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eGovernment for Europe's public services of the future

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Abstract: Europe's public sector is at a crossroads today, facing challenging economic and social conditions, institutional changes and the profound impact of new technologies. Expectation is growing that the public sector can and will play a much stronger role in implementing the Lisbon strategy for economic, social and environmental renewal.

Information and communication technologies (ICT) can help governments to cope with these many challenges. However, the focus should not be on ICT itself. Instead, it should be on ICT use *combined with* organisational change and new skills in order to improve public services, democratic processes and public policies. This is the definition of eGovernment.

Already today, good practices in many countries have demonstrated that eGovernment is a powerful means indeed of delivering better quality public services, reduced waiting times and improved cost-effectiveness, heightened productivity, and improved transparency and accountability. eGovernment helps the public sector to cope with the conflicting demands of delivering more and better services with fewer resources. Exchange of good practice and cooperation between administrations at all levels can accelerate adoption, bring savings by re-using proven concepts and solutions, and accelerate availability of pan-European services for citizens and businesses.

Nevertheless, for eGovernment to become a reality strong political leadership and commitment is needed, guided by a long-term vision of the public sector contribution to Europe in the knowledge society.

1. Introduction

The public sector plays a very important role in Europe's social and economic model by supporting high levels of citizen welfare, ensuring socio-economic cohesion and supporting the functioning of a competitive market environment.[1]

Europe's public sector is at a crossroads today, facing challenging economic and social conditions, institutional changes and the profound impact of new technologies. Expectation is growing that the public sector can and will play a much stronger role in implementing the Lisbon strategy for economic, social and environmental renewal, since it is a major economic actor for boosting economic growth.

1. The public sector provides services such as healthcare, education, consumer protection, social security and environmental protection. Activities for socio-economic cohesion include income redistribution, structural development and support for groups with special needs. Europe's economic strengths (e.g. a skilled workforce, leadership in major industries) depend on the proper functioning of its public sector.

Public administrations are challenged to improve efficiency, productivity and the quality of their services. All these challenges, however, have to be met with equal or even lower budgets.

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Already today, good practices in many countries have demonstrated that eGovernment is a powerful means indeed of delivering better quality public services, reduced waiting times and improved cost-effectiveness, heightened productivity, and improved transparency and accountability.

eGovernment should have a strategic focus: the achievement of the Lisbon goals, reduction of barriers to the internal market for services and mobility across Europe, effective implementation of national policies and regional or local development.

However, the introduction of eGovernment is not easy. Providing user-centred services and cutting red tape requires that information is shared across departments and different levels of government (e.g. between the local and national level). More often than not this implies organisational change. It requires willingness to re-think established ways of working. This often leads to resistance. Moreover, eGovernment is not free. The pay-off often takes time.

There are difficult issues to resolve for a full-scale implementation of eGovernment. These include safeguarding trust and confidence in online interaction with governments, widespread access to online services so that no digital divide is created, interoperability for information exchange across organisational and national borders, and the development of pan-European services that support mobility in the internal market and European citizenship.

Therefore, strong political leadership is needed. To overcome resistance and barriers, to change mindsets, to push through organisational change, to sustain investment, and to keep the long-term perspective in mind while insisting on concrete deliverables in the shorter term.

eGovernment is a central element in the eEurope 2005 Action Plan. It is the only area of eEurope where governments not only need to ensure that the conditions to enable it are in place, but where they are also exclusively responsible for making it happen. The recent eGovernment conference, part of the eEurope 2005 Action Plan[2] and its Ministerial Declaration demonstrated the interest in making eGovernment a reality in Europe.

The Commission attaches a great deal of importance to eGovernment as a means to enable world-class public administrations in Europe that fully contribute to the Lisbon strategy through new and better public services for citizens and businesses.

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2. eGovernment 2003 Conference[url1].

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2. Challenges facing Europe's public sector

Public administrations are challenged to respond to changes in the world around them, ranging from major societal and economic trends to increasing expectations for higher quality services from their clients—citizens and companies. At the same time they have to cope with tighter budgets and demands from their own employees. The following sections analyse some of these challenges.

2.1. Responding to a changing world

The public sector is challenged to play a key role in modernising the European economy and society, so that Europe becomes more competitive and dynamic, with sustainable growth and is capable of creating more and better jobs while providing for greater social cohesion. These are the Lisbon targets for 2010. Their achievement, however, depends on sustaining a high average level of growth over the decade of 3% or more—current economic conditions have highlighted the challenge this implies.[3]

The importance of the public sector as an economic actor for realising the Lisbon strategy and especially for boosting economic growth may have been under-emphasised until now.

The public sector is the single largest buyer in the economy, representing between 20% and 60% of GDP in most countries.[4] Public administrations are also a major provider of services to business, influencing companies' ability to compete, and of services to citizens, enabling them to obtain education and training, find jobs and obtain health care.

In addition, the public sector imposes obligations on companies and citizens such as social security and environmental reporting and tax collection. The cost of administrative obligations is estimated at 2-3% of GDP[5] and fell disproportionately on SMEs. Entrepreneurship and innovation are affected by the time and cost it takes to set up a new company, which can vary respectively from a few days to more than one month and from zero to 1500 euros.[6]

The public sector is also having a major influence on factor conditions for production, such as the supply of skilled labour from the educational system.

Making such public sector activities more efficient—cutting red tape—and more effective—accessible, user-friendly, secure, targeted—will boost economic growth throughout the economy as a whole.

Public administrations are also expected to be prepared for future and emerging challenges.

Demographic changes put authorities to the test. For example, immigration, conditioned by the EU policy framework, is already a factor of demographic change.[7] Maximising the positive effects of immigration may require stepping up efforts in integration services, from language training to support for ethnic entrepreneurship, and dealing with increased demand for multi-lingual and multi-cultural access to general public services.

The better functioning of the internal market will facilitate mobility within Europe for labour, educational or social reasons and thus increase diversity of demands for public

3. Spring Report 2003; Council Conclusions; BEPG; Economic forecast 2003.
The recent Sapir report provides an analysis of the Lisbon and enlargement strategies, leading to recommendations to increase economic growth, providing food for thought while not going uncontested.
4. The GDP share of government expenditure was 48.5% in the EU-15 in 1995 (EU Bulletin 12-1997).
5. As an illustration: in 2000, in the Netherlands, the administrative costs of government obligations to enterprises was estimated at some 10 B euros, on a GDP of about 400 B euros.
6. Benchmarking Enterprise Policy, Results from the 2002 Scoreboard, European Commission Staff Working Document.
7. The Commission has recently formulated its approach to immigration, employment and integration in the document COM(2003)336 (3rd June, 2003).

services. Public authorities need to consider providing for cross-border and even pan-European public services.

In future, citizens will increasingly expect authorities to safeguard liberty, justice and security, throughout the EU. This implies cooperation across Member States and internationally, as well as dealing with new insecurities caused by technology.

The public sector, like the rest of the economy, is forced to respond to new technological developments, in particular in information and communication technology. The Internet has enabled new forms of involvement in policy-making, such as rapidly-forming online opinion groups, necessitating public authorities to review their established decision-making methods. To quote Manuel Castells: "The Internet can be used by citizens to watch their governments—rather than by governments to watch their citizens".[8]

In the business world new ways to organise value chains and customer relationships have been emerging. These suggest more efficient and user-centric ways to deliver public services, learning from but not blindly copying ebusiness, and new public-private partnerships.[9]

Today's achievements in bringing public services online are based on research done in the past. For the public sector to become more active in shaping the knowledge society, innovation and research needs to be increased for and with the public sector.

Beyond the challenge to realise a modern public administration, there are further institutional challenges to the public sector in Europe as well. These originate from the internal market, convergence as part of the largest-ever enlargement process towards EU-25, devolution trends, globalisation and the European Convention with requirements for new governance. With increased networking of local, regional and national administrations across the EU for multi-level governance, enabled by new technologies, gradually a more integrated 'European public space' for EU citizens and businesses is emerging.

2.2. Higher expectations from citizens and companies

Citizens are getting used to ever-faster response times and ever-higher quality of products and services from the private sector. They expect the same performance from the public sector as well. Obscure procedures, long queues, having to re-enter the same information that is already held by the administration are all practices that are increasingly criticised.

Public service provision is expected to become more user-friendly and personalised, adapted to the needs of individuals. Public service obligations are generally non-exclusive, all citizens need to be served, independent of their skills and capabilities, income, or geographic location. The public sector cannot choose its clients, contrary to the private sector.

The competitiveness of individual companies is strongly influenced by the transaction costs incurred in dealing with administrations. As international competition becomes fiercer, companies demand that red tape is eliminated. Governments are also responsible for many of the inputs to production processes. Firms therefore expect public services at a lower cost and better quality in order to stay competitive.

Finally, citizens and companies expect authorities to become more accountable for the management of taxpayers' money. They also demand more transparency in decision-making and democratic involvement in all phases of policy development.

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8. CASTELLS, M. (2001) *The Internet Galaxy: Reflections on the Internet, Business and Society.* Oxford: Oxford University Press.
9. See the report "eGovernment in Europe: State of Affairs", prepared by EIPA for the eGovernment 2003 Conference.

'Democratic deficit' has become an election theme: the public sector is expected to reinstate a sense of ownership amongst voters.

2.3. Coping with limited resources: more with less

Governments are under pressure to deliver more value for taxpayers' money. Administrations have to deliver more and better services with equal or fewer resources. Public expenditure is severely constrained in many Member States due to slow economic growth and the need to reduce budget deficits. Productivity in the public sector needs to grow in order to create more opportunity for service improvement at equal or lower cost.

Moreover, with the ageing of the population, the public sector will have to deal with fewer employees and fewer working taxpayers as well,[10] while still having to provide largely the same number of services and at better quality as well.

Civil servants demand more interesting jobs, with more opportunity for self-development and personal interaction. But job guarantees in terms of lifetime employment, benefits, and performance assessment are increasingly being eroded. The attractiveness of the government as an employer is at stake.

3. eGovernment as a response

eGovernment is defined here as **the use of information and communication technology in public administrations combined with organisational change and new skills in order to improve public services and democratic processes and strengthen support for public policies**.

eGovernment enables better and more efficient administration. It improves development and implementation of public policies and helps the public sector to cope with the conflicting demands of delivering more and better services with fewer resources.

While technology cannot transform bad procedures into good ones, eGovernment creates the *choice* for the public sector to carry out its tasks differently.

For example, by improving efficiency and competition in public procurement through an electronic marketplace, hundreds of millions of euros can be saved and reinvested in public goods and services, thus contributing to economic growth. At the same time, the transparency and accountability of public procurement improve.

Some governments have drastically cut the time it takes to set up a new company and offer free online registration. This enables entrepreneurs to dedicate their limited resources to truly entrepreneurial activities. Through online social security reporting companies already today save on administrative overheads, thus freeing resources for production or innovation.

By making information from the public sector online available for re-use, companies are able to develop more attractive and competitive products.

Information about training and jobs across the EU provided on a one-stop website as a pan-European service, lowers the barrier for labour mobility in the internal market. Public information offered in several languages through a website helps immigrants to better find their way around, thus easing economic and social integration.

eGovernment enables the public sector to maintain and strengthen good governance in the knowledge society. This means:

10. The EU-25 working age population is expected to decrease to just below 300 million persons by 2020 (from just above in 2003), assuming moderate levels of immigration (COM(2003)336).

A public sector that is open and transparent. Governments that are understandable and accountable to the citizens, open to democratic involvement and scrutiny. For example, widespread online consultation for higher quality public decision-making.

An administration that is at the service for all. A user-centred public sector will be inclusive, that is, exclude no one from its services and respect everyone as an individual, by providing personalised services. For example, persons with reduced mobility benefit from public services that are offered online. Much time is saved if electronic tax forms are personalized and filled in beforehand; in the extreme, only needing a single click to accept them.

A productive public sector that delivers maximum value for taxpayers' money. For example, re-entry of data is unnecessary if systems are linked and back-office procedures are automated. As a result, less time needs to be spent in front of the screen, errors are drastically reduced, and more time is available for professional face-to-face service, making the jobs of civil servants more rewarding.

In short, eGovernment is a means to enable a more open, inclusive and productive public sector, in line with good governance.[11] This is the pre-condition for a public sector that is prepared for the future.

Good governance in the sense above, achieved by the proper combination of information and communication technologies, organisational innovation and improved skills ('eGovernance'), is also applicable to services such as health, education and public transport.

eGovernance is therefore a wider notion and many of the lessons learned and actions identified below are also applicable to online service provision in these other areas such as health and education. However, the focus here, whenever eGovernment is mentioned, is on administrative services and support for democratic processes.

4. State of play, issues and actions

4.1. State of play

All European countries have been developing eGovernment plans and strategies over the past few years. Progress has been made in all countries in bringing public services online, with average online availability growing from 45% to 60% from October 2001 to October 2002.[12] At this stage, differences between countries are perhaps less important than growth rates and strategic commitment to modernizing public administrations, which can result in rapid progress over the coming years. Generally, there is a tendency to move from technology to solutions, as demonstrated at the recent eGovernment 2003 conference in Como.

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11. These objectives reflect the principles of good governance of the 2001 White Paper on European Governance, COM(2001)428.
12. Online availability is a weighted average of the sophistication (support for response information, one-way interaction, two-way interaction, full electronic case handling) of 20 public services for businesses and citizens defined by European Commission and Council.
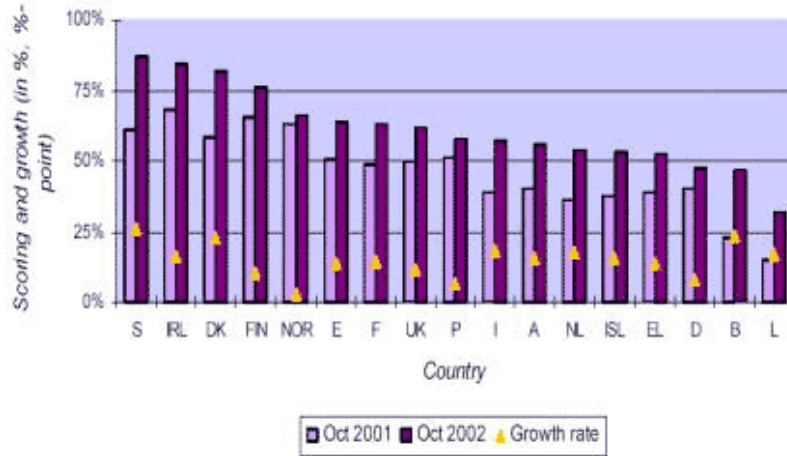

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Figure 1. **Online availability of public services, from Oct 2001 to Oct 2002;
growth rates in 2002, based on 20 public services.**
Source: CGEY, Feb 2003.

Online presence is of course no guarantee for online usage. Of equal importance are awareness of the availability of these services and willingness to use them. Above all, it is the real delivery of benefits that counts: how people perceive these services, how they use them, what the benefits are that they experience, and which benefits eGovernment brings to the administration itself. Such usage-oriented data are currently still relatively scarce.[13]

From a commercial perspective, eGovernment is already a sizeable market. In 2002 about 30 billion euros were spent on the ICT part of public administrations (administrative services only, excluding health, defence, education, etc). Of this, an estimated 5 billion, growing rapidly at 15% p.a., was spent on eGovernment.[14] However, this is only a fraction of the total spending on eGovernment as there is a significant accompanying investment in reorganisation and training.

4.1.1. Services to citizens - a better quality of life

eGovernment has already shown that it has significant effects on citizens' lives. Citizens can have greater access to information from authorities. This enables them to understand where their taxes are spent and how decision-making occurs, thus empowering citizens. This is an improvement towards more transparent, accountable and open public institutions. It reinforces democracy. In addition, greater transparency helps in the fight against corruption and fraud. These are important potential benefits, not only in Europe but also in developing countries and emerging economies around the world.

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13. Some data are reported, for example, from IST projects such as SIBIS[url2], which investigated in several countries the willingness to use public services online compared to traditional usage, the actual awareness of such services, and their actual usage.
14. EITO 2002.

Fostering direct communication between citizens and policy-makers is an important issue. Through online forums, virtual discussion rooms, and electronic voting, citizens can express their views, directly question the decision-makers, and so contribute with an informed opinion to the democratic process. An example of a broad online consultation is the eVote website, which was running during the Greek Presidency of the Council in the first half of 2003.[15]

One-stop shopping portals are gradually becoming the norm for citizen services. A 'life-event' orientation[16] is often offered on the portal, bringing together all relevant information for citizens related to a specific stage in life.[17]

HELP[url6] is a comprehensive citizen portal run by the Austrian Federal Chancellery, winner of the 2003 eEurope Award for eGovernment.

Such citizen portals are becoming more sophisticated by adding electronic identification, electronic payments (which raises questions about choice of standards) and increased interactivity.[18] In particular, their usage is gradually growing, although is still not widespread. Although dedicated online services for disabled persons are emerging,[19] access through alternatives to the PC such as digital television or mobile terminals consistent with offline access so as to guarantee inclusion, is still relatively rare.[20]

The European Commission has adopted eGovernment throught eCommission (modernisation of internal administration, improved communication with in particular Member States and other European institutions, and better public services to citizens and business). Activities that directly concern citizens include online availability of all legislation and other official Commission documents and the introduction of Interactive Policy Making for online consultation, which is part of the Better Regulation approach. A next step is Europa 2nd Generation, a new generation of portals for a complete range of thematic information and interactive services on EU policies and activities, hiding the organisational complexity behind the scene.[21]

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15. <http://evote.eu2003.gr/EVOTE/en/index.stm[url3]>.
16. The term 'life events' refers to the government services needed at specific stages in life, e.g. having a baby; starting/leaving school; changing employment status; being a victim of crime; moving home; becoming disabled; retiring; dealing with bereavement.
17. Examples are the Irish e-enabling life events[url4] site which provides a.o. automatic processing of child benefits claims; and CAT365[url5], from Spain, addressing education and training, finding a job (and an integrated business creation service).
18. E.g. the Finnish Centre for Pensions[url7] is offering a web-site in three languages on pensions, including a service to identify insured persons who use a personal authentication card to access Internet banking, currently reaching some 80% of the working population.
19. E.g. the French Handiplace.org[url8] portal.
20. New technology can increase access but also raise productivity of service delivery, as illustrated by the Dutch CareMore approach[url9], where district nurses use PDAs for home visits to patients.
21. "Towards the eCommission: Implementation Strategy 2001-2005", June 2001.

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4.1.2. Services to businesses - boosting competitiveness in Europe

Today in Europe, enterprises work within a regulatory regime that includes frequent and mandatory dealings with government, often with separate administrative bodies. This places a high administrative and time burden on enterprises. eGovernment clearly has a role to play here by providing a 'single point of access' for administrative information and requirements. Examples are public procurement, customs and taxation, social contributions, and geographic information.

An important aspect of eGovernment for business services is that more productive and higher quality service provision by public administrations lead to increased productivity and competitiveness in the private sector as well, by reducing the cost of the public service itself as well as transaction costs on the business side (time, effort), accompanied by fewer administrative errors.

For example, results reported from several countries in operational systems of electronic customs handling are that the majority of declarations can be processed in a few minutes with 24/7 availability and significant quality improvement.[22]

The sophistication of online services (that is, going beyond mere information provision and also supporting interactivity and transactions) has made more progress in business services than in those to citizens.[23]

Some online services for business are now moving to more extensive use of electronic certificates. Introducing these new technologies through online public services for business may also help to achieve a critical mass, e.g. by making them mandatory in electronic public procurement or eliminating all paper flows in social security reporting. More generally, electronic interaction with authorities is seen as a road to 'go digital', in particular for SMEs.

> Bremen Online Service[url14] provide online transactions and payments in a secure and legally binding way for citizens, businesses and intermediaries (lawyers, tax consultants, etc.). Lawyers, companies and administrations have achieved significant savings.

4.1.3. Services between administrations - strengthening cooperation

eGovernment policy can provide ways to enable a structured interaction between national, regional and local government and Community institutions,[24] even though many obstacles have to be overcome, including competing goals, a sometimes confusing abundance of regulations, the fragmentation of tasks amongst traditional public sector institutions[25] and a legacy of procedures and ways of working.

Regional and local administrations are often at the forefront of the delivery of online public services.[26] Their efforts, including those through their associations, have been instrumental in advancing eGovernment. eGovernment development at

22. The Swedish Virtual Customs Office[url10] processes 90% of all declarations electronically and deals through automated clearance with 70% of the declarations within 3 minutes. Polish Integrated Customs Duty and Tax System[url11] for border controls and customs revenue, achieved error reduction by as much as a factor of 20. The national public procurement agency in Denmark[url12] has achieved through ETHICS electronic tendering a doubling of its productivity and a complete elimination of complaints. The Romanian eMarket procurement system[url13] reports savings of 20%.
23. CGEY, Feb 2003.
24. Reflecting the White Paper on European Governance.
25. E.g. the electronic social security system in Belgium[url15] involved process re-engineering with 2,000 social security institutions at national, regional and local level.

regional and local level has become an increasing programme priority of the structural funds, representing about 30% in Objective 1 and 20% in Objective 2 regions of information society expenditure. The revised structural funds guidelines for information society investment, 2000-2006, address eGovernment amongst others in terms of reinforcing the demand-side and financing of eGovernment content, in particular for local and regional services.[27]

In most Member States, national policies and programmes relating to the information society and eGovernment impact on regional planning and programming. Effective co-ordination between the national and regional levels is needed[28] especially on inter-regional networking, cooperation between associations, and exchange of good practices.

> Cooperation between administrations is the basis of the service provided by Agencia Tributaria[url19], another eGovernment Award winner, simplifying and speeding up the provision of tax certificates to citizens throught secure electronic communications between administrations and with citizens.

4.2. Issues and actions

A number of critical issues have to be addressed in order to scale up from individual examples to widespread availability and use of online public services and to enable more advanced and user-friendly services. In the following, such high priority issues are analysed, without aiming at an exhaustive coverage.

4.2.1. Inclusive access

Multi-platform access

Increased participation through online services means that all citizens need to be provided with full opportunities for access. Lower penetration of the Internet in some countries, limited service availability, and the lack of user-friendly access for people with special needs or less IT-literacy are potential barriers.

The principle of access for all to public services is an important objective of public administrations. Participation can be improved if services can be accessed through a choice of devices, including PC, digital TV, mobile terminal, or public Internet access points, next to the usual physical, offline service provision.

Such a multi-platform approach—that is, access via a choice of interaction and delivery modalities—is essential for inclusion, to avoid creating a new societal divide. The eEurope 2005 Action Plan has formulated a related target, namely that by the end of 2004, Member States should have ensured that basic public services, where relevant, exploit the potential of multi-platform access. The European Commission (Interchange of Data between Administrations programme, IDA) will carry out a study into the multi-platform approach in order to identify best practices and guidelines in the delivery of eGovernment services.

26. Examples are ENTERPRISE-51[url16], a single office providing advice and services to companies in 51 municipalities of the Italian province of Pordenone; Service-Public Local[url17], from France, on local public services for economic development; and the UK 3 Islands Partnership, which provides electronic services for both citizens and businesses to remote islands in Scotland with sparse populations, avoiding extensive and expensive travel.
27. <http://europa.eu.int/comm/regional_policy/consultation/telecom_en.htm[url18]>.
28. Salerno conference on Information Society and Regional Development (15-16 May 2003).

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The implementation of the Web Accessibility Initiative Guidelines, that aim to improve access for persons with a handicap, and older people, should be an integral part of online public services.[29]

Inclusive multi-platform access is still relatively limited. Best practice exchange can be a means to stimulate its development and introduction.

Access to the Internet

An important enabler for effective and efficient eGovernment that is accessible for all is fast, widespread Internet access. Internet penetration in the EU has increased rapidly since the Lisbon Summit (more than 40% of households and 90% of businesses and schools are now connected). This increase is related to the introduction of new, more interactive services. This then increases the need for faster Internet, i.e. for broadband. The transition from narrowband networks to broadband networks is an important step towards more responsive public services that offer richer, more informative interaction. Broadband also increases the time users spend on Internet.

Fast and 'always-on' communication is also a condition for continuous access to shared information bases inside the administrations themselves. The reason is that the wide implementation of good examples of eGovernment across administrative organisation will often make it necessary to hold databases and registries in common. This is not only for reasons of efficiency and economies of scale but is also required to increase service functionality.

For example, in order to adequately serve citizens and businesses across a region or country, information needs to be pulled together from various localities and departments, e.g. city, regional and national social administration, tax administration, civil registration, etc. In order to do this within acceptable response times for the clients, fast connections between these administrations are indispensable. Therefore broadband is essential for scaling up from a single good practice to widespread take-up throughout the administration.

The eEurope 2005 Action Plan sets 'widespread availability and use of broadband by 2005' as an important objective. The communication "Road to the Knowledge Economy" sets a target of half of Internet connection to be broadband by 2005. Availability can be stimulated by interlinked supply-side and demand-side policies.

This includes the new telecommunications regulatory framework which stimulates, in a technology-neutral way, competition between communication networks. Demand aggregation will strengthen the case for sustainable investments in broadband and in new platforms such as digital television and 3G. The Commission will organise a workshop in Autumn 2003 on local initiatives, including demand aggregation.

Most demand-side policies in eEurope 2005 are not specific to 'broadband' or 'multi-platform', but span across all objectives. eEurope 2005 calls for all public administrations to connect with broadband by 2005. Demand-side policies could assess citizens and businesses' response to the delivery of services through various channels.[30]

New, advanced forms of interactivity in public services, stimulated by broadband and multi-platform access are also being addressed in the EU Information Society Technologies R&D programme.

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29. For the WAI Guidelines see the eEurope website[url20].
30. See also Ministerial Declaration of eGovernment 2003 Conference.

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4.2.2. Trust and confidence

Public services can be offered only within an environment where trust and confidence flourish. Such environment should always promote citizens and businesses' perception of secure interaction and access.

Privacy of data, authentication, and identity management are primary issues where no public service should ever fail. Public institutions should always ensure that digital transactions and communications are secure and that private data will remain protected. Citizens or businesses should always be able to control access to their personal data, and how these data have been used, stored and accessed. Failure to ensure this may entail significant social and economic costs.

The September 11 events as well as a range of cyber-attacks have moved the importance of safeguarding continuity and dependability of public services (including those supported by ICT) to the top of the political agenda. At the same time, the challenge is to strike a balance with respect for the personal privacy sphere. Data protection, network and information security, the fight against cyber-crime and dependability are prerequisites for a well-functioning information society and consequently, core policy issues within the EU. The Commission, together with the Member States, has launched a comprehensive strategy for these issues.

For network and information security the rapid adoption of the European Network and Information Security Agency will be an important step forward.

The eEurope 2005 Action Plan also calls for the development of a 'culture of security'. This is equally relevant for the public sector as it is for the private sector. This will also include the availability of a secure communications environment for the exchange of classified information between the Commission and Member States, a task being carried out by IDA.

Trust and confidence in public services and in online democratic participation need to be an integral part of eGovernment strategies at all levels of government.

Significant developments in electronic identity and authentication systems have taken place over the past few years. Access to citizen data for efficient and personalised services runs into privacy concerns, rigid administrative practices, competency considerations and competing systems. In most countries their take-up and deployment is still in a relatively early stage and experiences are being built up.[31] It is therefore the right time to enhance cooperation in this area and prepare jointly for the future, building on experiences, pilots experiments and R&D work so far, given the scope and scale of the challenge.

> E.g. the cities of Bologna, Naestved, Prato, Saarbruecken and Sheffield have improved use of digitally signatures both between the administration and its clients and with the administration. Interoperability is ensured in the trans-European networks SPES[url21] project.

This implies advancing identity management in the EU by tackling interoperability issues as well as future needs. The challenge is to take into account differences in legal and cultural practices, rather than striving for a one-size-fits-all solution.

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31. Citizen authentication in 2/3 of cases is still by password and user-id only (eForum, June 2002).

Several EU programmes can contribute here, e.g. the Sixth Framework Programme/Information Society Technologies priority FP6/IST for research & development, the trans-European networks e-services programme eTEN for pilots and deployment and the Interchange of Data between Administrations programme IDA for implementation.

4.2.3. Better use of public sector information

Economic and social benefits can be generated from re-using the content resources the public sector holds in areas such as geographic information, tourist information, meteorological information, statistics, etc. This will not only contribute to economic growth and job-creation, but will also increase the choice and quality of services for citizens.

> Digital Cartography in South Tyrol, Italy provides a Geographic Information System and interactive maps for construction and environmental plannig taking into account natural occurrences such as earthquakes. Similary the Portuguesse Seixal municipality[url22] promotes use of GIS data by civil servants and technicians.

There are, at the moment, considerable barriers present in the European market that make it difficult to launch information services based on public sector information that cover different European countries. The rules and practices in the different Member States for the re-use of public sector content resources differ widely. In addition, different standards and the multiplicity of languages make it difficult to fully exploit the potential.

To address the differences between the legal provisions in the Member States the Commission proposed a directive on the re-use of public sector documents.[32] The conclusions of the 2003 European Spring Council call for an adoption of this directive by the end of 2003. Ministers expressed their commitment and invited the Commission to enhance activities in this area.[33]

Pilot projects that ease cross-border barriers and the spreading of good practices throughout the EU, could draw upon the experience gathered in the IDA programme and the IST priority of the Sixth Framework Programme.

4.2.4. Public procurement

One area where significant gains can be achieved is public procurement. Traditional public procurement operations are complex, time consuming and resource intensive and thus, contribute to significant productivity losses. The use of ICT in public procurement can raise efficiency, improve the quality and value for money of public purchases and generate significant savings for tax payers (see box). It can contribute to the improvement of relations with suppliers, higher satisfaction of users, better utilisation of human resources in the procurement process and improved auditability of public expenditure. To achieve such benefits, fundamental changes are required in the public sector procurement environment within administrations and in the relations between administrations and potential suppliers.

32. COM(2002)207.
33. Ministerial Declaration, eGovernment 2003 Conference, Como, 7-8 July 2003.

In the UK, for exemple, the Office of Government Commerce aims to save € 350 million over 3 years for central civil government purchases throught the implementation of its e-procurement strategy. Save, the Irish government hopes to save more than € 400 million over 5 years or an estimated 2% of procurement expenditure in the public sector.

The absence of clear Community rules has been until now an obstacle to the adoption of electronic public procurement in Europe. The forthcoming final adoption of the legislative package of public procurement directives, which includes specific rules on electronic public procurement, should be a turning point for the spread of electronic public procurement in Europe. eGovernment services supporting and facilitating the interaction between businesses and governments such as the provision of certificates in digital form and the availability of electronic signatures across Europe can contribute positively to the transformation from paper-based to electronic procurement.

Adoption of the new procurement legislation provides a window of opportunity for modernising procurement in the public sector. A Community approach integrating the internal market dimension is crucial to prevent potential fragmentation of the procurement market due to incompatible electronic procurement systems and standards across Europe and to avoid imbalances in economic development due to a slower penetration of the new technologies in certain countries or regions.

The Commission is considering proposing in 2004 a comprehensive three-year Action Plan to accompany the implementation of the new provisions on electronic public procurement. It will set out a strategy and identify all legislative and non-legislative measures required to eliminate obstacles to cross-border electronic public procurement and ensure interoperability of electronic procurement systems.

4.2.5. Strengthening the internal market and European citizenship through pan-European services

Citizens are free to work and re-locate within the EU. Enterprises trade and carry out business across the Union. They then often have to interact with national public administrations, in their own or another Member State. The further development of the knowledge-based economy, the deepening of the internal market, particularly for services, and the enlargement of the Union, increase the demand for cross-border and even pan-European interaction with public administrations. Examples are in access to general government information, compliance with regulations, and exchange of administrative transactions between institutions belonging to different countries.[34]

Some pan-European services are already in place and continuously evolving. EURES[url24] and PLOTEUS[url25] are pan-European services, developed within the IDA programme, that indicate the potential of EU-wide employment and related educational services; that is, where a citizen may wish to know what employment vacancies exist in certain Member States, whether their qualifications will be recognised, which educational facilities are available, etc. The internal market service SOLVIT[url26] tackles the hurdle of citizens in dealing with administrative obstacles in cross-border procedures. A portal of the EU administration is being

34. An example of a cross-border service is Transcards[url23] that enables citizens in the Thiérache region to use the most suitable health facilities, regardless of whether they live on the Belgian or French side of the border.

implemented through IDA as a point of access to pan-European eGovernment services.[35]

There are, however, potentially two problems. Firstly, if these services have been developed from the Member State's unique national perspective and tradition (e.g. language), their access may be difficult for citizens and enterprises in other Member States. Secondly, there is a risk that their development inadvertently results in new barriers to the internal market due to technical or procedural reasons.[36]

Ideally both citizens and business would have a one-stop access to administrations ('single face') that is coherent across Member States. eGovernment services should be designed to be open to users in other Member States and accessible in a seamless way, regardless of whether the service is under the responsibility of a local, regional or national public administration, or a European institution or agency.

The provision of common pan-European services can be a sensitive issue. Many Member States require that government services are provided by the administrative body closest to the customer, which may be at the local or regional level, in line with subsidiarity. This requires a high degree of cooperation between administrations across the EU, involving the private sector as well.[37]

Pan-European services can give an important impetus to the internal market and the associated freedoms, as well as to European citizenship, provided that there is inclusion of the needs of cross-border users, co-operation of Member States' administrations, the provision of interoperable infrastructures, and provision of specific public services at the European level.

The task is now for Member States and European Institutions to ensure that pan-European services are defined, deployed, implemented, enriched with content, and promoted. To this extent the Commission has proposed a follow-on programme to IDA, namely the IDAbc programme[38] which will enable the implementation of pan-European services that help implementing Community legislation, for administrations, businesses and citizens. Another element will be to accelerate deployment of pan-European services through the eTEN programme, for which the Commission has proposed to increase the funding ceiling to 30%.

4.2.6. Interoperability

In Europe, the provision of public services is rather fragmented, necessitating people to go from one counter to the other. Companies and citizens would much benefit from public services that are seamlessly provided online[39] and for which they do not need to know the different departments involved.

They also prefer to have services and information tailored to their needs and requirements. However, personalised services require integration and sharing of processes and knowledge across departments and institutions. This requires IT systems of the various participating administrative bodies to be interconnected and information and administrative processes to be 'joined up', i.e. they must 'interoperate'.

Interoperability is the means by which this inter-linking of systems, information and ways of working will occur: within or between administrations, nationally or across

35. <http://europa.eu.int/public-services/index_en.htm[url27]>.
36. For example, the possible non-acceptance of an electronic certificate issued in one Member State to sign a contract electronically with the public administration of another Member State could be a barrier for cross-border participation in electronic public procurement.
37. Common online services at the European level need not necessarily be provided by European institutions. They could be provided by trade associations, professional bodies, or in partnership with the private sector. An example is the one-stop-shop (*guichet unique*) procedure for satellite licences and authorisations provided by CEPT[url28] (Conférence Européenne des Postes et Télécommunications).
38. COM(2003)406, Interoperable Delivery of pan-European eGovernment Services to Public Administrations, Businesses and Citizens, 8 July 2003.
39. That is, the service is provided without any break-points regardless of the number of different administrative systems or administrative bodies involved.

Europe, or with the enterprise sector.

At the technical level, open standards and open source solutions assist in realising such integration. In addition, administrations are building up experience with open source considering intrinsic aspects such as cost and security, and benefits from externalities.

Exchange of experience in the use of open standards and open source amongst administrations can be promoted amongst others through EU programmes such as IDA, eTEN and IST. The IDA Programme has published a study into the use and pooling of open source software in public administrations.[40] Open source has become a significant research subject as well, with studies and road-mapping related to research work.[41]

But interoperability is not just a technical issue of linking up computer networks. It also concerns organisational issues, such as co-ordinating processes that span not only intra-organisational boundaries, but also co-operate with partner organisations that may well have different internal organisation and operations.

Failure to put in place interoperable eGovernment systems will have both economic and social costs. These include: static unresponsive public administrations that are expensive to run and are unable to implement policy timely; inability to develop value added eGovernment services; higher costs, greater administrative burden and competitive disadvantage relative to local firms (e.g. inability to participate in public e-procurement activities).

For the successful development of pan-European eGovernment services, policy should be developed that addresses the European dimension of interoperability.[42] Agreement on common standards and specifications is essential to support life event and information sharing eGovernment services, as well as R&D into interoperability for networked organisations that in future will deliver new and innovative public services. Most Member States are already addressing this challenge by adopting national 'eGovernment interoperability frameworks'. This is being supplemented at the European level by the development of the European Interoperability Framework, and at the policy level by the Commission staff working paper "Linking up Europe: the importance of interoperability for eGovernment services".

An 'interoperability framework in support of the delivery of pan-European eGovernment services to citizens and enterprises' as referred to in eEurope 2005, will be made available with a view to its adoption in a first version by the end of 2003.

4.2.7. Organisational change

The introduction of ICT is only one ingredient of eGovernment. Organisational change and acquisition of new skills with a change of mindset are equally important. eGovernment often necessitates significant changes in the way public administrations operate, administrative processes are executed, policies are developed and budgets are controlled.

The change towards organisation according to the concept that the user is at the centre (customer orientation), which was already at the heart of the New Public Management approach, is reinforced by eGovernment and made visible at the front

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40. <http://europa.eu.int/comm/enterprise/ida/[url29]>.
41. See e.g. FLOSS[url30] and Three Roses[url31]
42. One Member State's administration should be able to access an information resource of another Member State's administration to validate the status of an enterprise or to check the eligibility for social welfare of a citizen from another Member State, with the same ease as it could do this for nationally registered enterprises or its own citizens. Similarly, the technical and semantic interoperability of geographic information, for example, would enhance trans-border intra-agency co-operation, environmental monitoring and the co-ordination of disaster relief.

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office in personalised online services, a one-stop approach and a life- (or business-) event orientation.

Reorganisation within the administrations may require process and procedure redesign, training of personnel, the development of new skills and competencies, adaptation of local rules and legislation and new employee management models.

The proper management of change is a prerequisite for the establishment of a service-oriented mentality that most citizens and business desire, while avoiding disruptions in the current service provisioning. This should include assessment of the change process: how public organisations move from the early stages of eGovernment (information and interaction) to the more advanced stages (transaction and transformation).

The European Public Administration Network (of Ministers of Public Administrations) will propose organisational recommendations and will enable the exchange of best practices.[43]

In the ebusiness world, concepts have emerged such as dynamic value networks, where, for example, web services technology enables dynamic partnering in the supply chain to optimally realize a one-to-one customised service. Such concepts are advanced in the private sector, but may in future become a reality in the public sector as well in order to provide more powerful one-stop and life-event services and increase efficiency.

The interplay between organisation and technology is a long-standing area of research. The EU FP6 programme can address R&D into the combination of technological and organisational innovation in public administrations.

4.2.8. Performance and benefits of eGovernment

Productivity growth can be defined as more or better or faster output for a given input. However, in the public sector there are definition and measurement problems for inputs and outputs.

One problem is the pricing of public services, which is often not directly related to the inputs (taxation is not specific to the service provided). Also, as many online services are to a large extent information-based, they follow the rules of information economics in which marginal prices are approaching zero, and are thus not an indicator of the value of the service.

Another problem is that prices are not determined through market mechanisms as generally there is no competition. Information economics, however, teaches us that there are other mechanisms that can ensure performance and to some extent become a substitute for price. These include contractual mechanisms and quality indicators, such as those expressed through user satisfaction and which may be represented by trusted labels.

Likewise, where there is a lack of competition or even a monopoly situation in providing a public service, public scrutiny can be a replacement.

The focus of indicators until now has largely been on supply indicators (such as the number of services online) rather than having a user and usage focus.

New approaches to benchmarking in eGovernment are needed as well as research into the economics of eGovernment with a view to a better assessment of benefits

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43. The Director-Generals of Public Administrations in the EU have also made available the Common Assessment Framework, which is a tool for organisational self-assessment with a view to quality management.

and performance of eGovernment.

5. Accelerating eGovernment

eGovernment can deliver many benefits but there are also many barriers to be overcome. Its full-scale implementation is not easy and requires commitment from the very top of public administrations and indeed, from the political level. This implies taking action to address the issues identified earlier, as well as reinforcing the exchange of good practice across the various aspects of eGovernment and leveraging investment in eGovernment in Europe.

5.1. Reinforcing the exchange of good practice

In order to deepen and strengthen the eEurope approach for leveraging good practices a further reinforcement of exchange of good practice in eGovernment is necessary.[44]

Exchange of good practices has already proven its usefulness. Best practices encompass technological, organisational, legal and training elements, they require long-term commitment of all key actors involved and they illustrate tangible benefits and results. Exchange of experience and replication of best practices can bring cost-savings in moving towards widespread adoption. It also prepares for future interoperability.

While demonstrating the state of the art, best practices also point to new requirements for regulatory frameworks, change management, organisation of work within administrations and generally help to identify research challenges and form a contribution to establishing a European Research Area in eGovernment.

The eEurope Awards for eGovernment have successfully stimulated best practice exchange. eTEN and IDA give specific emphasis on replicating good practices at trans-European level. However, continuity is a key factor in the process of exchanging good practices.

What is needed however, is to avoid a mere one-off 'copying' of an awarded application which might not be suitable in a given socio-cultural context. Continuity of exchange is needed as well as addressing legal aspects of reusing good practice and ownership of eGovernment systems, and clarifying compatibility with public tendering and public-private partnerships to implement the solution.

By being open to wider participation, as well as learning from and transferring them, good practices can be stimulated internationally. This could become a contribution to global cooperation in eGovernment, which is a priority in the World Summit on the Information Society.[45]

5.2. Leveraging investment

A range of European initiatives and programmes exist that can address eGovernment, from research to implementation. These comprise parts of the Sixth Framework, eTEN and IDA programmes, as well as investment in regional priorities through the structural funds.

Altogether this investment at European level is small compared to the total investment that is being done—or should be done—in eGovernment.

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44. See also the Ministerial Declaration of the Como eGovernment 2003 conference.
45. COM(2003)271, Communication on the World Summit on the Information Society, 19 May 2003; Ministerial Declaration of the Como eGovernment 2003 conference.

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The annual spending in the EU on ICT in public administration is about 30 billion euro, of which a fast-growing proportion, currently some 5 billion, is in eGovernment. That ICT spending should be accompanied by a much larger investment in organisation and human resources. In comparison: research in companies has shown that the total investment in such 'organisational capital' can be up to ten times the initial ICT investment, before the full benefits are delivered.

Therefore the total investment needed is likely to be several tens of billions per annum. Such investment is necessary to realize eGovernment potential, in particular that Europe is equipped with a world-class public sector which fully contributes to the Lisbon objectives through new and better public services for citizens and companies.

Support at European level can enable maximum leverage of the much larger investment at Member State level. By creating synergies across Member States duplicate spending can be avoided. However, the extent of increased efficiencies needs to be quantified.

5.3. Meeting the eEurope 2005 targets

The eEurope 2005 Action Plan provides the reference point for commitment to advancing the information society at European level.

In terms of instruments, it relies upon best practice exchange, initiatives from the private sector and in Member States at all levels, and leveraging the available resources and programmes at EU level.

eEurope 2005 has formulated specific eGovernment targets for:

- Broadband connections for public administrations

- Interoperability framework for pan-European services

- Interactive public services (accessible to all, multi-platform)

- Electronic public procurement

- Public Internet Access Points

- Culture and tourism e-services

Work in most of these areas is supported by the actions mentioned before. By 2004, the mid-term review of eEurope will report on progress.

5.4. Conclusions

Already today, eGovernment is proving that it can help public administrations to become more productive and offer personalised services for all, in an open and transparent way.

The benefits of eGovernment can go far beyond the early achievements of online public services. In this, it is essential that the public sector adapts its organisation and skills for a user-centred approach in which technology serves the people.

There are, however, many barriers and obstacles to overcome and sizeable investments are needed. Change processes in organisation and culture take time: it can take several years before the combined investment in ICT, organisation and skills deliver the full benefits. The transformation of public administrations that eGovernment entails will

encounter resistance.

Therefore strong political leadership and commitment is needed, guided by a long-term vision of the public sector contribution to Europe in the knowledge society.

Forward thinking and innovation should be combined with concrete deliverables and results in the shorter term. Exchange of good practice and cooperation between administrations at all levels can accelerate adoption and bring savings by re-using proven concepts and solutions.

A coherent approach to eGovernment by the current EU initiatives and programmes can leverage national, regional and local investments and accelerate availability of pan-European services for citizens and businesses.

Member States can provide political leadership and reinforce commitment at all levels of government, and thereby contribute to providing Europeans with a world-class public administration that makes its full contribution to the Lisbon goals through high quality and innovative public services for all.

URL list:

[url1]:http://europa.eu.int/information_society/eeurope/egovconf/index_en.htm

[url2]:http://www.sibis-eu.org/sibis/

[url3]:http://evote.eu2003.gr/EVOTE/en/index.stm

[url4]:http://www.groireland.ie

[url5]:http://www.cat365.net

[url6]:http://www.help.gv.at

[url7]:http://www.tyoelake.fi

[url8]:http://www.handiplace.org

[url9]:http://www.caremore.nl/index.html

[url10]:http://www.customs-vip.info/eGov/

[url11]:http://www.krakow.uc.gov.pl/clogran.htm

[url12]:http://www.ski.dk/

[url13]:http://www.e-licitatie.ro

[url14]:http://www.bremen.de/haupt.html

[url15]:https://www.socialsecurity.be/

[url16]:http://www.amministrazionefuturo.com

[url17]:http://www.servicepubliclocal.net/

[url18]:http://europa.eu.int/comm/regional_policy/consultation/telecom_en.htm

[url19]:http://www.agenciatributaria.es

[url20]:http://europa.eu.int/information_society/eeurope/

[url21]:http://www.spesproject.org/

[url22]:http://srvweb.cm-seixal.pt

[url23]:http://www.sesam-vitale.fr/html/projets/transcards/tcd_accueil.htm

[url24]:http://europa.eu.int/eures/index.jsp

[url25]:http://www.ploteus.net/ploteus/portal/home.jsp

[url26]:http://europa.eu.int/comm/internal_market/solvit/index_en.htm

[url27]:http://europa.eu.int/public-services/index_en.htm

[url28]:http://www.cept.org/

[url29]:http://europa.eu.int/comm/enterprise/ida/

[url30]:http://www.infonomics.nl/FLOSS/

[url31]:http://www.prelude-portal.org/3roses/

Related links:

➟ eGovernment Conference 2003:
  http://europa.eu.int/information_society/eeurope/egovconf/index_en.htm

➟ The Lisbon Strategy:
  http://europa.eu.int/comm/lisbon_strategy/index_en.html

➟ eEurope website:
  http://europa.eu.int/information_society/eeurope/

➟ IDA Programme:
  http://europa.eu.int/comm/enterprise/ida/

➟ Portal of information on cross-border public services in Europe:
  http://europa.eu.int/public-services/index_en.htm

➟ Guidelines on criteria and modalities of implementation of structural funds in support of electronic communications:
  http://europa.eu.int/comm/regional_policy/consultation/telecom_en.htm

➟ SIBIS (Statistical Indicators Benchmarking the Information Society):
  http://www.sibis-eu.org/sibis/

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<http://www.uoc.edu/dt/20336/index.html>

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