

# **Bringing Public Administration Closer to the Citizens**

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# I Introduction

The relation between citizens and public administrations is undergoing significant transformations. Advanced information and communication technologies (ICT) can play a key role in facilitating access to public information and the delivery of public services. A number of stakeholders with rather diverse goals shape the scene: Citizens and businesses demand improvements in their interactions with administrations. They expect an improved quality and efficiency of services, a more direct and faster response to their needs as well as increased transparency of public administrations. A greater identification of citizens with administrations is, on the other hand, as much welcomed by governments as are more efficiently operating public administrations and cost savings brought about by the exploitation of ICT potentials. Proper use of these technologies is also expected to improve the communication between different public organisations and departments and promises also, last not least, cost savings for taxpayers. Finally, the private business sector is involved with two major goals: the information industry and new businesses count on the emerging information market based on public sector information. Hard- and software as well as telecommunications industries appreciate the demonstration effects of governments adopting ICT for electronic information services and the associated stimulation of demand and employment effects.

All these factors contribute to the developments towards new forms of ICT use by public administrations and the creation of electronic government services one can observe increasingly worldwide. They are accompanied by visions such as „electronic intergovernmental collaboration“ „responsive governance and public service“ or „empowerment of citizens“ and „cyberdemocracy“.

This background paper addresses some of the major questions around “electronic government” initiatives and attempts to give an impression of recent developments in various countries and different areas of application. It cannot and is not intended to provide a complete account of projects and policy actions in the field. The development is so varied and still so much in flux that it would be too early to strive for an exhaustive documentation. Therefore such a documentation has to be seen as work in progress. The paper rather aims to raise attention to ongoing developments, to illustrate them with some interesting examples and to stimulate the discussion on options and problems involved.

However, the Information Society Forum, in particular its Working Group 5 on “Public Administration”, is also pursuing a further project. It is undertaking efforts to build up an inventory of the developments concerning ICT use in the public sector of EU member states (“initiatives taken or envisaged to introduce the information society into the public sector”). For this purpose a questionnaire has recently been distributed to the representatives of each country in order to collect relevant information. Some countries, notably France, Portugal and Sweden, have already contributed valuable input to the emerging inventory. For the other EU countries this small survey is still ongoing and needs to be completed with further inputs before a synthesis of all results can be presented. Therefore it is also an aim of this conference to motivate participants to communicate relevant projects in their countries. Readers are kindly invited to contribute to a broader coverage of projects and practical realisations in each country so that a more complete overview can be achieved.

The results in this paper are based on an extensive study of the relevant research literature, case reports and other documents as well as on primary research (mainly Internet-based information search and expert interviews).

## 2 Bringing administration closer to citizens and businesses: a bundle of goals

The public sector and its relationships with society have attracted increasing attention and discussion during the past few years. Growing demands on services, budget restrictions and personnel costs, new opportunities offered by technological developments are just some of the changes faced. The potential of information and communication technologies (ICT) not only to improve the efficiency of public administrations' internal operations but also to support the interaction between public administrations, citizens and businesses has increasingly been acknowledged on all levels of government in many countries. This relates to a broader discussion on changes in the public sector and its driving forces which may be summarised by the following points:

- increasing *pressure on public budgets* stimulating the search for ways to increase efficiency and performance within public agencies at all levels;
- a *restructuring of public sector functions and service provision* along with the trend towards privatisation and outsourcing ("reinventing government");
- a growing *demand for supporting legitimation*, convincing citizens of political projects and justifying public administration procedures especially in the European Union ("a Europe of the citizens");
- the supply of *new information and communication technologies* and related services;
- a general *change of management philosophies* and their application on public sector activities („New Public Management“).

The aim to improve the interaction between the public sector and the general public or to bring administration closer to citizens and businesses is a key element in the current developments which are discussed under the heading of "*electronic government*". The term mainly relates to the use of electronic media to support the delivery of government information and public services. It also covers the internal use of ICT within public administrations to improve the efficiency of operations. These *internal* and *external* application perspectives need to be distinguished because they are associated with different options and problems. In this paper the focus is on the external relationships of public administrations and governments, but taking into account that a better quality of service to citizens has to be complemented by improvements of governments' internal workings.

The main goals and expected effects which are associated with the implementation of citizen-oriented electronic services by governments and public administrations boil down to the following three ends:

- provide better and more efficient services to businesses and to citizens (including responding to their needs in a more direct way),
- improve the efficiency and openness of government administration, and
- secure substantial cost savings for the taxpayer.

At the local level there is also the aim of improving the competitiveness of local economies through the development of electronic services.<sup>1</sup>

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<sup>1</sup> Case studies of several German cities show that economic aims such as improved competitiveness and rationalisation effects dominate the local perspective on the use of IT (Grabow/Korte 1996).

In general the use of ICT should lead to a more direct way of response to citizens' needs and expectations resulting in greater identification of citizens with administrations. But achieving these aims requires to:

- facilitate access to electronic services,
- re-engineer services and re-organise the internal structure of the public administration,
- communicate and co-operate more efficiently between different departments of the public administration,
- cope with restrictive budgets and personnel policies in the public sector.

### 3 A typology of electronic government services

In this paper we only consider those electronic government services which are explicitly *citizen- or business-oriented*.

In general, different types of electronic services can be distinguished according to three major *functions* they serve:

- *Information:* retrieving sorted and classified information on demand (eg WWW sites)
- *Communication:* interaction with other individuals or groups of people (eg via email, discussion fora)
- *Transaction:* acquiring products or services online or submitting data (eg government forms, voting)

In the context of electronic government we can further distinguish between various *application areas* of those different types of electronic services:

- *Everyday life:* electronic information for the pursuit of everyday life (related to work, housing, education, health, culture, etc.)
- *Tele-administration:* electronic support for the citizens' or businesses' interaction with the public administration (public service directory, electronic forms, etc.)
- *Political Participation:* electronic support for processes of political opinion formation and decision making (eg discussion fora, background information on political issues, opinion polls, voting, etc)

Services may be dedicated to a specific function or they may be offered in an integrated form, serving multiple functions. Integration is possible on both dimensions of different types of services and of different application areas. For example, regional or city information systems show the strongest tendency towards integration, because they usually offer not only information services but also – at least in a rudimentary form – communication and transaction services in the fields of every-day life and tele-administration, sometimes also in the field of political participation.

Table 1: Application areas and electronic government services

	Information services	communication services	transaction services
<b>Everyday life</b>	information on work, housing, education, health, culture, transport, environment etc	<ul style="list-style-type: none"> <li>– discussion fora dedicated to questions of everyday-life</li> <li>– jobs or housing bulletin boards</li> </ul>	eg ticket reservation, course registration
<b>Tele-administration</b>	<ul style="list-style-type: none"> <li>– public service directory</li> <li>– guide to administrative procedures</li> <li>– public registers and databases</li> </ul>	email contact with civil servants	electronic submission of forms
<b>Political Participation</b>	<ul style="list-style-type: none"> <li>– laws, parliamentary papers, political programmes, consultation documents</li> <li>– background information in decision making processes</li> </ul>	<ul style="list-style-type: none"> <li>– discussion fora dedicated to political issues</li> <li>– email contact with politicians</li> </ul>	<ul style="list-style-type: none"> <li>– referenda</li> <li>– elections</li> <li>– opinion polls</li> <li>– petitions<sup>2</sup></li> </ul>

Transaction services are generally seen as the future of electronic government services, since forms have a key role during administrative processes. In a German Delphi study (ISI 1998) this was regarded as realistic within the next ten years by the experts interviewed. In the USA it is said that already 40 per cent of all forms of the public administration are available electronically.

Transaction services in general belong to the domain of electronic commerce, an application area which is not basically new. However, in the past this was limited to the exchange of business data in closed networks, mostly between enterprises with already established business relations. With the Internet electronic commerce can become a mass phenomenon, in the sense of transactions between enterprises or the public administration and the average consumer.

## 4 Critical issues and problem areas in the development of electronic government services

### 4.1 Determining demand and priority

On the side of the users the demand for electronic government services may be regarded as just another step along the trend towards a do-it-yourself society. But there is also the fact, that the need for citizen information is rising, particularly as regards information

<sup>2</sup> See for example the service to submit petitions to the European Parliament at <http://www.europarl.eu.int/dg1/petition/en/petition.htm>

about benefits and individual rights. This tendency may be attributed to several factors; among them are the change of social security benefits, demographic changes (an increasing proportion of the older population, immigration), the reform of the public administration and last not least rising expectations due to the increasing diffusion of information technology among private households.

An EU wide survey on user motivation in different fields of electronic services which was carried out as part of Eurobarometer 1997, shows varying degrees of interest in the use of teleadministration services (see Figure 1). According to these results, on average the level of interest is around 40% in EU-Europe. Italians are most interested (60,4 percent) and citizens of Ireland are least interested (33 percent). It should not surprise that the willingness to pay for such services – the questionnaire suggested 10 ECU per month – is significantly lower, reaching no more than 10% on the average. The highest proportion of people willing to pay is in Austria (23,5 percent).

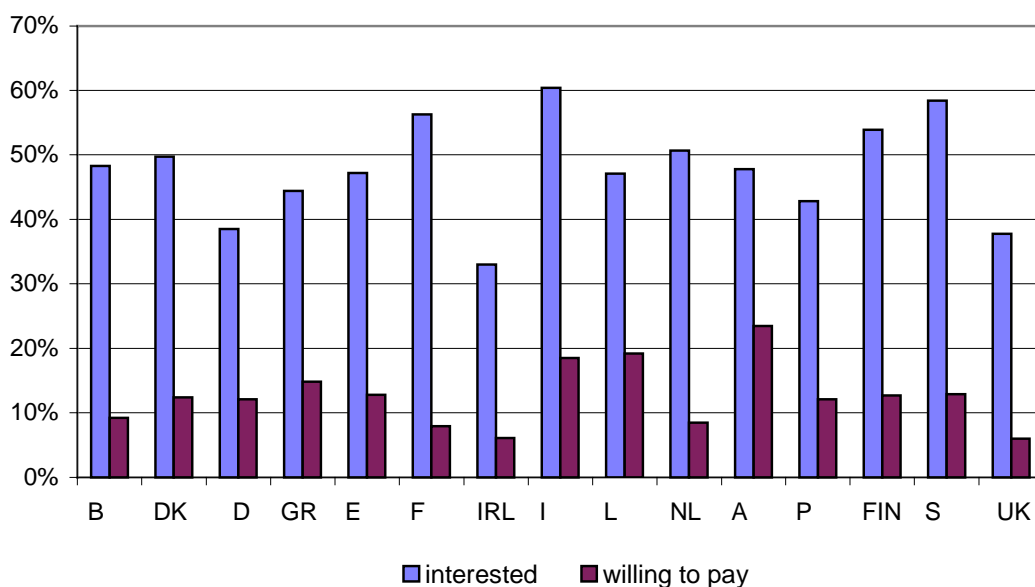


Figure 1: Motivation to use teleadministration services

Source: Eurobarometer 1997

A nationally representative survey commissioned by IBM (1997) asked citizens of France, Germany, Italy and United Kingdom to assess the quality of government service provision. Results show that citizens especially regard speed and accuracy of service as well as opening hours as not satisfying (see Table 2).

Table 2: Citizens who rated government service provision ,not very good' or ,not good at all' (%)

	UK	I	G	F
Opening hours	33	36	41	38
Location of offices	29	29	21	26
Means of contact	25	41	25	31
Speed/accuracy	35	56	42	47
Personal service	30	39	32	36

Source: IBM (1997)

On the side of the providers of electronic government services several reasons for establishing a website are commonly articulated. The key motivation in most countries is the improvement of public services (see Figure 2).<sup>3</sup>

A recent survey shows that senior public servants in Germany, France, Italy and the United Kingdom consider the interaction between departments and citizens as the main application area of electronic government – even more important than interdepartmental interaction (IBM 1998). The respondents also think that the most significant objective for implementing electronic government is to improve the quality of service.

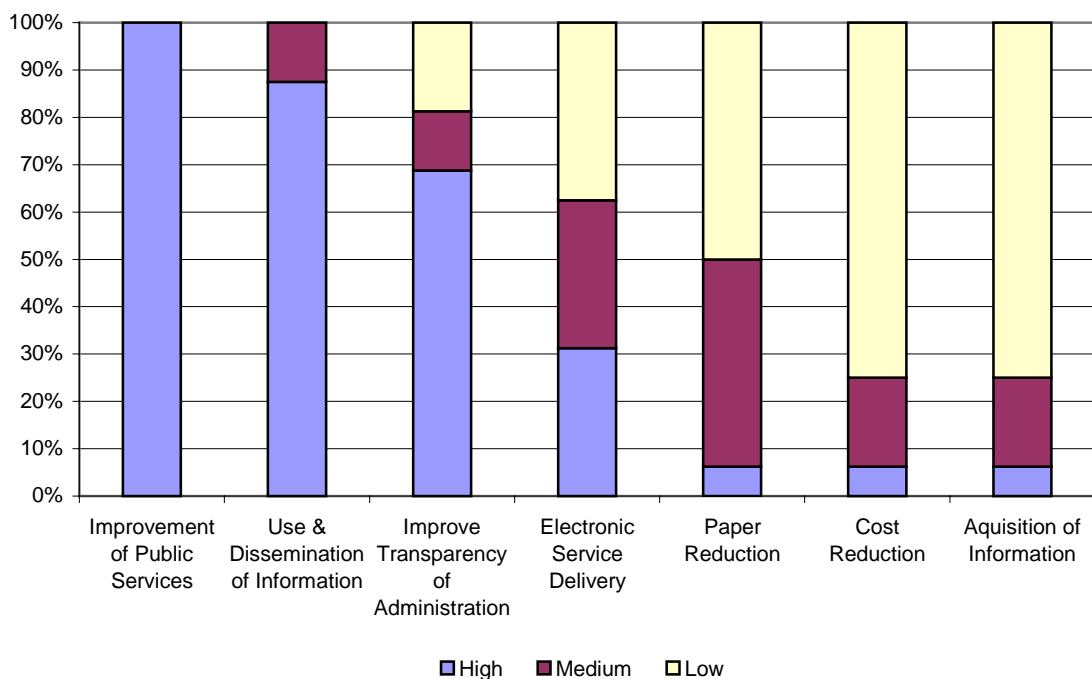


Figure 2: Motivation to provide electronic government services

Source: Bird et al. 1997

<sup>3</sup> In this survey (Bird et al. 1997) 16 countries worldwide were investigated (Australia, Canada, Finland, Germany, Hungary, Ireland, Israel, Japan, Korea, Malta, New Zealand, Norway, Portugal, Sweden, UK, USA).

A Swiss study on „The Internet and Politics“ (Vodoz et al. 1998) conducted a small test on the efficiency of using the Internet to interact with intermediary organisations including political parties, employers- and interest organisations. The aim was to assess the speed of communication and the awareness of the opportunities of electronic information and communication services for citizens. Simple requests were sent both by e-mail and fax simultaneously. Surprisingly, it turned out that the fax version was at least as efficient as the more advanced electronic option. Although many of the organisations addressed are already present on the worldwide web, they often preferred a fax response to e-mail. This led to the conclusion that the rapidity and low costs of electronic communication have not yet been fully acknowledged by these intermediary organisations.

Dealing with the problem of demand has to take into account both sides of users and providers of electronic government services. Since the development of electronic government services usually requires profound restructuring in the public administration and therefore represents a long-term target, efforts should be focused on those services which are already familiar to the citizens and which facilitate interactions of high frequency. The feedback on existing pilot applications like the electronic „Amtshelfer“-service in *Austria*, a virtual one-stop service application, sounds very encouraging and substantiates such a strategy.<sup>4</sup>

## 4.2 Public information policy

Among the many issues around the design of public information policies the questions of which public information should be accessible to what extent and under which conditions are of central importance.

There are three main *stakeholders* in the availability of public information:

- The *public sector* is producer and owner of a large variety and vast amount of relevant information, such as financial and economic data, public registers (e.g. land register, business register, etc.), geographic data bases (maps, environmental information) as well as scientific, technical and cultural information in public research institutions, archives and libraries.
- The *citizens* need various kinds of information, for instance on legal norms or administrative procedures in order to exercise their individual rights.
- The *private sector* needs access to information sources of the public sector in order to offer new services and products by adding specific value to existing basic information, for instance through the creation of packages tailored to particular purposes or groups of users (e.g. custom-tailored information products to manufacturers or various industries based on patent registers).

Which route public information policy should take is a very delicate matter. Two main goals have to be taken into consideration and to some extent need to be reconciled when regulations concerning access are decided upon: on the one hand the more economic goal to foster the development of an information market and on the other hand the democratic principle of a ”transparent” society, which would imply to make public information available in a timely and equitable manner to all.

For an information market to develop it is necessary that the enormous amount of data and information produced and collected by public organisations can be utilised by firms and organisations to create commercial products and services. Another aspect is that

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<sup>4</sup> First hand information on user reactions to this kind of service in Austria is provided under the following address on the web: <http://www.help.gv.at/Reaktionen.html>.

public agencies themselves may have an interest to participate as active players in the emerging information market and wish to ensure revenues from the electronic supply of public information. Since the public sector is the biggest owner of data (e.g. all kinds of statistics and information held by libraries) as well as the biggest producer of “content” (e.g. laws, administrative regulations, etc.), such an interest in commercialisation is a realistic option. On the other hand, in view of the demands to foster the principles of a democratic society, universal access to public information for all citizens at affordable costs is regarded as essential. Apart from guaranteeing information access for all citizens on a fair basis, information policy has to face at least one further problem, that is to avoid a distortion of normal trading conditions when the public sector becomes a commercial actor on the information market. After all, these are largely divergent demands and interests which represent a special challenge to the formation of policies and the design of appropriate frameworks concerning access to public information. At the same time the creation of an information market requires some sort of guidelines for the utilisation (i.e. adaptation and processing) and commercial exploitation of government-produced raw data as well as other kinds of information.

In a global perspective, present policies are characterised by a tension between two different main orientations: the principles of “*open and unrestricted access to public information*” versus what has become to be called a trend towards “*government commercialisation*”.<sup>5</sup> While the latter is more characteristic for at least some of the European countries, the „open and unrestricted“ information policy is especially the position of the U.S. government. U.S. federal information policy is built on the following key elements which have been legally codified:<sup>6</sup>

- the “diversity principle“, which means that information – „the currency of democracy“ according to Jefferson – should be created, shared and used by diverse entities including public agencies, the non-profit sector as well as private value-adding new industries,
- a strong freedom of information law,
- no government copyright,
- fees limited to recouping the cost of search, duplication and dissemination, and
- no restrictions on re-use or re-dissemination of government information.

On this basis a number of new industries utilising information produced by the public sector have emerged in the U.S.. Examples are firms using weather-data, patent information or geographic data bases and add value to them by developing special customised products for commercial distribution.

In contrast to the U.S. position, *European countries* vary greatly in their policies concerning public information. The question of government copyrights is an important issue in this context, since such intellectual property rights permit the exclusion of the private sector from utilising public information for commercial purposes. The Berne Convention, which on the one hand guarantees a high degree of uniformity in most copyright matters world-wide, gives on the other hand discretion to its signatories whether to assert copyright in government information. This results in a rather broad spectrum of national approaches in Europe.

At one end is the United Kingdom which contrasts most sharply with the approach in the United States and stands for the model of “government commercialisation”. The Crown Copyright covers practically anything that is not explicitly controlled by a

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<sup>5</sup> See the discussion in Weiss/Backlund (1997).

<sup>6</sup> The principles are laid down in the Paperwork Reduction Act of 1995; they are set forth in OMB Circular A-130 and were republished in the Federal Register on February 20, 1996. They are also addressed in the draft OMB guidelines for agency use of the World Wide Web (c.f. Eschenfelder et al 1997). Further relevant documents include the Freedom of Information Act and the Copyright Act.

private copyright holder and commercialising government information has high priority. The Royal Ordnance Survey is a particular example of this strategy employed in the U.K. to recover operating costs through information sales, in this case up to 70 percent achieved by charging fees for maps.

Compared to the U.S. and the U.K., the positions of most European countries are in the middle of the spectrum marked by these two poles. Nevertheless the extent of legal regulation of information provision and policy on access to public sector information shows some major differences among EU-member states. The Scandinavian states have strong public access laws, whereas no such laws exist in Germany and the U.K. while France has a weak public access regulation subject to many exceptions. Where government copyright is expressly reserved it is permissible.

The Commission of the European Union is currently drafting a *Green Paper on Public Sector Information in the Information Society*. It will raise awareness what is at stake and what the key challenges are and will address all major issues including the definition and scope of the public sector; the conditions of access; the obligation to produce information and exemptions; time, quantity and format of public sector response to information requests; pricing of public sector information; competition rules (EU and national legislation); rights on public sector information and the harmonisation of national regimes; privacy issues; the need for inventories and directories of public sector information; liability; and finally possible actions. A preliminary characterisation of the situation concerning legislation and policy on access to public sector information in EU-member states can be found in the annex to the current draft of the Green Paper

In contrast with the “government commercialisation” position, this initiative of the European Commission is a major step in already long-lasting efforts to foster greater openness in government information. The draft guidelines which have been suggested by the European Commission on the basis of earlier discussions and studies such as the PUBLAW reports<sup>7</sup> so far suggests principles very similar to the U.S. public information policy (Weiss/Backlund 1997, 320): they encourage the availability of public information for use by the private sector and for exploitation by electronic media, as well as procedures for access to public information, and they discourage exclusivity and restrictions on dissemination and opt for exemption of public information from copyright. This position is motivated by the goal to develop the information market and to ensure that European companies can compete on a level basis with the information industries worldwide.

A major stimulus for the information policy of the European Union towards an improved access of European citizens to information on the European Union, its institutions, their policies and working programmes had come from reservations about the Maastricht Treaty.<sup>8</sup> The increasing potentials of advanced information and communication technologies clearly facilitate a citizen-oriented and more active information strategy.

A distinction between an *active* and a *passive information provision* by the state can be made on the national level as well. In Austria for instance, these two different demands refer to the following types of content (Verfassungsdienst 1998):

- *Active information provision* includes, on the one hand, information which are spread as announcements (e.g. legal norms, press releases, strategy papers, White Papers) and, on the other hand, information which is collected for internal purposes but also may be provided for external use and private entities (e.g. geographic, demographic, economic data and all kinds of records or routinely generated information).

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<sup>7</sup> See <http://www2.echo.lu/legal/en/access/access.html>

<sup>8</sup> In the Maastricht Treaty itself the access of citizens to information is stipulated as a basic right in the annex (*Declaration on the Right of Access to Information*).

- *Passive information provision* concerns the obligation of public bodies to satisfy information requests by its citizens on demand. This includes above all a general obligation to provide information on relevant documents within the limits of certain secrecy obligations. Such information may range, for instance, from personal data, internal documents, reports and correspondence to environmental or health-related data.

The fast development of web pages on the Internet offered by public agencies is increasingly creating a problem in this respect: the guidelines concerning information provision of this kind usually have not been adapted to changing technical means. The need for an adaptation of the rules governing electronic ways of information provision becomes still more important when more advanced applications such as electronic forms services and transactions are concerned.

### **4.3 Technical infrastructure**

Depending on the type of electronic government services provided on the Internet, different types of technical infrastructure are required *on the side of the providers* (ie departments of government and public administration).

- Information services: Internet server to provide plain html pages (simple) or databases connected to the Internet (advanced)
- Communication services: e-mail accounts, dedicated Internet server for the provision of discussion fora
- Transaction Services: dedicated Internet server set up to process incoming data (simple), internal workflow system into which the data submitted by external users via the Internet can be fed (advanced)

In order to assure flexibility and scalability of electronic government services one should avoid single application solutions, which cannot be integrated with other services. A preferable strategy is to define different system levels and to set up specific applications based on these levels (see Figure 3).

The technical infrastructure required *on the side of the users* (ie citizens and businesses) of electronic government services is not so much dependent on the type of services offered - at least in the case of the Internet as platform. Internet access and the browser software provides almost any technical requirements necessary for the use of information, communication and transaction services.<sup>9</sup>

The main barrier for the citizens to use electronic government services is access to the Internet. Today only a small percentage of the population is able to use a PC with an Internet connection either at work, at home or at a public place (eg libraries, post offices).

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<sup>9</sup> There may be additional requirements, like for example a smart card reader for using his or her digital signature stored on a smart card in the course of a transaction service.

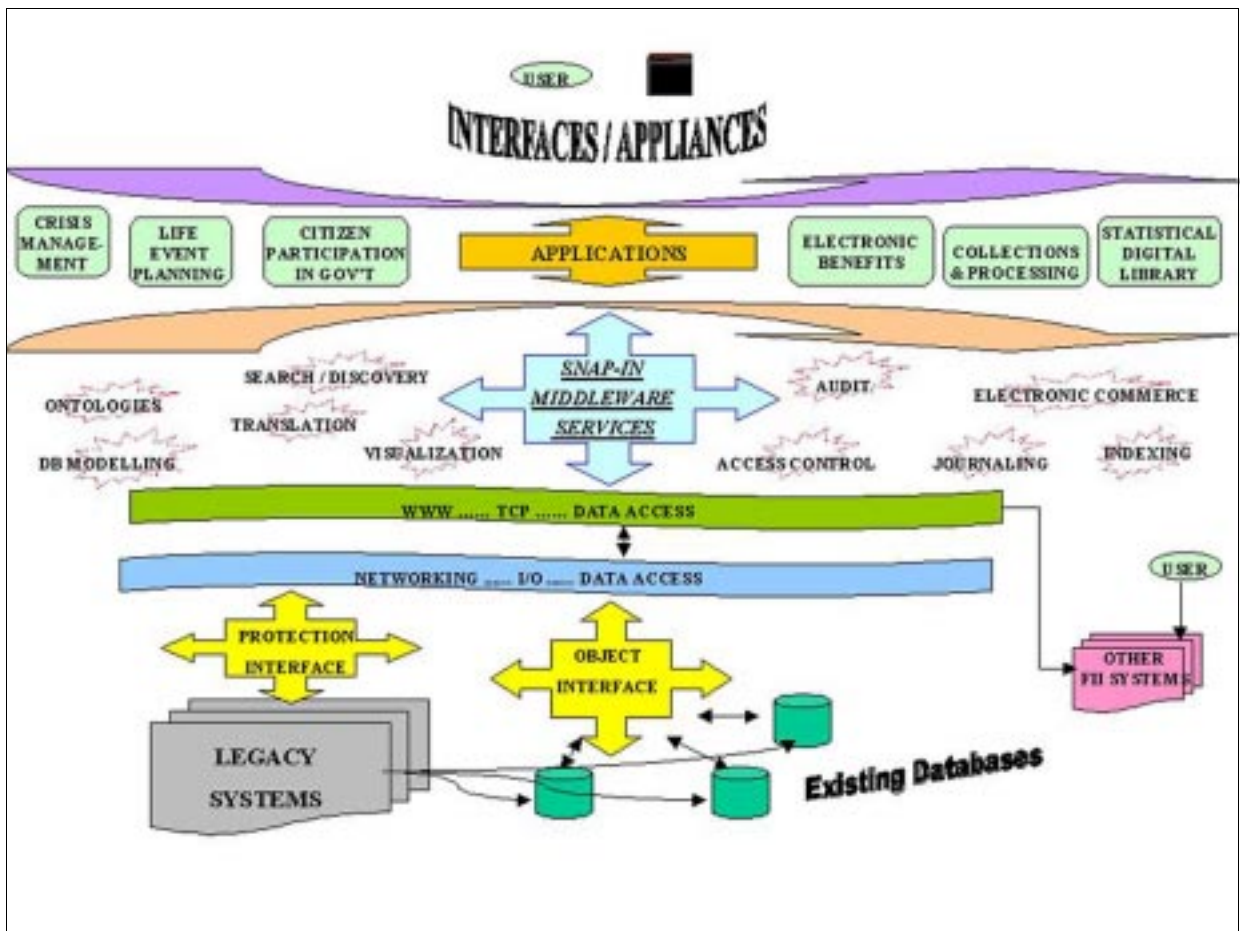


Figure 3: System levels of electronic government services

Source: <http://www.isi.edu/nsf/propfm.html>

#### 4.4 Citizens' access

Accessibility is an absolutely crucial question of electronic government services. If we regard access to government information as a basic service, accessibility depends, first of all, on

- availability of and
- dissemination of or
- effective access

to relevant government information in the wider sense (data and documents held by political and public institutions, in particular government or a government agency, public administration agencies, bodies of parliament and jurisdiction).

From a user perspective, accessibility means to be able to get a requested government information with as little barriers as possible. This implies the absence of barriers such as:

- socio-cultural (attention and attitudes towards electronic means),
- qualificational (cognitive and physical capabilities, 'computer literacy', 'network literacy'),
- technological (network infrastructure and end user equipment),
- financial (equipment and service costs).

With these aspects the concept of accessibility incorporates the dimensions of *attainability* and *comprehensibility* as well as it extends to practical aspects such as transparency, timeliness of information, usability.

One can imagine several ways to access electronic government services:

- PC with Internet connection at home, at work or at public places (eg library, post office)
- digital TV (eg set-top box)
- public kiosk systems
- usage of existing terminals (eg automatic teller machines)<sup>10</sup>

A survey of the *European Digital Cities* project (1996) shows that more than a third of the responding municipal authorities provide public kiosk systems.<sup>11</sup> The average number of terminals in a city tends to be bigger in southern countries and in smaller cities (see Figure 4).

The installation of 25 so-called “access points” in district offices until the end of 1998 has recently been announced, for instance, by the vice mayor in Vienna. In a first stage these new generation of service terminals (a previous set has been in operation already since 1993) are mainly planned to provide information on administrative agencies, job openings and the housing market. Further development of the service will allow for electronic transactions like applications for citizenship certificates or the purchase of parking vignettes. The costs for this first stage of implementation will amount to about 216.000 Ecu.<sup>12</sup>

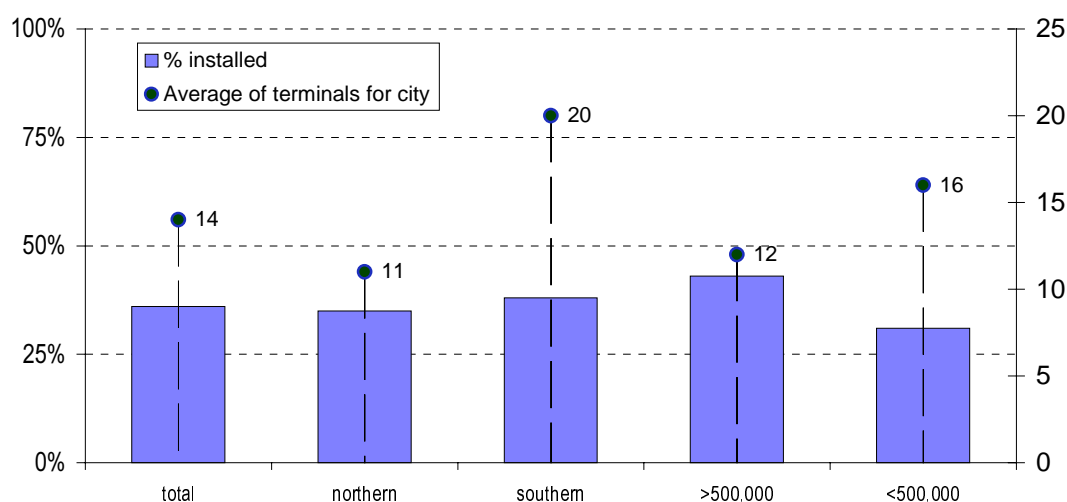


Figure 4: Public kiosk systems provided by municipal authorities

Source: Hayes et al. 1996

<sup>10</sup> POST (1998) suggests with respect to Great Britain the use of BT Touchpoint, bank ATMs, supermarket checkouts, National Lottery terminals.

<sup>11</sup> The sample consists of cities in all EU member states as well as some Eastern European countries.

<sup>12</sup> See the Austrian newspaper *Die Presse*, 5/9/1998, 12.

## 4.5 Implementation issues

In contrast to business processes, where the internal processes can be set up by businesses on their own, administrative processes are regulated to a high extent by law. This means that in public administrations the radical potential of business-process reengineering is restricted by normative rules and the possibilities of changing them. It has to be also taken into account that top-down approaches may lead to more fundamental changes than bottom-up approaches, but the latter may be easier to realise due to greater identification of civil servants with reforms.

A major advantage of the US electronic government initiative is that there have been established organisational links between committees and programmes of public administration reform (see National Performance Review) on the one hand and ICT funding on the other hand.

Government agencies encounter serious *organisational* demands in the development, operation and maintenance of electronic services.<sup>13</sup> These are dominated by two questions:

- the management of coordinated decentralization and
- „make or buy“ (ie outsourcing) decisions.

As regards for example information services the former demand is implied by the fact that the production of government information usually involves a network of actors and agencies with related responsibilities. Very often it is absolutely dependent on their cooperation. The question of outsourcing is connected with the difference between internal and external use of government information. Information that is originally collected and disseminated for internal use only (eg by civil servants), is not automatically suitable and useful for external interested parties. In building up information services for external users or transforming existing information, government bodies usually need the support of other organizations. In the case of information services provided on the Internet one can distinguish three areas of responsibility:

- *Webmasters* are responsible for technical aspects of information provision.
- *Content managers* are responsible for the creation and management of contents.
- *Records officers* are responsible for an agency's records management and archival duties, ie applying laws and regulations of record creation and maintenance.

Experiences show that these roles become more and more differentiated with the evolution of websites.

An important implementation problem arises from the question of charging for the usage of electronic government services. Government agencies are confronted on the one hand with a highly increased demand for the provision of public information and on the other hand with budget cuts. This situation often leads to a reconsideration of pricing policy. One idea is to charge a user for information when it conveys special benefits to him or her that go beyond the information needs of the general public. If a government agency decides to establish user fees for information products it has to take several steps:

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<sup>13</sup> In the case of information services “(it) demands an efficient and effective organizational structure of the government, that can be flexible to new technological developments and users' information needs. It demands cooperation between government agencies, and between the government and private organizations (both profit, and non-profit). It demands for a government acting as a publisher, while not being a publisher and therefore looking for partnerships and alternatives. The network has made it easy to produce and send information .... But it is the organizational capability of government agencies that determine whether this opportunity is turned into fact.” (Bouwman/Nouwens 1996: 21).

- define „basic service“ which is usually free of charge
- define factors which play a role in determining user fees
- add up costs of providing a service and calculate user fees.

Because the processing of user fees requires certain administrative structures, it has to be carefully checked if user fees significantly exceed costs to justify charging at all. However, current legal regulations usually only refer to recovering government's costs of providing a service but do not include the question of making a profit.

One aspect of the implementation of electronic government which also has to be noted is that if government agencies are going online in the sense of providing employees with access to the Internet, they have to develop one or another kind of acceptable use policy.<sup>14</sup>

The main barriers to implementing electronic government are according to senior public servants in different countries (France, Germany, Italy, United Kingdom) the budget, followed by the lack of infrastructure, questions of information security and staff retraining, and last but not least the lack of government policy (IBM 1998).

Summarising the *technical* point of view the following questions have to be solved for a successful implementation of electronic government services:

- secure government intranet
- optimum configuration for data storage and processing
- efficient external access
- electronic identification and authorisation

Some accompanying measures necessary to the successful implementation of electronic government are:<sup>15</sup>

- to guarantee privacy and security,
- to integrate the government services information infrastructure,<sup>16</sup>
- to improve information technology acquisition,
- to increase the productivity of federal employees,
- to enhance information technology learning.

## 4.6 Security issues

Different types of electronic government services face different security issues. While the main security problem of information services is the protection against unauthorised changes of the contents (ie integrity), security problems of transaction services occur in several relevant aspects (see for example Neu et al. 1998):

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<sup>14</sup> One may distinguish three approaches (Menzel 1998):

*generic*: Users are reminded that the ethical and legal standards of other information technology (telephone, fax machine, copying machine etc) also apply to the Internet.

*formalistic*: Users have to sign a statement listing in detail all acceptable and unacceptable behaviours including a note about possible disciplinary action.

*guidelines*: Users have to adopt a more general understanding of acceptable use which is usually nonpunitive and does not explicate do's and don'ts.

<sup>15</sup> These are recommendations by the US Government Information Technology Services Board (1996).

<sup>16</sup> eg establish a coordination office, agreements between different agencies to guarantee interoperability, define peering points (interconnection, interoperation)

- *Privacy*: The information being transmitted cannot be read by unauthorized parties.
- *Integrity*: The form and content of the message have not been altered.
- *Authentication*: Citizens and government agencies must be sure that they are in fact communicating with the intended party.

If sensitive information - like tax information, records on health care or entitlement to government benefits - is involved in the interaction between public administrations and individual citizens, there have to be strong protections for privacy, integrity and authentication.

The most common technical solutions for all three security aspects are based on cryptography (see Textbox 1).

*Cryptography* is central for questions of security in electronic networks. The basic concept is to change the bits representing information through the application of a mathematical algorithm in such a way that the changed bits can only be recovered by using the one „key“ that fits. The level of security is mainly determined by the strength of the algorithm and the length of the key.

Basically there are two cryptographic methods:

With *secret key encryption* there is only one key to encrypt and de-encrypt messages. Therefore the key has to be kept in secrecy and only authorised users receive a copy. The problem is how to distribute the key in a safe way.

*Public key encryption* uses two keys – a public and a private one. A person wanting to receive secure information distributes his or her public key which can be used by other persons to encrypt a message to him or her. These encrypted messages can only be de-encrypted by the one receiver who holds the (secretly kept) private key fitting to the public key. The *digital signature* is also based on this principle but in a reverse way. A central problem is how to guarantee the identity of the person holding and distributing a public key. Therefore certification authorities or so-called „trusted third parties“ verify and register electronic identities. There is a discussion on the obligation to keep copies of private keys in order to reveal them in case of criminal investigation.

#### *Textbox 1: Cryptography*

In Germany the federal Ministry of Education, Science, Research and Technology (BMBF) has started a competition for the development of digital signature applications in city administrations (60 mio DM).<sup>17</sup> In Denmark the Ministry of Research and Information Technology is funding pilot projects on digital signatures by public authorities (central government, county or municipal authorities) with a total amount of 10 mio DKK.<sup>18</sup>

It is often emphasised, that the technology for secure digital communication already exists, but what is still missing is „the institutional, organizational and administrative infrastructure to support a potentially universal (ie available to any citizen who wants it) system for secure and binding e-mail communication between government agencies and citizens“ (Neu et al. 1998).

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<sup>17</sup> <http://www.bmbf.de/deutsch/initiat/wettbwrp/media.htm>

<sup>18</sup> <http://www.fsk.dk/fsk/div/digital/english.html>

## 4.7 Re-engineering of service delivery processes

Envisaged effects of electronic government services - ie cost savings and quality improvements - can only be realised if eventually the whole service delivery process is re-engineered. In the light of an intensified customer orientation a driving force is the idea or concept of a *one-stop service*. Basically it stands for the integration of contacts to different administrative units which are required in the pursuit of certain requests.

It has also been suggested to extend the understanding of a one-stop service towards a "*one non-stop service*" by focusing on the time dimension of service accessibility, too: in this model electronic information and transaction services are envisaged which facilitate interactions with public agencies by enabling services independent of office hours.

This integrative approach to the provision of electronic government services has several dimensions:

- integration of different agencies and administrative levels (eg federal/local)
- integration of different services (information, communication, transaction)
- integration of different contents (eg public/private information providers)

Therefore the development and operation of a *one-stop service* requires a high degree of co-operation and cross-agency working.

But one-stop service also means reducing the necessity to switch between different media when interacting with the public administration.

„Under the one-stop paradigm, all of a customer's business can be completed in a single contact be it face to face or via phone, fax, Internet, or other means. One-stop customers do not have to hunt around, call back, or repeatedly explain their situation. One-stop customer service is convenient, accessible, and personalized.“ (Federal Benchmarking Consortium 1997)

A much discussed need for one-stop service refers to everyday situations of citizens or businesses. In this case the provision of services in a seamless manner requires the integration of various services and administrative procedures across a range of domains (health, social services, education and training, permits and licences, transport, etc.).

The concept of one-stop service also plays a crucial role in the discussion of facilitating business activities in the context of deregulation and improving competitiveness. In Italy, the concept has become part of the administrative reform. A special law has transferred competencies regulating business start-ups from the state to local levels. While the one-stop-shop is realized by purely organisational means („Conferenza di Servizi“) in this case, other countries like UK and Austria strive for utilizing ICTs to support businesses in coming to terms with start-up regulations (eg *Verfahrensexpress* in Lower Austria).

## 5 Examples and case studies of electronic government services

In this section major types of electronic government services will be illustrated with case studies from various European countries. As already explained in the introduction, it is not intended to provide a documentation of all projects or a representative picture of the developments in each country in the field of “electronic government”. A documentation at this stage of development would have to be seen as work in progress. Readers are kindly invited to contribute to a broader coverage of information on projects and practical realisations in each country, as well as to provide missing information and to communicate any corrections to be made concerning projects in their country.

Electronic government services can be classified into several categories. Further dimensions of distinction are: national/regional/local level or citizens/business orientation. Note that the following classification is not all-inclusive but only suggests some common types of electronic government services.

### 5.1 Directory services

Directory services on federal level are usually realised as independent information services, while on regional or local level they are part of more general/comprehensive information services. A main distinction can be drawn between bare lists or indexes of government agencies (type I) on the one hand and directory information based on life events (type II) on the other hand. Type II applications provide added value in that the citizen do not have to know first which agency to contact but can start from his or her concrete situation.

The *Government Information Service* (<http://www.open.gov.uk>) launched in November 1994 is provided by the Central Computer and Telecommunications Agency (CCTA). CGIS sees itself as one of Europe’s major public sector websites. CGIS provides a single point of entry and gives direct access to over 400 public sector organisations. On CGIS one finds either a link to a specific website of a public sector organisation or information provided directly by CGIS on behalf of a public sector organisation. Users can locate information by an organisational index, a functional index or a thematic list of public services. CGIS search function may be used to find most of UK national and local government information published on the Web, because both documents on other servers and its own server are indexed.

*Textbox 2: Government Information Service (United Kingdom)*

One of the oldest and most comprehensive type I examples in Europe is UK’s government information service (see Textbox 2). A more recent, typical type II service is the Austrian *@mtshelper online* (see Textbox 3). Similar services are offered for example in Denmark (*danmark.dk*<sup>19</sup>), Finland (*Citizen handbook*<sup>20</sup>), Portugal (*Infocid*<sup>21</sup>)

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<sup>19</sup> <http://www.danmark.dk>

<sup>20</sup> <http://www.opas.vn.fi>

<sup>21</sup> <http://www.infocid.pt>

and Sweden (*SverigeDirekt*<sup>22</sup>). Recent developments show that the trend is towards directory services based on life-events.

The online public service assistant – *@mtshelfer online* (<http://www.help.gv.at>) – is an electronic service based on citizens' life events (like birth, marriage, passport etc) in which they need information and support to carry out all necessary administrative procedures. It is provided by the Federal Computer Centre.

On the first level (in operation since Dezember 1997) of implementation only information on selected administrative procedures is provided. The next level will be to pass on citizens' inquiries directly to the electronic services offered by the relevant government agencies. On the last level it is planned to provide an interface which allows the completion of all necessary contacts with the public administration caused by a specific life event in a single contact (one-stop service).

The success of this project depends heavily on the co-operation and individual commitment of government agencies, which may be supported by the fact that it is part of the federal programme of innovation in public administration. *@mtshelfer online* is only a co-ordination platform which does not offer government services itself. It is an ambitious but interesting approach trying to connect a kind of public service directory on federal level with the actual providers of government services which may also be on local level. The *@mtshelfer online* is only responsible for the directory information while the responsibility for all other services lies with the respective provider.

On the commercial side it is planned to gain revenues from advertising products related to specific life events.

*Textbox 3: @mtshelfer online (Austria)*

## 5.2 Forms services

Dedicated forms services are usually realised on national/federal level. However, it is quite common that regional or city information services also offer specific governmental forms relevant to their local community.

Again one of the first providers of forms on the Internet was the UK government with its *Direct Access Government* service (see Textbox 4). Other forms services on national level are the Finnish *lomake* service<sup>23</sup> or *AdmiFrance*<sup>24</sup>. A commercial provider in Sweden (*Signform*, see Textbox 5) offers governmental forms for nordic countries (Denmark, Finland, Norway, Sweden).

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<sup>22</sup> <http://www.sverigedirekt.riksdagen.se>

<sup>23</sup> <http://lomake.vn.fi>

<sup>24</sup> <http://www.admifrance.gouv.fr>

*Direct Access Government* (<http://tap.ccta.gov.uk>) is an information service of the UK Government Better Regulation Unit provided by the Central Computer and Telecommunications Agency (CCTA). It has been launched in November 1997 as a pilot project following the publication of the *direct.government* green paper. DAG provides citizens and especially businesses with most frequently needed forms as well as information on administrative procedures. It is a combination of a meta index linking users to websites of government agencies and content provided directly on the DAG server. The information and forms are organized by a subject and a departmental index. Search functions of words or phrases are also offered.

*Textbox 4: Direct Access Government (United Kingdom)*

*SignForm* (<http://www.signform.se>) is an Internet service which offers enterprises and private people to search, download, fill in and print out forms from a number of public authorities. SignForm also provides legal documents as well as the most frequently used forms for internal use at the office or private use and templates for business letters. It is a commercial service charging for usage.

*Textbox 5: Signform (Nordic countries)*

### **5.3 Public databases**

Public databases containing information collected by organisations of the public sector are increasingly provided on the Internet. In some cases access to this information is offered free of charge, in other cases providers act on a commercial basis. The contents of public databases being available through electronic information services range from business and land registers (eg Austrian *Jusline*<sup>25</sup>) or patent information (eg *Esp@cenet*, see Textbox 6) to housing or job information (eg *Austrian Employment Agency*, see Textbox 7).

*Esp@cenet* of the European Patent Office (<http://www.european-patent-office.org>) offers free patent searching in the national databases of many European countries. Users can access *Esp@cenet* via the websites of national offices of EPO members. This allows for customisation according to national requirements (eg language, help, links). Search functions are limited to bibliographic data in patent documents which means that complex searches are not possible. Currently the following EU countries have established access points: Austria, Belgium, Denmark, Finland, France, Germany, Italy, Portugal, Spain, Sweden, United Kingdom.

*Textbox 6: Esp@cenet (Europe)*

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<sup>25</sup> <http://www.jusline.at>

The information system of the *Austrian Employment Agency* (Arbeitsmarktservice Österreich) is provided both on the Internet (<http://www.ams.or.at>) and through a proprietary public kiosk system.

On the Internet users can not only search for jobs but employers can also submit a job offer. There is additional information provided on the services offered by the agency to people looking for a job and to companies. A specific feature is data on current developments of the labour market and on related research.

The public kiosk system provides information on job offers and short information on specific occupations. Currently there are about 200 public terminals available mostly located in job information centers and local branches of the Austrian Employment Agency.

*Textbox 7: Information system of the Employment Agency (Austria)*

#### **5.4 Regional/city information systems**

Regional or city information systems usually contain a broad variety of services relevant to their local community. This may include not only information services but also communication and transactions services in the fields of everyday life, tele-administration and political participation. Such services are also known as *community networks*.

The *Public Electronic Network* (<http://pen.ci.santa-monica.ca.us>) has already been established in 1989 by the city administration of Santa Monica, California with the aim to:

- provide access to public information
- support the interaction between citizens and the public administration
- provide new means of communication to the citizens
- provide discussion platforms to foster community
- improve citizens' computer literacy
- include socioeconomically disadvantaged people.

PEN was for a long time textbased and only since 1997 a graphical interface on the Internet is offered. Full access to the system is restricted to citizens of Santa Monica. An important element are public kiosk systems, whose provision has fostered usage by homeless people. An electronic discussion has even resulted in political action (ie the provision of lockers and showers for the homeless). Another specific feature of PEN is that it does offer not only forms for download but also electronic filing (eg business licence tax renewal).

*Textbox 8: Public Electronic Network Santa Monica (USA)*

Educational, cultural and transport information is very often an essential part of a city or regional information system, because education, culture and transport are considered as aspects of everyday life just like work or housing. Also health related information is very often integrated in information services with a broader perspective comprising local government information, community information, tourist information, information

on jobs and training or on benefits.<sup>26</sup> However, there are examples for dedicated health information systems as well, eg Austrian *Gesundheitsinformationsnetz*<sup>27</sup>.

## 5.5 Legal information services

Legal information services already exist in many countries and an important set of services is also offered on the European Union level, in particular via the Europa-server. Included are services like EUR-lex (access free of charge), CELEX (comprehensive information on European Union law, yearly fees), EUDOR (electronic archiving system for law texts).

Especially in the context of legal information services the question of charging is highly disputed. For example in Austria legal information is provided by the *Rechtsinformationssystem* of the Federal Chancellery (see Textbox 9) free of charge to every citizen while users of the commercial service *Rechtsdatenbank* - which is provided in cooperation by the publishing companies Manz and Orac - have to pay for almost the same content (including some additional databases).

Services on national level may be also found for example in Finland (*Finlex*<sup>28</sup>) or France (*LegiFrance*<sup>29</sup>).

The *Rechtsinformationssystem* (<http://ris.bka.gv.at>) is provided by the Austrian Federal Chancellery. It was originally established in 1983 as an internal legal information system for the public administration. In June 1997 substantial parts were made available to the public on the Internet. The main contents are databases on federal law, on state law and on case law. It is possible to search for any word or phrases in the full text of all documents as well as in specific categories.

*Textbox 9: Rechtsinformationssystem (Austria)*

## 5.6 Electronic democracy services

Political Information services have been established for example by Parliaments around the world, in some cases even including transaction services – like submitting a petition to the European parliament (see Table 3).

Electronic discussion platforms have been tested in several cases for support of deliberation processes. One can distinguish between synchronous (eg chats, online conferences) and asynchronous (eg mailinglists, newsgroups) communication.

Synchronous online conferences on current political topics (eg tax reform, Euro) are regularly organized by the German Bundestag with participation of political representatives.<sup>30</sup> An asynchronous discussion platform has been recently used by the UK

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<sup>26</sup> This is a result of a survey of UK public access information systems carried out by Stevens et al (1997) which is plausible to be generalized.

<sup>27</sup> <http://gin.uibk.ac.at>

<sup>28</sup> <http://finlex.edita.fi>

<sup>29</sup> <http://www.legifrance.gouv.fr>

<sup>30</sup> [http://www.bundestag.de/arch\\_onl/wahl98.htm](http://www.bundestag.de/arch_onl/wahl98.htm)

government for the consultation process on the Freedom of Information Act (see Textbox 10).

Table 3: Parliamentary information services

country	internet address
Austria	<a href="http://www.parlinkom.gv.at">http://www.parlinkom.gv.at</a>
United Kingdom	<a href="http://www.parliament.uk">http://www.parliament.uk</a>
European Union	<a href="http://www.euoparl.eu.int">http://www.euoparl.eu.int</a>
United States	<a href="http://www.house.gov">http://www.house.gov</a>

The goal of *Citizens Online Democracy* (<http://www.democracy.org.uk>) is to provide electronic support for an informed discussion on currently relevant political topics. COD has started in November 1996 as a project for electronic discussion on joining the European Monetary Union. Specific discussion areas are established for current topics but any other topic may be also discussed in open discussion fora. Each selected topic comprises a public discussion area and a resource area. In some cases politicians or public officials join a discussion in which citizens are only listeners but may ask questions. Sometimes contributions are invited, for example from interest groups. Examples of past discussion topics are the future of transport, the future of the UK constitution or electronic delivery of public services.

Textbox 10: *Citizens Online Democracy (UK)*

## 5.7 Business-oriented services

Electronic services offered by government agencies especially to businesses have already been known for some time as Electronic Data Interchange (EDI) projects. One recent example is the Austrian *Finanz Online* service (see Textbox 11).

*Finanz Online* is a pilot project of the Austrian Ministry of Finance which has been put in real operation in January 1998. The system currently allows tax consultants to directly access data of their clients. The next step will be to deliver tax assessments and to file taxes electronically. The authentication of the system users is done by the chamber of trustees. This service which is accessible only for a specific user group (lawyers, trustees) is provided by Datakom Austria, which is a subsidiary firm of Post & Telekom Austria (the dominant post and telecommunications agency).

Textbox 11: *Finanz Online (Austria)*

## 6 National developments of electronic government

The political will to realise electronic government is documented in many countries: either through specific strategy documents (eg *Access America*, UK green paper *government.direct*, Danish white paper *Authorities heading for a fall*, Dutch memorandum *Towards the Accessibility of Government Information*) or as part of more general policy documents on the shaping of the information society (eg the French Action Programme *Préparer l'entrée de la France dans la Société de l'Information*, the information society report of the Austrian federal government *Informationsgesellschaft*). The major initiative on supranational level is the *G7 Government Online* project.<sup>31</sup> However, accounts of the potentials and options of electronic government are not only produced by governments but also by companies operating in the field of information technology, eg IBM's white paper *rethinking government* (Thornton 1997).<sup>32</sup>

The US case is commonly regarded as the most comprehensive electronic government initiative, which initiated much of the current discussion (see Textbox 12). One example for a rather comprehensive electronic government initiative in Europe may be found in the UK (see Textbox 13).

1993 the first *National Performance Review* was carried out. The final report titled „Creating a Government That Works Better and Costs Less“ contained recommendations for a comprehensive reform of public administration. Following that the *Information Infrastructure Task Force (IITF)* has established the *Government Information Technology Services (GITS) Working Group* which is since then occupied with the goal of re-engineering through information technology. The last report of this working group „Access America“ (1997) describes the current situation and formulates a number of specific actions considered to be necessary for the extension and improvement of electronic government services.

### *Textbox 12: US electronic government initiative*

In November 1995 the *Central Information Technology Unit (CITU)* has been established as part of the *Office of Public Service*. Its task is on the one hand to advise ministries on strategies of ICT use and on the other hand to advise departments of the public administration on the provision of electronic services through the private sector. CITU produced an inventory of ICT use and plans in different sectors of the public administration. The current situation was compared with leading applications worldwide (benchmarking). Based on that a green paper titled „government.direct“ was published in November 1996 formulating the UK electronic government initiative. Following that some pilot projects have been initiated.

### *Textbox 13: UK electronic government initiative*

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<sup>31</sup> This has produced a document collecting descriptions of various national electronic government initiatives all over the world (Clift/Ostberg 1997).

<sup>32</sup> The IBM sponsored Institute for Electronic Government also published a so-called white paper titled *Governance in the Information Age* (Caldow 1997).

IBM also offers the software package *NetCommunity* for city administrations, which is based on the groupware solution Lotus Domino (see <http://intelcity.ibm.be>).

As regards the speed of progress towards electronic government one may distinguish three scenarios (see POST 1998):

- *business as usual*: government departments and agencies adopt ICT to meet their own needs;
- *middle way*: better co-ordination between government departments and agencies aiming towards the realisation of one-stop shops;
- *radical approach*: re-engineering of government departments and agencies around common processes.

## 6.1 Regulations

Comprehensive accounts of the current situation of electronic government regulations in different countries need quite much effort to compile and therefore such is available only for some specific aspects. As regards legislation and policy on access to public sector information the draft of the European Commission's *Green Paper on Public Sector Information in the Information Society* (1998) summarises the current situation in EU member states. National accounts of digital signature law can be found in the European Commission's proposal for a directive on electronic signatures (see Table 4).

Table 4: Current situation of digital signature regulations

Member State	Status of legislative initiatives
Austria	Preparatory work
Belgium	Telecommunications law: voluntary prior declaration scheme for service providers; Drafting of law on certification services related to digital signatures; Drafting of law amending the Civil Code with regard to electronic evidence; Drafting of law on the use of digital signatures in social security and public health.
Denmark	Drafting of law on the secure and efficient use of digital communications.
France	Telecommunication Law (Authorization and Exemption Decrees): supply of electronic signature products and services subject to information procedure; use, import and export of electronic signature products and services free. Legislation concerning the use of digital signatures in social security and public health.
Finland	Drafting of law on the electronic exchange of information in administration and administrative judicial procedures; Drafting of law on the status of the Population Register Centre as provider of certification services.
Germany	Digital signature law and ordinance in place: conditions under which digital signatures are deemed secure; voluntary accreditation of service providers; Drafting of catalogue of suitable security measures; Public consultation on legal aspects of digital signatures and digitally signed electronic documents currently ongoing.
Italy	General law on the reform of the public service and administrative simplification in place: principle of legal recognition of electronic documents; Decree on creation, archiving and transmission of electronic documents and contracts; Decree on requirements on products and services under preparation; Decree on the fiscal obligations arising from electronic documents under preparation.
Netherlands	Voluntary accreditation scheme for service providers in preparation; Taxation law providing for the electronic filing of income statements;

Member State	Status of legislative initiatives
	Draft law amending the Civil Code under preparation.
Spain	Circulars of the customs department on the use of electronic signatures; Resolution in the field of social security regulating the use of electronic means; Laws and circulars in the field of mortgages, taxation, financial services and registration of enterprises allowing the use of electronic procedures; Budget Law 1998 mandating the Mint to act as a certification service provider.
Sweden	Preparatory work.
United Kingdom	Drafting of legislation concerning the voluntary licensing of certification service providers and the legal recognition of electronic signatures.

Source: European Commission 1998<sup>33</sup>

## 6.2 Applications

In the last three years there has been an increasing number of websites established by government agencies around the world (see Figure 5). The Cyberspace Policy Research Group (CyPRG)<sup>34</sup> recorded only 142 websites in 1995 but 2617 in 1998.

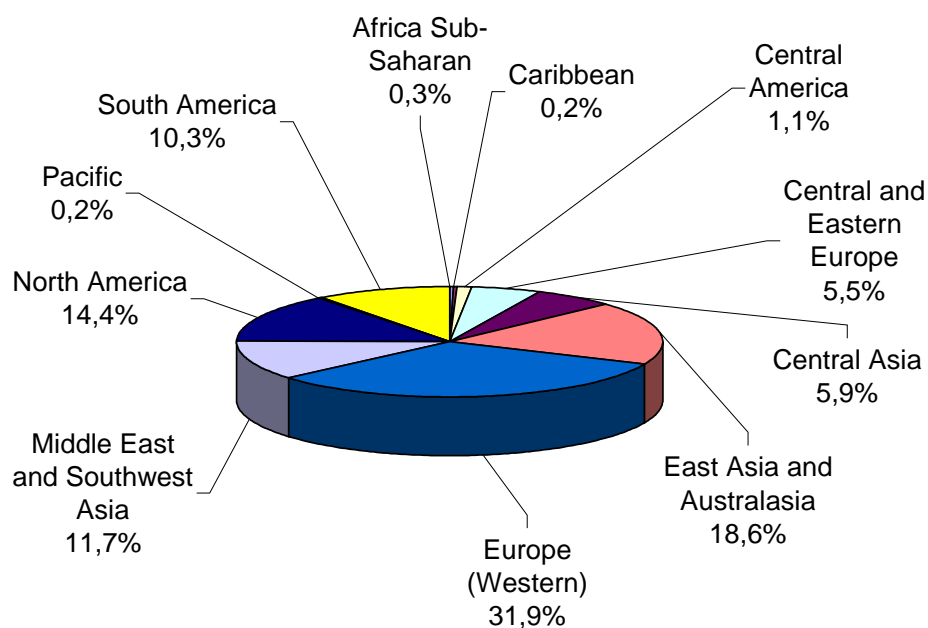


Figure 5: Government agency websites (worldwide)

Source: <http://www.cyprg.arizona.edu>

On the city level a quite impressive number of websites has already been established in European member states. A 1997 survey of *city* websites (ie unofficial sites containing mainly tourist/business information) and *civic* websites (ie official site of a local

<sup>33</sup> <http://www.ispo.cec.be/eif/policy/com98297en.doc>

<sup>34</sup> <http://www.cyprg.arizona.edu>

authority) found out that northern countries (Denmark, Finland, Sweden, Germany, Netherlands, UK) have a higher presence of municipalities on the Internet in contrast to southern countries (France, Italy, Greece, Portugal) where there are more city than civic websites (see Table 5).

Table 5: City and civic websites in EU member states (1997)

	City Web	Civic Web	Total Web	Civic Webs as % of local authorities	N° of local authorities	
Austria	20	26	46	1.1	2301	Gemeinden
Belgium	52	21	73	3.6	589	Commune
Denmark	8	51	59	18.5	276	Commune
Finland	2	153	155	33.2	461	Kaupungit/Kunnat
France	76	23	99	*	*	*
Germany	98	227	325	41.8	543	Kreise
Greece	47	14	61	0.2	5939	Demoi
Ireland	9	7	16	0.6	105	Local councils
Italy	66	43	109	0.5	8097	Comuni
Luxembourg	46	5	51	4.2	118	Commune
Netherlands	21	220	241	31.3	702	Gemeenten
Portugal	73	20	93	6.6	305	Concelhos
Spain	30	101	131	1.3	8066	Municipios
Sweden	10	208	218	72.2	288	Kommuner
UK	93	188	281	38.8	485	Local councils
<b>EU TOTAL</b>	<b>651</b>	<b>1307</b>	<b>1958</b>	<b>4.6</b>	<b>28,280</b>	

\* Since France has above 36,000 communes, this figure was not included in the table, in order to avoid altering the EU total and average numbers.

Source: Kluzer/Farinelli 1997

In many countries there exist at least one central point of access – also called ‘single entry point’ – to the variety of websites of federal, state and/or local authorities (see Table 6). These websites often serve both the citizens as well as the external representation of a country. Usually they are directories of government departments or agencies with a link to the respective information service.<sup>35</sup>

The bare directories of a country’s government information sources may be of limited use for the citizens if they are seeking information in the context of concrete life events like the birth of a child or moving to another place. Therefore in some countries public service directories have been developed, which are oriented at such life events (see Table 7).

A main advantage of online guides in contrast to paper versions is the direct linking to the specific electronic service of a government agency. Moreover it is much easier to keep information up to date.

<sup>35</sup> A meta list of EU member states can be found at <http://europa.eu.int/en/gonline.html>.

Table 6: Single entry points to government websites

country	internet address
EU members	
Germany	<a href="http://www.government.de">http://www.government.de</a>
Finland	<a href="http://www.vn.fi">http://www.vn.fi</a>
France	<a href="http://www.admifrance.gouv.fr">http://www.admifrance.gouv.fr</a>
Ireland	<a href="http://www.ir gov.ie">http://www.ir gov.ie</a>
Netherlands (Postbus 51)	<a href="http://www.postbus51.nl">http://www.postbus51.nl</a>
Sweden (SverigeDirekt)	<a href="http://www.sverigedirekt.riksdagen.se">http://www.sverigedirekt.riksdagen.se</a>
United Kingdom (Government Information Service)	<a href="http://www.open.gov.uk">http://www.open.gov.uk</a>
Other	
Norway (ODIN)	<a href="http://odin.dep.no">http://odin.dep.no</a>
Australia (Government Entry Point)	<a href="http://www.fed.gov.au">http://www.fed.gov.au</a>
Canada (Government Information Locator Service)	<a href="http://gils.gc.ca">http://gils.gc.ca</a>
USA (Government Information Locator Service)	<a href="http://www.usgs.gov/public/gils">http://www.usgs.gov/public/gils</a>

Table 7: Public service directories oriented at life events

country	internet address
EU members	
Austria (@mtshelper online)	<a href="http://www.help.gv.at">http://www.help.gv.at</a>
Denmark (danmark.dk)	<a href="http://www.danmark.dk">http://www.danmark.dk</a>
Finland (Citizen handbook)	<a href="http://www.opas.vn.fi">http://www.opas.vn.fi</a>
Germany (Behördenwegweiser Bayern)	<a href="http://www.stmi.bayern.de/service">http://www.stmi.bayern.de/service</a>
Portugal (Infocid)	<a href="http://www.infocid.pt">http://www.infocid.pt</a>
Other	
Norway (LivsIT)	<a href="http://livsit.nr.no/LivsIT">http://livsit.nr.no/LivsIT</a>
USA (Commonly Requested Federal Services)	<a href="http://www.whitehouse.gov/WH/Services">http://www.whitehouse.gov/WH/Services</a>

As regards communication services the potential of electronic platforms for citizens to discuss political issues with or without the participation of politicians or public servants seems to be already widely recognized. But those applications often lack of mechanisms to affect actual political decision making. A positive example in the UK is the already mentioned consultation process of the *Freedom of Information Act* proposal using the *Citizen Online Democracy* service.<sup>36</sup>

In the field of transaction services the lack of legal regulations (eg on digital signatures) is still a main barrier to the advance of applications. An overview of international initiatives for the implementation of electronic forms points out that in many countries

<sup>36</sup> <http://foi.democracy.org.uk>

efforts take place, but progress seems to be rather slow. An investigation of the websites of German municipalities shows that 11 per cent offer on-line forms, 22 per cent forms for download and 67 per cent no forms at all (Kubicek/Hagen et al. 1998).

Today in many countries citizens can access much government information online, but two-way electronic interaction is not very common. Tax filings, applications for licences or permits or any kind of queries relating to administrative procedures are still mainly accomplished through postal mail and by telephone or in-person contact. A recent comparative study of teledemocracy on municipal level in Finland, Netherlands and Spain concludes that electronic support of citizen participation is still underdeveloped while for example the electronic provision of tourist or business information is flourishing (Schonewille 1998).

Government websites may be evaluated with respect to their *openness*, which consists of the factors transparency and interactivity. Transparency is a measure of the amount of information provided by an agency. Interactivity measures the easiness of getting the information provided or providing information to the agency itself. According to this concept the average openness of the government agency websites in EU member states varies considerably (see Figure 6).

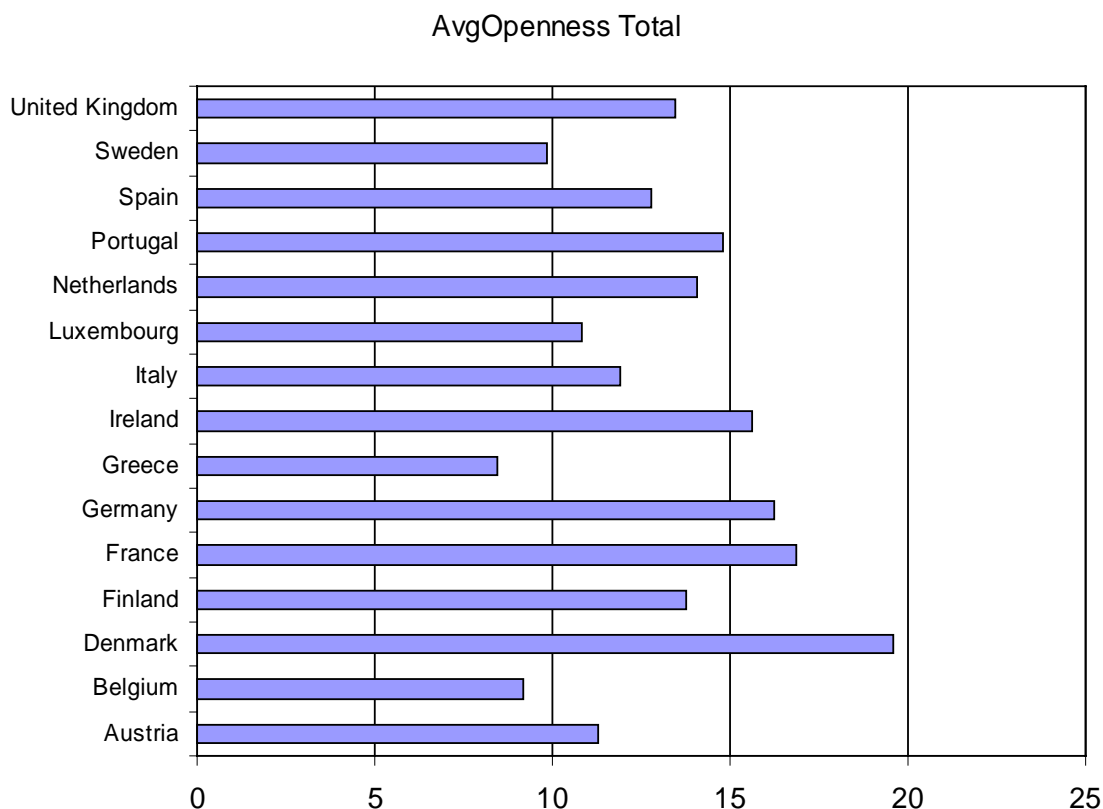


Figure 6: Average openness of government agency websites in EU member states

Source: <http://www.cyprg.arizona.edu>

## 7 Initiatives of the European Union in the field of electronic government

To stimulate and foster the transformation of European societies towards information societies is certainly a major goal within European Union politics. Among the multitude of applications of information and communication technologies (ICTs) which are promoted in favour of social and economic progress, a whole variety addresses the field of “electronic government“, i. e. the utilization of ICTs in the relationship between public sector agencies and citizens as well as businesses. The theme cuts across several of the 10 prioritized application areas stated in a major policy document like the report to the European Council “Europe and the global information society“ (Bangemann Group 1994) including, in particular: telematic services for SMEs; healthcare networks; trans-European public administration networks; electronic tendering and city information highways.

Even if we restrict ourselves to some major initiatives concerning public administrations and electronic public services in the more direct sense, already a long list of *actions and projects* needs to be mentioned, which have been, among others, stimulated and influenced by recommendations of the Information Society Forum.<sup>37</sup>

- The Commission is drafting a “*Green Paper on Public Sector Information in the Information Society*”. This document will launch a public debate on two main issues: citizens’ access to public sector information; and commercial exploitation of public sector information by private information content providers in value-added services. It builds on a number of initiatives reaching back into the mid 1980s, including: the first legislative step in this area, adoption of Directive 90/313/EEC on the freedom of access to information on the environment; studies like the PUBLAW reports and the establishment of the Legal Advisory Board (LAB), a group of information law specialists; a set of 19 guidelines for ‘Improving the Synergy between the Public and the Private Sectors in the Information Market’. However, the impact of these guidelines has to be assessed as disappointing.
- As a follow-up to this Green Paper on public information, the Commission will prepare a *Communication on the results of the consultation and propose action aimed to improving the accessibility of public sector information* across the EU and the availability of public information resources for the content industry.
- Further important actions are proposals for an EU directive on *Copyright and Related Rights in the Information Society* (COM97/359), a proposal for a directive on *Electronic Signature and Encryption* and a European *Initiative in Electronic Commerce*
- The *IDA Programme* promotes the development, dissemination and use of standards and publicly available specifications by telematic networks of administrations that support the Internal Market. As a result, many trans-European telematic networks for administrations are now operational which not only provide critical support for the administration of the Internal Market, but also deliver other significant benefits in various other policy areas. Examples are the TESS (Telematics for Social Security) and EURES projects.

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<sup>37</sup> See Summary of the implementation measures adopted by the European Commission in relation to the recommendations formulated in the First Annual Report of the Information Society Forum “Network for People and their Communities - Making the Most of the Information Society in the European Union” (Working Document of Commission’ services, 1997).

- In *Esprit*, the *pilot project WEBCORE* has been set up to create a European information market where information, goods and services can be purchased, sold or exchanged freely by means of the World Wide Web (WWW or the Web).
- The *Administrations sector of the Telematics Applications Programme* is to promote the use by public administrations of telematics applications and services which will enable the delivery of a wide range of improved quality services to business and to the citizen in a more efficient direct way. Project examples: SPACE (electronic transfer of data on citizens between member states), EBR II (European Business Register II), CoCo (Regional Health Care Networks).
- An Europe-wide competition titled the *Bangemann Challenge*, was initiated by the city of Stockholm in November 1994 and aimed at promoting best practice in the use of ICTs in cities and regions including “public services and democracy“ projects and the awarding of best public kiosks applications.
- Direct contributions of the European Union to electronic information services include the supply of *legal information services* (*EUR-LEX*, *CELEX*, *EULEX/NATLEX*, *EUDOR*, *Official Journal-CD-ROM*).
- Finally, the 5th Framework Programme envisages the development of electronic government services under the Key Action “*Developing a user-friendly information society*“.

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