to determine the percentage of these profits attributable to technical intellectual property assets. (There are three classes of assets - tangible assets, intangible assets and intellectual property assets. There are three types of intellectual property assets: technical [utility patents, functional software copyrights and technical trade secrets]; reputational [trademarks, service marks and brand names]; and operational [business method patents and proprietary business processes]).

- A set of price and performance parameters are selected that determine success in the intended application market, and the pre-market product's competitive advantage relative to an average substitute product is calculated based on these price and performance parameters.

- The pre-market product's predicted market share and is calculated from the pre-market product's relative competitive advantage and the pre-market product's present value is calculated from net present value of the profits in the intended application market attributable to technical intellectual property assets.

- The pre-market product's present value is adjusted for technical, market and intellectual property risks.

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- A single, lump-sum payment for the intellectual property embodied in the pre-market product is calculated which provides the licensor and licensee a risk-adjusted, equal rate of return on their respective investments in bringing the pre-market product into the application market. This single, lump-sum payment is also used to calculate a running royalty rate on net sales of the pre-market product.

- The decrease in the running royalty rate on net sales is calculated in the case where a portion of the payment is received as an upfront payment and the remainder is received as running royalties.

Conclusion

A number of new methods to value intellectual property have been developed in recent years. Although each of these methods has certain limitations, together they have provided intellectual property and technology transfer managers a very useful new set of decision-making tools. As with the valuation of tangible assets, no single method for valuing intellectual property assets is definitive. Also, as with the valuation of tangible assets, the methods for valuing intellectual property assets will be subject to continuing research and refinement.

The development of valuation methodologies has no terminal completion point, but is an ongoing, evolutionary process. Not expensive and easy to use methods for technology valuation should be useful for small companies and start ups, Universities, technology brokers and other subjects involved in technology transactions to valuate the number of technologies that become available in the context of open innovation.

The Competitive Advantage Valuation™ (CAV) is a new easy to use method to value intellectual property assets. The CAV method is proposed as an important step in this evolutionary process. This method is not a definitive valuation method and further research will be required to refine the method. However, the unique features of the CAV method make it an extremely useful addition to the existing methods.

Easy to use methods for Valuation of Intellectual Property should facilitate open innovation, knowledge diffusion
and have implications for private and public sectors

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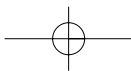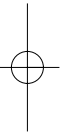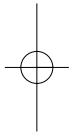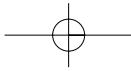
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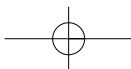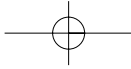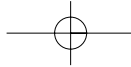
The Knowledge based Skill Management

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The Knowledge Society generally focuses questions related to the Know How management, deeply related to other questions that deal with the modernisation of Public Administration and the valorisation of professional competency.

In a period in which pursuing strategic objectives of business comes across a market context that takes into account a "compared deficit" and a weakness of the economic system, the Ministry of Public Administration and Innovation has introduced the e-gov2012 Plan.

According to this plan and in order to outline a rapid and effective programme of restructuring, and re-launching of the Italian Public Administration it is necessary to optimise the labour productivity by an effective skill management model. In this article, the innovation vision adopted by the Pole of Excellence in Learning and Knowledge, to promote the chance for a continuous professionalism in terms of ontology based skill management is introduced.

The vision is sustained by a conceptual architecture, which represents a distinctive and enabling factor for the management of skills within an organisation, allowing to customize training paths on the worker profile.

The competencies management in E-Gov strategy

The economic–financial crisis that has affected Europe, highlights in Italy the question of employment, perceiving symmetrically in the professional updating within an organizational circuit, the strategic lever that allows a single person to be movable and valuable. In the Public Administration there is a hidden and unexpressed basin of productivity.

The transition to the productive process and the permanence in it is characterized as one of the most complex evolved tasks for a person and as one of the main commitment for a larger organized social system. A correct management and updating of the corporate knowledge asset, provide the PA to support its activities and services, thanks to an efficient matching between the development plan of its network resources and the competency requirements so to allocate workers, having specific skills, in accordance to the need.

A mapping between office processes and the model of the employees' skills could enable the identification of the Human Resource Managers (HRM) to involve in work activities according to their career profile (Employee Profile).

The integration of TEL and its harmonization with the strategic objectives of the organizational systems, is one of the public process improvement which allows, at the same time, learning and knowledge cycles at individual, group and organization level.

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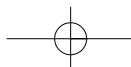
Fig 1 : Organizational learning cycle

The PA, as learning organization, aims at managing the worker profile within the strategic objectives, by the interaction of the following cycle:

- To keep and update both the competency (skills) repository and the enterprise knowledge repository.

- To define the competencies (skills and knowledge) needed for projects / activities.

- To identify human resources to be trained.

- To create suitable and reusable learning resources.

- To offer personalized and adaptive learning experiences, which involve workers in complex didactic activities also make use of instructional instruments and services, and include evaluation and assessment.

- To acquire and assess knowledge useful for the organization through training activities carried out.

The innovative vision of Pole of Excellence

The Pole of Excellence in Learning and Knowledge with its office within the University of Salerno, works in a focused way, on learning topics and knowledge sharing in the field of Information and Communication Technologies.

The Pole in L&K was born with the objective of capitalizing and exploiting the results and the prototypes of the research obtained by taking part in European and National projects.

The Pole distinguish itself for its original and inovative approach for Italy, and it covers the chain from base research to commercialisation of developed products. It is the reality to be seen to build an action and renovation nucleus that assures the efficiency and efficacy in terms of participation to interventions and high added value Calls. It also sets itself as an optimal paradigm to accompany an effective re-use of knowledge and outputs deriving from projects carried out with the cooperation of National and International partnerships.

The research activity of the Pole is focused on the area of knowledge management and on the integration between learning and knowledge to favour the valorisation of human capital and continuous professionalism. In order to manage the complex cycle above mentioned, we rely on the following elements:

- Repository of the organization knowledge.

- Ontology of the domain knowledge.

- Ontology of the skills organization.

- Repository of the competencies (skills and knowledge) of the organization's members.

- Repository of the skills required for the organization's activities.

- Identification of competencies (skills and knowledge) required for each activity/project.

- Bottom-up generation: generation of knowledge and skills ontologies, from the organization's knowledge.

- Top-Down generation: generation of a knowledge organization's repository starting from ontologies contextualised to the knowledge and skill of the organization.

- Identification of the competencies (skills and knowledge) of each worker of the organization w.r.t. the specific role.

- Definition of metrics between sets of competencies, to measure the distance between the ones necessary for a business and those available.

- Identification of the available resources in order to minimize the missing competencies which may be acquired through learning/training activities.

IWT: intelligent solution for Knowledge based Skill Management

For this purpose, we will use an innovative, extensible and open platform: Intelligent Web Teacher. IWT is a learning and knowledge platform aimed at filling the lack of support in terms of flexibility and extensibility affecting the existing e-learning systems.

IWT includes specific knowledge, skill and Learner Models (this latter being mainly oriented to self-learning), which are ontology based and able to answer to the above said needs. This is explained through the following models:

- **Knowledge Model**: allows to formalize the cognitive domains by setting concepts and relationships between the concepts on which to personalize the didactic paths.

- **Learner Model: focuses on the cognitive status of the learners and** their learning preferences, in order to be able to generate personalized learning paths for a single learner.

- **Didactic Model**: includes the optimal modalities to transfer the knowledge of a specific domain, taking into account the learner's characteristics.

- **Competency model: focuses on the management of competencies meant as a tern** of knowledge, skill and behavior within a training process. The human resource is a competitive element that has to be considered ad valorized through a good representation of skills and roles for those skills.

The Learner Model will also facilitate the identification of skill gaps in current or new job roles and the delivery of appropriate individualized training plans. Employees themselves certainly have interests in their own skill development.

They seek to pursue a given career or maximize their employability, which makes the development of due skills and competencies.

The competency model broke out within the research activities of Pole can be shown as follows: the achievement of a formative objective always requires the procedure of a specific competency defied through a tern (K,S,B): Knowledge, skill, behaviour. It can be shown through a specific ontology.
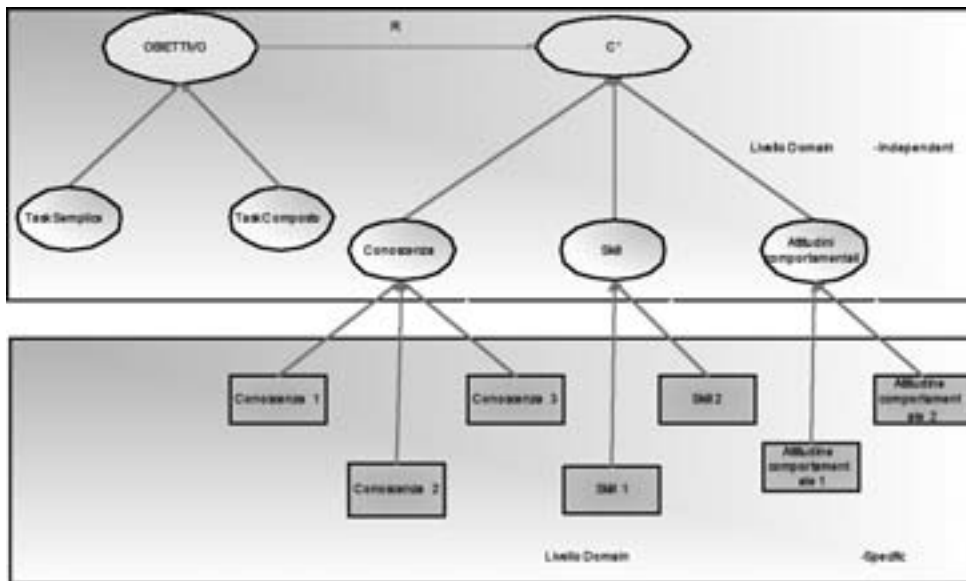
Fig. 2 : Skill Modelling in Domain Specific Level

The extension of such Models in an organizational context, by means of skills, allows to cover the following items:

- Creation of complex learning resources (simulations, games, collaborative learning objects) included in a learning experience to engage the worker (whose distance between his competency and that of the project is nearer to zero) in the acquisition process of the missing skills and knowledge.

- Dynamic generation of the corresponding adaptive learning experiences.

- Identification of an assessment model of competencies acquired in the didactic experience.

- Definition of a system that, taking into account the assessment output, updates the previously said ontologies and the repositories.

The conceptual architecture of this solution is, therefore, the distinctive and enabling factor for the knowledge management of a domain that is contextualized to the organization and personalized on the basis of the worker profile.

Conclusion

The Public Administration, that aims at being an essential instrument for the civic, social and economic growth, of a Country, has to analyze the competency management process.

IWT will provide an integrated solution that is responsive to the user's requests, creating pedagogy driven learning experiences that are adapted to:

- **The worker's needs** (driven by the enterprise performance factors) that could be expressed in a natural language (they could emerge from daily work), being related to fill a competency gaps (in order to be allocated on a new project/activity), being related to career progression (pathways).

- **The worker's knowledge** (existing competency and skill) and preferences considering also the pedagogical aspects (learning styles) providing the more suitable learning resources (even complex one like simulations and games).

- **The worker's performance**, reorganising the learning experience (proposing alternative learning resources) in case of problems emerged after an assessment phase on some specific concepts/activities.

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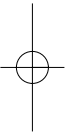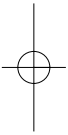
Resources, Knowledge and Abilities

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Social Network (Information network)

Nowadays, the communication has become critical. In order to improve the communication between public institutions, we wish to establish a social network (information network), to be considered as the information core of all institutions of the local and central public administration. In this respect, an on-line platform called administratie.com will be set up. All institutions may access this platform, thus creating a bridge among them.

By building and using this platform, the public institutions are able to exchange information, to share their ideas and views on their activity fields, to communicate more easily and more efficiently at the same time. The content of the platform will be large, so that each institution could be able to post/present relevant information, such as: activity domain/domains, organizational structure, projects in which it is involved, how the organization is seen at national/European/international level, agenda of the events organized in the past or at present (quarterly, annually), partners, budget, institutions which are subordinate to or institutions they coordinate, public information, press release, useful links, contacts, etc. the platform will be updated once in two days so that the information should be accurate.

To enhance the above lines, we might use other on-line instruments, also, such as: gateways, forums, messenger, special web sites, and blogs; thus the dissemination of information is carried out through several channels and the communication becomes efficient at all levels.

One of this network's roles is to encourage the mutual promotion of public institutions by consultancy, organizing on-line conferences, daily newsletters, and also by using all the other instruments: forum, messenger and blog.

An important issue is to set up a free of charge universal call number, with a unique number for each institution, to be used in front of the default number. In advance a training campaign will take place with the purpose of informing the leading board and staff of the respective institutions about the setting up and the using of the Social Network by providing a user guide.

Another issue that should be pointed out is the transparency, which plays a crucial role in the inter-institutional relationships, by decreasing the bureaucracy, increasing speed and efficiency.

The administratie.com network can be externalized, by building a Social Network targeted exclusively to citizens and through this network they have the means to be permanently informed about the activity/activities of the public institutions by using an on-line e-service called administratia used for the information campaign and also to answer the citizens' requests.

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The information campaign will be supported through on-line conferences, on-line news, newsletters and on-line seminars, thus disseminating the information to the citizens.

Also, the citizens will be able to download the user guide, which contains basic concepts. The citizens will have access to a data basis that includes all the public institutions from the public local and central administration, where they will find all the information they need.

The relationships between the public institutions and the citizen will be based on information and knowledge. The better the citizen is informed the stronger the relationship will become, thus increasing the transparency and decreasing the bureaucracy.

The advantage for the public institution will consist of the citizens' data basis in order to be able to constantly provide new information. Therefore, there will be a two-way road: one from institutions to the citizens and the other, from citizens to the institutions.

The citizens may address the public institutions with regard to their questions and requests, but also to ideas and proposals concerning the improvement of the public sector services.

The purpose of setting the Social Network administratie.com is to decrease the costs and bureaucracy and to increase transparency, speed and efficiency.

**The Social Network for high school/university students
(in partnership with the Ministry of Education, Research and Innovation)**

The high school or university students need information. In this respect, it is aimed to set up a Social Network for high school/university students that will be designed for facilitating the access to information.

The network will be called licean.com, respectively student.com, and it will be built in cooperation with the Ministry of Education, Research and Innovation.

Given that today's pupils are tomorrow's high school students, respectively today's high school students - tomorrow's university students, the access to the network is open to all, from the 8th up to the 12th grades, but as well to the current high school students or university students who may provide additional information about the high school admission exam, high school graduation exam, university admission exam and other useful information. Also, they may exchange information, talk about their previous experience as high school/university student, give recommendation and, at the same time, provide useful pieces of advice.

Through this network it is intended to replace the brochures distributed in schools and high schools graduation years, thus decreasing the costs.

Two data basis will be available through the cooperation with the Ministry of Education, Research and Innovation. The first one will include all the high schools from Bucharest and county seats, and the second one, all the universities from Bucharest and county seats, including the last admitted degree from the previous year and coordinates.

The data basis will be available for download from the Ministry of Education, Research and Innovation web site www.edu.ro.

Also, the high school/university students can share their opinions about school/university life to those interested.

The Ministry of Education, Research and Innovation will start an information campaign around the admission exams time that will allow every student to acknowledge his future opportunities. The goal of this network is to pass beyond the limits of communication.

On-line courses in public institutions (in cooperation with the private sector)

The on-line courses may answer the need for the public servants to improve their professional background.

Thus, the students not only may enroll online but also they may take an active role on-line, simplifying the whole process of developing the courses; the tax is also paid on-line. This reduces costs, simplifies the organization: location, logistics, transport, accommodation (for those from the province), trainers, etc.
"Virtual" participation is more accessible for those from the province.

There is the possibility to hold videoconferences, this giving the opportunity for the participants to know each other and making friends.

The beginning of the courses may be agreed on with the program coordinator, and if one of the participants is not in front of the computer at the time given, the study materials may be sent by e-mail.

By implementing on-line courses, one aims to decrease costs, bureaucracy - eliminating the need for approvals from the leader of the organization.
The communication barriers are removed while the participants are not present physically.

Also, students may group themselves in virtual work groups, create role-playing games, share experiences and their coordinates which facilitate the keeping in touch with one another. On completion of the course, the participants receive on-line certificates (by electronic signature).

Digital Fingerprint, Working e-card, Electronic Archive, Electronic Criminal Records

Electronic services provide us with many possibilities to simplify the working procedures. One of such services is the digital fingerprint.

Digital fingerprint is a device that replaces any other form of identification / proof / confirmation regarding the monitoring of the presence and the time at which an employee enters or exits in/from an organization (public institution).
The aim is to reduce other methods of personnel records within an organization by the use of a simple fingerprint scan, without error.

Usage is simplified by introducing the index finger. To confirm the scanning / identification a green lamp is turned on. The instructions are written at the left side of the device. Digital fingerprint helps to stop bureaucracy, thus eliminating access cards or attendance book signing.

The second service would be the working e-card.
The aim is to simplify the process of manually filling, reducing costs, including staff, bureaucracy and effort. Working e-card will contain the same data, which includes a regular workbook - printed (palpable), but has the advantage that it is archived electronically. In this way record of the books is simplified and more accessible to the human resources.

The third service is the electronic archive.
The aim is that the typical archives to be replaced by electronic archives in order to facilitate the access to folders. Thus time is gained, costs including personnel-related costs are reduced, the search becomes faster and more efficient and last but not least, it prevents illnesses caused by the usage / smell and the dust of the files.
The procedure of files keeping is much simplified.

The fourth service is the electronic criminal record.
Releasing criminal record using on-line procedures meets the needs of an applicant who may submit the same documents standing in front of the computer without the need to go to the police. Both normal and emergency tax may be paid online. Criminal record shall be released immediately. Thus the system becomes quickly and efficient, reduces bureaucracy costs - including the staff related costs and the most important time is gained.

Virtual Libraries

Virtual libraries meet the need of those concerned to study at home, thus the steps of learning in front of the computer are simplified. The method is especially beneficial for those in the province that cannot borrow books at home.

Stages: one enters the library website (bibliotecavirtuala.ro), creates an account, inserts the password for identification, requests the catalogue, selects the book that may be browsed, then marks the book intended to be borrowed; the last step is to download the book in PDF format. The catalogue is divided into several areas, each area containing an equal number of books. The book can be borrowed for a period of 2 weeks. If the book is not returned at this time the user receives a warning followed by a pecuniary penalty.

Deadline may be extended by an electronic application.
The aim is to reduce costs, including staff related costs, to simplify the procedure to access and borrow books, to reduce bureaucracy, to encourage speed and efficiency.

On-line Tourism

By online tourism it is understood all the units of accommodation and food in Romania. As we are taking the safest course towards a real information society, the on-line tourism meets the citizens' needs to have access to a comprehensive database whereby they may choose the holiday location, in a short time.

The data basis will allow the competitive access for 10,000 users and the data storage will be unlimited. A software application will allow the processing and management of collected data from the territory.

Moreover, by establishing the e-booking and e-payment mechanisms, the citizens will be able to reserve and check the availability of tourism operator regarding his services offer, with the option of before or after use.

In order to simplify the search procedure, two catalogues will be created: the first one will include the tourism resources from Romania, and the second one, the Romania's tourism and cultural objectives.

Also, the public information will be mixed with geographical landmarks, such as: GPS-coordinates, maps or images of maps.

By implementing the on-line tourism, one aims to decrease costs and bureaucracy, to increase speed and efficiency through transparency, time saving and promotion of information society through on-line services.

Building the "e-Democracy, Participate!" web site

This web-site subject aims at enhancing citizens' knowledge and participation to the decision-making process in the administration.

Within the decision-making process, the Romanian administration has to listen to citizens' different points of view. The website approaches the idea of connecting the Romanian citizens to the local and central administration. It allows the citizens to contribute, in a safer and easier way, in a proactive way, to the decisions taken by the Romanian state, those decisions which concern them and which may affect their life and the community they live in.

The website will consist in two sections:

- Within the first section, the citizens will enrich their knowledge, learn about democracy and how the government/governance operates. This section helps the citizens to access information about the Parliament, Government, Legislation and voting in Romania, they will learn about the main problems of public interest that are currently looked upon. The citizens will be introduced to the major problems, future and closed consultations.
  They will have the opportunity to be connected and keep in touch with the community and Romanian governance. They will learn new things about the e-government and its benefits.

- The second section aims at participating to the decision-making process by free expression of opinions. Here, major problems are debated and the citizens may state their opinions and communicate with each other's, may apprehend the existing problems at community level and participate to public consultation. Therefore, the citizens will contribute with new ideas for the governance policies and the decision-making process and they will have the advantage and opportunity to interact with the government and to be involved into the community.

Signing in on the website makes possible expressing the opinion about governance, problems of public interest, current problems, and opinions on the reality that should guide the governance actions.

Here, the citizens will share the knowledge and participate to the development of an informed community with mechanisms and resources that might help to improving the decision-making by governance, providing innovative solutions.

The impact: by listening and working with community, the administration will fill the substance of opinions and find new solutions. These approaches will improve the quality of the decisions taken and offer opportunity for the citizens to share knowledge and vision about problems of public interest. Thus, the citizens will play an important role in coordinating the policies, programmes and services emerging from their needs. This way, the state-citizen relationship is improved and the cohesion for mutual purpose is ensured.

Development of Time-Saver Centers for Citizens

They represent service supply and information centers, spread out nationally, aiming to provide public services and information towards the citizens, to reduce the bureaucracy, to save resources and time. Centers will be set up in convenient locations for citizens, near the main lines of the transport means, for instance in downtown locations.

They have an integrated system of data providing assistance and information, both by phone and Internet, for a variety of problems such as: location of the centers, services provided by each center, the documents necessary for a public service, such as obtaining the necessary documents for a service.

The information centers may save resources and time by providing towards citizens public services at high standard. Such centers may provide services, receive calls by a free phone line, calls by which one should respond to questions asked by citizens. Thus, bureaucracy is reduced, also the high level of effort put by public servants and citizens when they should provide information / ask for information with regard to public information.

Out of professionalism and bringing the needed information closer to citizens, out of respect and applying equally the standards in the provision of public information/services, the centers will attract admiration and will improve the relation between citizen-public servant-state.

Development of Information Technology and Communications in the Rural Areas

This project consists of two stages:
Stage 1: *Training in using the information technologies and communications in the rural areas*

The main purpose is the introduction of the technologies of communications, Internet in the disfavored areas in Romania, rural areas, areas in which the access to information is difficult, but necessary. In this way, it will be assured a more uniform information evolution at Romania` s level.

The citizens of these communities will be the beneficiary of the new skills and will experiment the benefits of the technologies and of the communications. At the initial stage, it will be carried out a study regarding the level and the spreading of this knowledge through the population, although to be point out the regarded areas.

The second stage will be to provide the studying facilities from the rural areas with computers.

The third stage assures the teaching stuff training, from the rural areas (basic elements, tutorials, basic guides for beginners).

The fourth stage, following the training, is the providing with school supplies, which will contain basic notions for using a computer.

This project propose a more uniform of Romania's areas, regarding the knowledge level, skills and resources, also propose chance equality regarding access to the internet, technologies and communications. In this way, the rural areas pupils will enjoy this experience and will take benefits from the ICT will be closer by other communities by removing the existence differences.

Stage 2: *Introduction of information technology and communications centers in rural areas*

Following the training process, a solution for bringing near the rural areas inhabitants, by the technologies and electronic government, will be the technology of information and communications centers – which will provide telephony and internet access and public interest information. So, the centers accomplished its main role: the help the rural areas citizens to be informed and to eliminate rural-urban discrepancies. In these centers, the rural areas inhabitants can be helped to find jobs, to have public interest access, administrative information access, an easier access to the urban areas and to information from the fields of health, agriculture, commerce, education and public administration.

The program "Learn more of ITC (Information Technology and Communications) / Electronic Government".

The project is based on premise that, although electronic services have already been implemented, and that the notion of electronic government already exists, not all the citizens are aware about the applicability and the benefits of using them in Romania. The project intends to assure the access to each citizen to information technology and communications.

The goal is to increase the level of skills in the fields of these technologies, by special ITC trainings, provided by an educational site. The site will facilitate the access to the electronic government.

This initiative addresses to stakeholders, and also to: libraries, public services centers, unions, other organizations interested in promoting and disseminating the information. For achieving the goal of increasing the knowledge and skills of the citizens, there should be chosen individuals from the participant organizations, who will be trained especially for this initiative.

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These persons will become ITC trainers, and they will be trained so as to contribute to the Romanian citizens' education, in the field electronic government. This site will help students to interact with the teachers.

These courses will be accompanied by:

National Information Campaigns about the information technologies and communications, with the goal to create motivation, interest for the field. The campaigns may include: seminars, information mini-guides, encouragement of the private environment, voluntary organizations to participate to the promotion of ITC information.

Besides the educational site, there will be a Forum, where the citizens can chat, or ask questions about: electronic government, communication technologies, electronic services, how to pay taxes online.

Both sides will benefit from this citizen-administration interaction:

•   Citizens will improve knowledge, skills and practice in using electronic services, they will find out new interesting things about electronic government.

•   On the other side, by finding out the citizens' needs, there will be an essential link between citizens – supplied public services.

It will be 2 stages:

•   Stage 1: display the information, presentation of the electronic government concepts, electronic services etc.

•   Stage 2: applicability and benefices: it follows to be trained to use forms, to fill it, to know all the steps to follow if they want to use electronic services, to make online payments.

For those who already use electronic services, a portal will be achieved, and all of those will benefit by the notifications regarding the services that they use. Everybody will have an e-mail account where the notifications will be received, the information requested (tax payment, expire of different terms, driving license expiration).

Regarding the enrichment of the knowledge and of improving skills in using the e-government services: will take place courses in schools/universities, regarding e-government. Simultaneous with information, it will be assured access to the Internet to all the citizens, it will be developed a knowledge management, will be notified the benefices of electronic services and of the using of electronic services.

An electronic informatics system, a local platform for public services (local/regional e-Government, implemented by local authorities), able to guarantee citizens' access to local interest information, allowing also the exchange of information in-between the electronic system and the citizen.

This way, the citizens can send on-line petitions or requests to public authorities, thus expressing their ideas regarding the optimization of local administration's efficiency.

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In their turn the authorities have the obligation to set up a service solely designated to perform this activity, with qualified personnel and high-end technology, a service able to quickly respond to the citizen's needs. These local systems can be implemented in villages or administrative areas that have already been determined, where a server and a network will be installed and dedicated in this respect, all purchased by European financing. This network and the equipments will cover that particular area and the needs of the local population, without the risk of over-loading of the system or the operators' exhaustion, all this having the benefit of reducing the respond time to a few hours because of the low beneficiaries' number, contrary to a national system which will have to provide service to millions of potential beneficiaries, which could lead to the over-run the system and exhaust the operators.

Another strong point of a local system is the fact that it will be handling exclusively with local issues, without having any other priorities except the citizens in that particular area.

These local systems can be interconnected so as to facilitate the exchange of best practice and data amongst numerous local authorities, which could lead to an optimization of the whole program. The data stored by each local or regional system will be forwarded to a central server unit, located in county seats, where specialists will analyze the data, and, relying on the results, action plans can be elaborated for the issues that may arise in time.

An electronic regional center, able to provide medical / health services to citizens interested in making reservations in order to pursue treatments for common, chronic or degenerative diseases, with a continuously improved database concerning the offered services and their quality, each patient having a personal medical register, with data collected from any medical institution in which he was interned.

It also provides comprehensive information about medical professionals, in order to create a close relationship between the doctor and the patient. Thus, in every county capital, within the health authority responsible for that county will be created a Cabinet to deal exclusively with these issues.

Patients or potential beneficiaries interested in medical services or treatment recovery (for common, chronic or degenerative diseases) will have on-line all the necessary information, costs, the country locations, transport (if applicable), times and periods during which the treatment is performed.

Each patient will receive a user account where to enter all data related to the followed treatments or received medical services, the result of the records carried out in any medical unit from the country and abroad (if applicable) in order to avoid going for taking the results.

Within this system, one computer can be created for analyzing two or more sets of analysis in order to show the beneficiary if one's health is improved, stabile or worse, or even a calendar through which the beneficiary can plan the periods in which he wants to go for treatment or to stay in the hospital. Based on this calendar, the system operators would be able to reserve him cure trips or to offer him a private saloon in the hospital he wants to go to, but also to announce him that the chosen period is held.

Through the customized account, the beneficiary may contact the system operators of the health authorities if he considers that the provided online information is not sufficient. Thus the costs would decrease dramatically, not only for beneficiary but also for the health authority, eliminating bureaucracy almost entirely.

The creation of an e-Justice system through ICT, which would reduce significantly the frequent judicial system costs, by implementing some electronic systems that can offer all kind of services as: electronic payment directions, certified email addresses, reduction of the certification numbers, digital signatures in the universities, enterprises or public institutions, electronic archive of the documents, cutting dramatically the level of bureaucracy and also the operational costs.

The Beneficiaries or the interested persons would be able to check online, through a personal log on account or through the virtual notice board, the phase of a lawsuit or the lawsuit in which they are directly/indirectly involved, the court appearances' schedule or the possibility of sending online petitions.

Also they would be able to consult an online juridical dictionary through which they could find out the significance of some specific law terms, they could download application forms for filing them with their personal data or with the personal data of the institution they are representing, afterwards sending them to the responsible juridical authority for approval or for settlement, or they could look for a State lawyer if the beneficiary does not afford to hire a legal representative from outside the institution.

The Legal Authorities would be obliged to create an office, entitled with taking care of these citizens' necessities, endowed with high quality electronic logistics, through which the operators would inform the citizens about each item of news or general information put on the authority's virtual notice board, or personal information, case in which the beneficiaries should access their user accounts.

This system can serve the local interests, all the local systems being interconnected later on and the data flow directed towards a central server, installed at county or national level, which should gather all this kind of information in order to be analyzed by the specialists.

The introduction of an electronic regional and national system providing detailed information and promoting the employment and the training and qualification activities for the working force, offering to each citizen detailed information about available job opportunities at national and regional level, and also what would suit best for their professional background, supplying information about training and professional activities in the field of activity in which citizens lack the professional training, increasing their opportunity of finding an available suitable job, that should offer him personal and professional satisfaction.

Any interested person may submit online CVs through this system, while the authority that deals with it has to find for this citizen one or more available jobs in a strict amount of time, offering the opportunity of a job compatible with his/her level of level of professional knowledge and also the possibility of choosing between more potential jobs. Each interested person can create an user account through this program and so he would be able to look after the changes from the working force market, the available jobs

offered by different kind of employers, the wages and the working conditions that are offered, with the possibility of directly contacting the employee, the authority that operates the system playing just the role of a service that is just managing this program and that is contacting and is making easier the connection between the employers and the potential employees interested in the offered jobs.

Beside the service for the citizen, the system is offering to the public or private employers the possibility of posting their offers on the program website, with detailed information, after a preliminary check made by the qualified personnel belonging to the public authority, in order to certify the validity of the posted offer and in order to eliminate any attempt of fraud or "ghost" offers.

The creation of a virtual custom office, offered during its primary phase in the main important words' languages, available 24/24, each day of year, able to offer high quality services for the client, improving the efficiency of commerce by eliminating bureaucracy, the commercial transaction being made in a safety manner and with rapidity and efficiency.

The natural/legal interested persons can find out through this virtual office the taxes for the commercial transactions that they want to make. Also they can obtain certificates or they can pay online these taxes, obtaining the certifications and the receipts for those transactions immediately, without the commercial transactions losing hours, days or even weeks at the border between the states because of the requested documentation for exports/imports, the only task of the custom officers being the checking of the transports, in order to verify the validity of the online obtained certificate and for seeing if the goods are corresponding with what was written in the certificate, stopping the illegal transports at the country's border. Thus it would decrease the expenses, of both parties, but especially those of the merchants, that would save time, would reduce the transport time in the custom, meaning that the degradation of the gods would be minimized, issues that can be decisive for the profitability and the competitiveness of a merchandise on the market.

The implementation, through the e-Health program, of an electronic system that would allow each citizen direct access, through a secure account with user name and password, to his medical file record, obtaining online medical prescriptions, without being necessary to go to the physician and the checking of the medical lab tests.

Thus, the patient that is recorded in the National Insurance House data base can obtain online medical prescriptions and if going to a pharmacy represents a problem, he can order online the drugs prescribed by the physician to one or more pharmacies that are agreed by the insurance house which is recording the patient, whose contact data can be found online due to the user account, which offers the home delivery service for the order, but also the online order placements, without being necessary for the beneficiary to contact the operators.

This system can be easily implemented, the insurance houses' data can gathered and laid in into a central server, being available their analysis for establishing, for example, the amount of the requested drugs and thus preventing a too early running out of the pharmacies' reserves and offering quality services for the beneficiaries, reducing the costs of the healthy system.
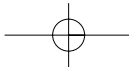
A national electronic system, which would allow each citizen to exercise his/her constitutional right of voting, through internet, within an online voting office, from each corner of the country or of the world, through a secure user account, available only after a preliminary authentication, if the respective citizen cannot go to a real voting office.

This account should be active only during the voting process, being closed after the citizen applies his/her option, in order to prevent a new vote. This kind of system would reduce the costs for organizing the voting offices in a significant matter, would also allow the increasing of the voting participants' percentage, because many citizens cannot vote due to their absence from their dwelling places or because they cannot miss from their jobs in that voting day.

The vote results would be much easier and much faster to be counted through this system, which would permanently update the information about the vote presence, the percentage obtained by each political party and in the end, it would establish in a completely objective manner, the final results, strictly in the citizens' interest, the system being immune against any external influence, which can be generated by people/groups/ factions interested in encouraging a specific political party in order to fulfill its own interest not the country's one.
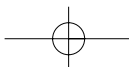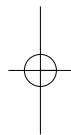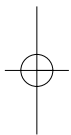
Raising Performance in London's Local Authorities

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This paper outlines the context and potential benefits behind the creation of a local area performance solution for London local authorities and a service transformation academy which supports the transformation of public services.

Background

The main driver for a new approach to local area performance benchmarking is that local authorities' performance is often measured according to metrics defined by others, and not themselves.

Standards and expectations of analytical evaluation of performance have risen consistently in recent years as public sector finances have tightened in the economic downturn and authorities are put under pressure to improve delivery of the their services whilst reducing the cost of doing so.

There is an emerging requirement to use local intelligence and data to understand service needs and the impact that their delivery has in local areas. Research shows that we are surrounded by a large quantity of data but often lack the capacity and method for using and analysing it.

There was therefore a requirement for an intelligent, analytical capability that:

- maximises the analysis of available performance, economic, social and citizen satisfaction data;

- transforms existing data into an information based service for a range of audiences;

- delivers intelligent analysis capable of driving innovation in service delivery.

A new performance benchmarking tool was commissioned to fill this requirement and is now part way through development. In order to maximise the opportunities created by performance benchmarking an associated service transformation academy is being designed to bring together examples of best practice and allow teams of improvement staff to be trained in common service transformation approaches and learn from the work of others.

Experience demonstrates that local authorities and their service delivery partners improve most effectively by defining their own goals, assessing their current 'as is' position, designing an optimised 'to be' operating model and managing the transition from one to another. This is summarised in the diagram below and is supported by a toolkit of support developed from best practice exemplars in the area of business process improvement.
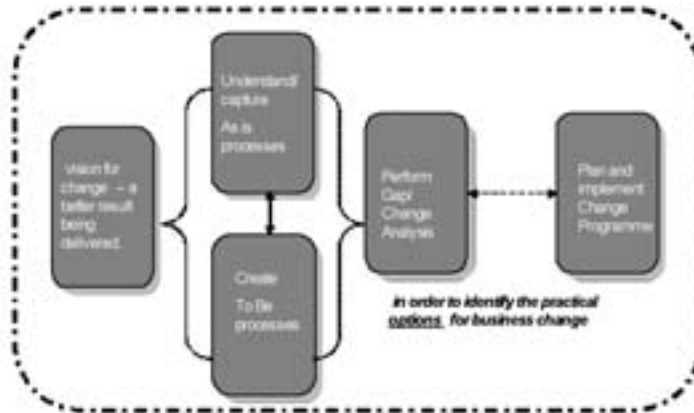
Regulatory environment

Local authorities have to report to central government on a range of 178 'outcome based' National Indicators that give an indication of performance. Information on these indicators is collected by each local authority.

In addition financial information is collected relating to the costs of the services delivered. Although the information is only reported annually it is collected throughout the year and the benchmarking tool will produce a quarterly analysis to give a more realistic, real time, view of performance.

Delivery of the tool

The development of the performance benchmarking tool is split into two distinct phases:

- An initial 'core' solution was envisaged to provide local authorities with a comparative view of how well local services are performing according to the amount of money spent on delivering services. The purpose was to identify a 'unitised' measurement of performance to provide a value for money index. A basket of 40 national Indicators has been agreed as for a proof of concept exercise, these are given at Appendix 1.

- A 'core plus' solution would be developed to introduce cost and performance scores adjusted to the socio-economic environments in which individual local authorities operate. Thus relative performance in, for example, the delivery of social care would be adjusted to take into account level of low income.

Benefits

- The tool would make use of the best available performance and expenditure data to deliver service focussed, value for money information in a form that is easy to understand.

- By comparing expenditure and performance it would be possible to identify local authorities who appear to be able to deliver relatively high performance for relatively low cost as a potential example of good practice.

- The enhanced version will include enhancements to take into account the socio-economic context in which local area services are delivered to enable calculation of context adjusted service costs and context adjusted performance.

- By comparing information on several local authorities, an evidence base of Local Authority performance and efficiency information will be built that could be shared with other partners interested in the efficiency of local delivery.

The enhanced version could also lead to better understanding of the reasons for variation in:

- The cost of service delivery. It may be that the unit cost of service delivery is less expensive in certain circumstances. For example, the cost per unit of waste collected in urban areas may be cheaper than that in rural areas.

- Service output performance. There are likely to be examples where the service environment influences the level of service performance. An example of where the service delivery background might affect performance is where educational attainment may be affected by family background.

- Service outcome. It may be possible to assess whether local service provision is meeting estimated levels of service dependency and to what extent there is unmet need.

Examples of information generated by 'core' solution
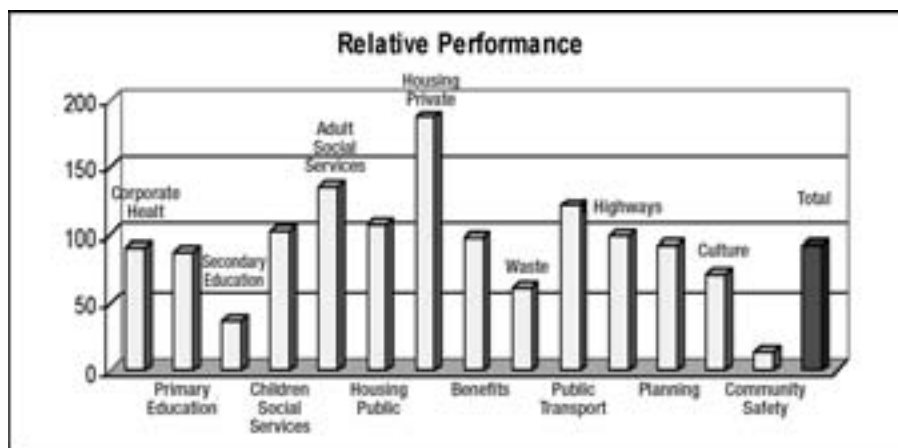
This chart shows the performance of some of the services delivered by one local authority. Measurements are relative to the average attainment of all authorities, with the average score being normalised to 100.

Hence scores greater than 100 indicate better than average performance and scores below 100 indicate worse than average performance. This authority performs very well in private housing and very poorly in community safety. As financial information is incorporated in the analysis these performance measures are based on quality of service and cost of delivery. Overall this authority performs slightly below average.
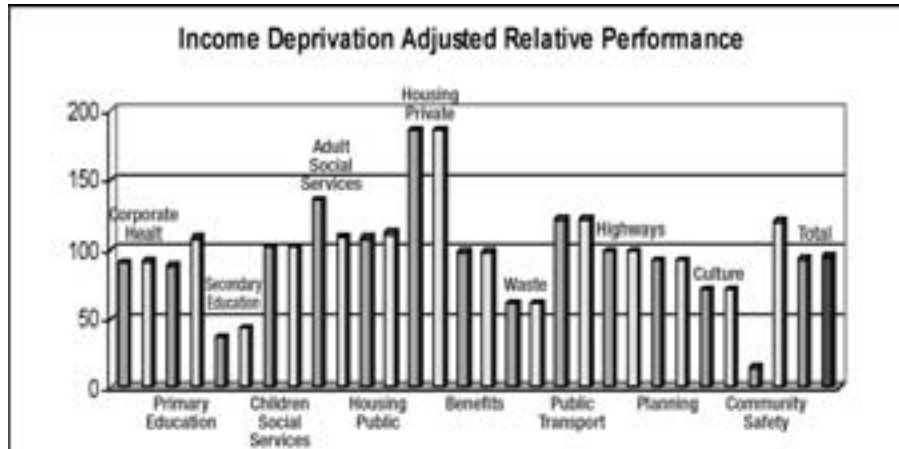
This chart, for the same authority, shows the indicators adjusted for levels of income deprivation. As can be seen, the low score for Community Safety becomes a higher than average score once the relative poor financial wellbeing of the residents is taken into account.
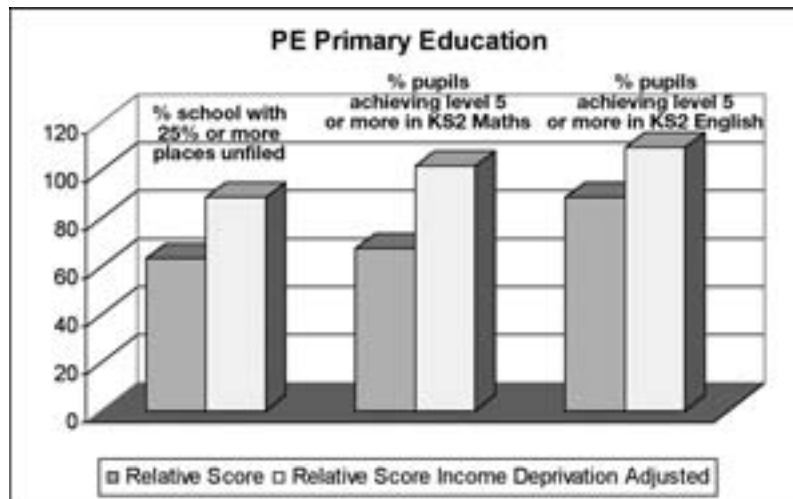
This chart shows some of the information in greater detail. These figures show the relative scores, and then the figures adjusted for income deprivation. It can be seen that relative performance scores more highly once the economic circumstances of the students are taken into consideration.
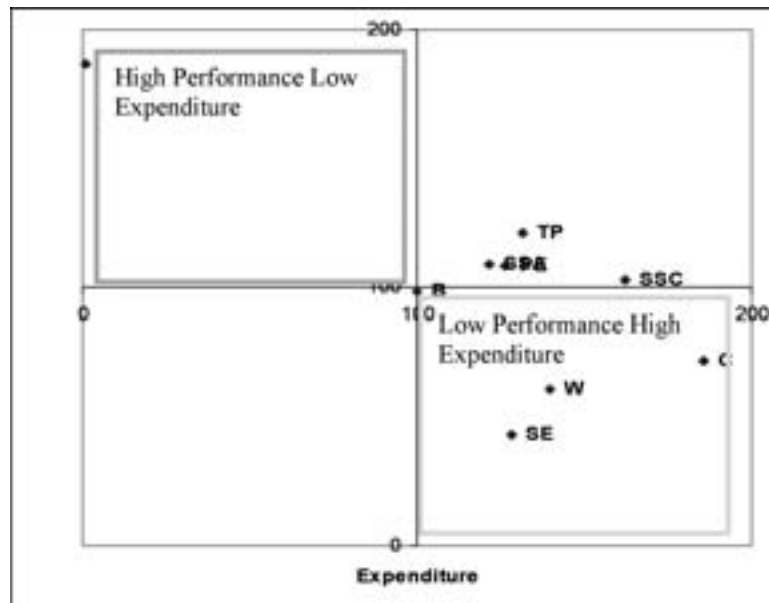
This final chart plots the results from each service against the average performance and cost. Services in the 'Low Performance High Expenditure' quadrant merit special attention. Based on the information here decision can be taken on the strategic direction of service transformation. If there was confidence in the service's ability to improve then expenditure could be maintained but performance improved to move the plot vertically. If there was no confidence then wasteful activities could be eliminated which would reduce cost and move the plot horizontally. In most cases the aim would be to do a combination of both to move towards the 'High Performance Low Expenditure' quadrant.

Academy for Service Transformation

Whilst performance benchmarking information is useful in its own right, its true value lies in highlighting service areas which need to be improved, or their costs reduced. The Service Transformation Academy aims to provide a suite of resources that can be used to quickly bring about improvement. The Academy will be created by the summer of 2010 and will have the following elements included within it:

• A searchable database of successful transformation project case studies highlighting the business case, the approach taken, the national indicators which were influenced and the benefits delivered.

• A searchable database of service transformation expertise in local authorities at management and operational levels to allow the creation of peer support networks.

• Identification of common 'hot topics' and the development of resources to support the resolution of resultant issues.

- A centralised, searchable resource containing existing business process improvement training and guidance.

- Delivery of training courses on common requirements at elected member, director and staff levels.

- The creation of service specific, transformation experience sharing networks to allow local authorities to learn from one another.

- Establishment of a procurement framework contract for the provision of private sector consultancy services that will reduce both the cost of services and their procurement.

- Identification of best of class processes and practices to form an idealised 'perfect' local authority.

Once these elements of the Academy are in place they will be aligned with the results from the relative performance benchmarking information to deliver specific support to targeted service areas or weaker authorities. The key benefit is that local authorities will, through an evidence based approach, able to better target service improvements and drive greater efficiency savings by creating benchmarks and facilitation of an acknowledged resource of best practice, peer support and training, aligned to transparent performance information. The aim is to deliver other benefits in addition:

- Enhance capacity and capability in each London local authority.

- Align support requirements to performance information, helping to align improvement activity to corporate objectives and supporting the 'golden thread' approach to transformation.

- Facilitate improved common dialogue around service transformation and better sharing of information.

- Prevent scarce resources being wasted on reinventing existing best practice guidance.

- Avoid repeated procurement costs by promotion of a consultancy framework contract.

- Ensure maximum return on investment already made on development of best practice methodologies.

Summary

Though still in development the performance measurement solution will, for the first time, bring together indicator and socio-demographic data to provide meaningful information on an authority's true performance. The associated Academy will provide a comprehensive resource of best practice support to fill an evidence based, sector led need.

Interoperability and Applicative Cooperation
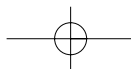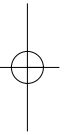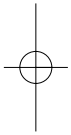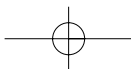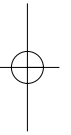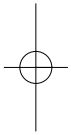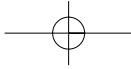
Improving the performance of Public Administration in the Information Society: the Italian way

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1. Introduction

Within the large variety of approaches resulting from the review no application can be found of the classic systemic approach articulated, according to the well known theoretical scheme, in a sequence consisting of: formulation of reference values; identification of objectives; selection of operational tools; adoption and implementation of new rules; actions of change management; feedback and iteration of the sequence. Nevertheless in most cases a "top-down" modality has been adopted, starting from a general design formulated through a master plan.

An innovative approach has been adopted by the Italian Government in a reform intervention successfully under way in the Italian Public Administration; the Italian approach is peculiar in three aspects: a) the sequence has been started with "bottom-up" steps, namely from the expectations by the stake holders; b) opportunities given by new technologies have been used as a leverage for innovation, creating discontinuities to overcome conservationism; c) during the first phase the action lines have been decided and updated progressively relying on a dynamic adjustment and avoiding a master plan defined a priori. It's self evident that the joint responsibility in one Minister for reforming the Public Administration and promoting Innovation (including technological aspects, but also a more general type of innovation) strongly helps in such dynamic approach[52]. After one year work and some concrete results it is worthwhile to describe the interventions implemented and the outcome resulting, as well as to present the current formulation of the dynamic action plan.

2. Actions taken in the crash program

2.1. Privileging relationship with customers

The starting point has been the identification of the customer expectations: citizens and enterprises are the customers of Public Administration and are be considered and treated as such.
To understand the customers, to involve them and to give them voice and weapons to defend their case is also coherent with the well known correction or (proxy) for lack of competition in public service area: transparency towards customers, voice to their complaints (or appreciations, if any), possibility for the customers to enforce their rights (such as class action) are the three more effective tools to limit the asymmetry (and not only in information) that is typical of the public service area.

NOTES

[52] The theoretical basis for this methodology are the "Exit, Voice, and Loyalty" approach suggested by Hirschman (Albert O. Hirschman. Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States. Cambridge, MA: Harvard University Press. ISBN 0-674-27660-4. 1970) already in 1970, together with the theory of constraints introduced by Goldratt (Eliyahu Goldratt. Essays on the Theory of Constraints. ISBN 0-88427-159-5 , 1987) that puts emphasis on continually achieving goals within organizations and with the focus on networks as an instrument to govern organizations suggested by more recent experiences (Stephen Goldsmith, William D. Eggers. Governing by Network: The New Shape of the Public Sector. Brookings Institution. 2004).

Correspondingly, through outsourcing and more general cooperation with private sector, some steps have been taken (and other steps are planned) to promote any possible multiplication of players as a proxy to competition. This applies more easily to those phases of the service chain such as the initial request or the final delivery for which there is no substantial (nor legal) obstacle preventing delegation of responsibilities to operators properly selected in the private sectors, such as mail service, wide distribution or any kind of locally distributed networks (in the relational meaning of this expression not mainly in its connectivity meaning as it will be discussed later). Such a virtuous networking can be extensively and fruitfully implemented only if an adequate infrastructure is available for connectivity and for interoperability of ICT applications. Fortunately this is the case for Italy where different communication networks for ICT are generally available, starting from the so called SPC (Public Connectivity System) devoted to Public Administration in operation since several years and recently improved in the portfolio and in the level of services available.

The positive outcomes of customer relationship management extend beyond the direct field of information on needs and expectations of customers compared with the level of performance level of different branches in the administration. Besides that, if customers' expectations are understood and met, participation activates public consensus on the reform, which is not only a prerequisite for success at political level, but also generates a sort of social pressure of the public opinion directed to public employees on their behavior, as well as on the effectiveness and the efficiency they achieve.

The specific operational tools adopted have been:

Reti amiche (Friendly Networks): to ameliorate access by users to services produced by Public Administration, operators also in the private sectors such as post-office, pharmacies, tobacconist shops already interconnected via their networks have been interlinked with ICT platforms of P.A.; consequently not only the number of points of delivery has been expanded and the distribution has been improved, but also elements of competition have been introduced to stimulate efficiency and courtesy; since advantage is taken of existing premises, additional cost are very limited; interaction being played between customers and operators, besides enforcing the concept of governing through networks already mentioned, exploits an example of developing the well known relational goods since assistance, confidence and advice play important role.

Linea amica (Friendly Line): the contact centers (exploited either by phone or digitally) of the different branches of Public Administration, including local level, have been connected in a single network for relations with customers: the purpose is to have an easy and fast tool to obtain information to signal poor quality in service and also to obtain assistance in the solution of concrete situations.

Emoticons: customers of public administration addressing contact points of the public Administration (be them physical counters or digital contacts such as portals or contact centers) are given the opportunity to express their degree of satisfaction by simply pushing one of three buttons of different colors (green yellow and red) in correlation with a specific interaction just experienced; in this case the type of involvement is a mix of participation and feedback which is highly appreciated by users; precious information are also given to management within Public Administration pertaining not only to evaluation, but also to organization and staffing aspects within each structure.

The implementation of a communication campaign towards public opinion has been vital. Newspapers, weekly magazines and mostly television (not only advertising based on presentation of concrete new opportunities, but also presence in talk shows and information programs) have been used to inform and mobilize public opinion as well as to motivate the more serious, cooperative and self-estimating share of public employees tired of suffering illogic rules and lack of attention amongst the decision makers at political level. The impact of the so called network community to promote and monitor positive effects should not be underestimated: on the contrary social networking it's already active in this realm and is expected to expand its involvement and effectiveness.

The context of financial and economic crisis presently to be faced has caused a particular sense of urgency within public opinion in general and economic operators in particular mostly when effects have started to be perceived in the so called real economy. The attention of public opinion is enhanced by two motivations. On one side reduction of inefficiency in public administration is felt as even more necessary in emergency conditions also to generate, through savings, public resources for investments to stimulate economic recovery and welfare expenditures.

On the other side, the expectation for new initiatives of public intervention in economy to facilitate recovery from the crisis conditions demand a timely and efficient capability in public administration as a prerequisite for the resources to be effectively allocated, distributed and monitored in their impact. Such an attention by public opinion can be considered as a wide perception of the relevance of the concepts that are the basis for quantification and exploitation of public value. It's evident that concentrating attention on the creation of public value is fully coherent with the choice of giving priority to the achievement of concrete results that has been the guide principle in the conception and the implementation of the reform presented here.

2.2. Reengineering the administrative processes

Attention to the services expected by customers has been also a guideline in the redefinition of processes, emphasizing the demand driven approach. Both streamlining of rules and improvement of software solutions have been oriented, in terms of priority and technical choices, in such a way as to facilitate the delivery of services to customers.

In the context of manufacturing industry it's obvious that the production process is instrumental to the products to be delivered; accordingly, production processes are considered a tool and not a value per se. On the contrary in the Italian Public Administration, as it has been operating until recent years, the attention has been put on formal respect of rules as if this the "accomplishment" were the goal. As an evidence of such a distortion one should consider that a large fraction of the so called objectives assigned to public managers in a MBO type of rewarding system (unfortunately only formal) has been for years frequently formulated in terms of ensuring the enforcement of procedures. Not only the objectives were frequently formulated in a vague manner and only lightly correlated to real results from the view point of the customer, but, even worst, the maximum amount of potential prize has been awarded to all possible beneficiaries. The cultural revolution being pursued is to enforce the achievement of results as the priority. This enforcement is ensured trough evaluation, incentives or disincentives, and social pressure, besides juridical obligation). While the respect of formal rules must be considered as a prerequisite and not a goal.

Another boundary condition strongly limiting the performance of Public Administration in Italy is the fragmentation of duties and powers amongst a multiplicity of unit organizations reporting either to a variety of Ministries in Central Government or to a multiplicity of Administration levels such as Region, Provinces and Local Authorities. As a consequence, managing such a constellation of roles and fostering cooperation is a more realistic approach than devoting time and intellectual resources to the endless and not always fruitful exercise of "optimizing" the repartition of duties. Modularity, standardization, interoperability become decisive criteria in such a context to orient process reengineering.

In this area the starting phase has been characterized by a series of priority actions dealing with interventions having mostly a value of start-up and stimulus such as: implementation of transparency; reduction of absence due to illness; prizes and networking for best practices; reduction of detachments for trade-union activity; renewal of economic conditions of work contracts in public sector.

As already mentioned the basic criterion for the selection of these actions has been the expected impact on communication strategy, in view of a mobilization of public opinion. But also a bunch of other criteria have been considered such: as cost effectiveness; viability within the existing juridical framework, or necessity of only limited modifications in this framework; possibility of a realistic monitoring of the effects through measurable indexes. One peculiar selection criterion has been the potential of such actions to sample and calibrate further interventions of a more systemic nature to be implemented in the second phase.

2.3. Exploiting available technological assets

Advantage has been taken of the widely accepted experience that coupling actions of technological innovation with actions on innovation in organization and processes dramatically enhances the positive impact of resources devoted to the change intervention.

The starting approach to foster the exploitation of technological tools available within Public Administration has been along three lines:

- Selection of the most relevant best practices even if of limited extension.

- Networking of such valuable experiences.

- Removal of obstacles of different nature (mostly non technical) jeopardizing diffusion or limiting the real impact of best practices.

As a result of such an analysis technical rules have been issued recommending the adoption of the most promising solutions. The characterizing criteria in formulating technical rules have been:

- Standardization of interfaces and data flow with the purpose of ensuring interoperability and implementing metadata.

- Flexibility but within standards to ensure compatibility.

- Modularity in the construction of complex software applications.

- Priority to front-office and to real back-office (i.e. what is strictly necessary to feed front office with services) reducing money spent on application for internal resource management.

Special attention has been given to two interventions considered of high priority to create a network interlinking customers with the Public Administration and different offices of the Public Administration among themselves:

- Electronic mail address to all Italian citizens, with full legal value on a voluntary base for relations between citizens and P.A.

- Compatible platforms for document flow in the different administrations not only to facilitate exchange of data and documents but also to synchronize the handling of administrative procedures in those cases, very frequent in Italy that require the contribution of several administrations to handle even a simple bureaucratic fulfillment.

Document flow systems are to be seen also as an "entry point" to two key aspects of performance within Public Administration:

- Measurement of response time as a proxy to efficiency in particular by comparing different results in similar conditions.

- Workflow analysis resulting from document flow not only as a tool to asses administrative processes being operated in reality and to evaluate people and structure, but also as a tool to improve processes with a pragmatic approach.

Reduction in the use of paper, improvements in timely response, reduction in transportation needs are among the obvious advantages of such interventions. Quantitative estimates of value generated (mostly through savings but not only) are being performed also as an argument for expanding investments in e_government.

3. Integrating the action lines and creating synergy

A consequent step after the crash program has been attention to the construction of a more systematic mosaic taking advantage of all possible synergies and implementing all different aspects of a change in Public Administration that can be considered to have all the stigmata of a cultural revolution. In Actually, steps toward integration have been taken already during the activation phase dedicated to the crash program.

3.1. Establishment of a cooperation framework at institutional level

It appeared soon self evident the necessity of establishing a network of Bilateral Framework Agreements between the Minister for Public Administration and Innovation and any of the other main Institutions composing Public Administration in Italy. Only through such Agreements it is possible not only to obtain the necessary consensus, but also to take advantage of different experiences already gained, to better exploit available resources and to facilitate the implementation of the actions being pursued.

Bilateral agreements have already been signed with other Ministers in charge of key sectors such as Justice, Education University and Research, Cultural Heritage corresponding to major basins of demand of ICT services.

Similar bilateral agreements are been signed with the Presidents of Regions, entities in charge of a wide range of services of major relevance to citizens such as in the health services area.

At the same time attention is given also to Municipalities ruling large towns through specific agreements the importance of which is motivated in particular by the circumstance that Municipalities often are charged of front office functions also for services provided by other Administrations.

Joint definition of priorities and sharing of resources are the basic purpose of such agreements the application of which are confided to Joint Management Committees in charge of defining and realizing Application Programs on an annual basis.

Coordination and governance of such network of Agreements is among the responsibilities of the Minister of Public Administration and Innovation but it is also, when the relevance of decisions to be taken suggests it, the Council of Ministers (or a special subcommittee of the Council of Ministers named Council of Ministers for Information Society) is involved. Advantage is also taken of the contribution given by the so called Unified Conference which is chaired by the Minister for Relations with Regions and gathers the Presidents of Regions together with representatives of Provinces and Municipalities.

3.2. Identification and implementation of values and rules

A comprehensive approach has been simultaneously pursued at legislation level. Principles to be followed have been identified by Parliament in a recent law which gives the Minister the power to reform basic rules in public Administration through a set of Decrees recently issued.

In the relationship between customers and Public Administration the reference value is Accountability of Public Administration in assuring expected performance and justifying the use made of resources allocated.

Having raised expectations and having activated involvement has overcome start-up friction. But now steady state friction and resistance to motion must be won and potential thermalization must be avoided to prevent entropy increase. The success of the next phase of implementation and diffusion of new rules and roles will depend mostly on four factors:

•   Keeping public opinion mobilized and willing to participate.

•   Reaching critical mass in terms of concentration of resources (including attention by decision makers and visibility in the media) on "cases" of symbolic nature besides their real impact.

- Systematic enforcement of the novelty framework through the well known methodology of change management actions deployed in real situations; the feasibility is enhanced by social networking tools and by the introduction of some wikipedia techniques (bottom-up contributions by a registered community on a consensus basis but with some guidance).

- Construction and promotion of concrete feedback effects i. e. good practices identified and rewarded not only through allowance of incentives to group of individuals but also through allocation of additional resources for the development of activities is felt as even more important.

In the relations within Public Administration (the relations between political decision makers and public employees at different level of responsibility) Integrity, Compliance and Acknowledgment of Merit may be agreed as general values.

Integrity is of such high priority that could be considered as a prerequisite. It's enforcement must be given specific attention within Public Administration. In the implementation advantage is taken by integrating and coordinating actions aiming at promoting and controlling integrity with those dealing with transparency and evaluation.

As far as compliance and acknowledgment of merit are concerned (which are strictly correlated) four action lines (that could be considered general objectives) must be implemented:

- Formulation of expected results being realistic and specified through measurable deliverables.

- Allocation of results coherent with expected results and reliable and more in general identification of other success conditions, or even feasibility conditions (such as authorization by external entities, or modification of existing rules).

- Independent multiplayer evaluation to verify compliance.

- Enforcement of incentives and disincentives as a result of evaluation.

In this context the accomplishment of procedures must be considered as a boundary condition and should loose the emphasis received until now, such a strong emphasis that accomplishment has been deemed, as it was already said, a sort of value per se.

Transparency (full communication of data on the behavior of Public Administration and the decisions adopted) is another important general objective simultaneously valid for several values: obviously for accountability but also for compliance and integrity.

Accountability approach is based on customer satisfaction and on the possibility for users to express their judgment.

The Decree presently being finalized deals with:

- Citizen rights and in particular the introduction of class action to obtain juridical protection against inadequate performance in public services.

- Rules on rights and duties as well as expected performances and prize and sanctions with particular attention on.

- Procedures and boundary conditions for negotiation of collective contracts in the public sector.

- Special provisions for intermediate and top managers in Public Administration.

- Principles rules and procedures for disciplinary sanctions.

- Measurement and evaluation of performance as a tool to improve organization quality, employees skills and their motivation through incentives and disincentives as well as to enforce transparency in behavior and results registered in Public Administration including wide communication of the outcomes to stake holders and public opinion in general.

In order to ensure the necessary tension on such critical issues the day by day engagement on pragmatic issues must be coupled with a corresponding attention on high level principles and values. To this purpose is under way the formulation of a bill of rights of citizens (and correspondingly of duties of public employees). The novelty is basically the expression of rights that go further as compared to correctness and pair term conditions to include also the right to obtain concrete results in the terms specified by law (safeguard on achievements to be obtained not only on procedures to be followed). According to present Italian law there are already provisions of rights in terms of guaranteed results for basic issues such as health or education. Other norms introduce generic rights for categories of citizens mostly in terms of protections against uneven conditions potentially undergone but there is not, until now, a general safeguard for the right that Public Administration deliver timely and adequately what laws foresee in favor of citizens. This subject is closely related to the issue of "relational goods" which is experiencing growing attention in the realm of a widespread interest and involvement in networks of many kinds, most of them intrinsically of relational nature.

Such concepts have come to the attention in last decades and are not uttered explicitly in constitutional principles. Consequently, proposals are being examined for a possible formulation to be introduced in the Italian Constitution to expand the provisions for citizen rights in this direction. The value if such integration would be not only a symbolic signal but also an anchor for consequent more punctual applications in concrete rules.

3.3. Integration and convergence in technology and operation

From the ICT standpoint three macro-objectives have been identified as a priority to implement the considerations presented above:

- innovation in services to customers which encompasses improvement in diffusion and friendliness of services already being offered as well as establishing new services;

- improvement of performance in the exploitation of available resources (financial, personnel logistics) but also in the identification structuring and sharing of knowledge, a new type of resource widely underestimated in its potential value;

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- enhancement of the technological level in the infrastructure encompassing the different aspects (from broad band to multichannel fruition and extensive use of VOIP and video conference through Internet Protocol); the novelty in this field should be a better integration between R&D and real large sede application (less prototypes and more implementation in demonstration cases of large potential impact);

- intensive use of Public Private Partnership in improving technological infrastructures and information systems.

In application of these priorities, 80 concrete projects aiming a tremendous step forward in the implementation of digital government have been formulated in agreement with all interested parties. The time span is different for each project, whilst the general target is fixed for the end of the year 2012: hence the name "e-gov 2012" given to this program adopted by the Council of Ministers and in which also the Prime Minister is personally engaged.

A significant improvement in comparison with previous attitudes in the Italian Public Administration has been the adoption of monitoring techniques for the implementation of the projects in e-gov 2012, introducing project management features typical of large industrial engagements such as plant erection. More generally, in the decision and implementation of new investments attention has been extend to encompass, besides ex ante evaluation of attractiveness and feasibility, both in itinere and ex post evaluation, aiming at ensuring achievement of results, keeping time schedules and avoiding cost increase.

Improvement of e-Government Services in Croatia

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The Republic of Croatia has prepared the State Administration Reform Strategy that was adopted by the Government in spring 2008. Basic elements of the Strategy represent the adoption of principles of good governance in line with EU standards, improvement of the legal system, provision of better services due to a modern, professional and trained civil service, simplification of administrative procedures and establishing e-administration. The responsibility for the implementation lays with the Central State Office for Administration.

The Strategy has given great importance to the development of e-Government. The responsible institution for the implementation of e-Government is the Central State Office for e-Croatia.

The Central State Office for e-Croatia has coordinated activities in the field of e-Government trough the Program of e-Croatia already from 2003 on. All activities that are prepared in all central state bodies were collected and systemized.

That generated a good overview on what was going on in the field of e-activities. It has to be said that Croatia has developed a large number of e-Government services during the past years. Just to mention some of them: e-Company, IS OSG, e-Tax services, e-Pension, e-HealthInsurance, e-Cadastre, e-LandRegister. They were elaborated last in last years edition of Eurospace.

The services are very useful to the citizens and businesses. On the other site all central institutions have a good IT infrastructure.

At this moment the developed e-services are mostly:

• Developed by one institution and cover the responsibility area of one institution.

• Developed to give information to users.

But the beauty of e-Government is the possibility to develop services that are more complicated and more demanding on the system while interconnecting different services of different institutions and therefore more user friendly to the user, the citizen or the business entity.

Having that in mind the Central State Office for e-Croatia has organised a working group with the task to analyse the current situation in the specific area and to make a proposition for a strategy that will represent the basis for the future development of integrated functions.

The work started in autumn 2008. The Strategy for the Development of e-Government for the Republic of Croatia for the Period 2009-2012 was finished and adopted by the Government of Croatia in January 2009.

The Strategy defines e-Government as an infrastructural transformation of the functioning of state administration bodies by using the information and communication technology to direct the business activities of the public administration versus the users. That requires a permanent adjustment of the legal and technological framework of state administration bodies with the goal to reach better effectiveness, more rational use of the budget and services of higher quality.

The Strategy defines ten basic principles for the development of e-Government.

- The first principle is the principle of equality. All services and information have to be accessible to all users having in mind their specific needs.

- The existing services of the administration will not be abolished. The existing services will be reduced as the number of users of the new services increases.

- The existing non electronic services of the administration can not be revoked until all users, even potential users have the access and knowledge to use the services of the electronic administration.

- The development of new services has to be based on ICT and the access to the services has to be based on different easy accessible channels.

- The information that is publicly accessible via electronic services has to be structured and delivered in a way that is simple, understandable and that grants free access.

- All information is entered just once into the e-Government system. All subjects that need the information have to communicate trough an open communication format and will get the specific information if it is in accordance with the legal framework.

- All forms of electronic recording (electronic documents, web based forms, web pages) of the administration have to be in a format that does not oblige the user to purchase commercial products to get a service.

- The basic technology for the development of electronic services has to be independent of the manufacturer of products and services regarding computers, networks and software.

- The security and reliability of developed e-services has to be in line with adopted standards for information security and legal standards for the protection of personal data.

- The electronic services have to be supported by professionally trained experts. All employees have to have an appropriate level of computer skills in accordance with the European Computer Driving License.

Key Elements of the Strategy

The Strategy has identified:

- The information and communication infrastructure.

• The data/information and documentation basis.

• Electronic services accessibility.

• Human resources.

as key elements for the development of e-Government.
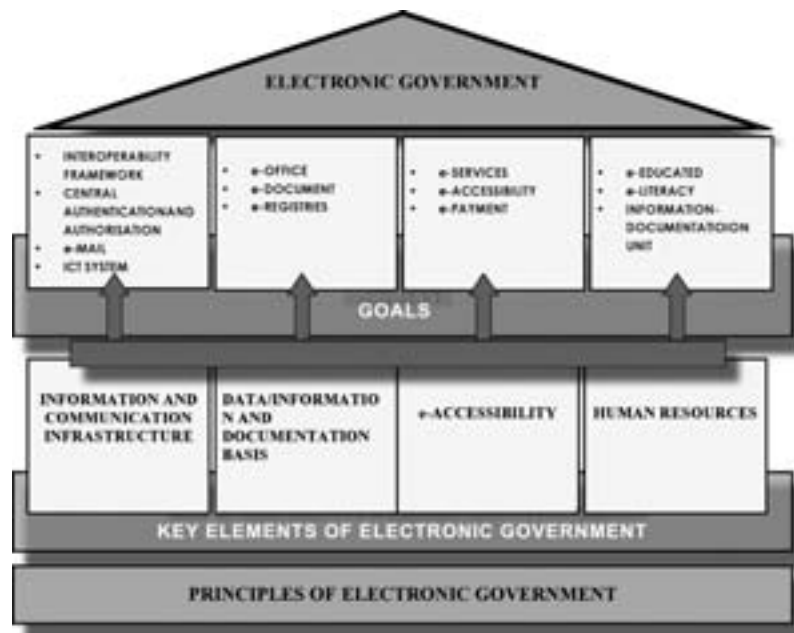
The Information and Communication Infrastructure

Evaluation of ICT Resources in State Administration Bodies

The Strategy implies a standardization of the planning, procurement and maintenance process for hardware/network components as well as for program solutions. It will start with a detailed inventory of existing computer systems.

The basis of an interconnected electronic administration represents a secure, reliable and effective information and communication infrastructure. The HITRONet network has been developed as the backbone to interconnect all governmental institutions. It is based on the Internet environment with a virtual private network model. The network has to be evaluated especially from the aspect of information security.

Authentication / Authorisation System

The interconnected ICT environment enables the exchange of messages and information between users.

That requires a secure identification and authentication model where it is possible to uniquely identify all participants in the electronic communication. For that a central identification/authentication and authorization system will be put in place that will enable the identification not only of users but of civil servants too. At this moment the identification/authentication and authorization method is in the responsibility area of each application developer.

Interoperability Framework

The interconnected environment requires standards to be put in place. The communication has to be based on interoperability standards defined on the process, semantic and technological level. The interoperability framework will be one of the most important outcomes of this Strategy.

Efficient, Secure, Understandable and Simple Environment for eServices

It is important to create an efficient, secure, understandable and simple multichannel environment for electronic services of all public bodies including the delivery via internet, mobile phone, digital television and the support for the information agent.

Secure, Reliable and Legally Defined eMail System

The precondition for a successful communication between the state administration bodies as well as the communication with costumers is a secure, reliable and legally defined electronic mailing system.

The Data/Information and Documentation Basis

Introduction of an Unambiguous Electronic Document Management System

The products of the administration are documents. Data and information incorporated into documents represent the basis of all activities of the state administration bodies regardless of the way they are conducting their businesses (electronic or non-electronic).

To consolidate that area the introduction of an unambiguous system for the management of electronic documents based on the experience of countries with good practises in this field is foreseen.

The goal is to prepare a unified system for the exchange of documents between all stakeholders regardless if the document is sent as an electronic form or as a formless document.

Harmonisation of the Legal Framework

The legal framework for this represents the Law on electronic document (NN150/05), the General Administrative Procedures Act (NN 47/09), the Regulation on Office Transactions (NN 7/09), the Law on Data Protection (NN 79/07), Law on Information Security (NN79/07) and the Law on Electronic Signature (NN 10/02, 80/08).

Register Management Based on ICT

The Strategy will define all activities needed to build, manage and maintain central basic registers based on ICT. It will define standards for connecting registers with other registers that have a legal basis to use the contents of the central registers. This will ensure not only the accuracy of the registers but also good management of data of the central state bodies. In addition it will be possible to access data needed for the administrative proceedings.

One Time Data Entry Principle

The goal is to enter data just one time and to make it accessible trough ICT solutions to all interested parties that have legal basis. To achieve the one-time data entry principle all personal data like gender, name, birth data and nationality regarding natural persons will be used from one source with a unique record structure and encoding system while the data on birth place will be adjusted with the spatial units register. The same applies to legal persons. Their name and business activity, headquarters (harmonised with the special register), with data on natural persons have to be used from one only source in the state administration.

Accessibility of Electronic Services

Access of Existing ICT Supported Services trough All Available Communication Channels

Public information and data as well as services have to be accessible trough all technologically available and acceptable communication channels in any time from any place for all citizens regardless on gender, age, education, social group, financial capacity or any other specificity.

The system of e-Government is visible trough interconnected electronic services open for use trough the Internet and other communication channels. The most important characteristics are accessibility, security and reliability, expandability and interoperability and the technological independence.

Planning of Electronic Services in Accordance with the Legal Framework

Every service has to be developed with defined goals that have to be achieved and in accordance with the legal framework that ensures the legal protection of the users of e-Government services.

Application of Standards in Electronic Services Development

Standards will be defined that central state bodies will be obliged to use while developing e-services.

Insurance of Acceptance of International Methodology for e-Services Evaluation

The whole cycle of e-services, development, introduction and use, has to be measured and indicators have to be set with a goal to analyse the success of the services, the satisfaction of the users as well as the financial efficacy.

Human Resources

The development of electronic services is based on technological solutions and technology is very important. But there is much more needed to introduce electronic services in the administration.

The most important component are people – civil servants that understand on one side the technology and on the other the business rules and requirements. Therefore the success of the electronic administration system depends on the qualification of the civil servants.

Insure the Needed Level of ICT Literacy and Skills of Civil Servants

The basic scope of e-literacy is based on the needed level of knowledge and skills in managing electronic data and documents as well as in designing and supporting electronic services.

Civil servants have to be trained to understand how to develop simple, understandable and technologically neutral solutions. On the other side the users have to be trained to be able to use these new services.

The civil servants have to be educated not only in using ICT in their work but also in analysing processes and designing services.

Organisational Support for e-Government Development in Central State Bodies

The Strategy defines the need of the formation of Information-Documentation Units in state administration bodies. The Unit should consist of the Registry Office, the IT supported point for administrative proceedings, the centre of the information officer as defined by the Law on the Right to Access Information (NN 172/02) and the security officer as defined by the Law on Information Security (NN70/07).

The goal is to integrate the activities of ICT, the activities of giving information and the activities of managing documents.

Creation of Special Remuneration System for Civil Servants in ICT

Having in mind the complexity of activities and the professionalism needed of civil servants working in the ICT and e-Government area a special evaluation and remuneration system should be developed.

Information for the General Public on eServices

It is necessary to evaluate the acceptability of existing e-services and to define the needed level of knowledge and skills of the users. Then a unique model for informing the general public on basic rules in using ICT and the Internet in the domain of e-Government has to be prepared. Workshops, seminars and general information in media about e-Government solutions should be conducted. The close cooperation with NGOs is strongly recommended.

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Management and Supervision of the Implementation

The implementation will be managed on the strategic and operational level. The National Council for Information Society will act on the strategic level in disseminating knowledge on the importance of ICT in achieving a knowledge society, in preparing a dialogue between the public and private sector, in recommending measures for the development of the information society of the Republic of Croatia and in discussing planned and finished projects in the framework of this Strategy. Members of the National Council for Information Society are representatives of academia, business and administration.

On the operational level a team of coordinators on the highest operative level will be nominated for every institution. Their task is to report to the Central State Office for e-Croatia about the activities regarding the implementation of the Strategy.

The strategic management and the operative implementation of this Strategy will be performed and evaluated by the Central State Office for e-Croatia with a contiguous supervision of the Government of the Republic of Croatia.

Evaluation of the Implementation

The evaluation of the Strategy will be based on reports that the Central State Office for e-Croatia will prepare every half year. Every year the implementation will be evaluated and the Central State Office for e-Croatia will prepare guidelines for the improvement of the Strategy for the adoption of the Government

Conclusion

The whole Strategy has been transposed into more then 64 measures that have to be implemented by explicitly defined institutions. A Task force has been set-up. Officials of central state institutions are members of the task force. It is expected that the implementation of the Strategy will make it easier to prepare and implement new interconnected electronic services.

ICAR: Interoperability and applications cooperation among italian regions

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1. ICAR Project Structure

ICAR (Interoperabilità e Cooperazione Applicativa tra le Regioni e le Province Autonome) is setting up and testing the shared technical infrastructure for applications cooperation among Italian regional authorities, following the national standards defined for the development of the so-called Sistema Pubblico di Connettività e Cooperazione, SPC (Public Connectivity and Cooperation System).

The SPC model is that of a "light SOA" based on three pillars:

- Formalisation of service agreements, which makes it possible to define not only interfaces, but also behaviours, service level agreements (SLAs), security requirements and linkages with domain ontologies.

- Definition of a federated identity and access management system.

- Definition of metadata (the object of cooperation), semantics and domain ontologies.

The ICAR project (25 M? budget) is co-funded with 9,5 M? by Centro Nazionale per l'Informatica nella Pubblica Amministrazione, Cnipa (National Centre for IT in Public Administration), within "Line no. 1" of the second phase of the Italian e-government plan for regional and local authorities. ICAR's participants are 18 Italian regions (out of 19 altogether) and the autonomous provinces of Trento and of Bolzano.

ICAR aims to overcome the current situation where administrations manage and exchange among them digital information organised and formatted in many different ways, leading to slow information transfer and huge needs for data control and corrections, hence additional costs for the public administration and (unnecessary) requests to citizens and companies to provide their data again and again to public offices.
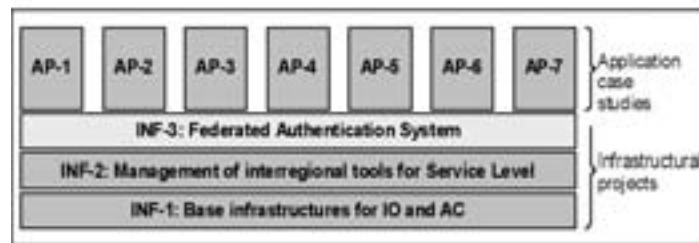
Figure 1: ICAR's sub-projects

ICAR's specific objectives are organised via ten different sub-projects; three infrastructural projects and seven business application projects (see figure 1).

The infrastructural projects address:

• The physical and logical infrastructure for IOP at interregional level.

• The management of SLAs.

• The implementation of an interregional federated authentication system.

The business application projects aim to test the quality of the IOP services within specific domains where cooperation among regional authorities is crucial: compensations in health services, civil registration services, job and employment services, regional car taxation and others.

Each sub-project is coordinated by one leading Region and developed by groups a variable number of Regions/Partners.

1.1. The infrastructural projects

These tasks are the ground on which all the IOP and application services cooperation system are based.

INF 1 "Implementation of the base infrastructure for IO and AC at interregional level"
The first infrastructural task develops the technological infrastructure on which all the regions could cooperate in order to implement a system of information exchange involving different fields, such as: health system, demographic information system and data, employment, fling system, statistics fuel distribution system and car tax.

INF 2 "Service level agreement"
It aims at defining common and shared services for the management of SLA tools needed for the constant monitoring of the service levels achieved;

INF-3 "Implementation of an interregional Federated Authentication System"
It aims at defining and implementing a federated authentication system at interregional level.

1.2. The business application projects

AP 1 "Interregional cooperation and financial compensation in health services"
This task aims at enabling the cooperation among the health agencies of the regions taking part to the project. It guarantees a more efficient service towards citizens and a better communication and medical data exchange among regional health services.

It also provides a financial compensation flow at interregional level, when it occurs that a citizen gets ill outside the territory of the Region where (s)he lives.

AP 2 "Cooperation among civil registration services"
This task allows the circulation and exchange of private data pertaining to the regional registers of births, marriages and deaths. Thus, people moving from their towns of residence may get certificates or other services regardless of the geographical location of the front office attended for such request, in spite of the different systems.

AP 3 "Homogenous Organisational Area"
The case study regarding the homogeneous Organisation Areas it's in part an infrastructural task, since it provides the creation of a directory containing a list of information regarding the Local Authorities, such as URL address, certificated e-mail and service provision. The AOO directory, called IPA (Index of Public Administration) contains the e-mail address which turn out be the on-line access point to start administrative procedures.

AP 4 "Job and employment services"
It enables the exchange of job requests and offers among local regional office of labour.

AP 5 "Regional car tax"
It allows the testing of an interregional system capable to let citizens pay car taxes and create and update the public car registry.

AP 6 "Interregional Observatory of the fuel distribution network"
It provides the creation of an interregional fuel observatory related to the fuel distribution system and enable Regione and Autonomous Provinces to share statistical and technical data about the fuel consumption.

AP 7 "Interregional Information System with Cinsedo[53]"
The Interregional Information System enables the creation of statistics federated data-collection system with an only one on-line access point and it is based on the federation of the regional statistics information systems. This system supports the policy making processes of the Regional Authorities and the Conference of the Presidents of Regions and Autonomous Provinces.

2. Conclusion

The activities taken up, particularly as far as applications cooperation is concerned, are the results of a determined will to pay concrete attention to information technology systems, in consistency with the national trends of the Central Government, so as to assure quality to services and, in general, to the relationships between citizens and Public Administration, thanks to the exchange of data and the unitarity of administrative procedures.

NOTES
[53] The Interregional Centre for Studies and Documentation, CINSEDO, is owned by the Regions and the Autonomous Provinces of Trento and Bolzano and acts, among other things, as the support structure of the Conference of the Presidents of Regions and Autonomous Provinces.

2.1. Impact

The results from this project were: the compliance of large horizontal projects with SPCoop; the complete definition and publication of about 7 service agreements, and the beginning of the definition of other service agreements; the definition of the core of an upper ontology and of specific domain ontologies; the definition of metric for service-level agreement, the design of a SLA monitoring system and the reference implementation of all the components. Finally, an interregional federated identity model, not limited to the e-government services area only, who while leveraging on existing standards, may offer a new perspective on the convergence of user-centric identity and federation.

Main indicators of impact and results are the outreach of service provision and the effects achieved for agencies and other users. ICAR's impact is not easy to measure, as it will materialise differently in each Region, depending also on the business domain. However, short term and long term effects can be envisaged.

Short term effects have already emerged from the effort put by regional authorities into standardising and optimising the information systems and flows addressed by ICAR. This effort has also involved central government in terms of analysis and possibly revision of existing laws and regulations in order to make the above changes possible (this has happened, for instance, with the Ministry of the Interior which rules over the civil registration service, managed at operational level by each Municipality).

In the longer term, ICAR will benefit the millions of citizens and companies of the regions involved, along with over 10,000 public administration offices, thanks to the increased speed of data exchange and processing, hence reduction of waiting time, and to the improved "quality" of the data exchanged, with the reduction of a number of current shortcomings (e.g. disputes on inter-regional compensations for health services).

2.2. Lessons learnt

ICAR shows that a shared infrastructure to manage IOP at all levels of government is strongly needed and can be built, based on a light SOA and through a strongly concerted effort among all the partners involved. Its most important feature is the definition of a set of implementation specifications for an applications cooperation system, which are fully compliant with the Italian national standards in this domain and make it possible to develop further services for the enforcement of SLA's and the smooth functioning of a federated authentication system.

Besides, the model which is being tested in seven different business-application domains can be replicated with any other information flow currently existing among regions, regardless of the specific type of data being dealt with.

Finally the governance and strategic actions presented above represent the success element of this challenge; adopting a common infrastructure for interoperability and cooperation on the basis of solely technical solutions has proved unsuccessful in the past, conversely the use of a community approach to realize evolving versions of the framework and to create a SPC "culture" in the PAs seems a better solution.

ICAR project is the product of this challenge and can be shown as the concrete model of interregional coordination and created the basis for the development of new sceneries for interregional cooperation. Actually, if on one side, ICAR spread out the cooperation infrastructure on the territories, on the other it gave confidence to the inter-institutional cooperation on which new actions and projects can be based.

Moreover, ICAR developed a model where all the participants could establish cooperation, a tie between human and professional relationships at a formal and informal level. In substance, ICAR introduced a contact between personal motivations of each actor in the regional Public Administration and organizational objectives. As a model, ICAR can be transferred to any local public administration; while its implementation results can be transferred or extended only to other administrations which are involved in the information flows addressed by the seven application sub-projects. ICAR's general model could be transferred to any public administration system in Europe and elsewhere, addressing all the IOP layers (technical, syntactic, semantic and organisational).

Such a community is expected to be led by administrations, with the active participation of industries and universities. This also constitutes an enabling factor for the overall innovation process of the whole country. Other relevant success keys are the shared governance of the model and the shared infrastructure.

The SPC board assure the governance, having an high commitment by law and an high representative being appointed by Ministers or by the Assembly of local administration.

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Technology platform for the diffusion of information about the technological portfolio of Valencian public universities: COVATRI
(Valencia Region Research Results Transfer)

Technology platform for the diffusion of information about the technological portfolio of Valencian public universities: COVATRI (Valencia Region Research Results Transfer)

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Keywords

Management and knowledge transfer from Public Administrations. Technology platforms. Interoperability

Abstract

This paper has been researched as part of the author's bachelor thesis – directed by Professor Fernando Polo Garrido at the UPV and given public exposition on 30 March 2007.

The bachelor thesis was a comparative study based on benchmarking techniques applied to Research Results Transfer Offices (OTRIs) in public universities in the Spanish regional state of Valencia. The study being extended to a selection of Spanish public university OTRIs in the area of research results management.

As a result of the comparative study, management weaknesses were detected in the following areas: intangibles, processes, and users or results in society. Proposals for improvement were made – one of the proposals offering an interoperability solution involving the creation of a platform for technological information diffusion (COVATRI) by integrating the technological portfolio from public universities at a regional level.

It is worth emphasising that this proposal was included in a bachelor thesis which was awarded second prize by the jury of the Sixth Archimedes Introduction to Scientific Research Prize (VI Certamen Arquímedes de Introducción a la Investigación Científica) organised by the Ministerio de Educación y Ciencia in Spain in November 2007.

Three papers were produced from the bachelor thesis and submitted to the Tenth Conference on Modernising Public Administrations TECNIMAP (X Jornadas de Modernización de las Administraciones Públicas) held in Gijon, Spain, in November 2007. Two of the papers were accepted and published. One of these papers was published within the conference theme: 'Cooperation and Interoperability Schemes between Public Administrations' with the title: 'A technology platform for the diffusion of information about the technological portfolio of Valencian public universities: COVATRI.

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The above article was taken as a reference in the preparation of this paper – which includes a proposal for improvement and describes the background and methodology used in the analysis of the management of research results as applied by Spanish Research Results Transfer Offices (OTRIs). The advantages are then given for implementing the described technological platform. Finally, the conclusions are presented.

Introduction

Universities have historically developed roles of teaching and research – and in recent years a third role of knowledge transfer has been added. The concept of knowledge transfer can be defined as the process by which research results are transferred to various social participants. These participants form part of the 'systems of innovation'.

In universities, Research Results Transfer Offices (OTRIs) are the interface organisations that form part of the fabric of the university.

They are termed 'interface' because they serve as an axis for the transfer of information. The process of knowledge transfer is an important part of introducing ICT to society. OTRIs interact with various levels of users and these can be classified as follows:

•   Internal users: university community, especially teaching and research staff.

•   External users: private and public organisations and especially enterprises.

Starting from the comparative study of the management of research results by public university OTRIs and published in the bachelor thesis, the advantages are presented for the creation of a platform for distributing information about the technologies available from Valencian public universities. Finally, a series of conclusions are given relating to the proposed improvements in the processes of management and diffusion of the results of research and the university's role in transferring knowledge.

Background

In recent years, a theoretical framework has been under development for the implementation of electronic administration services based on the principles of interoperability and shared resources.

The information and knowledge society has given the opportunity for public administrations to better exploit the information they hold. The importance of knowledge management has meant that public administrations are giving increasing importance to their intangible assets by using management systems which enable this information to be converted into a knowledge environment on the web.

In Europe, the trend in recent years is to offer integrated services, with interoperability between administrations from local to European level in systems, content, and processes. These services are the key to creating pan-European services in which the risk of fragmentation caused by the implantation of new systems in the European administration is reduced.

Interoperability in services is not only useful for public organisations, but also improves the relations between public organisations – while citizens and businesses also benefit from the advantages associated with assimilation of the information society. These advantages include: reduced red tape, fewer bureaucratic processes, quicker administrative response times, and an improved economic environment – so encouraging competitiveness and, indirectly, regional economic development.

Recent research on knowledge management emphasises the importance of tools for facilitating the capture, conservation, organisation, processing, and above all, the distribution of knowledge. Knowledge which is currently dispersed can be transformed into manageable 'intellectual capital'.

An example of the establishment of communication networks between organizations for facilitating the sharing of knowledge is a proposal included in a World Conference on Science event entitled 'Science for the 21st Century' and organised by UNESCO in Budapest. The resulting Budapest Declaration (1999) made a commitment to create an international centre for scientific communication in London. This centre would coordinate world efforts to ensure that citizens can access scientific communication.

Methodology used in the analysis of the management of research results by public Universities

One of the main elements that public administrations can offer to encourage the information society is online public services – known as e-administration. Online service has been the starting point for the comparative study of OTRIs made in the bachelor thesis.

The study took into account aspects such as strategic policy and organizational culture, research activity, and management of the technological portfolio – and focused on the descriptive analysis carried out on two samples of research results management chosen from among OTRIs in Spanish public universities. The first sample consisted of OTRIs in the Valencia region; and the second sample was a selection of OTRIs from other Spanish public universities.

Some of the issues addressed in the Libro Blanco para la Mejora de los Servicios Públicos (a Spanish government white paper for improving public services) have been taken into account – for example, the promotion of quality management in public administration.

For public universities in the Valencia region, the management of research results through the Centre for Innovation, Research and Technology Transfer (CTT) at the UPV has been taken as a model. The interface used by the centre for the knowledge system is called CARTA Knext. This system generates a workspace on the web for managing research results and the diffusion of the technological portfolio.

The proposals for improvement have been included inside the strategic plan. Firstly, information flows in OTRIs have been defined in relation to managing research results.

The study of the information systems in OTRIs has enabled the identification of distinct areas of management, participants, and information flows – as shown in the illustration below.
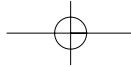
Once the information flows were identified, a strategic map was prepared of how OTRIs are organised in public Valencian universities in relation to the management of research results.
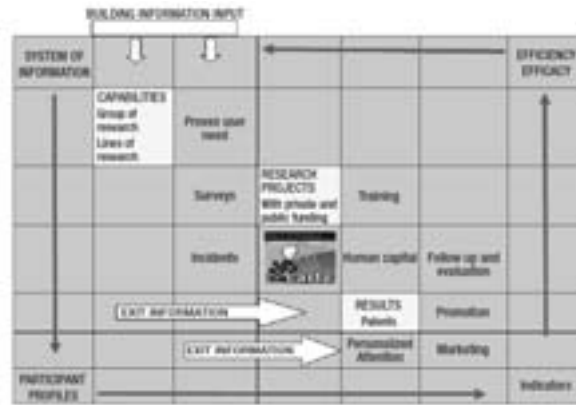
Figure 1. Information flows in OTRIs have been defined in relation to the management of research results. Source: Estrella CORRECHER JULIÁ (bachelor thesis) 2007

Four levels are shown on the strategic map below (adapted from the Robert Kaplan model): intangible assets; processes; users; and society. Associated objectives are also shown.
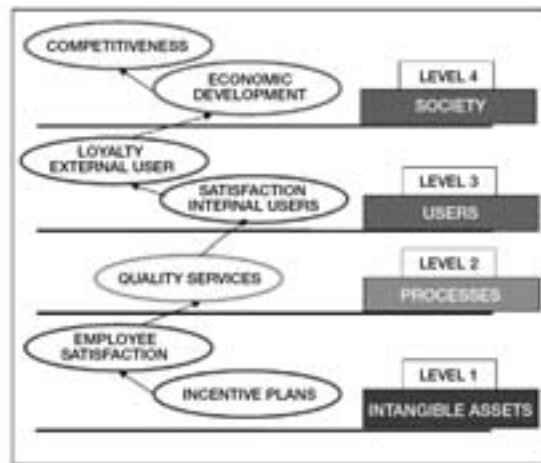
The objectives of the strategic plan with respect to the proposal for improvement are:

- Encourage communication, cooperation, and the interchange of information between OTRIs in public universities in the Valencian region – under the principles of institutional cooperation and interoperability between public administrations.

- Offer globalised information regarding the technological portfolio of Valencian public universities.
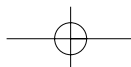
- Generate greater transparency regarding the management of research results.

- Create a standard in the process of managing patented research results.

- Transference of the CARTA Knext knowledge management system.

- Transfer knowledge to the various participants in the project: public university OTRIs in the Valencia region, cooperating organisations, the university community, enterprises, and society.

Description of the Proposed Improvement

Three phases have been defined for the implantation of the strategic plan containing the improvement proposal.

Phase 1. Homogenise the management process
This phase consists in adopting a process of homogenised management. This process will be used by the Universidad Politécnica de Valencia in the transfer of research results through the patents system (TRIP) which is the basis of the CARTA Knext tool (knowledge management system).

Phase 2. Distribute and maintain the management of the information
This is the transfer of the system of knowledge management to other OTRIs. In achieving this, OTRIs become more organisationally efficient, and consolidate the functions played by these interface organisations in university structures.

The maintenance of the system of knowledge management is aimed at implementing modules that widen the above mentioned workspace, and enable the proposed introduction of a platform for the distribution of the technological portfolio.

The modules will be the following:

Module for the integration in CARTA Knext of research project management processes
Currently, management of research projects is not integrated into the CARTA Knext workspace, and so the proposed improvement consists of creating a module in the CARTA Knext workspace for the integration of research projects resulting from the concession of external and internal research grants.

The management of projects includes various stages: preparation of the proposal, grant application, concession, development, justification, and project completion. The integration of this process in CARTA Knext would enable – via a web platform – the various participants involved in the development of each of these stages to provide information for the knowledge management system. Once the project management has passed through this module, it passes to a later stage in which the research results are assessed, and when necessary, protected with university patents.

It would be useful to obtain a repository of financed projects which have not produced patentable results – but whose results may help identify future lines of research to develop new projects.

Module for integrating CARTA Knext within a system for electronic signatures so that patent applications to the OEPM (Spanish Patent and Trademark Office) can be made using a payment gateway.

The management process in public universities for patent applications for research results is a set of services provided by the OTRIs and includes:

- Processing an application for legal protection of an invention.

- Monitoring of a file opened by the OEPM.

- Monitoring of the extension of a patent to other nations – either through the European Patent Office or the Patent Cooperation Treaty.

- Payment of the corresponding fees for maintenance of patents.

Currently, the CARTA Knext workplace does not enable patent applications to be made on-line to the OEPM, nor does it enable fees to be paid using a telematic payment gateway.

Payments to the OEPM can currently be made online without an electronic signature certificate. The OEPM incorporated the ESEOLF V2.10 information system in April 2005 through the application of EPOLINE OLF V2.0 from the European Patent Office and the World Intellectual Property Organisation (WIPO). This enabled online application for European patents through the Patent Cooperation Treaty or national patent offices – and means a more efficient and quicker service for users. The legal framework for the issue of applications for European patents via the Patent Cooperation Treaty was established with Spanish legislative Act 59/2003 of the 19 December which regulated electronic signatures. Applications for Spanish national patents are still pending the approval and publication of the rules that will govern on-line application procedures. According to the journal of the Patent Cooperation Treaty (number 03/2004 of 15 January), these rules will include the technical parameters necessary for online presentation.

Security for systems for applying for patents online and other online procedures is guaranteed with the advanced electronic signature – using digital Ceres Class 2 certificates with a cryptographic card for each individual signing online applications. This certificate is issued by the FNMTRCM (Real Casa de la Moneda – Fábrica Nacional de Moneda y Timbre or the Spanish Royal Mint – Spanish National Coin and Stamp Mint) and is compatible with other online identification applications developed for the OEPM, such as:

- Online payments.

- Trademark applications.

- European and Patent Cooperation Treaty applications.

- Appeals.

With this standardised system it is possible to offer a global environment for patent application through a trustworthy platform that enables interoperability between online and application systems.

The implementation of this system in the CARTA Knext workplace includes electronic signature services for submission of online applications to the OEPM. This is achieved by designing a module that includes a link on the workspace from which the online registrations can be completed for national patent applications (where this service is available), as well as international patent applications and extensions through the Patent Cooperation Treaty using the CARTA Knext knowledge management platform. Obtaining a corresponding FNMT digital certificate for the Universidad Politécnica de Valencia is also proposed as part of this improvement.

The architecture for the integration of a standards-based electronic signature and the implementation of web services is shown below:

Figure 3. Architecture for integrating electronic signature services into the platform for managing and distributing knowledge. Source: Estrella CORRECHER JULIÁ, (bachelor thesis) 2007.

As shown in the above diagram, on top of the framework of a front-office providing electronic signature services to the CARTA Knext platform, a back-office must be designed to run on web-distributed architecture. In this way, problems of interoperability are resolved between organizations if this module is implemented in other public Valencian universities. The designed interconnection should meet standards such as: SOAP, XML, WSDL, JAXRPC, among others.

Processes of authentication based on digital certificates and electronic signatures must be incorporated globally. Security requirements must be met for electronic signature services in the processing of patents and other documents of the OEPM.

The integration scheme for this module in the CARTA Knext knowledge management system is shown below:

Module for integrating the Searchy meta-search engine in CARTA Knext
The CARTA Knext knowledge management system does not have a meta-search engine. Information from various management areas is handled within the organisation, and the proposal is to share information from public universities in the Valencian region. Therefore, to integrate information from the various organisations, the creation of a module for including a meta-search engine, Searchy, in CARTA Knext is necessary.

This module would enable searches of the technological portfolio of Valencian public universities using web services based on the semantic web. This would facilitate the management of the large amounts of information and data that would be available in knowledge management systems after the implementation of CARTA Knext. Similarly, organizations would also benefit from the internal use of a meta-search engine. The benefits would also be extended to users within the university community, as well as

businesses and individuals accessing information regarding public Valencian universities on the web. In this way, knowledge can be managed in a manner appropriate to the needs each layer of users.

Figure 4. Implementation in CARTA Knext of the Ceres Class 2 digital certificate for online patent applications at the OEPM (Spanish Patent and Trademark Office). Source: Estrella CORRECHER JULIÁ, (bachelor thesis) 2007

Spanish public administrations are making an effort to increase the use of free and open source software – and the Ministerio de Administraciones Públicas (MAP) (the Spanish Ministry of Public Administration) in 2005 issued several recommendations to the Spanish state administration (Administración General del Estado) regarding the use of this type of program.

The rationale for implementing Searchy in the CARTA Knext knowledge management system is that an open source meta-searcher enables consultations to be made from various information systems and integrates the results. The main innovation of this meta-searcher is that the process is achieved in a distributed manner and takes into account an inter-organizational environment. It opens the information available in each organization to other organizations in a fairly simple manner. The exchange of information is achieved through the unified language of the semantic web.

The integration of a Searchy meta-search engine enables information to be structured for levels of user access – and still be viewed by other project users because of the reliability of searches made with the semantic web.

The following is an outline of how to exploit the opportunities offered by Searchy and the opportunity for sharing information between administrations and their various databases.

Module for managing enterprise requirements
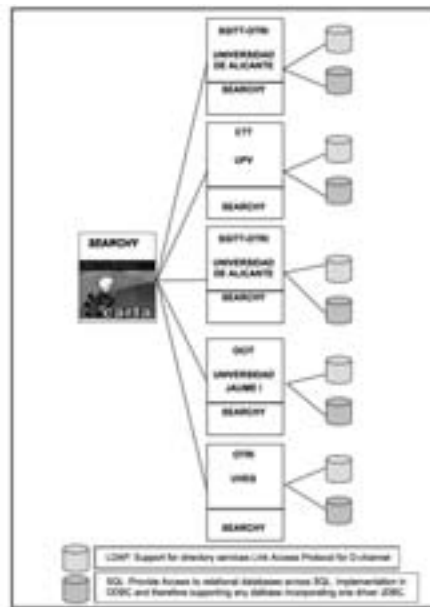
Figure 5. Multiagent design for Searchy im-plementation of the various information sys-tems managing research results in OTRIs at public universities in the Valencia region. Source: Estrella CORRECHER JULIÁ, (bache-lor thesis) 2007.

Reports show that significant income can be generated from the transfer of knowledge: the 2005 CyD Report produced by the CyD Foundation indicates that the Spanish university system is an important factor within the Spanish economy. However, despite the economic impact, there is a poor perception by companies of the contribution made by universities to economic development, and 80 per cent of companies have never worked with a university on a research project, nor contracted scientific and technical services. As a result, there is a need for greater transparency in the distribution of university research activity and results.

However, over the past ten years both universities and administrations have made a great effort in developing policies of transfer, entrepreneurship based on technology, or participation in scientific and technological clusters, as well as other examples.

Some of the factors that make technology transfer inefficient include:

•   Lack of awareness of technological portfolios.

•   An imbalance between technological supply and demand.

The recent reform of legislation regulating Spanish universities (LOU) stated that 'Universities must foster cooperation with the productive sector, as stipulated in Article

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83. To this end, they must encourage staff to participate in the creation of centres or mixed structures which actively participate in knowledge networks and technology platforms'. This requirement reinforces the need for the implementation of the proposed improvements to the current system.

Once integrated into Valencian public universities, the CARTA Knext knowledge management platform would enable improvements in satisfying the demands of users – and especially enterprises.
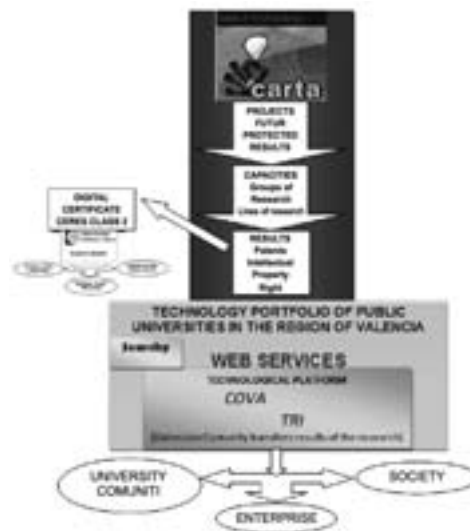
Figure 6. Design of the COVATRI (Valencia Re-gion Research Results Transfer) technological platform. Source: Estrella CORRECHER JULIÁ, (bachelor thesis) 2007.

The implementation of the module for managing demand from companies would provide a strategic approach to the diffusion and marketing of the technological portfolio of universities. Companies mainly from the Valencia region would have access to web services showing the portfolios of universities and public research bodies – without the need for multiple searches in various organizations.

The implantation of this module would offer benefits for the use and marketing of university patents at a regional level.

This module would be open to enterprises but their access would be limited to just certain areas of public information contained in CARTA Knext, such as:

• Information on technological portfolio.

• Research groups (non-confidential information).

• Research lines (non-confidential information).

The platform should enable enterprises to register and obtain a user code.

This would be achieved by implementing the XML Key Management Protocol platform for web services, and distributing public keys. To obtain a public key, firms must complete a web form with basic data.

Phase 3. Institutionalization of the management of knowledge

The creation of the technological platform COVATRI (Valencia Region Research Results Transfer), based on CARTA Knext, would take place during this phase – together with the integration of the modules proposed above and the participation of the public Valencian universities as implementers and the regional administration as financial backers of the project.

An outline of the completed design of the COVATRI technological platform is shown below.

Advantages of implementing the Technological Platform (COVATRI)

The advantages of distributing the CARTA Knext knowledge management system among public universities and integrating the technological portfolio of public universities into COVATRI are summarized below:

Functional advantages for OTRIs

- Simplification of user interaction with OTRIs by using adequate channels.

- Generation of new services that mean greater added value for OTRIs.

- Personalized treatment for users, agencies, businesses, or university staff.

- Use of an interface tool for achieving objectives related to technology transfer, and featuring:
  - Single point of web access for enterprises.
  - More rational management of the technological portfolio so facilitating diffusion in the region of Valencia and beyond.

Advantages for research results management

A single platform will combine the following processes:

- Research project management.

- Research results management using the TRIP patent process.

- Management of research results protection.

- Marketing and diffusion of the technological portfolio.

Advantages with respect to information management for participating organisations involved in the improvement

Through a workspace based on a network shared by several organizations, the public university OTRIs in the region of Valencia will enjoy the following advantages with respect to knowledge management:

- Greater access to information from each of the linked organizations.

- Avoidance of information inconsistencies.

- Reduction in work time.

- Recuperation of information with minimum noise.

- Online access to information.

- Greater fluidity of communications within each organisation – and between staff at OTRIs, research teams, and enterprises.

Conclusions

The proposed introduction of the COVATRI technology platform is based on the following concepts:

- The value represented by the spread of the CARTA Knext knowledge management tool, and the implementation of its various modules, is centred on the modernization of the involved organizations by incorporating a variety of services based on a single chart of telematic services.

- Globally distributing the technological portfolio through web services would provide an interface between universities and society, and improve the flow of knowledge and technology transfer.

- The needed support from the involved institutions, both in the performance and in the financing of these proposals, would provide an example of inter-administrative cooperation and help promote an innovative culture.

- Implementation of proposed improvements will transform the COVATRI technology platform into a channel which will facilitate the renewal of the industrial base, encourage competitiveness, and economic development at regional level.

Acknowledgements

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Open Innovation – the new mainstream for service innovation

Bror Salmelin,
European Commission, DG Information Society and Media

This article builds on discussions and actions from the context of Living Labs and Open Innovation in my work and represents my personal views on the "real European challenge" for the future, for our sustainable society both in economical and societal terms.

The article tackles the changed networked society, and the possibilities empowering citizens to innovate bring, but also addressing the challenge for the businesses to take advantage of the new ecosystems for innovative user-centric service society. Future is not what we extrapolate from the past, future is what we create, all, together now.

When setting the various elements together we can immediately see that the window of opportunity is now, in the middle of the crisis to shape something essential for the future. The European opportunity can be based on participative innovation for service convergence.

The technology revolution drives society

I draw your attention to the very interesting graph from C. Perez. She has, like many others set the technology revolutions, industrial revolutions and societal revolutions in time perspective. What is interesting to see is the cyclic nature of revolutions, and seeing that all of them have been following the trace from technology, industrial structures and finally throughout society. C. Perez however highlighted the collision between the innovation and deployment phase which we all can well also observe in the current crisis.
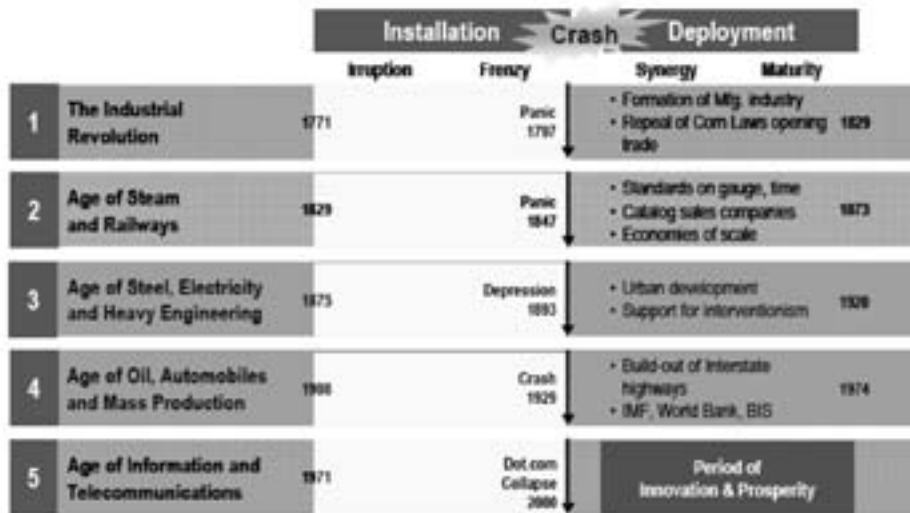
The current age of telecommunications needs to be seen as even more radical than the previous ones, as we are overcoming the distance and time barriers – the society is moving from a sequential and local society to a parallel and glocal society, with new structures and behavioural models. Due to this radical change we can not have any smooth transition to the new (like we did not have in the previous revolutions either) but it is likely that the clash will be unprecedentedly hard.

This communications and interactivity revolution changes the world towards an open world. The trends are clearly visible throughout the behaviour of the society. The new dichotomy reflects the philosophy of openness, and is affecting the societal attitudes, but moreover also the service innovation and business ecosystems behaviour in a radically new way.

The importance of developing participative innovation environments is well discussed e.g. by von Hippel in his book Democratizing Innovation, Surowiecki in his book Wisdom of Crowds as well as in the A.W Page report on Democratizing Channels of Communication.

Authoritarian		Individual Freedom
Top Down		Bottom up
Central Planning		Participation
Command & Control	⟹	Collaboration, Self Organization
Bureaucratic		Common Sense
Rigid		Flexible/Adaptable
Monopolist		Competition + Innovation
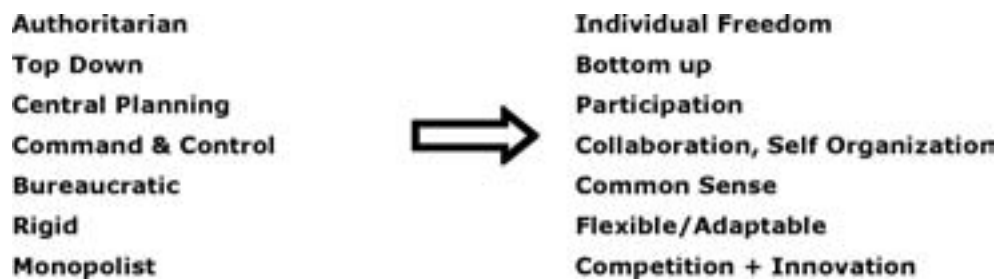
The same need for understanding the nature of change and the difficulty to adopt to it has also been highlighted in European high-level strategic documents, like the Hampton Court report where the need of demand-side innovation as well as the Lead Market initiative is presented to bridge the gap between technology and full scale take-up.

The same was also highlighted in the Helsinki Manifesto from 2006, jointly elaborated with the Finnish EU Presidency and the Commission.

It highlights the user-centric collaborative innovation as key for European growth, supporting the ideas presented by the IST research programme Advisory group ISTAG in its report in 2004, where EAR (Experimentation and Application Research) concept was presented. - to have the innovation happening in the real world.

Helsinki Manifesto says: " The European Network of Living Labs establishes a European platform for collaborative and co-creative innovation, where the users are involved in and contribute to the innovation process. This approach should ensure that common methodologies and tools are developed across Europe, that support, stimulate and accelerate the innovation process. The European Network of Living Labs has a strong regional growth and development impact by facilitating and fostering regional innovation as interlinked with a European Innovation System with a global reach."

The ENoLL network has developed from the original 20 sites to a wide 150+ sites covering well all regions of Europe and even beyond.

The EnoLL network creates a common innovation infrastructure, on which it is possible to drive the user-centric and open service platforms, provided that the various Living Labs can agree on common areas for collaboration, beyond usual benchmarking and information exchange. What would be very important is to agree on common functionalities in selected service sectors, creating together interoperable and reusable modules on common open infrastructure. This is extremely important when we see the opportunity (and also necessity) to create a single market for services in Europe, using fully the technology developed beyond the current applications.

First Wave Living Labs
Second Wave Living Labs
Third Wave Living Labs

The connectivity and Internet has changed the world. More than 2 B people are connected in the Internet, leading to new groups, communities, connectivity throughout the world. The technology change will bring even more radical features to the nature of connectivity. Today the Internet is mainly used for mail-type communication and information retrieval. However when looking at the next generation Internet we will have an Internet which is inherently truly broadband, mobile, actively interactive and personalised.

This "future Internet" creates tremendous opportunities for innovation, but also for new service ecosystems comprising of all actors in the services developing open service platforms on pan-European basis, and even beyond. The big strategic question is if a new service industry ecosystem can be built by the various stakeholders working together, co-creating and building value.

Public sector can be a valuable driver like it was in creating the mobile industry, the industrial players by agreeing on global open platforms and the people by adding the societal capital and innovation to the development of the services. The legal and policy framework creating a single European market for services is a prerequisite for the boost as well. Can the success story of the GSM and mobile communications sector be replicated by bringing the actors widely together?

Open innovation and societal capital as driver for services

The new user-centric view highlights the need to capture the creativity of users in a participative way to the innovation process. This participative and co-creative innovation builds on simultaneous technological and societal innovation creating a parallel mash-up of ideas, development and deployment. The innovation moves towards a continuous process of ideas and solutions, where different technologies, in their different maturity levels meet, very much focused around the user; whether the user is a citizen or organisation.

This cross-fertilization to be effective has to be supported by the right framework, environment and tools enabling the value added to be aggregated both in the business ecosystem and the society as societal innovation. The latter is extremely important to drive the participation and co-creation processes built on creative commons and openness.

Open user-centric innovation in collaborative setting has the potential to speed up the service innovation by developing the market simultaneously with technology. The process nature increases as well the probability for innovation success, as it is easier to adjust the development throughout the participative process. Thus one can say that open collaborative innovation leads to many small corrections avoiding the fundamental mistake in the development.

The role of users empowering them in the innovation process highlights their multiple role, also being the creators for the future. We simply can not afford to loose the valuable and instantaneous contributions from the users in the innovation process.

When speaking about innovation in real world, like those in Living Labs it is however very important to notice that the "real-world" innovation is not linked to deployment phase only. The ideation and development stages are equally important in the holistic understanding of participative and co-creative innovation we now speak about.
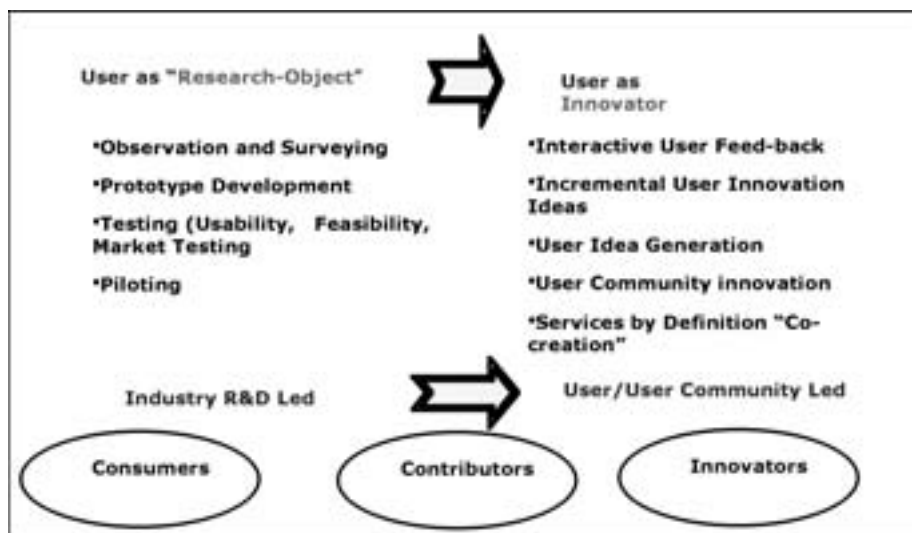
Source: IPTS; Jean Claude Burgelman, 2007

The interplay between the actors

Open innovation for services calls for entirely new types of partnerships. The usual PPP collaboration doesn't take into account the crowd-sourcing or societal capital properly. Hence we need to add on the people component to the partnership, bringing it to public-private-people partnership PPPP.

The public sector has a driving role for services development as it by nature is responsible for providing/guaranteeing services of public interest, but also as it is responsible for the legal and policy framework and is a key player in functionalities needed across all services, like identity management. Moreover the public sector is a significant procurer of infrastructure and services, inclusive technology. The concept of pre-commercial public procurement is one of the powerful tools boosting the service economy, if it is used to bridge the innovation gap, i.e. to shorten the time from innovation to take-up.

The risk of failure can be reduced by having the user communities strongly involved in the service development, going far beyond the digitalisation of services as we have seen now. The whole service process including the back-office functions have to be redesigned to take the full advantage of the new partnerships.

The public sector has also a significant role in designing from its part the modern open service infrastructures, and driving in the procurement processes modern solutions, like Ipv6 throughout. No new legislation for procurement is needed, only new ideas in implementing the procurement in collaboration with the users and industry.

As when the new industrial sector of mobile telecommunications was created the private sector and the public needs to come together to specify the common service platforms, enabling modular and interoperable service functions beyond the technical interoperability. The right time to build these partnerships is now, when we are moving the Internet to the next generation enriching us with widely more opportunities to interact, communicate and build competence and interest communities, both professional and private.

Beyond technical convergence – service convergence and functional platforms

The technical and media convergence we have seen in recent years has brought to us a set of various devices to store and handle information, to provide communication and also to acct as personalised devices providing rich media content, entertainment and services. As example these devices can be the new generation multifunctional PDAs, mobile phones, portable computers etc. This together with the rapidly developing broadband infrastructure has led to the ICT world we now see around us.

However the development has happened very much from the technological and vendor perspective.

Thus it is important to realise that user-centricity in service development will be critical to develop the user-side demand for the next generation broadband and technical devices. The user has to have similar experience using the whole set of services, whether public or private. It is important to see that in the near future the user will either her/himself not only use the services, but also make the composition of the services he will use.

Based on the time and ability of the user she/he will configure the service portfolio by her/himself or by using agents, virtual or real, to do the task on her/his behalf.

This user-centric approach creates also a new business opportunity for the whole service sector. Service convergence around the user leads to the need of building the service infrastructure and offering on open interoperable and modular architecture, where instead of the traditional technical approach the functionalities the user meets in all the applications is the starting point.

We need to analyse the services more carefully from process perspective, to identify the modular reusable elements common to multiple services, use them on an open platform and integrate them to services.

I take the analogy of LEGO building blocks: By the reference architecture we define in an open way the principles of the building blocks as well as the dimensions. Then, based on this software companies and service providers construct the actual building blocks following these principles. The blocks are interoperable, all fulfilling certain module of a functionality. When combining these modules together we end up to the full service. Like in LEGO community, the builder (user) her/himself can use pre-designed configurations of the modules, use experts/consultants or if he wants build the personalised configuration of the service her/himself.

Very much similar thinking has been used in manufacturing industries, where the business process engineering led to interoperable approaches and later software offerings in manufacturing enterprises. Also the RosettaNet approach can be used as a model for establishing a functional architecture and thus creating a widely used open approach to manufacturing process management.

In the context of services we can see the direct link between functional reference architectures and *service process engineering*.

To illustrate the user-centric functionality thinking e.g. the following functionalities can be seen in most of the services.

Identity management in related to every service process usually both from the user and vendor side. Likewise the trust building process between the parties is crucial, as e.g. service personalisation is very often related to the trust between the actors. Financial transactions are present in most of the services, and especially now when we have the Single European Payment Area SEPA pan-European financial transactions are easier. Mobility is related to most of the services, too. We want to have the service irrespective of our location, e.g. in health related services this is essential.

Service roaming across different equipment is needed to provide the services in a context sensitive way, but also the context management is important when we move towards per in services.

All this requires also the right competitive framework to emerge in Europe. The EU Service Directive is a step toward the right direction, but still we are quite far from the Single Market for Services in Europe. Pan-European legislation needs also to better grasp the opportunities the present technological change is offering for businesses.

Too often we do not see that by having a catalysing legal and policy framework we can boost the innovation and create favourable conditions for sustainable economical and societal development.

The new "future Internet" is an opportunity for Europe to become a leader in service economy. Industry has already come with a PPP on the topic, which proposal is now been elaborated together with the Commission. This industrial action needs to be combined with the new approach of user-centricity and Single Market for Services, as these all are together needed to create the service industry in Europe.

The new "beyond i2010" strategy as well as the new ICT research is taking shape. In these actions the future technology development for next generation Internet and web based applications are addressed very strongly. The development programmes need at the same time also supporting actions more on the policy side, as well as on the legislation side. Here I take the example of the GSM story again, where the general framework of mobile communications were developed at the same time as the technology. Both the public and private sector worked very closely together to create the mobile industry and services.

It is also not to be forgotten that the initiative to develop mobile communications networks came form the public sector, first procuring the Nordic NMT network. As it was based on open specifications it fostered the creation of the industry worldwide, based on European approach. Furthermore when the analog technology was to be digital (GSM) we by close PPP developed a worldwide standard positioning the European development well in the global scale. This would never have happened if the chosen approach would have been a closed one.

It is sad to see that despite our strength in communications and mobile technologies we in Europe have no strong global players on Web-based services! Why? One reason might, again, be the quite fragmented market. It is straightforward to develop a service in one of the Member States, but when up scaling the service to larger markets we in Europe face 27 separate markets. The closest single market for up scaling is the US market, so many of the best services are moving over there, being bought by US companies, and then sold back to Europe. We are becoming instead of inventors and business developers in to high extent only a market area for advanced products.

Single Market for Services in Europe?

As stated before the Single Market for Services is an important goal for the European sustainable development.

It creates open platforms for service providers to come with their offerings, and empowers the users to combine the best one for them. At its best this approach creates a new service ecosystem where we see a clear role for larger companies providing the platforms and also integrated solutions, where smaller companies provide special offerings, and their expertise, often on more local basis.

The development of the Single Market requires close collaboration between the Member States and the Commission to see beyond the current paradigms of service provision.
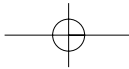
The societal challenges we face e.g. due to the demographic development suggests new ways of service provision, which can be solved only by increased open collaboration across all actors, setting the individual in focus.

There is a clear win-win game in this:

The advantage for the citizens is to receive affordable service provision borderless, and with high grade of personalisation. The new industrial and service cluster boosts the European growth after the recession. The public sector can rely on open platforms and modular solutions, not locking them in to any single vendor, and making the changes in the service processes easier and faster. Moreover having this pan-European approach enables effective joint development and exchange of best practise experience making services more affordable and inclusive for all.

The common platforms together with the broadband infrastructure makes the market interesting also for large global companies to invest in Europe, and to build solution based on our reference approach.

Conclusion

The time to react is now, if we want to create a strong user-centric business ecosystem in Europe. The ecosystem which is contributing to the sustainable growth both economically ans societally in Europe.

We need to react now, as the crisis we are now facing is reflecting the fundamental changes in the societal and economical structures and behavior, but also suggests us to move towards a more open innovation environment, leading us to service society for us all and with us all. Inclusiveness means not only services for us, but also full participation right in the creation of the future.

No good idea is lost, but this requires also a very deep understanding of the interaction processes in the development of our knowledge society.

Open innovation which is based on creativity in the society and societal capital and experience captures value better for new business and service development, enabling all sizes of entrepreneurship flourish in the service ecosystems. But, all this needs to be an action stemming from the ideas of user-centricity and pan-European actions working together, towards a true Single European Market for Services.

The foundation for the Single European market is well set in e.g. Single European Payment Area, the emerging telecommunications legislation, developments towards eIdentity etc, but so far the common drive towards a user-centric common functional reference architecture is missing.

Shouldn't we now bring our act together to shape the Single Market, in having technology and societal innovation meeting in real-world environments, having true PPPP. We can have a new success industry in Europe, if we just join our forces.

- Open innovation captures creativity of users for business and better services
- Open innovation increases the social and intellectual capital
- Open innovation enables scalable services and fast innovation cycle, even continuous innovaiton process
- Open innovation sites (e.g. Living Labs) foster creative commons capital
- European Network of innovation environments enables development of functional interoperability of eServices
- eServices „best suited"for open innovation environments in real world settings:
    - Need for high dynamics, multidisciplinarity
    - Different maturity levels of technology and society merging
    - New co-creation processes of eServices; user- drive configurations

Attachment: OISPG – Open Innovation Strategy and Policy Group

To foster the open service innovation European Commission has established an industrial group to advise on actions related to services sector and its development in Europe. The group has senior members from industry, in order to bring the industrial perspective to the discussions. The focus is clearly on the intangible economy, service economy and growth.

The OISPG group is not a technical group, even if many of its members are as well members of technology platforms and future PPP actions. The perspective is strongly complementary, as the fundamental paradigm shift in service innovation is enabled by technology, but requires fundamental structural and strategic rethinking in companies as well as in the society.

The group has set the following objectives for its work:
- Recognition of the new innovation paradigm : Open user-centric Innovation" and get it into European Policies
- Recognising the new research area of „Services Science" in research
- To get EAR (Experimentation and Application Research) methodology widely used in research
    - User-centric application development
    - Creating environments for service innovation
- Linking needed elements together to foster establishment and development of European-based service industry
    - Open (functional) platforms
    - Reference architecture for services
    - Linking internationally actors around projects for service innovation
    - Support Lead Market Initiative in service sectors

Attached to this text is a copy of the leaflet of the OISPG group, which is welcoming new contributors to this extremely important forum for European service industry. Open innovation for service is the keywording of the work of the group.

Users' roles are rapidly changing. When we take the potential of users as innovators we have not only better hit rate on service innovation, but we can create new competitive, personalised, and scalable services, directly deployable in real world settings. **Many of the companies participating in the OISPG group have concrete experience about the successful new approach to innovation.**

OISPG Objectives

• Recognition of the new innovation paradigm: open user-centric innovation as part of the European Policies
• Recognition of "Service Science" as research area
• Use of the EAR methodology (Experimentation and Application Research) in European research
  □ User-centric application research
  □ Creation of environments for service innovation
• Putting the right elements together to foster the establishment and development of a European-based Service Industry
  □ Open (functional) platforms
  □ Reference architecture for services
  □ Linking international actors around projects for service innovation
  □ Support lead market initiatives in service sectors

The OISPG group can easily be contacted via the European Commission:

Further information can be found on the OISPG wiki:

OISPG Founding Members

IBM
BT
[LABS]
SITRA
SAP
intel
NOKIA
ITEMS
NESTA
Logica

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The Czech Republic at the Helm of the European e-Government

Martin Pecina, MBA
Minister of the Interior of the Czech Republic

For the first six months of this year the Czech Republic assumed the role of the imaginary captain whose task it was to take, in cooperation with the other member states, the ship called eGovernment through the often rough waters of information society. In doing that it was necessary to pay attention to interoperability and (not only information) safety. The half-year period also provided the Czech Republic with an opportunity to give the others information on the national solutions and projects of eGovernment, which might become an interesting inspiration to the other member states.

Czech Presidency – Looking Back at a Successful Voyage

When preparing the Czech Presidency, we set one of our priorities to be the area of a safer Internet for children. To this issue we also added the issues of information security, especially when perceiving the Internet as a part of the Critical Information Infrastructure Protection (CIIP). Another area was the accessibility of ICT (eAccessibility). We focused on the accessibility of websites, within the Council Conclusions we also emphasized the importance of other ICTs, such as digital TV, cash dispensers or emergency call lines.

Information Security

As I mentioned at the beginning of my article, one of the most important priorities of our Presidency was the issues connected with information safety. In relation to this the ministerial conference on the "Protection of the Critical Information Infrastructure" took place in Tallinn, Estonia, on April 27 – 28, 2009 under the auspices of the Czech Presidency. The results of this conference and especially of the ministerial discussion were summarized in the Presidency Conclusions and we also used these outputs as the basis of the Telecommunication Council in June. The ministers discussed both the protection of the critical information infrastructure and the future of the ENISA (The European Network and Information Security Agency), which forms an integral part of the dialogue about the future of information security.

However, cyber attacks do not represent the only danger that internet users are facing nowadays. Together with the dynamically growing amount of on-line content, there are an increasing number of cases of illegal content, especially child pornography, which is often connected with such serious crimes as sexual exploitation or child trafficking. In connection with the group of young users it is necessary to focus on the protection of our children against unwanted content in the on-line world, such as pornography, or against so called cyber bullying, which can often be more serious and insidious than the traditional form of bullying.

The ministerial conference "Safer Internet for Children - fighting together against illegal content and conduct on-line", which took place in Prague on April 20, 2009, also contributed to making the Internet a better place and not only for children. At this conference, which was one of the most significant events of the Czech Presidency over the EU, there were about 300 representatives who tried to support not only the safety of children using ICT, but also to bring a new point of view to this issue, which often comes under the competence of different ministries on national levels.

That is why we are happy that our invitation was accepted by the representatives of the ministries responsible for telecommunications and information society as well as the representatives of home affairs ministries and ministries focused on the issues of children and the young. Besides the representatives of public administration, the discussion was joined by the representatives of international organizations, such as INTERPOL and EUROPOL, the representatives of the industry, such as mobile carriers or social networks providers, as well as the representatives of civil society, which plays an important part especially in educational activities.

The idea that the Internet knows no borders and that barriers must be removed from our cooperation and not only within the EU was confirmed by the wide range of delegates who came to Prague not only form the EU countries, but also from Norway, Switzerland, Russian, the USA and South Korea. Besides the ministerial panel focused on fighting illegal content, there were also three parallel workshops focused on cyber bullying, self-regulation by mobile carriers, and social networks.

Within the workshop focused on cyber bullying the participants learned about the results of a research aimed at disclosing computer bullying and responding to it. The representatives of selected member states and the European Commission then presented educational campaigns that should mainly be raising awareness of this serious social problem and teaching how to prevent it.

The participants of the workshop focused on self-regulation by mobile carriers aimed mainly at the implementation of the agreements concluded between the mobile carriers and the European Commission and they presented, for example, the tools of parental control, which make it possible to control access to the content meant only for the adults. One of the speakers also pointed out that nowadays mobile phones represent a tool for accessing on-line content that is often out of any parental control, unlike with computers.

At the last workshop focused on social networks the latest results of the self-regulation agreement concluded in February this year have been presented by leading providers of social networks. Specific measures to be taken were also introduced within this workshop, mainly in terms of young social network users, such as the red button, which

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is a simple method of alerting about misconduct of other users, manual inspection aimed at discovering illegal content or alerts about risks, which are related to publication of personal data or details from one's life.

The result of the conference was the acceptance of the Prague Declaration, which is not based upon repressions, although it was discussed at the police cooperation group (that is a working group which belonging to the Justice and Home Affairs Council) but relies heavily on cooperation among individual participants (institutions promoting law, NGOs and industry representatives). We believe it was a real success that the declaration was joined not only by all the representatives of the EU countries but also by the representatives of Norway and Switzerland. My predecessor compared the declaration in his speech at the conference to a flower whose petals represent individual participants who are engaged in child protection in the on-line world.

I would like express our wish that this flower planted during the Prague Declaration will blossom in the future and that we will all participate in our goal to make our children feel really comfortable when on the Internet without being afraid of all the dangers of the cyberspace.

Incorporation into the Information Society

In compliance with our priorities we have also helped, during the Czech presidency, to remove the barriers in the field of information society and we have created conditions for making ICT (web pages and other ICT devices) available to the handicapped (e.g. to the visually impaired). In the Council Conclusions prepared by the Czech presidency we have also succeeded in designing a specific solution to the issue of making publicly administered web pages accessible by means of including the accessibility requirements within public selection procedures for development/re-design of web pages funded from public resources. The solution is based both on our experience that organization web pages are typically redesigned every four years and also on the circumstances of the ongoing economic crisis, which has also taken its toll on the public administration where expenses are being cut.

Activities in the field of geographic exclusion were supported not only by active participation at the IST Africa conference but also by holding the project called "Basic PC and Internet Course" which focuses on the elimination of the digital divide problem in the developing countries of Africa. This year the Czech Republic will complete the 8th project, this time focusing on 40 students in Zambia.

Interoperability

Activities in the field of interoperability resulted mainly in the successful negotiation of the ISA (Interoperability Solutions for Public Administrations) program proposal, which will replace its predecessor (the IDABC program) from January 2010. The Czech presidency succeeded in seeking a consensus over the wording of the program among the member countries as well as in the European Parliament and the European Commission so that the program could be adopted after the implementation of the necessary language procedures.

Other activities in the field of interoperability and improved cooperation among individual European countries focused on the area of the mutual acceptance of electronic identification documents (eID). On 6 -7 April, 2009 we organized a conference in Hradec Králové called "eID and Public Registers" and we also organized the STORK project meeting, which resulted in the extension of the notable European project by 6 new countries including the Czech Republic.

CzechPoint - the Flagship of the Czech Inclusive eGovernment

When I mentioned the possibility of promoting national eGovernment, it was primarily the CzechPOINT project (Czech Filling and Verification Information National Terminal) that I had on my mind. Based on the declaration from the 4th Ministerial Conference on e-Government in Lisbon this project was nominated as the flagship in the field of inclusive e-Government.

The objective of CzechPOINT is to implement all of the concepts of modern public administration – the creation of the so called one-stop-shop by means of which the citizens as well as businessmen will be able to handle as much paperwork as possible in one place, which is close to their residence. This concept eliminated geographical exclusion and uneven distribution of public services which discriminated against people form rural areas. The main stepping stones of the CzechPOINT network are local authorities and Czech Post branches, that is institutions which citizens use on a regular basis and whose visits usually do not require extensive travelling. Businessmen in particular may also use CzechPoint services at the offices of the Czech Chamber of Commerce. And yet another step in making this service even more accessible to the public was the extension of CzechPOINT to notaries. The project also counts for citizens who are living abroad. They can obtain certified abstracts and documents at selected representative offices and embassies, for instance at the Czech Embassies in Madrid, Rome and many other European cities. Thanks to the involvement of the representative offices and embassies in the project, CzechPOINT exceeds the Czech boarders and it actively assists our citizens living abroad in dealing with administrative procedures.

However, the objective of CzechPOINT is not merely the elimination of geographic exclusion. It also aims to achieve full access to public services for citizens with limited or zero computer skills and for whom the CzechPOINT network works at so called assisted places which are operated by the employees of local authorities, Czech Post etc. and which can be operated by means of a web interface that can be used in order to obtain delivery of a document or abstract by Czech Post. The new wave in the development of CzechPOINT will be the launch of data boxes as of July 1st 2009, which will enable
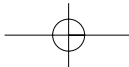
anyone to carry out document conversions at these one-stop shops as well as to obtain an overview of messages delivered to the data box of those citizens or businessmen who do not own computers. The Ministry of the Interior intends to develop the concept of access via various distribution channels so that in the future it will be possible to get access to registers and public databases from the comfort of people's homes (so called CzechPOINT@home) by using the digital television.

By June 31st 2009, the CzechPOINT network included a total of 3,640 contact points which have issued from the beginning of their operation as many as 1,750,000 documents and abstracts out of which almost 1 million were criminal records abstracts. Abstracts from criminal records proved that a service which is in demand may facilitate efficient promotion of the whole project and lead to an increase in the interest of users as well as the interest of authorities and other institutions that would like to become a provider of a contact point.

To conclude, let me express my strong belief that the Czech Republic has succeeded in guiding the European eGovernment through the sometimes troubled waters of the six-month presidency and you personally will also find inspiration in one of our projects, perhaps in the CzechPOINT network.
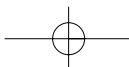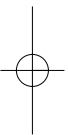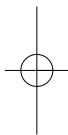
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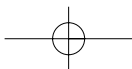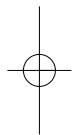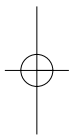
Digital Business Ecosystems: a tool for growth in Lazio

Simone Taratufolo, Chiara Rossetti
LAit, Lazio Innovation Technology – editing

1. iLazio 2010 – from e-Government to a knowledge society

"iLazio2010 – From e-Government to a Knowledge Society" is the Strategic Plan for the Information Technology of Lazio Region. It stems from the need to organise and coordinate the complex regional Information and Communication Technology (ICT) scenario. The Strategic Plan intends implementing national and European guidelines regarding Information Society and e-Government. A targeted and shared strategy has been developed with a systematic approach not only limited to technological innovation but also bearing in mind the diverse variables involved in the process (territorial, social, cultural, etc.) to create an organic and uniform approach in all activities. Briefly, the primary objective of ICT development in Lazio region is to connect its citizens and create a fully networked society based on seamless connection for all, thus allowing the entire community to access and to contribute to on-line services and to participate in web-based administrative and productive activities.

"iLazio2010" Plan aims to stimulate, enhance and favour the individual's creativity and capacities and moreover involve those individuals who today are excluded from economic opportunities generated by technological and cultural evolution. The ultimate goal of the "iLazio2010" Plan is the shift from a mere "Information Society", guaranteeing access to information for all, where the citizen/user is a passive player, to a "Knowledge Society" with full sharing of knowledge and skills where the citizen/user assumes an active role.

The term "Information Society" is generally understood by the modern connotation of a mainly service oriented economy - especially those pertinent to information management and on the economic value attributed to knowledge as a strategic resource. Thus interpersonal relations and the socio-productive system converge in the application of information and communication technologies. The central role, therefore, is to relay information to certain destinations (citizens, enterprises, public sector...), regardless of their direct request or not.

A "Knowledge Society" is an evolved "Information Society" in which knowledge is created through complex and elaborate dynamics and not by the mere exchange of information: therefore learning is a key element, firstly to encourage participation and then sharing. This process of transforming information into knowledge is the new model towards which we are shifting and it is clear that in this process IT has a pivotal role as a key tool in a "Knowledge Society". The transformation from an "Information Society" to a "Knowledge Society" encourages active participation by the individual. To know how to use these new technologies is not just another opportunity but a necessity to be part of a wider scenario and to become a "digital citizen".

"iLazio2010" Plan aims to redefine the objectives of on-line administration so that new technologies and e-government services are used by citizens to communicate with public administration at all levels. This will facilitate participation and render the citizen co-responsible for administrative decisions and will also favour equality, social and territorial cohesion and sharing of knowledge.

Each party, citizens, SMEs, local authorities and research institutes will be supported (with technological tools, training, information and services) to participate actively in all forms of community activities at social, economic, productive, political and cultural level. From this perspective, the expressions "Inclusion" and "Bridging the Digital Gap" take on a more complete and deeper meaning, becoming key issues for the Lazio Region ICT strategy to implement the innovative directions of the European Commission by creating a digital ecosystem in Lazio. Only with this type of inclusion can on-line services delivered by the Public Administration be justified.

iLazio 2010 was drafted with the contribution of each Regional Directorate by highlighting the needs of the specific sectors. The Directorates contributed to create a comprehensive document, which contains a full outline of the actions necessary to achieve the specified goals. The adaptable and flexible nature of iLazio2010 Plan permits a revision of future activities and actions based on the results of the yearly monitoring.

1.1 Goals

The challenge of the Regional Government of Lazio is to develop ICT solutions and organisational models which can contribute to the creation of a Participative Society based on interaction and collaboration, where public and private organisations and citizens' interests are in line with those of the economic and social systems and those of the community.

By the year 2010, Lazio Region intends to achieve the following goals:

1. *Bridging the Digital Divide*

    a. *Territorial gap*: the Regional Government will give broadband coverage to areas presently not covered by installing fibre-optic cables to the accessible territories and through Wi-Fi, Wi-Max and satellite connections to all other inaccessible areas in Lazio. High speed Internet connection will be guaranteed to local authorities, citizens, universities, research centres, technological parks, local health authorities and hospitals and to all decentralised offices of the Public Administration.

    b. *Dimensional gap* (between Public and private sector, both large and small): the Regional Government will contribute to the development of the economic and social environments through the support to the deployment of digital business ecosystems in which even the smallest players will have the opportunity to participate in the economic development linked to ICT.

    c. *Cultural gap*: 'on the job' training activities for the use of new technologies will be favoured by the Regional Government, both for its citizens and for its employees and associated bodies, thus ensuring an ICT oriented know-how.

Multimedia technologies will favour the participation of those citizens who cannot attend training activities.

d.   *Generation gap*: on-line access to information and services is a fundamental right of the digital citizen and this right must be recognised and safeguarded for all. It is therefore vital that also elderly people, previously excluded from using new technologies, have the possibility to know and access on-line services offered by the Lazio Region.

Finally, bridging the digital divide means free access and free circulation of IT resources through the adoption of free and open software able to overcome the barriers of knowledge, creativity and resource sharing which today are defined by copyright legislation. For this reason, discussions must be initiated regarding new forms of copyright and intellectual property legislation for IT products and to address issues regarding Creative Common licences and the principle of General Public Licences with the aim of creating a legal framework to permit free circulation of IT resources.

2.   *Sharing of knowledge*: a real Knowledge Society is attainable only if all stakeholders (citizens, SMEs, local authorities, etc.) are not only introduced to ICT, but they also understand how to develop their own know-how through the use of new technologies and therefore participate in the creation of new knowledge. The Regional Government is aware that both human and social capitals are the foundations for the territorial competitiveness and therefore intends promoting a series of activities in order to develop these resources. Bridging the digital divide is not merely a technical problem but more a socio-economic issue because the benefits of new technologies can be tapped only if these new technologies are accompanied by new forms of job organisation and life-long learning or training.

3.   *Participation in Regulatory Processes of the PA*: Lazio Region intends to confer an active role to its citizens, entrepreneurs and local stakeholders in the regulatory processes involved in administrative activities. Democratic and participative services will be implemented in order to facilitate petitions regarding policymaking issues. As outlined in advanced studies regarding the so called "continuing democracy", various phases will be necessary in this process: electronic access (e-access), on-line participation (e-participation), on-line consulting (e-consulting), on-line voting (e-voting). Only when all of these phases are completed can we talk of a real electronic democracy (e-democracy).

4.   *Implementation of innovative services*, specifically, services aimed at improving efficiency and efficacy in public administration and bridging the social and economic gap of disadvantaged areas. These services, able to create economic opportunities, will be structured to guarantee equal access for all.

5.   *Procedural Simplification*: the Regional Government has already started to revise the delivery of services for its citizens and enterprises. Similarly, it is also examining new procedures to guarantee greater transparency, equality, efficacy and efficiency in both the delivery and use of its services. These processes will be implemented according to the most advanced research developed at international level.

Lazio Region is facing the challenge of Simplification. Simplification of administrative procedures in a context of e-government and development of an Information Society represents a formidable step in the modernisation of a regional public administration: a radical change – of processes, functions, mentality - which places the needs and rights of the citizens, enterprises and local authorities at the forefront.

1.2 Action Plan and Objectives

The Objectives of the "iLazio2010" Plan are organised into three main priority actions:

1. *e-Inclusion*
   The inclusion of all citizens is a key objective of Lazio Government, together with economic and social stakeholders and Local Authorities - with full participation both in everyday activities and in those opportunities of socio-economic development created by a global context. Lazio Regional Government interprets the term "inclusion" in a wider sense: not only access to a limited series of services and information through the improvement of Internet infrastructure and access to on-line services but a real, active participation in the creation of knowledge and economic development. It is also necessary to create access points to new technologies, to train citizens in their use and to facilitate the production of contents and knowledge by reinforcing already existing realities present in the territory.

To achieve Digital Inclusion, the following objectives must be reached:

• Broadband for all.

• Basic digital literacy.

• Network of access points.

• Accessibility for all.

• Multichannel platforms.

• Secure systems and infrastructures.

• Digital ecosystems.

• e-Democracy.

• Digital Pluralism.

2. *e-Services*
   "iLazio 2010" focuses on services of public interest which provide all citizens, enterprises and administrations with full access to the Knowledge Society, overcoming all digital discrimination which threatens to create disadvantaged sectors in the digital society.

Lazio Region sets the following objectives for its on-line services:

- e-Government.

- e-Health.

- On-line learning.

- e-Business and e-Commerce.

- e-Procurement.

- Digitalisation of documents and historical archives.

3. *e-Simplification*
   Through digital simplification, Lazio Region intends developing a cross-cutting objective to facilitate on-line services and e-inclusion through activities directly related to the Public Administration sector and protection of citizen's rights in the digital context. Simplifying administration through the widespread application of ICT means to reduce bureaucracy, control and unnecessary tasks. It means to achieve the objectives in the best way using the most efficient, diverse and innovative means available. Lazio Region has demonstrated, through specific projects, its commitment towards reorganising its own procedures, especially those aimed at benefiting the citizens by simplifying and streamlining the Region's response to queries or enquiries received on a daily basis.

Lazio Region proposes a strategic approach for digital simplification to achieve the following objectives:

- Reengineering of the Public Administration processes.

- Digital administrative procedures.

- Advanced interoperability.

2. Digital Business Ecosystems: a Pilot Project

The"iLazio 2010" Strateglc Plan represents the policy framework for the development of Digital Business Ecosystems in Lazio. A socio-economic study was carried out within the DOCUP 2000-2006[54]. Pilot Project regarding the digital ecosystem in Lazio were funded by the Regional Ministry for Consumer Protection and Administrative Simplification, in the framework of the DOCUP or more specifically, in accordance to the Sub-measure II.4.1 "Implementation and Reinforcement of the Network for Industrial Areas and for the System of Industrial Technological Parks in the Lazio Region". LAit, the regional in house company for Innovation Technology, has supported the Regional Government of Lazio in the implementation of the Programme "Digital Areas of Excellence" - Applications of the DBE - Digital Business Ecosystems.

NOTES
[54] DOCUP: Single Programming Document

The following chapters therefore contextualise the primary results for the planning of the digital ecosystems. The study "Interpreting the Territory for Digital Ecosystems Deployment" represents the first output for the development of the Digital Ecosystem in Lazio. In addition to this study, carried out by the company T6 Ecosystems, there was a further important activity involving local stakeholders and some enterprises active in the tourism and information technology sectors. The information technology requirements of the business sector involved in the pilot project were mapped with the aim of targeting the services to be offered by the DBE to the local entrepreneurs. The pilot project, completed in December 2008, provided a greater understanding of the territorial requirements and the attention created by the ecosystem approach was such to orient the Region towards wider experimentation for the entire territory to be conducted during the period of ongoing (2007-2013).

Before leaving the reader to the results of the research study, it is opportune to introduce briefly the Digital Ecosystem and how this has evolved at European and regional level in the last few years and illustrate the possible development actions for the coming years.

2.1 Digital Ecosystems, adapting European research to meet the needs of the Lazio territory

The concept of DBE first emerged in the European scenario in 2002 with the aim of proposing an innovative approach towards local development and towards the diffusion of ICT tools to small and medium-sized enterprises in Europe. This approach has been developed keeping in mind the European and Italian productive sector and, in particular, to the small dimension of the SMEs and the high degree of sector specificity, both of which constitute priority conditions to be evaluated in order to favour innovation at local level. The DBE is therefore a socio-technical tool to create networks, linking enterprises, knowledge-generators and intermediaries and reinforcing the productive capacity of the SME sector by favouring innovation at local or territorial level. More specifically, the digital ecosystem approach is closely connected to the objectives of the Lisbon Strategy which has set three main objectives:

• Support the small and medium sized enterprises by favouring aggregation.

• Bridge the digital gap which affects the SMEs.

• Support the local software house.

Thanks to European research, there is now greater understanding of the ecosystem approach and the software oriented structure which are closely linked to each other and which favour a systematic vision of local development. Alongside the business ecosystems aimed at the SME sector, other areas of research and experimentation have also opened and are directed to the adoption of a digital ecosystem (DE) approach to other sectors, such as:

• Technology transfer and innovation (through the connection between knowledge generators and enterprises).

• Procedural simplification and digitalisation of the Public Administration.

• Research: through networking of Universities and Research Centres.

- e-Procurement and, in general, a more efficient management of the connection enterprise/Public Administration.

The above listed potential applications will constitute different habitats of the same regional ecosystem. The following diagram illustrates the possible scenarios for integration. The Digital Ecosystems as highly adaptable socio-technical systems are distributed and decentralised with a number of possible applications: every region will have to identify, through detailed study and strategic planning, the best application on that particular reality.
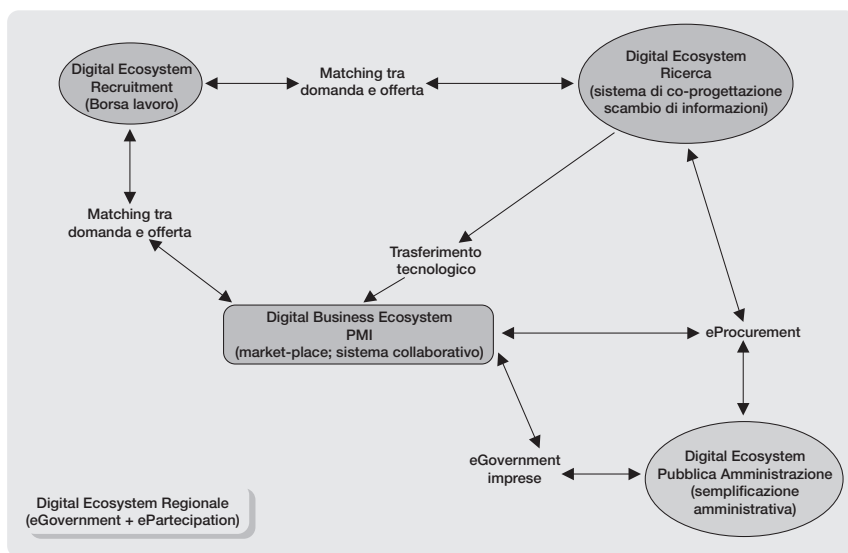
Figure 0:
Scenario for a possible regional ecosystem - multiple habitats. (Source: Elaboration T6 Ecosystems, 2008)

Just as a natural ecosystem defines its own physical space and the relations between the various organisms, so do digital ecosystems which propose the creation of spaces for interaction, collaboration and the exchange of knowledge between enterprises, research centres, intermediaries and institutions.

The digital ecosystem, created around a technological infrastructure, which by definition is open and decentralised, belongs to the actors involved in its activities and the generated knowledge is common and shared. Based on the application of open software, which has the characteristics of being modular and stable, the ecosystem can increase the user community and these subjects can also be involved in the technological improvement, the expansion of the knowledge base and sustain its population.

Due to its distributed characteristic and the decentralisation, it is ideally suited to complement SOA (Service Oriented Architecture) systems with which it has common functions and goals, emphasising aspects of collaboration, exchange and horizontal matching.

The Digital Ecosystems have been successfully experimented in Spain and in the United Kingdom (during the European DBE project) and through other projects such as Peardrop[55], Seamless[56], ONE[57] and Opaals[58], and the research activity has also increased to include non-EU territories such as Brazil and India.

Not only a technological tool able to support the dialogue between different languages and to facilitate complex transactions, the Digital Ecosystem is perhaps the primary driving force in a territorial process aimed at involving and networking new collaboration between different local actors (enterprises, public administration, research centres, universities and intermediaries) aimed at innovation and full implementation of a Knowledge Society.

In this sense, the implementation of the Digital Ecosystems means to launch a complex process of research, involvement, technological development, training, communication and mainstreaming.

3. Interpreting the Territory for Digital Ecosystems Deployment
A Socio-economic Analysis of the extended area Viterbo - Rieti
Mauro Giorgetti, Antonella Passani (T6 Ecosystems srl) – authors

Digital ecosystems offer technological solutions which are new tools addressed to small and micro industries in Europe aimed at increasing their competitiveness at global level; this is achieved by placing the socio-economic and cultural characteristics of the relevant territory at the forefront. Furthermore, the digital ecosystem model does not consider technology as being culturally or socially neutral and only useful to increase productivity and efficiency of local enterprises. On the contrary, this approach is founded on a socio-technical premise whereby technology is perhaps the most important tool in a wider mechanism which places local innovation first of all. Experimentation of the implementation of a digital ecosystem in the Lazio region is therefore not only a process of technology transfer but rather a process of diagnosis, planning and implementation of a wider series of processes starting from the networking of enterprises, intermediaries and the Public Administrations. To this aim, Lazio Region has gathered experiences from similar projects implemented in other European regions in the last four years and is now engaged in the promotion of a wide territorial network for the application of digital ecosystems in the local scenarios. REDEN[58] is the acronym of the European Networks of Digital Ecosystems, which covers 33 territories in 15 European countries: Austria, Belgium, Bulgaria, Finland, France, Hungary, Italy, Ireland, Lithuania, Portugal, Spain, United Kingdom, The Netherlands, Slovenia, Slovakia. The partners of the project are universities, local development agencies, regional technology institutions and European representatives of the Regional Authorities. These partners share the common goal of developing a series of actions to adapt and develop the DBE technology for its own needs. Similarly, the European OPAALS[59] system (Open Philosophies for Associative Autopoietic digitaL ecosystemS) is currently developing a research programme regarding digital ecosystems. In particular, priority research areas regard a new community of users (including the academic researcher) and other extra-European territories with particular focus on India and Brazil.

NOTES
[54] www.peardrop.eu
[55] www.seamless-eu.org/
[56] http://one-project.eu/
[57] http://www.opaals.org/
[58] http://reden.den4dek.org
[59] www.opaals.org/

Lazio Regional Government is also partner of the DEN4DEK (Digital Ecosystems Network of regions for (4) DissEmination and Knowledge Deployment) Project. DEN4DEK[60] is co-funded by the ICT Policy Support Programme under the Competitiveness and Innovation Programme. DEN4DEK is a European Network made up of 19 Partners, (Regions, Universities and Research Centres), from 10 Member States of the European Union. The aim of the project is to promote and develop a European wide network to facilitate the uptake of the Digital Ecosystems approach at European level.

DEN4DEK's specific objectives are:

- To create distributed tools for knowledge sharing and dissemination: the Digital Ecosystems Knowledge Exchange Online Tool (DEKEOL), and the Open Knowledge Space (OKS).

- To link DEN4DEK with other projects of the Cluster of FP6 Research Projects on Digital Ecosystems, such as PEARDROP, EFFORT, etc.

- To implement Workshops, on the technical, socio-economic and policy/political aspects of the Digital Ecosystems.

- To bring into the DEN4DEK community all EU regions interested in the DEs.

- To promote the development of "DEs Adoption Strategies and Knowledge Transfer Plans".

- To clarify specific terms/issues related to the DE through a permanent Help Desk available through the DEKEOL.

For more information, please, see the website www.den4dek.org
The key words for these initiatives are: collaboration, sharing of knowledge, networks, autopoiesis and innovation which are all pertinent to the territories to be investigated. These territories have recently undergone periods of crisis which still have not been completely resolved and, therefore, today still face the challenge of how to derive maximum benefit from the emerging Knowledge Society. In this scenario, networking small enterprises, sharing of past experiences and good practice policies, risk-sharing and joint planning regarding change are indispensable to create a territorial programme for enterprises, local administrations and citizens.

3.1 Methodological Approach: the interpretative framework

The following chapter will examine the theoretical and methodological issues involved in the reference territory towards implementing a digital ecosystem model at local level. The key characteristic of the Digital Business Ecosystem is the open-source distributed environment which has characteristic of not being dependent on specific operators and therefore adaptable to different users. This characteristic perfectly fits for clusters of small enterprises integrated in the supply-chain or a collaborative economic system via multiple and horizontal links.

NOTES
[60] www.den4dek.org

Minimal ICT resources are required by enterprises to use the DBE (a Personal computer with internet connection is sufficient) and investment by the single users is also minimal rendering the system ideal for the SMEs sector. For this reason, the indicators regarding ICT usage by enterprises concern the territory as a whole and not the single enterprise within that territory. A territory with a high rate of e-Business tools facilitates the implementation of DBE solutions.

In this study, many cultural and technological issues will be analysed while no minimum requirements have been established for the single SME. This is a very important aspect and fundamental to the DBE model which offers a platform flexible to the ability/ requirements/expectations of the single enterprise. Very often, enterprises intending to adopt ICT technologies to innovate their productive processes face difficulties caused either by a lack of ICT products or the absence of solutions which are applicable to their needs. While many ICT systems exist for large enterprises, ad-hoc solutions for the SME are less common, especially when these solutions need to address specific areas of activity. The DBE can be seen as an environment where supply and demand for ICT solutions converge but also as an environment which permits a process of automatic matching between the various end-users and suppliers present on the platform. Once the territories have been identified according to the criteria and methodology which will be outlined later, no further selection of the single SME will be required; the only criteria to consider is the motivation of the single SME to participate in this process and the presence of referees within the company to act as catalysts.

A feasibility study for the implementation of the DBE at regional level therefore requires:

• A deep understanding of the territory.

• Mapping of the territorial clusters.

• Identification of sufficient intermediaries and knowledge-generators to attract a congruent number of SMEs as beneficiaries of the proposed support and services.

This study aims to achieve the first objective, specifically to conduct a detailed and targeted analysis of the characteristics of the target territory.

3.1.1 The Territorial Maturity Grade (TMG): identification of the variables

The proposed methodological model has been structured to summarise a series of socio-economic variables considered significant in the preliminary study of a territory and to understand the degree of maturity of the target territory towards adopting an ecosystematic approach. To analyse the Territorial Maturity Grade aimed at the implementation of one or more digital ecosystems, requires understanding of the basic characteristics of the territory, including its strenghts and weaknesses which are factors that provide indispensable tools to plan eventual support actions.

The Target Area: the extended area Viterbo - Rieti

The DBE will be applied to a territory classified as Objective 2 or Phasing-Out. Specifically, Technological Parks and other similarly equipped areas have been identified as privileged territories for the targeted actions. Technological Parks and similar areas represent an

important mean of aggregation and innovation for the SMEs in Lazio region and even if these Parks are relatively recent and various typologies of services offered favour different links with the local productive fabric, these are considered as catalysts for the SME sector which is the primary target of the DBE.

Three main Technological Parks were identified:

- Tecnopolo of Castel Romano.

- Scientific and Technological Park of Alto Lazio.

- Scientific and Technological Park of South Lazio (PaLMer).

In collaboration with LAit (Lazio Innovation Technology), the focus of the initial research activities was on the Scientific and Technological Park of Alto Lazio (hereinafter: Technological Park). This decision was taken due to the presence of industrial clusters confirming the central role of that particular territory in the digitalization policies of the entire region and the presence of a broadband network (developed together with the construction of the Technological Park) in an area with a high concentration of productive activities.
The Technological Park is located between the Provinces of Rieti and Viterbo and the socioeconomic results from this study will constitute the basis for positive benchmarking activities that can be applied to the rest of the region. Figures for Lazio region as a whole will be used as a comparison of those of the target territory rather than an indication to programme intervention measures on the local micro-dynamics.

Lazio region has an elevated capacity for innovation and development and has an elevated ranking in Italy for the diffusion and implementation of ICT towards an Information Society. Objective 2 and Phasing-Out municipalities show particular local dynamics which must be examined specifically as these are different from the positive performances reached in other parts of the region which are either positively influenced by the fall-out effect of Rome as the capital city and also investments from both regional private and public bodies towards Research and Development (R&D) activities. From a methodological point of view, the interpretation of the results of the study of the regional territory with a focus on the extended area of Viterbo and Rieti, (the target area for the services provided by the Technological Park) is problematic. The positive aspect is that two different provinces are included in the study together with numerous municipalities. These areas, however, have very specific features and due to the lack of statistical data regarding these specific areas, the resultant statistical analysis is complicated.

Relevant socio-economic factors

The Territorial Maturity Grade chosen as a methodological model has already been used by CENSIS[61] in other European regions with a similar aim. From these previous studies, it has been shown that the socio-economic features of a territory are derived from three macro-factors:

- Capacity for innovation (CI).

- Social capital (CS).

- Relationship between SMEs and ICT.

Each of these macro-factors is the sum of a series of variables extrapolated from detailed analyses of existing statistical data, complemented with data from ad-hoc field studies and other targeted surveys using investigative tools which are discussed in the following paragraphs. Before discussing these macro-factors in detail, the theoretical assumption behind the Territorial Maturity Grade must be illustrated.

A territory is considered as being highly specific in its socio-economic composition. Its socio-economic characteristics and those linked to the entrepreneurial culture and the know-how generated within social groups present in the territory are regarded as valuable resources to be developed. An ecosystematic approach offers a technological solution for local development adaptable to the characteristics of that particular territory rather than applying models or practices developed in other areas. DBE implementation in the provinces of Rieti and Viterbo involves the application of past experience and good practices developed in other European areas and the development of autonomous and territory specific processes; using past experience to prepare an innovative roadmap for future initiatives.

Furthermore, the preliminary study carried out using the Territorial Maturity Grade model will facilitate a benchmarking activity between the provinces under study and other European areas participating in the European DBE project (West Midlands, Aragon and Tampere). Through the comparison of results, the benchmarking activity will also highlight the strengths and the weaknesses in the two target provinces in Lazio region. This will also facilitate the identification of similarities in some of the territories which can constitute the grounds for exchange of experience and future collaboration. The following figure (fig. 1) shows the Territorial Maturity Grade methodological scheme and the subsequent analysis of the three macro-factors which have a determining role. The three macro-factors will be successively elaborated in the study to provide a synthetic representation of the Territorial Maturity Grade of the provinces of Rieti and Viterbo and their compatibility to be included in the DBE project.
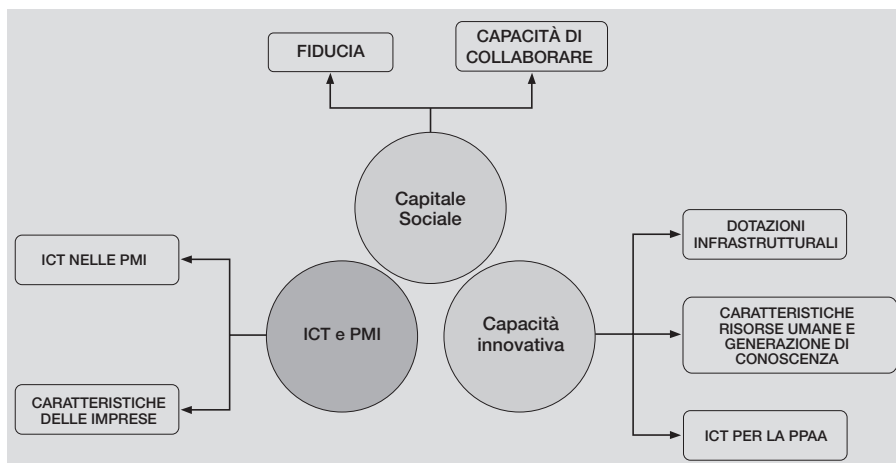
Figure 1: Methodological Approach (Source: Elaboration T6 Ecosystems by Censis, 2004)

NOTES
[61] BDE 2005

Social capital: improving through networking

The term Social Capital means all social relations, both formal and informal, which link the individuals present in the territory. These links are essential for the functioning of the society and also fundamental to the economic aspects of the same. Specifically, the social capital of a territory, of an institution or a business, according to Bourdieu[62], is the sum of both virtual and tangible resources pertaining to the individual or the group by virtue of its belonging to a network which has a reciprocal system of respect and social recognition.

Such networks are fundamental for technological innovation to take place. The introduction of change in a social group and the diffusion of the same within the group are strongly influenced by interpersonal relations and by the entreprises which connect the innovating figure or entity to the other actors. Aspects such as trust and leadership are therefore fundamental in the socio-economic analysis of innovation and must be taken into consideration when planning innovation projects within a particular territory. Furthermore, the density of the network (or the number of links which constitute the network) and the internal heterogeneity (typology of actors constituting the network) are also further important factors to be considered.

Social research applies network analysis methodologies to understand the characteristics of a network and the typologies of actors which constitute the same. Such methodologies facilitate the description of a single territory, sector or productive cluster and also identify the innovation leaders, the nodes which occupy crucial roles in the network, the different typologies of links, the degree of trust between the actors involved and eventual "gaps" to be filled in the programmed activities.
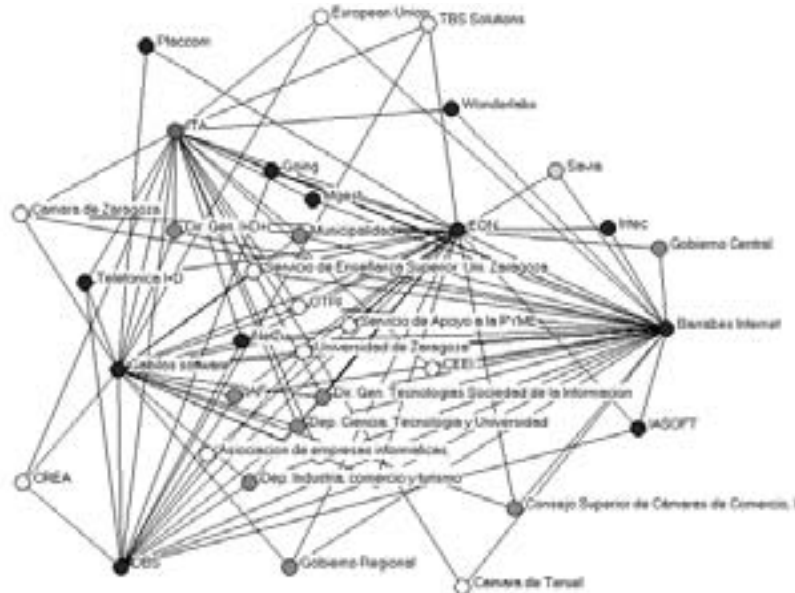
Figure 2: Example of a collaborative network: Aragon region, Spain (Source: Censis, 2005)

NOTES
[62] www.den4dek.org

Network analysis is also an efficient visual tool which shows an intuitive representation of the collaborative links involved in local development. Network analysis methodologies have been applied in this study to map the collaborative links that connect institutions, intermediaries and SMEs in various productive sectors.

A detailed evaluation of the territorial network is important for at least two reasons:

1. As a relational infrastructure between various actors, the network is a valuable and intuitive way to illustrate the contest in which the actors operate and to describe the singular characteristics of each actor - or rather the social capital of the network.

2. Mapping the network in the preliminary phases of the feasibility study is extremely useful to identify those figures and innovation leaders that will be involved in the implementation of the DBE measures. In this study, a description of the networks facilitates the selection, firstly, of the clusters to group, and secondly, of the most suitable intermediate actors.

Specifically, in the feasibility study for the DBE in the province of Rieti and Viterbo both primary data and qualitative data were gathered regarding aspects of the social capital in the territory which are summarised below:
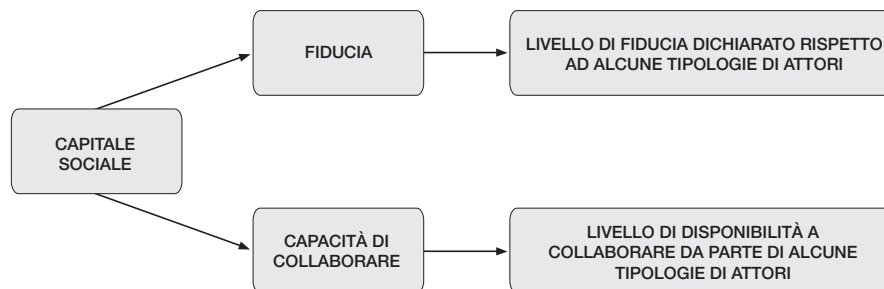
Figure 3: Social capital, territory, dimensions and variables (Source: T6 Ecosystems, 2008)

This data regards only institutional actors and intermediaries, given that the research on SMEs is programmed for the second phase of the study. Even if these are preliminary results, it does permit the analysis of the quality of the social capital in the territory, the presence of innovation leaders and eventual missing links in the network to be filled for the successful introduction of the DBE.

Trust: This indicator represents the trust perceived by the population of a certain territory towards the main institutional and industrial intermediaries. A high level of trust corresponds to an elevated tendency of a territory to collaborate and therefore to evolve.

Capacity for Collaboration: A second aspect of Social Capital is expressed by the Capacity for Collaboration indicator which summarises the tendency to exchange information, collaborate and, in general, operate in a network made up of different social actors. An elevated tendency towards collaboration between businesses is generally associated with a solid degree of trust and favours risk-sharing and joint planning for change management.

Capacity of innovation: change to become competitive

This axis indicates the variables, which are partly structural, on which the territory can rely on as catalysts towards continuing improvement. In a society based ever more on information and knowledge, the capacity to trigger cultural, organisational and economic change is the basis for competition not only between SMEs but also between territories. In order to favour innovation, a region or a territory must be able to rely on its own knowledge chain. Only with elevated skills can innovative ideas be created and be transferred to the market.

The capacity of a territory towards innovation is therefore interpreted as the articulation of diverse factors which are summarised in a series of synthetic indices:

- Characteristics of the human resources available in the territory and its level of knowledge.

- Allocation of infrastructure, hardware and software.

- Use of ICT in the Public Administration.

The three indices are presented concisely in the following diagram and are based on data from ISTAT, UnionCamere and the Istituto Tagliacarne. Other sources taken into consideration are: Italian Patent and Trademark Bureau and FILAS (Lazio Regional Company for the advancement of Entrepreneurial Development in Lazio Region).
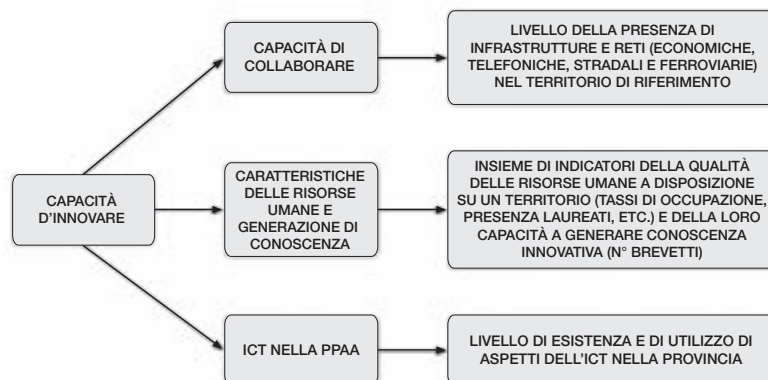
Figure 4: Capacity for innovation: dimensions and variables. (Source: T6 Ecosystems, 2008)

Allocation of Infrastructure: This indicator summarises the effective level of infrastructure (heavy and light) present in the territory. A high infrastructure presence is considered indispensable for the socioeconomic development of a determined territory.

Characteristics of Human Resources and of the Generation of Knowledge: A second macro indicator to assess the innovative capacity of a territory regards the quality of the human resources present locally. This indicator groups all those innovation indices generated from human resources, linking this factor of excellence to the capacity to generate innovative knowledge which is manifested in activities such as the registering of patents, trademarks, inventions, etc.

ICT in the Public Administrations: In order to describe the capacity for innovation of a territory and its link to the digital ecosystems, it is important to highlight innovative aspects in the field of information technology in the region. A third indicator is therefore the level of innovation of the ICT tools used by Public Administration. The inclusion of this variable is based on the PA driving force effect at local level in the dissemination of ICT usage.

Link between SME & ICT

In evaluating the level of maturity of a territory, apart from the implementation of ecosystematic solutions, the small and medium-sized enterprise sector must be taken into consideration as the primary target for the DBE. As previously stated, the digital ecosystem's main aim is to support the development of SMEs through bridging the digital divide with the larger enterprises and to support the local software houses. It is therefore important to have a deep understanding of the business universe both regarding the dimensions (small, medium and large enterprises) and the sectors of operations and furthermore, to analyse the current application of technologies and allocation of technological resources.

Statistical data from ISTAT, UnionCamere and ad-hoc surveys commissioned by the Provincial authorities was used to carry out the above analysis. The indicators representing the dimensional axes of this analysis are illustrated below:
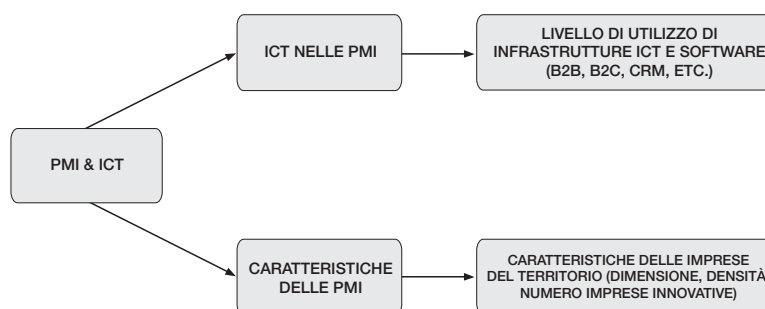
Figure 5: Link SMEs & ICT: dimensions and variables. (Source: T6 Ecosystems, 2008)

ICT in the SMEs: This indicator is used to measure the degree of ICT usage in SMEs, evaluating both the intensity (the frequency with which ICT technologies are used) and the amplitude (range of ICT tools present in enterprises).

Characteristics of the SMEs: A second indicator allows the characterisation of the SME in a particular territory, both on the basis of dimensions (micro, small and medium, etc.) and their tendency towards innovation.

3.1.2 The research process

Once the methodological context was defined, the study progressed into the research phase. This phase involves the contextualization of the theses presented previously with the elaboration of reliable statistical data to generate a true representation of the scenario which also takes into consideration the variables described above[63].

NOTES
[63] See Cap.3.1.1

In this top-down process, from the theoretical aspects of the proposed methodology to the empirical analysis of the available data, a process of adaptation of the theoretical model was applied which - while still respecting scientific rigour - adapts this model to constrictions imposed by the availability of pertinent statistical data.

Collection of data

The choice of methodology to develop the Territorial Maturity Grade at provincial level for the provinces of Rieti and Viterbo was not without problems, especially in the definition of the variables to represent the three axes which indicate the socio-economic factors. The primary level demo-social and socio-economic statistical data in Italy is derived from periodic surveys which provide information at territorial level (ISTAT Census data, UnionCamere data regarding businesses, Territorial data of Lazio Region, etc.).

All these surveys and research activities are characterised by either a focus on municipal or regional level. The absence of pertinent data created problems in the identification of useful variables to be applied in the research phase.

Two extreme examples of this are:

a. Information regarding ICT usage in businesses: Diffusion of PC and Internet in enterprises, number of enterprises with internet web sites and by number of workers.

b. Information regarding the spending in R&D activities by enterprises: Spending in R&D in enterprises, level of lifelong learning in the working population, etc.

Studies carried out on these two variables (both by ISTAT and UnionCamere) were carried out municipal level but use the corresponding regional territorial level as reference.

In other words, the aggregate data at provincial level is not valid from a statistical point of view as a weighted stratification was not conducted at a geographical/administrative level. In these cases, the lack of official primary data was resolved in three ways:

• Using quantitative/qualitative studies carried out by provincial organisations: Chamber of Commerce of Rieti/Viterbo, Analysis commissioned by the Provincial Authorities, etc.

• Conducting ad-hoc qualitative studies on reference persons and key-players at provincial level.

• Substituting these variables with other similar variables.

The scarcity of data at provincial level consequently created a second issue: the temporal comparability of the data.

In order to associate different socio-economic data in a territory, it is important that they are comparable. The year of collection of the data is a sensitive variable which must be taken into consideration given the time-sensitive nature of these variables.

On the other hand, the lack of periodic or regular studies at provincial level regarding the variables required by this study (e.g. census data regarding the population) and having to base the analysis of data on figures provided by local or provincial authorities, it was not always possible to obtain data regarding the same year. To this regard, the decision was taken to extend the period of validity of the study from the two-year period 2005-2006 to the three-year period 2004-2006 and to exclude any data not pertinent to this period.

The previous limits posed to the study and the methodological choices generated the following database on which to conduct our study:

Indicator	Source	Year
Personal data, by municipality, sex, age, year of birth, civil status (demographic census 2006)	Personal data, by municipality, sex, age, year of birth, civil status (demographic balance 2006)	2006
Trust	ad hoc Qualitative survey	2005
Capacity for Collaboration	ad hoc Qualitative survey	2005
Allocation of Infrastructure	ISTAT, Survey on work-force	2005
Characteristics of the Human Resources	Censis, The Economy in the Province	2006
	ISTAT, Experimental Survey on ICT in the local Public Administration	2004
Generation of Knowledge	Personal data, by municipality, sex, age, year of birth, civil status (demographic balance 2006)	2006
	Data from Office of Trademarks and Patents	2006
ICT in the Public Administrations		2004
Characteristics of the SME sector	Infocamere – Movimprese	2006
ICT in the SME Sector	UnionCamere	2006

Table 1: Chosen indicators, source of data and year of reference.

3.1.3 Elaboration of data

Once the methodological approach was decided (Chap. 2.1) and once the data was adapted to the current constraints imposed by the context (Chap. 2.2), the elaboration of the data was started. The operative and methods of elaboration and calculation of data necessary to define the TMG are illustrated below.

The function of the Territorial Maturity Grade

The three dimensions previously described are:

• Capacity for Innovation (CI).

• Social capital (CS).

• Relations between SME and ICT.

These dimensions represent the base for the study not only from a theoretical point of view but also regarding the technical aspects for the elaboration of the existing data. The Territorial Maturity Grade (TMG) is a linear function of the three dimensions under examination.

$$TMG = \frac{\sum (CS, CI, ICT)}{3}$$

Derived thus, the TMG represents a logical function or rather, a process able to "measure" the capacity of a territory to adapt adequately to the characteristics of the DBE. Moreover, the TMG function evaluates the quality of development at local level according to the socioeconomic parameters present in the DBE, formalising the relation as follows:

$$\frac{DBE}{Sviluppo\ Locale} \in R\{0,1\}$$

This is a linear function of the normalised (expressed as a percentage) pertinent data.
In other words, the TMG of a territory is the linear function of three variables. The positioning of the TMG for a particular territory can always be compared with the value for another territory when the variables used to derive this value are par.

The aspect of the comparability of the results is of primary importance, given the fact that one of the central issues of the present study is to be able to assess the positioning of the provinces of Rieti and Viterbo, also including their respective collocations and measuring the rate of local development in respect to situations already involved in the DBE. The comparative function of the TMG also permits the evaluation of the evolution and the socio-economic growth at local level in the two provinces.

Territorial Maturity Grade
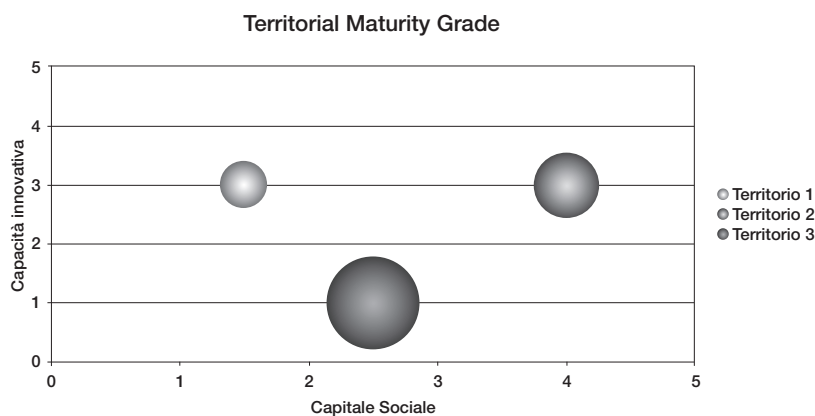
Figure 6: Graphic representation of TMG for three territories. (Source: T6 Ecosystems, 2008)

The previous figure (fig. 6) shows how the TMG facilitates the assessment of the local development as a result of the three criteria of strong impact both for the local socio-economic dynamics and the DBE.

The results shown in Figure 6 are important for our analysis. This illustrates not only the territory with the best results (the one positioned in the upper right of the axes with a greater area) but also informs us regarding the relative positioning of the different territories. In other words, the results for each territory can be evaluated in an absolute level on the basis of the positioning in the graph (and by the area covered) but also relatively by comparing the distance between the two territories.

Very often, comparing similar or linked territories is problematic and it is rare that a territory is identified with better results in all three variables. The most common situation is an intermediate one which tells us in which factors the territory is lacking. In figure 6, for example, Territory 3 has the highest value for CS and CI but with an intermediate level for ICT. The territory must invest in these socio-economic factors which are represented by this axis to support local development. Once the function that links the TMG with the three axes has been defined, then the composition of the three functions can be also established.

The three axes that compose the TMG are the complex qualitative functions, CS, CI and ICT which in our case are expressed in a scale of ?R {0.5}. Each axis is a function of many indicators for which the minimum value (in our case = 1) is associated with a low level of the given function and the maximum value (in our case = 5) is associated with high values of this function:

$$A = \Phi(\text{indicators})$$

Where A (Axis) = {CS, CI, ICT}
And where Φ is the AVERAGE:

If Φ = SIMPLE AVERAGE this means that all indicators have the same weight.

If the researcher however is able to weight the different indicators used in the study, then Φ = WEIGHTED AVERAGE where weightings are attributed according to the importance of each indicator.

In our study, the decision was taken to attribute an equal weighting to each indicator:
X axis: a primary representation is given by the level of social capital (CS) in a determined territory. The CS is a function of two macro variables; trust in the institutional players and capacity for collaboration with the intermediary players in the territory.

$$CS \quad = \quad \frac{\Sigma \ (\text{trust, capacity for collaboration})}{2}$$

Y axis: a second dimension of the TMG is given by the level of Capacity for Innovation (CI) in a particular territory. The CI is a function of three macro variables, allocation of infrastructure, level of human resources available, level of presence and use of ICT tools in local Public Administrations:

$$CI \quad = \quad \frac{\Sigma \ (\text{allocation, human resources, ICT in Pub. Admin.})}{3}$$

Z axis: the third dimension of the TMG which determines the area covered by the graph is given by the level of ICT for the SME sector in the territory (ICT).

The ICT is a function of two macro variables, structural and demographic features of the enterprises and the level of use of advanced ICT tools in the SME:

$$ICT = \frac{\Sigma \text{ (ICT in P. A.)}}{2}$$

By means of these representations, a precise definition of the functions of the TMG and the three axes (CI, CS and ICT) can be determined.

The construction of the indicators

Following the definition of the functions of the TMG as an arithmetical average of three axes and after having defined the function of each of the three axes - always by application of the arithmetical average of the indicators from which they are formed, it is now necessary to define (always in greater detail) the functions of the single indicators. Each of the seven indicators, indicated as necessary to calculate the values for the three axes, are also complex variables. Each of these is a linear function of statistical indices as shown in the following table:

Axis	Indicator	Number of Statistical Indices
X axis: Social Capital (CS)	Trust	7
	Capacity for Collaboration	5
Y axis: Capacity for Innovation (CI)	Allocation of infrastructure	4
	Characteristics of the Human Resources	4
	ICT in Public Administrations	4
Z axis: ICT in the SME (ICT)	Features of the SME sector	4
	ICT in the SME sector	6

Table 2: "Dimension" of each chosen macro variable (Source: T6 Ecosystems, 2008)

Given that each indicator is composed of a number of variables of statistical indicators that vary from 4 to 7, each indicator can be represented by a "diamond" as shown in the following figure:

Capacità di collaborare
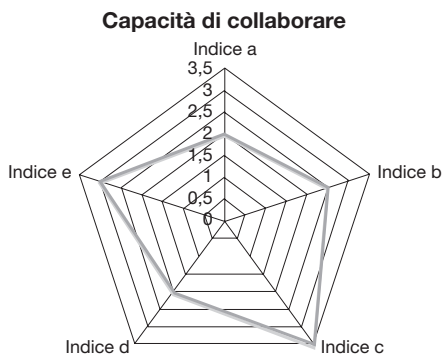
Figure 7: Examples of the representation of an indicator - Collaborative Capacity - with 5 statistical indicators. (Source T6 Ecosystems, 2008).

The diamond shaped representation permits the visualisation of the complexity of each indicator. Firstly, this representation shows clearly the level of each index, and secondly it shows the area covered by all the indices. The area represents the capacity of the territory to satisfy or reach a satisfactory level in each particular indicator. The greater the area, the greater the level of satisfaction achieved.

This double aspect permits two methodological choices in the calculation of each indicator. If in general we have:

$$I = \Phi \text{ (Statistical Indexes)}$$

where I = Indicator

The function Φ can be:

The SUM of the variables of the indices:

$$I = \frac{\sum_{i=1}^{n} \text{(Statistical indices)}}{n}$$

The AREA under the curve of the values of the indices: $I = \Delta$ **(Statistical Indices)**

The two mathematical options (Sum or Area) represent two distinct methodological options, each of which is aimed at calculating the level of satisfaction.

The SUM of the values of the statistical indices is unvaried in respect to the distribution of the values of each index.

As it can be seen from the following example, the SUM function which includes all the values of the individual indices does not take into account the variance of the values expressed by each of the statistical indices.

The function AREA to calculate the indicator is sensitive to the degree of equidistribution of the values of the statistical indices and to the order in which they are selected:

SCENARIO 1:	SCENARIO 2:	SCENARIO 3:
Index a = 3	Index a = 5	Index a = 5
Index b = 3	Index b = 5	Index b = 1
Index c = 3	Index c = 1	Index c = 5
Index d = 3	Index d = 1	Index d = 1
Index e = 3	Index e = 3	Index e = 3
Indicator Value SUM = 3	Indicator Value SUM = 3	Indicator Value SUM = 3
Indicator value AREA= 21.3	Indicator value AREA= 23.3	Indicator value AREA= 15.6

Table 3: Calculation of the indicators. (Source: T6 Ecosystems, 2008)

Scenario 1

Scenario 2
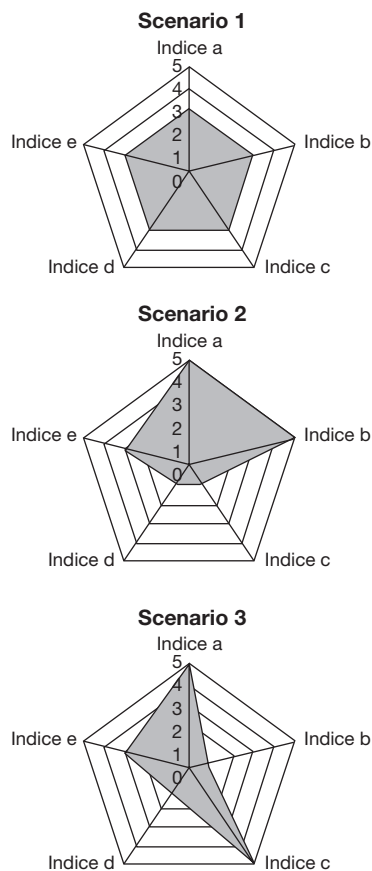
Scenario 3

Figure 8: Representation of different equivalent scenarios. (Source: T6 Ecosystems, 2008)

Given the dependence of the AREA function on the order in which the indices are presented, the decision to opt for the SUM function as an aggregate function of the selected statistical indices was taken; simpler values but still representative of the pertinent indices.

Comparison of the statistical indices

As stated previously, the representation of each chosen indicator was chosen as the arithmetical average of the statistical indices from which it is composed. This choice obviously implies that the same indices are comparable between each other, not only for the entire period under examination (2004-2006) and the specific territory (Province of Rieti and Viterbo) but that they are also expressed in comparable units of measure.

The choice of the unit of measure adopted for the study will therefore depend on the way in which these indices have been gathered and presented by the pertinent organisations (ISTAT, UnionCamere, etc.). Successively, the necessity for comparable data implies that all indices are expressed in a qualitative scales from 1 - 5, as indicated the following table.

Digital Business Ecosystems: a tool for growth in Lazio

INDICATOR	STATISTICAL INDEX	UNIT OF MEASURE SUPPLIED	UNIT OF MEASURE TRANSFORMED
Trust in:	Regional decision-makers	Qualitative Level: scale 1-5	Qualitative Level: scale 1-5
	Provincial decision-makers	Qualitative Level: scale 1-5	Qualitative Level: scale 1-5
	Municipal decision-makers	Qualitative Level: scale 1-5	Qualitative Level: scale 1-5
	Development agency & Parks	Qualitative Level: scale 1-5	Qualitative Level: scale 1-5
	Entrepreneurs	Qualitative Level: scale 1-5	Qualitative Level: scale 1-5
	Intermediaries	Qualitative Level: scale 1-5	Qualitative Level: scale 1-5
	Universities	Qualitative Level: scale 1-5	Qualitative Level: scale 1-5

INDICATOR	STATISTICAL INDEX	UNIT OF MEASURE SUPPLIED	UNIT OF MEASURE TRANSFORMED
Capacity for Collaboration with	Universities	Qualitative Level: scale 1-5	Qualitative Level: scale 1-5
	Enterprises	Qualitative Level: scale 1-5	Qualitative Level: scale 1-5
	Intermediaries	Qualitative Level: scale 1-5	Qualitative Level: scale 1-5
	Public Administrations	Qualitative Level: scale 1-5	Qualitative Level: scale 1-5
	Development agency & Parks	Qualitative Level: scale 1-5	Qualitative Level: scale 1-5

INDICATOR	STATISTICAL INDEX	UNIT OF MEASURE SUPPLIED	UNIT OF MEASURE TRANSFORMED
ICT in the Public Administrations	Presence of LAN	Quantitative data, value %	Qualitative Level: scale 1-5
	Use of OSS in the territory	Quantitative data, value %	Qualitative Level: scale 1-5
	PC per 100 employees	Quantitative data, value %	Qualitative Level: scale 1-5
	Ranking: Digital cities	Quantitative Index value from 1 to 100	Qualitative Level: scale 1-5

INDICATOR	STATISTICAL INDEX	UNIT OF MEASURE SUPPLIED	UNIT OF MEASURE TRANSFORMED
Characteristics of Human and Resources Generation of Knowledge	Rate of unemployment	Quantitative data, value %	Qualitative Level: scale 1-5
	Rate of activity in services sector	Quantitative data, value %	Qualitative Level: scale 1-5
	Presence of graduates	Quantitative data, value %	Qualitative Level: scale 1-5
	Patents	Quantitative data, value per 1000 inhabitants	Qualitative Level: scale 1-5

INDICATOR	STATISTICAL INDEX	UNIT OF MEASURE SUPPLIED	UNIT OF MEASURE TRANSFORMED
ICT in the SME sector	Enterprises with web sites	Qualitative result expressed in scale of 1-100	Qualitative Level: scale 1-5
	Enterprises with B2C services	Qualitative result expressed in scale of 1-100	Qualitative Level: scale 1-5
	Enterprises with B2B services	Qualitative result expressed in scale of 1-100	Qualitative Level: scale 1-5
	Enterprises with internal software management	Qualitative result expressed in scale of 1-100	Qualitative Level: scale 1-5
	Enterprises with CRM (Customer Relation Management) software	Qualitative result expressed in scale of 1-100	Qualitative Level: scale 1-5
	Enterprises with SOA (Service Oriented Architecture) software	Qualitative result expressed in scale of 1-100	Qualitative Level: scale 1-5

INDICATOR	STATISTICAL INDEX	UNIT OF MEASURE SUPPLIED	UNIT OF MEASURE TRANSFORMED
Characteristics of Enterprises	Density	Quantitative value by no. of residents	Qualitative Level: scale 1-5
	No. with < 10 workers	Quantitative data expressed in %	Qualitative Level: scale 1-5
	No. Enterprises active in K72 and K73	Quantitative data expressed in %	Qualitative Level: scale 1-5
	Network of entrepreneurial development	Quantitative data expressed in %	Qualitative Level: scale 1-5

Table 4: Original and normalized unit of measure T6 Ecosystems, 2008)

From the previous table, it can be seen clearly that when facing a dissimilarity of the official data (qualitative, quantitative, by scale, indicators, etc.) a process of standardisation of these data was undertaken to allow their comparison by the normalisation of the same data.

The choice to render the data uniform by normalisation was due to the fact that the data must not only be expressed in the same units of measure but are also fully comparable. (Appendix 1).

The normalisation of data allows data with homogeneous unit of measure but incomparable when transformed into an arithmetical average to be used for comparison. The average value of one variable corresponds to average value of another variable. This is guaranteed regardless of the % value of each of the single variable included in the calculation of the average.

Comparable to what?

The comparability of these data is relative to the parameters of normalisation applied. In other words, the values used for normalisation were those of the two target provinces in the Lazio region. The results therefore do not give an absolute scale of values but a range generated in the Lazio territory.

A normalised value equal to 1 in a province does not indicate a low value of that index in an absolute sense but only regarding the relative value for that territory. The following example will illustrate this concept:

The % of employees in services presented in the previous example is the following:

AREA	ORIGINAL VALUE	NORMALISED VALUE
Rieti	70.27%	1
Viterbo	78.95%	5
Lazio	78.24%	5

These data, when compared to the national average, are very positive, including those for Rieti. Italy shows a value of 65.5% which is well below the value for Rieti. From this example, it can be seen that the normalised value for Rieti is low when compared to figures for Lazio region (hence a value = 1) but it is not low when compared to the national figures. In the national scenario, Rieti shows an excellent employment rate approaching a value = 5% over the national average.

This example is explicative of the fact that the normalised data must be interpreted from a comparative point of view by benchmarking activities carried out in the selected territories in Lazio, which have been chosen for this study: if the value for an indicator for Viterbo = 4 and the same value for Rieti = 2.5, then these numerical values indicate that in the scenario of Lazio region, Viterbo has reached more competitive results.

The choice to standardise the data in a qualitative scale of 5 levels (1 = min level and 5 = max level) is derived from the fact that the normalisation process can be applied to the entire database to compensate for less detailed date. This therefore permits a series of comparable data for the target areas. In this case, the first two indicators presented: "Trust" and "Capacity for Collaboration" were expressed in a qualitative scale of 1-5.

3.2 A global vision of the territory under study

Grouping the data for the key stakeholders[64] involved in the study, it is possible to say that the extended area of Viterbo is configured as a territory in a phase of transition and it is currently moving towards a new configuration, still to be defined. It is not a stagnant territory; on the contrary, it is a territory with the capacity to identify skilled human resources necessary for the local productive sector but that is not able yet to absorb the new graduates. Innovation is advancing through important entrepreneurial initiatives, but hardly connected to each other; network infrastructure is advancing but still suffers from geographical and cultural isolation. This is a territory with a high quality of life and artistic and natural heritage but still underdeveloped resources.

Key stakeholders, mainly represented by intermediaries and public institutions involved in local planning, were asked to indicate the main barriers and driving forces towards innovation.

Regarding barriers: an insufficient infrastructure, in particular, roads, railways and their connection to ICT tools. As it can be seen in the following section, the two provinces, in different ways, show a notable underdevelopment when compared to the rest of the region and to the national values.

A stagnating economy and its effect on the main productive areas constitutes the second barrier towards innovation which is also associated with the absence of large industry and a fragmentation of the productive sector into an elevated number of small and micro enterprises with low rates of production and low added-value. Always regarding barriers, there is also a problem connected to human resources: a misalignment between demand and supply of professional figures. On the one hand, there is a need in the manufacturing division of skilled employees, and on the other hand, young people are more and more directed towards university studies, often in fields completely different from the demand by the manufacturing sector. Companies are not able to attract employees from outside the region and graduates in the region hardly find an employment in local enterprises.

Together with this barrier that can be defined as being "hard", due to the fact that it needs strategic measures (long-term development plans, investment in large-scale public works, bilateral agreements between universities and enterprises, etc.), we also encounter cultural barriers that, with different origins in the two provinces, can be summarised in a low capacity towards collaboration and networking. The cultural factor, a tendency of a territory towards innovation, exchange of knowledge, collaboration, is a complicated issue to evaluate through official statistics but it plays a key role in the development of a territory and will be analysed later. In the preliminary phase, this difficulty and the tendency towards isolation of the various social actors and the difficulty demonstrated towards collaboration are not only limited to these target territories but are ingrained in the entrepreneurial makeup of Italy, which is characterised by a multitude of very small industries on the one hand and great fragmentation of industrial or productive processes on the other; these shared features, however, do not facilitate growth as the capacity for collaboration, exchange of knowledge, risk-sharing and investments are the primary driving force towards innovation and economic growth.

NOTES

[64] Local actors identified as occupying significant roles in territorial development or able of giving reliable data for ad-hoc studies

Regarding facilitators for innovation, we once more find the small and medium sized enterprises as a characterising element. Local SMEs if on the one side have difficulty in initiating processes of territorial economic growth, they are still seen as independent and flexible players able of reversing the negative trend through creativity and change management. An example of this is found in the Viterbo territory with the enterprises in the area of Civita Castellana which have shown great capacity to invest in research and have raised the quality of their products and introduced design, thus overcoming the sector crisis. Regarding the Rieti province, the almost spontaneous birth of a cluster of enterprises in the precision machinery sector, specialised in the production of dosage pumps, has shown exponential growth in a period of four years.

Feedback from key stakeholders has helped identify future measures to be taken towards innovation rather than describing innovative activities already on-going in the territory. One of these measures is the launch of the Scientific and Technological Park of Alto Lazio which is considered as being an important and strategic project.

There is also the desire towards giving greater emphasis to good practice policies that, if communicated effectively, can act as a driving force for entrepreneurs and local administrations. Issues such as communication and marketing are considered a priority, especially regarding territorial marketing with the consequential investment in the tourism sector. If the promotion of typical agro-alimentary products or foodstuffs linked to local cultural and natural heritage of a territory of notable prestige is lacking, then this should become a priority target for intervention. Such products can be a strong driving force in the implementation of in-coming tourism solutions, new tourist itineraries and proposals for new targets (green tourism, farm tourism, mountain tourism, etc.).

Other priority issues are: investment in research and development (R&D), improvement of communication channels between enterprises and research centres (public and private) and policies in favour of technology transfer. Although these issues are considered a high priority for local innovation, in part they overlap with the remit attributed to the Technological Park which has the role of attracting and concentrating the investments and competencies necessary for this process.

A parallel requirement received from the various interviewees is to provide a clear interpretation of the development scenarios in respect to the reference markets; it is evident that the local entrepreneurs need updated and targeted tools to understand changes and modifying scenarios in the territory, especially when examined in an ever-growing global context. To invest in innovation means to access knowledge which groups a series of micro-data in a complete framework aimed at guiding the entrepreneur in taking medium and long-term decisions.

Feedback from interviewees indicates the tourism sector as a priority issue. Territorial culture, local products and landscape heritage could relaunch the productive system allowing the development of further advanced services of high added-value. Other initiatives are being taken to assist these processes involving public/private partnerships. Among these initiatives, the Authority for Mountainous Areas for the Rieti Territory and the Association of Hotel Owners - both of which are currently being constituted. Furthermore, other initiatives aimed at territorial marketing and strengthening of the activities of the Agencies for the Promotion of Tourism are currently on-going.

The use of ICT tools and the possibility of real-time mapping of the in-coming tourism capacity and linking the territorial scenario with the national tourism industry are undoubtedly determining factors for the success of these initiatives. In the following paragraphs, the various initiatives proposed for the extended area of Viterbo and Rieti are illustrated, including strengths and weaknesses which result from the statistical data and other information from the targeted surveys.

3.2.1 The capacity for innovation

The current situation in the region

The innovation system in Lazio region has many strengths primarily linked to the presence of many public research bodies: CNR (National Council for Research), ENEA (Agency for New Technologies, Energy and Environment), ASI (Italian Space Agency), INFN (National Institute of Nuclear Physics), universities and higher education centres that have excellent research standards at national and international level. The IPI shows 36 of these in the region.

CENTRES OF INNOVATION IN LAZIO REGION	NUMBER
Universities and Research Centres	36
Centres for innovation	21
Chambers of Commerce and Entrepreneurial Associations	83
Total	140

Table 6: The Innovation system of Lazio region. (Source: Elaboration T6 Ecosystems on data, Ridit, 2007)

The public research infrastructure is also integrated with many specialised centres such as the Centro Sviluppo Materiali (Centre for the Development of Materials). Private research centres active in many sectors such as aerospace, chemical and biotechnology are also present in the territory.

Regarding innovation and technology transfer, the regional portfolio of the Centres of Excellence for Innovation represents 7.3% of the entire national offer. Regarding available services, Lazio region is in line with the national trend and the research institutes in the territory show a greater tendency towards technical and information support services, while training services aimed at the business sector are much less developed.

The presence in Lazio of intermediaries active in technology transfer, in applied research and consulting services for the business sector, can contribute positively towards the mediation function that the ecosystematic platform provides, specifically by encouraging the various actors to share competencies and advanced knowledge which are true resources of a Knowledge Society scenario.

Lazio region has a highly articulated research system – that promotes the aggregation of enterprises active in the innovation sector and the availability of a highly qualified work-force active in the service sector. These are factors which open many important scenarios for the activation of the DBE in the territory. The differences in the values for Lazio region as a whole and those from the provinces of Rieti and Viterbo show inferior values for the two target territories in almost all the indicators considered.

The optimistic results for the region are positively influenced by two main factors.

Primarily, the localisation of Rome which attracts many of the structures indicated previously which in turn have an aggregating effect on many entrepreneurial activities orientated mainly towards the service sector.

Secondly, the regional data is positively influenced by high levels of public investments in the R&D sector that is not, however, followed by a similar investment from the private sector.

Without declassifying the positive results of the Lazio region which shows a very positive ranking as innovative region at European level, a comparison with the regions of Piemonte and Lombardy, which are ranked top for innovation, shows a gap between investment in innovation and the return in terms of new patents (which are a potential source of new products).

The regional shift towards services will undoubtedly have strong impact on the generation of new patents that is important to reinforce the advanced services sector. However, the region is still underdeveloped in advanced manufacturing sector.

The weak collaboration between public research bodies and regional enterprises is evident due to the fact that public investments in R&D are rarely transformable as resources applicable to the productive sector. If the necessity to reinforce the link between local universities and Research Centres with the entrepreneurial sector is a priority issue at regional level, then this is even more important in the two territories examined.
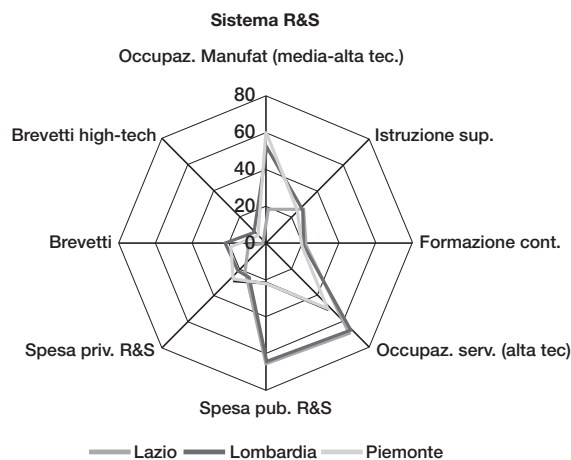
Figure 9: R&D System, Lazio, Piemonte and Lombardy (Source: Lazio Region, 2007)

The territories of Viterbo and Rieti

Data regarding the infrastructures in the Province of Rieti and Viterbo highlight the difference between the performance at regional level and the scenario in the more "peripheral" areas.

305

ASSE 2 - Dotazioni Infrastrutturali
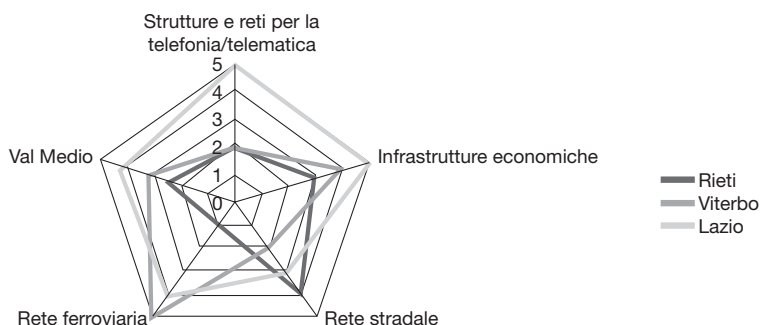
Figure 10: Allocation of infrastructure.
(Source: Elaboration of T6 Ecosystems on data from Istituto Tagliacarne, 2004)

The perception of geographic isolation comes from the key stakeholders mentioned previously and it is confirmed by the above diagram (fig. 10). If the areas of Viterbo and Rieti show a lack of physical infrastructure, they show an even greater deficiency in IT infrastructures. The Figure 10 shows the low road connections in the case of Viterbo and railway in the case of Rieti. The acceptable level of railway connection for Viterbo can be attributed to the important railway node of Orte, which is a central connecting node for the peninsula and a link to the area of Terni and Umbria. If the extended area of Rieti-Viterbo is considered as having a sufficiently developed system of connections, the connection between the two areas is particularly insufficient.

Considering the hard connections (road and rail) and the soft (broadband), then the gap between the territories is wider. Broadband diffusion, or other network tools such as Wi-max, is still limited to industrial areas in the two territories, despite regional measures to improve this situation. The low population density of many municipalities poses a further obstacle for investment in this sector. The public sector, however, is pivotal towards favouring an Information Society with the aim of providing a regime of services for both enterprises and citizens/consumers.

The situation regarding economic infrastructures in Viterbo is more positive (See Tab. 7) and is divided into:
• Banking infrastructure;
• Various services (commercial centres, post offices, scientific parks, exhibitions and permanent fairs);
• Environmental Infrastructures.

	Road networks	Railway networks	Structure and network for telephony/telematics	Economic Infrastructures
Rieti	133	39.5	32.4	66.8
Viterbo	75	205.4	41.2	96.1
Lazio	94.1	120.2	115.8	111.7
Italy	100	100	100	100

Table 7: Allocation of infrastructure
(Source: Elaboration of T6 Ecosystems on data from Istituto Tagliacarne 2004)

If it is true that the territory under examination has a scant IT infrastructure, a difference is also evident in the investment in ICT in the Public Administration (fig. 11): an interesting case is the Province of Viterbo where the decision was taken to provide the public administrations with a local area network (LAN) and open-source software.

ASSE 2 - ICT nella PPAA

Figure 11: Level of ICT in the Public Administrations
(Source: Elaboration of T6 Ecosystems on data from ISTAT, 2004)

The level of connectivity of the Public Administration in the Viterbo territory is higher than the average level of Lazio region; the local Chamber of Commerce has recently opened an on-line desk for local enterprises which is a promising sign indeed. However, the allocation of personal computers to public employees in the Rieti territory is just over 70% which represents an important area for future measures to increase cable connections for on-line services. Regarding online services and e-Government services aimed at citizens, both Provinces are behind in the rankings for Digital City prepared yearly by the RUR-CENSIS (Rete Urbana delle Rappresentanze). This gap within the region is not surprising as this survey regards the Region as an institution and not as a geographical area and can certainly rely on increased investments; moreover, it will start to provide ICT services for citizens sooner. However, the positioning of the provinces is 24th for Viterbo and 20th for Rieti in the ranking of Italian Provinces and this demonstrates a substantial deficiency when compared to Provinces in the North/central Italy.

	Presence of LAN (%)	Use of OSS in the territory (%)	PC per 100 employees	Ranking: Digital cities
Rieti	62.5	6.3	71.8	54
Viterbo	95	15	64.2	50
Lazio	85	20.6	38.3	67

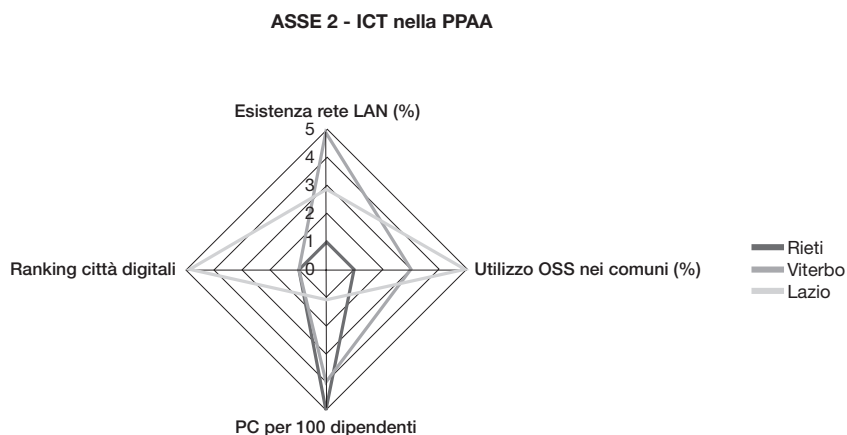Table 8: Level of ICT in the Public Administrations
(Source: Elaboration of T6 Ecosystems on data from ISTAT, 2004)

As far as Open-source software (OSS), it must be highlighted that the choice of the public sector regarding OSS should have positive repercussions for the small software houses in the territory. One of the interviewees stated that the Public Administrations should

play the role of first buyers thus creating an important leverage effect for the diffusion of ICT between enterprises and citizens. To this regard, the relation between Public Administrations and ICT was included in the indicators regarding the tendency towards innovation in the target territory, as this will help in identifying in the public sector not only a referee able of implementing financing and eventual development projects but it will also act as a magnet for the Information Society which is one of the most important channels for on-line services.

Regarding the issue of human resources, which is undoubtedly a necessary factor to trigger long-term innovation processes, a favourable situation for Rieti is noted regarding employment rates.

ASSE 2 - ICT nella PPAA
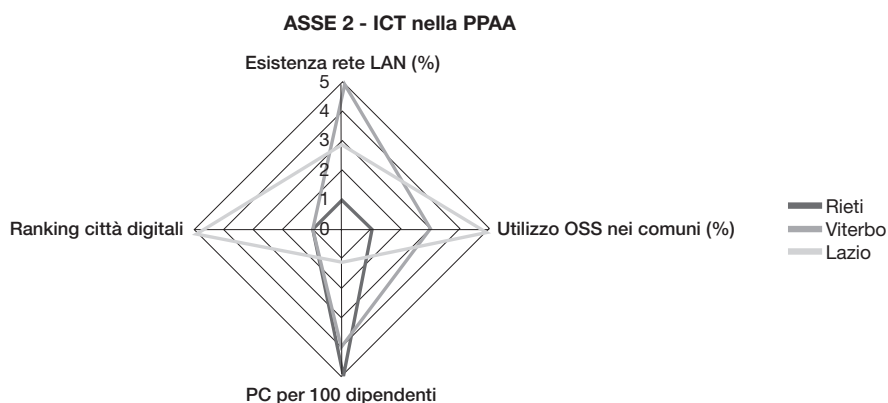
Figure 12: Qualitative level of Human Resources
(Source: Elaboration of T6 Ecosystems Italian, on data from ISTAT (Italian National Institute of Statistics) 2006 and Italian Patents & Trademarks Agency, 2006)

The territory of Rieti is traditionally industrial, despite the consequences of international competition and drastic restructuring of its industry. Nowadays, the territory shows an equal distribution of employment in the four sectors with an almost symmetrical graphical distribution. Nevertheless, employment rates in the province of Viterbo are very low and mainly concentrated in the services industry which, on the one hand, could indicate a shift towards a Knowledge Society. However, the territory is still over dependent on the construction industry and other low added-value services.

A reduction of almost 50% of graduates in the two provinces compared to the area of Rome: these results do not refer to graduates in the province, even lower in the case of Rieti which hosts decentralised venues of few universities, rather than residents of Rieti and Viterbo who have higher education qualifications. In this case, a shift of residents towards the capital to follow higher education programmes is noted and these graduates find difficulty in returning to their territory which requires skilled workers but not necessarily in line with the studies completed by graduates resident in the territory. The skills required in the territory are mainly technical and experts are often not available in the territory. A new generation of professional qualification is needed to satisfy the demand of the local productive sector and even if entrepreneurs are satisfied with the current availability of qualified personnel in the territory, there is some preoccupation regarding future needs with the transition to the next generation.

Key stakeholders involved in research activities project on the future generations have many expectations regarding employment in ICT enterprises which are different from the current situation. There is preoccupation these qualifications are available today are wasted as the choice of higher education programmes is oriented differently from the growing local needs for skills and qualifications.

Local enterprises are not able to absorb professional or qualified employees who are often drained towards Rome while the universities present in the territory must target their training programmes to satisfy the local demand for skills and qualifications. It should be noted that a recent decision has been taken to open a branch of the Faculty of Engineering of the University of Rome III and this could play an important role in satisfying the demand for hi-tech companies and not only.

	% Employment	% employed in services sector	Graduates	Patents
Rieti	43.75	70.27	5.89	0.019429297
Viterbo	40,03	78.95	5.03	0.070071757
Lazio	46.89	78.24	11.29	0.174465359

Table 9: Qualitative level of Human Resources:
(Source: Elaboration of T6 Ecosystems on data from ISTAT and UIBM, 2006)

The overall number of patents in the provinces of Viterbo and Rieti is low but slightly higher in Rieti, probably due to a stronger entrepreneurial sector mainly involved in services of low added-value; a sector highly fragmented into small and micro enterprises. SMEs do not have the possibility of creating an ad-hoc internal structure dedicated to innovation, nor have the economic resources or personnel to dedicate to the R&D sector.

These conditions limit the tendency towards innovation and reduce the possibility of competition in an increasingly dynamic market. In this sense, collaboration among enterprises and between the research sector and SMEs is a priority issue and all initiatives towards aggregation of different businesses and the creation of public/private research centres dedicated to the territory or a specific production sector is a key tool to increase the capacity to create new products and processes.

3.2.2 The social capital

Trust and Capacity for Collaboration

Key stakeholders were asked about the degree of trust of their organisations and the entrepreneurs with which they collaborate and the relationship with the local stakeholders.

The local stakeholders have been divided into two macro categories (private and public) and it can be said that the private actors generally have a greater degree of trust than the public ones.

The degree of trust by public actors increased in the micro territorial context: the municipalities at the top of the list, followed by the provinces and then the regional authorities.

The public administrators who are far from personal contacts are generally considered with greater indifference due to the bureaucratic difficulties and time factor. Even if the two territories show similar trends, the situation in the province of Rieti is slightly more polarised than that of Viterbo. In both cases, once again, the entrepreneurs show the best result followed by the intermediaries.

Among this category are the Professional Associations which are considered to be the strongest catalysts for the generation of trust in the interviewees and in the entrepreneurs.

ASSE 1 - Fiducia
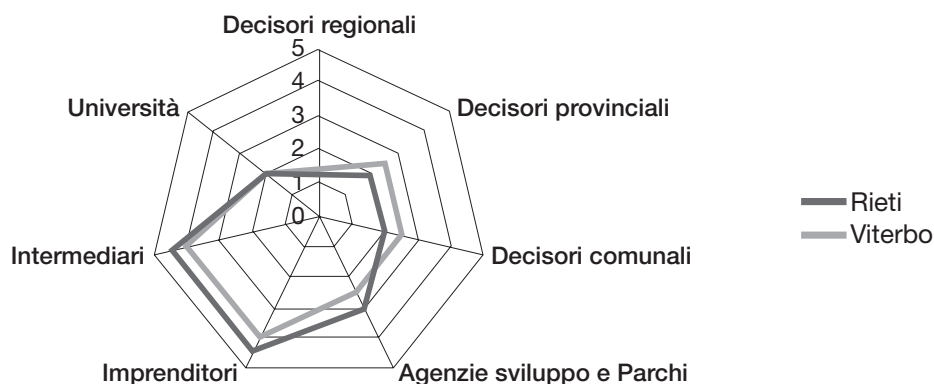
Figure 13: Level of Trust in intermediaries (Source: T6 Ecosystems, 2008)

It is therefore possible to anticipate that the Professional Associations are the most promising stakeholders to actively involve enterprises in the pilot project for the Digital Ecosystems. They can intercept the needs and the expectations of the productive sector and they are also the subjects with the greater tendency towards collaboration.

Alongside intermediaries and institutional bodies such as the Chambers of Commerce, Professional Associations, Associations of Entrepreneurs, some private enterprises must be also mentioned; such as those offering consulting services in the field of financing and development projects. This new central role taken on by consultants, as confirmed by other European research studies, is of great interest. It is possible to affirm that enterprises have a greater need of actors able to interpret and anticipate change. It is interesting to note that in the constituting Technological Park there is a general consensus, especially in the province of Rieti, regarding the Agency for Industrial Promotion which is well rooted in the local context and plays a pro-active role.

Research on the enterprises in the territory is for the greater part still on-going, but the first feedback shows that these results are substantially confirmed by the interested parties and therefore can be considered as a starting point to involve SMEs and other local stakeholders.

ASSE 1 - Capacità di collaborare
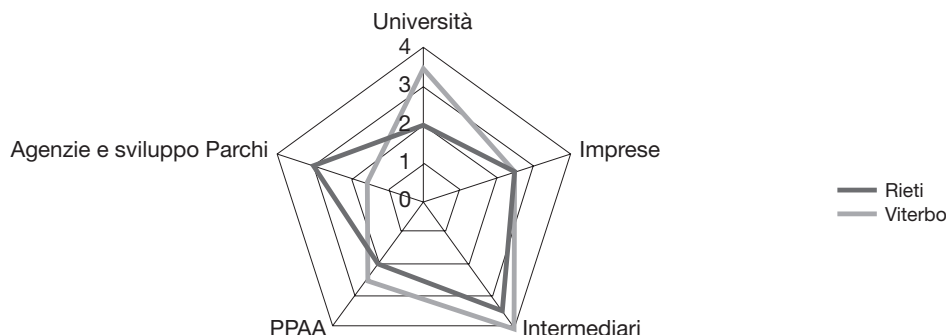
Figure 14: Collaborative Capacity with the different intermediary subjects (T6 Ecosystems, 2008)

If the network of entrepreneurs benefits from a general high level of trust, then their capacity to collaborate in a network is rather limited. This is an opinion shared by both territories. The main difference of opinions between the two provinces concerns the university sector. While in Viterbo, the collaborative experience is more political, the opinion from the province of Rieti is more critical. This is easily explained by the fact that Rieti does not have its own university but hosts decentralised centres of the Rome Universities that, while delivering academic programmes in this territory, they have not relocated any research centres or specialist teams to the territory able to generate a positive local impact. In addition, the academic programmes are also ill-suited to the needs of the entrepreneurial sector and therefore there are low levels of collaboration. Perhaps, it would be better to speak of an absent university partner able to fill the demand of the local generated degree of collaboration. In those cases where university institutions are present, such as Viterbo, this is regarded as a trustworthy body and open to collaboration. In this sense, the lack of university departments in the territory of Rieti is compensated by the role played by the Scientific Park and the Association for Industrial Development as it can be seen in the figure network illustrated below, which shows its role as an important relational hub.

Leadership and centrality

One of the most interesting dimensions of the territorial inter-relations is related to the leadership in the innovation process, with the possibility of tracking, with greater or less ease, the enterprises or public actors able to launch the process of change and aggregate a sufficient number of actors to create a critical mass necessary for a positive trend. To this regard, it should be noted that, at least at this stage of the study, no real leader in innovation has emerged, or better, many have emerged but still have not been recognised by a majority of the local actors as such. Above all, regarding the public-institutional reference, it is noted that the greatest difficulty of most of the interviewees was to list three different parties, which is a sign that the local actors tend not to aggregate around one node but rather use a multiple network of trust and collaboration

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which are not always interconnected. Interviewees were also asked to indicate the referees in order to receive information for SMEs regarding the possibility of funding innovation projects. Also in this case, SMEs usually address directly the proposing centre and only secondly approach other consultants of Professional Association for intermediation services.

Another difficulty has emerged for the enterprises to intercept various kind of information that might be important for them. The following table indicates the social actors indicated as referees for information and regarding leaders in innovation processes.

Reference points for strategic information	Leaders in innovation	
	Public	Private
Confindustria Ceramica	Confindustria Ceramica	Catalano (bathroom fittings)
Sviluppo Lazio	University of Tuscia	Vitergeb (plastics)
Professional Association	Innovation Centre of Tuscia	Flaminia (bathroom fittings)
Rieti province	Centre permanent rapid	Disegno ceramica
Viterbo province	prototyping (Rieti)	Prefedil
Consultants	Mountainous areas	Studio due
BIC Lazio	Consortium for Industrial	Prima Print
Chamber of Commerce of Rieti	Development, Rieti	Morelli norcineria
Chamber of Commerce of Viterbo	Scientific and Technological	EEMS
Consortium for Industrial	Park of Alto Lazio	EMSA(e)
Development of7 the Chamber	Chamber of Commerce of Rieti	EDA industries
of Commerce of Rieti	Chamber of Commerce of Viterbo	Enne design (web design)
		SECO e EMEC (hydraulic pumps)
		Tomasini meccanica
		Solsonica
		Icaplants
		Rida ambiente
		Acobucci electronics
		D. Marchioni

Figure 15: Centres of territorial innovation (Source: T6 Ecosystems, 2008)

Typologies of networks

Thanks to the collaboration of key stakeholders it was possible to draft the first relational diagram of the territory which will be further integrated with the following study on the SME sector. The following figure (Fig. 16) shows the interpersonal links and the relations which go beyond a one-to-one collaboration but more exchange of information and consolidated collaboration. In this sense it is possible to observe that the studied area is well connected and can count on a diversified network of intermediate actors (in yellow) which are trusted by the enterprises and the social parts and without doubt play an important role in the tests of the DBE.

The gate-keeper, or those subjects able to connect otherwise isolated networks, are highlighted in red. Obviously, this map is influenced by a number of subjects involved in the study as key stakeholders, nevertheless, the quantity of reciprocal links (between subjects who are known to each other) is reason for a certain degree of trust in this first representation.
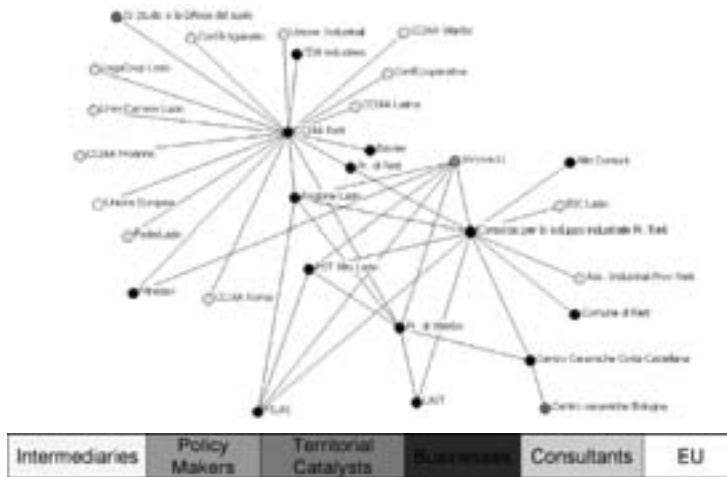
Figure 16: Social Networks: "Personal relations which go beyond the workplace""
(Source: T6 Ecosystems, 2008)

If we now go to study those relations based on project sharing, we can see that the relations within the network becomes deeper and more articulated. The low level of enterprises (in blue) is not cause for preoccupation as their absence from the network is due to a precise reason. The decision was taken to exclude this category from the network at this stage to render the connections between the intermediaries and the Public Administration more evident as these have the key role of attracting or creating links to the business sector. Actors such as the Chambers of Commerce, Consortium for Industrial Development, Rieti and the Centro Ceramica of Civita Castellana are already connected to a series of SMEs which are part of their institutional mission.
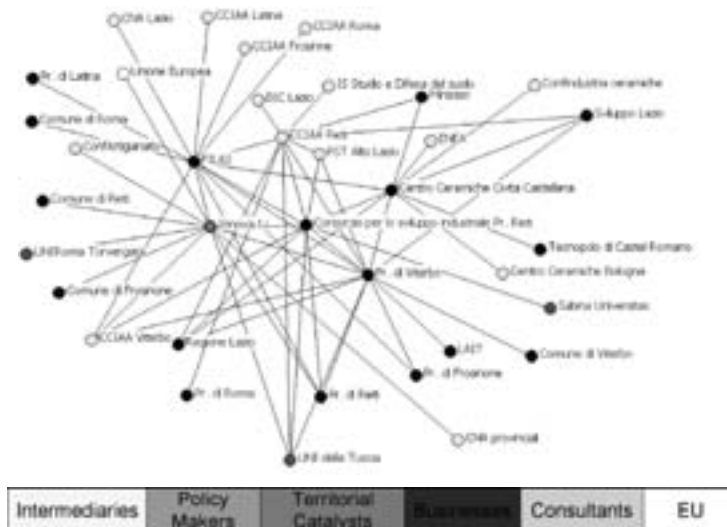
Figure 17: Social Networks: "Partner in planning activity" (Source: T6 Ecosystems, 2008)

Superimposing the two networks, even if there is not a high level of trust and the capacity to collaborate, the networks are however well populated. A possible interpretation of this misalignment (difficulties towards collaboration versus high density of links regarding projects) is due to the elevated number of projects present in the territory which are not associated with an overall synergic planning activity. In other words, it is difficult to transform the initiatives within the network in a series of long-term strategic measures. The data is however positive and allows us, once the area of intervention has been selected, to involve a rich network of intermediaries and public bodies.

3.2.3 The relationship between SMEs and ICT

As previously stated, the examined territory is characterised by an extremely fragmented productive sector: the companies with less than 10 employees represent almost entirely the entrepreneurial initiatives with 97.15% for Rieti province and 96.67% for Viterbo. The rate of entrepreneurial development, or rather the relation between new and non-functioning enterprises is positive, even if lower than the rate for Lazio region. In particular, Viterbo, with a rate of 1.3%, is in line with the national average, whereas Rieti is much lower and therefore indicating a deficiency in this sector. To counterbalance this negative result, there is a high presence (1.12%) of enterprises active in the IT and research sector which, if isolated from the level for Viterbo (0.95%), still shows a lower level than the one for the entire Lazio region (1.79%).

	Density	% Num. SME (1-10 workers)	% IT and other related activities (K72) + R&S	Rate of entrepreneurial growth
Rieti	8.355892906	97.15%	1.12%	0.7
Viterbo	11.67950765	96.67%	0.95%	1.3
Lazio	6.982818131	95.79%	1.79%	1.7
Italy	8.779791962	94.79%	1.57%	1.3

Table 10: Characteristics of the enterprises
(Source: Elaboration of T6 Ecosystems on data supplied by Infocamere, 2005 and Censis, 2005)

If we look at the distribution of enterprises by productive sector, then we see that agriculture, commerce and construction are the most important sectors in both provinces.

The primary sector (see fig. 18) shows a percentage of enterprises greater than the regional and national averages, such as the construction sector in the province of Rieti. It is important to remember that these sectors are on the one hand strongly characterised by a seasonal cycle, on the other hand have a low inclination towards the use of ICT even if there are evident opportunities for the agricultural sector which could also be strengthened by the presence of the Faculty of Agriculture of the University of Tuscia in the Province of Viterbo.

Regarding agriculture, another further opportunity for development regards the application of ICT in the tourism sector which, even if in the current scenario this is marginal, shows great possibilities of growth through the specialisation in the sector of environmental tourism and the rediscovery of typical products. These possibilities of growth are also witnessed by the recent initiatives taken in both Provinces by the Authorities for Mountainous areas; in Rieti the launch of the Association of Hotel Owners and in Viterbo in the strengthening of the Local Agencies for the Promotion of Tourism.
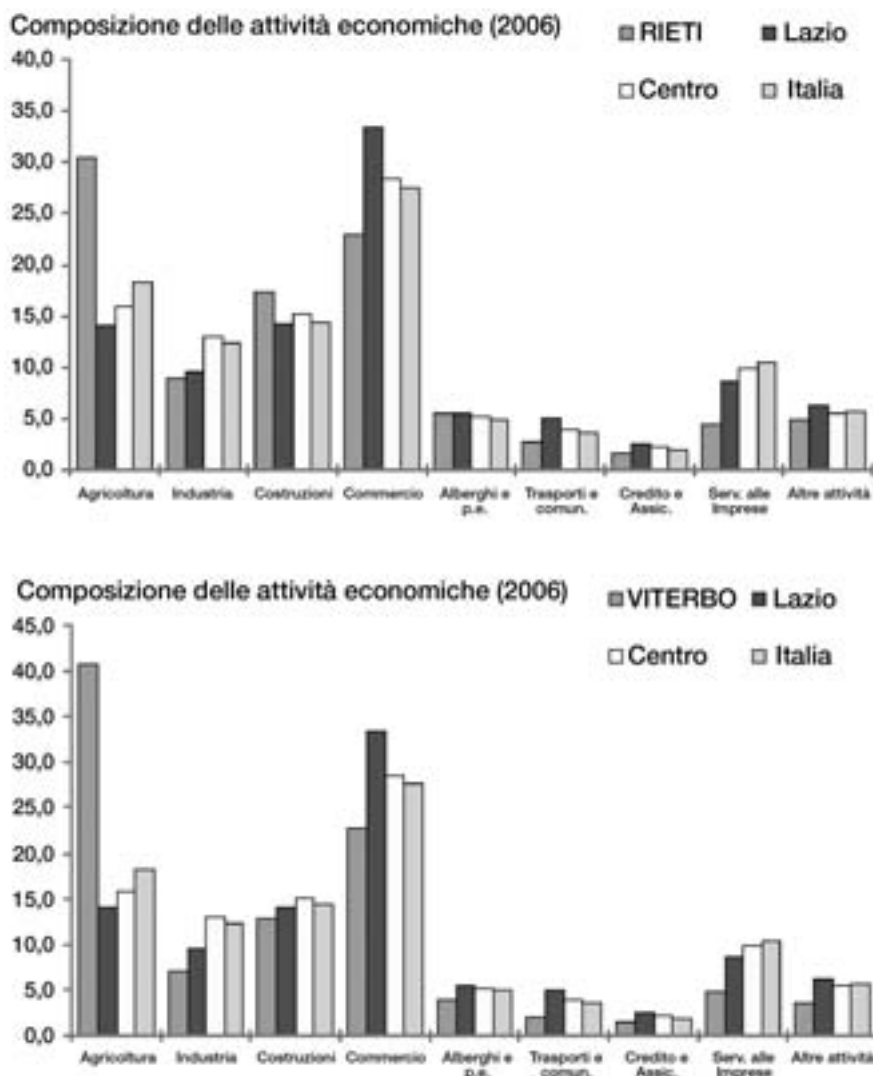
Figure 18: Composition of the economic activities (Source: Istituto Tagliacarne, 2004)

From the analysis of the diamond (fig. 20) there is a presence of numerous micro-businesses and the high density of these, especially in the Viterbo area, is ideal for aggregation. The current rate of entrepreneurial growth is rather slow and would undoubtedly benefit from the promotion activities aimed not at the single enterprises which are distributed throughout the territory, but at the sectorial clusters.

A separate measure targeted for the enterprises active in the information technology and research sectors to promote activities aimed at new graduates who tend to leave the territory due to the situation of the low territory demand for trained personnel.

ASSE 3 - Caratteristiche Imprese
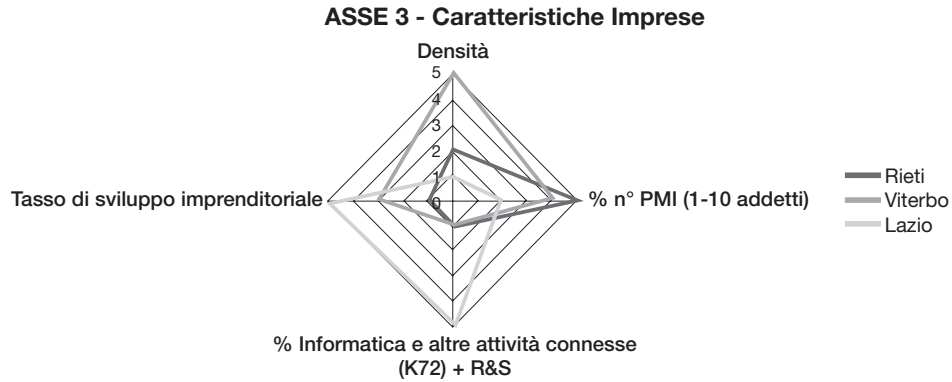
Figure 19: Characteristics of enterprises
(Source: Elaboration of T6 Ecosystems on data supplied by Infocamere, 2005 and Censis, 2005)

Regarding the relation between the business sector and ICT, the issue of data gathering has already been discussed in the past chapters.Here it is sufficient to indicate that, given the structure of the entrepreneurial sector (composed of more than 96% of enterprises with less than 10 employees) and the concentration in the agricultural, construction and commerce sectors, it is not surprising that the use of ICT is low. Reference is made to the perception that the diffusion of ICT tools in enterprises from the moment that the above information was received from qualitative surveys with key stakeholders. Starting from the professional experience of the employees, it can be said that the greater part of enterprises have an internet site but the use of business to business (B2B) or direct sales tools to clients (B2C) is much less frequent.

Another important data is that the use of these tools is strongly influenced by the productive sector: in particular, the advanced manufacturing companies (pertaining to the area Civita Castellana and Rieti-Cittàducale) were first equipped with an internet site and address the platform for issues regarding the supply and market chain.

ASSE 3 - Uso dell'ICT nelle PMI
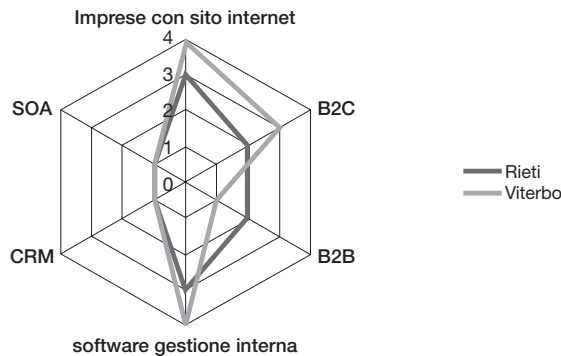
Figure 20: ICT Use in SMEs
(Source: Elaboration of T6 Ecosystems on data from ISTAT, 2006)

If the diffusion of software for the management of internal processes is elevated (most probably targeted to administrative functions), there is very little use of Customer Relationship Management (CRM) and Software Oriented Architecture (SOA) by enterprises. The use of these tools appears to be closely linked to the dimensions of the enterprises: only large and medium sized enterprises (which are also very few in the territory) opt for these solutions. Given the fact that data has been obtained from key stakeholders and not from spot surveys, it is rather risky to compare the results for the two provinces because the perception may be biased by the typology of the enterprises (sector and typology) with which the testimonial is in contact. The differences in the results for the examined territories are not significant enough to create a net difference in the two areas with both values on the upper levels of the CISCO scale of measurement for the introduction of new technologies. The enterprises in the extended area are to the greater degree visible on the web but have not yet reaped the full potential for their operations.

	BUSINESSES WITH WEB SITES	B2C	B2B	INTERNAL SOFTWARE MANAGEMENT	CRM	SOA
Rieti	60%	40%	30%	60%	10%	1%
Viterbo	70%	50%	15%	70%	5%	1%

Table 11: ICT penetration in provinces (new technologies)
(Source: Elaboration of T6 Ecosystems on data from ISTAT, 2006)

There are probably various justifications for the non use of these solutions, but the main reason is cultural; according to the interviewees, the support and diffusion of new and advances ICT tools in SMEs will occur through new generations of employees. It is evident that a more targeted training activity, accompanied by economic incentives and the creation of aggregations of enterprises with common objectives equipped with shared technological tools will increase the levels of technological interoperability and capacity for collaboration. The tourism sector, and in particular the links between tourism agencies, holiday farms and agricultural enterprises specialised in the production of typical products, is a sector that would immediately benefit from the application of B2B and B2C with a consequent positive effect for the entire territory. All of these initiatives should be accompanied by communication campaigns and funding support to those enterprises which increase their performance through the adoption of ICT tools.

3.2.4 Territorial Maturity Grade: analysis and comparison

As anticipated in Chap. 3.1.1, the level of local development is measured by the Territorial Maturity Grade (TMG). This is a function of the three dimensions described in the previous paragraphs:

- Capacity for Innovation (CI).
- Social capital (CS).
- Relations between the SME and ICT (ICT).

These three axes are in turn the representation of the arithmetical average of many indicators and indices. Once the values for the three axes have been calculated and transformed in a qualitative numerical value, the Territorial Maturity Grade is obtained as an average linear function:

$$TMG = \frac{\Sigma \ (CS, CI, ICT)}{3}$$

As stated previously, the three rates have generated the following normalised values:

	CAPACITY FOR INNOVATION	SOCIAL CAPITAL	SME & ICT
Rieti	2.00000	3.017857143	2.125
Viterbo	2.91667	3.107142857	2.791666667

Table 12: Normalized values of the axes (T6 Ecosystems, 2008)

On the basis of these qualitative indices, it is possible to calculate the TMG index for Rieti and for Viterbo, which is represented on the three axes of the following graph:
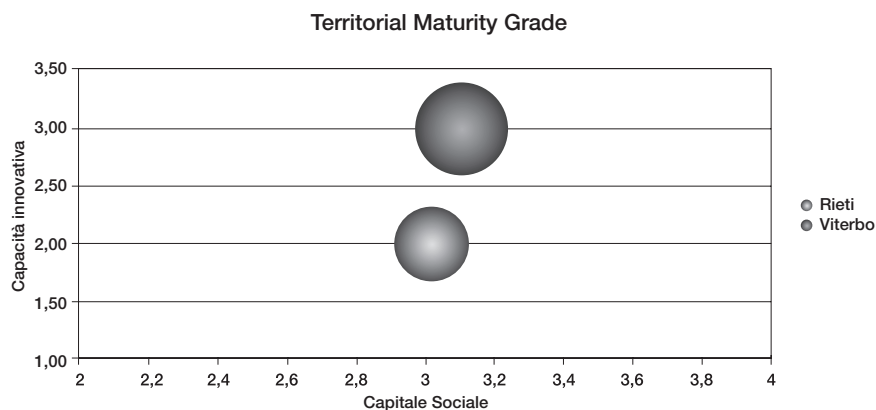
Figure 21: Graphic representation of the TMG for the provinces of Rieti and Viterbo
(T6 Ecosystems, 2008)

As it can be seen from this figure (fig. 21) the TMG permits the positioning of local development in the provinces of Rieti and Viterbo in respect to the three dimensions which are the object of this study.

An initial analysis of the results shows more positive results for the province of Viterbo. On all three axes, Viterbo shows a better performance and in some cases such as the Capacity for Innovation, which is significant and in other (Social Capital), while still positive, it is less significant. Viterbo shows substantially equilibrated values for all the selected Socio-economic axes. In real terms, the difference between the two provinces is not markedly different, or rather; the greater difference is not between these areas but between these areas together and the rest of the region. As we have seen, analysing the single axes, the extended area of Viterbo shows a degree of under-development when compared to the rest of the region and this it the basis to plan all actions and measures necessary for innovation of the territory.

It must be said, however, that Viterbo, as opposed to Rieti, contains the Area of Civita Castellana in its territory that, despite the effects of the present crisis, is re-emerging through a process of restructuring in the level of Capacity for Innovation which is markedly higher than the one for the territory of Rieti.Infrastructural problems, fragmentation of the entrepreneurial sector, concentration of productive activities with low added value and lack of specialisation, difficulty to work in a network and collaborate on long-term projects: these are the main challenges for both territories in the coming years.

In this scenario, the experimentation of a digital ecosystem could represent an opportunity for these two territories to face the issue: Innovation - ICT - Collaboration.

3.3 The possibile scenario for implementation

From these studies, four possible sectors have been identified to test the digital ecosystems approach:

- Civita Castellana Industrial District.

- Industrial Area of Rieti-Cittàducale.

- Local Networks for Tourism.

- Scientific and Technological Park of Alto Lazio.

As described in the preliminary phase of the project, the process of selection of the enterprises and the primary services to assist the process of implementation of the DBE will be taken at a later stage together with LAit, intermediaries and the interested parties. The four sectors are analysed separately taking into account the possible application of the DBE, the catalysts, the enterprises that can be involved, and the necessary measures for training and support activities.
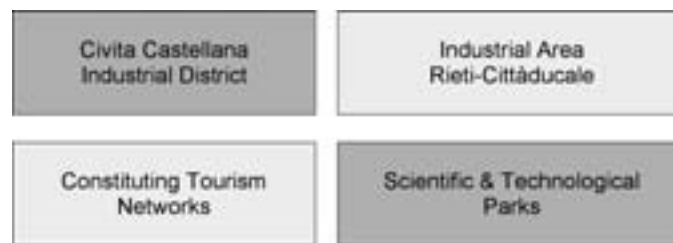
Fig. 22: The four applicative scenarios (T6 Ecosystems, 2008)

It is important to underline, first, that the four sectors do not correspond to the same clusters formally recognised in the sense that a sector can correspond to one or more clusters, while in other cases the productive sector which aggregates groups of enterprises at the moment do not have any formal agreements or governance structures regarding their common areas of operations.

A further fundamental difference which must be taken into consideration is time: the Civita Castellana Industrial District and the Industrial Area of Rieti-Cittàducale are already consolidated (the latter was recently recognised as an Industrial Innovation Area) while the tourism clusters and those aggregated around the Scientific and Technological Park of Alto Lazio are realities with great potential and a high degree of trust, but they are still at a planning level. In the following diagrams, a brief description of the four applicative scenarios mentioned previously which highlights requirements, difficulties, and services to be implemented through the DBE.

Civita Castellana Industrial District

Description
The Civita Castellana Industrial District is specialised in the production of ceramics, particularly bathroom fitments. This represents a productive reality of fundamental importance to the entire regional economy contributing almost 50% of the GDP of the province of Viterbo. Originally, there was a large production of kitchenware which, despite the high level of quality, suffered from foreign competition and high production and energy costs and today it has almost completely disappeared. The bathroom fitments sector, thanks to high quality products and the continuing construction sector, is performing well and has been able to resist foreign competition. The health sector in still one of the major productive areas in Europe for hygiene-sanitary articles with a growing turnover and elevated tendency towards the export market.

No. of enterprises:
approx. 70

Possible catalysts:
Centro Ceramiche di Civita Castellana

Support structures for enterprises (research, consulting, etc):
Centro Ceramiche Civita Castellana

Emerging needs:
- Product innovation, support services for the partially completed pre-competition phase
- Support to exports
- Greater connection with the research sector
- Integration of the chain

Possible barriers:
- Low tendency towards collaboration
- Priority towards product innovation rather than process innovation
- Currently the area is undergoing restructuring and the crisis phase seems to be only partially overcome
- The action would involve only the territory within the Province of Viterbo

Possible services to be implemented:
- Matching between supply and demand for innovation at local and national level
- Services aimed at integration of the supply chain
- Shared procurement service for raw materials, customer assistance and consulting services
- Management system for the back-office, logistics and ERP

Industrial Area of Rieti-Cittàducale

Description
Recently recognised by the Lazio Region as an "Industrial District - Innovation Area", the industrial aggregation of Rieti-Cittàducale, despite the crisis which reflects national and local economic conditions, is still one of the most important productive poles in the area. The industrial area does not have any specific sectorial connotation and currently groups over 20 different productive sectors ranging from electronic equipment, pharmaceuticals, mechanical engineering and information technology. Within the promotion plan of the Province, this productive area is leaning towards the electronic and electro-mechanical sector which should be complementary to the other industrial vocations present in the Province.

No. of enterprises:
approx. 220

Possible catalysts:
Consortium for Industrial Development of Rieti Province

Support structures for enterprises (research, consulting, etc):
• B.I.C Lazio Technological Incubator
• Centres for rapid prototyping
• Centres for training activities and congresses

Emerging needs:
• Promote product and process innovation
• Favour collaboration between enterprises

Possible barriers:
• Presence of different productive chains, lack of homogeneity in the sector
• The action would involve only the territory within the Province of Rieti

Possible services to be implemented:
• Services aimed at integration of the chain within the industrial area
• Matching between supply and demand for innovation at local and national level
• An internal B2B system within the industrial level
• A system for the management of services delivered by the Consortium and the support structures for the business sector
• Management system for back-office functions, logistics and ERP

Constituting Tourism Networks

Description
The extended area of Rieti-Viterbo has important resources that could increase the value of the territory: the landscape, the typical products and the artistic and cultural heritage. According to the latest research, the enterprises active in the tourism sector vary between the two provinces from 3 to 5% of the total number of enterprises which shows an interesting margin for growth in this sector. The introduction of ICT tools, accompanied by a series of initiatives aimed at territorial marketing, can undoubtedly favour growth in this sector. Various public sector organisations are currently engaged in activities dedicated to this sector. Rieti Province together with various Municipalities are currently organising the Distretto della Montagna (Mountainous District), while Rieti is strengthening the Agency for the Promotion of Tourism and is supporting the Association of Hotels.

No. of enterprises:
to be defined

Possible catalysts:
• Rieti Province
• Chamber of Commerce of Rieti
• Viterbo Province
• Professional Association (to be identified)

Emerging needs:
• To aggregate services offered for the Tourism sector
• To increase the value of the natural resources and culture pertinent to the territory
• To Integrate the tourism sector with the food-processing industry

Possible barriers:
• The creation of a network for the tourism sector is still in the planning phase, even if near completion
• At present there is no project that covers both Provinces of Rieti and Viterbo
• Low utilization of ICT resources by the small and micro in-coming structures

Possible services to be implemented:
• Booking service for small in-coming tourist structures, property management systems and YIELD
• Booking service and exchange of information for travel agencies and companies active in the promotion of tourism
• Integration of the sector with the agricultural sector and companies that produce typical products of the territory, services for free-time, museums and other similar activities
• Shared procurement

Scientific & Technological Park of Alto Lazio

Description
Opened in 2005, the overall aim of the Park is to support innovation in enterprises and Public Administrations in the extended area Viterbo-Rieti. Among its tasks: promotion, planning and implementation of services for the pre-competition phase, innovation, technology transfer and training for the business sector and the Local Public Administrations.

The Park is the result of the collaboration between local and regional actors:(Consortium for the Industrial Development of Rieti Province, Parco Scientifico d'Abruzzo, Filas, Rieti Province, Viterbo Province, Centro Ceramiche Civita Castellana, Viterbo Chambers of Commerce, Rieti Chambers of Commerce, University of Tuscia).

No. of enterprises:
potential 992

Possible catalysts:
• Scientific and Technological Parks (dedicated authority)
• Innova.t.i

Emerging needs:
• To identify the needs of innovation in the enterprises
• To offer strategic consulting services to enterprises and Public Administration
• To support collaboration between enterprises and private and public research institutes

Possible barriers:
• The Park is not yet in an operative phase
• Sector specificity is lacking

Possible services to be implemented:
• Matching between supply and demand for innovation at local and national level Project and portfolio management
• System of back-office management, support for logistics and ERP to be made available for all enterprises involved in the activities of the Park

The services indicated in the four diagrams are only indicative and, as specified, still in a planning phase. To identify the real services to be implemented for the deployment of the DBE, the direct involvement of the interested parties and enterprises is necessary. A summary of the proposed services are listed below which are easily adaptable to all four possible scenario proposed.

- Services for integration of the supply of production chain.
- Matching between supply and demand for innovation at local and national level.
- B2B System.
- A system for the management of services delivered by the Consortium and the support structures for the business sector.
- Management system for the back-office, logistics and ERP.
- Project and portfolio management.
- Booking service for small in-coming tourist structures property management systems and YIELD.
- Booking service and exchange of information for travel agencies and agencies for tourism promotion.
- Shared procurement service for primary materials, customer assistance and consulting services.

It is now necessary to involve the catalysts in the territory (public and private organisations with a key role in the four main sectors of industry), to form a first priority list, in collaboration with LAit. This decision must take into account not only the results of this study which has just been concluded but also the results of surveys on the local SME sector which are still on-going. Once the area of application has been identified, it will be necessary to identify ten enterprises and a software house with which to plan the implementation and the testing of the first regional Digital Business Ecosystem.

Appendix 1: the normalisation

In the indicator "Characteristics of Human Resources and Generation of Knowledge", the four statistical indices which are indicated as a % value are compared.

- E.R. = % employed in active population
- E.R S = % of active population active in the service
- %G   = % of graduates in resident population
- %P   = % patents registered by resident population

These four indices have the following values for the province of Rieti (year 2006):

- E.R. = 43.75%
- E.R S = 70.23%
- %G   = 5.89%
- %P   = 0.019%

The previous values, even if not potentially comparable due to the difference in unit of measure, actually express the % of non comparability. If the employment rate of 43% is

relatively modest for an industrialised country, this value is unreachable if we have a percentage of graduates of 20% which is an excellent percentage for an industrialised country.

The same value (20%) is an optimum value for the variable "% graduates" and is a percentage which is unreachable to measure the last variable: "% of registered patents" in a country with a strong tradition of innovation will never be in excess of 1% of the population. The range of variability of the % of the different variables is very different. An optimum value for one indicator can be considered as a negative value for another. On the other hand, given that the reference indicator which will summarize these indices is an arithmetical average of the same, it is necessary that these values be normalized to render them compatible. Therefore, considering the data regarding patents which varies in the territory from a minimum of 0.019% to a maximum of 0.17%, this has been transposed to a qualitative scale (from 1 to 5) in which the minimum value (0.019%) = 1 and the highest value (0.17%) = 5. The normalisation process for the indicator "Characteristics of Human Resources and the generation of Knowledge" is indicated in the following tables.

ORIGINAL VALUES	EMPLOYMENT RATE	RATE OF EMPLOYMENT SERVICES	GRADUATES	PATENTS
Rieti	43.75%	70.27%	5.89%	0.0194%
Viterbo	40.03%	78.95%	5.03%	0.0700%
Lazio	46.89%	78.24%	11.29%	0.1744%

RANGE OF VARIATION SERVICES	EMPLOYMENT RATE	RATE OF EMPLOYMENT	GRADUATES	PATENTS
Minimum Value	40.03%	70.27%	5.03%	0.019%
Maximum value	46.89%	78.95%	11.29%	0.174%
Range Max-min	6.86%	8.68%	6.26%	0.155%
Scale of interval	1.71%	2.16%	1.56%	0.038%

CREATION OF THE 5 CLASSES	EMPLOYMENT RATE	RATE OF EMPLOYMENT IN SERVICES SECTOR	GRADUATES	PATENTS
Min Class 1	40.03%	70.27%	5.03%	0.019%
Max Class 1	41.75%	72.44%	6.59%	0.058%
Max Class 2	43.46%	74.61%	8.16%	0.097%
Max Class 3	45.18%	76.78%	9.72%	0.136%
Max Class 4	46.89%	78.95%	11.29%	0.174%
Max Class 5	48.61%	81.12%	12.85%	0.213%

NORMALIZED	EMPLOYMENT	RATE OF EMPLOYMENT IN SERVICES SECTOR	GRADUATES	PATENTS
Rieti	3.00	1.00	1.00	1.00
Viterbo	1.00	5.00	1.00	2.00
Lazio	5.00	5.00	5.00	5.00

Table A1: Examples of normalisation process of data (T6 Ecosystems, 2008)

As stated previously, the normalisation of data allows data with homogeneous unit of measure but incomparable when transformed into an arithmetical average to be used for comparison. The Average valued of one variable corresponds to the average value of another variable independent of the % value reached.

How to use the participative web to bring citizens and the public administration closer together

Carlo Flamment,
President of Formez

The last 15 years: the first of the digital era

September 2009: we're ready! The information and communication society touches us on a daily basis, in our work, shopping, social relations, and leisure time. What about when we have to use public services? We get the feeling that delays, rather than innovation, are the norm. The truth is that we are now living within digital landscapes where evolutive relational dynamics converge with IT networks, and where such systems are quite capable of organizing themselves, following three main trends:

• Social. Larger personal relationship networks.

• Open. Personal perspectives broaden, blurring the boundaries between global and local.

• Mobile. Our everyday places increase, mobility becomes the norm.

While people who used the web were a minority until a few years ago, today, thanks to "digital natives" (the generations who were born in the Internet age) and "digital migrants" (older generations who learned to use the web), we are seeing the birth of new forms of organizations, which we can define as digital natives, created on and for the web.

Personal aptitudes for technology are increasingly natural. While information used to be slow, filtered, and available only in a handful of media (radio, TV, newspapers), it is now fast and available in many, often converging, media. Digital natives contribute actively by participating in the genesis of new content. Each new written or multi-media contribution is immediately shared and exchanged online. Participatory information is one of the keys to relationships for new generations. Today, the web is participatory by definition, and it is based on transparency, equal dignity for all its members, mutual help, sharing, and the intelligence and personal interests of each one of us.

eGov 2.0, and participatory electronic public services, require the combined forces of two evolutive drivers:

• Citizen 2.0.

• Administration 2.0.

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Citizen 2.0

The new culture of shared values in public decision-making favors the citizens who want to invest in the entire democratic process: not merely by voting, as is traditional, but rather in all moments of civil participation. The rights and responsibilities that come with digital citizenship are new needs that must be met, and through them citizens can gauge the quality of democracy in their areas of residence, and thus evaluate the public decision-makers responsible for it.

The success of policies is closely linked with the participation of citizens, both at the local and global levels. Civic energy can be harvested at a very low technological cost, and participation is an integral part of the need to develop a digital identity, which has now acquired an importance equal to, if not greater, that the traditional analog identity.

Digital citizens want to operate with their own digital identity in all relevant contexts. In such a scenario, the PA cannot limit itself to proposals aiming to manage the certain identification of citizens, as if safety problems always exist even in the simple interactions between citizens and the PA. It is necessary to facilitate participation by leaving individual citizens free to decide how much of their personal information they want to share, making only truly necessary data mandatory. Digital citizens who want to participate, citizens 2.0, are citizens with a very high potential for the entire community and they must be valorized, as innovators and as a shared resource.

Administration 2.0

For the Public Administration (PA) the new participatory context is a major challenge, since it mandates a radical change which requires a truly transparent, accountable, and collaborative PA.

In order to encourage the emergence of a well-informed public opinion and the participation of citizens and their organizations in public decision making, it is necessary to frame the debate on e-government in terms of the information and documents produced by the institutions, which are increasingly becoming the "raw material" for information, a strategic resource useful for countless activities related to social life, work, leisure time, and for stoking the information produced by the web's users themselves. We must ponder the actual degree of availability of public sector data in electronic format.

There is also the risk of an excessively technological approach, which sees the computerization and digitalization of existing public administration processes as the only solution, almost as if it were a mere matter of the productive efficiency of digital platforms.

Instead, an administration that wants to foster citizen participation must reflect on the nature of its relationship with the citizenry: are they subjects, clients, or partners?

Revolution is possible if a relationship is established in which collaboration is the norm, and at whose centre is attention for the well-being of the community's members. A strong break with the past is mandatory.

What kind of a digital culture must an administration develop in order to upgrade to 2.0?

The strategic conditions for digital participations

What are the strategic conditions for ePartecipation?

It is necessary to adopt a model that can create a pervasive online community that can foster open, continuous dialogue and conversations, with modalities that emphasize a holistic social vision of the citizenry. The starting point is thus social network dynamics, both within and outside organizations.

Collaboration and cooperation between the actors involved in creating a shared value, through the experience and trust that each person expresses, must become imperative. In the era of the web 2.0 and of social media, in a world where everything is written, filmed, recorded and subsequently sent and shared with unprecedented ease, the online reputation of individuals (personal reputation) and organizations (brand reputation) becomes ever-more-important. Managing one's online reputation is thus of fundamental importance for reducing information imbalances and the cognitive interpretations that can arise from them.

However, in order to increase participation, it is not enough to concentrate on a few public services or on a few moments in the decision-making process. The issue at hand is the distribution of citizen contributions in a civic network where most of the activities take place in the long tail.

top 20%

the long tail

We must thus work to allow each civil servant and citizen to contribute to the highest number of services and information, so that the "tail" can become longer and thicker, because no single team is able to cover all the potential information of use to the long tail.

Strategic capabilities for digital participation

A fundamental prerequisite is the ability to affect the re-organization of the ways in which people interact, and the places where they do so – with a focus on digital places – starting in the workplace, particularly in the Public Administration, because even the PA is made up of people.

Long-standing habits and practices must not be an obstacle to improvement. In the new digital places, each moment in the relationship between citizens and the administration must be revised in order to facilitate the co-production of public services. In this new dynamic, the meaning of data ownership and user rights is changing, as "open content" gains the upper hand. "All rights reserved" data is an increasingly difficult concept to achieve. Contents produced thanks to the web 2.0 are increasingly defined as being in the public domain, free to be used without authorization from their author, in a Creative Commons framework[65].

This participatory involvement requires from the PA a new mentality in its relationships with the citizenry. The PA must be willing to lose some of its control over relationship dynamics, because the use of these new opportunities is only partly predictable. Management approaches must manage risk in a creative way, turning unpredictability into opportunities, and there is a need for teams with a strong digital culture that can maximize users' experiences through catchy designs and appropriate conduct (netiquette 2.0).

Project 1: Linea Amica, the citizens' contact center

LINEA AMICA[66] is the citizens' contact center active since January 2009. It is an initiative of the Ministry for PA and Innovation[67] and is implemented by Formez[68], the in-house agency of the Department of Public Function.

The LINEA AMICA Contact Center answers citizens' questions on matters regarding the PA through a Front Office group for first contact, and a Back Office group which, for more complex cases, analyses the question, contacts the relevant PA, and calls the citizen back. LINEA AMICA's Toll-Free Number 803.001 is a free S.O.S. for obtaining all kinds of information, and at the same time a helping hand for solving complex problems and procedures.

The service's defining characteristics is that it is centered on listening to the citizens, which translates into friendliness, helpfulness, and hands-on assistance until the case is solved.

Two hundred young PA experts staff the service, which is available via Internet, SMS and telephone on weekdays between 9 am and 6 pm (and also on weekends for Linea Amica Abruzzo, a specific service for the citizens affected by the earthquake that struck Italy in April 2009).

Linea Amica
Numero Verde
803.001
www.lineaamica.gov.it

NOTES
[65] http://creativecommons.org/
[66] www.lineaamica.gov.it/
[67] www.innovazionepa.gov.it/home.htm
[68] www.formez.it

Linea Amica attempts to overcome the digital divide through multi-channel access, and it is centered on person-to-person relationships. The service's quality and success are guaranteed by the open, dialogue-based relationship between front and back office operators and the citizens/clients.

Future developments will lead Linea Amica to listen to citizens' need in an increasingly inclusive manner, and to focus on actively participating in problem solving. Through collaborative tools, citizens will be able to address the problems of other citizens.

Some data as of July 2009:

• Linea Amica has had over 100,000 contacts since it was launched, handled 51,000 cases, and met 98% of all requests.

• Inbound contacts: 52,607 (81.8% by telephone and 18.2% by e-mail); Outbound: 48,449.

• The average response time of operators was 15 seconds.

• 62.9% of requests were met by Front End operators.

• 90% of requests were met within 24 hours.

Project 2: InnovatoriPa.it

Innovatoripa.it[69] is an online community launched by Formez[70] and ForumPA[71], where participants are invited to introduce themselves and the role they play within the Italian public administration, to share information and knowledge, to create groups centered on issues of interest, and to increase their professional relationships by forming networks. The project's philosophy is centered around the individual, and his or her professional and personal identity. It rewards the capacity to bring innovation into the public administration and to establish online relationships.

innovatoripa.it makes it possible to:

• Start a blog, introduce oneself to other innovators, and establish leisure and professional networks.

• Create new groups around issues of interest and provide new avenues for discussion and work.

• Highlight interesting contents and share innovative projects and experiences.

• Bring existing Public Administration communities online.

The system has three user levels that identify members on the basis of their activity within the community:

NOTES
[69] www.innovatoripa.it
[70] www.formez.it
[71] www.forumpa.it

- innovators: can read and comment blog posts, insert tags, vote for the best posts, join a group, ask questions, and establish relations with other members;

- active innovators: can start a blog, insert new topics in a forum, link to contents from other websites….

- experienced innovators: can create new groups and discussion forums.

The most active users are rewarded through a points system.
All contents published on innovatoripa.it are credited to their individual authors, who are directly responsible for them, and who consent to their release with a Creative Commons 2.5 license. Content is thus free and open, anyone can copy it and use it as they see fit in compliance with the conditions set out in the license.

Future projects: two proposals

What future projects can the public sector pursue to develop eGov 2.0?

From an organizational point of view, the public administration's networks need to be strengthened, so that the public system can become increasingly integrated, and perceived as one. It is necessary to work to strengthen portals and social networks aimed at citizens and which facilitate the use of traditional and multi-channel services, such as public contact centers. Only thus can the autonomy and distinctiveness of single organizations be legitimized, thus avoiding isolation and decline.

Another sector that is being developed is that of search engines dedicated to sites and issues related to public services and democracy. It will be fundamental to develop social search engines along with the citizens themselves, following Google's SearchWiki[72] model, so that users can evaluate the usefulness of search results. Each result can be discussed by the users, with linked wiki comments, and netizens will be asked to manage personal profiles in which to list the search terms used, the profiles that are returned to people searching for the same word, sentence, and semantic concept.

Conclusions

What are the results of this effort to open up to? What is its real worth?

The first is undoubtedly the chance to involve citizens and to increase awareness in public decision-making, thus fostering real active citizenship.

Another result is the launching of natural, self-sustaining, daily, circular innovation mechanisms, with a reduction in the costs and dangers produced by our complex societies.

The concept of experimentation ends with the "beta version", which is a real, collective, useful, and institutional process.

NOTES
[72] http://www.google.no/support/websearch/bin/answer.py?hlrm=it&answer=115764

REGIONE LIGURIA   REGIONE PIEMONTE   Région Autonome Vallée d'Aoste   Regione Autonoma Valle d'Aosta

Agreement LPV 2001-2006, Agreement 2007-2013

Three Regions of the north-western Italy, three neighbours – Liguria, Piemonte and the Aosta Valley - share a project: join their own forces, collaborate for creating the reform of the PA and offer new sceneries where the interregional cooperation makes the different working realities on the territory an opportunity of development and growth.

Culture, integration, sharing, these are the key words for three Regions that work together with the opportune economies of scale to obtain concrete results. In Public Administration is growing a new type of governance, inspired to the Internet for its model of network and community.

The collaboration among the Regions, that since 2001, keep on contact on the Net to exchange and share experiences is the main road for the development of the e-Government. In the last years, the three Regions created important operational contacts for the exchange of experiences and solutions. This strong collaboration has been consolidating from the beginnings of the e-Gov thanks to the signature – on November 10th, 2001 - of a specific "Agreement for the interchange of experiences and supports finalized to the development, realization, starting and management of innovative informative systems for the Public Administration".

Agreement LPV 2001-2006

The first collaboration agreement had a five-year duration and was based on the interchange of experiences and cognitive contributions - also under the institutional, organizational, practical and technical profile – to achieve the innovation of the role of the local Public Administration in the process of reorganization and administrative decentralization.

Particularly, the collaboration provided the verification of the integrations and co-operations among all the "Regional Plans of e-Government", following the mutual autonomies, and also including the transfer of the best rules towards Administrations that hadn't the same experiences in the field of the innovation of the administrative processes of back and front office.

In order to achieve this purpose, the three Regions dedicated themselves, in coherence with the development of their own informative system, to share their experiences both from the organizational and the technical point of view, as well as to promote initiatives and projects realized on areas of mutual interest. In the last years this partnership allowed the mutual presence of LPV on national television news and also the realization of infrastructural projects to which the three regions have contributed to:

• Project INPA (Leader: Region of Piemonte)

Its aim was to realize an interchange of documents to improve the efficiency of services in Public Administration, thanks to the interoperability of the protocol system and to the use of the certified mail as privileged communication channel.
Another purpose was the realization of a Public System of Interchange of Documents that can be shared by the Regions.

• Project No-RISK (Leader: Regions of Liguria and Piemonte)

This project promotes the informative interchange, cognitive and operational coordination among the local public partners that are responsible for natural risks and for the human actions on regional areas and that are also involved in solving emergencies. The aim of the project was the creation of a unified "Northwest Risk" website, available on the net (www.rischionordovest.it) with different levels of access depending on the users (Public Administration or citizens). This portal represents the first organized and structured access point to all the knowledge regarding civilian protection. On July 5th, 2007 the three Regions, in the splendid scenary of the restructured Castle of Bard, in the Aosta Valley, renewed the subscription of the agreement until 2013.

Agreement LPV 2007-2013

This new agreement is focused once more on sharing experiences and solutions finalized to the development, realization, starting and management of informative systems for the Public Administration, and aims to improve the Society Information and the e-Government in these three Regions.

This agreement has also more ambitious aims and defines four parameters of cooperation:

Institutional, to compare and join the execution of the administrative reforms which are taking place.

Organizational, to compare and join organizational models and methodology regarding the management of strategic projects.

Practical, to exchange strategies and solutions, which are important for the various application problems and to find the most appropriate synergies.

Technological, to compare the various technologies used in new projects, searching for common bases and solutions of interoperability, analysis of the possibilities of investments on platforms, environments of development and formation, in coherence with the respective plans of development.

The content of the agreement shows new arguments such as a digital identity for a direct access to various services, the Northwest platform, the valorisation of the Cultural Heritage of the three regions to attract tourists, the info-mobility linked to public transport, safety, adequate road conditions, logistics and dangerous goods.

Finally, the agreement determines that organizational rules must be more structured, establishing a more concrete planning.

Three regional Ministers have signed the agreement, which lasts six years.

Andrea Bairati, Piemonte's Innovation and Research Minister, claims the importance of the inter-regional collaboration to favour the spreading of innovative solutions and to promote the sharing of practices and experiences in the use of the ICT for the provision of services to citizens and enterprises.

Giovanni Battista Pittaluga, Minister to Budget and Computer Resources of Liguria, defines as objective of this collaboration the involvement of the entire Italian Northwest with an agreement regarding technological innovation, in order to be useful to citizens and to reduce the expenses for the realization of common projects that are to be activated in the next six years. These projects are connected to the information society, to the sharing of informatics infrastructure (e.g. in civil protection), the cartographic data, the local public transport and the integrated systems of tourist promotion.

Augusto Rollandin, President of the Aosta Valley, who nowadays coordinates the range of technological innovation, confirms the importance of pursuing the goal of social inclusion through a mutual work. Technology offers people a better approach to institutions, he says. For this reason he talks about the culture of innovation, which is not only for employees but that can also permeate society, enhancing the participation of the citizens to public life and letting them take full advantage, in such an innovative context, of the model of the Net. Innovation can change the territory, without cancelling its history, its traditions, its roots. Without cancelling the past, innovation can promote the economic competitiveness and ensure an efficient political and administrative action.

Three regional enterprises operate actively beside the three Administrations: CSI (Piemonte), DATASIEL (Liguria) and INVA (Aosta Valley).

Model of governance and organization

As previously mentioned, the renewed cooperation of the three regions cannot be developed without a more structured organizational and methodological model, which is the Model of Governance of the Convention.

It is fundamentally composed of two elements:

- an organizational framework, whose purpose is to allow the activity of planning, starting and management of the single initiatives of the Program;
- a console of instruments appositely and progressively created on the basis of the mentioned needings, which are shared and available to allow a homogeneous development of every activity, and a monitoring and control of the improvements of the coordinated organs.

The organizational framework

Three are the level of government:

- Strategic Government.
- Directional Government.
- Operational Government.

Their composition is inspired to principles of efficiency, clarity of the duties, equi-representativeness of every region.

The Strategic Government, represented by the Technical Committee composed by a representative for every region.

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The Directional Government, which fundamentally explains the function of Program Management, furnishes instruments of evaluation and assures punctuality and the necessary organization in the decision-making processes.

The following level is guaranteed by an *Operational Government* that provides the organization of interregional Working Groups.
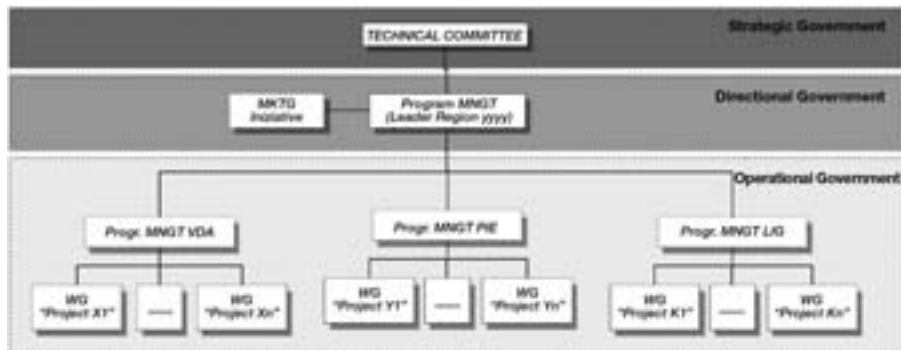
The console of instruments

The main instrument of diffusion of information to every level of the Agreement is represented by the Documental System that recollects an electronic version of every document which is relevant for the activities; it is organized into folders which are constantly updated and published. This structure is an accurate representation of the activities and the projects underway. It also offers the new users the possibility to easily seek the information required.

In the Documental System are available:

Involved resources, with detail of the structure of affiliation, telephone number, e-mail address, working group of affiliation and role.

The agenda, containing the past and future meetings, the naming convention, the documental template, the Documental System structure and the level of progress of every activity.

The cycle of life of the project activities

The activities follow 12 phases: from the very first individuation of the activity its possible to release in production and assistance. The passage from a phase to another is constantly monitored and, in some cases, it also requires the approval of the CT.

Every phase provide the production of a list of documents. This list is progressively updated with the new reported experiences: this allowed and still allows a natural acquisition of a methodology which is not imposed or redundant also for other initiatives.

Initiatives and projects

Every idea is born as initiative inserted inside a thematic area.

The thematic areas need the approval from the CT, which evaluates the common interest of the different regions and its coherence with the scopes of the Agreement.

The initiatives following the above-mentioned cycle focalize more and more on these areas until they are approved by the CT, becoming a project possible to be carried on. It is interesting to underline that, from this phase on, a management of the economics of the activity is also necessary. Because of this, a transversal activity denominated Economic Model was born. The Economic Model is considered to be a projecting activity of the Agreement and, because of this, follows the development of the thematic activities.

This "attitude" permits to have a strong attention also to the documentation of the transversal activities, making it possible for the achieved acts to be improved and published. This example is useful to introduce a further subdivision of the activities in Transversal Initiatives and Thematic Initiatives.

Currently, the other transversal initiatives are:

• Model of Governance.

• Formative model.

• Observatory for the opportunities of financing and partnership.

• Observatory in matter of licensing.

• Observatory Local Public Administrations.

• For every initiative, the organism of Directional Government (currently in progress of transfer from the Aosta Valley to Liguria) has to manage the projects.

Currently, the open thematic initiatives are:

• **Public sector information** (Piemonte).

• **Digital identity of the Citizen** (Piemonte).

• **Infomobility** (Liguria).

• **The North-West website** (Liguria).

• **Exploitation of Cultural Heritage** (Aosta Valley).

For every initiative, the leader region has to manage the projects.

Thematic activity and transversal activity

THEMATIC ACTIVITY

Public sector information
Leader: Region of Piemonte

Objectives:
Starting a process of elaboration on the concept of document management **DoQui**, to verify the possibility to share the instruments with the Region Liguria and the Aosta Valley. DoQui (www.doqui.it) is a project led by the Region of Piemonte, the Province and the City of Turin, in collaboration with the Polytechnic of Turin and with the University of Turin. The project involves the construction of a computer product for document management that can fulfil the requirements of law the public authorities must refer to in the daily practices of administrative proceedings and can be a mean for reading and changing the internal organizational processes of the various institutions and encourage the redefinition of their relationship with external actors (citizens and enterprises).

Digital identity of the citizen
Leader: Region of Piemonte

Objectives:
Develop a system of integrated registration services that must protect citizens privacy on the net and that allow them to access to the on-line services offered from the various institutions of the three regions. The inter-regional project ICAR (Interoperability and Practical online Co-operation between the regions) will help to realize this objective.

Infomobility
Leader: Region of Liguria

Objectives:
Start a debate on the experiences shared in the field of infomobility by the three regions, identifying the areas of application and the respective institutions which have to care about infomobility, observing the interregional co-operation.

These are the areas involved:

• Strategy for the sharing of data on Intelligent Transport Systems (ITS-Information Transportation Systems).

• Traffic and Safety (technological instruments and services for traffic monitoring, structured description of the road network, land register).

• Local public transport (standardization of the computerized travelling ticket, the creation of a mutual scheduled time of travelling in Northwest Italy).

• Logistics and mobility of goods (infologistics, dangerous goods, ports and inland ports).

The Northwest Website
Leader: Region of Liguria

Objectives:
Check the feasibility of a Northwest portal which must improve the information services of the three regions, relying on common experience and know-how acquired through accessibility and usability.

The three regions are on the way to begin a phase of deepening some possible models of implementation:

- a "light" federation of regional content that are unstructured and tagged with keywords;

- creation of an advanced search engine, applied to issues common to all three partners. These issues are classified and united by ontologies shared by the three regions.

Improvement of Cultural Heritage
Leader: Region of the Aosta Valley

Objectives:
Promote a unified and integrated access to cultural heritage (regional and inter-regional), making it available not only to specialized users, but also to citizens. This activity has been created in order to improve the cataloguing heritage produced over the years, by making it available to citizens on the Net, designing and promoting cultural tourism routes which give tourists the opportunity to use all the attractions that a specific territory can offer (heritage, landscape, nature, food and wine, etc.), including the creation of virtual museums and exhibitions.

A concrete experience: the joint participation at Forum PA 2008

In 2008 the three Regions have participated to Forum PA 2008, the largest exhibition and conference regarding services offered to citizens and enterprises, scheduled at the "Roman Festival", one of the most important events for public communication. The regions of Piemonte, Liguria and the Aosta Valley inaugurated, at the 2008 Roman Festival, the project "**We get three to Inform y@**", with an attractive community and a shared site, **Sistemanordovest.it**, to focus the attention on the spirit of cooperation and integration between them.

In 2008 this participation helped to make stronger the partnership among the three Regions, offering further opportunities for collaboration. There has been a positive feedback from visitors to 'do showcase' together. Visitors liked also the attractiveness and the ergonomics of the stand, in addition to the material which was offered. More hi-tech and information technology and less paper in order to offer new services to citizens, enterprises, local institutions and public administrations.

conv_lpv_07-13@sistemanordovest.it

REGIONE
PIEMONTE

Piemonte Region: e-Government Set Convention 2007-2013

The adventure System North West continues: Liguria, Piemonte and Valle d'Aosta are busy together in a convention centered on the sharing of experiences and solutions to strengthen the information and-eGovernment in the territories of the three Regions.

Piemonte region almost has 4,5 million inhabitants divided in 1.206 municipality - of which 600 with less than 1.000 inhabitants - with a GDP of almost 120 million of European.

In Piemonte there are almost 470 thousand of enterprises and economic structures, with important excellences in the automotive, textile and agro food marketing.

Piemonte government introduces some strategic services to improve the efficiency of the Public Administrations and their relationship with the citizens and the enterprises that turn around it.

The road continues with it is a progressive appeal to open standard, interoperable and with characteristics "industrial" able to guarantee economies of scale, entered free and not discriminatory to the society of the information and the knowledge and express resorted to the technologies.

Here the regional administration is dealt with to build a favorable environment to the development of the system of Piemonte, public and privacy. The reached results are the enabling factors to complete a regional sketch that looks at the competitive growth of the Piemonte.

With reference to the numbers for him e-Gov, today the whole territory of the Communes of Piemonte and 100% the population has of access to connections xDSL, wireless and satellites.

The offer of services, between 2005 and 2009 is assisted to a strengthening of the e-government from the side is of the front-office (increase of the supply of the services also type interactive), both of the back-office (growth of the endowment ICT and of the outsourcing).

Two Town Administrations on three possess a site Internet, while in the 2005 such opportunity it was present only in the 50% of the Communes. A commune on four has a site web that allows to access interactive services. In general, in terms of endowment ICT (wide gang, Intranet, boxes of mail, cellular) for almost the 70% of the Communes the available level can be considered good person.

Halves the Communes, also having available a good technological endowment, it has however a weak propensity to the use: only the 7% of the Town Administrations succeed in practicing the disposition potentiality.

The modest dimension of many Communes negatively conditions the use of the ICT and the introduction of the technologies in the administrative activities. The affiliation to one some associative form can help to overcome such difficulties. It emerges, in fact, that the affiliation to an associative form favors the propensity of the Communes to participate in projects of innovation and to collaborate with other communes to manage the ICT.

From the point of view of the directives of development, the administrative complexity of the the territory of Piemonte has directed in the time the strategies related to the Society of the information to proceed according to a logic of system. This has allowed the optimization of the investments tied to the improvement of the processes of planning: in way consistent with a sort of "principle of subsidiarity of the innovation", the regional administrative level is made load, since the start of the e-government, of the infrastructur physics and of the realization of the application bases, while the provincial administrations and the Communes of greater dimension have respectively developed initiatives of service revolts to the enterprises and the citizens.

A reading of the principal on its way regional policies shows as the politics in collaboration with the central Pubblic Administration is predominantly you finalize to the development of infrastructures directed to the interoperability, while the collaboration interregional focuses him on the unique bases and on the standards of service, assigning the assignment to develop the wide gang to the regional initiatives – WPIE Program - and, above all, to transfer the results till now gotten on the productive compartment and, to extend, on the whole administrative context.

Shared the idea that the computer solutions represent a tool of transversal support to the development in every field of the administrative activity, and these finalities can be pursued through the access to a rational offer of services, profits to the simplification of the administrative action. If from the qualitative point of view, the complex of the available offer of services through the Regional informative System is of elevated level, the real question of innovation is expressed in the necessity of homogeneity of endowment of the territory of application solutions.

The evolution, also to national level, of the e-government, it directs the appointment of the administrations really in this sense. The second phase of the e-government it is characterized, in fact, for the orientation to the diffusion of the solutions realized from the Public regional and local Administrations and for the reduction of the technological discrepancy that structurally interests the local bodies of small dimensions. The interventions of Regione Piemonte they are aimed, from a side to the reduction of the perceivable digital discrepancy among the different administrations, from the other to make synergistic the investments effected where realized by different actors conforming the endowment of solutions of the territory.

They stir in this direction the projects to tall innovative potential promoted by Regione Piemonte and turned to the integration with the national infrastructures (Protocol of agreement with CNIPA), to the local bodies (SigmaTer), to the community it city-undertook (Didactic Base and Public Sectory Information of the Public Data), activity that interests the different levels of the administrative action and that they also promote the innovation inside the same public organizations.

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CNIPA. Agreement

The Regione Piemonte, allied for the innovation signed a protocol of agreement that starts a new phase of collaboration among Regione Piemonte and CNIPA, allied to promote the Society of the information and the digital innovation of the Public Administration with the technological support of the CSI-Piemonte.

The protocol, signed by Andrea Bairati, innovation and researc minister of the Regione Piemonte and from Fabio Pistella, president of the CNIPA, of the three year-old duration, it foresees that the two Corporate body put in field experiences and professional competences to favor I exchange it knowledges, the sharing and the reuse of organizational and technological solutions to advantage of the other Italian administrations.

Five the circles of intervention individualized by the Protocol: from the knowledge management to the digital identity, from the open source to the treatment of the state property and to the energetic saving. Among the numerous themes object of the agreement they show up the management document her, the geographical information, the management of the accounting, the accessibility and the usability of portals and services on-line, the ontologies and the business intelligence, the e-Procurement.

SIGMA TER (gennaio 2009)

Sigmater Piemonte

Region Piemonte has effected the technological transfer of the experience of eGovernment SIGMATER, a technological infrastructure that allows the interchange of the cadastral data between Local bodies and the agency of the Territory. In detail, has been constituted the Service Center Regional of SigmaTer Piemonte, using " Solution 1 Applications General Purpose and System of Interchange cadastral dates" adepted to own organizational and technological reality.

The Regione Piemonte is "structural intermediary" with the agency of the Territory and now are over 850 the communes of Piemonte that participate in the project.

SigmaTer Piemonte allows the Piemontese Corporate institutions to have the cadastral data directly adjourned to "home" and more it makes services available studied for the consultation and the access to the cadastral information from the town and regional operators.

CRC Piemonte

The CRC Piemonte, Center Regionale of Competence for e-Government has operated since 2003 as element of facilitation of the relationships among the Pubblic Administrationes. Its activities are tied up to the opportunities of project financing –CNIPA bides, CIPE deliberation, to deepen and inform on current issues in the field of innovation processes, what the accessibility, open source, participation in European projects. To the CRC Piemonte it also makes head a series of publishing products of thematic close examination as the annual Relationship on e-government and the society of the information to regional level, reaches the Fifth edition.

E-Mood Learning Platform

From 2004 the Regione Piemonte makes of the Pubblic Administration available a flexible and shared didactic environment that overcomes the logistic limits of the traditional formation to offer more coherent interventions with the real organizational demands. Specifically the Pubblic Admonistration can take advantage of educational interventions to specific necessity, to have a constant updating on specifications thematic to contained costs, to maintain the competences of the different professional figures to the footstep with the new tools made by the projects available of e-government, use a structure for the government of the entire training process, coordinate training services on-line regional and integrate them with tools for managing personnel and monitor the progress of operations through immediate feedback.

The didactic environment offers a portal of presentation of the formative activities and access to the environments of disbursement, through which to view and apply for courses and distance (Inform@PA in Piemonte -www.formazionepiemonte.org), E-care platform e-learning, integrated with the authentication systems of the Pubblic Administration Piemontese, E-Mood platform e-learning open source management of training activities aimed at knowledge sharing and collaboration. (http://moodle.formazionepiemonte.org). A WIKI, a Blog and RE.DI.RE, a repository of didactic material, completes the environment.

Piemonte Public Sector

Are under preparation and issue guidelines for the processes of regional Public Sector Information: the basis of all there is the desire to spread knowledge using information produced and managed by government. This is the first initiative of the kind in Italy, toward the European Directive 2003/98/CE on the re-use of the information of the public sector, transposed in Italy with D.Lgs.n. 36/2006.

The Regione Piemonte has already made available the catalog of materials information resources InfoDir - Information Directory (www.sistemapiemonte.it/innovazionetecnologia/infodir) as a research tool and access to asset data lists.

The Public Sector by private individuals will increase the overall level of knowledge of the Piemonte System through channels and services of innovative character, and it will allow to improve the quality control of the data themselves, thus building a positive feedback for the Public Administration.

Innovation Society in Piemonte

The availability of broadband infrastructure and and services related to it, is considered a strategic factor from Regione Piemonte to support and enhance the competitiveness of the regional economic system and accelerate the transition of SME to strategies based on the ability to interact effectively through the use of modern ICT.

The Regione Piemonte has worked in a dimension of integrated logic composing the various factors in a design aimed at creating new opportunities for productive sectors. Dissemination of information and communication technologies has created a scenario in which the processes of change and business models is a fact that with broadband, offers new opportunities for SMEs to organizational, managerial and management for the individual firm that for the system in which they are placed.

Broadband is essential for businesses, for the development of society and the enhancement of public services. The services of broadband access, moreover, are now an essential element not only for the competitiveness of the territories, but also for the quality of life.

WI-PIE Program

With the Program WI-PIE, on its way in 2003, Region Piemonte is set the objective to endow the Piemontese territory of an infrastructure of nets and digital services for the development of an economy and a society of the knowledge. These the data of departure: on 1.206 municipality of the Piemonte over 900 had not access to the net or rather about ten thousand of citizens and enterprises excluded by the possibility to access the net.

Region Piemonte is strongly hocked for filling the gap, with direct infrastructural work and with enterprises agreement. Particularly, to to cable the totality of the Piemonte landscape (with fundamental relapses for the enterprises and the citizens) Region Piemonte has undersigned two important accords: in 2006 with Telecom Italia and in 2008 with Eutelsat].

Thanks to these agreement , the objective has been centered, in advance in comparison to the programs, and today the net is a reality for all the 1.206 Piemontese municipality, 1.000 with broad band solution more than 700 have wireless solutions.

The broad band diffusion doesn't mean only infrastructures, but also innovative services supported by the net.:

- Sanitary and relief services.
- Transports.
- Logistics.
- Safety of the people and the territory.
- Development of the eDemocracy.

We can remember some success projects:

- Sik person Web monitoring.
- Web integrated system for domiciliary safety.
- Radiology images online.
- Web TV and web radio, "BEAR TV" and Bear Radio.

La banda larga in Piemonte

Copertura a fine 2008

Copertura fine 2008	Comuni	Cittadini	Imprese
xDSL+Wireless	838	4.039.097	511.697
xDSL	164	194.665	26.385
xDSL Parziale	11	5.901	916
Wireless	125	95.878	12.599
Solo SAT	68	17.287	3.132
Totale	1.206	4.352.828	554.729

Energy Plan

2008 has been the year of the energy. Large investments: 300 euro coming from European funds and from other government fundings will be used for energy saving, to realize renewable alternative sources of energy, and to favour the installation and the development of enterprises that produce good and tied up services to the problems of the energetic saving.

Here are the results:

1 the enterprises with an endowment of 50 million are working to rationalize the energetic consumptions and to use energy from renewable sources;

2 with an endowment of 12 million of European, found stimulate and increase in Piemonte enterprises which intend to produce systems and components devoted to the exploitation of renewable energies;

3   stimulate the rationalization of the energetic consumptions, the production and the use of renewable sources on part of the state owned company. Assigned 50 million of European founds.

Research Plan

To invest on renewable energies is a future promise.
Simple solutions to such a complex matter don't exist, only segments of possible result: one of this is to invest on our brains, the more precious renewable energy.

Research is seen how development component for Piemonte area.
The Piemonte Region has been almost the first regions to equip own law on the search and to found a regional System of innovation and research.

The Piemonte can count on 4 Universities with 85 Departments, over 200 centers of search, 380 laboratories, 6 scientific and technological parks, numerous services for the research and foundations of search and banking origin. The employees to the research and development in the region are over 23.000, of which over 15.000 in enterprises, more than 1.500 in corporate body of governance and around 6.500 in the athenaeums.

See more detail on
(http://www.regione.piemonte.it/innovazione/ricerca.html).

ICT and Industrial Policy

A new industrial policy of 2008 is the establishment of 12 Innovation Centers. The aim of the Centres is to improve the need of innovation promoting the acknowledg of technologic and strategic problems, thanks to the exchange of experiences and know how.

Policy innovation poles, which will aggregate a significant number of companies have activated a call to identify those managers of the poles, which will have a budget of 6 million euros.

Rounds up the invitation in favour of industrial districts, which includes an allocation of 9 million euros available for projects eligible for funding.

Thanks to the realization of the Program 2007/2013 of the European Fund Structural for the Regional Development (POR FESR) and to an integrated system of consequential funds from the POR FESR and from the regional resources for the development foreseen in the Plan for the triennial Development, proclamations have been activated for an amount of over 75 million euros.

Among the most significant, activation of a contract in favour of the creation of technology platforms for the aerospace and biotechnology.

Many advantages to small and medium enterprises have been allocated to support projects and investments in innovation, eco-innovation, safety in the workplace, information technology and communications.

Between the main initiatives activated with funds POR FERS were launched two calls on ICT Adoption and Innovative Services for a total of 25 million euros, a call for advanced manufacturing systems that has a budget of 20 million euros with projects that see the collaboration between university-public research centres and small, medium and large businesses.

Always in the Structural Funds for the aerospace platform was activated a call that led to the selection of projects for a financial value of 30 million euros, while the platform Biotechnology and life sciences has been activated a call on a budget of 20 million euros. Even if in a silent and inconspicuous, in recent years has been a journey that has produced profound changes. A path built with the help of all, businesses, universities, research centres, the Regione Piemonte and Local Government. A treasure to share and use with the System North – West and the system Italy.

REGIONE LIGURIA

Regione Liguria's tools for the development of the information society in the frame of the north west agreement

The Regional law

For the development of the Information Society, Regione Liguria has adopted the strategy to proceed according to a logic of integrated system approving the regional law [n]. 42/2006 "Institution of the integrated regional informative system for the development of the Information Society in Liguria" that promotes the integrated development on the territory of the Information and Communication technologies (ICT) to favour the improvement of the citizens quality life with the public administrations and the corporate body of the its territory, also favouring forms of active citizen and realizing economies of scale for the containment and the rationalization of the expense in the ICT sector for the regional territory.

The Region assumes therefore a specific role, that is to coordinate the proper interventions and of the Corporate Ligurian body in different contexts: the European Community, the State, the other Regions (as in the logic of the convention with Piemonte and Aosta Valley) and the local Ligurian bodies. Through the share to special European organisms, national and local it also effects politics of sector through tools negotiate them and it plans the actions and the necessary interventions for the development of the Information Society, also programming the financial resources through the use of government and community funds.

Liguria Region coordinates the Integrated Regional Informative System (called SIIR) and the institutional Project "Liguria online" to allow the interoperability and the integration the constitution and fruition of the information and the data, to guarantee the development of the services for the citizens and the economic agents in a logic of unification of the points of access to the services and of administrative simplification and of transparency and control of the government expenditure.

Particular importance acquires the institution of the Integrated Regional Informative System (SIIR) as stated in the article 3. SIIR is founded and coordinated by the Region through the adoption of computer architectures and shared telematics and of technical and organizational formality for the management of the informative flows and the interoperability. SIIR is composed by some informative and technological systems, particularly of the complex of the data base, of the procedures and of the application services, as well as of the connecting nets of the subjects of the regional system and it is articulated in reason for the sectors of competence of the single subjects for the administrative functions, managerial and techniques of the data and the services.

SIIR is reported to the Liguria Region and to the belonging subject followings to the regional system: Ligurian Sanitary and Hospital Firms; Ligurian Regional Agency for the Protection of the environment (ARPAL); Corporate body Park regional; Agency "Liguria Lavoro"; regional Institute for the Floriculture; regional Firm for the Scholastic and University Services

(ARSSU); Consortium of reclamation of the "Lunense Channel"; regional Agency for the tourist promotion" In Liguria"; Territorial Regional Firms for the housebuilding; The Regional Center e for the Search and the innovation (CRRI) introduced in SIIR by law 10/2008 art. 40; the regional agency for the health (ARS) introduced in SIIR by law n.14/2008 arts. 19. The Region and the corporate body of the regional system operate for the unitary and shared use of the technological and functional components of SIIR in the logic of the inexpensiveness of plant and management of the same, avoiding duplications.

Focus: the technological components of SIIR

The System of the SIIR is coordinated by the Committee, that has lasted triennial and it gathers him at least to semestral lilt, it is composed from seven members: four members of representation of the Liguria Region (the alderman to which ago head the competence of the Regional Informative System with functions of coordination, the alderman to which ago head the competence of the regional Health, the alderman to which ago head the competence of the innovation), a component of the Office of Presidency of the regional Board individualized by the same, three members of representation of the subjects participants to SIIR individualized by the regional Junta (one select among the General Managers of the Local Sanitary Firms; one select among the General Managers of the Hospital Firms; one select among the General Managers of the other subjects participants to the SIIR).

The regional Junta with own Deliberations has currently identified the members of the reigning committee.

Liguria Region and the belonging subjects to the SIIR develop, in coherence with the Triennial Program, the activities of development, the management and the management of the SIIR for the medium of the in house Society Datasiel. To such end the regional Junta has stipulated a special Agreement with the house society Datasiel Systems and Technologies S.p.A., as participated society checked by the Region. The Agreement, of the nine year-old maximum duration, it defines the conditions and the formalities of realization of the activities to submit to Datasiel.

The article 4 identifies the integrated technological and functional components of the SIIR:

• "Net regional telematics" for the public system of connectivity of the Region [Liguria] and of the subjects of the regional system, open to the communication with the external subjects and endowed with the opportune infrastructural services safety, authentication and authorization, digital signature and fruition of application cooperation, of the technological infrastructures of access to the services structured in territorial counters and of the "call center" telephone turned to the diffused or sectorial use; the "Portal regional unified Web" for the disbursement of the services for the citizens and the economic agents; the "Regional Territorial Informative System" shared and based on technologies (GIS-Geographical Information System), to conform and to integrate the alphanumeric and cartographic territorial information produced by the single corporate body, to support of the planning, management and monitoring of the informative levels and the in partnership data to the territory; the Region defines and coordinates the data base territorial unified and the regional cartographic repertoire that must have fed from the subjects of the

regional system that belong to SIIR and are open to the other subjects; the systems of authentication and certification of the access to the telematic services based also on digital paper and the relative systems of outlining of the use and the public operators;

- the" computational shared Infrastructures" and the" shared technological Bases" fit to the multichannel disbursement of the telematic services, and for the management of the computer systems of the corporate body of the regional system; her" Regional Sanitary Registry" and the" System of Government of the Health" for the management uniform and coordinate to regional level of the registry of the assisted ones, of the medicine of base and the monitoring of the sanitary expense as well as the systems for the regulation and the booking of access to the sanitary services for the citizens founded on the multichannel CUP Liguria; the Regional Sanitary registry will include, whereas possible, also the registry of the animals;

- the base of and-learning for the distance formation.

Twos years from the application of the law he essentially finds a positive judgment on the development of SIIR primarily connected to the new methodic of job coordinated among corporate body of the regional system that. overcome the first period of start of the operational formalities. it underlines the benefits of a coordinated planning both on the financial plan and productive and the potentiality of important economies of scale.

Focus: interregional cooperation

Besides the specific cooperation institutional - among which are underlined in first place those in the interregional coordination vicar of the computer subject within the second Commission of the Lecture of the Presidents of the Regions and the autonomous Provinces, those in breast to the Committee Permanente for the innovation in the Regions and in the local bodies of which to the art. 14 of the Decree Legislative 7 March 2005 [ns]. 82 and those in the center [CISIS]. Liguria Region develops an ample operational cooperation.

Currently they are operational different interregional projects: some of these projects are become by now systems in exercise in cooperative form (primarily SIGMA TER project and the system for the management of the auto tax) and I am the fruit of the tied up initiatives to the realization of the first phase of realization of the and-Government and cofinanced with the funds made available by CNIPA]on the I Tell.

Other interregional projects, such as ICAR, ICAR+, SESAMO are instead the solutions proposed in answer to the relative Notices connected to the lines of action of the second phase of realization of the politics of and-Government that they are in realization in interregional form.

The Liguria Region operates besides in the Riuse (both as surrender that as ri-user) in different application circles what those of the management of the scholastic registry and the services accessories (surrender to Autonomous Region Friuli V.G.), of the observatory of the distributive net of the fuels (surrender to Region Puglia and Veneto), etc.

To such ends the Liguria Region has undersigned specific conventions picture of cooperation in the compartment of the ICT with Region Emilia Romagna (11/07/2008), Autonomous Region Friuli V.G. (14/09/2007), to succession [D.G.R]. [n]. 987 of 07/08/2007), with Region of Veneto (25/10/2005), with Region Lazio (17/07/2006) and particularly with Region Piemonte and Aosta Valley in joined form in an only undersigned action 05/07/2007 that it represents an interregional circle wide to the whole North West that has allowed and it will allow to gather all the advantages of the collaboration and to achieve a real organizational and technological enrichment, also maintaining the exploitation of the single specificities and experiences.

Focus: the new tools of communication for the information society

The Liguria Region is, besides, equipping with a new site devoted to the eGovernment and the services offered by Ligurian public bodies. The warm themes on the carpet of the Ligurian technology are so many, from the digital it divides to the necessity of the enterprises to adapt itself and to exploit the new technologies, to the type of investments that can be put in field and on what foreheads. The administration proposes him to inform the citizens, the local bodies and the enterprises on the initiatives in action and dawning in swift and punctual way. And first of all the construction of a shared project that, through a critical analysis of the already present information on the web, that is in the economic sceneries, social, cultural, environmental of the territory and a continuous comparison of the interlocutory subjects of the territory, it describes the vision of future development of the ICTs on the territory, with objective, strategies and a series of concrete interventions to let very different actors to converse online.

Public and private actors, actors carriers of different affairs, social affairs, economic, and naturally also institutional that can retrieve to the site [www.eliguria.regione.liguria.it] of next opening all the information on the development of the Him in the region.

The programmatic scenery: the PTSiL document 2009 - 2011

The Triennial Program of development of the Information Society (PtsiL) constitutes the document of regional reference for the development of an efficient and functional society of the information in Liguria and, for its planner nature, is the tool with which the Region adopts the lines of address of planning for the coordinated development and homogeneous on the regional territory of the Information Society , as well as for the development of SIIR and the institutional project" Liguria online" in the forms defined from quotes its law 42/2006.

The Program, that acknowledges addresses him regional contents in the general planning and of sector, is adopted in coherence with the Document of economic-financial planning and it brings:

- the strategic objectives for the strengthening of the Information Society in Liguria and you address him programmatic of development of SIIR and the institutional project" Liguria online";

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- the identification of the architecture of the informative system and telematic integrated regional system the contents and the lines of development of the areas of automation and the results attended in three years the analysis of the monitoring of the development of the ICTs in the preceding three years the critical analysis of the results gotten in the preceding three year period in the development of the inside informative system to the regional administration and cooperation in regional circle as well as the first results of SIIR, effected in way structured through the quantification ex post of the indicators of monitoring understood, for every sectorial circle, in the Plan Triennale 2006-2008.

The PTsiL 2009-2011 identify 4 strategic objectives that they intends to pursue in the three year period.

Objective 1 - to Operate for the elimination of the digital one divides territorial through the deployment of the technologies of base on the territory (connectivity to wide gang, enabling infrastructures of access, recognition. identification, elaboration, application cooperation and interoperability, multichannel.

Objective 2 - to Operate for the elimination of the knowledge divides social and economic and to assure the total inclusion in the Information Society developing the net of the services Web for the citizens and the enterprises.

Objective 3 - to Develop the adjustment of the back digital office of SIIR and to maintain him/it in exercise.

Objective 4 - to Effect politics of governance, monitoring, benchmarking and partnership in the development of the Information Society in Liguria.

The 4 objectives are framed in a scheme of organic reference that connects the attainment of the interventions on the civil society undertaken with the disbursed services and their monitoring:
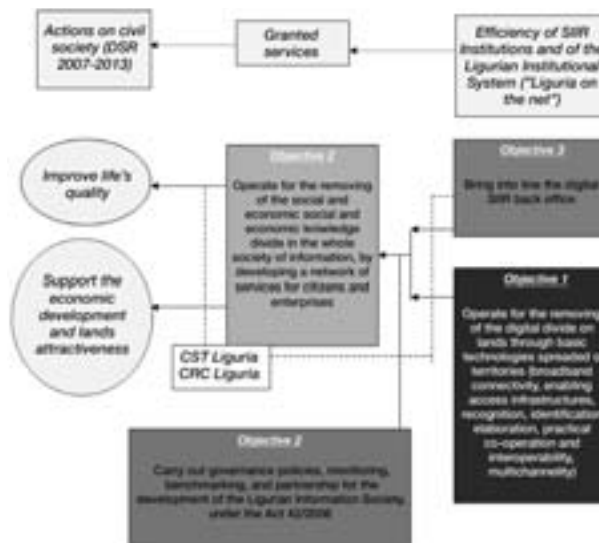
The operational scenery: the tools

To give realization to the politics and the programs of development of the information society of her own territory Liguria Region uses in synergetic way a series of tools:
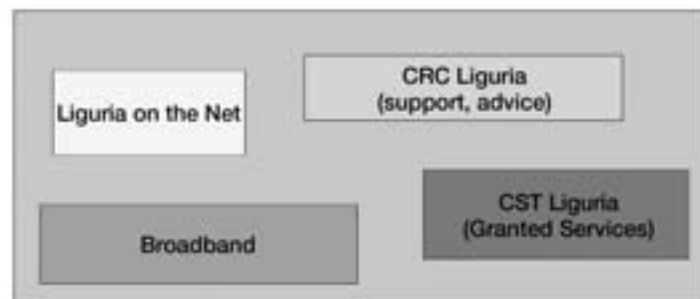
Focus: the institutional project "Liguria Online"

Regarding the involvement of the territory in the process of development of the Information Society article 6. of Regional law n. 42/2006 formalizes the institutional Project" Liguria online" that it is realized through specific conventions among the Region, the local bodies, the public administrations and the different subjects, not belonging to SIIR, to collaborate in specific initiatives turned to the development of the Information Society in Liguria.

Currently over ninety between corporate body and different subjects have undersigned the Agreement "Liguria online" with Liguria Region activating specific initiatives of collaboration.

Focus: "CST - Liguria"

The diffusion of the ICT always asks not for evolved technologies and specialized organizational structures to the course of the small communes. For this finality Liguria introduces 183 communes out of a total of 235 municipalities an inferior number of inhabitants to the 5.000 unities, sufficiently distributed in homogeneous measure in the single provinces.

The notice for the government's cofinancing for the constitution of the CSTs. Territorial Services Centers. Then rechristened Local Alliances for the innovation have represented an important opportunity for the ligurian territory, allowing the creation of sovra-town structures of service fit to manage in unitary and more efficient way the investments devoted to the and-Gov and to make of aggregations of small communes the human and technological resources available.

The CST Liguria foresees the realization of an only regional CST, with functions of transversals of coordination, articulated in poles of provincial level that develop the function of disbursement of the services. The project has been sent to CNIPA within the granted last term.
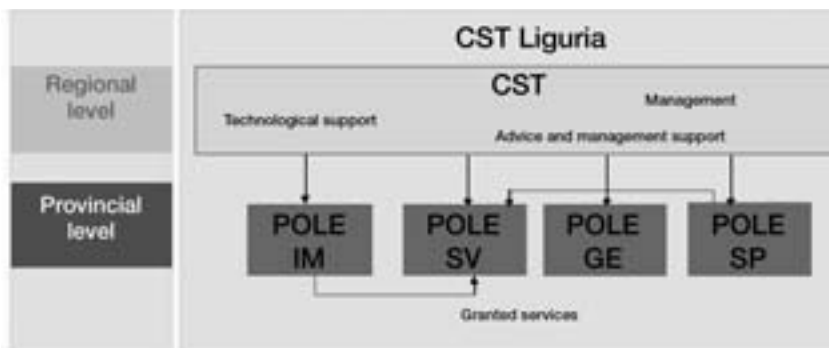
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The CST Liguria picks up the share of 151 Corporate body that have formalized the adhesion with the signature of the Convention however.
The adherent ones are:

Liguria Region
•   4 provinces
•   131 commues, of which 104 under the 5000 inhabitants
•   11 Mountain Communities
•   5 other Corporate bodies (Corporate body Park, Consortia, etc.).

With the adhesion to the CST/ALI, Liguria's small Communes can profit some services that themselves have asked. Such services, in fact, have been selected on the base of questionnaires compiled by the Communes themselves, among those priority results for to be disbursed suffered by the CST/ALI Liguria. The services that will be disbursed within the initiative cofinanced by DIT- CNIPA are:

•   the Computer protocol [ASP];
•   the service and-procurement;
•   the service of Electronic Domicile (e-mail and certified e-mail);
•   the use and sharing of the Datacenters (web, housing/hosting) for its own Internet site;
•   the access to the cadastral Services through the Center Services - Sigmater of Liguria Region.

Further development of the services of the CST Liguria will be given through initiatives coordinated turns in the circle of interventions of APQ of subject and structural funds.

The Leading Committee and the Committee of Evaluation are the organs of governance founded for guaranteeing the management and the definition of the necessary activities to the realization of the CST Liguria and the identification of the best initiatives for the development of the "System CST Liguria" in its complex. To the first one it is up to define the least levels of service (SLA), which the suppliers of the CST will be kept to confirm him and those that every Provincial Pole will be kept to respect towards the Corporate body united verse which will disburse services, and to take care of its relative monitoring. The Committee of evaluation it has, instead, the assignment to furnish evaluation and observations regarding the decisions and to you address him assumed by the regarding the affairs proper of the small communes. Both foresee the representatives' share delegated by the Associations of the Local bodies, ANCI, URPL and UNCEM.

Within the project CST LIGURIA, specific thematic fields of application are in progress, such as: infrastructures, integrated Promotion of the territory, Territorial Informative Systems and Procurement and digitization of the public market, enabling Infrastructures, etc.).

They develop the whole necessary cooperative functions to the development of the services or their identification in base to the demands of the territory, the planning, the realization, the mass in exercise and the management.

Every thematic Community will report on the theme of competence to the Committee it drives and to the Committee and Evaluation.

In synthesis the assignments of the Community are: to maintain regular operational contacts on the specific theme to get a constant operational updating; to deepen the normative requisite, organizational, technological related to the assigned theme and to elaborate the proposals of innovation to propose to the realization to the" CST Liguria"; to furnish indications regarding the question of services and infrastructures it expressed from the territory, organizing specific moments of comparison with the local bodies and the different subjects on the territory; to develop actions of animation, accompaniment and facilitation on the territory within action with the purpose to facilitate the introduction of the tools of innovation and maximize the results; to assure the link, for specific theme, between the demands of the territory and that regional the planning, the financing of the in demand service and its implementation.

Liguria Region is the coordinator. It has the responsibility of the project. It effects the management of the monitoring of the project. It furnishes out infrastructural services to the CST Liguria of the cofinancing by CNIPA for the medium of the Regional society Datasiel. It coordinates the thematic Communities. It furnishes operational reception office to the Committees. Provinces: they have the responsibility of the promotion and the involvement of the Corporate body of the territory with the support of the Common chief town of Province. They maintain, besides, the management of its own provincial pole and the deployment of the services on its own territory. They actively participate in the thematic Communities. Common chief town of Region: it has the role of partner of the Region to make consulting services available on thematic legal, fiscal, organizational, formation, [SUAP], housebuilding, inventory and tributes and it participates in the thematic Communities. Common chief town of Province: it places side by side the Province in the Provincial functions of coordination of the Pole. It participates in the thematic Communities. Provincial pole: it has the functions of disbursement of the services and work in local autonomy within the organization of the CST, it uses the transversal tools implemented by the regional level The "Centro Servizi Territoriale - CST Liguria" is defined as a permanent tool for the disbursement of the services of e-Government on the regional territory from law 42/2006 (Art. 6 paragraphs 2).

Focus: CRC Liguria

The regional Center of competence for e-Government and the Information Society "CRC Liguria" is defined by the article 6 paragraphs 2 of law 42/2006 as a tool of promotion, technical support, consultation to the subjects of the regional system and the local Ligurian bodies and as observatory of the diffusion of the information Society.

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Focus: deployment DI the Broad Band in Liguria

From years the Region Liguria has started a project for the coverage to Broad Band of the whole regional territory. Already beginning from 2006 they have been on its way in some areas of the hinterland of the projects he/she pilots that have given the first results of coverage (for example in Val Bormida and Val Trebbia and experimentations in 35 small Communes.

During these years many territories have been reached in which the digital-divides it persisted as areas to failure of market.

The action of the Liguria Region, coherently with the national Plans on the deployment of the Broad Band and with the CNIPA guidelines, has activated a process of coordination of different competing initiatives to the attainment of the preset objective: the annulment of the digital divide in all the territories Ligurian disadvantaged up to the citizen in territory with horographic difficulties. Particularly, besides a first experimental phase, it contemporarily undersigned specific Protocols of Agreement with the provincial administrations for the diffusion of the broad band on the territory and to undersign, also, Protocols of Agreement with the Operators of Telecommunications for the realization of mutual appointments in terms investments on the broad band and the sharing of the respective plans without additional burdens for the regional administrations.

Liguria Region through the in-house society Datasiel, using European economic resources (the P.O.R. Competitiveness 2007/2013) has dispatched an European competition related to the territories of the Province of Genoa and the Province of La Spezia and for the trust in concession of the service of management of the realized infrastructure.

The European competition, submitted already, it foresees the capillary diffusion of the access to the services Broad Band up to the level of Municipality of the common object of the intervention.

The Provinces of Savona and Imperia, have started the project of diffusion of the band for the overcoming of the digital divide through an initiative of project-financing that also uses resources of European projects (Interreg III and Alcotrà).

Thanks to the synergic action of these interventions it will be possible to overcome the digital divides to middle-long term, equipping the regional territory with an infrastructure in broad band, enabling it to the fruition of services toward the citizens, that to the interconnection with the SPC dorsal and therefore connected to the national Net of the PA.

NorthWest of the NorthWest System...
The Aosta Valley

Introductive Outline

This article investigates the Aosta Valley Region. It is the third of a series of research papers on the North-West System. Previous investigations focused on Piemonte and Liguria.

The opening title of this article already gives an "extreme" flavour that is typical of this region. This is the region to the farthest NorthWest of Italy. It is the least territorially extensive region. It has the highest average altitude in Italy (over 2000 metres). It is bounded by a mountainous perimeter marked by all "four thousand" peaks of the Alps in Western Italy. By extension, it is the least populated and least densely populated region in the nation.

Understandably, in such an "extreme" region, issues of P.A. innovation, developing the Information Society, encouraging projects to reduce or remove the "digital divide" are extremely well accepted by the regional governing bodies seeking opportunities to improve the quality of life of the local population. This enthusiasm and commitment have characterised the participation of the Valley of Aosta (VoA) in the NorthWest System since the beginnings of the new Convention between the three Regions at an organizational level. The VoA region was the first to provide secretarial services in support of the multiannual programme and contributed to the definition of the governance model of the activities described in the article "Convenzione Liguria Piemonte e Valle d'Aosta" published in E-Gov issue number 11/2008.

This article aims to identify the profile of those who benefit from the evolution of the information society: citizens, businesses, public administration bodies. We then present the parties controlling the development of these evolutions and the planning instruments that define annual and multiannual objectives. There follows an overview of the state of technological infrastructures and the evidence – based on some operational projects – revealing the guiding principles behind the developments with regards to PA (G2G), SMEs (G2E), citizens (G2C).

VoA in numbers

Administratively, the Region is subdivided into eight Mountain Communities (MC) (with a total of 74 borough councils) seeking to promote the conservation and wealth of cultural, linguistic and environmental diversity. The population is irregularly distributed, with over a third of inhabitants in Aosta and bordering councils. A good part of the population resides in the low and middle valley, while the side valleys are notably depopulated except for the main tourist centres.

Mountain Communities	Family Units	Inhabitants	Number of councils
Aosta (assimilated to the M.C.)	15.082	34.672	1
Evançon	5.077	11.323	9
Grand Combin	2.232	5.386	11
Grand Paradis	6.182	14.739	13
Mont-Emilius	8.335	21.019	10
Monte Cervino	7.434	16.868	12
Mont-Rose	4.374	9.937	9
Valdigne	3.706	8.730	5
Walser	911	2.010	4
TOTAL	**53.333**	**124.684**	**74**

Table 1 – Valley of Aosta population numbers

According to ISTAT data (2006), there are 11,102 entreprises, 130 public bodies and 1,120 non-profit organisations in Valley of Aosta generating 51,000 jobs (employees and freelance).

Public Administration Actors in Aosta Valley's ICT

The innovation and development of ICT technologies for PA, SMEs, and citizens transversally impacts upon other bodies and sectors, and thus requires the coordination of complex actions and the clear definition of roles and responsibilities. To this end, the organizational aspect becomes a fundamental element of government action.

The main actors involved in managing and implementing ICT plans of action are:

Regional Administration
The Autonomous Region VoA performs various functions in the development of the information society, providing the whole public administration sector operating in the region with guidance, coordination, planning, control, animation and support. Further, according to art. 1 of the regional by-law n° 16 (12 July 1996), its duties include planning, implementation, and monitoring results through the Department of Innovation and Technologies (DIT).

The Leading Group in the delegation of local bodies
The underwriters of the regional agreement on ICT innovation and development in the VoA region (Valley of Aosta Autonomous Region, Permanent Council of local bodies, Aosta Borough Council, Valley of Aosta local health authority, Valley of Aosta Regional Council, the Università della Valle D'Aosta and Chambre de la Vallée d'Aoste) have agreed to appoint a Leading Group of local authority and INVA plc representatives to understand the needs of users, define coherent annual development plans, catalogue the services, define levels of service and supervise operational activities with particular reference to the Partout system (see below).

INVA plc
INVA plc is a company collaborating with public authorities according to an "in house providing" model. Its role is to implement and manage the regional information service within the multiannual plan in accordance with regional by-law n. 81 (17 August 1987) and modified in bylaw n. 16 (12 July 1996).

Besides its organisational and managerial duties, INVA is involved in implementing and managing information systems as defined and required by its public members (75% Region, 15% Aosta County Council, 10% local health authority) in their respective development programmes.

Planning and Scheduling

There are two benchmark strategic and operative scheduling instruments: the *Three-Year Plan and the Annual Operative Plan (AOP)*. The Three-Year Plan for technological innovation represents the synthesis of regional political vision, national and European guidelines and state of the art information and communication technologies. The objective is to schedule the innovation process involving the entire local authority system and through it the whole Valley of Aosta socio—economic system. Specifically, the current multiannual Plan has contextualised the various operational activities according to the following guidelines:

Sector Development – ICT and Region:

• Develop the regional information system according to transversal, sectoral and network communication components.

System Development – ICT and e-Government:

• Unfurl the basic technologies throughout the territory and the public connection system.

• Implement policies to provide local authorities with guidance and support to encourage the integration of information systems and application cooperation.

• Develop e-government to enhance relations between public administration and citizens and businesses.

System development – ICT and social and economic fabric:

• Raise the quality of life.   • Foster economic growth.
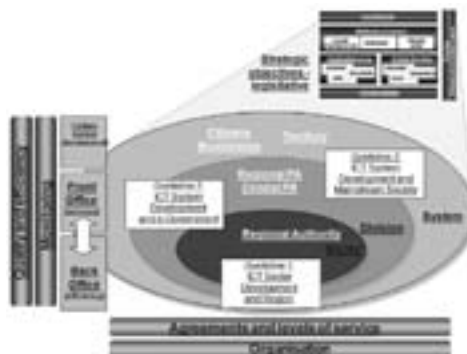

Figure 1 – three-year plan

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The *Annual Operative Plan* is a Department of Innovation and Technology document based on the forecast of activities required to ensure on the one hand the correct functioning of the current information system of the regional administration and on the other hand to follow the evolutionary path undertaken within the guidelines and objectives set forth by the multiannual plan. An additional tool for the attainment of stated objectives is the role of the in house company INVA plc as the Region's "operative arm" through the framework agreement 2008-2012 RAVDA-INVA (proceeding n° 3841 (27 December 2007 and s.m.)). This relationship is regulated by the institution of the interorganic delegation.

In brief, the client/supplier relationship whereby INVA assumed the role of preferred supplier to the Client Region has become a contractually regulated cooperation between the two entities.

Figure 2 – DIT and INVA

To complete the overview of the tools put in place by the Valley of Aosta PA in the context of ICT and Innovation, it is worth mentioning the approach they use to schedule, implement and manage the initiatives:

1. Current and systematic application of project management methodologies with special attention to governance within the Programme (cf fig. 3).

2. Assessing the availability of financial resources with special attention to sources (regional budget, combined national and European funding) and destinations (free-to-use, managed indirectly or directly) with the objective to maximize their efficiency (cf figure 4).
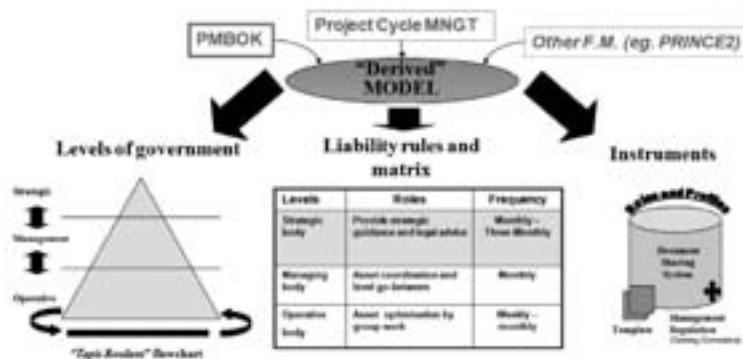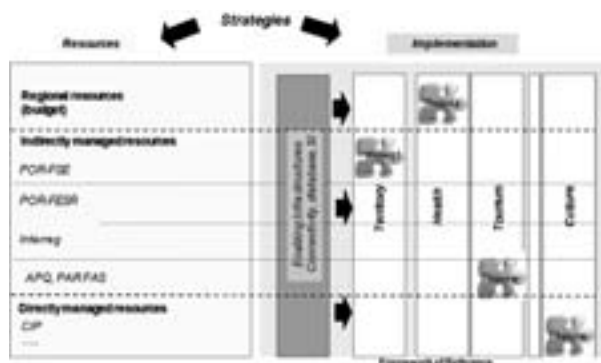

Figure 3 – project Governance

360

Figure 4 – Combining Resources Initiatives

The foundation for the Information Society: the infrastructures

The region is seriously committed to the development of the information society, supporting the creation of necessary infrastructures, the spread of computer education and the availability of telematic services for citizens. Significant milestones have been reached in recent years, including the spread of broadband internet connections, the creation of services accessed on the Region's website, the availability of public access internet points within the region, computer education programmes funded by the European Social Fund.

Broadband coverage reached 96% of telephone users within the regional territory in 2008, thanks to the Agreement between the Autonomous Region Valley of Aosta and Telecom Italia plc.

The following initiatives are currently under appraisal or already implemented:

• "RAL – Reti Alpi Latine" and "VDA – All Broadband" allows the enhancement in terms of coverage and bandwidth of the backhaul network (ie part of the net enabling the interconnection between backbone and local geographical grids, which, due to the morphology of the region consist of lateral valleys).

• "Infrastructural Fibre Adjustment" aims to realise the main sections of backhaul in optic fibre (the existing radio grid will be kept as a recovery grid) benefitting from economies of scale unattainable with point interventions.

• "NGN2": the objective is to realise the last mile with optic technology (from backhaul to users).

Projects and Services

The Valley of Aosta Autonomous Region has provided a service development plan leading to the implementation of initiatives to promote communication and integration between all social and economic subjects in the region.

The full spectrum of opportunities were taken into consideration, including those rooted in the regional territory, initiatives to be developed in collaboration with extra-regional partners, reusable solutions to capitalise on the experience matured and consolidated in other regions.

For example, within **G2G**, the region is taking part in some tasks of the interregional project **ICAR**[73] (and the ensuing project **ICAR+**[74]). Its aim is the interoperability and network cooperation between information systems of different public administrations, the collaboration between regional administrations in the context of application domains, and the creation of a safe interconnection of regional networks according to the requirements of the Public Connectivity System (**PCS**).

The Region is also participating in the project **SIGMA-TER** (http://www.sigmater.it) in collaboration with the regions of Emilia Romagna, Liguria, Abruzzo, Tuscany and the Ministry of Finance to develop new tools to analyse and spread cadastral and territorial data to improve the planning and management of administration and taxes in the territory.

The region has acquired experience of **G2G** through the following projects:

- The project **Sistema ATTI** aims to dematerialise (see data sheet in appendix).

- The project **Mediateca Regionale** aims to gather the Regional Administration's substantial multimedia resources into a single information system (see data sheet in appendix).

The G2C pilot project **Servizi Online** (http://www.comune.aosta.it/it/comune/servizi_online/) was started at the Aosta borough council on 16 March to improve communication between citizens and public administration. It will be extended throughout the region.

We emphasise the importance of the project introducing **Digital Terrestrial Television**[75] making the Valley of Aosta a pilot region and a testing ground for the transition to digital technology due to its complex morphology and its marginal position (see data sheet in the appendix).

The **G2E** project **SUEL**[76] (Sportello Unico Enti Locale Valle d'Aosta) is the Valley of Aosta's local authority one stop shop to simplify authorisation procedures for business start ups in the regional territory.

Partout is a joint multiannual strategic and organisational initiative of the Autonomous Region of the Valley of Aosta and the main regional institutions aiming to promote **G2G**, **G2C** and **G2E** at the regional level. The objective is to develop and share PA resources by extending access to the entire set of organisational structures, technological infrastructures and technical rules and thus promote and manage the global themes of innovation within public administration.

NOTES

[73] http://www.progettoicar.it/home.aspx
[74] http://www.progettoicar.it/ViewCategory.aspx?catid=b4cb57c1b7b84186b283c41862b8251c
[75] http://notes1.regione.vda.it/DBWeb/TvDigitale/TvDigitale.nsf/WebHomeITA?Openform
[76] http://www.sportellounico.vda.it/

Data Sheets

Sistema Atti

Sistema Atti contributes to the process of administrative simplification using the DOQUI-index platform within the LPV interregional cooperation started by the Regional Administration in 2005 with the IT payment mandate and the subsequent dematerialization of authorized expense refunds. Its aim is the complete dematerialization of administrative measures (management measures and by-laws) by:

• Completely computerising the process of elaborating and validating bills.

• Electronic document management with digital signature as required.

• Electronic document management on INDEX platform and ADOBE digital signature.

• Integrated management of accounting validation using regional financial systems. Integrated audit of costs by the structures themselves.

SIL VdA

In July 2009 the Valley of Aosta region implemented Emilia Romagna's SIL VdA, a prime example of interregional cooperation and technological reutilization, technological porting and system recontextualisation.

This project was undertaken with the cooperation of all regional employment centres, and the Department of Employment. It was cofinanced by CNIPA and notified in the official journal (GURI 30, 6/2/2007) with the cooperation of the regions Emilia Romagna and Umbria.

SIL VdA will completely replace the "Prolabor" system currently used by employment centres and yield substantial benefits in terms of connectivity, interoperability and application cooperation.

Mediateca Regionale
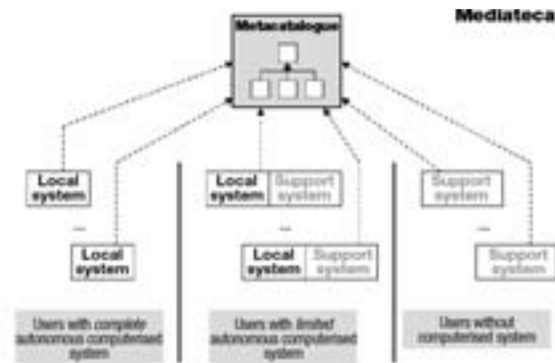
This project was designed to gather the regional administration's multimedia resources into a single information system. The resources are currently dispersed in different systems and administered by heterogeneous tools and criteria. Conceptually, the system is hierarchically structured with a Metacatalogue (Mediateca's nucleus, similar to a centralized index) as its principal element. The secondary components consist of Archives of data owners. These Metacatalogue entries are limited to a few variables of interest. Local authorities with limited or non-existing information systems will be provided with adequate support and access to web services. Initially, data will be input from the following archives:

- The Regional Management for the Cultural and Landscape Heritage.

- The Historical Archive.

- The Regional Library.

- Archive of Archaeological Heritage.

Digital Terrestrial Television

Telecommunication is an important tool for connecting the inhabitants of the valleys and combating mountain depopulation in an area of difficult mobility such as the Valley of Aosta. Digital technology gives access to services connected to televised programmes (surveys, databases, onscreen document consultation, etc.) transforming the user from passive observer to interactive participant.

The Italian government has defined a nationwide regulatory framework and programme of progressive radio and television digitalisation consistent with European directives through the Ministry of European Development - Communication.

The Valley of Aosta was chosen as the pilot region and the testing ground for the transition to digital technology owing to its complex morphology and marginal position. It will be the second Italian region to go "All digital".

The region has committed necessary financial resources to develop a grid of broadcasting stations to ensure coverage of radio and television signals in the lateral valleys.

The Ministry's forecast for completion of the digital broadcasting grid in the Valley of Aosta is September 2009.

EuroSpace Srl formally began in 2001 as an initiative by Renato Lucarini, a freelance manager with a track record in industry (Stet) and about ten years in working on his own account, who decided to pool his wide experience of working with the Italian government and other major institutions around the world.

EuroSpace s.r.l. aims to work with institutions, ICT companies and the public for the best and widest possible diffusion of these contributions of information and communication, in the spirit of the following **European values**:

- the primary aims of ICT are **social progress, quality of life, growth of job opportunities, and the commercial success of the industry**;

- ICT's growing globalisation requires a **wide range of technological knowledge and familiarity with applications**, and a high admixture of originality and innovation;

- economic and social development are boosted by all possible forms of **cooperation between public and private** bodies that can contribute high quality added value in their own areas of work;

- an **interdisciplinary approach** is an essential ingredient of economic, technological, organisational and application development;

- **international experience and collaboration** guarantee "vision", quality, and the effectiveness of the solutions designed;

- all business activity is strengthened by full respect for **ethical principles** and the **dignity of the individual**.

To have the best possible impact in terms of projects and presence at European decision-making centres, EuroSpace Srl has opened offices not only in Rome and Milan but also in Poland (**Warsaw**), with partners of great international experience, well established in their institutional and industrial surroundings.

From time to time EuroSpace Srl also brings other companies, practices and freelance experts into its scientific and design activities, where these can guarantee an excellent level of quality, for the full success of its projects.

1. Areas of activity

1.1 ICT Systems, Services and Projects

Technical and professional performance is assured, thanks to international quality standards and with proven methodologies, featuring:

- in-depth study of the objectives, and projects implementation focusing on European key aspects;

- highly implemented innovation with focus on social;

- top quality methods for development and project control;

- co-operation of professionals with long-term international experience.

EuroSpace Srl is a specialist in the application of ICT to **the social area**, including both the government and its agencies (central and local) and all public and private operations aimed at improving the quality of life, the development of regions, trade, enterprise and craftsmanship (essentially, all that has been identified internationally as "the City of the XXI century in the Information Society").

It has specialised also in application solutions (hardware and software) involving **mobile telecommunications and geo-referenced cartography for urban areas**.

1.2 Communication Projects

To provide inspiration as "symbols", words need to have a conceptual content richer than their usual reference; symbolic concepts can generally be better expressed in terms of dichotomy or "dialogue". Eurospace Srl carries out work for government agencies' communication with citizens, and private companies' communication with government agencies: it handles the practical realities and actions involved in the following dialogues:

- **Citizen/Institutions**, requiring effective reporting back and a reciprocal collaboration to increase service effectiveness and improve service quality.

- **Public/Private** bodies, aimed at arranging shared responsibilities between these two, for effective results. This dialogue is indispensable if the aims of a national system are to be achieved; and in it the important thing is the overall result rather than immediate economic returns: it is a commitment of professionalism and skills, which often brings further forms of mutual benefit. The dialogue is not an easy one to put into practice, but is extremely useful for communication.

- **Collective imagination/Information Society**. In the present initial phase of the Information Society, it is the collective imagination which determines the image of every product and service – and hence its success. This is a complex concept, which involves bringing together the most disparate expectations among the public concerning economic development and the quality of life. The Information Society necessarily revolves around the collective imagination, and the rewards for those who know how to read and stimulate it are great.

Eurospace

The simultaneous "application" of these three "dialogues", more than ever, makes important for Public Administrations to "implement communication" in institutional Fairs, where local and central Public Administrations and ICT firms jointly participate.

In such a cultural environment, EuroSpace Srl has deeply strengthened its experiences, carrying out communication projects for its clients both in the Public and in the Private sector.

2. Principal Activities

To protect the confidentiality of the government agencies and companies EuroSpace Srl is working with at present, details of operations for 2010 are not given; but below is a list of those carried out in the last few years by the three founder members (often jointly):

- Putting on exhibition and communication events for the **Italian Home Office**. Designed activities for the New Voting Booth and the New Polling Station; conception, design and creation of experimental and final prototypes: functionality, aesthetics, materials, etc. Presentations to the public and the press.

- **High-profile ICT services and consultancy** for various major private companies and central and local public agencies.

- Consultancy for SMAU in the sectors of central and local government (as sole agent). Scientific coordination of the PubbliSmau sector, through the drawing up and carrying out of annual and four-year programmes: high-quality installations, with strong value added in terms of exhibitors' communication. Scientific consultancy in the Telecommunications sector, with the planning of an international exhibition event specifically devoted to it.

- Upon invitation of the Italian government, participation in **Habitat II, the UN World Conference on Human Settlements**, held in **Istanbul** in 1996.

- Participation, by Council of Europe invitation, to the Experts Committee on modernisation of Local and Regional Government of Strasbourg Council of Europe (2002), in order to present innovative solution of social and industrial value.

- Publishing of the:

- **2002 English Edition** of the book **"e-Government, e-Governance: an Italian experience"**

- **2004 English/Italian Edition** of the book **"e-Government: how to make system"**

- **2005 English Edition** of the book **"e-Government: European Strategies Compared"**

- **2006 English Edition** of the book **"e-Government: Communication, Concertation, Cooperation"**

- **2007 English Edition** of the book "e-Governance: **transforming Government to build trust and quality"**

- **2008 English Edition** of the book **"Improving Performance and Innovation in P.A.: analyses and research among European e-Government experiences"**

All the editions were spread according to a distribution list of thousands European names: Institutions, and major international firms, and printed media.
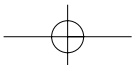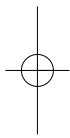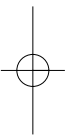
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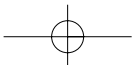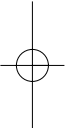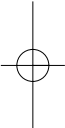
E-gov 2.0: Pave the way for e-Participation

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The aim of the present volume is to provide a response to the numerous unanswered questions on how ICT can be used to support democratic processes. In particular, an attempt has been made to highlight opportunities, advantages and prospects for the future, while, at the same time, identifying impediments and potential problems of critical significance, in order to provide the reader with an easily understandable overview of the situation.

ICT and policies for participation. Great expectations

Digital technology can make a noteworthy contribution to reinforcing and consolidating democratic institutions. With regard to improving two key aspects of democratic processes, namely information and participation, it can prove particularly effective.

By using the web, citizen-users can obtain access to a vast array of information once unthinkable, regardless of where they happen to find themselves. All the above provides users with the concrete possibility of benefiting from clear, pertinent and timely information on the activities of their respective governments, at the same time allowing them to express informed, knowledgeable consent, a vital precondition for any democracy. As was stated by Jefferson (1955), *"There is no better keeper of the final powers of society then the people themselves, and if we do not believe them to be sufficiently enlightened to exercise their discretionary powers soundly, then the answer is not to deprive them of the choice, but rather provide them with the necessary information"*[77].

Unlimited access to information, and especially to the information produced by public subjects, also allows citizens to exercise democratic controls over the work of the institutions in question, laying the groundwork for more active citizen participation in the political decision-making process.

It follows that, *"As the speed at which information is distributed increases, the trend in politics is to move away from granting mandates of representation to elected officials, in favour of direct involvement on the part of the body public in government decisions" (McLuhan, 1994)*[78].

In addition to guaranteeing that information be transparent and accessible, the new technology also makes available a variety of tools capable of significantly modifying forms of political action while providing citizens with the possibility of continuous participation. A fitting example is the way in which the increasingly massive use of on-line surveys has completely transformed relations between the governing and the governed.

NOTES
[77] GROSSMAN LAWRENCE K, La Repubblica Elettronica, Editori Riuniti, 1997 pg. 93
[78] Ivi, pg. 138

Conclusion

By constantly measuring levels of public approval, the social contract has become a permanent, continuous pact. Citizens are constantly surveyed, and their opinions are capable of influencing the policy decisions of those who govern, creating a constant give and take between social, political and institutional protagonists.

The activation of a direct, bidirectional channel with institutions not only serves as an effective antidote to the growing distrust and dislike that have appeared to characterise citizens' attitudes towards politics in recent years, but also serves as the cornerstone for a genuine renewal of democracy from below, at the "grass roots" level.

The heightened availability of information and the increased capacity for contacts and networking made possible by the new technology have laid the groundwork for building a newly energised public sphere in which citizens, by publicly communicating with one another, can convince or become convinced, or jointly bring new opinions into being, all in the course of an ongoing dialogue with government.

Seen in this light, there are some who point to the prospect of a return to the roots of Western Democracy, given that current communications technologies would make it possible to switch from a system of "intermittent democracy" to one of "continuous democracy"[79]. Under the first approach, citizens are convened periodically, on the occasion of votes, though within a context of scarce information or, worse yet, persuasion carried out by means of the mass media. The key to the second scenario, on the other hand, is the setting in motion of processes of involvement that allow citizens to be adequately informed and to participate, meaning decisions take shape through a joint process of "deliberation".

Towards direct democracy: realty or utopia?

The advent of new communications and information technology is slowly modifying the destiny of democracy.

Indeed, what is being witnessed is a change in the very idea of politics, no longer conceived of as the exclusive reserve of professional operators, but rather as a process in which citizens play an active role as parties to an ongoing debate.

The web becomes a new metaphor for democracy, guaranteeing heightened availability of information by bringing down barriers of space and time while, at the same time, making it possible to establish collective decision-making procedures by readying new forms of access and spaces in which user can play an active role.

But despite the opportunities for the development and consolidation of democratic processes offered by ICT, we still fall far short of being able to define democracy as a policy-making process in which those who govern, considered to be politically equals subject to controls, show themselves to be receptive to the preferences of the governed. The delay, so to speak, can most likely be traced to the fact that, together with a previously unimaginable potential for interaction, the new technology has also spawned a series of concrete risks and limits.

NOTES

[79] The reference is Tecnopolitica. La democrazia e le nuove tecnologie della comunicazione; Rodotà Stefano, Laterza Editore, 2004

Conclusion

An example is the status, within an information society, of citizens who lack access to ICT and thus face a major obstacle to the exercise of this new type of citizenship, at the same time suffering grave forms of new discrimination and social disadvantage.

The latest data demonstrate that there are still large segments of the world population which, due to economic or cultural need, are effectively excluded from enjoying the information-based advantages of the new technology. And while this gap is especially glaring when viewed in the context of a comparison between the so-called rich countries and poor countries, it is no less real within societies that are thought of as being "highly developed"[80].

So while there is no denying that the new technology can make a noteworthy to strengthening the democratic institutions of a given society, it is equally true that, in order for this to be achieved in practical terms, everyone must be provided with a chance to use the new technology and access the services offered, regardless of other factors, and especially of economic considerations.

Only when there is universal access can a fully developed, digital democracy be said to exist. Overcoming the gaps that divide the haves from the have-nots is a key precondition to the construction of a direct democracy that draws its strength from active citizens given the opportunity to effectively participate in decision-making processes. Indeed, e-Inclusion turns out to be: *"One of the most important key enablers for e-Participation and, as a consequence, one of the main challenges to be met on the way to reaching e-Democracy"*[81].

It is also important to note that the digital divide consists not only in unequal access, but also of a dysfunctional use and interpretation of the new technology on the part of the very subjects involved. All too often, for example, though the necessary preconditions of infrastructure and computer literacy are met, the subjects tend to neglect using the new technology, seeing that they lack an understanding of its potential. In such cases, we are faced with nothing less than an ideological prejudice that leads such subjects to underestimate the usefulness of the new tools. The absence of a shared culture of internet geared towards heightening and broadening awareness of the importance of the use of new technology to the lives of individual citizens represents a significant obstacle when it comes to developing participatory policy-making over the web.

Still, the problem of access alone (both with regard to unequal distribution of the technology and shortcomings in technological know-how and in terms of the possibilities for reinventing the internet) does not account for all the limits generated by the application of ICT for democratic purposes.

Another issue is that of the size of the information. The twin strengths of the web 2.0 can, like a two-headed monster, prove to be constraints rather than opportunities.

While it is true that the availability of information constitutes, in and of itself, a democratic value, to the extent that it makes possible transparency and control in decision-making processes, it is also true that the very increase in the amount of information offered can have the opposite effect, leaving the user disoriented.

NOTES
[80] See Sylvia Archmann's contribution to this edition
[81] Ibidem

In addition to the quantity of the information, its quality is also a point of concern, meaning whether it is complete and reliable. In other words, citizens must be capable of drawing on a variety of information sources that truly allow them to critically sift through and process the mass of information made available. Add to this the need for tools to control the truthfulness of the data obtained, detecting the "fake information" scattered throughout the web. The possibility of hiding behind false names has resulted in a swarm of false declarations and false candidates sites on the internet, making navigation a difficult task, especially for inexperienced internauts.

Consideration should also be given to the fact that the web does not spark new interest in the disinterested, but merely reinforces interest in those who already pay attention to the political system and how it operates and develops. As a result, an increase in the information offered does not necessarily translate into improved mechanisms of control and participation.

In the same way, the mere existence of the structures needed for participation does not guarantee that citizens will be moved to participate, much less that their participation shall be continuous. In Europe, for example, despite the development and spread of increasingly advanced, easy-to-use instruments, citizens show an increasing distrust of government and a growing disinterest in political procedures such as voting, playing an active role in party activities or selecting members of local governments. This disinterest reflects a profound lack of confidence in governments and administrative bodies at every level, pointing to the need for a full-fledged "retraining" of the political and civic mindset of the citizenry as an indispensable precondition to the activation of processes of electronic involvement.

In other words, internet is definitely a democratic tool capable of reinforcing processes of participation, but it cannot do the job alone. Electronic tools can point the way to effective technical applications, but they cannot provide solutions to problems that are political in nature. For this to take place, the tools must be placed in the broader context of relations between governments and citizens.

Technology is nothing more than a cultural product and it works or fails within specific political, economic and organisational contexts. Technology alone cannot usher in change: in order for the "E-transformation of the public sector" to actually take place, there must be a system-wide effort in which technological change occurs alongside organisational and cultural advances.

The first step is to rejuvenate the more traditional organisational and governmental cultures, promoting an approach based on dialogue and consultation, in the conviction that inclusive decision-making processes are the most effective. To this end, the distinction between experts and non-experts should be eliminated, along with the belief that the public sector is the realm of the former, while the second category represents the general public, or mere citizens. Everyone, across the board, possesses knowledge and experience that can be of use in improving the process of law-making and ensuring that the political system develops a capacity to respond that is more in line with the needs of citizens. The involvement of citizens in the processes through which policies are formulated constitutes a useful occasion for reciprocal learning, giving the elected representatives the chance to place political solutions in less abstract contexts while providing citizens with a greater awareness of the complexity and inter-dependence of policy-making activities.

Conclusion

The good governance of a country calls for decision-making processes that move from the bottom up: policies formulated only by politicians are constantly exposed to the risk of self-referential distortions, unlike inclusive decision-making processes, which can lead to wiser and more effective decisions, seeing that they are based on increased awareness.

Secondly, operators in the political sector must be adequately trained and educated with regard to the democratic value of the new tools, as well as the new procedures and timing of the opportunities for participation offered by such tools. Digital technology is much "faster" than the pace of traditional politics, and a politician not accustomed to ICT runs the risk of being overwhelmed by an excessive number of requests for communication, lacking the tools needed to ensure that the participation of citizens in the politician's decisions process to be both practical and worthwhile.

As for citizens, they must not only obtain the new tools of e-Participation, but, even more importantly, they must learn to take a new outlook, no longer considering themselves to be passively subject to decisions handed down from on high, but acting as true protagonists of the political decision-making process. To this end, it is vitally important that citizens be guaranteed of the fact that their opinion shall be taken into consideration and that it will be possible, potentially through the mediation of an "enabler", to transform that opinion into output that has a positive, productive effect on public decision-makers.

Participation calls for not only a certain level of cultural attainment and willingness to engage in give and take with others, but also significant effort and expenditure of time. After which, should the citizen receive no feedback, it is very likely that he or she shall not make the effort to participate again. It is no accident that the number of citizens who take advantage of the new opportunities for participation offered by ICT are still relatively few, both on account of the scarcity of credible services of participation and, even more to the point, because of the difficulties experienced by their governments when it comes to integrating the results of citizen involvement in the decision-making process, a situation that discourages renewed participation.

In short, despite the unquestionable contribution that the use of ICT technology can make to the reinforcement of democratic processes, the introduction of politics on the web would not yet appear to have given rise to the thoroughgoing transformations initially forecast.

The Europe-wide outlook in terms of experimentation with forms of electronic involvement still appears quite limited and fragmentary.

While noteworthy resources have been committed to information and advisory activities on the web, there is no evidence of an equally significant investment in the creation of tools that would make possible participation in all the phases of the decision-making process. The risk is that, despite the increased levels of democracy and participation, attention shall be focussed only on the final stage off the decision, meaning the moment when citizens are called on to say yes or no with regard to one issue or another. During elections, it is the institutions that seek a dialogue with citizens, asking for their feedback on questions that have been drawn up in advanced. However bidirectional the relation may appear, therefore, it ultimately remains vertical.

In contrast, the objective should be to induce citizen involvement in all the phases through which political accords are reached, in order to generate proposals and decisions through a shared process of "deliberation".

What makes the overall situation even more complex is the persistent tendency to view the web as a subsidiary tool for institutional communications. In experimenting with new forms of citizen participation in decision-making processes, a systematic use of on-line services is frequently ruled out, under the logic that the scarce distribution of internet access would ultimately have the effect of reinforcing instances of inequality in terms of citizens' opportunities for participation. Though there are valid grounds for this consideration, it only contributes to delaying the introduction of citizens to the civic use of ICT, precisely on account of the shortage of quality service offerings in this field.

And apart from these observations based strictly on aspects of organisational and governmental culture, there can be no overlooking a further complication: the speed with which new technological advances arrive on the market. The constantly changing technological scenario prevents effective planning and formulation of policies of e-Participation, ultimately giving rise to a sterile *"Red Queen Syndrome"*[82], meaning a breakneck "arms race" between the world of politics and the world of technology. How can any government draw up a coherent plan of action if the reference framework never stops changing?

In order for a given technology to achieve its full potential and reach the so-called "plateau of productivity"[83], a certain amount of time must go by. So while today, with a great deal of prudence, though some would consider it a rush to judgment all the same, we are able to express a fairly reliable opinion on the democratic repercussions of the 1.0, observing the unquestionable progress made in terms of information transparency, when it comes to the second generation, we have no choice but to follow, in the words of Frank Bannister, the *festine lente* principle.

Still, though the time is still not ripe for a reliable assessment of the democratic impact of the web 2.0, nothing prevents us from indicating the guidelines to be followed.

Internet represents a major gamble for democracy, though, in order to create the much awaited *continuous democracy*, a great deal of work must still be done. The path to take is a collective effort towards both a more balanced distribution of the locations in which the services are available and the necessary promotion of computer literacy, plus the promotion of as culture of dialogue and participation, making it possible to overcome the cultural and political resistance and legitimise the role of the web as a tool for developing the new political participation.

NOTES

[82] See Bannister's contribution to this edition.

[83] Here, as is readily apparent, the reference is to the famous Hype Curve, which plots the normal life cycle of a technology from the moment of its introduction. There are five phases in the cycle: Technology Trigger ; Peak of Inflated Expectations ; Trough of Disillusionment; Slope of Enlightenment; Plateau of Productivity.

Participants in the preparation of the volume

Given the proven worth of the project over the years, as well as the praise and recognition obtained by past editions, the present volume can today count on the support and collaboration of the leading administrative, political, technological, economic and social institutions on both the European and national levels.

More specifically, the current initiative involves:

1) European institutions;

2) the administrations of the different segments of the public sector:
   • central administrations and central state bodies;
   • authorities of government and control;
   • regions and regional institutions;
   • municipalities and municipal institutions;

3) private I.C.T companies that take part in events or sponsor the volume;

4) multi-professional citizens associations concerned with the scientific and social developments of the information society;

5) agencies/institutes promoting European research programs.

In the interests as through an overview as possible of the topics under discussion, the volume proposes an attentive examination of the progress made in Italy, and in Europe as a whole, with regard to:

a) innovative e-Government solutions implemented by central and local public administrations;

b) the progress made on national and international strategies of e-Government;

c) the progress made on the inter-sector approach, which represents as key ingredient of solutions and services of noteworthy national values in each country, capable of resulting in social cohesion and democracy;

d) innovative solutions carried out by local public administrations to promote forms of e-Europe:

   • widespread multimedia and telematic literacy for citizens;

   • development of local trade and crafts;

   • development of employment;

   • improvement in the quality of life;

   • e-Democracy;

   • integration of minorities;

e) IT directive and strategies coordinated by the European Council;

f) global information companies and the European approach: expectations and benefits for the economy and the quality of life.

Through articles prepared by the same top administrative officials who bore direct responsibility for designing and implementing the innovation and development, the volume presents, on a yearly basis, the most noteworthy I.C.T. advances put into operation by the public administration of each European country, in terms of the services offered to its citizens. These strategies increasingly take the form of "inter-sector solutions", meaning that they are based on technological and organisational cooperation between central and local administrations that belong to different "segments" of the public sector. In short, the central and local administrations are fast becoming aware of how important "socioeconomic cohesion" is, not only within the territory assigned to them, but also with respect to the neighbouring communities and the national community of each territory. Indeed, a scarce level of social cohesion would have serious consequences, starting with a growing economic and cultural exclusion, together with a state of disadvantage and isolation on the part of the different communities with regard to the administration and system of the country as a whole. More important to citizens than even public services is their need for channels of communication and every possible opportunity for socialisation.