European eGovernment 2005-2007:

Taking stock of good practice and progress towards implementation of the i2010 eGovernment Action Plan

September 2007

Editor: Jeremy Millard
Danish Technological Institute

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IMPORTANT NOTE: all cases and examples presented in this report are European eGovernment good practices, but their inclusion should not be taken to imply any superiority over other European eGovernment good practices. They have been selected purely to illustrate the range of good practices available across different topics, levels and European countries.

The opinions expressed in this study are those of the authors and do not necessarily reflect the views of the European Commission.

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Executive summary

Two years is a very short time span for policy development and implementation across the 27 Member States of the European Union. However, between 2005 and 2007 some remarkable progress and impacts have been made, both generally in eGovernment across all the countries of Europe, as well as specifically in relation to the i2010 eGovernment Action Plan. These are documented in this report. Nevertheless, these real achievements also expose some important shortcomings in current progress and highlight the challenges which need to be addressed by the European Commission and Member States, as well as by all other involved stakeholders.

Inclusive eGovernment

Impacts and achievements 2005-2007: translating policy into practice

Three times as many countries have **Inclusive eGovernment policies** focusing on disadvantaged groups in 2007 compared to 2005, whilst those with both eAccessibility and multi-channel policies have grown by over 40 %. Many countries also report big improvements in **public sector website conformity** to eAccessibility Guidelines, although this is from a very low base, so needs continuing focus.

The **deployment** of Inclusive eGovernment shows even more dramatic change in emphasis and considerable advance. In 2005, about two thirds of practices were concerned with access and one third with training and skills, whilst in 2007 the situation has reversed with 39% of practices now directly focusing on actual service use by disadvantaged people. This shows a remarkable shift from preparing for the use of eGovernment services by disadvantaged people to them actually enjoying the benefits of service use.

Multi-channel, as opposed to single online channel, delivery is now the most common way of addressing disadvantaged groups, and represents 62 % of all practices in 2007 compared to just 19 % in 2005. With a much increased focus on skills and service use, this also reflects a greater sophistication and ability to 'tune' services to the specific individual needs of users.

Although only one-fifth of multi-channel practices are where **end-users do not themselves use ICT**, this is nevertheless a very new and successful strategy for delivering a service in 2007, and is likely to increase strongly in the future. Most of these practices involve ICT-empowered front-line staff acting as **intermediaries**, normally in traditional face-to-face mode but now enabled by the technology to do so in the end-users' own domestic, community or institutional context. Some new practices also rely on ICT-empowered back-offices providing significant efficiencies in the design and delivery of services, which continue to be provided through traditional channels but now at much higher quality and with greater personalisation.

Future challenges: scaling-up and tackling multiple disadvantage

- Inclusive eGovernment still has very **low visibility** and suffers from widespread misunderstanding, as well as from a wide variety of unnecessarily disparate and conflicting policies and practices. The wide knowledge gap between policy makers, practitioners and ICT suppliers needs to be tackled by increasing focus on awareness raising, capacity building and identifying sustainable business and market models.

- Much effort is still highly **fragmented** in terms of both policy and practice, resulting in a failure to benefit from critical mass and mutual learning, and there is still too much focus on silo-specific solutions which are not joined up. The main option is to support the development and deployment of sustainable business models for service delivery value chains, including the roles of the different stakeholders (public, private and civil, as well as users or user groups themselves) in the context of joined-up service delivery. In particular, this must address the needs of many individual users who suffer from **multiple-disadvantage**, and who thus need a combined service approach.

- Given that 75 % of practices are designed and delivered at the local or regional level in which targeted groups are considered within their specific geographical, social and cultural environment, there is a strong need for **scaling-up** and aiming for **critical mass**. Public agencies and central ministries need to act together as coordinators of all the stakeholders involved along the delivery value chain, perhaps through specific area or national agreements.

Efficient and effective eGovernment

Impacts and achievements 2005-2007: measurable, customised and cost-effective services

Interest in measuring the results of eGovernment is booming all over Europe with the number of countries adopting a **measurement framework** tripling from 4 to 12 between 2005 and 2007. Attention is also increasingly

focused on the value and use of eGovernment **good practice exchange**, with 71 % of European governments adopting this approach by 2007. In only a few months during 2007, the EC's new good practice sharing facility (http://www.epractice.eu) has increased the number of cases available from about 300 to 400 (with another 250 shortly to be added from the 2007 eGovernment Awards), and the number of registered members from about 2,000 to 9,000.

Europe is not alone in the strategic challenge of fully understanding the impact of eGovernment. Evidence from other countries and regions shows a widespread worldwide interest in the use of both monetised and non-monetised variables, and this increases the potential benefits of sharing good practice and measurement frameworks.

Three quarters of European countries now have **efficient and effective eGovernment policies**, whilst 52 % have specific policies for **user satisfaction** based on a user-centric perspective. For those countries with such policies, 43 % report significant improvements in terms of **efficiency** between 2005 and 2007, and 57 % in **reducing the administrative burden**.

In terms of effectiveness, 12 out of 21 EU Member States report real benefits in **transparency and openness** between 2005 and 2007 resulting from the introduction of policies in these areas.

Future challenges: integrating measurement in the service delivery cycle

- **Why do we measure and share?** Better understanding of the design, use and impact of measurement and good practice sharing frameworks is needed in order to improve their input to policy development and deployment, especially given that there remain a large number of different systems. This should be addressed by Member States and public administrations through much closer integration within the broader activities of the whole public sector, not confined to simple ex-ante profitability or ex-post evaluation exercises, but also incorporated in both short- and long-term planning activities.

- eGovernment services have not achieved their full potential mainly because of continuing **low user take-up**, particularly by SMEs. Member States should undertake more, more content-rich and more focused communication campaigns on the efficiency savings made possible by the adoption of eGovernment services for their B2G relationships.

- Most eGovernment services have been designed mainly to put already available pre-existing services online, often without the opportunity to add new functionalities once the system is running. Member States and public administrations therefore need to design better **'future-proof' systems**, for example through the adoption of flexible architecture schemes and back-office reorganisation.

- The challenge and opportunity imposed by the new **EU Services Directive**, with its 2009 deadline, requires a number of critical implementation choices to be taken by Member States (including the number of contact points per Member State, the choice of the responsible body, the centralised/decentralised organisational option, legislation review, ICT-related aspects, etc.). All this will require much more research about the organisational impacts on public administrations and on coordination at EU and national level within the eGovernment efficiency and effectiveness context.

High impact services

Impacts and achievements 2005-2007: integrating value chains and user benefits

Overall, European **eProcurement** impact has been impressive and is now progressing quite well, with most national European activities and progress being significantly driven forward by EU initiatives. However, some of the final and possibly most difficult hurdles remain, such as full take-up which can be achieved only through stimulating pan-European eProcurement and by linking to future transparency and compliance frameworks. Several European Member States have reported **significant cost savings** for public administrations **in government-to-business** services like eProcurement, ePublication, eInvoicing, and eTaxation. There are qualitative improvements in efficiency and effectiveness as a dramatically increasing number of companies use these services.

However, a broad impact is not yet visible across many areas of government, one reason being that there are **strong differences between European countries** in their achievements and in the detailed problems they face. This is due to different legal and administrative traditions and stakeholder situations, which lead to many stand-alone services and the creation of only local impacts, and further compounds the challenge of providing interoperable solutions. On the other hand, general problems are quite similar, and the main difference between the situations in 2005 and 2007 is that the number of eProcurement platforms with a high user acceptance has significantly increased.

The main lesson learned is that **the success of new services heavily depends on the benefits experienced by users**. More indirectly, the progress of work done depends on whether there is a working logic for participating authorities. To date, platforms focused on one clear benefit but open to widespread usage have

performed best. This should be kept in mind for future activities.

Future challenges: key enablers, new services and user-orientation

- A major challenge for eProcurement in Europe is putting in place **key enablers** like electronic identity, and integrating existing solutions with key enabling infrastructures. Fast development of eProcurement has taken place, but this will in future be slowed unless three critical issues are addressed: interoperability of processes, global and universal service access, and users' trust and risk perception. There are two alternative options. First, Member States can add integration step-by-step, as is mostly the case at present. Second, and to be preferred since it guarantees sustainability and allows for democratic transparency, national government architectures should be mandatory for all future implementations and these should be made compatible with the upcoming EIF 2.0 and related frameworks.

- To date, there has been a strong focus within the high impact service area on eProcurement, but this must now be enlarged in scope. **New high impact services** must be agreed at European level which, like the success shown with eProcurement, should address several areas of life and several stakeholders simultaneously. Attention should be focused on the five European Union freedoms: the free movement of people, services, goods, and capital, as well as the freedom of establishment, most of which are services which will need to be accessible across borders. These could include mobility services for citizens (such as improved job search services), social security services relating to patient records, electronic health prescriptions, benefits and pensions across Europe (eHealth), educational services relating to studying abroad, eInclusion relating to ethnic groups straddling borders, and company registration and VAT refunding for businesses.

- High impact services should not focus on what technology is able to offer, but rather on **user-oriented services** which directly reflect what people want and what they can indeed use. It is therefore important that user experiences are monitored and that perspectives and experiences are exchanged among EU Member States. This will speed up the development of holistic solutions and properly exploit the lessons learned for the implementation of the next generation of high impact services. Both the EC and Member States should therefore concentrate efforts on addressing service design, maximising benefits whilst reducing complexity, and developing European benchmarks for such services based on a clear view of pan-European service usage.

Putting key enablers in place

Impacts and achievements 2005-2007: benefits for users and unlocking access

In the last two years there has been strong growth in the focus on **eIDM** so that, by 2007, 92 % of countries had adopted a relevant policy, 71 % in relation to standards, 78 % to interoperability, and 53 % to open source. However, there has been limited progress in the actual **development and deployment** phases of eIDM systems in individual Member States, due to the complexity and time required, although there are some examples of very good recent progress especially in the New Member States. Nevertheless, a development gap remains, so that Western European countries are still in advance of the Newer Member States.

There has been **limited impact measurement** of eIDM, with only 54 % and 43 % of Member States being able to estimate the use of eIDM by citizens and businesses respectively, and there is still **limited use** of such systems by citizens. However, an important conclusion is that the use of eIDM systems by government agencies, citizens and businesses is proportionally higher as the complexity of the solution declines.

Interoperability and standards are increasingly in focus partly as a result of the publication of the European Interoperability Framework (EIF 1.0) in 2004, which was extremely well received and which has stimulated many Member States to adopt interoperability frameworks and guidelines or initiate similar work. In 2006, the EU started to revise the EIF with a view to publishing version 2.0 in 2008, and is currently taking into account progress made in the area, the rapid evolution of the technology and the wish to prepare a document that will no longer be limited to the IDABC context.

Future challenges: impact measurement, take-up and interoperability

- It seems clear that, unless some national and European eIDM projects accelerate considerably, not all European citizens and business will be able to benefit from secure and convenient electronic eIMD by 2010. It is highly questionable whether a pan-European eIDM system will be established by 2010, given that the majority of Member States are still struggling to put in place national eIDM systems. To gain a clearer picture and to identify where further action is required, there is a need for Member States to **measure the impact** of their policies, for example in terms of efficiency gains and user satisfaction, and in relation to overall costs and benefits of eIDM systems, as well as to standardise this on a European level.

- There is also a challenge with limited user take-up of eIDM solutions, which again should be tackled by

Member States, but aligned through EC coordination efforts, through increased awareness and support. The Dutch incremental strategy may be worth adopting, i.e. starting with a relatively simple but well thought out tool and – once citizens and businesses have incorporated the tool into their everyday life – gradually increasing the security level. Such an approach seems to make take-up less disruptive and enhances adoption.

- Even within most countries, different public sectors have separate eIDM systems (e.g. the healthcare sector, social security sector, tax authority, etc.), giving rise to high fragmentation, poor user-friendliness and unnecessary administrative burden for users. Open source solutions may be part of the answer, but the key issue is the development of mutually recognised, interoperable standards serving citizens, businesses and public sector organisations through both national and EU-level alignment. This should include mutual recognition and trust in the authentication of identities, whether personal, professional or business-related identifiers, for example through a European clearinghouse or portal which facilitates accessibility to current and trusted information, as in the Northern European Subset example.

eParticipation

Impacts and achievements 2005-2007: more transparency and focus on issues people care about

Good progress is being made by public administrations in streamlining their tasks and focusing their activities on areas in which they can be held accountable, such as quality and **transparency** in service delivery. However, most administrations do not (yet) have mechanisms and capacities in place to cope with a significant increase in participation. Traditional systems and patterns of governance are increasingly being challenged, so it is important to strike a balance between the **rights and responsibilities** of stakeholders.

Clear evidence has emerged over the last two years that ICT can make information more accessible, transparent and understandable to citizens and thus contribute to more openness and **accountability** in policy-making. For eParticipation purposes, the main short term issues being tackled are authentication and identification systems.

In terms of **eParticipation policies**, a high degree of dispersion and fragmentation still prevails across Europe, even though there has been an increase in initiatives with a more explicit policy focus, such as spatial and city planning, local community budget, environment, etc. Increasingly, the focus appears to be on issues that 'people really care about ', such as social security, health, education, and environment, i.e. the very immediate issues which directly impact people's daily lives.

Future challenges: making the benefits tangible

There are profound **institutional and political challenges** resulting from the introduction of eParticipation specifically, and of eDemocracy more generally. There is need to re-think our definition of democracy, both without as well as with ICT, and indeed the two will be inextricably linked in future. EU and Member State policy initiatives need to be more explicit about the democratic implications of ICT, also linking this to the good governance issue, for example by agreeing on priority policy areas.

At this stage, it is not certain that ICT encourages and assists citizens to participate and facilitate engagement. There is a danger that ICT in the democratic process encourages populist participation, whereas it should instead ensure **mature engagement and well informed debate**. There is thus a need for the EC and Member States to identify the technical, social and political skills needed for citizens to exploit the potential of the new tools for participation, and specific attention also needs to be paid to the socially excluded and those who do not presently participate.

It is not always obvious at which stages of decision-making processes citizens and other stakeholders should be informed and/or invited to participate. There should be strong focus by the EC and Member States on **process design and discourse rules**, including how deliberation is moderated, the space for dissent, how it is managed, and the impact of deliberation on decisions and on stakeholders' perceptions and behaviour. A '**European charter**' (or a similar high-level policy paper) stipulating the basic principles could be a useful tool for decision-makers to consider when planning and implementing eParticipation projects.

1 Introduction

1.1 Purpose of this report

The purpose of this state of the art review is to examine and exemplify good practice achievements and the overall impact of European eGovernment in 2007, focused on the five main objectives of the i2010 eGovernment Action Plan using available quantitative and qualitative evidence. It thus contributes to an assessment of the current (August 2007) status of progress towards the 2010 targets and goals specified in the Action Plan.

The starting point is the European Ministers' Declaration from the November 2005 Conference in Manchester (UK Presidency, 2005), which was then developed and agreed between the European Commission and Member States as an Action Plan providing objectives and targets for 2010 (European Commission, 2006a). The report charts progress in the implementation of the i2010 eGovernment Action Plan between 2005-2007, provides an overview of main changes and achievements in each of the five main objectives, and examines some of the important challenges remaining. The purpose of the report is not to provide detailed or specific recommendations for implementation of the Action Plan forward to 2010, but it does provide a solid basis of evidence which can be used as valuable input to this process.

1.2 Policy development

At the Lisbon European Council in March 2000, Europe's Heads of State and Governments set an ambitious strategic goal for the EU in order to strengthen employment, economic reform and social cohesion as part of the knowledge-based economy over the next decade: "*to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion*" (European Commission, 2000). This was reinforced in 2005 by a re-orientated Lisbon II focus on growth and employment, and a re-renewed emphasis on ICT (European Council, 2005). The specific ICT policy framework arising from Lisbon II is the i2010 programme launched in 2005 (European Commission, 2005a). This adopts a holistic approach based on the three pillars of a single European information space, innovation and investment in research, and inclusion, better services and quality of life.

i2010 itself provided the policy framework for the eGovernment Action Plan, which was agreed by the EC and all Member States and published in April 2006, containing targets and roadmaps for Europe-wide progress to 2010. The Action Plan sets clear expectations for widespread, measurable benefits from eGovernment in 2010 by focusing on the European Commission's contribution to supporting Member States' objectives and Community policies, in particular the Lisbon Strategy, internal market, better regulation and European citizenship. The Action Plan contains five major objectives for eGovernment, each with specific objectives for 2010:

1. No citizen left behind – advancing inclusion through eGovernment so that by 2010. all citizens benefit from trusted, innovative services and easy access for all.

2. Making efficiency and effectiveness a reality – significantly contributing, by 2010, to high user satisfaction, transparency and accountability, a lighter administrative burden and efficiency gains. This objective also includes measures for benchmarking and sharing.

3. Implementing high-impact key services for citizens and businesses – by 2010, 100% of public procurement will be available electronically, with 50% actual usage, with agreement on cooperation on further high-impact online citizen services.

4. Putting key enablers in place – enabling citizens and businesses to benefit, by 2010, from convenient, secure and interoperable authenticated access across Europe to public services.

5. Strengthening participation and democratic decision-making – demonstrating, by 2010, tools for effective public debate and participation in democratic decision – making.

The analysis and impact assessment provided in this state of the art report is structured around these five policy objectives and their progress over the 2005 to 2007 period.

1.3 eGovernment roll-out and take-up

Exhibit 1 shows a number of eGovernment indicators for EU25, and illustrates clear progress in both roll-out and take-up between 2005 and 2006, the latter being the last year for which data are available. These data provide a statistical backdrop against which the analysis of eGovernment good practice achievements and impacts, provided in this report, can be set.

Exhibit 1 eGovernment indicators 2005-2006						
EU 25	eGovernment services for citizens			eGovernment services for enterprises		
	% basic public services fully available	% using eGovernment services	of which for returning filled in forms	% basic public services fully available	% using e-Government services	of which for returning filled in forms
2005 [1]	32% (3)	22.1%	5.5%	62% (3)	57.4%	33.0%
2006 [2]	36.8%	23.8%	8.1%	67.8	63.7%	44.8%

Sources:
[1] Benchmarking in a Policy Perspective, Report No. 4, October 2006, Use of public services on line (including eGovernment and eHealth) based on Eurostat data: http://ec.europa.eu/information_society/eeurope/i2010/docs/studies/_Toc149123166). [2] European Commission (2007a) "i2010 Annual Information Society Report 2007", SEC(2007) 395, COM(2007) 146 Final, Brussels, 30 March:http://ec.europa.eu/information_society/eeurope/i2010/annual_report/index_en.htm; (3) Interpolated from CapGemini (2006).

Even though the data are separated by only one year, the trends appear to be indicative of longer term developments which show that the roll-out of eGovernment services continues across the EU as a whole, with almost twice as many services available for enterprises than for citizens, reflecting both the greater efficiency and effectiveness imperative for such services, as well as the greater demand for them. (Analysis of longer term trends can be found in European Commission, 2007a, and CapGemini, 2006.) As far as take-up is concerned, again enterprise use is more than double use by citizens, even though clear progress has been made in both from 2005 to 2006. The proportional increase is also greater for enterprises, but so is that for two-way interaction services (returning filled in forms) for both citizens and enterprises compared with simply accessing government websites. This shows that, although take-up is still quite low (and very low for citizens), it is increasing fastest for more sophisticated services.

1.4 Structure of report

This report is structured into five main sections, each addressing one of the five objectives of the i2010 eGovernment Action Plan (European Commission, 2006a) through a detailed examination of good practices and an analysis of the overall impacts between 2005 and 2007. Each section first provides a brief description of the policy context for the objective, and then goes on to describe, analyse and exemplify the state of play in 2005 which provided the backdrop for the Manchester Ministerial Declaration and the Action Plan.

This is followed by a more extensive examination of good practices and developments between 2005 and 2007, bringing the analysis right up to date. Three recent representative good practices are then described in some detail in order to provide an insight into the range of achievements currently being made across Europe, leading to a summary of the overall achievements and impacts between 2005 and 2007.

Finally, looking ahead, a number of pressing challenges likely to characterise the objective between 2007 and 2010 are discussed, together with possible options for meeting them.

The Action Plan objectives are thus the point of departure for the interpretation of the data and evidence analysed in this report. However, most of the analysis is based on a bottom-up approach, starting from individual policies, initiatives and cases, tapping into the experience of recognised good practice, in particular cases from the European eGovernment Awards in both 2005 and 2007, as well as on desk research and active investigation by the authors examining all readily available extant and relevant material.[1] All finalist submissions for the European eGovernment Awards 2007 are included in the Exhibition Catalogue for the Ministerial eGovernment Conference 2007.

This report, together with the 2007 eGovernment Awards initiative, will contribute to the Fourth Ministerial eGovernment Conference, being hosted by the Portuguese EU Presidency in Lisbon, 20-21 September 2007.[2]

The report also draws upon and contributes to the new eGovernment good practice exchange portal at http://www.ePractice.eu. This is a new service which merges the eGovernment Observatory with the Good Practice Framework. It provides a place to discuss and influence the way in which public administrations across Europe operate and deliver services, and specifically provides services for practitioners to:

- **meet** → create a public profile and expand professional networks
- **share** → share personal eGovernment cases and experience
- **learn** → browse and gain insight into real-life cases.

All the good practices cases, and other evidence, in this report are not about competition, but about learning, recognising creativity and identifying innovation that others can use, including the demonstration of various innovative tools.

[1] Including National Progress Reports on the i2010 eGovernment Action Plan, submitted to the EC in May 2007, by the EU27 plus Candidate and EEA countries (members of the eGovernment subgroup), with 30 countries responding.

[2] http://www.egov2007.gov.pt

2 Inclusive eGovernment

2.1 Policy context: supporting disadvantaged groups including those who are not online

By 2005, there was already a lot of evidence that eGovernment can provide more inclusive services in an effective, appropriate and accessible manner for specific groups at risk of exclusion, such as younger people in situations of disadvantage, low-income groups, the unemployed, retired people, older citizens, ethnic groups and the disabled. (For example, European Commission, 2005b; Prisma, 2003, Beep, 2003) However, it has also since become clear that for, the foreseeable future, no matter what is done to extend and improve access, there will be a large number of citizens who will continue to use traditional channels only. Up to one third of the EU population are unlikely themselves to be using eGovernment services by 2010, and these are often those who are most in need of social services because they are disadvantaged in some way. Moreover, these same people also tend to place the greatest demand on public service resources, whether or not they themselves access public services.[3]

Thus, the focus of Inclusive eGovernment is twofold. First, the beneficial social policy impacts eGovernment can have on the lives of disadvantaged groups, for example in terms of literacy, employability and social integration. Second, the service delivery arrangements, practitioners, access channels (both ICT and non-ICT) and types of use which can deliver this impact, including the business and value chain models for combined service delivery which successful initiatives are using. The emphasis is not on the technology but on how the technology can be used to provide these beneficial impacts.

The benefits to be gained by disadvantaged groups, whether through the direct or indirect use of eGovernment services, can be manifold, for example:

- Better service access through complementary channels.
- Easing daily life burdens, including engagement with the public administration.
- Improvements to government-citizen relations.
- Better access to education, training, work and jobs.
- Improvements to personal capacity and skills, life chances, social networks and quality of life.

In addition, one of the main challenges to both policy and practice, is that of achieving combined and joined-up services. Different services tackle different problems, but most disadvantaged people suffer from multiple deprivation so their unique individual situations need to be addressed. The different service providers need to ensure that their efforts do not overlap or counteract each other and that signals picked up by one service can act as early warnings for another. At present, many disadvantaged users are confronted with overlapping rules, different agencies, an enormous amount of paperwork and filling in complicated forms, all of which increase still further the trouble they have in trying to arrange their lives.

The barriers to inclusion are also highly varied. They can be health-related, financial, educational, related to unemployment, to geographical circumstances or there may be technical barriers to products and services. Addressing these barriers in a systematic manner is essential for a fully inclusive Information Society.

Building on the Declaration made at the November 2005 EU Ministerial eGovernment Conference in Manchester (UK Presidency, 2005), the i2010 eGovernment Action Plan of April 2006 (European Commission, 2006a) recognised that no citizen should be left behind, and that eGovernment should advance inclusion by fighting the digital divide: "*ICT-enabled public services help to consolidate social cohesion and ensure that disadvantaged people face fewer barriers to opportunities. Government websites still have much to do to comply with eAccessibility guidelines. Users will continue to want channels other than the Internet to access public services, such as digital TV, mobile and fixed phone and/or person-to-person.*"

On this basis, the Action Plan also stated that "*Member States have committed themselves to Inclusive eGovernment objectives to ensure that by 2010 all citizens, including socially disadvantaged groups, become major beneficiaries of eGovernment, and European public administrations deliver public information and services that are more easily accessible and increasingly trusted by the public, through innovative use of ICT, increasing awareness of the benefits of eGovernment and improved skills and support for all users.*"

The Action Plan therefore invites Member States to improve access and skills for disadvantaged groups, but also to find alternative ways of using ICT to provide efficient and effective services when it is clear that many citizens will continue to receive them in traditional mode. The back offices and civil servants need to improve the way they work and cooperate with other practitioners and

[3] Presentation by David Broster, Head of Unit eGovernment and ICT Operations, 19 June 2007, at the Inclusive eGovernment Stakeholders Workshop, Brussels.

Exhibit 2 Countries with Inclusive eGovernment policies

Inclusive eGovernment policy (as part of eGovernment or social inclusion policy)			Public website accessibility policy			Multi-channel policy	
2005: 9/30	2007: 26/30		2005: 17/30	2007: 24/30		2005: 4/30	2007: 17/30
Belgium	Austria	Ireland	Austria	Austria	Latvia	Austria	Austria
Denmark	Belgium	Italy	Belgium	Belgium	Lithuania	Lithuania	Bulgaria
Germany	Bulgaria	Latvia	Czech R.	Bulgaria	Luxembourg	Luxembourg	Cyprus
Italy	Cyprus	Lithuania	Denmark	Czech R.	Malta	UK	Finland
Latvia	Czech R.	Luxembourg	Finland	Denmark	Netherlands		France
Luxembourg	Denmark	Malta	France	Estonia	Norway		Germany
Netherlands	Estonia	Netherlands	Germany	Finland	Poland		Hungary
Portugal	Finland	Norway	Ireland	France	Portugal		Latvia
UK	France	Poland	Italy	Germany	Slovenia		Lithuania
	Germany	Portugal	Luxembourg	Iceland	Spain		Luxembourg
	Greece	Slovenia	Malta	Ireland	Sweden		Malta
	Hungary	Spain	Netherlands	Italy	UK		Netherlands
	Iceland	UK	Norway				Norway
			Portugal				Portugal
			Spain				Slovenia
			Sweden				Spain
			UK				UK

(Sources: National Progress Reports on i2010 eGovernment Action Plan, submitted to the EC in May 2007, and the country reports on the EC-supported website for supporting policy development for eInclusion: http://www.ipolicy.eu).

service providers, and ICT can play a very important role in this, and not only in the user interface.

2.2 2005: focus on access and skills

When the 2005 eGovernment Ministerial Declaration was made only 9 out of 30 European countries had policies or programmes aimed at tackling the digital divide specifically through eGovernment, whether as part of their eGovernment or their social inclusion policy framework, as shown in Exhibit 2.

Moreover, all of these policies were exclusively focused on improving access to ICT or improving the eSkills of disadvantaged people. None had policies or programmes specifically to support social policies through eGovernment which did not also assume disadvantaged people would themselves be online. EU and Member State policy development was indeed focusing on intelligent, personalised, citizen-centric eGovernment services for all (European Commission, 2004a), but only through improved service access and skills.

In 2005 the overall profile of Inclusive eGovernment was still quite low, and indeed it was not an issue in the design of the 2005 eGovernment Awards, so the analysis of the 234 cases submitted did not reveal any impacts in this area. (Leitner et al, 2006) However, some very good cases highly relevant for Inclusive eGovernment were starting to appear, most of which directly addressed the need to provide online facilities for disadvantaged people, often for the first time.

The Leicestershire CareOnLine (LCOL)[4] initiative in the **United Kingdom** is tackling issues related to the digital inclusion of some of the 'hardest to reach' groups, such as older people, disabled people and their carers, by establishing an active partnership between local government, health and voluntary organisations. By 2005, 2,500 isolated and vulnerable older and disabled people, and their carers, had been given the chance to experience Internet access, training and support in their own homes.

Independent evaluation reported that LCOL helped to reduce social isolation and feelings of exclusion. 76% of users said that the experience had a positive effect on their daily lives and 69% that they would not have connected to the Internet without the project. Website usage had increased more than fourfold from under 2,000 visits per month in 2002 to over 9,000 visits per month in 2005. Computer equipment and Internet access had been provided for 100 isolated individuals, 12 social services day centres and residential homes, 25 housing schemes across the county, 3 public service shops, 2 libraries and 1 hospital, as well as 6 voluntary organisation centres. By 2005, LCOL had installed a total of 150 computers, and a lot of special access equipment, such as 25 touch screen computers for people unable to use a mouse or a keyboard, and trained 300 people in basic IT in their own homes.

Access is not only concerned with ICT facilities, but also with the quality of the web interface itself. Exhibit 2 shows that, by 2005, 17 out of 30 countries did have a public web accessibility policy in place. However, it was stated at the 2005 EU Ministerial eGovernment Conference that these had achieved very little impact to date.[5] This conclusion was based on the results of a survey of 436 European public sector web sites benchmarked against the W3C 1.0 A Standard Guidelines set in 1999 using automated checking software, with 32 sites also checked manually, which showed that only 3% of the sites met the guidelines. (EPAN, 2005)

[4] http://www.epractice.eu/cases/1735; http://www.leicscareonline.org.uk

[5] Presentation by Barry McMullin on research undertaken for EPAN and the UK eGovernment Unit (EPAN, 2005).

In addition to access, many 2005 good practices also focused strongly on training and supporting the development of the skills needed by disadvantaged groups to access and use eGovernment services.

The KZC@ project[6] in the Basque Country in **Spain** is a public broadband network around the region delivering a range of training programmes which targets a whole cross section of social groups, including immigrants, retired people, the unemployed and others. These are provided in physical centres providing services and IT literacy training, as well as general literacy and numeracy skills, language and cultural education and a range of other courses, all delivered using ICT.

All courses are free and backed by a number of local helpdesks staffed by trained personnel who enable face to face support and guidance for service users. The system is in use in all the municipalities (250) of the Basque region, and almost 10 % of the population were users of the services in 2005.

Access to, and the skills needed to use, eGovernment services by disadvantaged people are very important, but the concern of Inclusive eGovernment goes much wider than this. Other research presented at the Manchester 2005 Conference[7] asked questions such as 'who is not online?', and 'what are the barriers'? The results indicated that a large proportion of the EU population was still not online with large social group and spatial differences, and Eurostat data has since shown that only 22 % of citizens used eGovernment services in 2005 (see Exhibit 1). The conclusions were that people not online will miss the utility benefits (faster response for services, and some services give discounts for online use), whilst some services are only available online. A range of possible solutions were examined, from the enhancement of traditional channels, helping people to go online through cheaper and easier access, alternative modes of access, and then understanding the barriers that still exist (or are newly created) once people are online.

Even though Exhibit 2 shows that only 4 countries out of 30 had a specific multi-channel policy by 2005, other evidence shows that, in terms of research and practice, multi-channel was somewhat more advanced than website accessibility. In 2003, it was already confirmed as one of the five main issues for the future eGovernment Roadmap being developed by the EC and Member States,[8] and there was a significant amount of research and some quite important on-the-ground impact by 2005, despite very little of this being specifically directed to assisting disadvantaged groups. (European Commission, 2004b; OECD, 2005)

For example, there was very little recognition in 2005 of the role of the intermediary channel in which an individual (from the public, private or civil sectors) uses eGovernment services on behalf of a disadvantaged citizen, so that the latter only experiences a familiar personal service and may not realise the role of ICT in the delivery of that service. A survey based on 2005 data showed, however, that 42% of eGovernment users were informally acting as an intermediary for family or friends, and that each so-called social intermediary was assisting an average of 2.6 other people. (Millard, 2007) These data show that intermediaries were already, in fact, an extremely important aspect of eGovernment service delivery, even though very few policy-makers or practitioners had yet recognised this because it was operating in the informal space of family and community.

Another channel issue which had not impacted policy or practice at that stage but was being discussed in 2005 was, as noted above, the clear move to a single 'e' channel in some aspects of eGovernment service provision, for example for students and businesses. Concerns were expressed that this could result in the 'reverse-engineering' of eInclusion in the medium to longer term, and indeed this had already happened in the commercial banking sector in Finland. Here, eBanking was by then the norm and provided a high quality service with very low access costs. However, if personal face-to-face financial advice is desired, a relatively large fee is charged. If government goes down the same route, there could be serious inclusion policy issues. When everything is 'e' and 'e' is virtually without cost, and if efficiency is prioritised higher than inclusion, human contact will become expensive, given that labour costs compared to other costs will rise dramatically. Thus, the already included and better-off citizens will use their resources and skills to access human contact with government in situations where this gives them a better service (for example, in terms of personal advice, care, social support, etc.). The excluded and worse-off citizens will, however, only have recourse to the ubiquitous and inexpensive eServices, and will not be able to supplement these with human contact. The eExclusion of today could thus be replaced by the h-Exclusion of the future, where 'h' refers to human service contact. The EU may need to run h-Inclusion programmes. (Millard, 2006)

The evidence above shows clearly that good progress in Inclusive eGovernment had been made by 2005, but that this was largely confined to policy and initiatives related to access and skills, whilst on-the-ground achievements were not widespread, despite pioneering examples.

Aware of this evidence, Ministers at the Manchester 2005 Conference started to look at Inclusive eGovernment issues beyond access or skills, important though these continue to be. They recognised that social welfare

[6] http://www.epractice.eu/cases/1886 ; http://www.kzgunea.net; source: 2005 eEurope Awards for Good Practice in eGovernment.

[7] By Kevin Cullen of the Work Research Centre, Ireland.

[8] Presentation by Paul Timmers, Head of the eGovernment Unit, January 2004, Brussels.

Exhibit 3 2007 Inclusive eGovernment: policy content

Policy area	Target group	Intervention
1. Health – 4 1. Employment – 4 3. Education – 3 3. Schools – 3 5. Poverty – 2 5. Housing – 2	1. Disabled – 7 2. Older people – 6 2. Rural & remote areas – 6 4. Special needs/disadvantaged – 5 4. Children/young people – 5 6. Families – 3 6. Communities – 3 6. Immigrants/minorities – 3 9. Students – 1	1. Access (incl. PIAPs) – 12 2. Skills & competencies – 10 3. Broadband – 4 3. Content – 4

Excluding web accessibility and multi-channel policy. (Source: National Progress Reports on i2010 eGovernment Action Plan, submitted to the EC in May 2007, and Member States' Inclusive eGovernment Experts)

policy, inclusion and eInclusion are interdependent and reinforcing. When individuals, social groups or specific localities experience (usually a combination of linked) problems such as unemployment, poor skills, low incomes, poor housing or bad health in relation to other groups, or at a higher than average rate, the causes are interconnected, and the effects themselves become causes of further exclusion. For example, poverty is both a key cause of social exclusion and a key effect. It was recognised by Ministers that "*the digital divide is about a lot more than getting people online, and, indeed, may not always require this if services are enhanced through ICT and delivered by other means.*" (UK Government, 2005)

2.3 2007: focus on service use and multi-channel

With the stimulus of the Ministerial Declaration in November 2005, backed by the launch of the Action Plan in April 2006, Inclusive eGovernment policy, practices and impacts have made considerable progress since 2005.

Policy development

In terms of policy development, Exhibit 2 shows that the number of countries with a specific Inclusive eGovernment policy increased from 9 to 26 between 2005 and 2007, which is a considerable advance. Exhibit 3 provides a content analysis of these policies and shows that most countries do not highlight specific policy areas for Inclusive eGovernment, but, for the minority that do, health and employment are most likely to be mentioned.

In contrast to this, Exhibit 3 also shows that most countries do highlight specific target groups, with the disabled, the elderly, rural or remote areas, and children and young people most prominent. Some countries, however, rather than highlighting specific target groups, simply use an umbrella term, such as 'special needs' or 'disadvantaged groups'.

In the **Netherlands**, policy[9] focuses on specific target groups which have more information obligations (administrative burdens) towards government than the 'average citizen', specifically chronically ill people, the disabled, elderly people, and benefit recipients and volunteer organisations. The priority is to reduce the administrative burdens on these target groups using eGovernment tools such as the digital client file, automatic remission of local taxes, and pre-filled forms for old age pension applications.

It is mainly the newer and the southern Member States which tend to specifically focus on rural and remote areas, often in the context of promoting broadband roll-out across the whole national territory, given that infrastructures are still some way off reaching the majority of the national population in these countries.

In **Poland**, the eGovernment Implementation Plan for the years 2007-2010 provides for activities to reduce digital exclusion, for instance through a strategy for broadband access to the information society services for the years 2007-2013.

In **Poland** Inclusive eGovernment is focusing on facilitating Internet access and ICT training in schools, local government institutions and public Internet access points. For example the initiatives 'Broadband Internet for schools', the 'IKONKA network' of 2,500 PIAPs in communities across the country, and the 'N@ utobus ICT training project[10] initiatives have already significantly improved the level of ICT literacy especially among students, teachers and the population of rural and remote areas of Poland.

In terms of types of intervention mentioned in national policies, Exhibit 3 shows that the most common is access, including Public Internet Access Points (PIAPs), where there is again a tendency for the newer and the southern Member States to mention this as a specific focus.

The 2005-2006 **Belgian** 'Internet for all' policy aims to provide PC, broadband access, training and support at low cost (and with a VAT reduction) to families, old people and students. In total, 33,000 packages have been sold, 80% of which were new connections. This constitutes 10% of the increase in domestic Internet connections between April 2006 and April 2007 but also indirectly contributed another 10% through people who initially wanted to buy a 'Internet for all' package eventually buying a more sophisticated commercial package.

[9] http://www.epractice.eu/document/430

[10] http://www.epractice.eu/document/90

The **Czech Republic**'s National Programme for Computer Literacy (NPCL)[11] was launched in 2003 to enable the wider population to learn about computers and the Internet, especially those who had not used ICT before, to help overcome their fears of new technologies, to strengthen their social position and to improve their position in the labour market.

Courses are delivered through 6,000 easily accessible teaching centres spread across the country. Courses are much cheaper than commercial courses, and often free of charge, but still use highly professional staff. The typical participant is a woman over the age of 40, whilst 24% are between 51 and 60 years of age, with more than 45% older than 51. From 2003 and 2006 more than 100,000 people took part in these courses. The NPCL also focuses on the handicapped with about 10 specific projects each year aimed at a specific group, e.g. lessons for people in wheelchairs and blind or partially sighted.

In **Spain** the Plan Avanz@ policy is to electronically connect all Spanish municipalities (more than 8.000), most of which do not yet have broadband access or public offices. This includes the eModel Programme which finances projects in order to ensure that by 2010 all citizens will be able to communicate electronically with the administrations, without discrimination due to geographic (or other) reasons.

If access remains the most important policy focus in eGovernment, it is closely followed by a strong emphasis on the skills and competencies of disadvantaged groups.

For example, the **Austria** i2010 Strategy includes policies for eInclusion, accessibility, ICT for ageing, competencies and skills, closing the digital divide, and the expansion of broadband to guarantee 98% coverage by the end of 2007. In **Estonia**, the two main social inclusion policies of the Information Society Strategy 2013[12] are broadening technical access to digital information, and improving skills and widening opportunities for participation. In **Ireland**, eGovernment policy since the Manchester Ministerial Conference in 2005 has focused significantly on fighting the digital divide, and the Access, Skills and Content (ASC) Initiative[13] has been established as a key part of this effort.

Therefore, as the first stages of policy focus, initiatives related to access and skills do seem to be the most effective in promoting Inclusive eGovernment, but cannot of course stand alone.

eAccessibility policies

Exhibit 2 shows that by 2007, 24 of the 30 countries surveyed had an active public website accessibility (eAccessibility) policy, most of which have been put in place over the last five years, and 42% since 2005. This is, again, a considerable advance. According to each country's own estimates or measurements where these are available, important overall progress in levels of conformity appears to have been made since the UK Presidency's survey of eAccessibility across Europe in 2005. It is interesting to note that many of the highest estimates are made by the New Member States, which may indicate the opportunity to leapfrog because of their more recent roll-out of eGovernment services and their ability to learn from countries which have been setting up services for a longer period. Another feature is the tendency for greater conformity to be seen in countries with smaller populations, with the exception of Denmark, which is likely to reflect both the reduced scale and complexity of the conformance task in countries with shorter lines of command.

In light of the apparently slow progress in **Denmark**, a new type of policy for eAccessibility was launched in 2007 to promote three alternatives to legislation, given that it is felt that the country is too small a market for regulation as this would inhibit innovation. First, a comply or explain approach, where the focus is on open standards for public sector software of which web accessibility is one, and the obligation to explain non-compliance to be published on the web. Second, national annual benchmarking, starting in 2008, including WCAG AA[14] standards, and again with results published on the web. Third, guidance, training and support on interpreting WCAG AA, given that many web masters find it very difficult.

In contrast, France, Germany and Italy have adopted a legislative approach.

The **French** eAccessibility Action Plan is based on the Law for Equality Rights and Opportunities, Participation and Citizenship for Disabled People, enacted in 2005. On this basis, a 'Referential' (guidelines) document for Accessibility in Administration (RGAA) is being designed for launch at the end of 2007. It will ensure the improvement of accessibility for public on line services (Web, mobile phone, digital TV). Based on international standards and elaborated with all sector actors, it will integrate relevant rules, conditions of accessibility, self-evaluation methods, and training, as well as include an enforcement scheme.

Germany has a basic law on equal opportunities for the disabled with which all federal websites must comply through a testing, evaluation and certification process, and the States have adopted a similar approach. An annual award scheme is also used to highlight and promote the issues. The next step is to develop an Inclusive eGovernment strategy for eAccessibility which also covers channelling between authorities as well as to citizens and businesses. In Italy, there is a legal set of eAccessibility guidelines, developed independently but also reflecting international standards such as WCAG 1.0[15] or Section 508 of the US Rehabilitation Act.[16]

Since 2006, all new national government websites in the **Netherlands** need to comply with web guidelines, and existing government websites must comply by the end of 2010. The guidelines consist of 125 quality requirements so that the websites, and the information on them, will be accessible for all users (including people with disabilities). The guidelines include a collection of international standards on web accessibility (W3C,[17] WCAG 1.0, priority 1 and 2+, XHTML 1.0 strict and CSS), as well as several evaluation tools developed to measure website compliance, and results can be monitored on a special website open to the public. The aim is to open the market for quality web design, as well as to provide information on the percentage of government websites that are guideline compliant.

[11] http://www.epractice.eu/cases/1042

[12] http://www.epractice.eu/document/3327

[13] http://www.epractice.eu/document/193

[14] http://www.w3.org/TR/WAI-WEBCONTENT

[15] http://www.w3.org/WAI/WCAG1AA-Conformance

[16] http://www.section508.gov

[17] http://www.w3.org

Multi-channel policies

One of the most significant advances since 2005 has been in relation to multi-channel policy. Exhibit 2 shows that in 2007, 17 of the 30 countries have specific policies, all of which have been put in place since 2002, and over 41% since 2005. Moreover, at least two other countries are actively preparing a multi-channel policy which will bring the total of countries with such a policy to 63% of all countries.

In **Cyprus**, there are plans to provide eServices through other channels, mobile, TV, kiosks, and call centres. In addition to web services, the **Netherlands** is developing a multi channel policy, the main principle of which is that citizens have freedom of channel choice for access, and the government should guarantee the same level of quality of service for each channel. Part of this will be an interconnected system of telephone information desks at municipalities which citizens and businesses can use to put questions to the government as a whole. The **Norwegian** policy is that all suitable services wall be available through several channels in addition to the Internet, such as mobile phones, digital television and the post.

The **United Kingdom** 2006 multi-channel policy views channels not in distinct silos but as components of an overall contact strategy, with customers who understand the true value and purpose of contact, and employs an end-to-end delivery whole system approach. The focus is to identify possible savings for both contact and cost (for administrations and citizens / businesses) through end-to-end, cost-to-serve and 'customer journey' analysis.

In **Spain**, the Law for Citizens Electronic Access to Public Administrations requires the use of different channels for eServices and the right of citizens to choose between them without restrictions, including an Internet access point in public offices on the street. The single access code, 060, is now the multi-channel access point for all PA services. Every service provided by any PA can be accessed via the 060 network (offices, Internet portal, telephone), with 24x7 availability and full coordination between all services offered by the national, regional and local administrations, without the need for users to know which administration is providing them.

In addition, many countries, such as the Walloon region in **Belgium**, and in **Denmark**, **Greece**, **Ireland** and **Sweden**, without a formal national multi-channel policy often have de facto policies at local or sectoral level when services are rolled out or re-designed.[18]

It is clear from this evidence that the importance of the multi-channel agenda, particularly in relation to Inclusive eGovernment, is a relatively recent phenomenon, but that it has become much more mainstream over the last few years. Most multi-channel policies encompass face-to-face (either at physical offices or via human intermediaries), telephone call centres, mobile, PIAPs, kiosks, etc. EU-supported research (eUser, 2006) showed both that, in a number of countries (such as the UK and Ireland), call centres are in fact the most used channel for eGovernment services (even more important than traditional face-to-face), and that mobile and other handheld channels are particularly important for disadvantaged groups.

Inclusive eGovernment in practice

In terms of Inclusive eGovernment deployment, Exhibit 4 and Exhibit 5 provide an overview derived from a survey of documented practices over the 2005 to 2007 period. First, Exhibit 4 shows that, in terms of deployment focus, training (32% of the total) and service use (39%) have overtaken access (29%) as the main feature of Inclusive eGovernment deployment over the last two years. Although access remains essential and is typically a necessary precursor or first stage, the need for training through developing appropriate skills and competencies, and then grappling with the challenges of directly supporting and promoting service use, are now in practice becoming more important as stages 2 and 3 in the progression to fully Inclusive eGovernment. The corresponding data for 2005 show that more than two thirds of practices were concerned with access and less than one third with training, and there was very little evidence of a service use focus, so this is a very significant change.

Evidence from the same sources as these two tables shows that the large majority (about 75%) of Inclusive eGovernment practices is designed and delivered at the local or regional level, and only then (if successful and cost-effective) may be rolled out more widely. This also reflects an analysis made in 2005 that the success of strategies for social and digital inclusion is largely dependent on a context-based approach, whereby targeted groups are considered within their specific geographical, social and cultural environment. (European Commission, 2005b) Governments, especially local public administrations, are best placed to do this, but also need to act as coordinators of all the different stakeholders involved at different levels.

Single online channel and targeted service delivery

When looking at modes of delivery in Exhibit 5, single online channel examples comprise 38% of all initiatives in 2007, and targeting different disadvantaged groups as a whole, rather than individuals in a personalised way, remains the most common approach (26% compared to 12%). This is a dramatic drop in the focus on group segmentation involving only the single online channel compared to 2005, but does not indicate that segmentation as such is less important. It instead shows that providing personalised services targeted at the individual is becoming more important, as is targeting the disadvantaged through multiple channels, as discussed below. Segmentation and personalised services

[18] National Progress Reports on i2010 eGovernment Action Plan, submitted to the EC in May 2007, and Member States' Inclusive eGovernment Experts.

Exhibit 4 Deployment focus of Inclusive eGovernment (2005-2007)				
	Providing access	**Training/skills development**	**Service use**	**Total**
2005	68%	29%	3%	100%
2007	29%	32%	39%	100%

Exhibit 5 Mode of delivery of Inclusive eGovernment (2005-2007)						
	Single (online) channel delivery		**Multi-channel delivery: targeted at individual (personalised)**			**Total**
	Targeted at group	Targeted at individual (personalised)	End-user uses ICT plus at least one other channel*	End-user does not use ICT but service provider does		
				ICT-empowered front-line staff	ICT-empowered back-office staff	
2005	73%	8%	19%	–	–	100%
2007	26%	12%	51%	8%	3%	100%

* Channels include face-to-face, printed material and post, intermediaries, telephone (including call-centre), mobile/ hand-held (including SMS), ICT online (e.g. Internet, e-mail),

Sources for both Exhibit 4 and Exhibit 5:
- 2005: 72 cases relevant for Inclusive eGovernment (i.e. to support the disadvantaged) from the eEurope eGovernment Awards 2005 and Good Practice Framework 2005 (n=124, as each case can appear in more than one cell).
- 2007: 90 cases relevant for Inclusive eGovernment (i.e. to support the disadvantaged) from the National Progress Reports on the i2010 eGovernment Action Plan, the European eGovernment Awards 2007, Member States Inclusive eGovernment Experts, desk research, the http://www.ePractice.eu portal, April-July 2007 (n=178, given that each case can appear in more than one cell).

represent important progress over the last few years, often described as 'citizen centricity' (cc:eGov, 2007), compared to the earlier 'one-size-fits-all' approach for eGovernment services which assumed that all users are more or less the same and have the same needs.

The ELAK electronic filing system[19] is a cornerstone of **Austria**'s overall eGovernment strategy, providing seamless electronic services to users consisting of the Citizen Card, integrated electronic forms and delivery services, as well as electronic documents, electronic workflow and file management in the back office. These provide appropriate formats for different user groups with special needs, for example online reading tools for people with poor or no eyesight. Special needs are addressed throughout the service process chain, including interactive form design and use, electronic signature, authentication and validation of documents. Different interfaces, pop-up screens and dialogues allow the needs of users with special needs to be taken into account. The use of electronic signatures and authentication mechanisms also makes it possible for the first time for blind people to sign contracts online without the help of an intermediary.

In terms of personalised single-channel services targeted at the individual, the sources used in the two tables above also show that these are much more likely to focus on training and use compared to the group examples, which are mainly focused on access. Clearly, when services are personalised for individuals, it is an opportunity to successfully address all their needs (access, skills and use) as part of a single or linked process.

In **France** provision is currently being made for personalised portals (Mon Service Public).[20] In the **United Kingdom**, the Reading Companion web site supports basic literacy. Users log on and are presented with material to read. An on-screen mentor, or companion, 'reads' a phrase to the user and then provides an opportunity for the user to read the material, using a headset microphone.

This is checked for accuracy and gives the user an opportunity to try again, or offers the correct reading of the words on the screen. This means that the individual progress of a student can be monitored and fed back thus personalising the support provided.

Multi-channel use by the end-user

Turning to multi-channel delivery practices, it is clear from Exhibit 5 that these are now the most common, at 62% compared to single online channel examples at 38%. This demonstrates real progress compared with the situation in 2005 when the total was just 19%, and these examples also show a much stronger focus on training and service use compared to the single online channel examples which emphasise access much more. Again, this shows that the greater sophistication and ability to 'tune' services to the specific individual needs of disadvantaged users is much better facilitated by a multi-channel,as opposed to a single channel, approach, certainly in the context of disadvantaged users.

Amongst the multi-channel practices, distinction is made between examples where ICT is used by end-users themselves along with other non-ICT channels, and examples where end-users do not use ICT themselves but where ICT is an important tool in delivering a service. The former contributes the large majority of examples (51% compared to 11%), and is typically dependent on upgrading skills and competencies to ensure that the disadvantaged are able to successfully use ICT, given the fact that training examples predominate over purely access ones.

[19] http://www.epractice.eu/document/1420

[20] http://www.epractice.eu/cases/1941

Since 2005, the Leicestershire CareOnLine initiative[21] in the **United Kingdom** has further increased the number of vulnerable adults assisted through a combination of channels to over 500 individuals (see also case box above). The service provides a home outreach service to disadvantaged groups, such as older people, disabled people and carers, to provide them with ICT skills by assessing individual needs and providing assistive technology equipment. This is done through a volunteer network providing free one-to-one training in people's own home (8,000 hours each year) to give these groups confidence and motivation to use ICT themselves, a simple website designed for older and disabled people, and a telephone help desk. Providing isolated groups such as older people with ICT skills enables them to themselves use online government services or participate in initiatives such as online voting. One user said: "*Today for example I filed a tax return with the Inland Revenue and arranged a hospital appointment. I could not function without it [a computer provided by CareOnLine*]." – Carer, aged 75.

In **Portugal**, the ACESSO Programme[22] is developing and disseminating ICT tools to allow citizens with special needs (such as the disabled, elderly people and those with long-term illness) to overcome some of their difficulties. The eAccessibility initiative within ACESSO provides a mix of technologies and types of support, such as on-line digital documents, assistive technologies for library reading rooms, support for people with special needs undergoing university-level studies, equipped resource centres with innovative technologies for braille printing, the preparation of spoken digital documents/books, the creation of on-line ICT tutorials for people with special needs, and support for autonomous living by senior citizens.

In **Luxembourg**, all important public services are delivered both online and through physical one stop shops (citizens and businesses). Services for job seekers and unemployed people are also delivered through self service kiosks. In Austria, all*.gv.at domain websites are also available free of charge via WLAN hotspots and public kiosks (PIAPs), and eGovernment identification and authentication is also available by means of mobile phone (A1 Signature). In **Malta**, citizens can access their personal social security records and payments by Internet and may also choose to be notified about their social security payments via SMS or by post.

Multi-channel use by the service provider

Although only 11% of examples involve end-users who do not themselves use ICT, Exhibit 5 shows that this is a very new practice which has become a clear strategy only since 2005. However, it seems likely that this will increase much more in future both in terms of services and countries. Three quarters of these practices involve human front-line staff acting as intermediaries, normally in traditional face-to-face mode but now enabled by the technology to do so in the end-users' own domestic, community or institutional environment. It is clear that ICT here enables staff to be more productive and releases them to provide highly personalised 'as-needed' services directly at the physical and human point of need. This is also underscored by the fact that most of these examples are for service use rather than access or training, which is clearly a natural consequence of the type of delivery demonstrated.

A major **Maltese** initiative is the introduction of eGovernment Agents (intermediaries) to service people who do not have the facilies to access the Internet themselves and thus cannot access eServices online. This initiative is resulting in improved accessibility for citizens who do not need to be physically present at a government office to receive a service, and also enables the government to reduce its workload in re-structured front offices through redeploying staff to work out in the community.

The **Austrian** eGovernment Law initiative[23] enables public administration eServices to be accessed via staff acting as official proxies (in-person intermediaries) on behalf of citizens who are unable to use eServices on their own. From April 2007, another type of intermediary also became possible, i.e., representatives of an organisation are able to retrieve official notifications on behalf of all the members of that organisation by using the citizen card as a virtual proxy.

Portugal launched its Public Internet Access Spaces (PIAS)[24] initiative in December 2006 with more than 1,000 free access spaces to multimedia computers and the Internet. Trained personnel ensure permanent support for users, and many also act as social (human) intermediaries direct to users in local communities, which has dramatically increased the use of eGovernment. For example in 2006 more than 50% of tax filings were completed on the Internet, and 54% of these were assisted by intermediaries. This also provided significant savings in the back-office, as far less time had to be spent on keying in data from paper tax forms.

One quarter of the 2007 examples where end-users do not themselves use ICT is related to ICT-empowered back-offices, leading to significant efficiencies in service design and delivery in which the end user continues to use traditional channels but now experiences a higher quality and more personalised service as a result.

The 'Communit-e' application[25] in **Belgium** whereby municipalities can enter medical recognition requests for allowances for disabled persons directly into the Social Security Department's IT system. This leads to a better service for disabled persons through quicker processing of their dossiers. The system also enables automatic granting of benefit payments based on the social security status of a person (e.g. tax reduction, reduced telephone charges, free pass for public transport), without the person having to submit a certificate.

In **Slovenia**, the Ministry of Labour, Family and Social Affairs has developed a Social Work Centres Information System (SWCIS), one module of which is the 'Family Helper' with links for example to the population registry, the tax authority, and the employment services. This module protects personal data, increases control over the payment system, analyses data to improve decision making, planning, monitoring and implementation of various measures, and increases time savings (for families) and money savings (for the state budget). One result, is that by 2007 control over child benefit payments has increased with savings of € 3 million per year, whilst shortened data entry and evaluation time saves 300 hours every month.

[21] http://www.epractice.eu/cases/1735; http://www.leicscareonline.org.uk

[22] http://www.epractice.eu/document/2894

The **United Kingdom** Job Centre Plus[26] GIS Tool maps and analyses mainly sensitive personal information on work and pensions, combining it with other useful information on geographic boundaries and census data, to enable policy makers to understand local patterns of social exclusion, support evidence-based policy making and the more effective delivery of services. It also allows job centre staff to improve the way they market and deliver their services with partner organisations. For example, Liverpool has used the system to develop a full employment plan which also identifies localities where there are high numbers of incapacity benefit claimants in order to target its activities, whilst Kent has used the data to pinpoint lone parent 'hotspots' within the county and thereby more effectively focus policy action to engage these groups.

2.4 High impact achievements: translating policy into practice

Three policy areas where good practices in 2007 are already having real impacts are examined in some depth below in relation to literacy, employability and socio-economic integration. There are many other such cases, but the three analysed here are selected to show the range of achievements currently being made. This is followed by an overview summary of impacts in the Inclusive eGovernment area between 2005 and 2007.

Supporting literacy: Besancon.clic (France)

The 'Besancon.clic' initiative[27] has the overall aim of reducing the digital divide. It is run by the city of Besançon and the Greater Besançon Community through partnerships with other parts of the public sector, the private sector (insurance groups, banks, and ICT companies), and the civil sector (400 local associations). The total cost has been € 1,500,000 since 1999, whilst second-hand ICT equipment provided by private companies and other sources has been re-furbished by the local centre for Disabled Workers.

Challenges and barriers

The overriding challenge of 'Besancon.clic' was to reach out to and involve all social groups regardless of social or educational status or location within the community, and the biggest barrier was lack of awareness and skills. These were tackled and largely overcome through a multi-channel approach comprising ICT equipment in schools, hospitals, physical therapy centres, retirement homes and private households, supported by face-to-face ICT training and maintenance. Teachers use digital workspaces to send messages to parents, whilst homework exercise books and documentation concerning teaching and training will be shortly available online. In addition, there are public multimedia access points in every neighbourhood.

Achievements and impacts

Although 'Besancon.clic' started in 1999, most impacts have come to fruition in the past three years. Overall, there is a clear reduction in the digital gap across all social groups, for example Besançon schools now have one computer for four pupils compared to the national average of one computer for 20 pupils, and in 2007 5,296 pupils in the 37 primary schools and 8,098 pupils in 79 elementary schools have access to approximately 2,500 computers, to educational software and the Internet. Collective training sessions take place in digitally equipped public areas, which favours communication between parents and brings the neighbourhood to life. This includes the 'e-book pack'. Further, hospitalised children or those in therapy have access to these services to enable them to continue their schooling during their treatment.

The project has shown that pupils beginning their first year of secondary school have a much higher success rate than the national average, whilst for teachers ICT is now fully integrated into their teaching and pedagogical approach, and access to a digital workspace allows them, via the Internet, to carry out collaborative work sessions with their pupils. In addition, 400 local civil associations have been equipped with a computer and a laser printer. 350 elderly persons living in retirement homes have access to computers and the Internet, and a large number of public multimedia access points have been provided across the city, allowing the most disadvantaged people to become familiar with ICT tools.

An important impact has also been the rewarding and remunerative work provided for disabled people, including renovating computers for distribution to families as a new form of employment available to this group. Apart from environmental benefits, this has also resulted in increased local economic development, for example through the higher turnover of local ICT companies.

Good practice lessons

Useful lessons from the 'Besançon.clic' initiative include the synergies from linking the use of ICT across different social groups, for example the training of parents who can thereby support and participate in their children's learning at school, and the setting up of public multimedia access points in local civil associations, retirement homes and the centre for the disabled. The initiative is part of a virtuous circle which is leading to the spin off of other similar projects, especially through the replication of its business model comprising partnerships between the public, private and civil sectors, and supporting sustainability through recycling and extending the useful life of ICT equipment. In this way, Besançon is also assisting the Republic of Senegal in Africa to start its own project 'Seneclic' project by finding

[23] http://www.epractice.eu/cases/1863

[24] http://www.epractice.eu/document/3449

[25] http://www.epractice.eu/cases/1866

[26] http://www.epractice.eu/document/68

[27] http://www.epractice.eu/cases/1016; http://www.besancon.fr/besanconclic.

partners, providing training, and building a renovation centre for disabled workers. To date 23 Senegalese schools have been fully equipped, with an ultimate target of 1,500.

Supporting employability: 'Slivers of Time' (United Kingdom)

'Slivers of Time'[28] is a service which supports disadvantaged people in gaining employment. It brings employers with two to three hours of work together with people who are looking for work through a website and mobile phones The project is particularly helpful to disadvantaged groups that might be able to work only for short and irregular periods of time. The first Slivers of Time marketplace was piloted in the London Borough of Newham in December 2005 using £500,000 of government funding, and is now in 2007 being rolled out over the whole of the United Kingdom by different local authorities.

Challenges and barriers

The main challenge is to create an effective and inexpensive online marketplace to match individuals who need to work odd hours around other commitments in their life (e.g. lone parents, carers, those restricted by illness, students, retirees, starting their own enterprise, and part-time workers) with organisations which need a pool of top-up workers at irregular times (e.g. commercial service providers, caterers, retailers, manufacturers, leisure industry, and local authorities). Background research has shown that 13.7million people in the UK could work in this way at some point each year. The main barriers have been embedded notions held both by citizens and employers that full-time, or at least regular part-time, work was the desirable norm, as well as the difficulties of activating people who have the potential to work but who individually have many other responsibilities or difficulties to overcome. These challenges have been addressed through welfare-to-work and related policies, but also through small-scale but high impact initiatives using ICT such as 'Slivers of Time'.

Achievements and impacts

A recent survey revealed that 68% of the potential target groups wish to try this way of working, and that, with just 5% take up, the tax payer would save £400 million a year by creating new work, not displacing existing roles. People on incapacity benefit and income support can take on paid work for a certain number of hours each week without affecting their benefits, and Slivers of Time is a useful tool to encourage people back to work. Individual case studies show that it is also a system useful for individuals like immigrants and ethnic groups, whose mother tongue is not English, to gain experience in the UK job market.

For employees, the initiative has reduced much of the bureaucracy and costs associated with traditional methods of recruiting temporary staff. East Thames Housing Group, one of the main buyers in Newham, has made 329 bookings totalling 2,280 hours, and is continuing to use the service beyond its initial six month trial. It has saved over £10,000 on recruitment costs (compared to agency fees) in that time. For local authorities the initiative aligns with the UK Sustainable Communities Strategy by bringing work and spreading skills and opportunities widely in the community. For employees it offers flexibility, helps develop experience and moves workers into the mainstream jobs market by enabling them to gain useful work experience and building a CV. Overall, therefore, 'Slivers of Time' has shown its potential to tackle worklessness and increase the efficiency of the job market.

Good practice lessons

The main lesson from 'Slivers of Time' is that it is important to identify a real need arising from the common interests of different stakeholders, in this case employees wanting small amounts of work, employers wanting small amounts of work to be done, and the government wanting to save money. It is shows the successful application of existing, off-the-shelf ICT to that need, so that it is not necessary to develop new technology but rather to apply existing technology in an innovative way. All this results in a win-win and sustainable business model involving numerous stakeholders but requiring only limited start up investment before delivering medium term benefits and financial savings. It also demonstrates the importance of bottom up initiatives which are tried and tested on a small scale and then rolled out and scaled up on a wider and eventually national scale.

Supporting social integration: Multi-channel Citizen Service Centres (Greece)

The Citizen Service Centre (CSC) initiative[29] is a national advanced multi-channel system of delivering public services to the citizens and businesses, regardless of their access to ICT, digital capabilities, social orientation or locality. The CSCs offer a number of public services by means of the Internet and telephone, as well through over 1,000 one-stop-shop offices. Citizens or businesses without access to the Internet can still engage with the administration via a clerk (intermediary), who use the electronic services on their behalf.

Challenges and barriers

The main challenges faced by the CSC initiative were the low Greek ICT penetration rates together with a

[28] http://www.sliversoftime.com; http://www.sliversoftime.info.

[29] http://www.epractice.eu/cases/1004; http://www.kep.gov.gr.

generally bureaucratic, inward-facing public sector not used to delivering citizen-centred services. The CSC initiative was designed to tackle both these problems simultaneously through one large-scale but highly integrated programme drawing on strong political support and careful management of change projects in the public administrations involved.

Achievements and impacts

Although all citizens and businesses needing to deal with the public administration in Greece have benefited, certain segments of the population have been particular winners, especially islanders and inhabitants of remote and mountainous areas. The Public Administration itself has acquired a recognisable face and can now be found literally next door just by visiting one of the 1,054 branches country-wide. Usage rates have risen from 1.5 million citizens per year in the whole of 2005 rising to over 1.9 million in 2006, and 1.4 million in the first seven months of 2007, almost one out of every five people living in Greece, and are considerably higher among the non-urban population as opposed to city dwellers.

An additional impact of the CSCs has been the momentum for re-engineering and re-designing traditional bureaucratic procedures into citizen-centric services. Also, when citizens transact with the administration through the various CSC channels, the back office saves a significant number of citizen visits, thus releasing human resources to focus on core business. Clearly, this is a win-win setting for both the citizen and the administration.

Good practice lessons

The main lesson of the CSC initiative has been how to develop one integrated solution which simultaneously tackles many related challenges, in this case low ICT penetration and a largely un-modernised public sector. It also shows the importance of changing attitudes and the way people think about the public administration, as well as how civil servants see the citizens and businesses they need to serve.

Another lesson is the need for a careful matching of technology and services. Technology alone cannot guarantee that the benefits of eGovernment will reach large, eventually all, parts of the population. In this case, the person-to-person (intermediary) channel, supported by a robust layer of technology has been of critical importance, also for widespread citizen acceptance.

Summary of impacts between 2005 and 2007

The analysis and evidence provided above shows that very considerable progress was made across Europe in Inclusive eGovernment between 2005 and 2007:

1. The number of countries with specific **policies** related to Inclusive eGovernment has grown enormously between 2005 and 2007. The number focusing on disadvantaged groups has almost tripled, whilst the number of countries with an eAccessibility policy has increased by 42% and with a multi-channel policy by 41%. Many countries, particularly newer Member States, also report big improvements in **public sector website conformity** to eAccessibility Guidelines, although no recent systematic data are available.

2. In terms of on-the-ground **deployment**, there has been a dramatic change in emphasis and considerable advance between 2005 and 2007. In 2005, about two thirds of practices were concerned with access and one third with training and skills, whilst there was very little evidence of direct focus on actual service use by disadvantaged people. In 2007, on the other hand, 39% of practices directly supported **service use**, whilst 32% focused on **training and skills** and only 29% on **access**. Thus, in the two years since 2005 there has been a remarkable shift in focus from preparing the use of eGovernment services by disadvantaged people to actually using the services both directly (themselves) or indirectly (through intermediaries and more efficient and effective back-offices).

3. There is evidence that **multi-channel** as opposed to single online channel delivery is now the most common way of addressing disadvantaged groups with 62% of all practices. This demonstrates real progress compared with the situation in 2005, and these examples also show a much stronger focus on skills and service use compared to the single online channel approach, which emphasises access much more. This indicates that the greater sophistication and ability to 'tune' services to the specific individual needs of disadvantaged users is much better facilitated by a multi-channel, as opposed to a single channel, approach.

4. Of all the multi-channel practices, practices where **ICT is used by end-users** themselves, together with other non-ICT channels, make up four-fifths. These are typically dependent on upgrading skills and competencies to ensure that the disadvantaged are able to successfully use ICT, rather than simply providing access.

5. Only one-fifth of multi-channel practices are where **end-users do not themselves use ICT**, but this is nevertheless a very new strategy for delivering a service which has become apparent only since 2005 and which is likely to increase strongly in the future. In addition, three-quarters of these practices involve ICT-empowered front-line staff acting as **intermediaries**, normally in traditional face-to-face mode but now

enabled by the technology to do so in the end-users' own domestic, community or institutional context. This is also underscored by the fact that most of these examples are for service use rather than access or training, which is clearly a natural consequence of the type of delivery demonstrated.

6. One quarter of the examples in which end-users do not themselves use ICT is related to **ICT-empowered back-offices**, leading to significant efficiencies in service design and delivery in which the end user continues to use traditional channels but now experiences a higher quality and more personalised service as a result.

2.5 Future challenges: scaling up and tackling multiple-disadvantage

Despite the clear and significant progress in Inclusive eGovernment between 2005 and 2007, there still remain important challenges for the future which need to be tackled.

1. Low visibility

Challenges: Inclusive eGovernment still has very low overall visibility and suffers from widespread misunderstanding, as well as a wide variety of unnecessarily disparate and conflicting policies and practices.

Options: There is a wide knowledge gap which needs to be bridged, especially between policy makers, practitioners, and ICT suppliers, who do not cooperate sufficiently. One remedy for this is increasing focus on awareness raising, capacity building and identifying sustainable business and market models in which these stakeholders can participate for mutual benefit. At European-level the EC should clearly take the lead, but it can also support the Member States, regional and local authorities, other stakeholders and the practitioner value chains by funding research, good practice services, and pilots (as in the new CIP funding framework for deployment).

2. Fragmented policy and practice

Challenges: Much effort is still highly fragmented in terms of both policy and practice, resulting in a failure to benefit from critical mass and mutual learning, and there is still too much focus on silo-specific solutions which are not joined up or combined.

Options: The main option is to support the development and deployment of sustainable business models for service delivery value chains, including the roles of the different stakeholders (public, private, civil, as well as users or user groups themselves) in the context of joined-up and combined service delivery. There needs to be much more focus on tackling multiple disadvantage, which many disadvantaged people suffer from, and this can be done only through greatly improved cooperation along the delivery chain and across and between agencies and practitioners at all levels, including in terms of joined-up processes and structures where necessary. The Member States public authorities have responsibility here, and for setting up appropriate partnerships with both the private and civil sectors to make this happen.

There is also a need for research to show that it is more costly not to tackle exclusion than to promote inclusion in the context of eGovernment, and this involves clearly demonstrating both the economic and social case for Inclusive eGovernment. Part of this will be analysing the cost-benefit along the whole value chain, rather than just one part of it, given that, although some stakeholders may incur greater costs than benefits, the reverse will be the case for others, but overall there is likely to be a clear net benefit. One issue then becomes how the different stakeholders share the costs and benefits along the value chain, and how they negotiate this. As well as Member States and public authorities, the EC has a coordinating and leading role here, especially in terms of supporting research and disseminating good practice.

3. Sustainability and scaling up

Challenges: Given that 75% of practices are designed and delivered at the local or regional level in which targeted groups are considered within their specific geographical, social and cultural environment, there is a strong need to scale these up and roll them out more widely if widespread impacts are to be achieved.

Options: Achieving critical mass and thus critical impacts is necessary and this requires cooperation amongst all practitioners (whether public, private or civil). However, this needs typically to be led by the public administrations or central ministries and agencies acting as coordinators of all the different stakeholders involved at different levels including national and, where relevant, European level. As part of this, policy making, strategy development and deployment all need to be improved, and some attention should also be placed on developing conducive legal and regulatory regimes and facilitating arrangements like Local Area Agreements (as in the United Kingdom) or Local Information Society Pacts (as agreed by the European Local Authorities Network, ELANET in April 2007) for designing and delivering services. Again, the EC should take a coordinating role here, especially in terms of supporting research and deployment,as well as in disseminating good practice.

3 Efficient and effective eGovernment

3.1 Policy context: setting the basis for user-centred public administration

The twofold challenge of both making eServices effective and at the same time achieving internal efficiency gains, has been a major European concern since the very first steps of the public service digitalisation process. The analytical focus shifted through time from the efficiency dimension (monetary and non–monetary savings) to the factors determining and/or favouring these efficiency gains (such as back-office reorganisation). It subsequently moved on to the benefits which constituencies (mainly citizens and businesses) receive from the introduction of eGovernment services through the increasingly important concept of citizen-centric eGovernment. More recently, all these factors have been systematised through a series of measurements and good practice sharing frameworks which ensure a comprehensive overview of the benefits that can be delivered by eGovernment.

The objective of 'using ICT to make a reality of effective and efficient government' was formulated in the Manchester Ministerial Declaration on eGovernment (UK Presidency, 2005), and then further specified in the eGovernment Action Plan (European Commission, 2006a) in April 2006:

- By 2010 eGovernment will be contributing to high user satisfaction with public services;
- By 2010 eGovernment will have significantly reduced the administrative burden on businesses and citizens;
- By 2010 the public sector will have achieved considerable gains in efficiency through the use of ICT;
- By 2010 European administrations will have significantly increased transparency and accountability wherever possible and relevant through innovative use of ICT.

The Action Plan itself defines the Efficiency and Effectiveness objective as follows: "*Member States expect eGovernment to contribute to high user satisfaction with public services and to significantly lighten the administrative burden on businesses and citizens by 2010. Moreover, the public sector should achieve considerable efficiency gains as well as increasing transparency and accountability through innovative use of ICT by 2010*".

These same issues had previously been discussed within the eGovernment subgroup (European Commission, 2005c) which identified six key points to be taken into account with reference to the 'Efficient and Effective government' objective, namely:

1. Making a reality of effective and efficient eGovernment
2. Aiding the development and sharing of strategic knowledge
3. Benchmarking and sharing of best practices
4. Sustainable mechanisms for sharing concepts and software and for encouraging cooperation
5. Stimulating the effective and appropriate use of open standards
6. The European Commission as a role model.

All developments provided the basis for setting up, managing and refining an operational roadmap for Efficiency and Effectiveness on the key activities to be undertaken by the EU and Member States by 2010. (European Commission, 2006b) This aims at the massive introduction of measurement and good practice sharing tools and initiatives at EU level, between Member States and within each Member State. In particular, the following activities are planned (the actors in charge of each activity are given in brackets):

- 2006: proposal for a common impact-oriented eGovernment measurement framework to be fine-tuned in subsequent years (EC in collaboration with Member States).
- 2007: undertaking benchmarking and case-based impact and benefit analyses, in line with the i2010 benchmarking framework. The analysis should be based on common indicators with the aim of monitoring progresses with the i2010 Action Plan (EC on Member States' input).
- 2008: a survey of how to ensure long-term financial and operational sustainability for sharing experiences, infrastructures and services (EC in collaboration with Member States).
- Between 2006 and 2010: promoting the sharing of resources, good practice and experience in eGovernment (EC).

To implement these activities, the EC and Member States need to take into account the EU Directive on Services in the Internal Market, issued by the European Parliament and Council (2006) after the approval of the roadmap. The Directive requires public administrations to achieve more effective organisation of the administrative procedures relating to access to, and

the exercise of, a service activity. According to Article 8 of the Directive, Member States must ensure the electronic processing of transactions by means of a point of single contact and with the relevant competent authorities by 2009. Several Member States, for example the United Kingdom (Panlogic, 2007) and Germany,[30] are already working on how best to implement this compulsory and challenging Directive task.

3.2 2005: pioneering measurement exercises

The measurement of eGovernment impacts represents the most relevant area of intervention for the achievement of the Efficiency and Effectiveness objective. Since 2000, a number of eGovernment measurement frameworks have been developed and implemented. At a global level the United Nations (2005) has developed an eGovernment Readiness Index, as opposed to an impact measurement approach, in order to take specific account of all countries including developing nations, many of which have only recently embarked on eGovernment programmes. This index presents the state of eGovernment readiness using a composite measurement of the capacity and willingness of countries to use eGovernment for ICT-led development which encompasses website development, infrastructure and educational levels, and the levels of telecommunication and human capital infrastructure development. Brown University (2006) in the US conducts an annual survey of online government services offered by 198 governments around the world through an evaluation of government websites, including the presence of features dealing with information availability, service delivery, and public access.

A number of commercial consultancies have also been involved in developing benchmarking systems. These include Accenture (2005) which regularly examines how governments in 22 countries engage their citizens and businesses and deliver enhanced services in online government. Researchers test the websites of national government agencies in an attempt to fulfil a set of predetermined transactions and service needs typically provided by a national government. Accenture has also developed a Public Sector Value Model (Accenture, 2004) from the perspective of the citizen and considers two levers of 'citizen value': outcomes and cost-effectiveness. Finally, the company has assessed different benchmarking approaches within organisations and found that 73% of organisations were conducting benchmarking activities, with the following benchmarking objectives ranked as the most important, in descending order (Accenture, 2006):

- Productivity/efficiency improvements
- Increasing customer/user satisfaction
- Need for greater accountability & transparency
- Increase employee satisfaction, loyalty, motivation
- Improve technology utilisation
- Complete transformation of functions/processes.

Gartner (2005) found that many governments are starting to use an approach which goes beyond the usual business value of IT to include the three categories of operational efficiency, constituent service and political return. Deloitte (2003) has developed an approach for evaluating ROI (return on investment), not only through the cost savings generated for government, but also through the financial benefits created for citizens and businesses, which results in a direct correlation between eGovernment and economic competitiveness.

The EU has also been active in the area of eGovernment measurement. Up to about 2005, most eGovernment benchmarking, including that sponsored by the EC, was focused on measuring the supply side roll-out of eGovernment services. This is exemplified by the eEurope 2002 and 2005 Action Plans, which benchmarked the online availability of 20 standard services (12 for citizens and 8 for businesses) across EU25. This measured availability as well as online sophistication, i.e. whether the service permits one-way or two-way interaction and/or transaction, including, for example, digital signatures and financial payments. (CapGemini, 2006) The IDA Programme also supported work on the value of investment, a cost-benefit analysis approach related particularly to the quality control of IDA projects, which included the identification of benefits for different stakeholders and how they should be valued and measured. (IDA, 2003)[31]

Until 2005, eGovernment measurement was mainly focused on supply-side indicators, eReadiness, and user satisfaction issues. Only a relatively small, though increasing, number of activities were directly concerned with measuring impacts. Up to that date, only four Member States had developed and started to apply an evaluation methodology taking into account the dimension of impact, i.e. Denmark, France, Germany and the United Kingdom.[32]

The **Danish** 'eGovernment signposts'[33] methodology (Danish Digital Task Force, 2004) relies on a series of Key Performance Indicators (KPI) and takes into account the dimension of impact as a secondary analytical element (see Exhibit 6).

The Danish methodology focuses on the performance improvements which can be measured within public

[30] Presentation by Helga Manneck and Dr. Christian Storost from Federal Ministry of Economics and Technology at the Seminar on the Implementation of the EU Services Directive " Implementing the Services Directive – insights into the "German laboratory", London, 11 June 2007: http://www.berr.gov.uk/files/file40494.pdf

[31] A detailed overview of challenges in measuring public sector and eGovernment similarities and differences is contained in the eGovernment Economics Project, eGEP (2006).

[32] Information on the 2005 national measurement methodologies taken from the preparatory work undertaken by RSO in the framework of the DG Information Society eGovernment Economics Project (eGEP, 2006).

[33] http://www.epractice.eu/document/3319

Exhibit 6 The Danish 'Digital Signposts' methodology

Coherent services with citizens and businesses at the centre	Increase services quality and release resources	Work and communicate digitally	Coherent and flexible ICT infrastructure	Managers ensure that organisations capitalise the vision
• % of the population using public sector's digital services • % of businesses using public sector's digital services • % of documents public authorities receive digitally from businesses • % of documents public authorities receive digitally from citizens • Use satisfaction with public sector's digital services	• % of resources released • Quality of services improvements	• % of documents public authorities receive digitally from other public authorities • % of public authorities that can communicate securely with other public authorities using the digital channel • % of public authorities using electronic case management • % of public authorities purchasing digitally using digital invoicing	• % of public authorities indicating lack of common solutions as a significant obstacle • % of public authorities indicating lack of common standards as a significant obstacle • % of public authorities indicating lack of suitably adapted legislation as a significant obstacle • % of public authorities with an IT strategy addressing service levels, security and infrastructure issues • Number of digital signatures certificates distributed	• % of public authorities indicating lack of political will as a significant obstacle • % of public authorities indicating lack of allocation of resources as a significant obstacle • % of public authorities indicating lack of common solutions as a significant obstacle • % of digital project producing a simplification of working practices

(Source: Danish Digital Task Force, 2004)

administrations, illustrated in the 'Work and communicate digitally', the 'Coherent and flexible ICT infrastructure' and the 'Managers ensure that organisations capitalise on the vision' columns. Nevertheless, an attempt is also made to map the take-up of eGovernment services, use satisfaction and service quality (see the 'Coherent services with citizens and businesses at the centre' and the 'Increase services quality and release resources' columns).

This focus on the efficiency dimension is also confirmed by one of the most interesting projects launched in 2005 by the Scandinavian EU countries in order to rationalise and ease access to key information sources on a trans-national scale.

Denmark, **Finland** and **Sweden** set up in 2005 a cross-border tax portal, Nordisk eTax.[34] The different national tax administrations together constituted a 'Virtual Tax Office' responsible for the portal's contents. The Virtual Tax Office is not a new physical unit but a network of Nordic tax experts. The multilingual portal aims to make it easier for citizens to obtain answers to cross-border tax questions. It particularly targets individuals who are resident in one Nordic country and have income or assets in another Nordic.

The **French** MAREVA[35] (ADAE, 2005) and the **German** WiBe[36] (German Federal Ministry of the Interior, 2004) measurement frameworks (see Exhibit 7 and Exhibit 8), on the other hand, seek to map both monetisable and non-monetisable efficiency gains, not only for public administrations but also for their constituencies. In particular, these types of impact are mapped by the 'External benefits for the user' and 'Necessity of the project' categories of the MAREVA framework, whilst the same dimension is investigated by the 'External effects' and the 'Urgency' dimensions of WiBe.

The attention placed on both monetisable and non-monetisable benefits can also be observed in France through the launch of a series of government portals and platforms aimed at reusing open source solutions, thus ensuring monetary savings and at the same time providing administrations with highly effective and customisable solutions.

Launched in 2005, AdmiSource[37] is the collaborative platform proposed for all the public administrations operating in **France** for developing, exchanging and adapting their open source applications. Everybody is welcome to use, participate, and contribute according to interest.

Projects hosted by AdmiSource are classified by the topics covered by the uploaded applications (categories encompass a wide range of public service delivery processes, from internal training to eProcurement systems, from statistical services to PKI identification and authentication platforms), so to provide practitioners with a user-friendly repository of good practice. Queries can also be structured by administrative environment, development status, intended audience, type of licence, natural language, operating system, and programming language.

In addition to mapping external impact through the 'Urgency' dimension, the German 'WiBe' methodology also takes into account linkage to national/regional eGovernment policies, thus binding the execution of eGovernment projects to a parallel policy and minimising the risk of misaligned/ineffective investments.

Also in the case of Germany, the parallel measurement of monetary and non-monetary aspects is mirrored in the

[34] http://www.nordisketax.net

[35] http://www.epractice.eu/document/1010

[36] http://www.epractice.eu/document/2949

[37] http://www.epractice.eu/document/3345; http:www.admisource.gouv.fr

Exhibit 7 The French Mareva methodology

Profitability for the state	Internal benefits for Public Administrations	Externalities for users	Necessity of the project	Risk of the project
Productivity gain: more FTE - tasks elimination - ergonomics improvement - Faster search: database	**Better work place for PS employees** - job content improvement - working conditions improvement	**Quality improvements:** - simpler services - personalisation - new integrated services) - multi-channel delivery	**Necessity for Adele:** - cross infrastructures for Adele - cross project referal system	**Project Risk**
Efficiency gains: - reduction of errors - optimised receipt of documents - improved decision-making	**Improvement of efficiency of public service:** - support re-organisation - improved planning - improved and faster decision-making - elimination of paper archives	**Info society promotion:** - benefits for work - benefits for civic life) - benefits ICT skills - benefits of groups at risk - benefits for social cohesion - benefits to democratic participation	**External necessity:** (respond to regulatory requirement) (respond to political obligation)	**Technical Risk**
Accruing economies: - avoided costs - economies of scale	**Support to decentralisation:** - empowerment of local communities) - mutualised infrastructure for communities	**Number of users affected**	**Public service efficiency necessity:** (avoid other expenses) (simplify complex area) (control/avoid risky/uncertain area)	**Legal Risk**
Faster revenue collection		**Time/money saved**		**Deploy-ment risk**
Increased revenues				

(Source: ADAE, 2005)

Exhibit 8 The German 'WiBe 4.0' methodology

Economic efficiency in monetary terms (non monetary terms)	Extended Economic Efficiency		
	Qualitative/strategic importance	External effects	Urgency
One off development. savings: - avoidance of cost for maintaining/upgrading old IT system)	**Priority of IT measure** - IT framework strategy - integration with Federal IT system - Manufacturer independence	**Urgency due to demand intensity**	**Urgency to replace old system** - system continuity - logistic/capacities aspects - system stability - system flexibility, inter-operability
One off revenues (sale of old system)	**Increased quality of dedicated tasks:** - improved job performances - Acceleration of work processes - Standardised administrative work - Improved image of administration	**User friendliness:** - uniform standardised access - more understandable and reproducible services - customer support - timely availability of information	**Compliance with regulatory requirements:** - laws - data protection/security - correct procedures and work processes
Operating Savings - FTE savings produced by new work processes	**Administrative/Political level info control:** - provision of info rmation to decision-makers and/or controllers - support to decision making / leadership tasks	**External economic effects:** - saved money, for postage, paper, travel - saved time - avoidance of mis-investments - increased productivity for businesses	**Public service efficiency necessity:** - avoid other expenses - simplify complex area - control/avoid risky/uncertain area
	Staff-related effects: - attractiveness of working conditions - ensuring/expanding qualifications	**Improved quality and performance:** - follow-up effect for partners, i.e. interoperability - external effect of acceleration of administrative procedures - improved multi-agency cooperation - extension of services offered	

(Source: German Federal Ministry of the Interior, 2004)

set-up of service infrastructures, integrated information systems and services designed to achieve both efficiency and effectiveness gains. Given the size and the population of the country, large-scale projects are likely to produce extremely high benefits, especially when conceived and designed in a pan-European service perspective.

In 2005 **Germany** introduced a distance-based toll for all trucks of twelve tonnes gross vehicle weight and above, in order to redistribute these costs to all users - from inside and outside the country. As a service provider acting on behalf of the Federal Republic of Germany, Toll Collect[38] has set up a toll system capable of calculating and collecting road-use charges based on distances travelled. In addition, the Toll Collect system ensures that the collection of road tolls does not disrupt traffic flow. In contrast to conventional toll systems, Toll Collect does not require vehicles to slow down or stop, or restrict them to a designated lane.

Finally, the **United Kingdom** business model methodology (CJIT, 2005) breaks down benefits clearly between different actors, thereby distinguishing two separate measurement categories for service users on the one hand and for the society/country as a whole on the other. In addition, it includes a third category, mapping the internal benefits achieved by the government and public services, thus monitoring the impact of eGovernment on each of these three actors.

Another core activity up to 2005 was the sharing of good practice to assist in realising the EC's targets for the Information Society and a number of initiatives took place in this context.[39] Good practice sharing helps to ensure the wider deployment of ICT-enabled services across Europe for the benefit of citizens, public organisations and business. The Good Practice Framework (GPF) was the main European instrument until 2005 and provided a repository of cases into which users could input their good practices and search for others using standard search categories. The GPF consisted of a case database, self-assessment tools, good practice labels for events and partnerships, question and answer facilities, and online discussion fora. The GPF had about 300 cases and 2,000 registered members, and was incorporated into the Good Practice Exchange platform in 2007,[40] as described in the next section.

3.3 2007: measurement as a lever for innovation

On the basis of the documents described at the beginning of this section, and building on the 2005 achievements highlighted above, Member States adopted a wide variety of strategic and operational approaches to deal with the issue of Efficiency and Effectiveness. Exhibit 9 synthesises this variety by taking into account:

- The existence of a consistent national Efficiency and Effectiveness policy
- The existence of a national eGovernment measurement framework
- The results obtained through the introduction of a national Efficiency and Effectiveness policy and/or of a measurement tool
- The existence of a national policy promoting the exchange of good practices among administrations.

Exhibit 9 provides a general overview of progress made in the last few years towards achievement of the Efficiency and Effectiveness i2010 objectives. It reflects the fact that focus of attention of EC-sponsored, as well as other, eGovernment benchmarking has shifted dramatically over the last two years to include service use and take-up rather than only availability. Since 2005, Eurostat (2005) has been collecting data on eGovernment availability (supply side) and usage (demand side), the latter through business and household surveys. In terms of usage, these annual surveys now include eGovernment Internet-based interaction with European businesses and citizens, eGovernment usage by enterprises, and eGovernment usage by individuals (separately for men and women). There are also occasional one-off Eurobarometer surveys, and these surveys are also now incorporated within the i2010 Benchmarking Framework (European Commission, 2006e).

Since 2005 at the EU level, the eEurope supply-side oriented measurement framework has been examined to see how it should be adapted. The EC's 2003 eGovernment Communication underlined "*the need for further research into the economics of eGovernment, for a better understanding of costs and assessment of benefits and performances*" (European Commission, 2003), and commissioned the eGEP study in 2005 (eGEP, 2006) to develop a measurement model based on existing impact measurement approaches and as a tool for performance measurement on a programme and organisational level. This study proposed an eGovernment Measurement Framework Model built around the three value drivers of efficiency, democracy, and effectiveness, and elaborated in such a way as to produce a multidimensional assessment of the public value potentially generated by eGovernment, not limited only to the strictly quantitative financial impact, but fully including also more qualitative impacts (see Exhibit 10).

In 2006, a review of traditional benchmarking surveys of online service availability was carried out by the European Commission.[41] This contributed to a renewed framework for analysis as part of the new i2010 eGovernment measurement framework (European Commission, 2006e), endorsed by the EC and Member States in April 2006. This has been developed for piloting in 2007 and roll-out in 2008, consisting of three main types of indicator:

- Availability and sophistication indicators (existing supply-side indicators supplemented with qualitative

[38] http://www.epractice.eu/document/3354; http://www.toll-collect.de

[39] For example, Beep: http://www.beepgovernment.com; http://www.beepknowledgesystem.org: and IANIS: http://www.ianis.net/

[40] http://www.epractice.eu.

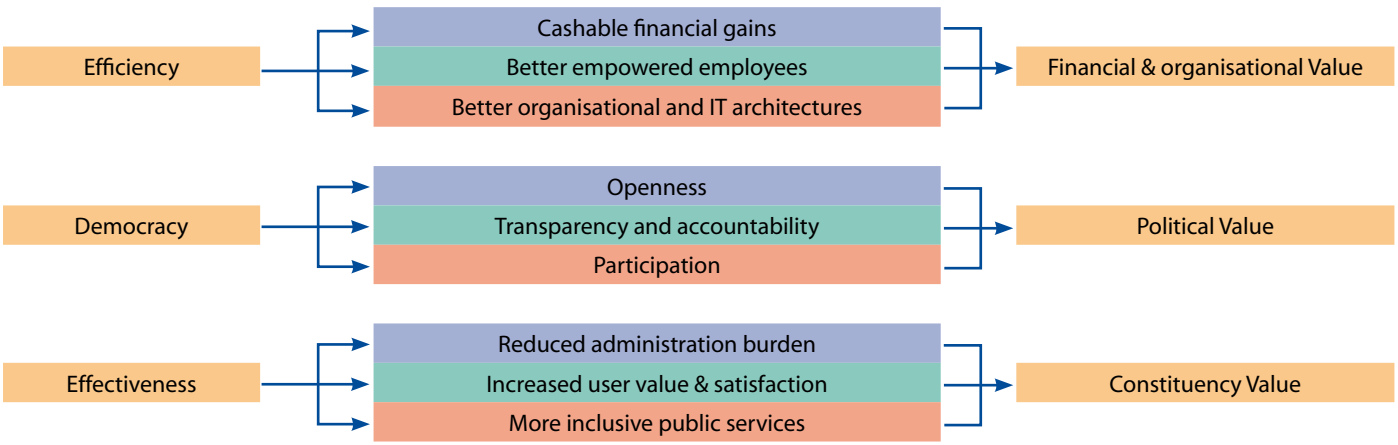
[41] Patrick Wauters from CapGemini, at the Helsinki Conference on The Impact of eGovernment in Europe, 13 September 2006.

Exhibit 9 Member States approaches to Efficiency and Effectiveness (E&E), 2007

	Policy in E&E	eGov measure-ment framework	Advantages determined by the introduction of a national E&E policy and/or of measurement tool				Policy promoting the exchange of eGov good practices
			User satisfaction	Efficiency gains	Administrative burden reduction	Accountability and transparency	
Austria	•						•
Belgium	•			•	•		•
Bulgaria	•						•
Cyprus	•						
Czech R							•
Denmark	•	•	•	•	•	•	•
Estonia	•		•		•	•	•
Finland	•		•		•	•	•
France	•	•	•			•	•
Germany	•	•	•	•	•	•	•
Greece							
Hungary							•
Iceland	•	•					•
Ireland	•						•
Latvia	•	•		•	•	•	•
Lithuania	•	•	•	•	•	•	•
Malta							
Netherlands	•	•	•	•	•	•	•
Norway	•	•	•		•	•	•
Poland	•						
Portugal	•	•	•	•	•	•	•
Romania							
Slovakia		•					
Slovenia	•	•	•	•	•	•	•
Spain							
Sweden	•						•
Turkey	•						
UK	•	•	•	•	•	•	•

(Source: National Progress Reports on i2010 eGovernment Action Plan, submitted to the EC in May 2007)

Exhibit 10 eGEP Measurement Framework Analytical Model (2006)



supply indicators focusing on user-centricity) as a composite indicator covering security, convenience, multi-platform, transparency and accountability, multi-language, integration, accessibility, inclusion, support and mediation.

- Take-up indicators from the Eurostat Household and Enterprises surveys monitor (for example, Eurostat 2005)
- Impact indicators in terms of efficiency, effectiveness and democracy.

Support for sharing good practices has also undergone significant changes since 2005. In 2007, a new Good Practice Exchange platform in 2007,[42] was launched which merges the Good Practice Framework with the eGovernment Observatory. The new portal, known as ePractice, is a good practice exchange scheme with a web portal, weekly newsletter, country fact sheets, online library, practitioner profiles, events calendar and monthly workshops created by the EC for the professional community in eGovernment, eInclusion and eHealth. It involves practitioners from all 27 Member States, EU Candidate States and EFTA countries but others are welcome to join. The portal combines online activities with frequent offline exchanges: workshops, face-to-face meetings and public presentations. A large knowledge base of real-life case studies submitted by portal members is freely available. After only a few months of operation, ePractice has already increased the number of cases from 300 to 400 and the number of registered members from 2,000 to 9,000. In the early months it has also worked closely with the European eGovernment Awards 2007 initiative which will both contribute new cases (310 cases were submitted to the Awards), as well as provide a platform for dissemination and workshops,[43] also contributing to the Ministerial eGovernment Conference in September 2007 in Lisbon.[44]

Another project exploiting the potential of good practice exchange and benchmarking methodologies for measuring impacts is looking at organisational change for citizen-centric eGovernment (cc:eGov, 2007). This focuses on user requirements within the changing environment brought about by the modernising government agenda and policy drivers designed to improve public service delivery through greater use of ICT. Another meaningful example is represented by the IANIS+ (2007) initiative managed by Eris@ for the years 2005-2007, which has as one of its core activities the benchmarking and measurement of eGovernment.

In addition to the above, individual Member States have also started to move beyond the more traditional approaches characterised by business-case methodologies and/or benchmarking approaches. Such methodologies are being implemented at national and, in some cases, at local levels, with the aim of providing tools for identifying and assessing the costs, benefits and impacts of eGovernment projects and initiatives.

The Government of **Ireland**, for example, is planning to implement a methodology to gather all identified relevant dimensions (service delivery, experience of users, internal working of governments, determining the impact of technology).[45] In the same direction, the Estonian methodology presented at the 2006 Helsinki conference identifies the goal of each eGovernment project and attempts to calculate its costs in order to present them more comprehensively and holistically.[46] The **Greek** government plans to implement the measurement methodology presented in the eGEP Measurement Framework,[47] which will thus become the first test of its feasibility for implementation.[48] Finally, in the **United Kingdom**, the CARE project, based on the Knowledge Management Life Cycle approach, aims to provide a framework and supporting software for use by United Kingdom agencies and local governments in the evaluation of eGovernment systems at various stages of their lifecycle. (Orange et al, 2006)

This overview of the main measurement frameworks adopted in recent years across Europe is supplemented in the following by an examination of the main Efficiency and Effectiveness focus areas, including representative good cases for each area.

High user satisfaction

The policy documents introduced in the first part of this section clearly highlight the relevance of the users' voice in the evaluation of eGovernment projects. Furthermore, user satisfaction surveys represent a powerful tool for fine-tuning eGovernment initiatives as they constantly update the perception the user community has of an eService and thereby enable governmental activities to be re-evaluated. In addition, carrying out periodic user satisfaction exercises contributes to a better understanding of users' eGovernment behaviour, and thus to the achievement of improved governmental performance in terms of citizen-centricity and service positioning.

A 2006 survey on eGovernment services[49] carried out in Finland found that the most popular sites in the country were those of local authorities which had been visited during the three-month period preceding the

[42] http://www.epractice.eu.

[43] http://www.epractice.eu/awards

[44] http://www.epractice.eu/document/3596; http://www.megovconf-lisbon.gov.pt

[45] Martin Troy (Department of the Taoiseach) at the Helsinki Conference on The Impact of eGovernment in Europe, 13 September 2006.

[46] Margus Püüa at the Helsinki Conference on The Impact of eGovernment in Europe, 13 September 2006.

[47] http://www.rso.it/notizie/D.2.4_Measurement_Framework_final_version.pdf.

[48] Nikos Kakaris and Eleni Vergi, from the Greek Information Society Observatory at the Helsinki Conference on The Impact of eGovernment in Europe, 13 September 2006.

survey by 49% of respondents. The survey also found that the majority of users look for a specific piece of information when using public websites, thus confirming the need for to provide the right service through the right channel to the right user. Moreover, evidence shows that eGovernment services set up by taking into account user needs are able to target their reference audience in an extremely short time frame, thus accelerating investment amortisation dynamics. A series of policy initiatives, projects and surveys launched in recent years confirms this conclusion, thus making user satisfaction one of the main drivers of excellence in public service delivery processes.

The **United Kingdom** Government's flagship digital service Directgov[50] supports the Prime Minister's Transformational Government agenda of amalgamating all public services online on Directgov by 2011. This citizen-focussed digital channel for government offers a single point of entry for citizens to all key government services, information, tools and transactions through digital TV, mobile, and the web. Currently 18 departments contribute to the development of Directgov with links to 240 local services covering 388 local authorities. Benefits for departments include reaching a larger audience and reducing costs. Citizens benefit by faster government transactions through services that are more accessible, easier to find and use, and in one place.

In **Greece**, the Municipality of Trikala aims to become the first national 'digital city'[51] by involving its constituency in a series of local eGovernment projects. Such an initiative can be successful only if users become active members and participants of digital affairs. For this purpose the 'Promotion of Broadband Use' project is the first to be developed. DSL technology is being used to upgrade the existing cable networks for rapid delivery of large digital files, such as photos and video. Furthermore, the municipal library of Trikala is one of 30 selected in Greece to join the Greek National Network of Public Libraries. Another project aims to implement a collection of special digital books, written and published in Trikala, which refer to the local cultural environment and history. These basic ICT-based initiatives aim to make ICT familiar to the local constituency in order to promote the acceptance, in a medium-term perspective, of transactive digital applications and services.

The set-up of a national museum catalogue[52] in **Latvia** is a national flagship initiative aimed at reducing the distance between eGovernment and its constituency. From September 2007, Latvians will be able to consult a computerised catalogue of 5 million artefacts at 110 national museums, thus becoming fully aware of the enormous potential of the public sector digitalisation process. The catalogue is co-financed by the European Regional Development Fund and has received just over €1 million in funding. More than 100 state, municipal and private museums will participate, regardless of their location, size, collection or ownership. Libraries have received 222 computers and 117 printers with which to compile the catalogue, while the 54 museums with the largest collections have received digital cameras, and 56 local computer networks have been installed.

Reduction of the administrative burden

This issue is one of the first topics to be addressed by public administration reform, even before the introduction of eGovernment applications. One of the most comprehensive sources is the OECD paper on administrative simplification (OECD, 2003) which looks at the different institutional solutions used to pursue this objective and identifies four main trends:

1. A gradual shift from an exclusively ex-post focus on administrative burdens to an increasing recognition of the need to work on an ex-ante sense of ensuring that unnecessary or unreasonable burdens are not implemented at the outset.
2. While simplification initiatives have generally been bottom-up in the last few years, they are being supplemented by top-down initiatives and increasingly integrated into broader government programmes. (e.g. the adoption of government portals and the merger of one-stop-shops).
3. Simplification seems to be inspired increasingly by market-based economic policies.
4. Administrative simplification is increasingly driven by IT mechanisms, which are not only the most important 'physical' enablers of burden reduction as they also provide strong dynamics and pressure to reduce burdens.

Moving in the same direction, the EU has been pointing out the relevance of reducing the administrative burden. One of the most recent initiatives of the EC, the 'Communication on a strategy for the simplification of regulatory environment' (European Commission, 2005d), sets out the strategy for administrative simplification at the EU level, requiring Member States to implement the identified initiatives in the various fields within their territories through National Reform Programmes (NRP). As a direct follow-up to this Communication, the first progress report on its implementation (European Commission, 2006c) examines administrative costs reduction and the adoption of eGovernment and ICT solutions as one of each country's national initiatives.

Many such initiatives that have been implemented are already contributing to the achievement of the EU reduction target of 25% by 2012 (up to 1.5% of GDP or some €150 billion) of administrative burdens on businesses, in particular on small and medium sized enterprises and on consumers, agreed at the 2007 Spring European Council. (European Commission, 2007c, European Council, 2007) Moreover, as also discussed during the 'Advancing eGovernment' Conference under Germany's Council Presidency in the first half of 2007, the implementation of the EU Services Directive will boost the

[49] http://64.233.183.104/search?q=cache:B_K0Zqxb_bAJ:europa.eu.int/idabc/en/document/5502/194+Most+popular+ eGovernment+websites+%E2%80%93+local+authorities+and+Ministry+of+Labour&hl=it&ct=clnk&cd=1&gl=it.

[50] http://www.epractice.eu/cases/1029; http://www.direct.gov.uk

[51] http://www.epractice.eu/document/948; http://www.e-trikala.gr

[52] http://www.epractice.eu/document/3712; http://www.eparvalde.lv

contribution which eGovernment can make to reducing the administrative burden German Presidency, 2007).

According to the Directive, to promote administrative simplification, it is appropriate to ensure that each potential service provider has a single point of contact in a given Member State (Article 6, European Commission, 2006d) through which all procedures and formalities can be completed, and that access is given and a service can be activated by electronic means (Article 8, European Commission, 2006d). The transposition of this Directive by Member States will remove discriminatory and unjustified barriers, cut red tape, and modernise and simplify the legal and administrative framework. The Directive will also establish an Internal Market Information (IMI) system for the purpose of improving administrative cooperation between Member States (European Commission, 2007d). Member States and the EC are currently working on the implementation of this Directive.

The CITES Convention regulates the international trade of plants and animals (and products thereof) threatened by over-exploitation. In **Switzerland**, the issue of up to 100,000 import, export and re-export permits imposes administrative burdens on management authorities and delays the economic activities of the watch and clock industry with export values of 13 billion CHF. e-CITES[53] is an Internet based system with multiple functions, from simple paper based application to highly confidential data management features for large importing/exporting companies. It reduces the delivery time of permits to a few hours, and allows for considerable saving in personnel whilst guaranteeing respect for the CITES treaty.

In 2003 the **Netherlands** had approximately 40,000 cattle farms with approximately 3.8 million units of livestock (an average of 95 animals per farm). Since December 2006 it is mandatory for livestock farmers to report the birth, relocation, import, export, vaccination and death of an animal by accessing the national electronic service for the Implementation and Regulation (I&R) identification and registration system for cattle.[54] The I&R animal system avoids huge amounts of paperwork involved in reports, requests for amendment and surveys. Cattle farmers can report electronically in three different ways (web services, online, voice response), seven days per week, 24 hours per day. They can also access their company records at any time using the new central ICT system.

In **Ireland**, the Property Registration Authority5[5] (PRA) operates a system known as the Integrated Title Registration Information System (ITRIS). Since its introduction, there has been a gradual move from a paper to an electronic register which has paved theway for further developments in the areas of eRegistration and eConveyancing and supports the further integration of property related services. The system has allowed the PRA to participate in national and international initiatives such as the Irish Spatial Data Infrastructure (ISDI) and the European Land Information Service (EULIS).

In **Luxembourg**, a new Internet platform for the national Registry of Trade and Commerce[58] was recently unveiled. The platform, which went live on 1 March 2007, makes it possible, among other things, to consult documents registered after 1 January 2006, and to order copies of documents registered since 1 January 1997. The new platform is designed to boost the competitiveness and attractiveness of the Luxembourg financial and economic area. According to its promoters, the launch of the platform should be followed by the set-up of an innovative legal framework, and thus provide the basis for an efficient administration able to supply requested information as quickly as possible and ensure the competitiveness of national companies.

DVDV – the **German** Administration Services Directory[57] – lists electronically available eGovernment services and thus meets an important need by creating a secure and reliable communication infrastructure, based exclusively on open Internet protocols and allowing cross-organisational, paperless processes. Up and running since 1 January 2007, it has helped 5,246 German civil registration agencies save more than €1 million per month. Worldwide, it is one of the first and largest standardised Service Oriented Architecture (SOA) implementations in the government area, and was made possible by unique cooperation between the various levels of government and sectors in the Federal Republic of Germany. The reduction of administrative burden is at least one person day per month per agency, assuming monthly labour costs of €3,750 for personnel handling data, and taking into account 5,246 civil registration agencies. In some agencies, savings are estimated to be even higher, up to two or three working days per month. In the European policy context, DVDV supports the free movement of services as it makes eGovernment services easily available to all users in government and the private sector. In addition, DVDV will support the implementation of eServices as mandated by the EU Services Directive (European Commission, 2006d).

Efficiency

The very first steps made by EU countries towards digitising their service offer were aimed exclusively at putting services online which had only a minor impact on the efficiency dimension. Growing economic constraints have subsequently emphasised this factor, so that the first years of this decade were characterised by the need to achieve measurable cost savings. Recently developed measurement frameworks and initiatives, such as those described above, have balanced this dimension with other public value drivers such as effectiveness and openness.

In this perspective, the relevance of the efficiency dimension can be understood today particularly by analysing large scale or pan-European achievements, as these represent new drivers for creating a consistent, networked and wisely-spending EU through eGovernment. In addition, efficiency gains can be measured by the release of human resources through the introduction of eGovernment solutions. In this perspective, countries with a flexible public sector labour market will achieve better efficiency performance than those where it is more rigid and where excess resources tend to be redeployed in other public administration offices or institutions.

[53] http://www.epractice.eu/cases/1013; http://www.cites.ch

[54] http://www.epractice.eu/cases/1017; http://www.minlnv.nl, www.hetlnvloket.nl

[55] http://www.epractice.eu/cases/103

[56] http://www.epractice.eu/document/3464; https://www.rcsl.lu/mjrcs/index.do

[57] http://www.epractice.eu/cases/1031

PloneGov [58] is focused on the smallest local administrations, aimed at giving anybody the opportunity to benefit from eGovernment. About 43 cities and regions from **Belgium**, **France**, **Switzerland** and **Spain** participate in the project, which was initially known as CommunesPlone and was renamed PloneGov on 1 June 2007. Participating administrations aim to gain independence from IT services providers by developing, essentially by themselves and in a cooperative manner, applications and websites for their own use, as well as for their citizens.

The PloneGov strategy is based primarily on two open source tools, namely Zope and Plone. PloneGov's expected benefits include ensuring the consistency of developed applications with user needs, promoting the set-up and take-up of collaborative websites, the adoption of the most recent technologies while avoiding licence fees, and the publication of application sources with GPL (General Public Licence).

In **Italy**, the Ministry of Economy and Finance has set-up SPT,[59] a multi-channel service for the seamless and transparent management of the process of payroll data entry, and of the printing and delivery of payslips for Italian public administrations. It is one of the most advanced payroll systems in the world and allows for processing more than 1.5 millions payslips monthly. It is implemented by 32 central administrations with more than 12 different types of labour contracts. SPT manages payments for about 40% of public administration personnel, with the target of including all civil servants (about 3,500,000) by the end of 2008. Every month, SPT delivers payslips to more than 1,500 million people. It manages more than 400,000 war pensions. The total efficiency benefit is estimated at about €60 million (overhead costs and personnel savings despite Italian labour market rigidity), and about 42% reduction of personnel costs per payslip.

Accountability and transparency

Finally, one of the most rapidly emerging issues at the core of the Efficiency and Effectiveness policy objective is represented by the growing need for accountable and transparent processes within public administrations and with their constituencies. This need is also being stressed by the recently unveiled top-level policy document entitled 'Reforming Europe for the 21st Century' (European Commission, 2007b), which addresses the strategic political demands Europe faces today. The document identifies transparency as one of the main drivers to be exploited in forthcoming years by the EC and the Member States, thus assigning a fundamental role to the public sector in the European socio-economic innovation and welfare system. In this context, many relevant projects have been developed in the last three years, for example in relation to public procurement and the management and delivery of public sector information through electronic portals.

In **Italy**, and in particular in the Alto Adige Province, public tenders are published through the local Internet portal www.provincia.bz.it. This primarily addresses Alto Adige inhabitants, but the information system is open to all interested enterprises and is mainly used by northern Italian firms. All local administrative authorities in South Tyrol (municipalities, public health institutions, local administrations, etc.) use this information system on a regular basis, with approximately 9,000 registered users making regular use of the service. The portal uses a customised version of the 'Bandi'[60] application which enables the scheduling of all public tenders online, the publication of any communication related to the public tender process, the online management of each step of the contract, the correction of online publications, and the use of eMail communication to all registered applicants. In addition, it ensures easy and transparent monitoring of, for example, building progress, project variations and costs. Finally, statistical data are automatically collected and evaluated by the application.

The **Maltese** Environment and Planning Authority handles over 8,000 applications for development permits every year. Plans, documents and correspondence with various stakeholders are processed for each application. eApplications set-up under the META initiative[61] bring together different platforms and technologies into one homogeneous system, which allows clients to view application details, submit and pay for applications online and send/receive correspondence digitally, thus increasing participation, efficiency and transparency. Internal case processing is also now digitised and the 'minutes', as well as all other internally generated documents, are digitally recorded within the system. (See also section 6.3)

In **Austria**, the municipal government in Vienna has recently chosen to adopt an eBilling system.[62] Municipal authorities already use SAP software for stock control. Accounting services will soon follow suit, gradually switching over to SAP by 2009. Currently, the administration processes some 1.6 million paper invoices every year. In future, a special website will be available for those needing to bill the city for goods or services. This means that it will no longer be necessary to scan incoming bills for archiving. Manual inputting of invoice data will also be a thing of the past, thereby saving staff time within the city administration. It has been estimated that, by going for this solution, the city of Vienna will save about €2 million a year.

The National Health Insurance Fund Administration of **Hungary** (OEP) has established a web-based bidding system designed to implement quick, credible and secure electronic data services.[63] This new system will ensure that pharmaceutical and medical aid manufacturers can submit price requests electronically, as well as be able to access timely and clear information on the OEP website. This new bidding system should help to spread the use of electronic signatures in health care. The certification package, with a chip card and a reader that can be used in public administration procedures, has been developed by the company Netlock Kft. Its main advantage is that pharmaceutical manufacturers' price offers can now be made public on the OEP website, quickly, simply and without significant marketing, printing and post al costs.

3.4 High impact achievements: measurable, customised and cost-effective services

The adoption of the Efficiency and Effectiveness objective by Member States has paved the way for a number of successful projects aimed at increasing user satisfaction with public services, reducing the administrative burden, producing efficiency gains, increasing transparency and accountability or achieving a combination of these results. Three highlight examples are examined below in some

[58] http://www.epractice.eu/cases/1026; http://www.plonegov.org

[59] http://www.epractice.eu/cases/1028; http://www.mef.gov.it/dag/spt/

[60] http://www.epractice.eu/cases/1015; http://www.provinz.bz.it/bandi/cont_list_d.asp

[61] http://www.epractice.eu/cases/1036; http://www.mepa.org.mt/

[62] http://www.epractice.eu/document/10

[63] http://hirek.prim.hu/cikk/61980/

depth, and although there are many other such cases, the three analysed here have been selected to show the range of achievements currently being made. This is followed by an overview of impacts in the Efficiency and Effectiveness area between 2005 and 2007.

Administrative burden reduction: SAM (Sweden)

The SAM Internet project[64] is an electronic application system for agricultural support provided by the Common Agricultural Policy for Swedish farmers. It is focused on making it easier, quicker and safer for farmers to apply and to provide error-free applications. The target group includes farmers and other entrepreneurs who apply for agricultural support. In Sweden, there are some 85,000 farm enterprises that apply for some form of support, more than 50% of which are submitted electronically.

Challenges and barriers

The problems encountered by the project were of three main types. First, the fact that most farmers use dial-up connections has made it necessary to configure the system so that such connections could be used without too much delay. Second, related technical down-time problems have been solved by special adaptations made by the ICT development team to ensure that the service operates without interruptions. Third, the complexity and the extent of the European Common Agricultural Policy made it necessary for the system to focus on the farmers' learning processes and to identify the factors that are of real use.

Achievements and impacts

Three main impacts have also been identified. First, error-free applications save time and resources through having fewer errors and being more complete than applications on paper. It takes 30-40% less time to process a case submitted through SAM Internet. Furthermore, the County Administrative Boards also save much time on reduced paperwork, and the Board of Agriculture benefits from the reduced number of errors and uncertainties in the applications, for instance since the number of appeals is lower. Second, savings of approximately €12 million have been achieved due to reduced time and paperwork for processing applications, to increased accuracy in completing applications, and to reduced legal disputes. Finally, farmers worry less about making mistakes (and actually enjoy making their applications!). An evaluation showed that farmers usually worry a great deal about completing a complex application and fulfilling all the rules associated with the agricultural support system. As SAM Internet alerts the user about errors and asks for further information when data is missing, such worries are much reduced.

Good practice lessons

The first main lesson is the need to acquire in-depth knowledge of the service target group and to take its situation as the starting point. In SAM Internet, the farmers' perspective and behaviour was the starting point, and farmers were able to influence the design of the service, with their views helping to determine system development. The Board of Agriculture observed how farmers actually make their applications, and used this knowledge to create an intuitive interface with the map at centre stage. This in-depth understanding of the constituency's needs can be achieved through usability studies, focus groups and independent evaluations.

The second lesson deals with helpfulness. Developers have to find the factors that are of real use through usability studies, focus groups and other forms of evaluation. User tests and systematic follow-up are used to understand how the service really can make it simpler, swifter, safer and more fun to apply for support. Authorities receive almost error-free applications and thereby save time and resources. Systematic follow-up is necessary to find out how SAM Internet will be developed in the future. In particular, three analytical tools are being used:

- A yearly user questionnaire
- An analysis of questions and comments addressed to the helpdesk function
- The evaluation of SAM application and information material.

The third main lesson concerns cooperation and partnerships, which are necessary for the design and implementation of the service. In fact, SAM Internet and related user support is developed and run by 22 separate authorities, i.e. the Board of Agriculture and all the 21 County Administrative Boards. They also cooperate with consulting companies, so that farmers can submit their applications electronically through the IT systems of certain companies. They can also use data from other production planning programmes for their farms without having to enter the same data twice.

Transparency and accountability: MY FILE (Belgium)

The 'My File' ('Mijn Dossier' in Flemish, 'Mon Dossier' in French) service[65] delivers a tool to each Belgian inhabitant and enables each one to consult their personal data stored in the database of the National Register. The target group consists of the 8.2 million Belgians who will have an electronic ID card by 2009 (with 5.6 million already distributed), the approximately 1 million children between 6 and 12 years old who will in future have a 'Kids' ID card, and the 1.4 million foreigners living in Belgium. Moreover, the users of electronic official documents are also part of the target group.

Challenges and barriers

Problems encountered during the set-up of the 'My File' system were exclusively of a technical nature. Among these,

[64] http://www.epractice.eu/cases/1027; http://www.sjv.se/amnesomraden/stodtilllandsbygden/samInternet.4.7502f61001ea08a0c7fff27447.html

three specific development bottlenecks were identified. First, binary codes had to be converted into readable format which was overcome simply by developing an XML code-generator, which ensured the conversion of codes into a more user-friendly format. Second, secure access by the user community was necessary, so the project developers decided to adopt a strong authentication approach by requiring the use of a PIN code, plus requiring possession of an eID to access the system. Third, data integrity had to be preserved throughout the information management process. This was warranted by extracting data from the National Register database and, at the same time, by digitally certifying this content with the Belgian Root Certification Authorities. All these solutions led to seamless workflow that keeps the service up and running.

Achievements and impacts.

The launch of the 'My File' initiative has enabled citizens to consult their personal data any time, from any place, at no cost. Moreover, users need only send an e-mail direct to the municipality responsible for collecting and managing their personal data in order to make corrections. Users can also obtain extracts of their personal data for use in official documents for third parties, and the high degree of data security and integrity allows such documents to be sent by mail directly to the correct mailbox. Finally, transparency can also serve as a strong means of control against third party abuse of personal data. A user-friendly and integrated information provision system promotes the monitoring of personal information among the system's constituency, thus reducing the error correction times and therefore discouraging abuse.

Good practice lessons

The 'My File' system is a pioneering transparency-focused eGovernment flagship project, which has the potential to encourage other institutions to follow suit through its exemplary achievements. The 'My File' architecture is already being copied, in fact, by other Belgian government authorities (finance, social security, etc.) and even by private institutions (e.g. My Social File, My Taxfile, etc.). Some local administrations have also followed the example of 'My File', by opening up their websites to citizens and making them eID-compatible, thus enabling citizens to log on and ask for official documents by means of their electronic identity card. Some municipalities even go even further, so that not only official documents can be downloaded by using the eID card, but also a large number of other public and private services are available. Some examples include booking tickets for the municipal theatre, lending books at local libraries, and buying a yearly parking ticket for residents.

In addition, the completion of the project highlighted the need for reliable software and telecom networks when planning, developing and rolling out such large-scale eGovernment initiatives. Individual software providers or telecom companies, in fact, are not always able to cope with the complexity of this type of system architectures. A networked structure for the development and maintenance team ensures better results in terms of data reliability and integrity as well as of service provision quality. Finally, projects like 'My File' imply an enormous change management effort in order to be accepted among the high number of civil servants involved in the process. In order to help public sector employees keep pace with these radical changes, a series of coaching interventions was organised throughout the project, and a dedicated helpdesk was put in place, where employees could have access seven days a week, 24 hours a day.

Efficiency: CReP (Estonia)

The Estonian Company Registration Portal (CReP, Create Your Own Company in Twelve Minutes!) project,[66] involves the National Centre of Registers and Information Systems, the Ministry of Justice and all the entrepreneurs and potential entrepreneurs willing to create a new company. The portal helps entrepreneurs to create a company comfortably, easily and within a short timeframe, without any threat to its legal integrity. The service is intended for national use, and is accessible by all Estonian ID-card owners, including people with a residence or work permit. The beneficiaries are entrepreneurs, citizens and civil servants. The biggest target group is entrepreneurs who need to register a new legal entity and/or wish to submit annual reports, and amendment petitions to change registered information, for existing legal entities. In addition, it is possible to change the data of a public limited company and commercial association. The second important target group is citizens who need to register a new legal entity.

Challenges and barriers

Three main barriers were encountered during the project. First, the lack of national legislation enabling the digital creation of an enterprise, which was overcame by modifying the Estonian Commercial Code. The final provisions of the European Council, 15-16 June 2006, state that by the end of 2007 establishing a company in any Member State should not take longer than one week. The Estonian Commercial Code was thus amended so that the time for reviewing applications for registration, which used to be fifteen days, became five working days as of 1 January 2007. At the same time, the company registration portal was launched. Second, the need to ensure user and data authentication without any threat to legal certainty was tackled by integrating within the portal the ID-card and digital signature solutions that were already implemented at national level for other types of eServices. Diversified technical solutions were used in order to provide valid digital signatures for each category of user.

[65] http://www.epractice.eu/cases/1014; https://mondossier.rrn.fgov.be

[66] http://www.epractice.eu/cases/1023; https://ekanded.eer.ee

Third, the provision of the necessary administrative and legal documentation through the portal was enabled by standardising the Estonian Articles of Association.

Achievements and impacts.

Company registration procedures have become much faster as a result of CReP. The standard procedure takes approximately two to three days, while the expedited procedure only takes two hours. The main quantifiable impact is on time spent, as well as the fact that there is no longer a need for notary services because of the use of the digital signature and online bank transactions. In some fast cases, a new legal entity can be entered into the register after only twelve minutes from the moment the petition application has been filed.

Furthermore, entrepreneurs and citizens can file documents or register a new legal entity without leaving home or filling in paper forms. Before the launch of CReP, entrepreneurs or citizens had to face long queues at notary offices, and many papers had to be filled in and then taken to the registration department. The latter accepted only paper applications, with all necessary data being keyed into the computer one by one, all documents were transferred between staff on paper and all documents were archived on paper. In the case of registering a private limited company, it was also necessary to visit the bank in order to open a bank account.

Finally, the technical work of civil servants has been lessened significantly. When notary authentication of signatures on applications was replaced by the digital signature, it was possible to create a portal enabling entrepreneurs to quickly and easily submit petition entries to the commercial register. Automatic control significantly lessens the technical work of the civil servants who process the documents in order to enter the new legal entity into the register.

Good practice lessons

The decision to use an ID-card for the authentication and use of the CReP represented an important factor spreading its adoption. This is due to many elements, including:

- It is valid everywhere in Estonia
- It is also used for issuing digital signatures
- It guarantees the legality of the procedures in the portal.

Moreover, integrating the Internet bank link in the registration procedure was important, as this service has many users in Estonia, and speeds up the overall registration procedure. However, a key factor for the successful implementation of the CReP has been the wide Internet coverage existing in Estonia, which makes it not only feasible but also desirable to have more and more services online.

[67] http://www.epractice.eu

Summary of impacts and achievements 2005-2007

The analysis of the Member States policies and initiatives aimed at the achievement of the European Efficiency and Effectiveness objective and the overview of outstanding cases presented above, enables the identification of a number of clear impact areas currently being achieved.

In relation to the eGovernment measurement frameworks mapped and described earlier in this section, the following impacts are evident:

1. Interest in measuring the results of eGovernment is booming all over Europe. In the last few years, national governments seem to have fully understood the potential of a thorough assessment of the services being put in place, so that the number of countries adopting an **eGovernment project measurement framework** increased threefold from 4 to 12 between 2005 and 2007.
2. Attention is also increasingly focused on the value and use of eGovernment **good practice exchange**. By 2007, 71% of European governments had already promoted such initiatives, and, in this context, the support of the EC in the organisation of networking events is helping to pave the way for greater and more widespread acceptance of this process. The EC's new good practice sharing facility[67] has, in only a few months during 2007, increased the number of cases available from about 300 to 400 (with another 250 shortly to be added from the 2007 eGovernment Awards), and the number of registered members from about 2,000 to 9,000.
3. **Europe is not alone** in the strategic challenge of fully understanding the impact of eGovernment. Evidence from other countries and regions shows a widespread worldwide interest in the use of both monetised and non-monetised variables, and this increases the potential benefits of sharing good practice and eGovernment measurement frameworks.

Referring to the impact of Efficient and Effective eGovernment services, remarkable progress can be observed when comparing the 2005 state of the art to the situation in 2007:

4. The **relevance of the Efficiency and Effectiveness objective** has been clearly understood by most European governments: three quarters of European countries have set-up an ad-hoc policy in this area.
5. Referring to the different operational areas of the Efficiency and Effectiveness objective, 52% of those governments thay have launched a specific policy have perceived clear advantages in terms of **user satisfaction**, thus confirming the relevance, at least in more than a half of the analysed countries, of setting-up eServices from a user-centric perspective.
6. Quite surprisingly, only 43% of those countries that adopted an Efficiency and Effectiveness policy have declared significant improvements in terms of **efficiency**, which, at least in eGovernment mature

countries, in 2005 represented the main driver towards public service digitalisation processes. These data indirectly confirm the growing relevance of other factors, such as transparency and openness, when planning and implementing eGovernment services.

7. In contrast, **reducing the administrative burden** is still widely perceived as a fundamental dimension of Efficiency and Effectiveness policies: 57% of Efficiency and Effectiveness pursuing governments achieved significant results in this field.
8. The same percentage of countries, corresponding to 12 out of 21 EU Member States, state that they have obtained benefits from public administration **transparency and openness** due to the introduction of an Efficiency and Effectiveness policy. This confirms the rapidly growing interest in these themes throughout Europe.

3.5 Future challenges: integrating measurement in the service delivery cycle

Despite the achievements and impacts noted above in progress made by European Member States in the i2010 Efficiency and Effectiveness objectives, there remain a number of important challenges for both the EC and Member States in their full implementation.

1. Why do we measure and share?

Challenges: Based on the pioneering exercises already achieved by 2005, as well as on more recent EU research and guidance activity, a large number of eGovernment measurement initiatives has been launched in the last few years throughout Europe. Such evaluation systems are in some cases highly refined, but all too often they are still seen as isolated exercises, i.e. they are typically as yet unable to exploit their strategic potential in assisting governments make critical policy choices. Similarly, the role of good practice sharing for policy choices and deployment also needs to be better understood and its impact in these areas better exploited.

Options: As already happens with the most advanced human resource systems, both eGovernment measurement and good practice sharing should be addressed by Member States and public administrations through much closer integration within the broader activities of the whole public sector. They should not be confined to simple ex-ante profitability or ex-post evaluation exercises, but should also be incorporated within planning activities, both in a long-term perspective (addressing future policy decisions) and in a short-term perspective (tactical positioning of a public organisation in the local, regional, national and/or European context). The EC is already very active in providing frameworks and support for both measurement and sharing, and needs to step up these activities to specifically pursue these objectives, in line with private sector state-of-the-art experience but better geared to the diversity of the European public sector in close cooperation with both these partners.

2. User take-up

Challenges: eGovernment services have not achieved their full potential mainly because of the continued low take-up rates registered among its constituencies. In the Efficiency and Effectiveness context, this challenge is particularly relevant for enterprises, and particularly SMEs which represent the EU's main productive base, and which should therefore be full recipients of the benefits made available by eGovernment.

Options: Member States should undertake more, more content-rich and more focused communication campaigns on the efficiency savings made possible by the adoption of eGovernment services for their B2G relationships. In this framework, the EU should operate initially as a strategic leader, then as a supporter of these communication activities and, from a long-term perspective, as a process facilitator, possibly using the Euro-Info Centres network to make entrepreneurs aware of the opportunities for savings provided by eServices.

3. 'Future-proof' systems

Challenges: As observed in the review of cases above, eGovernment services to date have been designed mainly to put already available pre-existing services online, often without the opportunity to add new functionalities once the system is running.

Options: The UK Directgov case, introduced above, highlights how the accurate design of eService architecture ensures longer life and further development opportunities. The adoption of flexible architecture schemes, together with back-office reorganisation efforts consistent with the launch of 'future-proof' services, would contribute to the achievement of some of the elements of the Efficiency and Effectiveness objective. On one the hand, internal efficiency savings would be ensured by the provision of new services through already established platforms while, on the other hand this system of rationalisation would ensure better results in terms of user satisfaction.

The challenges discussed above should be considered in the light of the EU Services Directive implementation, as this will certainly boost the achievement of Efficiency and Effectiveness objectives. However, the high level of compulsion required by the Directive, the strict deadline (2009), the implementation choices which need to be made (including the number of contact points per Member State, the choice of the responsible body, the centralised/ decentralised organisational option, legislation review, ICT- related aspects, etc.) all require much more research about the organisational impacts on public administrations and on coordination at EU and national level.

4 High impact services

4.1 Policy context: achieving impact through usage

High impact services make a significant difference to citizens, business and administrations, and good practice in this area can act as a flagship for European eGovernment. Identifying and implementing appropriate high impact services can serve to mobilise top-level commitment and create substantial demand for key enablers such as electronic identification and interoperability. The implementation of these services must focus on achieving measurable impact through widespread usage, not only on making services electronically available.

eProcurement is identified in the i2010 eGovernment Action Plan (European Commission, 2006a) as one such high impact service with a strong potential to achieve very substantial effects across borders and to make a significant difference to citizens, businesses and administrations. Between now and 2010 the EC has also set the task also of identifying and developing other such services which need to have a pan-European dimension and contribute strongly to the achievement of the Lisbon Agenda. These could include mobility services for citizens (such as improved job search services), social security services relating to patient records, electronic health prescriptions, benefits and pensions across Europe (eHealth), educational services relating to study abroad, eInclusion relating to ethnic groups straddling borders, company registration and VAT refunding for businesses. Opportunities should also be seized for synergy with the Structural Funds and local or regional development initiatives (see also EUReGOV, 2007).

eProcurement is the first high impact service to be agreed. It can improve and simplify the way in which government procurement operates, thereby helping enterprises to identify contract opportunities and to supply their goods and services across the EU's internal market, contributing to Europe's competitiveness and economic growth.

The EC formulated very clearly its aims on this topic in the eGovernment Action Plan: "*A high level of take-up of eProcurement is therefore highly desirable. Member States have committed themselves to giving all public administrations across Europe the capability of carrying out 100% of their procurement electronically (where legally permissible) and to ensuring that at least 50% of public procurement above the EC threshold is carried out electronically by 2010.". This will make "efficiency and effectiveness a reality; significantly contributing to high user satisfaction, transparency and accountability, a lighter administrative burden and efficiency gains; putting key enablers in place: enabling citizens and businesses to benefit from convenient, secure, and interoperable authenticated access across Europe to public services.*"

According to the eGovernment Action Plan, the Commission will take the actions shown in Exhibit 11 in partnership with Member States, the private sector and civil society.

Currently, eProcurement is also being strongly pushed through the 2007 ICTPSP[68] call (efficient and interoperable eGovernment Services) by the EC. Overall, the EC will contribute € 5-10 million for the realisation of a pilot in order to achieve interoperability. Cross-border eProcurement has been chosen as the first application to focus on, and will support the eProcurement Action Plan (European Commission, 2004c) as well as help accelerate Member State developments towards the realisation of cross border solutions. The legislative framework for the use of electronic means in public procurement entered into force in January 2006.

As Exhibit 12 shows the year high impact service policies came into force in European countries and

Exhibit 11 eGovernment Action Plan for eProcurement

2006	Agree with Member States on a roadmap setting measurable objectives and milestones and achieving 100% availability of public eProcurement and 50% take-up of eProcurement by 2010.
2007	Based on existing Member States solutions, or those under development accelerate common specifications of key elements for cross-border public eProcurement and launch implementation pilots.
2009	Assess pilots deployments and disseminate results across the EU.
2010	Review of progress of cross border public eProcurement applications in the Member States.

[68] The ICT Policy Support Programme (or ICT PSP) aims to stimulate innovation and competitiveness through the wider uptake and best use of ICT by citizens, governments and businesses (http://ec.europa.eu/information_society/activities/ict_psp/index_en.htm)

Exhibit 12 Policy and timetable for high impact services

Country	Year the policy came into force	How long it will last
Austria	–	–
Belgium	–	–
Bulgaria	–	–
Cyprus	2004	2010
Czech Republic	–	–
Denmark	2006	2012
Estonia	2007	2013
Finland	2006	2011
France	2004	2007
Germany	2003	–
Greece	2006	2013
Hungary	2006	2013
Iceland	2007	2009
Ireland	2002	2008
Italy	2007	–
Latvia	2003	2009
Lithuania	2002 / 2006	2010
Luxembourg	2005	Open
Malta	–	–
Norway	1999	2009
Poland	–	–
Portugal	2003	2010
Romania	–	–
Slovakia	–	–
Slovenia	2006	2010
Spain	2003	–
Sweden	2006	2010
The Netherlands	–	–
Turkey	2006	2010
United Kingdom	–	–

Source: National Progress Reports on i2010 eGovernment Action Plan, May 2007.

how long they will last. Many countries already have a policy regarding high impact services or related areas, the exceptions being the Czech Republic, Malta, Poland, Romania, the Netherlands and the United Kingdom. It is remarkable that in one third of countries policy regarding high impact services came into force before 2006. In the majority of cases it will take approximately six years to reach the policy aims. Almost 55% of countries have also identified and/or already put in place other high impact services, including eID, eHealth, taxation services, one-stop-shops, social security services, eInvoice, personalised portal for citizens, eCatalogues, access to a national supplier register, and access to eAuctions.

Regarding the policy on public eProcurement, Exhibit 13 shows how far countries had come in 2007 in moving towards the 2010 targets. Current use does not necessarily correlate with availability, as for example in Denmark, where, even though there is no broad availability, there is high use of the services. Latvia shows the reverse situation where eProcurement is 100% available, but use is currently low.

4.2 2005: the build-up phase

An overview report of European eProcurement (Castrillejo, 2006) showed that, in 2005, it was a key sector of the EU economy responsible for about 16% of GDP and providing substantial benefits. In 2005 quite a number of initiatives were already taking place, which provide interesting experiences but also technical guidelines, tools, and services that facilitate the development of systems compliant with EU legislation. To reach these goals the EU provided funding and organised working groups to share effort, and some results are seen today, for example in differentiated XML schemes as well as in standardisation in the form of conditions and constraints.

Exhibit 13 Progress towards Action Plan targets on eProcurement

Country	Percentage progress towards the 100% availability target	Percentage progress towards the 50% use target
Austria	0-25%	0-25%
Belgium	51-75%	26-50%
Bulgaria	0-25%	0-25%
Cyprus	0-25%	0-25%
Czech Republic	0-25%	0-25%
Denmark	0-25%	76-100%
Estonia	76-100%	0-25%
Finland	0-25%	76-100%
France	76-100%	26-50%
Germany	100% on federal level and close to a hundred regional level	
Greece	0-25%	0-25%
Hungary	26-50%	0-25%
Iceland	0-25%	0-25%
Ireland	do not know	do not know
Italy	76-100%	0-25%
Latvia	100%	10%
Lithuania	26-50%	26-50%
Luxembourg	100%	76-100%
Malta	0-25%	0-25%
Norway	26-50%	0-25%
Poland	do not know	0-25%
Portugal	76-100%	76-100%
Romania	26-50%	26-50%
Slovakia	do not know	do not know
Slovenia	26-50%	0-25%
Spain	do not know	do not know
Sweden	do not know	do not know
Netherlands	0-25%	0-25%
Turkey	0-25%	0-25%
United Kingdom	26-50% (Scotland: target reached)	26-50% (Scotland: target reached)

Source: National Progress Reports on i2010 eGovernment Action Plan, May 2007.
Note: '100% availability' means all administrations – national, regional and local – have an e-enabled eProcurement tendering process, and '50% use' means that half of the actors in the procurement process make active use of electronic public procurement

According to this overview report, the European eProcurement context was characterised along several perspectives in 2005, apart from those mentioned above deriving from the Manchester Ministerial Declaration and the Action Plan:

- **Legal context**: based on principles of non-discrimination, transparency, and fair competition.
- **The eProcurement Action Plan** (European Commission, 2004c) was launched in 2004 for the implementation of the legal framework for electronic public procurement. It included three axes: first, a well functioning internal market; second, greater efficiency in procurement; and third, improvement of governance and achievement of an international framework for electronic public procurement.
- **Guidance, tools, and services**: the presentation of background studies, functional requirements, data models, learning demonstrators (dynamic and static), and the implementation of a Publications Office to present services, e.g. for tender publications.

A number of important initiatives were also underway by 2005/06, including the IDABC Programme, the creation of standardisation bodies to support eProcurement, and Information Society Programmes. Several working groups on legal and standardisation aspects concerning eProcurement were in place:

- IDABC[69] eProcurement working group
- INFSO/eTEN[70] ad-hoc working group
- CEN/ISSS[71] workshops
- Publications Office – eSenders[72]
- DG Internal Market/Services[73] – Legal Advisory Committee.

The following interoperability challenges resulted from the perspective of 2005-2006, for most of which studies were commissioned:

- **Virtual company dossier** which is a set of required attestations, in electronic format submitted by the companies for selection. These attestations replace the paper certificates with electronic accreditation. In European tendering procedures, companies are required to submit certificates and attestations to prove compliance with selection and exclusion criteria. Therefore a virtual dossier may replace the paper certificates with electronic attestations.
- **eCatalogues**, product catalogues used in eCommerce and eBusiness, as a driver for standardisation and as a time saver for tendering suppliers. eCatalogues should improve tender evaluation by administrations and facilitate multilingualism.
- **eSignatures**: relatively widespread electronic signatures allow for the safe identification of the originator of a message and also guarantee the non-modification of documents. In practice, certification authorities do not recognise each other in all cases, creating identification hurdles.
- **Standards**: standards seem to be crucial in a wide range of eProcurement problems. In 2005-2006, standards and recommendations for eInvoices and eCatalogues existed, but more work had to be done in this domain, for example to bring together different standardisation organisations.

Research commissioned by the EC in 2004 (Ramboll Management, 2004) on the strategic scope of eProcurement initiatives in 23 European countries concluded the following:

- Levels of government involvement: nine of 23 responding countries involved all three government levels (central, regional and local) in their eProcurement strategy. Four involved two levels, and eight countries involved one level only (central/national). It is also noteworthy that some countries were in the planning phase and not in the realisation phase.
- Legal framework: six of 23 responding national governments mentioned that there is a national legal framework implemented.
- Allocated resources: there are different ways of financing eProcurement activities, the amounts used in practice vary from € 0.5 million to € 4 million. The research shows that, in addition to one-off investments, there are also annual costs resulting from implementation and platform operations.
- Timeframe: most governments had no clear time plan, which underlines the fact that eProcurement first took off significantly after 2005, as discussed below.

This and other research explored the status, systems and practices of eProcurement in eight Member States, the results of which are presented in Exhibit 14, and Exhibit 15 showing key aspects of the introduction of eProcurement and the way eProcurement introductions generate high impacts.

Exhibit 14 shows that different countries (or EU-wide) systems have focused on different procedures, and that in 2004 individual contract procedures were quite common, whilst repetitive purchasing and eAuctions were less developed. On the other hand, Exhibit 15 shows that the main phases supported by eProcurement platforms in 2004 were eNotification- and eTendering-processes, whilst support for eAwarding-, eOrdering- and eInvoicing/ePayment-processes is less evident. This means that from the viewpoint of 2004, future efforts should be in the more complex and more expensive eAwarding-, eOrdering-, and ePayment process areas. This is due to the complexity and the (technical, semantical) integration efforts of these processes, but also to the process cycle itself which begins with the eNotification process and ends with the eInvoicing- and ePayment-processes. However, the research also showed that it is the phases or processes covered which are important for generating (financial and qualitative) impacts.

In addition, the studies found that fragmentation resulted from lack of common standards and a homogenous legal framework, and that, solutions or platforms researched in 2004 were mostly based on commercial products and the different commercialisation strategies of the providers, rather than being driven by EU directives.

Several important examples illustrating the eProcurement state of play in 2005 are provided below.

[69] Interoperable Delivery of European eGovernment Services to public Administrations, Businesses and Citizens: http://europa.eu.int/idabc

[70] Europe's Information Society / eTrans-European Network: http://ec.europa.eu/eten

[71] European Committee for Standardisation / Information Society Standardisation System: http://www.cen.eu/cenorm/businessdomains/businessdomains/isss

[72] http://simap.europa.eu

[73] Internal Market and Services Directorate General: http://ec.europa.eu/dgs/internal_market

Exhibit 14 eProcurement procedures supported by reviewed systems

	Individual Contracts	Repetitive Purchasing	aAuction
MoD Belgium	JEEP		
AGM Denmark		DOIP/DOPEI	
MINDEF France	DPSM		
CONSIP Italy		Lotto 2	Lotto 1
GAS Norway	eHandel eSourcing (in progress)	eHandel eOrdering	eHandel eAuctions (in progress)
ePS UK-Scotland	DTC	PECOS	
DFPA Spain-Basque	eContractacion (in progress)		
OGC UK	eSourcing Services (in progress)		5 sAuctions services
CORDIS EU	EPSS		
DG ADMIN EU	SYSLOG Market		

(Source: Ramboll Management (2004)

Exhibit 15 eProcurement phases/processes supported by reviewed systems

	eNotification		eTendering		eAwarding		eOrdering		eInvoicing/ ePayment	
	Preparation of Notice	Publication of Notice	Q&A session	Submission of tenders	Tender evaluation	eAuction	eCatalogue	Placing Order	Invoicing Order	Paing Order
MoD Belgium	JEEP									
AGM Denmark						DOIP	DOIP			
MINDEF France	DPSM					DPSM Auctions	DPSM eCatalogues			
CONSIP Italy	Lotto 1		Lotto 1				Lotto 2			
GAS Norway	eHandel eSourcing (in progress)					eHandel eAuctions	eHandel eOrdering			
ePS UK-Scotland	DTC						PECOS			
DFPA Spain-Basque	eContractacion (in progress)									
OGC UK	eSourcing Services (in progress)					5 sAuctions services				
CORDIS EU		EPSS								
DG ADMIN EU	SYSLOG Market									

(Source: European Dynamics (2004)

SEAP, the Electronic System for Public Acquisitions in **Romania**,[74] represents an information technology infrastructure which enables public institutions to procure goods and services through a web-based front end. It started as a pilot project in March 2002 and initially included 159 public authorities and 7 product categories. By 2005, the system assisted almost 1,000 public authorities and more than 3,000 companies, and an extended system is currently being rolled out. The system has three major advantages: consolidating more efficient and transparent processes of public acquisitions by providing a single point of access through generally available means, simplifying participation in the public procurement processes through an essentially paperless environment, and providing information about the way in which public acquisitions are conducted by empowering any interested parties. SEAP implements open, restricted and catalogue-based acquisition procedures supported by a technical architecture characterised by flexibility, scalability and open standards.

The impact of the system indicates use by 3,300 suppliers, 1,000 contracting authorities, 80 categories of goods, thousands of products, 430,000 reverse auctions, 12 national programmes, over € 150 million in direct price savings (24.5%), as well as 20,000 visitors per month.

SEAP shows that eProcurement is a real solution to real problems. It demonstrates that openness has a strong influence on saving public money, and that changing the mentality of citizens about public institutions is viable if the efforts are aggregated. It also shows that encouraging the private sector to move to Government-to-Business (G2B) eServices has a positive impact on the overall economy, and that this must be an ongoing process continuously tuned to better serve users. SEAP simplifies the process of assigning public contracts, providing a unique opportunity to reshape a wide spectrum of relations between the public and private sector, and constituting a small but firm step towards openness and efficiency.

The Romanian experience is impressive for its time, showing that major savings are possible with the implementation of eProcurement platforms.

In the course of reform in the **Austrian** State Ministry of Finance, formerly decentralised procurement structures were reorganised at federal level. In January 2006 the Ministry established a web shop[75] which is unique in Europe as a highly modern eProcurement system being used by all federal authorities. Developed by commercial companies including IBM, the platform will finally be available for about 25,000 employees of the federal authorities as the biggest procurement platform in Europe. Already at this early date, test goods worth more than € 20 million were processed via the eShop, and more than 300 catalogues are now available so that even complex services can be easily obtained. The solution also ensures that during any process step relevant procurement legislation is observed.

Despite federal reorganisation, impacts include the promotion of regional suppliers, especially small and medium-sized businesses. Companies without electronic ERP systems can integrate their products easily into the shop via a PDF document. By e-mail they are informed about orders, and can approve them via the web portal. Small companies in particular thus acquire precious know-how about electronic business transactions. Suppliers with ERP systems can automatically exchange their data in XML format with the eShop. The workflow system ensures that companies can be sure all orders are authorised. Regional small and medium-sized businesses are supported by regional filters, so that for example in his/her eShop a teacher from the Tyrol sees mainly products of local suppliers. In this way the eShop offers increased opportunities for small suppliers.

This Austrian case shows the importance of integration with back-office systems, for example using Enterprise Resource Planning systems (ERP), which seem to be crucial for eProcurement implementation in achieving high benefits. Other key conclusions include the need for systems integration, data integration (catalogue data), eShop-integration, integration through standardised XML-schemes, channel integration, and process integration.

4.3 2007: from establishment to usage

After the build up phase of 2005, which mainly focused on planning and implementing high impact services (including 100% electronic availability), the situation in 2007 is focusing more on fully realising multi-channel (high impact) services and on laying the foundations for their usage (including 50% real use) by 2010. This will allow governments and their business partners to massively reduce bureaucracy, as a classic example of a win-win Government-to-Business (G2B) eService. The i2010 eGovernment Action Plan (European Commission, 2006a) specifies eProcurement as the first and currently most important high impact service for special early focus, although, as described above, other such potential services are also being examined.

From procurement to eProcurement

In 2007, the digitalisation of public procurement processes is still one of the most relevant instruments for achieving widespread impacts for:

- **Public administrations** which are the main beneficiaries of back-office reorganisation accompanying the introduction of digital public purchasing procedures which improves economic performance through a massive reduction of red tape, leading to sizeable efficiency gains both in terms of monetary and human resources.
- **Civil servants**, whose role is changed and eased by such back-office reorganisation.
- **Vendor companies** which benefit from the breakdown of information barriers that otherwise conceal advantageous business opportunities through access and language difficulties.
- **Citizens** who benefit from cheaper and higher quality goods and services purchased by public administrations, and from improvements in the relationship between governments and their constituencies, thus allowing the public sector to better

[74] http://www.epractice.eu/cases/1751

[75] http://www.epractice.eu/cases/1939

Exhibit 16 National Procurement Entities and eProcurement roll out, 2007

Country	National Procurement Entity (NPE)	National electronic portal and/or platform	Country	National Procurement Entity (NPE)	National electronic portal and/or platform
Austria	yes	no	Latvia	yes	yes
Belgium	yes	yes	Lithuania	yes	yes
Cyprus	yes	no	Luxembourg	yes	yes
Czech Republic	no	yes	Malta	yes	yes
Denmark	yes	yes	Netherlands	no	yes
Estonia	yes	yes	Poland	yes	yes
Finland	yes	yes	Portugal	yes	yes
France	yes	yes	Slovakia	yes	no
Greece	yes	yes	Slovenia	yes	yes
Germany	yes	yes	Spain	yes	no
Hungary	yes	no	Switzerland	yes	no
Ireland	yes	yes	UK	yes	yes
Italy	yes	yes			

Source: RSO elaboration, June 2007

respond to citizen needs and also to external, non foreseeable challenges.

The achievement of these potentially positive impacts, however, can be satisfactorily assessed only by examining the EU public procurement landscape in its broadest sense, thus encompassing also non-digital procurement. This identifies the link between procurement and eProcurement in the various national contexts and helps to understand differences and similarities among EU25 public purchasing systems.

Exhibit 16 shows that the vast majority of European countries have a specialised procurement agency or department in 2007 (a National Procurement Entity or NPE), but that fewer, although still a majority, also have a national eProcurement portal or platform. The mapping of procurement levels against available portals/platform shows that, while in 23 of 25 countries there is an NPE, the number of existing portals/platforms that can be directly or indirectly linked to these is less than 23.

The sophistication level of eProcurement systems appears quite diverse, with the majority being largely sources of information rather than full transaction, but there are also some advanced platforms, as the following examples illustrate.

In **Denmark** the national procurement agency is owned by the Ministry of Finance and the National Association of Local Authorities with the mission of coordinating procurement, performing tenders and negotiating a framework for contracts on behalf of all Danish public agencies. Since 1995, the agency has actively developed and implemented the ETHICS website[76] as an electronic tendering solution which has rationalised and reduced workflows, procedures and the size and complexity of the organisation involved. The system has been fully operational since 2005 and covers planning, drafting and publication of tenders, management of all associated processes, issuing and running online tenders in a secure way using the newest collaboration technology and digital certificates, assisting in the final decision and award process, as well as supporting virtual team rooms for external specialists, advisors and users.

The impact of the ETHICS system has brought about fundamental changes, including:

- Productivity has more than doubled, so that twice as many tenders are being run annually using the same number of staff.
- Quality and transparency have improved with the result that there have been no complaints or legal issues raised.
- Standardisation of the knowledge base used in running the organisation has meant that, despite a staff turnover of 50% over the last four years, new staff have adapted to the system easily and there have been no delays or disruptions to services.

In France, the 'Marchés-publics' eProcurement system is conceptually organised by user categories in order to facilitate transactional processes. The service meets the regulatory obligation of the public contracts code (Art. 56) which states that, since 1 January 2005, a public entity cannot refuse, within the framework of the formalised procedures, the sending of electronic answers by companies, which also complies with the recommendations of the European directives.

Seen from the user point of view, the system is a web site on which companies can find all the calls for tender published by the government, and which they can use to submit bids. It constitutes a single point of access to the contracts of the state and provides research and early-warning tools. Seen from the point of view of the public agent, the system is a back-office application which enables the management of any type of contract in accordance with the public contracts code.

[76] http://www.epractice.eu/cases/232

The service provides substantial time savings, and facilitates identification by companies of relevant contracts leaving them more time and scope to prepare a tender. Training, assistance and other support services are also available. Companies can now use a secure means of response to public contracts. In addition to traceability and transparency, the use of the platform makes it possible to make substantial economies on authentication and delivery costs.

In **Italy**,the online public tendering information system BANDI[77] facilitates:

- Online scheduling of all public tenders
- No cost access by any potential tenderer
- Internet broadcasting of any communication related to the assignment of public tenders
- Online management of each step of the contracting process (additions, possible changes, cancellation, etc.)
- Online correction and updating of publications
- E-mail communication of changes to all registered applicants
- Easy and transparent monitoring by the public administration of, for example, building progress, project variations, costs, etc.
- Collection and evaluation of statistical data.

Public tenders are published through the 'Civic Network of South Tyrol' Internet portal,[78] which is mainly targeted at South-Tyrol inhabitants, but is open to all interested enterprises and mainly used by north-Italian firms. All local public sector authorities in South Tyrol (municipalities, public health institutions, local administration etc.) use this information system on a regular basis. There are approximately 9,000 registered users who make regular use of the service, 1,000 of whom are civil servants whilst the rest are mainly enterprises.

In the **UK**, the Scottish Executive's 'e-Procrement Scotl@nd Service (ePS)'[79] pre-dates the Manchester declaration of 2005, and was the world's first national, public sector eProcurement service. ePS enables the entire Scottish public sector, including central government, local authorities and the National Health Service, to achieve substantial cost savings and efficiencies. This sits at the heart of the UK Government's Efficient Government agenda, driving forward public sector excellence focused on achieving the best value for government, for business and ultimately the people of Scotland.

The service is designed to play a key role in Scottish Ministers' aim of making Scotland the best and easiest place for suppliers to do business with the public sector, and provides a single technical standard for all suppliers, enabling them to work with the public sector whether they are SMEs or multinationals. This further benefits Scotland by helping to stimulate investment, employment and economic activity.

Initial implementation is fully completed, and ePS is now a live, functioning, eProcurement service. As far back as May 2005 the service was in use with almost 7,000 users in 40 public sector purchasing organisations. Over 4,000 suppliers have received orders via the service totaling more than £180 million. ePS is a fully hosted and managed 24x7 eProcurement service, with a national eProcurement team tasked with coordinating and supporting service roll-out. The programme team produces a regular newsletter covering progress, and also maintains the portal where the latest information is published.

In some countries, such as **Greece** and **Portugal** information portals are already active, but transactional platforms are still under construction. Most of the New Member States appear to be lagging behind in terms of digitalisation of public purchasing processes, with the noticeable exceptions of **Romania** (see above) and of the **Maltese** platform[80] which is already enabling transactions between the government and suppliers.

As mentioned, there are many differences between EU eProcurement systems. For example, in **Sweden** the policy decision has been not to establish an eProcurement portal/platform run by public entities but to leave this task to private players. A similar situation exists in the **Netherlands**, where currently no central eProcurement infrastructure for the public sector is in place. In **France**, on the other hand, there are two national level portals/platforms. The first as described above is the 'Marchés-publics' service, whilst the 'Achatpublic' service[81] is a public-private initiative established in 2003,.

Exhibit 17 shows the degree of implementation of the two main process phases of eProcurement by country. First, pre-awarding (which consists of eNotification, eTendering, eSubmission and the acceptance of eSignature), and, second, post-awarding (which is composed of eOrdering, eInvoicing, ePayments and the use of eSignature). The degree of implementation of eProcurement appears quite low throughout all Member States. Only Germany, France, Ireland and Latvia have at least one phase in full use. By contrast, almost a third of all Member States are at the beginning of the either the pre- or post-awarding phase.

In some countries, however, eProcurement can already be considered a success. This is where, because of existing eProcurement systems, it was easier to integrate contracting processes with the different internal processes of public administrations and suppliers.

Germany's 'e-Vergabe' platform[82] shows that with eTendering the duration of the negotiation processes could be significantly reduced due to 24/365 access to tender documents. e-Vergabe is an eTendering platform created in 2000/2001 by the Procurement Agency of the Federal Ministry of the Interior in Germany as part of the 'BundOnline 2005'[83] initiative. It is suitable for all types of tender procedure, and is based on a UNIX server architecture, with Windows-based java webstart clients which take over all en- and decryption.

The platform publishes all tenders, allows business enterprises to search for them, to communicate with the issuing procurement

[77] http://www.epractice.eu/cases/1015

[78] http:// www.provinz.bz.it

[79] http://www.epractice.eu/cases/129; http://www.eprocurementscotland.com

[80] https://secure.gov.mt/e-procurement

[81] http://www.epractice.eu/document/1057; http://www.achatpublic.com

[82] http://www.epractice.eu/cases/1930; http://www.evergabe-online.de

[83] http://www.epractice.eu/document/3355

Exhibit 17 eProcurement process phases by country, 2007

Country	Pre-awarding	Post-awarding	Country	Pre-awarding	Post-awarding
Austria	2	2	Iceland	1	2
Belgium	2	2	Italy	2	2
Bulgaria	2	2	Latvia	3	3
Cyprus	1	1	Lithuania	2	2
Czech Republic	2	2	Luxembourg	2	1
Denmark	1	2	Malta	1	1
Estonia	2	2	Netherlands	2	1
Finland	1	2	Norway	n/a	n/a
France	3	1	Poland	1	1
Germany	3	n/a	Portugal	2	2
Greece	1	1	Romania	n/a	n/a
Hungary	1	1	Slovakia	1	1
Ireland	3	2	Slovenia	2	1

Source: RSO elaboration, June 2007
1 = Beginning 2 = Implementing 3 = In full use

agency and to submit offers, and enables the award of a contract. The multi-client solution is shared by over 40 procurement agencies, and is the eTendering platform for all procurement bodies at the federal level in Germany as well as also being used by three federal states. The solution is open to regional and municipal authorities, with over 1,000 registered users on the buyers' side.

Before 2006, registration and accessing of tender documents required a smart card carrying a qualified eSignature. Since 2006 a software based certificate has been issued which can be used for communication but not for signing bids electronically. However, it is expected that during 2007 an advanced signature will also be in place for this purpose.

Achievements since the 2005 Manchester Ministerial Declaration

Since 2005, most European Member States have been blueprinting their own national roadmap for eProcurement, and have been introducing the necessary legal framework, as well as other prospective high impact services. Most countries have introduced eNotification and eTendering platforms and have analysed or even initiated other (pre-awarding) procurement processes.

Most progress seems to have been made in the **Northern Europe** Subset (NES)[84] as part of an exemplary cooperation agreement initiated by Denmark with Norway, Iceland, Finland, Sweden and the United Kingdom, which involves a working group for developing a subset of UBL 2.0 documents. The purpose of the NES subset is to facilitate the harmonisation of different types of eProcurement documents in countries that are already using UBL or that are considering using UBL 2.0 documents. This provides an opportunity to base eProcurement documents and processes on a coordinated NES subset.

The focus of NES is to define the specific use of UBL 2.0 electronic procurement documents domestically and between the member countries. The definition covers semantic interoperability within and between all business sectors, public and private. NES members are also closely involved in the international UBL 2.0 process. The first version of the Northern European implementation plan for UBL 2.0 was made available on 23 March 2007.

Such initiatives provide evidence that Europe is clearly on the way to create "*a fairer and more transparent market for all companies independent of a company's size or location within the single market*".[85]

However, there is still a lot to do in order to achieve the eProcurement Action Plan goals of December 2004 such as "*ensuring a well functioning Internal Market in electronic public procurement*" or "*achieving greater efficiency in procurement*" (European Commission, 2004c). The eProcurement roadmap for 2007 specifies the preparation of eProcurement pilots, the refinement of common specifications and the revision of the roadmap. In 2008, these pilots should be launched, in 2009, common specifications and building blocks should be put in place, in 2010 pilot results should be ready, and, by the end of 2010, operating and scalable cross-border ePP should be available.[86]

Between 2005 and 2007 significant progress has been made and most EU Member States have moved from strategic planning to operative actions. However, Member State roadmaps are not synchronised and their approaches differ quite significantly. As in many other concerted European activities, this is due to the differences in law, administrative organisation and administrative culture.

[77] http://www.epractice.eu/document/188

[84] See http://www.egovmonitor.com/node/3772

[85] Roadmap for public eProcurement for the implementation of the eGovernment Action Plan: http://ec.europa.eu/information_society/activities/egovernment_research/doc/his_roadmap.pdf

In 2005, there was a clear vision and some detailed plans and budgets. In 2007 there are many governance frameworks and operative platforms available and many countries are close to broad take-up, but dedicated efforts to ensure this take-up are indispensable for real economic impact. These efforts include the need for additional infrastructures whilst the capacity to achieve this varies widely between countries. However, the recent fast progress provides confidence that this can be achieved for all or nearly all Member States in the next two years, although an issue which might create some delay is lack of experience. Only after some general experience with practical eProcurement has been gained will it become clear whether the governance frameworks and the platform facilities will suffice to achieve the intended goals.

A second area of progress since 2005 concerns interoperability initiatives. Much conceptual work has been undertaken in the last two years, and the state of knowledge has improved considerably. Essentially, the key players now do understand the challenges ahead, but have not yet developed all the solutions. The actual synchronisation of national solution building and European solution planning is still rather loose. National solutions do not yet anticipate foreseeable Europe-wide solutions.

Finally, progress remains quite limited in the research sector. Key research topics such as the interplay between actual frameworks and platforms and future, already foreseeable transparency and compliance goals have not been investigated as profoundly as will be necessary to guarantee true sustainability of solutions.

The broader picture

The broader picture in 2007 is that national European activities and progress are being significantly driven forward by EU initiatives. However, this success is not mirrored by comparable progress with other high impact services. eProcurement is a quite lonely front-runner. Assessing this situation is, however, difficult. On the one hand, it may be concluded that some real success has been achieved through concerted and focused activities. On the other hand, it might be necessary in the future to broaden such EU initiatives given that national activities are so clearly linked to this European dimension.

4.4 High impact achievements: integrating value chains and user benefits

Three highlight examples of eProcurement are examined below in some depth, and although there are many other such cases, the three analysed here have been selected to show the range of achievements currently being made. This is followed by an overview of impacts in the high impact services area between 2005 and 2007.

Public private partnership: 'ehandel.no' (Norway)

The Norwegian Government has established a fully operational tool for electronic public procurement[87] operated by a private eProcurement service provider. It is part of an overall policy for a more modern and effective public sector, including the major goal of cost reduction in the procurement area, both in terms of prices from suppliers and more effective public procurement processes. The system has been operational since June 2002 and is available for all public sector entities at local, regional and national level.

Challenges and barriers

The main challenge was the large number (32 plus 433 municipalities) of public entities and of suppliers, each with electronic catalogues serving their customers (233 plus a further 260 in the process of connection), all to be included in the system. This was achieved by the integration of all actors and processes using a value chain approach, and focusing on using the most powerful eProcurement tools, as well as on cost-cutting and more efficient processes.

Achievements and impacts

By the end of May 2005, the financial turnover of 'ehandel.no' represented approximately 20% of total Norwegian public procurement, about € 2.9 billion out of a total of € 14 billion. The total throughput during 2005 was € 125 million, whilst the total throughput since start up in June 2002 is € 66.5 million representing a total of over 62,000 transactions.

Good practice lessons

The introduction of eProcurement takes more time and more resources than expected, both in the public sector and by its suppliers. Few of the challenges related to implementation of eProcurement are eProcurement-specific as such, as most can be related to organisational change management aspects of procurement functions and processes. The most important unique eProcurement related challenges are to provide buyers with relevant, correct and up to date information as a basis for the purchase decision. This implies a focus on:

- Making sure the relevant suppliers are included.
- The establishment of high quality eCatalogues.
- Functionality in the solution and user interface.

The use of a private company as the operator of the system has been a success so far, also because synergy effects are created with the operations of similar services in the private sector, thus reducing the risk to the public sector. Overall, legislation as such is not an obstacle, but an initial focus is necessary on improving regulations for general accounting and auditing. A future focus on the

[87] http://www.epractice.eu/cases/1894: http://www.ehandel.no

new EU public procurement regulations and national implementation is also essential.

It is important to realise there are no quick wins. Good services require the interplay of many different perspectives and disciplines. They should obviously serve more than one stakeholder, and it is critical to work within the right timeframe in a particular scenario, neither too fast not too slow. Ambitious objectives seem to be very important. What appears to be most important is cost reduction combined with efficiency gains in the government value chain through highly integrated purchasing services, enabled, for example, by marketplaces, auctions, and the integration of ERP systems.

Single Face To Industry: SFTI (Sweden)

The Single Face to Industry (SFTI) public sector eProcurement system[88] is a joint effort of many Swedish local authorities, county councils and government authorities, with representation from all three levels (local, regional and national government) under the leadership of the Swedish Association of Local Authorities. The focus of work has been on the development of common specifications, encouraging joint systems development and implementation, ensuring interoperability, and marketing and awareness activities related to electronic procurement,

Challenges and barriers

It was appreciated from the outset that companies cannot be expected to implement different solutions for different buyers, and that a common standard would be needed in order to provide a service for all parties: buyers, suppliers and ICT solution providers. The process must follow those standards that have been produced and adopted under the SFTI concept. A 'single face to industry' means that the public sector should act in a unified way as regards the private sector. The same standards must be used regardless of the party concerned.

Achievements and impacts

A large number of achievements have been made over the last few years, including the development of standard business processes, messages, and data for different scenarios, and the development and implementation of a common IT solution for public authorities and businesses, achieved in partnership with the Swedish IT Companies Association. An awareness raising programme through conferences, seminars, news bulletins, etc., targeting local authorities, government agencies, professional and other statutory bodies, has ensured the dissemination of the results of the project. There have also been activities involving the EC to disseminate the project and encourage replication of the model in other EU countries.

Early impacts were in the post-contract phases of procurement where savings were made on the administrative side by merely creating system support for the automatic matching of invoices against orders. When this was combined with a review of the logistic flows and organisation of work, more significant savings came from business process re-engineering and then economies of scale in buying and selling.Over 50% of local authorities are now using SFTI, with none saying that they regret doing so. Of the remainder, 95% are planning to join in.

Good practice lessons

The main lesson is that it is vitally important for small to medium-sized companies in particular, to start trading electronically, and that they discover the advantages of electronic commerce and are given the potential to do it. There are also a number of important organisational requirements or success factors for the implementation of eProcurement. These include strong partnerships within the public sector and with the private sector, process re-organisation, and, last but not least, organisational learning. The nature of changes requires strongly committed and persistent leadership. Efforts are required in three operational areas. First, legal statutes and matters to do with the regulatory framework. Second, disseminating the service through training and information as broadly as possible, including to small and medium-sized companies: And, third, technology and standardisation issues where the purpose is to identify user requirements, agree on standards and have the resulting specifications recognised among the various industries and groups of users. Also, a European or international perspective, openness and wide recognition of specifications are crucial.

Regional interoperability: PROCURE (France)

The eProcurement Platform PROCURE in Burgundy (e-Bourgogne),[89] is a portal aimed at more than 2,000 public authorities and institutions in the administrative region of Burgundy in the east of France. Through the portal, public bodies can post calls for tenders and potential suppliers can access them and respond. PROCURE was piloted with the support of the French government as part of France's ADELE plan for eGovernment, and launched as an operational service at the beginning of 2005.

Challenges and barriers

The main challenges have been the need to achieve both organisational and technical interoperability. The public bodies registering with e-Bourgogne must adapt their processes to the transactional service, and the different stages of the procurement procedure must be

[88] http://www.epractice.eu/cases/239; http://ehandel.skl.se

[89] http://www.epractice.eu/cases/1925

interoperable. A common governance and organisational model (GIP) and an open source solution were adopted to meet these challenges (see below).

Achievements and impacts

As at 29 May 2007, 726 public bodies and more than 8,500 suppliers were registered as members of e-Bourgogne. More than 7,500 tenders have been published and more than 14,000 procurements have been completed since the beginning of 2005. There have also been more than 120,000 downloads of proposal documents since the beginning of 2005.

The benefits experienced by the agencies include money saved on each procurement, time savings, improved collaboration, better data quality and higher qualitative results. Supplier benefits include faster service delivery, saving time, and increased satisfaction due to the service being better aligned with supplier requirements. In 2007, e-Bourgogne won the prize for the best regional open source application in France (Lutèce d'Or).

Good practice lessons

e-Burgundy is the most significant achievement in France for sharing a common platform among more than 1,000 local public entities, demonstrating significant intra-regional interoperability. The key factor for such an achievement is the common governance and organisational model (GIP) involving a shared vision and values, and a technical approach which ensures interoperability but also allows local adjustments. The case illustrates how important organisational aspects are, and that these require significant time and change management efforts.

Another key element is the reusability of software components based on open source standards (OSS). The technical platform and associated service (hosting, hotline and maintenance) is provided by a national French service provider, as well as local specialised companies. Using the OSS standard, a European structure can be created for wide dissemination. Currently, e-Bourgogne, and in particular the tendering platform, aims to be the role model for the implementation of such platforms for other regions with which Burgundy has close relations, including the Uddevalla Municipality (Sweden), the Catalonia Region (Spain), the Brittany Region (France), the Central Bohemia Region (Czech Republic) and the Guadeloupe Region (French overseas territory), for which European support is being sought. Based on an analysis of the European market which considers legal environments, market structures and the competition landscapes, the procurement platform will be made scalable to meet different conditions across these regions.

Summary of impacts and achievements 2005 – 2007

The analysis and evidence presented above shows very considerable progress in both European-level and national eProcurement between 2005 and 2007. The main conclusions on impact and achievements are:

1. Overall, European eProcurement is now **progressing quite well**, with most national European activities and progress being significantly **driven forward by EU initiatives**. However, some of the final and possibly most difficult hurdles remain, such as full take-up which can be achieved only through stimulating pan-European eProcurement and by linking to future transparency and compliance frameworks.

2. The broad picture of European eProcurement is still quite varied, and it is necessary to distinguish between rolling out services and their actual impact. Several European Member States have reported **significant cost savings** for public administrations, although the services responsible for these savings are rather diverse, but the focus is clearly on **government-to-business services**: such as eProcurement, ePublication, eInvoicing, and eTaxation. In addition to financial savings, **qualitative improvements in efficiency and effectiveness** have been reported as a dramatically increasing number of companies use these services.

3. Overall, impact has been impressive in many individual cases and is indeed often financially measurable. However, a **broad impact is not yet visible** across many areas of government. The main difference between the situations in 2005 and 2007 is that the number of platforms for government-to-business eGovernment with a high user acceptance has significantly increased.

4. There are **strong differences between European countries** in their achievements and in the detailed problems they face due to different legal and administrative traditions and stakeholder situations, although general problems are quite similar. These differences are due to the huge complexity of implementing services with real impact which requires the interaction of many stakeholders, the cooperation of many disciplines and the carrying out of many tasks in parallel. In some countries, a legal basis is missing or is dispersed and inconsistent. In many countries, the key enabling technological infrastructure for future global use is not yet in place. In some technological areas, the market situation has not yet settled, such as for electronic identity. The sustainability of existing solutions is sometimes unclear, while, in other cases, existing elegant technical solutions have not achieved broad acceptance from public administrations or citizens. This whole array of problems leads to the development of many stand-alone services, which

create only local impact and further compound the challenge of providing interoperable solutions.

5. The main lesson learned is that **the success of new services heavily depends on the benefits of the users**. More indirectly, the progress of work done depends on whether there is a working logic for participating authorities. So far platforms focused on one clear benefit but open to widespread usage have performed best. This should be kept in mind in future activities.

4.5 Future challenges: key enablers, new services and user-orientation

Despite the clear and significant progress of eProcurement between 2005 and 2007, evidenced in this section, there still remain important gaps, problems and challenges for the future of high impact services which need to be tackled.

1. Putting in place and integrating key enablers

Challenges: A major aspect of current planning concerning eProcurement by EU Member States is putting in place key enablers such as electronic identity, and integrating existing solutions with key enabling infrastructures. On the one hand, in many cases the focus has been on fast development, as progress should not be blocked whilst key enabling technology is being put in place. On the other hand, there is increasing awareness of the importance of three critical issues: interoperability of processes, global and universal service access, and users' trust and risk perception. This requires the integration of services with emerging key enabling technology infrastructures and existing application systems. Although privacy protection, interoperable security, and compliance have been on the agenda for research, development and good engineering for many years, they still present far from trivial challenges.

Options: There are two alternative options. Either Member States may add integration step-by-step, as is mostly the case at present, or they may develop a national government architecture, which is mandatory for all future implementations. Such architecture must comprise an infrastructure plan and a government application integration concept which are both compatible with the upcoming EIF 2.0 and related frameworks. The second approach appears the most suitable since it guarantees sustainability and allows for more democratic transparency.

2. Defining 'new' high impact services with broad impact

Challenges: To date, there has been a strong focus within the high impact service area on eProcurement, but this must now be enlarged in scope. For the choice of services, the focus has to be on holistic impact as it is observed by all stakeholders. eGovernment ought to create positive effects for all and in all areas of life. If solutions for one stakeholder in one particular area are created, the risk is high that the impact remains isolated. Instead services should be selected and implemented which address several areas of life and several stakeholders simultaneously. In particular, they should create benefits for both users and civil servants. In this way acceptance on both the demand and the supply side is likely, which is necessary for self-organised customisation and fast success. Similar to the issue of eProcurement in the last two years, it would be best if all EU Member States could agree on the same next-generation high impact services. This approach has been very successful with eProcurement and should be followed for other high impact services.

Options: All eGovernment services across Europe could potentially be considered as high impact services. However, attention should be focused on the five European Union freedoms: the free movement of people, services, goods, and capital, as well as the freedom of establishment. The key question is, which services have the greatest potential impact on these freedoms? Since uniform implementation across Europe is hardly possible due to the high heterogeneity in law and administrative culture, the answer is likely to be local services related to these five freedoms, most of which will need to be accessible across borders These could include mobility services for citizens (such as improved job search services), social security services relating to patient records, electronic health prescriptions, benefits and pensions across Europe (eHealth), educational services relating to studying abroad, eInclusion relating to ethnic groups straddling borders, company registration and VAT refunding for businesses. In most cases there are two options for service delivery to foreign citizens (whether immigrants or visitors, both actual and intended) or to enterprises from European Member States moving or operating elsewhere in the EU. First, making one Member State's services accessible across borders, which could involve the use of different languages as well as adaptation of content to suit different foreign contexts and different foreign users. Second, citizens or businesses from one Member State travelling or moving to another Member State and needing to take digital data and digital certificates with them, which implies cross border standards (both technical and in terms of rules and regulations) to ensure compatibility with the service context and the institutions in the other Member State.

3. Offering user-oriented services

Challenges: High impact services should not focus on what technology is able to offer, but rather on what people want and what they can indeed use. Needs and capabilities differ strongly among stakeholder groups and

within stakeholder groups. Consequently user problems differ as well. They are particularly severe for the foreign users of services. An examination of the eProcurement landscape in 2007 reveals that some strategic planning has been holistic, but that implementation has not yet achieved this perspective. It is therefore important that user experiences are monitored and that perspectives and experiences are exchanged among EU Member States. This will speed up the development of holistic solutions and properly exploit the lessons learned for the implementation of the next generation of high impact services.

Options: Users in their actual usage context should be at the centre of design activities. This goal can be addressed at the level of design, at the level of testing and trials, or at the level of impact evaluation. In order to address the challenge at the design level, situated design approaches which additionally address the interplay between the usage contexts of different actors should be used. The key to success is to achieve perceivable benefits for all users without creating too much complexity. This requires a permanent focus on conceptual simplicity and architectural clarity. The involvement of usability experts in the early planning and design phase is indispensable. Furthermore, end-user tests and trials with well-defined user subgroups are highly recommended, as are regular evaluations of service usage and impact. In addition, focused European benchmarks should be developed based on a clear view of pan-European service usage.

5 Putting key enablers in place

5.1 Policy context: creating the foundation

eIDM (electronic identity management) is repeatedly specified as one of the key enablers for electronic government in several EU policy documents, as are interoperability and open standards. In 2005, the EC's i2010 Strategy stressed that eGovernment Identity Management in EU Member States should be addressed and that particularly attention should be paid to interoperability issues as well as future needs, without ignoring differences in legal and cultural practices and the EU framework data protection. (European Commission, 2005a) The eGovernment Action Plan, building on the i2010 Strategy set the objective that "*By 2010 European citizens and businesses will be able to benefit from secure and convenient electronic means, issued at local, regional and national levels, and complying with data protection regulations to identify themselves to public services in their own or in any other Member States*". (European Commission, 2006a)

eIDM

EU Member States have agreed that secure and convenient electronic identification is not merely a national, but also a pan-European, concern, and that safe access to services should be available EU-wide. Thus, EU governments have made the commitment to facilitate the development of pan-Europe eIDM by establishing secure systems for the mutual recognition of national electronic identities for public administration websites and services. The eGovernment Action Plan foresees full implementation by 2010.[90] In order to align activities and developments with regard to the provision of identity services across borders and sectors, the Member States signed up to the 'eID Timeline'.

While the 'eID Timeline' is provisional at this stage, its purpose is to identify a number of key building blocks for the development of a pan-European eIDM system, and to set a number of specific milestones on the way to the final objective of "*secure means of electronic identification (eID) that maximise user convenience while respecting data protection regulations*" by 2010. This includes the development of authentication models and levels plus the definition of terminology and eID by 2007. Member States also signed up to the implementation of a common eID framework for the equal treatment of national solutions by 2008, and the development of eID role management, personal data ownership models and federated eID management ensuring mutual recognition of national eIDs in Europe by 2010.[91]

In order to achieve the ambition as expressed in the eGovernment Action Plan for 2010 the EC published a Roadmap in 2006 that identifies concrete building blocks, specific milestones, and actions that need to be undertaken[92]. In summary, the key principles for a pan-European eIDM system are[93]:

- The pan-European eIDM system must be secure, implement the necessary safeguards to protect the user's privacy, and allow its usage to be aligned with local interest and sensitivities.
- Each Member State should be able to identify users within its borders, if it wishes to allow them access to eIDM services abroad.
- Each Member State should issue the means to each user to identify and authenticate him/herself electronically, if it wishes to allow him/her access to benefits from eIDM abroad.
- Each Member State should provide the means to manage the competencies of the identified users within its borders, insofar as these authorisations are not subject to approval by or on the authority of another Member State.
- Each Member State should support online validation mechanisms of identities, competencies and mandates, if it wishes to provide eIDM services.
- High-level consensus must be established between Member States on an eIDM terminology in order to guarantee conceptual/semantic interoperability.

To date eIDM has been defined, not only on a European level but also in terms of national policy. The results of a recent European survey[94] show that the large majority of the countries have formulated a policy on eIDM related topics, as shown in Exhibit 18:

[90] http://ec.europa.eu/information_society/activities/egovernment_research/doc/eidm_roadmap_paper.pdf

[91] http://europa.eu.int/information_society/eeurope/i2010/index_en.htm

[92] http://ec.europa.eu/information_society/activities/egovernment_research/doc/eidm_roadmap_paper.pdf

[93] The Roadmap does not seek to impose any technical, organisational, legal or infrastructural choices that limit the Member States in pursuing their own eIDM competences and prerogatives; the autonomy and responsibility of Member States to pursue their own eIDM goals and make appropriate arrangements remain unchallenged.

[94] National Progress Reports on the i2010 eGovernment Action Plan, submitted to the EC in May 2007

Exhibit 18 Percentage of Member States with policies on eIDM related topics 2007

Policy area	Percentage of Member States
eIDM policy	92%
eDocument policy	57%
open standards policy	71%
interoperability policy	78%
open source policy	53%

(Source: National Progress Reports on the i2010 eGovernment Action Plan, submitted to the EC in May 2007)[95]

Some respondents mention other key elements of their eIDM policy such as information security (Norway), data sharing (United Kingdom) and centralised and standardised infrastructures (Luxembourg). The fact that some countries do not have a policy on every specific eIDM element (such as Norway, Finland and Poland), does not necessarily imply that these countries are lagging behind. Some of these countries are among the front-runners – and are already in an advanced stage of establishing eIDM – and therefore no longer require certain policies as for example on eDocuments. In most countries a wide variety of different eIDM systems are being developed and deployed, resulting in significant fragmentation and a user-unfriendly environment, as well as leading to unnecessary administrative burden for citizens and businesses. Therefore, in several countries policy has been adopted to overcome fragmentation and to develop one eIDM solution for all government services.

Interoperability and standards

The introduction of eGovernment, and, in particular, value added services using ICT, has great potential for improving the internal processes of public sector organisations, but also for the benefit of those businesses and citizens which interactive with these. However, a number of questions arise when dealing with the implementation of electronic government services, including how to implement service and whether they should be autonomous or subsidiary at a local, regional or national level? What are the differences between existing services? Are these differences important or even necessary? What is the cost of market fragmentation and what services need to be interoperable and should services be integrated at local, regional, national, pan-European, cross-border, etc., level? Interoperability is therefore key if stakeholders are to reap the benefits of increased efficiency and effectiveness, feel integrated as part of the information society, and participate in the decision-making and the political process.

The importance of interoperability manifests itself in the need for systems to communicate and exchange data in a meaningful way. This is illustrated by the optimisation of existing and future system development in order to increase efficiency and productivity though cooperation, the interchange of data though, for example, the minimisation of double entries and work or the adoption of common standards and architecture. With respect to interoperability, standards and architecture can be assisted though open standards systems. (Meyerhoff Nielsen, 2006)

This importance is also evident from the high priority given to eGovernment actions in the eEurope 2005 Action Plan. Also, at the Ministerial Conference held in Como in July 2003 Ministers recognised that the "*…Cooperation required to develop pan-European services depends in part on the interoperability of information and communication systems used at all levels of government…*", with the resulting eGovernment Communication (European Commission, 2003) identifying the need for the development of an interoperability framework to support the delivery of eGovernment services to citizens and enterprises.

The importance of interoperability as a key enabler becomes even more apparent when its absence is considered. The MODINIS Study on Interoperability at Regional and Local Level published in April 2007 (MODINIS, 2007) emphasised this point when highlighting that the lack of mutual recognised and interoperable ID cards results in citizens not being able to access information and integrated public services. Thus, users have to contact different public authorities for different services. In reality, the mobile citizen and international businesses face a lack of mobility as the absence of interoperability results in de facto technological islands at all levels of public administration, unnecessarily limiting the value and impact of information systems and service provision.

5.2 2005: identity, interoperability and standards

eIDM

In 2005, the MODINIS Study on Identity Management (MODINIS, 2006) conducted a Europe wide comparative research on identity management. The aim of the study was to build on national expertise and initiatives in order to progress towards a coherent approach in eIDM in Government in the EU, and to assess the status quo of IDM (including eIDM) systems in Member States.

[95] Also drawn on MODINIS (2007) and on national eIDM documents and information on eIDM systems provided through government websites. Information not available for all 30 countries.

The majority of Member States in 2005 had chosen to develop and implement PKI based or eID card eIDM solutions, some were planning to use biometrics, such as the Netherlands, France, Germany, Spain and the United Kingdom, while others were already in the roll-out and usage stage of biometrics including Italy, Slovenia and Sweden.[96] The main conclusions of the study were that, in 2005, three levels of IDM solutions prevailed in the Member States. That is, one third of Member States fell within one of three different categories. Countries with no eID card included Cyprus, the Czech Republic, Denmark, Greece, Hungary, Ireland, Luxembourg, Malta and Slovakia. Countries in which eID cards were planned included the Netherlands, France, Germany, Latvia, Lithuania, Poland, Portugal and the United Kingdom, and countries in which eID cards were available to the public included Austria, Belgium, Estonia, Finland, Italy, Slovenia, Spain and Sweden.

The **Danish** digital signature project[97] is a PKI based non-card based initiative forming part of the Danish eGovernment programme, which was launched in order to meet the increasing demands of modernisation and development in the public sector. This development can be achieved by introducing electronic services to citizens and companies, which by utilising the digital signature facilitates the secure exchange of confidential and sensitive data. As of early 2007, there were approximately 875,000 electronic signatures in use, and although this was somewhat short of the objective of at least 1.1 million digital signature certificates, it fulfilled the OCES standard for citizens, workers and businesses by the end of 2006. The initiative is also intended for the private sector to use for eBusiness, eBanking, etc., but results have been slow to materialise partly because the public digital signature project is in competition with the private banks net banking ID system which is widely used for eBusiness in Denmark. Currently, the vast majority of digital signatures have been issued to private individuals. Some argue that take-up is restrained as only people with a Danish CPR (Central Personal Register) number and companies registered in the Danish central business register may have a digital signature.

The levels varied greatly in sophistication, conceptual approach and technical choices. The study also found that countries had not advanced their eGovernment IDM infrastructure at the same pace (see Exhibit 19) and distinguished between four phases:

1. Conceptual/Design: Member States in this initial phase have not yet deployed any large scale IDM solution, but are still examining the available solutions.
2. Development/Roll-out: The second phase consists of the actual development and deployment of the solution. Member States in this phase have (virtually) completed the design work, but have not yet established a significant user base, nor are popular and publicly accessible services yet available.
3. Update/Review: In the third phase, existing IDM solutions are being reviewed and modifications/ updates are being considered. This is typically the case with Member States that have deployed basic solutions (e.g. username/password portals) several years ago, and which are now looking to refine such solutions, e.g. through the integration of PKI.
4. Consolidation: In this final phase, only minor modifications to the existing IDM infrastructure are considered, but the infrastructure in itself is considered to be fairly mature, and presents a longer term solution.

While all Member States had a certain level of diversification in offering services at the most suitable level, some Member States placed a broader emphasis on local services (see Exhibit 20). (MODINIS, 2006) This can be useful, as it allows the most suitable regional level (e.g. municipality, province, community, national, etc.) to provide necessary services, thus ensuring that these show a clear and immediate link to the needs of its user base. However, the disadvantage of such a decentralised approach is that a great diversification of services could confuse the user base.

Exhibit 19 Phases of eIDM systems for each Member State 2005

Conceptual/Design	Development/Roll-out	Update/Review	Consolidation
Cyprus	Germany	The Netherlands	Austria
Czech Republic	Latvia	France	Belgium
Greece	Lithuania	Ireland	Denmark
Hungary	Portugal	Malta	Estonia
Luxembourg	United Kingdom	Slovenia	Finland
Poland			Italy
Slovakia			Spain
			Sweden

Source: MODINIS (2006)

[96] https://www.cosic.esat.kuleuven.be/MODINIS-idm/twiki/bin/view.cgi/Main/NationalProfiles

[97] http://www.epractice.eu/document/3318

Exhibit 20 Local/central service solutions 2005

Only centralised services/incidental localisation	Significant local eGovernment projects	Unknown
Austria	The Netherlands	Cyprus
Belgium	Estonia	Czech Republic
Denmark	Finland	Germany
Ireland	France	Greece
Luxembourg	Italy	Hungary
Malta	Portugal	Latvia
		Lithuania
		Poland
		Slovakia
		Slovenia
		Sweden
		United Kingdom

(Source: MODINIS, 2006)

Exhibit 21 Interoperability initiatives and action plans

Countries with interoperability initiatives and action plans (20/30), 2005			
Austria	Greece	Luxembourg	Sweden
Belgium	Hungary	Malta	United Kingdom
Denmark	Italy	Poland	
Estonia	Ireland	Slovakia	
Finland	Latvia	Slovenia	
France	Lithuania	Spain	

Source: MODINIS (2006)

Interoperability and standards

Exhibit 21 shows that by 2005 a large number of Member States had in place eGovernment action plans, either with a general focus on ICT in public administration or with a more specific focus on, for example, document management or the introduction of national portals, although not all of these covered interoperability..

A number of examples illustrate the different approaches taken by countries in Exhibit 21:

The **Greek** Information Society Committee in 2002 published a specific eGovernment Interoperability Framework[98] basing it on the outcomes of relevant European and International initiatives This year also saw the publication of Germany's Deutschland-Online,[99] a joint strategy providing the framework for cooperation between all public administrative levels in a federal setting and a forerunner to the Federal Government's 2005 BundOnline eGovernment strategy which focused on the need for interoperability policies through the Standards and Architectures for eGovernment Applications (SAGA) initiative. (MODINIS, 2006)

Denmark published its first version of its eGovernment Interoperability Framework in 2003[100] and this acts as a de facto 'Reference Profile' and lists technical policies and specifications proposed by the government. Also France, with the ADELE (Administration ELEctroniques)[101] strategic programme, its Interoperability Framework (RGI/RGS) and PRESTO protocol (PRotocole d'Echange Standard Ouvert – Open standards for Exchange Protocol) has formalised interoperability between administrations with the latter also endorsing a transfer protocol between European Partners. (MODINIS, 2006)

Other countries had also published specific eGovernment Interoperability Framework, such as the **Belgian** BELGIF initiative[102] which included an initial list of open standards proposed for use by public sector organisations and aim is to promote interoperability at national and European level. Whereas **Hungary**, as a supplement to it 2003 Government Resolution on the Hungarian Information Society (HISS),[103] in 2004 prepared a study which included the concept of the Hungarian eGovernment Interoperability Framework (HeGIF) and included the setting up of a the HeGIF portal.

[98] http://www.epractice.eu/document/3364

[99] http://www.epractice.eu/document/3355

[100] http://www.epractice.eu/document/3318

[101] http://www.epractice.eu/document/3345

[102] http://www.epractice.eu/document/3282

[103] http://www.epractice.eu/document/2794

Exhibit 22 Phases of eIDM systems for each Member State 2007

Conceptual/Design	Development/Roll-out	Update/Review	Consolidation
Cyprus	Germany	The Netherlands	Austria
Czech Republic	Hungary	France	Belgium
Greece	Latvia	Ireland	Denmark
Luxembourg	Lithuania	Malta	Estonia
Poland	Portugal	Slovenia	Finland
Romania	United Kingdom		Italy
Slovakia			Spain
			Sweden

(Source: National Progress Reports on i2010 eGovernment Action Plan, submitted to the EC in May 2007)

Spain through its Higher Council for Electronic Administration has been promoting interoperable systems and applications since the mid-1990s. The System of Applications and Networks for Administrations enables and guarantees the exchange of application and intergovernmental cooperation by linking structures and elements facilitating interoperability for government communication infrastructure, services and information. The Public Electronic Access to Public Administrations Bill tackles the issue of cooperation between public administrations and government bodies, and the drive behind eGovernment, by defining cooperation mechanisms between the State, Autonomous Regions and Local Entities, and dedicating a chapter to interoperability.

Transformational Government Enabled by Technology document published by the **United Kingdom** Cabinet Office in 2005 sets out the UK Government's strategy for transforming public services using information and communication technology. The eGovernment Interoperability Framework (e-GIF)[104] setting out government policies for interoperability ICT systems coherence across the public sector. E-GIF is continuously updated and a registry is available through the GovTalk website. In addition a National Strategy for Local eGovernment was launched in 2002 by the Office of the Deputy Prime Minister (ODPM) with a portal established to support the Local eGovernment Strategy programme.

A different approach had been taken by **Cyprus** which does not at present have separate or explicit strategies for interoperability or the use of open source and standards, but which nonetheless has embedded it in the national Information Systems Strategy. (MODINIS, 2007)

At the European level, the EU in 2004 published the European Interoperability Framework (EIF 1.0)[105] to support the pan-European delivery of electronic government services. This has become the reference document on interoperability for the IDABC programme,[106] and represents the highest-ranking module of a comprehensive methodological tool kit for implementing pan-European eGovernment services. As such, the EIF was – and still is – extremely well received in Europe where many Member States have adopted interoperability frameworks and guidelines or initiated similar work. Also, EIF is often considered as a reference document when the interoperability issue is discussed and this excellent reputation even goes beyond European boarders. The EIF covers three main interoperability areas: technical, semantic and organisational.

5.3 2007: further progress with a need for impact assessment

eIDM

From the overview of current development phases of the eIDM systems for each Member State (see Exhibit 22) it is clear that the differences in stages of eIDM development and deployment between countries still are substantial. Whereas some Member States have a relatively long tradition in operating an eIDM infrastructure, others are still in the early phases.

When comparing the 2007 survey (Exhibit 22) with the MODINIS IDM study conducted in 2005 to 2006 (see Exhibit 19) (MODINIS, 2006), almost no significant changes in development stages of national eIDM systems can be found. In general, this can be explained by the fact that the development and implementation of eIDM projects are relatively complex and entail considerable time for development and implementation. Furthermore, Exhibit 22 shows an 'eIDM development gap' between Eastern and Western Member States as well as 'new/candidate' and old EU members.

The **Maltese** government issues electronic identities in the form of certificates to its citizens, which can be used for various eGovernment services as part of the MyGov initiative.[107] The eID is not incorporated into an ID card yet, but is a certificate that Maltese citizens can use to identify and authenticate themselves when accessing certain public services. The eID must be requested in person at a District Office of the Department of Social Security with a copy of their paper ID card and a

[104] http://www.epractice.eu/document/3217

[105] http://ec.europa.eu/idabc/servlets/Doc?id=19529

[106] Decision 2004/387/EC "Decision of the European Parliament and of the Council on Interoperable Delivery of pan-European Services to Public Administrations, Businesses and Citizens (IDABC) (http://europa.eu.int/idabc/)

[107] http://www.epractice.eu/document/3503; http://www.gov.mt/index.asp?l=2

[108] National Progress Reports on i2010 eGovernment Action Plan, submitted to the EC in May 2007

Exhibit 23 Citizen users of eIDM systems (% of the population) 2007				
0-10 %	**10-20 %**	**20-30 %**	**30% +**	**No Answer**
Bulgaria (1%)	Denmark (16%)	Belgium (28%)		Austria
Czech Republic (3%)		The Netherlands (31%)		Cyprus
Estonia (5%)		Norway (not specified)		France
Finland (0.2%)				Germany
Greece (not specified)				Ireland
Hungary (<1%)				Luxembourg
Italy (0.1%)				Malta
Latvia (0-0.1%)				Poland
Lithuania (6%)				Portugal
Slovenia (not specified)				Romania
Spain (1.3%)				Spain
Sweden (10%)				Turkey
				United Kingdom

(Source: National Progress Reports on i2010 eGovernment Action Plan, submitted to the EC in May 2007) [109]

Exhibit 24 Business users of eIDM systems (% of the population) 2007				
0-10%	**10-20%**	**20-30%**	**30% +**	**No Answer**
Bulgaria (3%)	Czech Republic (12%)		Norway (not specified)	Austria
Estonia (10%)	Ireland (12%)		Denmark (80%)	Belgium
Finland (6.4%)	Italy (10%)			Cyprus
Greece (not specified)				France
Hungary (<1%)				Germany
Latvia (0.1-0.5%)				Lithuania
Slovenia (not specified)				Luxembourg
				Malta
				The Netherlands
				Poland
				Portugal
				Romania
				Spain
				Sweden
				Turkey
				United Kingdom

(Source: National Progress Reports on i2010 eGovernment Action Plan, submitted to the EC in May 2007)[111]

valid e-mail address. MyGov is coordinated by the Ministry of Information Technology and Investment and developed in partnership with private IT companies and the Malta Government IT agency. The eID verifies identities based on three security levels. First, for the delivery of basic public services, a pin code and password is used to establish a person's identity. The second level (for legally binding transactions or those of a commercially or personally sensitive nature) uses digital certificates. The implementation of the third level has been planned, which may use smart cards, potentially together with biometric technology. This final level, including the distribution of eID cards, is expected to be rolled out in 2008. The overall advantage of MyGov is that is uses just one eIDM system for all eGovernment service transactions, and has a very flexible technological framework.

Results from a recent European survey[108] also show that although Member States have deployed eIDM systems, this does not automatically imply that citizens and business use the system to obtain eServices. It is significant that 46% of Member States are not able to estimate the use of eIDM by its citizens (see Exhibit 23). Of the countries that were able to make such an estimate, 39% thought the percentage of the population that uses eIDM is between 1 and 10%. The overall average of the estimated usage of eIDM by citizens is 9.2%.

An even larger percentage (57%) of Member States was not able to assess the use of eIDM by businesses. The countries that were able to estimate the use of eIDM by businesses, reported a relatively high usage of eIDM

by businesses (when compared to citizens' usage). The overall average of the estimated usage of eIDM by businesses is 15.1% (see Exhibit 24).

The Katso system[110] is an identity management, authorisation and authentication platform in Finland which is maintained by government organisations, currently the National Board

of Taxes and the Social Insurance Institution. Katso is the first implementation of a large outsourced identity management solution is built on the Ubilogin IDM Framework. It provides the platform and tools to outsource the identity management of organisations and representatives of organisations to an independent service. The platform its associated authentication infrastructure implements international standards in authentication and attribute distribution. The Katso system has a large user base, as all of the Finnish companies need to have a Katso ID in order to conduct business online with the Finnish board of taxes.

eMayor[112] is a **pan-European** project with the objective to develop and implement an open, secure and affordable eGovernment platform for Small and Medium Government Organisations (SMGOs) in order to support secure communications between municipalities and between municipalities, businesses and citizens. The main goal of eMayor is to provide a practical solution for digital government services, by developing a scalable platform and exploring technical, legal, policy and societal aspects needed to perform secure eGovernment transactions. eMayor is capable to provide services for inner administration tasks as well. The example scenario provided with the eMayor pilot contains cross-border elements, where in a process cycle civil servants of different municipalities exchange documents between each other (e.g. birth certificate). The eMayor platform trials have proved that it is possible to achieve secure cross-border interoperability among government organisations and provide eGovernment services that benefit companies and individuals.

Despite the fact that the project is still in the concept phase with a low number of participants, it has already demonstrated clear strengths. These include its support for cross-border service delivery and for different European solutions for smart-cards, as well as the integration of legacy systems.

Managed by the National Policing Improvement Agency (NPIA)[113] in the **United Kingdom**, the Lantern initiative allows real-time searching of the national automated fingerprint system, IDENT1, containing 6.7 million fingerprints. Trials are being carried out in 10 police forces nationwide. Lantern is designed to establish identity outside police stations, thus increasing the time officers can spend on the beat. At present, suspects need to be arrested and brought to a suitably equipped custody suite to be fingerprinted. Annual savings of over £2.2 million (more than €3.2 million) have been forecast. The Lantern device works by electronically scanning a subject's index fingers, which are sent using encrypted wireless transmissions to the central fingerprint database. Real-time search of over 7 million prints is performed, and any possible matches identified and returned in a target time of less than 5 minutes. There are operational situations where mobile identity checks are of great benefit to the police.

Early results from trials are already showing significant efficiencies and forecast annual savings of at least £2.2 million through time saved in pursuing false identities for the police service, as well as forecast annual revenue increases of £1.59 million from Fixed Penalty Notices (FPN). Further, annual opportunity savings of more than £464,000 are forecast from time not spent re-executing warrants.

Interoperability and standards

Exhibit 25 shows that in 2007 there is evident progress in relation to the introduction of interoperability, open source and standards with references in either national eGovernment action plans or in detailed interoperability frameworks, and that the majority of Member States have either developed an interoperability framework or are in the process of doing so.

Although some Member States have made considerable progress as regards the target of 100% EU interoperability (such as Austria, Belgium, Estonia and Finland), most countries are predominantly focussed on achieving national eIDM goals. Most frequently mentioned are deliverables such as the enactment of national legislation, the number of eID Cards nationally issued and the number of national services online available for residents. Nevertheless, the importance of interoperability as a key enabler is illustrated by a number of promising cross-country initiatives. Several front-runner countries are for instance joining the OpenXAdES programme.

Finland and **Estonia** have developed the OpenXAdes[115] free software development project aiming at profiling XAdES (XML Advanced Electronic Signatures) and technical standard published by ETSI (European Telecommunication Standards Institute). With digital signatures, common understanding of the document format is critical as digital signatures cannot be converted. The OpenXAdES mission is to concentrate efforts on developing a common document format and sharing implementations supporting this. The aim of the OpenXAdES project is to bring legally binding digital signatures into everyday life and business practices. OpenXAdES is technology that enables people to work with legally binding digital signatures. Primarily that means giving and verifying them. Legislation often defines a set of requirements that legal digital signature technologies and infrastructures must be compliant with, and OpenXAdES aims at meeting many, if not all, such requirements from different legislations that are considered to be reasonable. Strengths include the free software approach, its compliance to W3C standards and XAdUS (technical standard published by ETSI), as well as the exchange of digital signatures between Finland and Estonia.

In addition to this initiative, Austria, Belgium, Estonia and Finland have been working together to establish interoperability of eID cards. Today, citizen cards from

[109] Also based on national eIDM documents and information on eIDM systems provided through government websites

[110] http://www.epractice.eu/cases/1966 ;http://www.vero.fi

[111] Also based on national eIDM documents and information on eIDM systems provided through government websites

[112] http://www.epractice.eu/cases/1919

[113] http://www.epractice.eu/document/24; http://www.npia.police.uk

[115] http://www.epractice.eu/document/3332; http://www.openxades.org

Exhibit 25 Interoperability, open source and standards 2007

Countries with relevant initiatives and action plans 2007 (30 countries surveyed)

Country (27/30)	Open standards (16/30)	Interoperability (24/30)	Open source (13/30)
Austria	yes	yes	yes
Belgium	yes	yes	no
Bulgaria	n/a	yes	n/a
Cyprus	n/a	n/a	n/a
Czech Republic	yes	yes	yes
Denmark	yes	yes	yes
Estonia	yes	yes	yes
Finland	yes	yes	no
France	yes	yes	yes
Germany	yes	yes	yes
Greece	n/a	yes	n/a
Hungary	n/a	yes	n/a
Iceland	no	no	yes
Ireland	n/a	yes	n/a
Italy	n/a	yes	n/a
Latvia	no	yes	no
Lithuania	yes	yes	yes
Malta	yes	yes	no
Netherlands	yes	yes	yes
Norway	n/a	n/a	n/a
Poland	yes	yes	yes
Portugal	yes	yes	yes
Slovakia	n/a	yes	n/a
Slovenia	yes	yes	yes
Sweden	n/a	yes	n/a
Turkey	yes	yes	yes
United Kingdom	yes	yes	no

(Source: National Progress Reports on i2010 eGovernment Action Plan, submitted to the EC in May 2007) [114]

Exhibit 26 Availability of cross-border application (% of services abroad online accessible)

Cross-border use	No cross-border use	No answer
Sweden (20%)	Slovenia	Belgium
Norway (40%)	Czech Republic	Greece
Malta (60%)	Lithuania	Turkey
Austria (76%)	Portugal	Cyprus
Estonia (5%)	Poland	Ireland
Finland (15%)	The Netherlands	Luxembourg
France (no quantitative data)	United Kingdom	Hungary
Italy (50%)	Germany	
Spain (60%)	Bulgaria	
	Latvia	
	Romania	
	Denmark	

(Source: MODINIS (2007) and National Progress Reports on i2010 eGovernment Action Plan, submitted to the EC in May 2007)[116]

[114] Also drawn on MODINIS (2007) and on national eIDM documents and information on eIDM systems provided through government websites. Information not available for all 30 countries.

[116] Also based on national eIDM documents and information on eIDM systems provided through government websites. Information not available for all 30 countries.

Belgium, Estonia, Finland and Italy are included in the Austrian concept and it is possible to sue those cards in Austrian eGovernment.

Yet, cross-border application of national eIDM remains rather exceptional (see Exhibit 26). Only 32% of the countries have eIDM systems put in place that enable cross-border access to eGovernment services. The percentage of public services available for citizens abroad varies between 5% (Estonia) and 60% (Malta and Spain).

Federal systems like **Austria** and **Germany** are faced with problems of dispersion of initiatives and systems, and thus have a particular interest in developing interoperable solutions.

The **Austrian** national eGovernment Strategy highlights the principles of cooperation and interoperability. Due to the federal structure of the Austrian State, emphasis has been put on cooperation between the Federal Government, the provinces, municipalities and local authorities. The most important working group concerned with interoperability is the Communication Architecture group. This is developing specifications for interoperability based on international standards (XML, web services, SOAP, etc.). Projects promoting interoperability include the LDAP.gv.at directory service which contains data for the entire Austrian public administration, and EDIAKT, which defines a format for communication between partners (e.g. authorities, courts of law, companies, citizens, etc.) using records, business cases and sub-cases including documents, and is usable at all governmental levels for final exchange.

Another interesting project related to interoperability is the **Northern European Subset (NES)**[117] of the eCommerce UBL 2.0 standard. As a cooperative initiative between organisations in Denmark, Norway, Sweden, Iceland and the United Kingdom, NES was formed in January 2006 with the objective of facilitating the establishment of a common platform for eCommerce in national and cross-border trade, taking into account European Commission recommendations, existing standards in the participating countries, the UBL and UNCEFAC standards. As a standard ensuring interoperability, the impact of the NES and high impact services such as eProcurement is described in section 4.3.

At the European level, the EU started in 2006 to revise the 2004 European Interoperability Framework (EIF 1.0), as described in section 5.3.This revision is currently taking into account progress made in the area, the rapid evolution of the technology and the wish to prepare a document that will no longer be limited to the IDABC context. EIF 2.0 will be written in close collaboration with the relevant Commission services and with the Member States, and other indirect stakeholders will be given the opportunity to provide their input. It is expected to be ready in 2008, and will represent an official Commission position with the publication of a Communication from the Commission to the Council and to the Parliament.

At the start of the European Interoperability Framework revision process, the Commission asked Gartner Inc. to undertake a study situating the European Interoperability Framework in relation to current practices in the Member States and elsewhere, and to give an independent view on the revision process and its desired outcome. The final report, published in May 2007,1[118] shows how myriads of organisations can re-use existing services to provide new services only limited by their own creativity. This is part of the so-called 'Web 2.0' phenomenon, which is already transforming business models in the private sector and has great potential in the public sector as well. The role of the Commission and national governments, through EIF 2.0, would ultimately be to provide certified basic public services and coordinate and monitor the delivery of aggregate public services, including across borders.

The most recent initiative from the EC is the Competitiveness and Innovation Programme ICT Policy Support Programme (CIP ICT PSP). The programme builds on previous programmes such as eTEN, MODINIS and eCONTENT+, for the period 2007 to 2013, with a budget of € 728 million out of an overall budget of € 3.6 billion. It is driven by policy implantation and service deployment and seeks to leverage activities in Member States through three new instruments including calls for pilot projects, and thematic networks proposals, as well as benchmarking, studies, events and conferences, etc., through specific calls for tenders. The call for pilots is of particular interest when it comes to eID and the mutual recognition of interoperability and electronic documents. Both focus on interoperability and aim to build on Member State solutions thereby resulting in open, common solutions to be widely disseminated and available to all.[119]

Specific objectives of the CIP ICT Policy Support Programme includes the implementation of an EU wide interoperable system for the recognition of eID and authentication that will enable businesses, citizens and government employees to use their national electronic identities in any Member State. For the mutual recognition and interoperability of electronic documents, the aim is to develop policies, practices and standards related to the authentication, accessibility and long term archiving of electronic documents. Interestingly, the need for trust in authentication of documents and identities was raised as a key issue during the European eGovernment Awards Workshop for Finalists on 26-27 July 2007, in Brussels, and was highlighted by participants as an area in which the EC could play a key role.[120]

[117] http://www.epractice.eu/document/188

[118] http://ec.europa.eu/idabc/servlets/Doc?id=29101

[119] Presentation by David Broster, Head of Unit eGovernment and ICT Operations, 15 June 2007, at the IANIS+ Annual Conference, Bilbao, Spain

[120] http://www.epractice.eu/document/3747

5.4 High impact achievements: benefits for users and unlocking access

As stated previously, the state of affairs as regards the development phases of eIDM systems in Member States has generally not changed significantly since 2005. The slow progress may be explained by the complexity of eIDM projects; it takes years to draft and pass legislation, develop an adequate eIDM system and implement roll-out. However, important milestones should not go unnoticed, and many examples of good practices have emerged in the last few years, three of which are highlighted below.

Benefiting the user: DigiD (The Netherlands) [121]

The DigiD application is diffusing rapidly among Dutch governmental organisations, and the use of DigiD by citizens and businesses is widespread. As much as 31% of the Dutch population has a DigiD account and over 220 (almost 50%) government agencies use DigiD to offer online services.

Challenges and barriers

One of the reasons for the successful adoption of DigiD by government agencies, citizens and businesses is due to the simplicity of the solution with Dutch citizens obtaining a DigiD account with a few clicks on the DigiD website. Even so, the security level is relatively high due to several security checks that are made with back-office databases. (Eijndhoven and Janssen, 2007) Once activated, the DigiD account can be used for all kinds of services from a large number of Dutch government agencies, including municipalities, the Tax Administration, the Customs Administration, the Student Funding Agency, the Land Registry, the Social Insurance Bank, the Centre for Work and Income, the Employee Insurance Agency, the Chambers of Commerce and several Provinces. Because there is only one eID for all interactions with government, citizens and businesses are not bothered with a multitude of login codes. Not only have the simplicity and user accessibility of the solution contributed to its fast diffusion, the familiarity of Dutch citizens with online purchasing and identification may also have stimulated fast take-up. In the Netherlands, 80% of households have Internet access and almost 6 million people conducted their bank transactions online in 2006.[122]

Achievements and impacts

DigiD is an authentication system that provides two levels of reliability: the basic level uses a combination of user name and password, and the medium level uses on top of this a code sent by SMS. (Netherlands Ministry of Kingdom Relations, 2006) DigiD has been developed and is owned by ICTU – the federal eGovernment Unit in the Netherlands. As stated above, over 220 municipalities are connected to DigiD, as well as about 20 other government bodies.[123] Today, more than 5.7 million Dutch citizens and over 400,000 businesses have a DigiD account (Netherlands Ministry of Kingdom Relations, 2006). The number of municipalities connected is expected to increase in 2007, in particular since the Tax and Customs Administration have started to use DigiD instead of SOFI numbers and PIN codes for electronic income tax returns. This will increase the number of users, making DigiD even more attractive for municipalities to adopt. As municipalities are not obliged to implement DigiD, it is difficult to estimate their exact future take-up. ICTU undertakes all kinds of activities to stimulate take-up by government agencies and citizens by organising conferences, providing extensive information on its website (www.digid.nl) and by creating so-called i-teams of DigiD, as experts who support municipalities with the implementation of DigiD, so that brand awareness Is very high.

Other specific impacts are:

- *Less administrative burden.* 24% of the respondents of the yearly eGovernment Evaluation (among Dutch citizens) state that DigiD contributes in particular to the simplification of processes and reduction of administrative burden.[124]
- *Limited effort to obtain a DigiD account.* The process of obtaining a DidiD account is relatively easy, and ICTU has specifically tried to reduce any potential threshold barriers for citizens to obtain their personal DigiD account. This is done by using login IDs, their social security number and address (checked with the population register), and by choosing a unique username and password, so that the citizen receives within one week a letter containing an activation code. User evaluations show that citizens are highly satisfied with the account request procedure,[125] and 76% of citizens using DigiD find the DigiD website helpful.[126]
- *Multi-channel approach.* The Dutch Government provides eServices trough the government portal www.overheid.nl, and is developing a government Contact Centre (call centre for government services).[127] Furthermore, citizens and businesses can obtain services at the government office desks.
- *Privacy protection.* During the registration and verification process, name and address data are drawn

[121] http://www.epractice.eu/cases/digid; http://www.digid.nl

[122] http://www.ecp.nl

[123] Research voor beleid, Marktonderzoek DigiD, Overkoepelend rapport van drie deelonderzoeken, in opdracht van ICTU, 2006. The research shows that at least 96% of all Dutch municipalities intend to participate in due course

[124] http://www.burger.overheid.nl/files/b@o_evaluatieonderzoek_bop_2006.pdf

[125] Research voor beleid, Marktonderzoek DigiD, Overkoepelend rapport van drie deelonderzoeken, in opdracht van ICTU, 2006

[126] http://www.digid.nl and Research voor beleid, Marktonderzoek DigiD, Overkoepelend rapport van drie deelonderzoeken, in opdracht van ICTU, 2006

[127] eOverheid, Voortgangsrapportage Elektronische Overheid, 2005

from the central register (to send an activation code by post to the registrant). The address data are destroyed after use; DigiD does not contain address data. In this sense, DigiD protects privacy. A privacy policy has also been put in place along with other security controls. All sensitive communication is SSL encrypted. (Eijndhoven and Janssen, 2007)

Good practice lessons

Simplicity, ease of use, familiarity and user-friendliness are the main lessons from DigiD. Do not create a solution which is too complex, or one which competes with already existing solutions. Effort must be put into communication to create awareness about the advantages and to convince government organisations and users to adopt the solution. Easy accessibility, for example through a multi-channel approach, also encourages user take-up.

Having your say: iVote (Estonia) [128]

In 2007, Estonia was the first country to use nationwide Internet voting for the national elections with binding results[129]. A key component of the eVoting system is the Estonian ID card for electronic authentication, which has been issued to no less than 90% of Estonian citizens.[130] Despite its relatively short eIDM management history – the first eIDM projects only date back to the late 1990s - Estonia has repeatedly succeeded in reaching significant eIDM milestones, and the country is regarded as a leader in this area. Recently, for example, Estonian officials reported that the number of active ID-card users has doubled.[131]

The Estonian eVoting system utilises the Estonian ID-card and its double functionality.[132] First, it is a regular and mandatory national identity document. As of March 2007, over 1.04 million cards have been issued (out of a population of about 1.32 million). Second, the ID card is a smart card with an integrated electronic chip together with a state-supported public key infrastructure allowing for both secure remote authentication and legally binding digital signatures. Internet voting is available during an early voting period (the sixth day to fourth day prior to election day). Voters can change their electronic votes an unlimited number of times, with the final vote being tabulated. It is also possible for anyone who votes using the Internet to do so at a polling station during the early voting period, invalidating their Internet vote. It is not possible to change or annul the electronic vote on Election Day. The principle of 'one person, one vote' is sustained, as the voter can potentially cast more than one ballot but still only a single vote.

Challenges and barriers

Impressive as Estonia's digital leap-frogging is, there have been problems like Estonia struggling to curtail the massive cyber attacks in May 2007. Estonian Government, bank and police sites were heavily targeted, which affected the functioning of the rest of the network infrastructure in Estonia. However, despites significant challenges like this, the Estonian eIDM policy remains ambitious and achievements high.[133]

In addition, the software required for using the ID-card has been developed further to become more user friendly. Any person can download instructions for using the ID-card in Estonian and Russian. Estonia also continues to experiment with and develop new eIDM initiatives. Recently, a new service, Mobile-ID has been launched by mobile operator EMT in cooperation with the Certification Authority AS Sertifitseerimiskeskus.[134] This is a development of the traditional eID card based authentication and digital signing via the user's mobile phone, so that the phone's SIM card becomes a proper ID document just like the eID card. Around 600 people are already using this service.[135]

Achievements and impacts

In 2007 Estonia held its first national Internet election,[136] using a two-tier semi-open proportional representation list with a 5% (27,510.65 votes) election threshold. Voting through the Internet was available from February 26 to 28. The turnout of eVoters from all those eligible was 3.4% (0.9% in 2005), and 18% of all votes cast during the advance voting days were electronic (8% in 2005). The idea of having electronic voting in Estonia originated in early 2001 and quickly gained popularity among heads of the then proactively "e-minded" coalition government. Project implementation began in the October 2005 local elections when Estonia became the first country to have legally binding general elections using the Internet as a means of casting votes.[137] The 2007 parliamentary elections followed with the second use of Internet voting.

Other specific impacts include:

- *Budget saving.* Traditional paper-based voting expensive and not environmentally friendly, so that replacing paper ballots with electronic ones improves the cost-efficiency of the electoral administration, also for Estonian citizens who wish to vote from overseas.

[128] http://www.epractice.eu/cases/1003; http://www.epractice.eu/document/135; http://www.wk.ee/engindex.html

[129] http://www.wired.com/politics/security/news/2007/03/72846

[130] http://www.pass.ee

[131] http://ec.europa.eu/idabc/en/document/7054/355

[132] http://www.id.ee

[133] The Estonian government for example set the goal to become the country with the most secure information society in the world http://ec.europa.eu/idabc/en/document/5601/355

[134] http://www.sk.ee/midaktiveerimine

[135] http://ec.europa.eu/idabc/en/document/7078/355

[136] http://vote.caltech.edu/news/EstoniaInternetElections_2-21-07.pdf

[137] Madise, U., Vinkel, P. and E. Maaten, Internet Voting at the Elections of Local Government Councils on October 2005, 2006

[138] A.H. Treshel and F. Breure, e-Voting in the 2005 local elections in Estonia, 2006

- *User convenience.* According to an eVoting survey, voters who decided to vote electronically preferred the new voting method mostly due to its convenience.[138] An important conclusion is that voters' age, gender, political views, income and education did not have a significant impact on the decision whether to vote via the Internet or at a polling station. The main technical obstacle was the lack of knowledge for using the ID card electronically as well as of card readers.
- *Multi-channel.* Internet voting does not replace traditional methods of voting. Priority is still given to the traditional means of voting with a paper ballot – if the voter goes to the polling station during the advance polling days and casts a vote, his/her eVote is deleted.[139]
- *Sharing of experiences.* Since 2005 the representatives of the National Electoral Committee have presented their experiences at numerous conferences and meetings all over Europe. Estonia has been involved in organising international eVoting conferences twice.[140]

Good practice lessons

A critical success factor for the iVote project has been launching costs. Without the national population register or an authentication system using ID cards, the Internet elections in Estonia would have been very expensive. Thus, the fact that the public sector IT system functions as one entity has enabled the government to save financial resources as there was no need to develop an extra authentication system or voters' register purely for election purposes.

Experience and research indicate that the new additional voting channel does not necessarily have an immediate effect on voter turnout. iVote was used to cast 3.4% and 0.9% of votes in 2007 and 2005 respectively (electronic voting was 18% and 8%) as it takes time to change people's attitude and behaviour in relation to important and traditional activities like voting. In order to increase participation, the electronic use of ID card needs wider acceptance. However, the fact that the number of Internet voters tripled from 2005 to 2007 shows that the new voting method is attracting more confidence. Combined with increased acceptance confidence by the electorate, the number of iVoters is expected to grow significantly.

[139] http://www.valimised.ee

[140] http://www.ega.ee

[141] hhttp://www.epractice.eu/document/3287; ttp://eid.belgium.be/ and https://www.cosic.esat.kuleuven.be/MODINIS-idm/twiki/bin/view.cgi/Main/BelgianProfile

[142] Kerschot, H., Steyaert, J. en R. van Gompel, Fed-eView Citizen, Longitudinaal onderzoek naar Internet en, eGovernment in België. De burger aan het woord, 2006

[143] http://homes.esat.kuleuven.be/~decockd/wiki/bin/view.cgi/Main/BelgianEidCardGraphsTOC

Easy Access to Government Services: BELPIC (Belgium)[141]

The Belgian Personal Identity Card (BELPIC) is an electronic identity card that facilitates access to eGovernment services for Belgian citizens. The Belgian Council of Ministers decided in July 2001 to introduce an electronic identity to be issued to every Belgian citizen over the age of 12. The card developed has the features of a bank card and also displays a photo, the national registry number and a set of other identification data. The chip contains two electronic key sets allowing both the authentication of the citizen and the use of a qualified electronic signature. The eID is based on PKI technology and incorporates two certificates: one for authentication, and one for electronic signatures. Each private key is dependent on the use of a PIN-code. Each card issued at the level of the municipalities (which function in this context as registration authorities) has a validity of five years. All requests made by citizens or businesses while using the eID card are verified through automatic information checks with back-office databases.

Challenges and barriers

A challenge of the Belgian eID is the take-up by citizens. The Federal eView/Citizen Survey revealed that there is still a limited use of the e-ID based government services.[142] Only 15% of citizens possess a card reader, which is needed to electronically sign documents. Only 28% of citizens use the eID for eGovernment services. Yet, this percentage is higher than in other countries with an eID card system (such as Spain, Slovenia and Italy). Other challenges have been to ensure that privacy is protected, to avoid market distortion, to ensure interoperability at European level, and, not least, to ensure that cards issued are activated and used.

Achievements and impacts:

A large number of online services and applications that are eID compliant, and the high level of security built into the BELPIC system, constitute the main achievements. The eID card has been in use since the second half of 2003, and today 5.6 million cards have been distributed (the target group consists of 8.2 million Belgians over 12 years old).[143]

Good practice lessons

The main lesson is the need for openness to different technical in order to support a thriving eID market and thus a range of solutions that give citizens a choice. An important stimulus also appears to be the availability of free charge tokens and card-readers which again could stimulate take-up by citizens, although here a careful balance needs to be maintained so as not to inhibit market development. Finally, coordination between the national, regional, and local levels is important in order

to both understand and meet the different needs each level manifests.

Summary of impacts 2005 and 2007

The analysis and evidence provided above shows variable progress between 2005 and 2007 in relation to eIDM, interoperability anf standards.

1. There has been strong growth in the number of countries adopting **eIDM policies** to include 92% of countries in 2007, 57% with an eDocument policy, 71% with an open standards policy, 78% with an interoperability policy, and 53% with an open source policy. Interestingly, developments in some front-running countries have reached stages in development whereby policies related to specific areas of eIDM, such as eDocuments, are no longer required.

2. Although there has been limited progress in the **development and deployment** phases of eIDM systems in individual Member States due to the complexity and time required, some have made very good progress, including Romania, which is designing and conceptualising an IDM solution, and Hungary, which has moved on to the development and roll-out phase. In addition, take-up of already existing solutions is progressing in all countries. Even so, a development gap remains so that Western European countries are still in advance of the Newer Member States.

3. There has been **limited impact measurement** of eIDM with only 54% and 43% of Member States being able to estimate the use of eIDM by citizens and businesses respectively.

4. There is still **limited use** of eIDM systems by citizens for obtaining eGovernment services, the reason for which may be the slow domestication of personal computers and Internet in some Member States and the relatively low eGovernment take up by citizens. The top four Member States with the highest usage of eIDM by citizens (Belgium, Denmark, the Netherlands and Sweden) are also in the top seven when it comes to the largest number of households with Internet access. However, an important conclusion is that the use of eIDM systems by government agencies, citizens and businesses is proportionally higher as the complexity of the solution is reduced.

5. **Interoperability and standards** are increasingly in focus partly as a result of the publication of the European Interoperability Framework (EIF 1.0) in 2004, which was extremely well received and which has stimulated many Member States to adopt interoperability frameworks and guidelines or to initiate similar work. In 2006, the EU started to revise the EIF with a view to publishing version 2.0 in 2008, and is currently taking into account progress made in the area, the rapid evolution of the technology and the wish to prepare a document that will no longer be limited to the IDABC context.

5.5 Future challenges: impact measurement, take-up and interoperability

It seems clear that, unless some national and European eIDM projects accelerate considerably, not all European citizens and business will be able to benefit by 2010 from secure and convenient electronic eIMD. Whereas the large majority of citizens and enterprises of front-runner countries, such as Austria, Belgium, the Netherlands and Sweden may by 2010 have fully adopted the eIDM system provided by their governments, there is still a long way to go for countries that are currently in the design phase of an eIDM system, such as Bulgaria, Cyprus and Poland. Furthermore it is highly questionable whether a pan-European eIDM system will be established by 2010, given that the majority of Member States are still struggling to put in place national eIDM systems and the domestication of the Internet is in some countries still relatively limited. This situation gives rise to a number of key future challenges.

1. Impact measurement

Challenges: There is a need for Member States to measure the impact of their policies. Most clearly have difficulties with providing evidence of the impact of the implemented eIDM systems. 42% of the respondents of the recent European survey[144] did not mention any impact, and the majority of respondents that did, for example in terms of advantages or disadvantages of their eIDM systems, were not able to underpin their statements with sound quantitative evidence. Most frequently mentioned advantages of eIDM systems were increased efficiency and the online availability of services for citizens and businesses. However, what the efficiency gains exactly are (for example as regards the reduction of data handling activities), or how satisfied citizens and businesses are with the chosen eIDM solution, remains mostly unclear. It seems that Member States do not have full insight into the relation between costs and benefits of their eIDM systems.

Options:

- Develop a framework that can be used to assess the specific impact of eIDM (encompassing measures such as the number of services available through eIDM, the number of active users of eIDM, user satisfaction, the number of transactions per month, the cost per transaction in traditional situations and in eIDM situations)

[144] National Progress Reports on the i2010 eGovernment Action Plan, submitted to the EC in May 2007

- Standardise the measurement assessment tools on a European level in order to stimulate the pan-European comparison of cases and enhance the capability to learn from existing practices in other countries.
- Conduct periodic EU impact measurement benchmarks to achieve a better understanding of the costs and benefits of specific eIDM solutions.

2. User take-up

Challenges: A second challenge is the take-up of eIDM solutions. Even in countries where such solutions are fully developed, adoption by users hitherto remains rather disappointing – only a small percentage of the population of Member States are actually using eIDM systems to obtain electronic services. The average usage of eIDM by citizens of Member States is 9.2% and the average usage by businesses 15.1%. These percentages could even be lower, as around 50% of the Member States were not able to provide quantitative data on eIDM usage. Thus, today only a small percentage of the population of Member States benefits from eIDM systems already in place

Options:

- An incremental approach by the EU and Member States is needed in order to overcome the tension between the security level and user accessibility. The strategy of the Dutch seems to work here: start with a relatively simple but well-thought out tool and – once citizens and businesses have incorporated the tool into their everyday life – gradually increase the security level. An incremental approach makes the transformation less disruptive and thereby enhances the adoption process.
- Incorporate/align Internet domestication strategies into/with the eIDM policies of the European Union and Member States.
- Enhance user skills (eSignature training - the government of Latvia for instance introduced eSignature computer classes in secondary schools).[145]
- Distribute the devices needed to use the eIDM system (e.g. card readers), provide clear-cut instructions on websites, and run awareness raising campaigns to stimulate the recognition of the solution by the public at large.

3. Interoperability

Challenges: In most countries different public sectors have separate eIDM systems (e.g. the healthcare sector, social security sector, tax administration, etc.). This fragmentation is not user-friendly as it results in an unnecessary administrative burden for citizens and businesses. Also on a European level, the interoperability of the diverse national eIDM systems remains problematic. Despite some interesting initiatives (such as OpenXAdES), most Member States are predominantly focussed on establishing national eIDM systems. Cross-border application of national eIDM systems remains rather exceptional; the recent European survey[146] indicates that only 32% of the countries have eIDM systems in place that enable cross-border access to eGovernment services.

With standards varying across Europe as a result of national legislation, processes and frameworks, culture and not least traditions and history challenges remain in order to ensure interoperability, not only through the mutual recognition of existing solutions but also on agreed standards. Whether open source or not, the key issue is the development of mutually recognised, interoperable standards serving citizens, businesses and public sector organisations in their daily lives.

Options:

- Enhance the interoperability of national and EU solutions following the eID pilot completion of the CIP ICT Private Sector Programme. The use (and even acceptability) of unique identifiers varies widely between Member States. A common approach seems to be the use of different sectoral identifiers per identifiable entity. At national and EU levels, the use of unique identifiers should be aligned (some governments have already streamlined the use of unique identifiers, for example Sweden, the Netherlands and Finland).
- Technical standards already in place must be taken into account when deploying an eGovernment eIDM solutions and standards at the pan-European level. A technical solution should be developed that respects the large amount of different choices that have already been made at the local, regional, national and European levels.
- Facilitate mutual recognition and trust in the authentification of identities, whether personal, professional or business related identifiers, for example through a European clearinghouse or portal facilitating accessibility to current and trusted information.
- Encourage the joint development and take-up of interoperable standards although not exclusively related to eID or eCommerce as the Northern European Subset.

[145] http://ec.europa.eu/idabc/en/chapter/355

[146] National Progress Reports on the i2010 eGovernment Action Plan, submitted to the EC in May 2007

6 eParticipation

6.1 The policy context: technology in support of democratic goals

The i2010 eGovernment Action Plan adopted in April 2006 (European Commission, 2006a), and based on the outcome of the third Ministerial Conference in Manchester in November 2005 (UK Presidency, 2005), includes an objective for 'strengthening participation and democratic decision-making'. More specifically, "*Member States are invited to demonstrate tools for effective public debate and participation in democratic decision-making by 2010*", and "*better decision making and more extensive involvement of citizens in all phases of democratic decision-making, including at European level, are critical for the cohesion of European society*."

At the EU level, the policy context for eParticipation is eGovernment. eGovernment as a key to competitiveness, and to modernisation and improvement of public services is one of the European Commission's strategies for Europe's investments in ICT-driven services and research. The European Commission supports eDemocracy in its widest terms – through an area of work termed eParticipation. This encompasses eDeliberation, ePetitions, eConsultations and eLegislation.

In a nutshell, eParticipation is driven, first, bottom-up by the changing profile of 'eCitizens' who want to have a say, and, second, top-down by decision makers at the political or administrative level. The latter are faced, on the one hand, with low election turn-outs, tight budgets, increasing integration, and decreasing relevance of physical boundaries, and, on the other, an ever increasing technology-savvy and demanding citizenry.

A focus on engaging with citizens in an ongoing manner – between as well as during elections – in a way that is accessible and understandable to all who wish to participate, is a condition that needs to be in place for eDemocracy to work effectively. In addition, initiatives should be linked to political or administrative processes and people in order to ensure that participants' views are listened and responded to and acted upon as appropriate.[147]

The two perspectives described above (of citizens and decision makers respectively) are addressed in the actions funded by the European eParticipation Initiative. This was started by the European Parliament in 2005, and is being used by the EC to set out a more defined path for its activities. The 2007 work programme on eParticipation in legislative and decision making processes focuses on three main challenges:

1. The perceived democratic deficit which requires a new relationship between politicians and citizens
2. Reconnecting Europeans with politics and policy making (with a view to the next European elections)
3. The complexity of decision-making and implementing legislation in the EU 27 with a focus on increased cross-border cooperation.[148]

What matters most in the discussion on policy are the principles of democracy, content and processes, and the way in which the new tools are actually used. The same tool might be used in a positive or negative way: 'to support or not support', and even undermine democratic processes. While putting the citizen at the centre of the process of service delivery and democratic decision making is essential, as is the changing notion and understanding of the citizen as an empowered and active partner, a balance has to be struck between the roles and responsibilities of the stakeholders involved. Increasingly traditional structures and patterns of governance are influenced by technology. In this sense, more attention will have to be paid to redesigning governance processes and systems, including new models of 'distributed decision-making'. Moderation of deliberative debate is important. The decision-shaping and the control of decision processes as such should be clearly separated. And technology can serve as an effective tool in this process to achieve the desired impacts and policy outcomes.

6.2 2005: eParticipation in its infancy – transparency and eVoting

Exhibit 27 shows that at least ten countries out of thirty already had a specific eParticipation policy in place by 2005, most of these being large and older Member States, plus Hungary and Latvia.

However, eParticipation as a strategic objective was not explicitly included in the 2005 Manchester Declaration (UK Presidency, 2005). Member States had not politically committed themselves to the policy objective at this stage at least in a European context. Therefore the baseline for measuring progress since Manchester might differ from the other four objectives

[147] Think Paper 6: The Participative Citizen, http://www.ccegov.eu

[148] http://ec.europa.eu/information_society/activities/egovernment_research/eparticipation/index_en.htm

Exhibit 27 Countries with eParticipation policies

Country	Yes	In force up to 2005	In force after 2005
Austria	X		2007
Belgium	X	2003	
Bulgaria	X		2006
Cyprus	X		
Czech Republic			
Denmark			
Estonia	X		2007
Finland	X		
France	X	2004	
Germany	X	1998	
Greece			
Hungary	X	2003/05	
Iceland	X	2004	
Ireland	X		
Italy	X	2004	
Latvia	X	2002	
Lithuania	X		2006
Luxembourg	X	2005	
Malta			
Netherlands			planned for 2007-2008
Norway			
Poland			
Portugal	X		2007
Romania			
Slovakia			
Slovenia	X		2006
Spain	X	2005	
Sweden			study conducted
policy priority			
Turkey	X		2007
United Kingdom	X	2002	
Total	20	10	9

(Source: National Progress Reports on i2010 eGovernment Action Plan, submitted to the EC in May 2007)

analysed in this report. As for the eGovernment Awards 2005,[149] eParticipation was not a special category but was included as a 'project type' in all four themes.

Already for a few years up to 2005 the growing lack of interest of citizens in political life, disappointing election turnouts and the increasing dissatisfaction of citizens with politics, had alarmed decision makers in most European countries. It is therefore not surprising that the policy issues addressed in the eGovernment Awards 2005, apart from general purpose initiatives such as core administrative services (16.9%),[150] pointed to a trend towards state and society issues which included eDemocracy and/or eParticipation (15.8% of a total of 234 projects from 28 countries). In the same vein, the respondents to the 2005 Awards finalists' survey[151] suggested more emphasis on eDemocracy issues in future European good practice initiatives such as the eGovernment Awards. (Leitner et al, 2006)

At the grassroots level, from the projects submitted for the 2005 Awards, a clear trend was seen showing that governments were increasingly committed to providing relevant information online and thus to ensure transparency. This is, in fact, a continuation of an emerging trend in the 2003 Awards going back to the late 1990s.[152] For example, in the Netherlands but also in many other countries, from the outset their eGovernment

[149] http://www.e-europeawards.org

[150] General purpose includes guidelines, standards, portals, decision-making support tools, publication of legal texts, and CRM (slight overlap with other categories)

[151] 62 finalists in 2005: http://www.e-europeawards.org

[152] Improved Service Delivery, EPAN report 1998: http://www.eupan.org

policy's main objective was to increase transparency together with improved service delivery.[153]

On a micro level, only a few projects submitted to the 2005 Awards were focused on enabling and enhancing dialogue with citizens and more in-depth engagement, the support of deliberative debate, the provision of tools to better analyse contributions or providing relevant and appropriate feedback to citizens. These included the **Scottish** Parliament ePetitioner System,[154] and Mobhaile[155] from **Ireland**. There was also a clear early focus on eVoting (for example GIVA, the Geneva Internet Voting Application in **Switzerland**,[156] and RIES the **Dutch** Rijnland Internet Election Systems[157]), and transparent information services rather than on eParticipation in the broader sense. In fact, in 2005 initiatives of this kind remained dispersed and fragmented, arguably 'in their infancy', even though in exceptional cases significant data on impact was provided. The majority of these projects were initiated at the regional or local level following a top-down approach, rather than bottom-up.

Although, as noted in section 3.3 of this report, measuring impact is fraught with difficulties, the good governance value driver derived from the eGEP measurement framework (eGEP, 2006) is relevant in the context of eParticipation. It is defined as 'openness and participation', 'transparency and accountability', and the degree to which public administrations are inter-operable. In the research report for the eGovernment Awards 2005 (Leitner et al, 2006), an initial analysis was made for the 15-short listed cases for the Awards using this value driver. A moderate inverse relationship was identified between the efficiency driver on the one hand and the good governance driver on the other. This can be explained by the different objectives that different projects aimed to achieve: initiatives focused on good governance aspects are likely to generate significant additional administrative costs during their start-up phase. Moreover, during the project maturity phase the financial benefits could be counterbalanced by maintenance costs.

At a global level, the United Nation's eParticipation index (United Nations, 2005) assessed the usefulness and relevance of eParticipation features of government websites around the world, and how well they are deployed by governments for promoting participatory decision-making. In 2005, a total of 179 countries were assessed and, as in previous years, the United Kingdom scored highest, followed by Estonia on rank 6, Germany (8), Belgium (9), Switzerland (12), and Austria (13). The report also identified the key decision-making services offered in 2005:

- Feedback services on specific issues (9%)
- Provision of receipt on citizen sent communication (8%)
- Services taking citizen input into decision making (16%)
- On-line petitions (8%).

The UN report concluded that meaningful qualitative or relevant services to encourage deliberative participatory dialogue on public policy decision-making were still in their infancy in the majority of countries in 2005. These findings were reflected in the discussions at the Worldwide Forum on eDemocracy in 2005.[158] However, the potential of technology to reach and engage with a wider audience was recognised. It is possible to argue that in 2005 the debate on eParticipation still lacked clear democratic concepts, while decision-makers focused on technical and economic efficiency rather than deliberative strategies.

6.3 2007: towards eParticipation – dialogue, active participation and building trust

Policy development and local initiatives

At the Member State level, a significant increase in adopting and/or revising policies towards more participation has taken place during 2006 and 2007. Seven countries have introduced a policy in the period, with two more under preparation, bringing the total of countries with such a policy to 20 (out of 30) as of June 2007. (See Exhibit 27) Quite frequently, national eParticipation policies are integrated aspects of eGovernment and modernisation policies and/or initiatives to reduce the administrative burden. In fact, in most countries there is not just one policy as such, but many initiatives on different levels. It is the local level of government that is at the heart of current action and developments, in many cases supported or facilitated by central governments.

Despite this fact – or maybe due to this fact – a high degree of dispersion and fragmentation still prevail across Europe, even though there has been a visible increase in initiatives with a more explicit policy focus such as spatial and city planning, local community budgeting, environment, etc. Increasingly, the focus appears to be on issues that 'people really care about', such as social security, health, education, environment, and, as mentioned above, very local daily issues. Perhaps this trend points to a set of emerging 'high impact services'. It seems clear that, from a European perspective, there is still a need for a framework to ensure more coherence at

[153] http://www.e-overheid.nl

[154] http://www.epractice.eu/cases/1812

[155] http://www.epractice.eu/cases/1865

[156] http://www.epractice.eu/cases/291

[157] http://www.epractice.eu/cases/202

[158] From eVoting to eParticipation: A new challenge for Europe, Round Table, Worldwide Forum on eDemocracy, Paris September 2005

the policy level to identify policy areas where technology-enhanced participation should be reinforced and trials and pilots should be supported accordingly.

However, it is clear from the sources used in this overview that concepts, notions and definitions differ at times quite significantly among countries, as do cultural and political contexts, which in turn is reflected in the data provided in Exhibit 27 on policy approaches, initiatives and projects. Moreover, many projects are in their early stages, at times even (still) of a rather experimental nature, providing little hard evidence of impact. For these reasons, at a macro level, measurement of progress in the field of eParticipation in Europe is difficult, let alone the direct comparison of projects and their results.

As mentioned, a trend that has followed on from 2005 is that initiatives mainly take place at the local level. This is obvious since people are concerned more about local issues that directly affect their everyday lives rather than more general, macro or remote policy objectives, such as balance of payments strategies. However, top-down approaches, for example in formal participation, still appear to be predominant even in local level initiatives.

Even though there might be no national framework or policy established, as is the case for example in **Norway**, **Sweden** or **Denmark**, most countries, including those without a national policy, have a range of initiatives in progress at the local level. In many countries, central governments support the development of local initiatives. For example, the United Kingdom's Centre for Excellence for Local eDemocracy[159] was established in 2004 to support and promote local eDemocracy and was transformed into the International Centre for Excellence for Local eDemocracy (ICELE) in 2006. A similar initiative was launched in Italy to promote projects in digital citizenship (eDemocracy) at the regional and local level. Another interesting approach in this context is the **Dutch** eCitizen Charter[160] which provides quality requirements (including interoperability standards) for digital contacts between citizens and governments.

In the past two years, technological developments have not been revolutionary (with the possible exception of Web 2.0, see below), but clearly citizens are increasingly willing to use the new tools. Especially the expectations of the younger generation point to the increasing importance of using the new communication channels. Framework conditions, such as Internet penetration and broadband coverage, have improved significantly, and awareness and support at the political level has grown that emerging ICT applications have the potential to transform government as we know it. Yet their practical implementation and impact on society at large still remains to be seen.

The most important technology channels for delivering eParticipation at present are traditional Internet and eMail (so-called Web 1.0), but new Web 2.0 social networking technologies[161] are emerging as powerful new tools. This is followed by Internet kiosks and call centres. Additional channels mentioned by a recent European survey[162] are mobile telephony and mobile government, one-stop-agencies and eBanking systems. GIS developments are reflected in a growing number of applications (e.g. DOPS[163] from Ireland). An important issue for the coming years is the provision of reliable authentication systems. In this context, trust in government and its services is considered a building block of participation and democracy as such. Most initiatives are encouraging multi-channel approaches, in particular to ensure inclusion. An interesting approach is taken by DigiTV[164] from the UK in this regard, which targets the young and elderly through digital television channels, kiosks and mobile phones.

Citizens are more confident and equipped to use the new tools, and politicians are aware that there is a need for action. In a recent European survey,[165] the vast majority of countries indicated that a number of pilot initiatives have been implemented and/or are currently underway, including in those cases where no specific policy has (yet) been adopted. A few countries have launched or are planning to launch dedicated eDemocracy portals, again with different foci (e.g. **Cyprus**, **Malta**, **Norway** and **Slovenia**). Increasingly social networks are playing a role in eParticipation projects.

In this context, the projects submitted for the European eGovernment Awards 2007[166] in the category 'Participation and Transparency' are indicative of the current state of play in the field across Europe. Even though the category received only roughly 16% of all submissions (49 out of 310), this figure still represents the second largest number of submissions in the four categories. From the case descriptions it is at

[159] http://www.epractice.eu/document/325

[160] http://www.burger.overheid.nl

[161] Web 2.0 is a phrase coined by O'Reilly Media in 2003 and later popularised by the first Web 2.0 conference in 2004 in reference to a perceived second generation of web-based communities and hosted services — such as social-networking sites, wikis and folksonomies — which facilitate collaboration and sharing between users. Advocates of the concept suggest that technologies such as weblogs, social bookmarking, wikis, podcasts, RSS feeds (and other forms of many-to-many publishing), social software, Web APIs, Web standards and online Web services imply a significant change in web usage.http://en.wikipedia.org/wiki/Web_2.0#Defining_Web_2.0

[162] National Progress Reports on i2010 eGovernment Action Plan, submitted to the EC in May 2007. Note that some countries did not provide a specific rating, e.g. Sweden, which "has a multi-channel approach and has not highlighted any particular channel. Different electronic channels shall be used and channels shall be chosen due to its appropriateness".

[163] http://www.epractice.eu/cases/1043

[164] http://www.epractice.eu/document/503

[165] National Progress Reports on i2010 eGovernment Action Plan, submitted to the EC in May 2007

[166] http://www.epractice.eu/awards

times difficult to define the actual level of the service: information, consultation, and/or active participation. In this context, it is useful to distinguish three levels of participation:

- Information: one-way communication (sometimes classified as transparency) where government produces and presents information for the use of the public (in legal terms the basis is normally a Public Information Act).
- Consultation: two-way communication where citizens give feedback to the government. This is a more passive relationship where government defines topics for consultation, moderating questions and controlling the process. Citizens are welcome to present their opinions and views.
- Active participation: relationship based on partnership between government and citizens. Citizens actively participate in the policy-shaping process. This is based on the equal rights of citizens in proposing their agendas but the responsibility to take final decisions remains with the government in a representative democracy.

Many projects are integrated portals, including some aspects of eParticipation and eDemocracy, i.e. mainly common eGovernment services. The type of actor initiating implementation is also important, i.e. whether central government, local government, the political or administrative level, the third sector, businesses, or citizens. There are examples from all these levels and some innovative models of partnerships, for example e@SY Connects (Transformational Petitioning) in the **United Kingdom**,[167] and VirtuoCity[168] from the **Netherlands**.

eDemocracy and, more specifically, eParticipation have also become major concerns for research in the past few years, for example the recent Swedish study which examined the use of ICT in democratic processes.[169] At the European level, ICT research on eParticipation and eDemocracy has made a significant contribution over the past 10 years with around 30 projects funded by the IST programmes,[170] as well as by deployment programmes like eTen and the new Competitiveness and Innovation framework Programme (CIP)[172] which is also providing for regional networking activities in this area. In the IST programme, DEMO-net[173] for example attempts to strengthen scientific, technological and social research excellence in eParticipation by integrating the research capacities of individuals and organisations spread across Europe. The intention is to advance the way research is carried out in Europe with respect to quality, efficiency, innovation and impact to overcome the currently fragmented approach to eParticipation.

To better understand the different aspects of eDemocracy, and more specifically eParticipation, the following three sub-sections describe project foci and objectives. First, enhancing transparency. Second, supporting political activity and improving consultation. Third, building democratic knowledge; facilitating community development; enhancing deliberative space; bridging social and political inequalities (inclusion).[174] Examples are given for the technology-enabled systems and tools utilised. It is important to note that all cases described below encompass various objectives and tools, but the most clearly focused have been selected to illustrate the different aspects.

Enhancing transparency

Through on-line publishing and more recently web-casting, governments can provide citizens with more information about what they do and offer more opportunities for them to observe decision-making in action. The information is made available to citizens without delay and at low cost. The use of technology to increase transparency and openness is also a powerful tool to combat corruption.

The **Austrian** eLaw project[175] has created one continuous electronic production channel from the beginning of the process to authentic publication on the Internet, within the framework of a user-friendly secure technical and legal environment. It received the United Nations Public Service Award 2007 in the category 'Improving transparency, accountability, and responsiveness in the public service'. The Belgian Crossroads Bank for legislation[176] is the central information point on legislative work and case laws from all authority levels. The official legislation (the official state journal) has been available in electronic format on the web only since 2004.[177] For all elections, lists and results are available on the government web sites.[178]

The **German** PortalU[179] is the central online information portal of the environmental administration in Germany. The portal is the result of long-term cooperation by the 16 federal states and the federal government. For the citizens of Germany, PortalU provides a highly-accessible, comfortable and central access point to publicly-held environmental information and data. Following the spirit of the Aarhus Convention and the EU Environmental Information Directive, PortalU offers information services with the goal of making government more transparent,

[167] http://www.epractice.eu/cases/1047

[168] http://www.epractice.eu/cases/1033

[169] Source: National progress report Sweden submitted to the EC, April 2007.

[170] http://ec.europa.eu/information_society/activities/egovernment_research

[171] http://europa.eu.int/information_society/activities/eten

[172] http://europa.eu.int/comm/enterprise/enterprise_policy/cip

[173] The project is funded by FP6. http://www.demo-net.org

[174] This typology is inspired by Lawrence Pratchett, Understanding e-democracy developments in Europe, Scoping Paper for the Council of Europe, August 2006 www.coe.int, and the service clusters identified for the Manchester exhibition (see also catalogue 2005) at www.e-europeawards.org

[175] http://www.epractice.eu/cases/1863; www.unpan.org/psaward_categories.asp

[176] http://www.epractice.eu/document/3282; www.belgiumlex.be

[177] http://www.ejustice.just.fgov.be/cgi/welcome.pl

[178] http://www.belgium.be/eportal/application?languageRedirected=yes&docId=43381&pageid=contentPage

[179] http://www.epractice.eu/cases/1044

educating the public about environmental issues, and thereby enabling and enhancing public participation in environment-related decision processes.

Gencat.cat, the website of the Catalan Regional Government In **Spain**,[180] is an example of a radical redefinition of the eGovernment portal concept, and a mass-scale deployment based on transparency and Web 2.0 philosophy in public administration, fully backed by a policy driven strategy focused on an integrated citizen-centric approach. With its 70 million visits per year and more than 1,200 million pages served per year, gencat.cat is the sixth most visited website in Catalonia and the thirtieth in Spain according to the latest Internet-user survey, which positions it at the level of mass media or financial services.

The **Malta** Environment and Planning Authority (MepaApps),[181] handles over 8,000 applications for development permissions every year. Plans, documents and correspondence with various stakeholders are processed for each application. eApplications brings together different platforms and technologies into one homogeneous system which allows clients to view application details, submit and pay for applications online and send/receive correspondence digitally, thus increasing participation, efficiency and transparency. Internal case processing is also now digitised, and 'minutes' and all internally generated documents are digitally recorded within the system. A role-based security system allows users with various rights to interact with the system in a secure web-based environment. (See also section 3.3)

Supporting political activity and improving consultation

ICT can also 'enhance the transparency of politicians', helping them to be more accountable to their electorate. Various tools are used to support their activities, such as politicians' websites, web-logs, monitoring and accountability systems, eVoting, etc.

ICT is also being used to support greater responsiveness to citizen demands and better citizen engagement. Initiatives include ePetitioning systems, online consultation and eParticipation, in which new technologies are used to support actual decision-making among citizens.

In **Spain** www.candidato2004.net[182] was a site provided during the European elections to provide discussion with candidates. The Spanish 'The president answers' project[183] is another good example.

Residents of the **Polish** city of Warsaw will soon have the chance to check whether the city councillors they voted for are keeping their election promises. Thanks to a new electronic voting system, city hall meetings will soon be more transparent for ordinary people.[184]

In **Estonia** eVoting initiatives have been analysed showing that Internet voting in the local government elections made up approximately 2% of all actual voters in 2005, whilst it made up 5.4% of all actual voters for the parliamentary elections in 2007. iVote is an example of how investment and building on a sound IT infrastructure for eGovernment pays off in eDemocracy projects. (See section 5.4 for a full case d) escription.)

The 'Working on the **Netherlands** together' project1[86] was launched in May 2007 by the Dutch Cabinet to get feedback from citizens on ways to improve government performance. 'Samen werken aan Nederland' seeks input on the outline programme put forward by the Dutch coalition in February 2007. After consultation over the Internet and at local meetings, the outline will be converted into detailed government policy by summer 2007. The Cabinet has identified six key issues for the coming legislative period: the Netherlands in Europe and the world, security, stability and respect; a sustainable society; governance by and for the citizens; the Dutch economy; living together in the Netherlands.

In **Germany** there have been a number of initiatives at the federal and local level, including the integration of citizens in public decision making about infrastructure and environmental issues. One example is the participation in infrastructure planning www.kuestenautobahn.de. In this case 46,000 hits were registered and 310 opinions delivered by a total of 85 communities. This resulted in improved planning and quality of inputs. The Dutch Virtual Cities project (see section 6.4 for a full case description) is another innovative example of participation in city planning.

On line surveys and specific panels to evaluate new eGovernment services have been established in **France**. Citizens have been able to contribute to the design of the eGovernment strategy revealing a real interest and showing the value of integrating citizens and reducing administrative burdens through state modernisation. The eGovernment Group of Users' Representatives identifies relevant global trends and suitable eGovernment projects to meet them. This is complemented by regular online surveys and specific user panels (for example on 'Changing my Address' or 'My Public Service') aimed at integrating the problems of access, usage and interfaces.

Slovenia reports that more than 300 proposals for improvement to legislation were received from interested citizens in 2006. Some of them were forwarded to the competent ministries, and some were included in the government programme for the reduction of administrative burden for the year 2007.

Enhancing deliberative spaces, supporting community development, and building democratic knowledge

Another aspect is to engage citizens in online deliberative spaces. Where citizens have the opportunity to engage with one another in a public space they are more likely to accept different opinions and to change their attitudes to accommodate different perspectives. This might lead to more responsible citizens and more consensual politics. Online fora have existed for some time but are becoming increasingly popular, especially at the local level. They should ensure that no individual dominates (or abuses) the discussion and should therefore have some sort of

[180] http://www.epractice.eu/cases/1051

[181] http://www.epractice.eu/cases/1036

[182] http://www.epractice.eu/document/1623

[183] http://www.senado.es

[184] http://ec.europa.eu/idabc/en/document/7027/358

[185] http://www.epractice.eu/cases/1003; http://www.epractice.eu/document/135; http://www.wk.ee/engindex.html

[186] http://www.epractice.eu/document/4; ec.europa.eu/idabc/en/document/7027/358

moderation (even though moderated fora might be accused of censorship).

Governments can play an important role in providing the facilities and space for online communities to develop. ICT can support the strengthening of relationships between citizens or among groups of citizens through community resources online or campaign building.

Another type of application is the use of new technologies for democracy education, providing new ways for citizens to learn about politics and their rights and responsibilities. Such initiatives are often focused upon young people, as it is often perceived that they are the most likely to use the technologies. This category includes online games for citizen education and budget modelling.[187]

In the **United Kingdom** the 'Digital Dialogues' Pilot Project was evaluated in an interim report produced in January 2007 following the completion of the first phase, revealing that online activities attract a greater depth and breadth of audience and participants than many traditional approaches. More specifically, the Report indicates that:

- 63% of those participating in the Department for Communities and Local Government's web forum had participated in other online fora, but 82% had never participated in a government or parliament consultation before (http://forum.communities.gov.uk)
- 75% of those participating in the Foods Standards Agency web forum had participated in other online forums, but 59% had never participated in a government or parliament consultation before (http://food.gov.uk/sfbbforum)
- 85% of those participating in the Welfare Reform Forum had participated in a government or parliament consultation before (http://welfareformforum.net).[188]

There are several municipalities in **Sweden** that have set up some form of on-line opinion poll in which citizens are able to send their views on various issues to the local authority website. Individual politicians have also taken initiatives to establish fora where they can meet the public. Examples include political cafés, regular meeting times at libraries and public question times at council and board meetings. eMail lists, electronic conference systems and discussion fora are used as a tool in communication in connection with 'consultations' or opinion polls, etc. The preconditions for ICT use for democratic purposes are important. The penetration of Internet use in Sweden has already passed 50%, and as early as 2003 35% of municipalities had an online debate forum. In **Hungary** such fora are one of the main eDemocracy developments at the local level, with local governments hosting their own online discussions, some of which are widely used.

In the **United Kingdom** the Local e-Democracy National Project[189] has developed several games that are aimed at helping young people understand the political process and the complexities that elected politicians face in trying to balance competing priorities with scarce resources. While not widely used, they do provide a template and lessons for how such games could reach out to one section of the population that are currently disengaged. Another initiative is VOICE, a platform for local groups to host a website that interacts with communities across the UK free of charge. These products allow community groups to self organise on the Internet, providing a virtual form of citizen-to-citizen organisation. The BBC Action Network (formerly BBC iCan) allows users to search and link-up with other citizens who share the same concerns in their locality, in order to begin political campaigns "

'Cyberbdget'[191] is another way for citizens to learn about politics and to engage in the decision-making process through a budget modelling. In France, central government helps citizens to understand its current budgeting challenges by providing an online resource where citizens can, themselves, take virtual budgeting decisions. As well as helping citizens to learn about the complexities of the nation's budget, this website also enables the French Government to collect information about citizens' preferences.

6.4 High impact achievements: more transparency and focus on issues people care about

Three initiatives where good practices in 2007 are already having real impacts are highlighted below.

ePetitions (United Kingdom)

The ePetitions initiative[192] was launched by the Prime Minister's Office (10 Downing Street, London) in November 2006 to enable UK citizens to address and deliver an electronic petition directly to the Prime Minister and to collect signatures via the Downing Street website. This project focuses mainly on enhancing citizens' political engagement by digitising an old tradition through which citizens made representations to government, and to enable this to be a two-way dialogue by allowing government to address those concerns and explain policies in e-mails back to signatories. The service is addressed to the whole population, i.e. the target group is even broader than the electorate in that there is no (lower) age limit.

Challenges and barriers

This is arguably the British government's first sustained mechanism for direct communication with people on issues of the latter's choosing, so there was a certain amount of persuasion necessary for internal stakeholders – after all this was not something that the public was specifically asking for. Unusually, this is government correctly guessing that there was a market for this kind of communication, but doing so from a relatively low evidence base. Internal structures and procedures had to be built to deal with incoming petitions and the

[187] Lawrence Pratchett, Understanding e-democracy developments in Europe, Scoping Paper for the Council of Europe, August 2006 www.coe.int

[188] To view all the data visit: http://www.digitaldialogues.org.uk/interimreport Guidance on the use of ICT can be viewed at http://www.digitaldialogues.org.uk/interimreport/partthree

[189] http://www.epractice.eu/document/3507; www.e-democracy.gov.uk

[190] http://www.bbc.co.uk/dna/actionnetwork

[191] http://www.epractice.eu/document/457

[192] http://www.epractice.eu/cases/1021; http://petitions.pm.gov.uk

responses to them, while it was also necessary to ensure that communications teams were ready and able to deal with a whole new set of pressures.

The site was launched to a rather sceptical media, many of whom initially judged it to be a PR disaster. The media were reacting to the pressures built by some large scale petitions but rather missed the point that the ultimate aim of the site is not simply to create one-dimensional 'noise' from petitioners but to create a two-way channel. The final 'product' therefore is communication between government and citizen. The issue for government was the simple one of holding its nerve as the site reached the front pages and TV bulletins, whilst internal support throughout the organisation was an enormous help.

When considering what could happen, the idea that large-scale petitions could arise from untruths did not occur to the project team. Rumours of the closing down of Royal Air Force display teams,[193] misunderstandings about student loans and a strange belief that the right to take photos in public would be curtailed, all generated large petitions. It was decided to allow these petitions to take place in order to tackle the misconceptions, but to reply before they closed and post the true situation on the petition page so that signatories new and old would be aware of this.

Achievements and impacts

By August 2007, about 8,500 petitions were live and 3,600 completed. There have been over 5 million collected signatures (originating from 3.5 million different e-mail addresses). This means that around 6% of the population have engaged directly with the Prime Minister and have been motivated to join the political process. The site itself is marketed by the users who are motivated to e-mail the URLs of their favourite petitions in order to generate support for their cause.

Good practice lessons

The power of viral marketing should not be underestimated. As mentioned above, by encouraging petitioners to send the URL of the ePetition to others, the message can be marketed so that both users and government get full value (and this kind of communication is hugely cost-efficient). The ePetitions are powerful messages to the politicians as to what people are concerned about and are able to deliver important messages for policy-makers on a range of issues. ePetitions is an important mechanism for public debate and to encourage political engagement, creating an unprecedented level of engagement between the Prime Minister's Office and the users. It is open source and can be used by others, which is to be encouraged.

Petitions are now a regular feature of the media landscape with many media organisations using them and many more sending readers to the site. Many other government organisations are looking into them - President Sarkozy of France was shown the system by Tony Blair at the former's request, while Barack Obama (one of the Democratic Party's presidential candidates in the USA) has also talked approvingly of the process.

Today I Decide (TOM) (Estonia)

TOM (the acronym of the Estonian phrase for 'Today I Decide')[194] is an Estonian eParticipation tool launched in 2001 and set up by the State Chancellery. This public participation portal allows citizens to engage more directly with the legislative and policy-making process either by proposing ideas for new legislation or by suggesting amendments to existing laws. The interface is in Estonian, but a project is underway to adapt the tool for international and multilingual use. The beneficiaries are government institutions - legislative initiatives proposed by the users of TOM are sent to the relevant government body, responsible for the specific topic.

Challenges and barriers

The main difficulty encountered is to enhance the involvement of civil society in legislative and policy-making processes. After a promising start, participation has dropped over the years during which the tool has been operational for a variety of reasons. An extensive analysis of these reasons has been presented in a report made in the framework of the project 'TID+' (Today I decide +), a project designed to adapt the tool, also for international use. Another issue relates to the awareness of the possibilities available. Many potential users are not aware of its existence or its importance. The awareness issue was tackled through numerous attempts to publicise the tool (via traditional press, conferences, etc.). Still, analysis shows that awareness of the possibilities of TOM remains a critical issue. A third issue concerns the question of identification of the users and the respect of anonymity. When weak identification mechanisms are used, this has an impact on both the quality of the ideas presented and the number of unique users, and some administrative adjustments to the portal have been made which have partly resolved this. However, discussions are still taking place concerning the use of stronger technical user identification mechanisms, but which still guarantee the user anonymity, showing that the problem has not yet been solved satisfactory.

Achievements and impact

The main and most obvious achievement of the TOM tool is that it has already been working for six years. Since its creation, over 1,000 ideas for legislation have been proposed. While the tool has some flaws, that are mainly related to the fact that it was not designed to promote

[193] Note: Within the Royal Air Force there are various display teams, the most famous being the so-called 'Red Arrows'

[194] http://www.eesti.ee/tom

citizen debate (other sites have taken over that role), its use as a direct gateway to government and a channel of getting ideas heard and proposals answered, is apparent. The fact that the TOM tool has actually had a real impact can be attributed to the follow-up responses provided to ideas voted by the users of the portal. Once supported by other users, the idea or proposal is forwarded and the administration is obliged to answer. It is this follow-up that makes it more than just a symbolic or public relations initiative.

Good practice lessons

TOM offers many useful lessons. Some of these can be identified as good practices; others can be characterised as arising from a learning process. As is often the case in Estonia, developments and new ideas are implemented rather quickly and from a 'just do it' mentality, making for much greater dynamism, but also requiring a conscious effort to learn from the inevitable mistakes.

Even if a deeper analysis is required, some lessons learned can nevertheless be identified. One such lesson is that attention should be paid to the management of users and moderation of the topics, to prevent both users and administration from getting discouraged by a few 'super-users' or by a flood of ideas with low quality. A second would be that after the initial launch, a continued effort needs to be made to keep the tool widely known and appreciated. Users need to return to participate in subsequent phases, and a way needs to be found to create a buzz beyond the tool itself and to engage citizens in wider discussions by linking to other sites and external documents. Also important is the enhancement of the possibilities of the tool which requires more developed follow-up of ideas and suggestions, and the possibility to debate this follow-up and refine the ideas originally submitted, as well as group related ideas together.

With the introduction of the TID+ project, TOM ceases to be an 'Estonian experiment'. Through this project, extensive analysis will be available. Furthermore, two important deliverables are expected. First, a working tool that can be used in different institutional settings, with documented technical specifications. Second, a set of recommendations demonstrating the experiences gathered throughout the TOM project, not only offering the tool itself, but also guidance as to how best to put it to work.

Virtual Cities (Netherlands)

Virtual Cities[195] is an initiative of the Dutch city governments of Apeldoorn, Helmond, and Tilburg using virtual technology from the university spin-off Cebra It is an interesting organisational cooperation model to support the participation of citizens in discussions and decision making processes of important city reconstruction projects. Visitors can enter the virtual 3-dimensional presentation of the city, as it is at present or will be in the future. They are provided with all kinds of multi-media information, can leave their remarks in a forum, vote for alternative designs, and chat with other visitors. The project is addressed to people from three cities: Apeldoorn (population 156,000), Helmond (population 86,000) and Tilburg (population 210,000). Today there are about 75,000 visits per day.

Challenges and barriers

City planning is the issue where a lot of people have concrete opinions and interests. Before the implementation of the system most citizens based their opinion on paper documentation and many did not really understand the design. People had to go to the city hall and see physical models of constructions and planning maps. This process was quite restricted and, as a consequence, the engagement of citizens was relatively low. The virtual model has led to wide engagement of the population in discussions around the whole planning process. The mechanism to establish two-way communication between public officials of the city and citizens was complicated and slow. In order to tackle that barrier, interactive communication tools were used and discussion groups using new technology were activated. Public opinion was taken into account in the decision-making process for spatial planning. Before the project, there were no flexible possibilities to compare different architectural and design solutions. ICT makes it possible to solve this task in a virtual world.

Achievements and impact

One achievement made by Virtual Cities is easy access to citizens. Secondly, the marketplace of Helmond has now finally been reconstructed after ten years of discussion. In Tilburg, for the first time, an online vote was organised on the citizens' preferred design of the central market place. There are virtual chats between citizens and the members of the city council. The way in which public opinion is taken into account is very innovative and shows many side effects. For example, today only very few citizens try to block reconstruction plans in court. This is due to the wide engagement of the population in discussions, the virtual presentation of all relevant material, and the provision of mechanisms to take into account public opinion.

Good practice lessons

Citizens respond very positively to the Virtual Cities approach. They feel better informed about spatial plans and take their involvement more seriously. They use the opportunity to respond and to discuss the subject with other visitors of the virtual city. This kind of technology

[195] http://www.epractice.eu/cases/1033; http://www.virtueelapeldoorn.nl, http://www.virtueelhelmond.nl; http://www.virtueeltilburg.nl

and functionality needs to be implemented as a normal municipal infrastructure. The system allows the use of the virtual city for many other purposes, for example for city-marketing and/or involving specific groups of citizens (youngsters, etc.). Virtual Cities should be applied proactively in a creative and flexible way with the clear aims to be reached. The Virtual Cities concept has now been used in three Dutch municipalities where the main issues were quite similar, as they are in many municipalities.

Summary of impacts and achievements 2005-2007

Various examples have shown that digitisation may provide far more opportunities for impact on the decision-making process and citizen engagement than before, but in different ways. We can see the following progress from 2005-2007.

1. Organisational aspects – Public administrations are making good progress in streamlining their tasks, and focusing their activities in areas in which they can be held accountable, such as quality and transparency in service delivery and other 'measurable' areas, such as consultation where benefits can be clearly demonstrated. Most administrations do not (yet) have mechanisms and capacities in place to cope with a significant increase in participation.

2. Governance and institutional aspects – Clear evidence has emerged over the last two years that ICT can make information more accessible, transparent and understandable to citizens and thus contribute to more openness and accountability in policy-making. Governments are no longer the sole responsible parties for delivering democracy, but share the task with different stakeholders, such as NGOs and other actors in civil society, including social networks. Traditional systems and patterns of governance are increasingly being challenged, so it is important to strike a balance between the rights and responsibilities of stakeholders. Whether too much participation is indeed in the interests of democracy is an issue worthy of address.

3. Technology aspects – Technology challenges do not differ here from general eGovernment services. Authentication and identification systems are considered the main issue in the short term. It is questionable whether adding ICT to existing governance structures per se will produce more open and accountable governments, better decision-making and more extensive involvement of citizens in all phases of the democratic and participatory process. Governance and democracy systems need to be re-examined, both supported by and independent of ICT.

4. Policy aspects – A high degree of dispersion and fragmentation still prevail across Europe, even though there has been a visible increase in initiatives with a more explicit policy focus such as spatial and city planning, local community budgeting, environment, etc. Increasingly, the focus appears to be on issues that 'people really care about', such as social security, health, education, environment, and, as mentioned above the very immediate, daily issues.

6.5 Future challenges: making the benefits tangible

Experience from initiatives across Europe and beyond has shown the potential benefits technology can bring in extending participation and widening and enriching the political debate. New technology requires policy choices and deliberate implementation strategies designed to maximise benefits and minimise negative outcomes. Therefore a number of challenges remain for decision-makers to address.

1. Institutional and political challenges

Challenges:

- The definition of democracy we refer to – direct, consultative, participative, interactive democracy – needs further clarification. Policy initiatives need to be more explicit on what contemporary democratic problems eParticipation initiatives should be most concerned with in a given context. The understanding of democracy as well as the link to good governance should be made explicit in the objectives of eGovernment, eParticipation and eDemocracy projects and related policy initiatives.

- The discussion on which institutions and actors should be the subject of eDemocracy, and, more specifically, eParticipation, needs to be intensified. More attention should be paid to encourage a better balance between rights and responsibilities and the rule of majorities and space for minorities.

- From a European perspective there is still a lack of coherence at the policy level and a need for a focus on policy areas where technology enhanced participation should be reinforced and trials and pilots should be supported accordingly, which in turn will lead to a snow-ball effect and thus encourage replication.

Options: The EC's eGovernment sub-group consisting of representatives from all Member States should further elaborate the eParticipation fields of action, including clarification on how eParticipation initiatives relate to the broader eGovernment activities in Member States and at European level. Links with and priority areas in other EU policies should be defined more clearly. Member States should agree on priority policy areas for enhanced citizen engagement where eParticipation projects are already running (or should be encouraged to reach

the agreed policy objectives) and thus enable a more structured exchange of experience. Appropriate legal frameworks are important in this context. This should be supported by financial instruments. More research-based evidence is needed to verify if and how ICT encourages the formation of broader ranging policy networks that incorporate citizens, communities, NGOs as well as officials and politicians.

2. Benefits and risks assessment of citizens' involvement

Challenges:

- At this stage, it is not certain that ICT encourages and assists citizens to participate and facilitate engagement. There is a danger that ICT in the democratic process encourages populist participation, whist it should instead ensure a mature engagement and well informed debate.
- There is a need to identify the technical, social and political skills needed for citizens to exploit the potential of the new tools for participation. From the citizens' perspective, too much participation may not be in their interest, placing too many burdens, expectations and responsibilities on them.
- Attention needs to be paid to the socially excluded (see also the Inclusive eGovernment section.)

Options: The relation of eParticipation initiatives (and their respective benefits) to offline developments and activities to enhance participation, reduce administrative burden and reduce the democratic deficit, should be further investigated to decide on effective strategies for adding the 'e'. This should be actively encouraged in EC funded projects. In this context, (emerging) skills gaps and needs should be further investigated.

3. Process design and discourse rules

Challenges:

- It is not always obvious at which stages of decision-making processes citizens/stakeholders are informed and/or invited to participate. Processes should be carefully designed taking into account user needs and democratic objectives.
- The use and relevance of different devices[196] in different contexts or policy issues needs further attention.
- Un-intentioned consequences for democracy in implementing particular devices need to be identified and should be assessed thoroughly. Another question is if it is possible to implement devices that try to affect different democratic problems at the same time.
- At the level of organisation there is a tendency that decision-making structures are becoming more flat, and that decisions are taken at lower levels. The challenge here is how eParticipation tools are used and/or should be used in this changing situation.

Options: eParticipation is about re-designing governance and democratic processes. A 'European charter' (or a similar high level policy paper) stipulating the basic principles could be a useful tool for decision-makers to consider when planning and implementing eParticipation projects[197]. In this context the following questions should be considered when adding the 'e' to participation:

- How far do eParticipation solutions relate to deliberate democratic design (also in relation to who is sponsoring such initiatives)?
- How is deliberation moderated? Is there space for dissent? How is it managed? What is the impact of deliberations on decisions and on stakeholders' perceptions and behaviour?
- What are the potential risks in launching and implementing eParticipation projects? What effort is involved for the administration and what potential resistance by government structures can be expected?
- What might be the motivation of different stakeholders in re-designing processes? Who could be the leader of the change – politicians (EU, national level), leaders in administration, the civil sector, or citizen organisations, etc.?

[196] "Devices are the mechanisms through which particular democratic actions are undertaken. The most obvious of these are elections which select representatives but other democratic devices such as referendums, citizen juries and so on are also relevant. The key point about devices is that they are the primary means through which various actors participate in democracy." (Lawrence Pratchett, Understanding e-democracy developments in Europe, Scoping Paper for the Council of Europe, August 2006 http://www.coe.int)

[197] Directly related to the principles stipulated in the EU Treaty, basic human rights, the rights of citizens etc; the principles and understanding of democracy in a broader sense should be included as well as what the EU is expecting from the process of citizen participation in general and how ICT are influencing and potentially improving the process.

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European eGovernment 2005-2007:
Taking stock of good practice and progress towards implementation of the i2010 eGovernment Action Plan (2007)

This report takes **stock of good practices in 2007**, based inter alia on the cases submitted for the **European eGovernment Awards 2007**. The report also describes the **progress** made in the period 2005-2007 toward the implementation of the **i2010 eGovernment Action Plan** in the five areas of: **inclusive eGovernment, efficient and effective eGovernment, high impact services, key enablers** and **eParticipation.**

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