Accessibility of ICT products and services to Disabled and Older People

Evidence-based analysis for a possible co-ordinated European approach to web accessibility

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This document comprises one of the two main reports from a study commissioned by the European Commission to examine the evidence base for, and explore possible approaches to EU legislation or other co-ordination measures in the field of accessibility of ICTs (eAccessibility). The current report focuses on the specific issue of web accessibility and the other report looks more broadly at the spectrum of ICTs and how these could be covered through eAccessibility measures at EU level[1].

The eAccessibility challenge

'eAccessibility' concerns the design of Information and Communication Technology (ICT) products and services with particular regard to ensuring that they can be used by people with disabilities, as well as a much wider range of older people and others who can also benefit from design for eAccessibility. The available evidence shows insufficient progress in eAccessibility in Europe, with low levels of accessibility and an unfavourable situation in comparison to key reference countries internationally. This results from a market failure to deliver eAccessibility in Europe which is linked to insufficient development of obligations and incentives for the supply side. There is also a lack of sufficient co-ordination of Member State approaches and fragmentation poses significant barriers to the functioning of the internal market.

Insufficient progress in web accessibility despite policy attention

The analysis presented in the report shows that reinforced efforts to improve the web accessibility situation in Europe are needed. Levels of web accessibility across Europe remain very low despite EU-level policy attention for a number of years and it seems unlikely that the targets set by the Member States at Riga in 2006 (that all public websites should be accessible by 2010) will be met without a co-ordinated intervention to accelerate existing efforts. Progress across the Member States is uneven and there is considerable fragmentation in the approaches being implemented. The emerging situation presents barriers to optimal functioning of the internal market in areas such as cross-border shopping, procurement of web-development products and services, and free movement of the many citizens with eAccessibility needs.

Wide variation in approaches and in degree of priority given to web accessibility

A key factor underlying the lack of sufficient progress in Europe has been the wide variation in approaches and degree of prioritisation of web accessibility across the Member States. Some countries have quite strong legislation or policy statements but have not yet implemented much in the way of follow-up measures to ensure that the policy objectives are achieved; others have made only quite general policy statements without putting any concrete measures in place. Only a minority of countries can be considered to have strong legislation supported by extensive follow-up measures. The evidence shows that the best results are being achieved in this group of countries. A coordinated European approach aiming to encourage best practice across all Member

[1] Accessibility of ICT products and services to disabled and older people: Towards a framework for further development of EU legislation or other co-ordination measures on eAccessibility, October 2008

States would therefore be expected to make a substantial contribution to the achievement of the objectives that have been set at Riga.

Positive cost-benefits, but not widely recognised

Importantly, the analysis also shows that implementation of web accessibility can generally be expected to present a very favourable cost-benefit return for governments overall as well as for individual public organisations and for many business sectors. The benefits can be achieved through the extended reach that accessibility provides, not just amongst disabled and older people with specific accessibility needs but also amongst a much wider range of users, such as those with older technologies or software, those using mobile or other small display devices and those without broadband connections. Lack of awareness amongst web owners and web developers of the benefits of accessible web design, and of the close overlaps between accessible design and good design more generally, is one of the biggest barriers to the achievement of the substantial benefits on offer. This seems to be another key factor underlying the low levels of accessibility currently being achieved and the fact that many web sites fail to maintain accessibility once it has been achieved.

Need for coordinated European efforts

Against this background, there is a strong case to be made for better coordination of web accessibility efforts across the Member States. Key objectives for a coordinated European-wide effort would include the achievement of rapid improvement in levels of web accessibility in all Member States, support for the internal market in aspects linked to web accessibility, and measures to ensure sustainability and future-proofing of web accessibility efforts in Europe. Such an approach would be consistent with many of the key policies and objectives of the European Union, including internal market and freedom of movement, consumer policy, the Lisbon Strategy for the knowledge society and the social agenda, as well as the more specific fields of equality/non-discrimination and the implementation of commitments under the UN Convention on the Rights of Persons with Disabilities.

The evidence shows fragmented approaches and limited achievements on web accessibility across the Member States to date, even though a variety of softer EU coordination approaches have already been implemented. A legislative approach may ultimately be deemed to be required in order to overcome current fragmentation of efforts in terms of scope and strength, particularly if the common targets that were agreed at Riga are not achieved. In addition, the internal market and public procurement dimensions of the web accessibility issue may also be judged to be sufficiently important to warrant a legislative approach.

In the meantime, reinforcement of non-legislative measures can make an important contribution. These might include a renewed and reinforced OMC-type approach as well as supporting measures in standardisation and other areas.

Possible scope and key elements of a coordinated European approach

The analysis presented in the report examines a number of dimensions that could be addressed in a coordinated approach.

Scope and timeframe

It is suggested that the focus of a coordinated European approach to web accessibility might cover both websites of public services and those of other key services of general interest, with appropriate encouragement of owners of business websites as well. As regards timeframes to be set for the achievement of web accessibility, it may be appropriate to set a common timeframe for the achievement of web accessibility of all covered websites (both existing and new), with the possibility of derogation to be allowed on a case-by-case basis in the Member States. On the basis of the types of timeframe that have been introduced in Member States already, and the Ministerial agreement at Riga, 2010 would seem to be an appropriate timeframe. Given the low levels of web accessibility at present, however, consideration might need to be given to the merits of agreeing on at least a common minimum set of priority websites that must be made accessible within that timeframe.

In addition to externally-facing websites, the scope of a coordinated approach could also include intranets as their accessibility is of great importance in the employment context. In addition, accessibility of Public Internet Access Points could also be addressed, as this is an important mode of access to the web for many people.

Member State approaches

The evidence shows that strong direct obligations on web owners are most effective in terms of web accessibility results being achieved, especially when followed-up with support measures such as awareness/training, monitoring, and so on. Anti-discrimination measures can also play an important role, for example, as a mechanism for reaching business websites as well as for more generally empowering users. A coordinated effort to encourage the implementation in the Member States of a combination of 'top-down' approaches (that impose direct obligations on web owners) and 'bottom-up' approaches (that give users rights of complaint and support them in various ways, such as provision of information about the accessibility of web sites) could therefore be envisaged. Encouragement of appropriate follow-up measures in the Member States to ensure that policy goals are achieved would also seem useful.

Public procurement

Public procurement has an important contribution to make in the achievement of web accessibility, with the potential not just to support greater accessibility of public sector web sites but also to give an impetus to the web-related product and services markets to give more attention to accessibility. It also has a central role in the internal market for web-related products (such as authoring tools) and services (such as web design services). The evidence suggests that there is little consistency across the Member States in the extent to which and ways in which accessibility is currently being addressed in web-related procurements. Coordination efforts could therefore both encourage the utilisation of public procurement as an important mechanism in support of the achievement of wider web accessibility and work to ensure consistency of approaches across the Member States.

Standards and certification

EU-level support for various other actions could also be envisaged, such as encouraging and supporting the efforts to develop appropriate European web accessibility standards and associated conformance testing and certification mechanisms.

Standards are important for coordination of web accessibility efforts across Europe. They are needed both in a general sense to ensure a common understanding and application of accessibility principles, and in a specific sense to provide a yardstick against which the accessibility or otherwise of web sites can be assessed. In order to support the objectives of a sustainable and future-proof approach to web accessibility, it seems appropriate at this point in time to encourage the Member States to prepare for implementation of a European standard based on WCAG 2.0 when it becomes available. However, as compliance with WCAG 1.0 is the generally accepted international yardstick for assessing accessibility of individual sites and for benchmarking progress at sectoral and national levels, continued usage of this benchmark would seem necessary for the time being.

There is currently no official EU or international certification system or label for web accessibility. This may change when the work under Mandate 376 to the European Standardisation Organisations is completed. In the meantime, it may be useful to consider a common approach to provision of accessibility information (e.g. web accessibility statement and guidance) on public and other websites in Europe.

Monitoring and reporting

Less than one-half of the Member States seem to have implemented any form of benchmarking effort on web accessibility and the various monitoring efforts that are pursued vary a lot in terms of scope and methods applied. Development and implementation of a common monitoring/reporting approach would therefore be a useful component of a coordinated European approach to web accessibility.

The possibility of initiating a common approach to the development and application of better metrics for measuring and monitoring progress in web accessibility could also be considered. There is evidence to suggest that reliance on the currently-used “pass” or “fail” rating system can be problematic as it does not give sufficient recognition to progress that is being achieved and can be a source of de-motivation for those involved. More sensitive and practical metrics might therefore be useful, for use as a complement to existing approaches.

Awareness / training

One of the key challenges in the field of web accessibility appears to be a cultural one, with web owners and designers typically not aware of the generally positive cost-benefit returns of web accessibility and of the close linkage of accessible web design and good web design more generally. Both development of skills and promotion of culture change through awareness-raising are therefore important and could be addressed within a coordinated European approach.

1 Introduction

This document comprises one of the two main reports from a study commissioned by the European Commission to examine the evidence base for, and explore possible approaches to EU legislation or other co-ordination measures in the field of accessibility of ICTs (eAccessibility)[2]. The current report focuses on the specific issue of web accessibility, while the other report looks more broadly at the spectrum of ICTs and how these could be covered through eAccessibility measures at EU level[3].

'eAccessibility' concerns the design and supply of Information and Communication Technology (ICT) products and services with particular regard to ensuring that they can be used by people with disabilities and others (e.g. many older people) for whom the technical features of ICTs can pose barriers to their usage. The issue of eAccessibility for people with disabilities and other groups who are affected has had high EU-level policy visibility and attention for a number of years[4]. In 2005, the Commission Communication on eAccessibility[5] drew attention to the importance of EU-level policies in this field and provided a general stock-taking of the situation in Europe. It concluded that the levels of accessibility of ICTs in Europe remained unsatisfactory and that both reinforcement of existing measures and the introduction of new measures needed to be considered to redress this, including the possibility of new legislation.

To support decision-making in relation to the possible need for EU-level intervention, a study was launched to measure progress in eAccessibility in Europe, the so-called benchmarking (or 'MeAC') study. The study concluded that there has been insufficient progress across the Member States, reflected in the low levels of accessibility of ICTs for those who need it, a poorer situation in Europe overall in comparison to key reference countries internationally, and a 'patchwork' of laws and regulations across the Member States.[6] This lack of progress applies both in relation to web accessibility and to a wide range of other ICTs (such as telephony, TV, computer hardware and software, self-service terminals, and so on).

Reflecting the outcomes of the benchmarking study, the Commission's Communication on eInclusion of 2007[7] concluded that there has been insufficient progress in eAccessibility in Europe and that further steps are needed. The Communication called on Member States to agree on a roadmap for accessibility of public websites and also

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2 Study on "Accessibility of ICT products and services by disabled and elderly people", SMART 2007/056, February-October 2008.

3 See the other report: "Towards a framework for further development of EU legislation or other co-ordination measures on eAccessibility".

4 COM (2001) 529 Communication from the Commission eEurope 2002: Accessibility of Public Web Sites and their Content; Council Resolution on "eAccessibility" - improving the access of people with disabilities to the Knowledge Based Society, 2-3 December, 2002, 14892/02; EP Resolution on eEurope 2002: Accessibility of Public Web Sites and their Content (2002 (0325))

5 COM(2005)425

6 Empirica, WRC, RNIB, RNID, eWORX (2007): MeAC - Measuring Progress of eAccessibility in Europe Assessment of the Status of eAccessibility in Europe (Main Report), http://ec.europa.eu/information_society/activities/einclusion/library/studies/meac_study/index_en.htm

7 COM(2007) 694 final: Communication "European i2010 initiative on e-Inclusion - to be part of the information society"

stated that the possible introduction of horizontal legislation in the eAccessibility field would be examined.

The remainder of this report focuses on an analysis of the evidence base of relevance to the possible introduction of EU-level measures in the field of web accessibility, including possibly legislative measures, and explores some of the implementation options that might be considered in this regard.

Chapter 2 examines the various dimensions of the web accessibility challenge, including issues from the perspectives of users, web owners, support industries, Member States and the European Union as a whole. Chapter 3 examines the rationale for and possible elements of a co-ordinated European approach to web accessibility. Finally, Chapter 4 presents an overall summary and conclusions.

2 The web accessibility challenge

It is sadly ironic that the web - a medium that was intended to be accessible to everyone, including people with disabilities - has evolved in a manner that often presents major accessibility barriers for them as well as for various other groups. This is in the main due to a lack of attention to accessibility by web developers (and the relevant web-related product and services industries) rather than to any inherent properties of the web as a medium, per se.

The scale of the web accessibility problem in Europe is substantial. Many national and a number of European surveys over the last few years have found that the majority of websites, be they public or commercial, do not comply with basic internationally accepted accessibility guidelines. The generally accepted minimum level of accessibility is Level 'A' - the lowest and most basic level of accessibility - in accordance with the W3C Web Content Accessibility Guidelines (WCAG 1.0). Against this yardstick, a survey of 436 public websites across Europe conducted under the UK European Presidency in 2005 found that just 3% of sites were fully compliant with the accessibility guidelines[8]. More recently, a survey of 314 government and key commercial/sectoral websites of major public interest (e.g. railways, TV, newspapers, retail banking) in Europe conducted as part of the eAccessibility benchmarking study found that only 5.3% of government websites surveyed and none of the key commercial/sectoral websites surveyed were fully compliant with the basic accessibility guidelines[9].

This continuing poor picture arises despite a relatively long-standing EU policy commitment to public web site accessibility and various common commitments made by the Member States.[10] More recently, the Commission Communication on eAccessibility in 2005[11] again drew attention to the importance of EU-level policies in this field and the Ministerial Declaration on eInclusion at Riga in 2006 set as one of its priorities the promotion of inclusive eGovernment by ensuring accessibility of all public web sites by 2010.[12]

The 'Riga Dashboard' in 2007[13] (Exhibit 1) graphically illustrated the scale of the challenge facing Europe if the public web accessibility targets are to be met and noted the need for further policy intervention. In response to this the Communication on

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8 Cabinet Office (2005) eAccessibility of public sector services in the European Union. November. (www.cabinetoffice.gov.uk/e-government/eaccessibility)

9 Empirica, WRC, RNIB, RNID, eWORX (2007): MeAC - Measuring Progress of eAccessibility in Europe Assessment of the Status of eAccessibility in Europe (Main Report), http://ec.europa.eu/information_society/activities/einclusion/library/studies/meac_study/index_en.htm

10 COM (2001) 529 Communication from the Commission eEurope 2002: Accessibility of Public Web Sites and their Content; Council Resolution on "eAccessibility" - improving the access of people with disabilities to the Knowledge Based Society, 2-3 December, 2002, 14892/02; EP Resolution on eEurope 2002: Accessibility of Public Web Sites and their Content (2002 (0325))

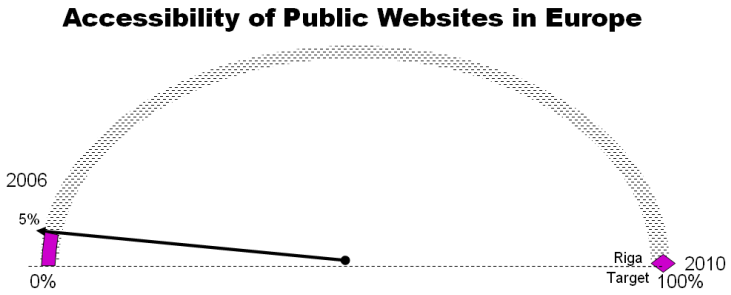
11 http://eurlex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en& type_doc=COMfinal&an_doc=2005&nu_do c=425

12 http://ec.europa.eu/information_society/events/ict_riga_2006/doc/declaration_riga.pdf

13 Measuring progress in e-Inclusion - Riga Dashboard, 2007. http://ec.europa.eu/information_society/activities/einclusion/docs/i2010_initiative/rigadashboard.doc

eInclusion in 2007[14] called upon Member States to agree by mid 2008 on a roadmap for accessibility of public websites.

Exhibit 1: Riga Dashboard



In considering the introduction of European-wide measures to increase current levels of accessibility of public and/or commercial web sites across the EU the concerns of a variety of stakeholders need to be taken into account. These include end users, web site owners and relevant support industries as well as the individual Member States and the European Union as a whole. Some of the key issues arising for each group and at each level are discussed in the following sections.

2.1 Users

Any effort to increase the levels of accessibility of public and/or commercial websites is especially important for the users who stand to benefit from accessibility. For many people, web accessibility is a prerequisite if they are to be able to use the web at all; for others, attention to web accessibility brings substantial benefits of other types. Its importance resides not just in ensuring that people can use the web, but that they have an equal opportunity to participate in the increasing range of activities for which the web is now so important and even essential. In this regard, it should also be mentioned that until recently there was a common, if erroneous, view amongst the web design community that making a web site accessible is incompatible with stylish and modern-looking design. This 'myth' no longer prevails and it is accepted that accessibility-oriented web design can benefit a very wide range of users, extending far beyond people with disabilities, the most immediately obvious beneficiaries[15].

A double-edged sword for equal opportunities

Access to the web is essential for equality of opportunity for people with disabilities and other groups at risk of eExclusion. On the one hand, the web offers unprecedented

[14] Communication from the Commission on: European i2010 initiative on e-Inclusion - 'To be part of the Information Society'. Brussels 8.11.2008 COM (2007) 694 final http://ec.europa.eu/information_society/activities/einclusion/docs/i2010_initiative/comm_native_com_2007_0694_f_en_acte.pdf

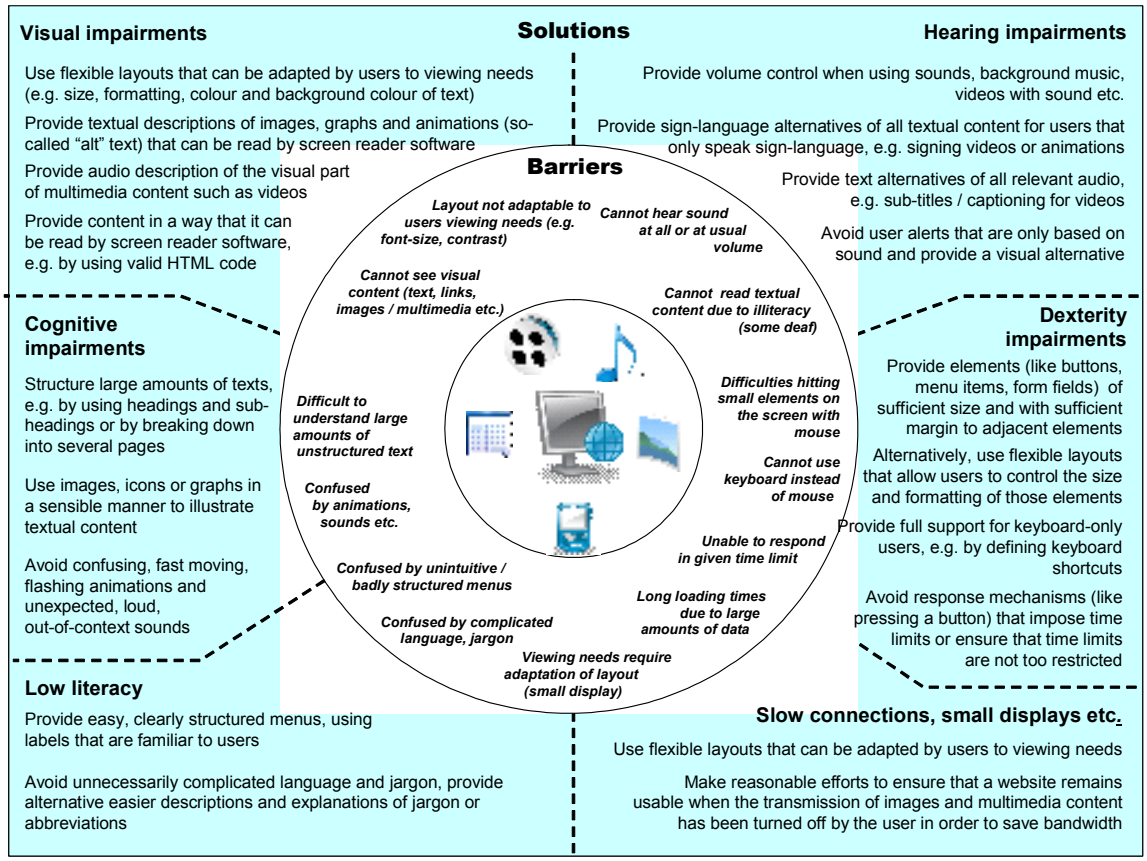
[15] Jim Thatcher et. al. (2006): Web Accessibility – Web Standards and Regulatory Compliance and The Customer Respect Group (2008): Accessibility and Business Value Study as well as www.w3.org/WAI/bcase/soc for more detailed discussion).

possibilities to make accessible what was previously inaccessible. It can reduce or even eliminate many of the physical barriers posed by traditional modes of participation, such as difficulties in getting to the polling station, public service offices and shops, and difficulties posed by interactions delivered in fixed media (e.g. text in printed documents, voice over the telephone, and so on). In this way, the web can help to remove barriers that have historically limited participation in everyday social, economic and democratic life in society. In addition, the web presents totally new possibilities to actively contribute content and have one's voice heard than has hitherto been the case. On the other hand, when websites are not accessible they present major new barriers to equality of opportunity in key areas of life and thus the web may have more of an excluding than including impact. Not only are the positive opportunities for inclusion lost but, as online services become the main or even only channel for participation, completely new barriers emerge as well.

Groups who can benefit from web accessibility

There are a number of groups for whom accessibility is important if they are to be able to use the web effectively or even at all, and some key accessibility provisions that can support their various needs (Exhibit 2).

Exhibit 2: Some web-related eAccessibility challenges and solutions



Relevant groups include: people with disabilities; older people; people with low literacy or not fluent in the language; people with low-bandwidth connections, older technologies or devices with limited display or interaction capabilities; new web users.

Costs of exclusion due to inaccessibility

One of the key benefits of the web derives from the flexibility and ease of access to services that it can provide. In practical regard this means reduced time, effort and expense associated with interaction with public and other services through other means, such as by phone, face-to-face or post.[16] Lack of accessibility means that many must continue to bear the higher transaction costs associated with alternative channels, assuming that they are able to access them at all.

Data on transaction cost benefits from eGovernment services for the citizens who use them can be used to show the scale of the economic costs for those for whom web sites are inaccessible. A European survey found that the average time saving for citizens using eGovernment services as opposed to more traditional modes of government or public service interaction was 69 minutes for each online-contact[17]. Using standard methods for valuing time savings in economic terms, the losses in time savings forgone for people for whom eGovernment services are inaccessible can be calculated to run to many hundreds of millions of euro across Europe as a whole (see section 2.2 for further discussion of this).

For many, lack of accessibility means not just higher transaction costs but also higher costs for products and services themselves, as well as limited choice in the products and services that they can avail of. The same products and services are now often offered at lower prices online (e.g. airline tickets) than through traditional retail outlets; this means higher prices for those who cannot access online services. Another feature of online access is the much wider consumer choice that is possible - the best and most competitively-priced products and services can be found much more easily online than offline.

Based on available data from the UK, a crude estimation suggests that for every 1% of the core eAccessibility beneficiary groups that are enabled to access and use online shopping, annual savings for these consumers would be more than €40 million.[18] Simple scaling of this across the EU as a whole would yield savings of more than €300 million amongst just this 1% of the core target group for eAccessibility. If 40% of all consumers with disabilities across the EU were enabled to make use of on-line shopping then cost savings to consumers would be more than €12 billion.

Other examples of the potential cost savings can also be provided and some of these are presented in Annex 1.

[16] GAREIS, K. and A. MENTRUP (2001): Virtualisation of Labour Market Transactions: Technological Potential and Status Quo. STAR Issue Report No. 7 and Schartz, H., Hendricks, D.J., & Blanck, P. (2006). Workplace Accommodations: Evidence Based Outcomes, Work, 27, 345–354.

[17] Ramboll Management (2004): User satisfaction and usage survey of e-government services

[18] For details see Annex 1

2.2 Web owners

Web owners are of course another key stakeholder group in any effort to increase levels of web accessibility in Europe. On the one hand, it is necessary to consider the effort and costs for web owners that would be associated with any additional requirements or obligations in relation to web accessibility. On the other hand, any benefits that may be gained for web owners as a result of making their websites accessible can be offset against such costs.

Costs of web accessibility

There is no definitive picture available of the costs of web accessibility for web owners. Part of the reason for this is that costs vary depending on many different factors. However, it is generally accepted that costs are typically a lot lower at the design stage in comparison to the costs of retrofitting accessibility for websites that are already in situ. Costs are likely to increase with increasing size and complexity of websites, particularly where retrofitting of existing websites are concerned. However, the evidence suggests that costs are often overestimated and they have tended not to be considered excessive by the courts when actions have been taken by disabled people on grounds of inaccessibility[19].

Other factors that can affect costs include the ways that websites are designed and updated, for example, proper use of cascading style sheets (CSS) to separate structure from presentation can make it easier to ensure accessibility.

Most websites are continually updated in terms of content, functionality and other aspects meaning that costs of maintaining accessibility are also an important. Once accessibility has been achieved it should take relatively little effort to maintain accessibility over time, but effective procedures need to be in place to ensure that this happens[20]. Again, the design of the site in terms of its underlying structure and coding will have an important impact on the ease or difficulty of maintaining accessibility and thus on costs.

Despite the likely variability in costs depending on the circumstances, the available evidence to date suggests that costs of accessibility would not represent an undue burden for web owners in the majority of cases. Before any consideration of benefits accruing from investment in accessibility, estimates of additional costs for ensuring accessibility have ranged from negligible to up to 30% (see Annex 1). Based on extra cost of up to 25%, a cost analysis conducted in 2004 suggested that the actual additional costs of accessibility are likely to be very small, varying from less than 0.001% to 0.3% of turnover across a range of company sizes and different degrees of website

[19] For example, in Australia in the context of a judgement in favour of a complaint against the inaccessibility of the Sydney Olympics website, the courts brought in expert witnesses and a commission determined that it would cost relatively little and a lot less (just one sixtieth!) of what was originally estimated to make the site accessible.. C. f: Olympic Failure: Tom Worthington: A Case for Making the Web Accessible (available at http://www.tomw.net.au/2000/bat.html (accessed on 9th June 2008) ; see also Blanck, P. (2008). Closing: Special Issue on Disability Policy and Law, Flattening the (InAccessible) Cyber World for People with Disabilities, Assistive Technology Journal, 20, 175-80

[20] Experts have highlighted that “with up-front planning and good practices, the cost of accessibility can be lowered to negligible levels”. Slatin, J.M. (2001): The art of alt: Toward a more accessible web. In Computers and Composition: An International Journal for Teachers of Writing, 18(1-2), 73-82.

complexity[21]. This means that a requirement to make a website accessible should be 'readily achievable' in the majority of cases.

Benefits from reaching core groups

The examination of costs of accessibility is only one side of the picture, of course, and there is considerable evidence that accessibility of websites can bring substantial benefits to web owners. Thus, not only are costs in themselves generally quite reasonable but the overall cost-benefit equation is typically very positive.

One basic benefit is the avoidance of the costs of lack of accessibility, for example, when accessibility is required by law or where inaccessibility is a potential ground for complaint under anti-discrimination law. In the US, for example, there are already examples of web owners taking proactive steps to make their websites accessible to avoid the possibility of future litigation.[22] More positively, accessibility can yield substantial positive benefits deriving from extension of 'reach' of the website across the potential user/consumer population and this is examined in some detail in the following sections.

Public websites

In the case of the public sector, there has been growing attention to cost-benefit assessment of eGovernment as a mode of delivery of government services. The evidence shows that all three levels of customer-facing eGovernment - information, interaction and transaction - provide substantial and measurable benefits for both government and users, with the level of benefit increasing as the level of sophistication increases[23]. In particular, there can be substantial savings for government from reduced transaction costs when compared with traditional service delivery modes.

Of course the mission of government is not just to make savings in its own costs but to provide services and benefits to its citizens. Thus the direct economic benefits of eGovernment usage for citizens can also be added to the overall cost-benefit equation for web accessibility in the case of eGovernment. As already mentioned above, user benefits from transaction time savings can be monetised and thus valued in economic terms[24].

To provide an overall economic cost-benefit picture, economic benefits arising for both government and citizens can be set off against cost accruing to governments for achieving web site accessibility. Exhibit 3 provides some illustrative results of detailed modelling of cost-benefits of investment in web accessibility linked to transaction cost savings for government and citizens from eGovernment services (a detailed presentation is provided in Annex 1).

Based on the best available evidence, the model takes a range of estimates for the additional costs associated with making public websites accessible and applies this to

[21] Heerdt, V. and Strauss, T. (2004) A cost-benefit approach for accessible web presence. In: K. Miesenberger at al. (Eds.) ICCHP 2005, LNCS 3188, pp. 323-330

[22] C.f. Jim Thatcher et. al. (2006): Web Accessibility – Web Standards and Regulatory Compliance as well as Customer Respect Group (2008): Accessibility and Business Value Study

[23] OECD (2005) e-Government for better Government. Chapter 4: the Business Case for eGovernment.

[24] Research has shown that users can realise time savings for a range of public services when compared with on-line to off-line transactions. C.f. Ramboll Management (2004): User satisfaction and usage survey of e-government services

the estimated costs for a full suite of citizen-oriented eGovernment services in all Member States. [25] It then examines how the cost-benefit implications vary with increasing 'reach' amongst those disabled and older people who would otherwise be excluded because of lack of accessibility. The data in this table is based on an assumption that on average an online citizen will use online government services (of any type) two times per year (other variants based on other usage frequencies are presented in Annex 1).

Exhibit 3: Cost-benefit modelling for accessible eGovernment - net cost-benefit per annum (euro, EU 25)

Reach amongst target group	Economic costs-benefit categories	Additional costs to achieve website accessibility			
		2%	5%	15%	30%
5%	government costs for eAccessibility	-24,256,800	-60,641,999	-181,925,997	-363,851,994
	government transaction cost savings	158,223,882	158,223,882	158,223,882	158,223,882
	net government costs/benefits	133,967,082	97,581,883	-23,702,115	-205,628,112
	citizen benefits	153,112,707	153,112,707	153,112,707	153,112,707
	total cost/benefit	***287,079,790***	***250,694,590***	***129,410,592***	***-52,515,405***
10%	government costs for eAccessibility	-24,256,800	-60,641,999	-181,925,997	-363,851,994
	government transaction cost savings	316,447,764	316,447,764	316,447,764	316,447,764
	net government costs/benefits	292,190,964	255,805,765	134,521,767	-47,404,230
	citizen benefits	306,225,415	306,225,415	306,225,415	306,225,415
	total cost/benefit	***598,416,379***	***562,031,180***	***440,747,181***	***258,821,184***
20%	government costs for eAccessibility	-24,256,800	-60,641,999	-181,925,997	-363,851,994
	government transaction cost savings	632,895,528	632,895,528	632,895,528	632,895,528
	net government costs/benefits	608,638,729	572,253,529	450,969,531	269,043,534
	citizen benefits	612,450,829	612,450,829	612,450,829	612,450,829
	total cost/benefit	***1,221,089,558***	***1,184,704,358***	***1,063,420,360***	***881,494,363***

As would be expected, the analysis shows that the overall cost-benefit return becomes more positive as cost estimates for accessibility go down and additional reach percentages go up. Even without taking into account the value of time savings for citizens, the majority of cost-reach scenarios are positive for governments and only the highest cost and lowest reach ones show negative outcomes. In fact, the highest cost scenarios are very unlikely to arise in reality as it is estimated that at least 40% of current government websites may be quite close to being accessible (see Annex 3) and are therefore likely to be relatively easily made accessible[26]. In addition, the modelling is

[25] The basic data on overall eGovernment spending in the Member States is taken from from the eGEP study and adjusted to take into account stage of development in terms of the percentage of government services for the citizen that are e-enabled from the benchmarking study conducted by Cap Gemini for the same year; estimates of the percentage of the overall eGovernment spend that accrues to customer-facing websites is based on data available from the UK (full details of data sources and calculations are presented in Annex 1).

[26] On this basis, and taking into account the various cost estimates that are available, an upper bound of about 20% would seem more reasonable than 30% at this point in time.

based on the same level of recurring costs per annum, whereas in many cases the costs of maintaining accessibility should be a lot lower than the initial (retrofit) costs, especially if good design principles are adopted at an early stage.

When savings for the citizen are also included, the overall cost-benefit calculation (for governments and users combined) is only negative in the least favourable cost-reach scenario (30% additional costs for achieving web accessibility and 5% increase in reach). In the most favourable scenario (2% additional costs for web accessibility and a 20% increase in reach) the model suggests a total estimated net benefit of more than €1.2 billion across the EU as a whole.

Commercial websites

Conducting an overall cost-benefit analysis for accessibility of commercial websites is more difficult because the 'business logic' will vary considerably across sectors and this will determine how important any extension of 'reach' through accessibility will be and how it can be valued in economic terms. Nevertheless, there have been some efforts to provide some generic estimation of the cost-benefits of website accessibility for business, with one calculation of indicative savings of between 12% and 35% of web site costs per reach point from reaching disabled and older customers through the web compared to costs of reaching through other advertising/marketing.[27]

Such analyses suggest that the cost-benefit equation for business can be positive in many cases, although for niche market or specialist businesses the value of wide (as opposed to targeted) reach may be a lot more limited. For present purposes, therefore, it is useful to focus on some business sectors that are especially important from a general interest point of view, such as online banking and online retailing.

In the case of online banking, for example, there is evidence available of the considerable financial savings (to a bank) from online as opposed to other forms of transaction[28]. In addition to transaction cost minimisation, the business logic of banking also includes reach in terms of advertising and selling products. Therefore, the overall business logic of the sector suggests that the accessibility cost-benefit equation for the banking sector would be towards the more positive end of the spectrum. A similar logic can be applied in the case of online retailing. In both cases, substantial benefits from wider reach can be expected as a result of accessibility of online services and these would more than offset any costs in many cases.[29]

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[27] Heerdt, V. and Strauss, T. (2004) A cost-benefit approach for accessible web presence. In: K. Miesenberger at al. (Eds.) ICCHP 2005, LNCS 3188, pp. 323-330

[28] C.f. Forrester Research (2003) The business case for right-channeling, , Forrester Research.Forrester (2003), Corrigan, D. (2006) E-banking's new era. Available at http://archives.tcm.ie/businesspost/2006/12/03/story 19243.asp, In Sunday Business Post Dublin and Ilikecake (2006) Accessible websites are cost effective. Available at http://www.ilikecake.net/accessibility/costeffective.htm

[29] Cost-benefit modelling conducted for this analysis suggests that retail banks across Europe could invest in excess of 176 million euro in website accessibility and still get a positive return on their investment, if reach among the core eAccessibility target group was 21% and each customer would use online banking once a month. If the number of contacts per year was just 1, then the banks could still invest €10 million and get a positive return of investment in eAccessibility of their web sites. Similar analysis can be made for online retailing. Based on data for online shopping, for example, it can be estimated that every 1% increase in the use of online shopping by consumers among the core eAccessibility beneficiary groups would result in additional sales of more than 128 million euro per annum for retailers across the EU27 (for details see Annex 1)

Wider benefits

In addition to benefits from reaching core groups (people with disabilities and older people with functional limitations) there are also the benefits from reaching and/or providing better usage experiences for other groups, such as those using low bandwidth connections, using mobile phones or other small display devices and the like. Other tangible benefits can also be achieved because accessible design requires attention to good design principles[30]. These include increased search engine optimization (SEO), enhanced usability for all users and technical benefits such as lower site maintenance costs, reduced server load, improved interoperability and preparation for advanced technologies.

These benefits can result in substantial economic benefits in terms of increased business reach and direct costs savings through reduced personnel costs, amount of server capacity needed and avoiding the need for multiple versions of a site for different user devices.[31] The wide range of potential benefits is well illustrated by the often cited example from the insurance sector.

Benefits of web accessibility - case study: Legal and general[32]

- 30% increase in natural search-engine traffic
- significant improvement in Google rankings for target keywords
- 75% reduction in time for pages to load
- elimination of browser-compatibility complaints
- accessible to mobile devices
- reduced time to manage content (ten-fold)
- savings of £200,000 annually on site maintenance
- 95% increase in visitors getting a life insurance quote
- 90% increase in insurance sales online
- 100% return on investment in less than 12 months

Barriers to achieving and sustaining web accessibility

Overall, there are good technical solutions now available for meeting the majority of web accessibility challenges[33]. In addition, the available evidence points to there being a strongly positive cost-benefit case for accessible websites in many cases and to a substantial overlap between 'accessible' design and the general principles of 'good' design. Thus, there are neither financial nor technical barriers to the achievement of much greater web accessibility in Europe.

[30] Shawn Lawton Henry (2006) Understanding web accessibility. In: Thatcher et al (2006) Web Accessibility, Web Standards and Regulatory Compliance

[31] Customer Respect Group (2008): Accessibility and Business Value Study

[32] Source: Jim Thatcher et. al. (2006): Web Accessibility – Web Standards and Regulatory Compliance

[33] C.f. W3C's Web Content Accessibility Guidelines 1.0 and Candidate Recommendation on Web Content Accessibility Guidelines 2.0, available at: http://www.w3.org/TR

Despite this, progress in the achievement of web accessibility has been very unsatisfactory. Not only do surveys find just a small minority of websites to be accessible but it also seems that, once achieved, accessibility is often not being maintained. National research has demonstrated that there can be significant "churn" in web accessibility, with websites that achieve accessibility at one point commonly failing to sustain that accessibility over time.[34]

Reflecting this, there have been calls for a 'culture change' within the web owner and web design/developer communities so that accessibility comes to be embraced as an integral part of an organisation's approach to effective web presence.[35] The need for such a culture change, supported by awareness-raising and training in accessibility skills is borne out by surveys of web owners and web developers.[36] Awareness-raising about accessibility and the positive cost-benefit returns that can be achieved, and training in the skills to achieve web accessibility are therefore central to the achievement of sustainable progress in relation to web accessibility.

2.3 Support industries - web software and assistive technology sectors

The challenge of web accessibility is not solely an issue for web owners, designers and developers. In fact, the delivery of accessibility depends on four interdependent components: web content, authoring tools, user agents and assistive technologies (see Exhibit 4 overleaf).

Web content is produced with the aid of authoring tools, rendered to the user via user agents (browsers, media players) and, sometimes, through assistive technologies such as screen readers. All of these components need to be interoperable and complementary if the end result delivered to the user is to be accessible. If one component fails to deliver then the result is a shift of effort and costs to another component, and generally lower accessibility overall. In addition to the four core components, accessibility evaluation tools have a central role to play both in supporting web developers and in monitoring compliance with accessibility. In addition to guidelines on web content accessibility, guidelines have also been developed to support accessibility of user agents and authoring tools.[37]

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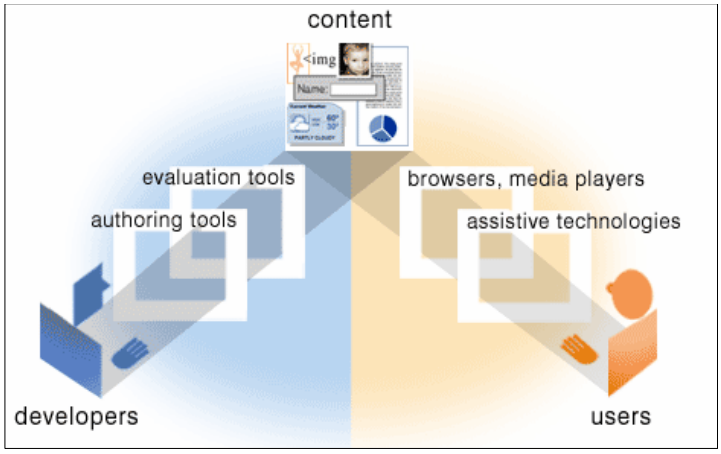
[34] In the UK, for example, national surveys of local authority websites found that almost 14% passed the accessibility test in 2007 but only 8% did in 2008 and, of the total of 64 websites that passed in 2007 just 13 passed in 2008 (c.f. Soctim 2008: 10th annual 'Better connected' review). The same effect has been reported by the Infoaccessibility observatory launched in 2004 by Discapnet, the leading Spanish-language disability web portal. (http://www.discapnet.es/documentos/infoaccesibilidad/Tema_10/english/html/Inter_sector_Study_on_Web_Accessibility_2007.htm)

[35] C.f. for instance Steven Sintini (2007): Legislation on eAccessibility: the Italian approach. (available at: http://www.pubbliaccesso.gov.it/english/eAccessibility-Italy.doc); see also Schur, L., Kruse, D. Blasi, J, & Blanck, P. (2009). Is Disability Disabling In All Workplaces?: Disability, Workplace Disparities, and Corporate Culture, Industrial Relations, (forthcoming).

[36] http://www.isolani.co.uk/blog/access/DrcReportOnUkWebAccessibility
http://www.enabledweb.org/public_results/survey_results/analysis.html

[37] C.f. W3C's Authoring Tool Accessibility Guidelines 1.0 and User Agent Accessibility Guidelines 1.0, available at: http://www.w3.org/TR

Exhibit 4: The three component of web accessibility



Source: http://www.w3.org/WAI/intro/components.php

User agents

As regards user agents, the browser market is currently dominated by two main products with some variability in terms of the most commonly used product across the European countries. The media player market is dominated by three main products[38].

Evaluations of the accessibility support provided by these and some other fairly commonly used user agents[39] have found generally fairly positive results even if not all important features have yet been implemented, as well as some variability across the products on the market.

Authoring / content management tools

This sector covers a broad range of products, including: editing tools specifically designed to produce Web content (e.g., WYSIWYG HTML and XML editors); tools that offer the option of saving material in a Web format (e.g., word processors or desktop publishing packages); tools that transform documents into Web formats (e.g., filters to transform desktop publishing formats to HTML); tools that produce multimedia, especially where it is intended for use on the Web (e.g., video production and editing suites, SMIL authoring packages); tools for site management or site publication, including tools that automatically generate Web sites dynamically from a database, on-the-fly conversion and Web site publishing tools; and tools for management of layout (e.g., CSS formatting tools).

[38] Browser statistics from April 2008 showed that Internet Explorer is today still the most common browser. However, FireFox has become quite popular as well (IE 7: 24.9%, IE6: 28.9%, IE5: 1.0%, Mozilla Firefox: 39.1%, The Mozilla Suite: 1,0%, Safari: 2.2% Opera: 1.4%). (http://www.w3schools.com/browsers/browsers_stats.asp).

[39] C.f. User Agent Implementation Report for Second Candidate Recommendation, available at: http://www.w3.org/WAI/UA/implementation/report-cr2.html, and a capability survey of Japanese user agents, available at : http://www.comm.twcu.ac.jp/~nabe/data/2006/W4A2006/

Quite a range of products are available on the market. These include no/low cost shareware, commercial software products and add-ons to standard word processing software. Evaluations suggest that many authoring tools provide at least some level of accessibility support although the extent of user input that is needed may vary a lot. [40] However, fully "automated" accessibility support does not seem to be available yet. Thus, some manual exploration and manipulation of the HTML code will be required in any case, as well as accessibility related expertise at the part of web designers using such tools.

Assistive technologies

Screen reader software enables persons with visual impairments to access the content and easily navigate through appropriately designed websites and documents. Screen readers 'speak' the visual content of websites for the user and are operated though keystroke commands by the user, such as reading a given rectangular area of the screen, reading text with a particular colour combination, or reading the title and maximized, minimized, or normal status of the current window. Modern screen readers can generally anticipate what the user wants to hear without the user having to memorize more than a few keystroke commands. The user can also customize how the screen reader behaves in a particular application, instructing it to announce font changes or new text appearing in particular areas of the screen, or specifying which punctuation characters should be spoken. However, a screen reader can read only text, not images or animations. Thus it is essential that web content is appropriately designed (e.g. by providing text alternatives that can be read by the screen reader).

2.4 Member States: the current legislative / regulatory situation

Web accessibility presents challenges for the Member States in a number of ways. On the one hand, there is the regulatory challenge of implementing effective measures to encourage web accessibility across the public sector and possibly also in other sectors deemed to be of important public interest. On the other hand, there is the substantive challenge for public sector web owners to make their own websites accessible, given the relatively low percentage of websites that currently pass accepted accessibility tests.

In all Member States accessibility of public web sites has been the focus of at least some policy attention in recent years. However, there is considerable variation in terms of the type and nature of policy approaches that have been implemented. The Table above presents an overview of the current situation in this regard. It is based on best available evidence that was compiled from publicly available sources during the summer 2008. (for details see Annex 4).

[40] C.f. Jeff Witzel (2003): Web Authoring for Accessibility, available at: http://www.mrsc.org/Subjects/InfoServ/webmastr/031021/presentations/mrsc.ppt

Dimension	Situation across the Member States
Type of approach	About half of the Member States (MS) have imposed direct legislative/regulative obligations on web site owners (including soft law such as parliament resolutions). Prominent examples include AT, DE, CZ, ES, IT, SK, UK, F, NL, PT, DK. Some countries have equality or other legislation in place that has given a more indirect stimulus to web accessibility efforts (e.g. BE, MT, IE). The remainder have addressed web accessibility through non-legislative measures of various types.
Websites covered	The majority of MS focus only on public websites in their direct measures on web accessibility. The available evidence suggests that the scope of coverage of public websites varies; some MS include all levels of government and public entities, whereas others only directly address central government. Intranets are rarely addressed in an explicit manner (e.g. DE). In the few cases where commercial websites are directly addressed (e.g. DE, IT, PT), this tends to be of a softer, more 'encouragement' type of approach.
Timeframe for web accessibility	About one-half of the MS have implemented a specific timeframe within which web accessibility is to be achieved, with time horizons ranging from 2005 to 2011. In some countries (e.g. NL, SK, UK) new websites are given an immediate deadline whereas existing websites are given some time to adapt.
Accessibility requirements	W3C's Web Content Accessibility Guidelines (WCAG 1.0) represent a major reference point in almost all Member States that have put in place some type of interventional measure. A few countries have developed variants, based on national norms and/or the US section 508 standards (e.g. CZ, IT, NL, SE). Most countries refer to WCAG 1.0 single A and/or double A requirements; triple A requirements are referenced to a lesser extent. The forthcoming WCAG 2.0 guidelines seem to have been very rarely addressed so far (e.g. DE).
Support for web owners	A number of countries have implemented dedicated "flanking measures" to support web owners in the implementation of their accessibility-related policies; these tend to focus on three key aspects - awareness raising, networking of relevant actors and organisational capacity building.
Enforcement	Enforcement is not very visible in the majority of countries. Where it is, it tends more towards the "persuasive" (e.g. through award schemes, "naming and shaming"). Sanctions for non-compliance are only apparent in a few countries (e.g. ES, IT, SK).
Conformity assessment	In the majority of countries conformity assessment schemes have not been put in place; only in a few Member States have such schemes so far been set up as part of a dedicated government policy (e.g. AT, NL, IT). In some countries voluntary web accessibility labelling schemes have emerged, operated by NGOs or commercial parties.
Monitoring	Benchmarking of accessibility of web sites has been identified in less than half of the Member States; where it happens, annual benchmarking has remained an exception. The various monitoring efforts pursued so far vary a lot in terms of scope (e.g. number and types of web sites sampled) and methods applied (e.g. accessibility criteria applied, self-evaluation vs. external evaluation); it is thus difficult to compare outcomes across countries.

2.5 European Union as an internal market and free movement space

Here the focus shifts to the supra-national level to consider the web accessibility issue from the overall European Union's perspective, in particular as regards its relevance and impact on the internal market and on free movement.

Internal market

There are two main ways that web accessibility may impinge on the internal market, namely, through its potential implications for cross-border eCommerce and through its

potential implications for trade in web-related products (user agents, authoring tools, and assistive technologies), as well as web design/developer services.

Cross-border eCommerce

For consumers the currently low levels of accessibility of websites across Europe clearly represent a barrier towards participating in online shopping both within countries and across borders. For online businesses, this substantially reduces the potential market size and considerable losses in terms of potential sales that could be achieved. It is currently estimated that some 30 million EU citizens buy goods and services online from another EU state[41] and the evidence suggests that cross-border shopping and other activities such as banking[42] will gain in importance in the EU. On the basis of the current average spend on online shopping, reaching 1% of those excluded would represent an additional market potential of more than 128 million euros per annum (for details see Annex 1)

Trade in web-related products and services

There is no reliable data available on current cross-border trade volumes for the web-related goods and services industry such as web developer software, user agents and contracting of web design, development and maintenance services. However, the current patchwork of eAccessibility legislation and regulations clearly poses the risk of hampering cross-border business in these sectors due to varying public procurement rules and standards that may be applied in relation to accessibility requirements for such products and services.

Free movement

Web accessibility is also relevant in relation to the free movement of citizens, where the role of online public services is being given increasing attention. A recent study on stakeholder requirements for pan-European eGovernment[43], for example, found that a wide range of online services (such as pensions, tax declarations / refunds, residence permits, and many others) were given relatively high ratings of relevance for mobility of citizens. Accessibility of such services will become increasingly essential for people with disabilities and the large number of mobile older people, both for purposes of planning movement across Europe (for work, employment or residency purposes) and for linking with important services back home when they have moved.

[41] According to Reuters some 150 million EU citizens turn to websites such as Amazon.com and EBay for shopping and 30 million buy goods and services from another EU state, spending on average 800 euros ($1,240) a head. C.f. http://www.reuters.com/article/internetNews/idUSL2033804520080620?sp=true

[42] Deutsche Bank research (2007): EU retail banking – Drivers for the emergence of cross-border business, Financial Market Special EU Monitor 34. See also See also Blanck, P. (2008). Closing: Special Issue on Disability Policy and Law, Flattening the (InAccessible) Cyber World for People with Disabilities, Assistive Technology Journal, 20, 175-80 (making this argument and trading with outside of EU states).

[43] Capgemini (2004): Study on stakeholder requirements for pan-European eGovernment Services

3 Towards a co-ordinated European approach

Although web accessibility has already been on the European policy agenda for some time, it is clear that insufficient progress has been achieved and that there is considerable fragmentation of approach and efforts across the Member States. In addition, there continues to be a lack of appreciation of the wider benefits of web accessibility and a failure to institute sustainable approaches to achieving and maintaining web accessibility.

There is currently no EU-level legislation addressing web accessibility even though today the web has come to take its place as a core network service of major public interest, with an importance that arguably is reaching that of the telecommunications and TV sectors, and a considerable number of Member States now have legislation in place in this field. Reasons for an EU-level intervention could derive from the evidence that non-legislative measures to date have not had sufficient impact as well as from the internal market concerns that arise in relation to fragmentation of efforts and approaches across the Member States.

Following the Communication on eInclusion in 2007, a public consultation was launched in 2008 to gauge stakeholders views both on specific issues in relation to web accessibility and on more general issues in relation to a possible horizontal approach to accessibility of ICTs. Among those who responded to this consultation the level of support for a common European approach towards web accessibility was almost unanimous.[44] Overall, 96.9% of the respondents agreed that a common approach was needed to facilitate a high level of availability of accessible web sites, and 95.6% stated that this should be equally motivated by the desire to improve the situation of people with disabilities and the competitiveness of European companies.

In addition to the public consultation, a consultation meeting was held with Member State representatives from the eAccessibility group of the eInclusion subgroup, user organisations, industry and accessibility experts in Brussels on June 10, 2008, focusing on the issues of web accessibility and horizontal accessibility legislation in Europe. A key conclusion from the meeting was the general recognition of the value of reinforced EU-level co-ordination of and support for Member State web accessibility activities.[45]

There is thus a strong case for considering the possibilities to implement EU-level measures to achieve better co-ordination of web accessibility efforts across the Member States, and this has been recognised by many of the stakeholders concerned. Coordination measures in this field would be in line with subsidiarity requirements as it is unlikely that the co-ordination and internal market goals could be sufficiently achieved by the Member States alone. Overall, for reasons of both scale and effect, it can be expected that the objectives would be better achieved if supported by Community level action.

[44] C.f. Report on a public consultation on web accessibility and other e-accessibility issues launched on 2nd of July 2008 through the European Commission's interactive Internet platform "Your voice" (forthcoming)

[45] C.f. Summary report on a consultation workshop on web accessibility and e-accessibility held on 10 June 2008 in Brussles (http://ec.europa.eu/information_society/activities/einclusion/public_consultation/doc/ws_report.doc)

3.1 Policy objectives

In the context of a co-ordinated approach to web accessibility in Europe, some key policy objectives could be to:

- achieve rapid improvement in levels of web accessibility in all Member States
- support the internal market in aspects linked to web accessibility
- ensure sustainability and future-proofing of web accessibility efforts in Europe.

There is a need to encourage a rapid improvement of web accessibility in all Member States. Current levels of accessibility are far behind the common targets that have been established in the Riga Declaration and a co-ordinated effort across the Member States to implement effective approaches to remedy this is necessary.

There is also a need to support the internal market in aspects linked to web accessibility, in accordance with the European Treaty provisions in this regard. For consumers/users, there is a need to minimise any barriers of access to the internal market and to free movement that may be posed by lack of web accessibility. For online businesses, there is a need to ensure that the market potential for online cross-border shopping has the widest possible reach and is not restricted because of lack of accessibility. For the web-related goods and services industries (web developer software; user agents; independent web design, development and maintenance services), there is a need to ensure that accessibility measures contribute to the effective functioning of the internal market as it concerns cross-border trade in these areas.

In addition, there is an important need to ensure sustainability and future-proofing of web accessibility efforts in Europe, given the low levels of accessibility currently being achieved and the evidence that many web sites fail to maintain accessibility once it has been achieved. The lack of progress in web accessibility can be traced to a large degree to an apparent lack of awareness and understanding of the positive cost-benefits that can be derived from web accessibility and of the close links between accessible design and good design more generally. Awareness-raising and training for web owners and web developers has a major contribution to make in this regard.

3.2 Consistency with other EU policies

As already outlined in Chapter 2, eAccessibility has an important relevance for the internal market as well as for the free movement of citizens in Europe. A co-ordinated approach to web accessibility would be fully consistent with, and supportive of, the wider policy objectives in these fields.

Measures in this field would also be consistent with and supportive of consumer policy objectives, where equality of access and rights of all consumers to the marketplace is at the core. One of the current priorities of EU consumer policy in this regard is to eliminate 'business models based on geographical discrimination', so that consumers have (online) access to products and services from any part of the EU. Achievement of eAccessibility of all relevant websites, in all parts of Europe, will be an important requirement for this.

The objective of increasing the levels of eAccessibility in general and web accessibility in particular are an integral part of the Lisbon Strategy's objective to ensure that all citizens are enabled to live and work in an Information Society. This objective has been practically pursued within the eEurope action plan and now its successor, the i2010 strategy.

eAccessibility objectives are also consistent with, and supportive of, the European Social Agenda. The importance of the Information Society and eInclusion is recognised in the Social Agenda, and eAccessibility is a key component of this.

eAccessibility also has a strong importance for the wider European goals of equality and non-discrimination, as underpinned by Article 13 of the Treaty establishing the European Community. In this regard it is relevant for the achievement of the objectives of the Directive on equality and non-discrimination in the field of employment and will also be very relevant for the proposed new Directive on equal treatment that will extend the scope to cover goods and services as well. eAccessibility-specific legislation can be consistent with and complement the more general scope of these Directives.

In addition, the EU and its Member States have endorsed the UN Convention on the Rights of Persons with Disabilities[46] which includes eAccessibily obligations, amongst which is a requirement on the parties concerned "to promote access for persons with disabilities to new information and communications technologies and systems, including the internet." Specific provision was made in the convention to enable the European Commission to accede to it on behalf of the Institutions of the Union.[47]

More generally, consensus has been reached to work on a coherent and coordinated approach for Europrean implementation of the UN Convention. The objective of a more co-ordinated effort on web accessibility across the Member States is clearly consistent with, and supportive of, this objective in relation to the Convention.

3.3 Types of co-ordination measure

In line with the principle of proportionality, whatever EU-level measures that might be introduced should be no more than is necessary to achieve the end desired. The main EU-level intervention on web accessibility to date has been via OMC-type mechanisms under the eEurope and i2010 initiatives. The available evidence shows that although these measures have had a positive impact in that they provided the initial stimulus for national attention to web accessibility in quite a number of Member States, the evidence

[46] The obligations of the Parties are scattered throughout the convention and appear most prominently in Article 9. Article 9.1 itself requires the Parties to take 'appropriate measures' which shall include the identification and elimination of obstacles and barriers to accessibility. This applies both to the built environment and to "information, communication and other services, including electronic services and emergency services" (Article 9.1.). Furthermore, Paragraph 2.(g) of Article 9 requires the Parties to take appropriate measures "to promote access for persons with disabilities to new information and communications technologies and systems, including the internet." And Paragraph 2.(h) obligates the Parties to "promote the design, development, production and distribution of accessible information and communication technologies and systems at an early stage, so that these technologies and systems become accessible at minimum cost."

[47] In fact, the European Commission was among the first to sign which indicates a clear intention to ratify. In any event, Article 18 of the Vienna Convention on the Law of Treaties (1969) is to the effect that once such instruments are signed it becomes incumbent on the signatories to avoid doing anything that would undermine the achievement of its object and purpose. Thus, even if not legally bound, signatories should at least act in a manner consistent with their obligations pending full ratification.

also shows wide variation and fragmentation across the Member States in the approaches that are being adopted (e.g. in terms of scope, provisions and implementation practice) and in the outcomes that are being achieved (c.f. Annex 4).

Further measures seem to be required in order to achieve the necessary level of coordination in this field across Europe. In this regard, both legislative and non-legislative measures, or a combination of the two, can be considered.

Non-legislative measures

A number of non-legislative measures of relevance for web accessibility have already been implemented. These include a variety of accompanying measures such as standards activities at European[48] and international[49] levels, coordination supports through eEurope and i2010, benchmarking in the context of the Riga dashboard, and support for RTD projects in the field. However, as already noted above, the evidence to date shows that the existing efforts have not been sufficient to achieve an adequate degree of co-ordination. Levels of website accessibility remain very low, fragmentation across the Member States is substantial and the significant wider benefits of accessible website design are not being realised.

Legislative measures

Against this background, it would seem that a legislative approach could be expected to have greater effectives for the achievement of a more coordinated and successful approach to web accessibility across the EU. Legislative options that could be considered include binding approaches (e.g. in the form of a Directive or Regulation) or non-binding approaches (e.g. in the form of a Recommendation).

In general, binding approaches can be expected to have a stronger and more consistent impact across the Member States and thus have better impacts in terms of achieving the specific objectives. A non-binding approach would provide less certainty that the desired level of coordination across the Member States would be achieved. Nevertheless, even a non-binding approach would add important political weight to non-legislative supports for coordination. It could also provide a vehicle for introducing a common roadmap to web accessibility across the Member States, without excluding the possibility of binding legislation in the future if this is deemed to be needed.

In any event, development of a legislative approach at European level would need to take into account the existing situation in the Member States, where there is considerable diversity as regards legislation and other policy measures that have been implemented in relation to web accessibility. More practically, the current absence of a European standard on web accessibility would also need to be addressed.

A combination of legislative and non-legislative measures

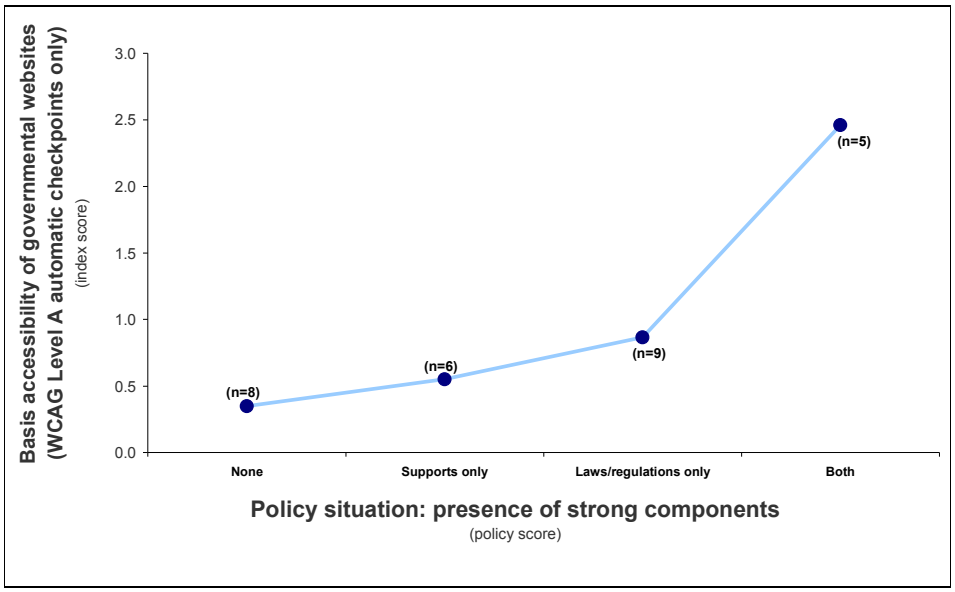
A combination of legislative and non-legislative measures could also be envisaged. At the level of the Member States, for example, the evidence from the benchmarking study

[48] e.g. Mandate 376 addressing eAccessibility standards for public procurement, including a focus on web accessibility conformance assessment

[49] e.g. support for the WAI-related research and other activities...

shows that a combination of legislation and accompanying measures is associated with better achievements as regards web accessibility (Exhibit 5).

Exhibit 5: Correlation between prevalence of web accessibility related policies and achieved accessibility (EU25, USA, CA, AU)



Source: MeAC 2007[50]

3.4 Economic, social and environmental impacts

In deciding on EU policy measures, a key requirement is to assess the economic, social and environmental impacts that can be expected. In fact, the evidence suggests that substantial economic and social benefits, and at least neutral or even positive environmental impacts can be expected from the implementation of stronger co-odrination measures on web accessibility in Europe.

Economic impacts

The evidence presented in Chapter 2 shows the substantial economic benefits that web accessibility can provide both for users (including people with disabilities, older people and many other user groups) and for many web-owners (both public and commercial).

For both public and commercial web-owners, the economic benefits (the return on the accessibility investment) in many cases can be expected to significantly outweigh any initial and ongoing costs of achieving and sustaining web accessibility, especially where wide customer reach is a core element of the business logic. For web owners, key

[50] C.f. Empirica, WRC, RNIB, RNID, eWORX (2007): MeAC - Measuring Progress of eAccessibility in Europe: Assessment of the Status of eAccessibility in Europe (Main Report)

benefit areas include extended customer reach, transaction cost savings and a variety of technical/business benefits such as search engine optimisation, reduced server capacity requirements and so on.

For public web sites the cost-benefit modelling for Europe as a whole (see Chapter 2 and Annex 1) shows that, on the basis of the available data, there appear to be strong economic benefits to be gained from web accessibility even under fairly conservative assumptions (of relatively high costs for accessibility and low reach across the target groups). Such benefits should be achievable for the majority of public services in the majority of Member States, although there may be some limits to this given that the absolute size of benefits is related to the size of the population base being addressed by the service(s) in question.

From an individual business's point of view the net benefits potentially to be gained from having an accessible website will vary according to business sectors and model, and are most likely to be positive for businesses that address wider consumer/customer communities. Some initial modelling of cost-benefits for two 'wide reach' sectors - banking and retail - support this assumption. More generally, all businesses would gain from the wider benefits that accessibility can provide, such as increased usability, search engine optimisation and lower hardware and web maintenance costs. In addition, of course, there would also be the benefit of avoidance of costs of financial or other penalties if such were imposed in the regulatory regimes by the jurisdiction(s) in which they operate.

Nevertheless, in some cases it is possible that the initial investment required might be relatively significant in comparison to the longer-term return on investment unless the timing were linked to the natural cycle or schedule of web site updating / re-launching. As will be discussed in more detail in section 3.6.2, this aspect can be taken into consideration through the establishment of different implementation timeframes for web accessibility, depending on the circumstances of the web-owner.

More generally, there is no reason why the introduction of EU-level legislative or non-legislative measures, per se, should impose any significant administrative burden on web-owners.

For web-users, the most obvious benefits are those that accrue to those who would otherwise be excluded from using the web because of lack of accessibility. As shown in Chapter two, the economics of this can be substantial at both individual and aggregate level, through transaction cost savings, cheaper shopping and so on. There are many other users for whom accessibility will enhance their opportunities to use the web and hence to reap the economic benefits that can be gained, including those with low band-width connections and/or outdated equipment, users of mobile or other small screen devices, and users with lower online skills. In both cases, the economic benefits arise not just in relation to within-country activities but also in relation to access to the EU-wide internal market (online cross-border shopping) and free movement (online access to services of direct relevance for this, such as pensions, residence permits and so on).

There is no evidence to suggest that any additional costs are passed on to other users when web-owners make the effort to ensure that their web sites are accessible. Modern web technologies and accessibility techniques enable accessibility to be provided

without any reduction in the quality of the user experience of those for whom accessibility-related design is of relatively little relevance in itself.

Overall, the evidence suggests that there are substantial economic benefits to be gained from web accessibility. The achievement of these benefits is linked to the achievement of the three specific policy objectives suggested earlier - higher levels of accessibility, avoidance of fragmentation and ensuring a sustainable approach to web accessibility.

Social impacts

In the case of web accessibility, many of the social benefits derive from the same functionalities that underpin the economic benefits. On the user side, the social benefits include greater participation and equality of opportunity for people with disabilities and the other groups concerned in the many areas of life that are now touched by the web. Apart from the practical benefits of access to information and services, the importance of the web as a social medium in its own right is also a key issue[51] and this is increasing with the advent of the so-called 'Web 2.0'. On the broader social agenda side, web accessibility can greatly increase the reach of eGovernment services to those that might otherwise be excluded and also provides an important vehicle for the exercise of corporate social responsibility by businesses.

Environmental impacts

In principle, two counteracting environmental impacts can be envisaged. On the one hand, greater accessibility might encourage greater take-up of ICTs by those who would otherwise be excluded, and thus give rise to some marginal level of increased environmental cost. However, it would seem unfair and disproportionate to consider this as a reason for not empowering excluded groups to take-up ICTs! On the other hand, and more importantly, the increased possibility to carry out transactions online can significantly reduce environmental costs associated with travel. Overall, the environmental impacts of increase web accessibility are likely to be negligible and, if anything, positive.

3.5 Possible scope of a coordinated European approach

An important issue concerns what should be the scope of a co-ordinated European approach in the field of web accessibility. One aspect of this concerns the types of websites that should be covered. Other aspects concern whether intranets should also be addressed and whether attention should also be given to Public Internet Access Points (PIAPs).

3.5.1 Types of websites

This aspect concerns the question of which sectors / websites should be covered in a coordinated European approach to web accessibility. Three main types of site can be

[51] Negative impacts due to poverty of online access in relation to social interaction and social capital have received quite a lot of attention in recent times, both in the context of individual resources (e.g. in terms of contacts to help get a job) and of wider social cohesion and the social dimensions of society (e.g. extent of social engagement and civic contribution), c.f. e.g. FERLANDER, S. (2003): The internet, social capital and local community. Stirling.

considered in this regard: public websites; websites providing 'services of general interest'[52]; and commercial websites. Options for the scope of a coordinated European approach would thus include public websites only, all websites providing services of general interest, and all websites (both public and commercial). These options are compared below in terms of their cost-benefits and implications for the internal market, as well as issues related to more general feasibility/acceptability at Member State level.

The public consultation provides one source of guidance on this, with a large majority (93%) of respondents agreeing that a European approach should not only address public web sites but also other web sites providing services of general interest to citizens.[53]

Cost-benefits

In general, given the evidence for positive-cost benefit outcomes for users and for many web-owners (public and commercial) that has been presented in Chapter 2 and in Annex 1, the wider the scope the more sectors and sites that would be encouraged to become accessible, and thus the larger the economic and social benefits that would be achieved. However, because the cost-benefit outcomes may be less positive or possibly even negative in certain circumstances (where wide reach is not a core element of the business logic and/or where substantial initial investments might be needed to retrofit existing sites), a mechanism allowing some form of derogation (on a case-by-case basis) in the event of proven undue burden could be included to avoid imposition of any substantial negative cost-benefit scenarios. This is addressed in more detail in section 3.6.3 on the timeframe for achieving accessibility.

Internal market

If the scope were restricted to public websites only, the main possibilities for internal market or other such benefits would be in terms of contribution to freedom of movement (through greater accessibility of public services that are important for this, such as pensions, residence permits, and so on). Benefits for the internal market in web-related products and services could be achieved if the approach also addressed inclusion of accessibility requirements in public procurements relating to the web. A wider scope, to include commercial websites, would deliver substantial additional benefits in terms of increased market size for cross-border shopping (through removal of accessibility barriers).

Feasibility / acceptability issues

A key factor to consider is whether the scope of an EU-driven coordination measure would be in line with or go beyond the existing scope of legislation and/or other measures already being undertaken or planned by the Member States. In this regard,

[52] According to current EU regulation, services of general interest include so called 'services of general economic interest services' (e.g. telecommunications, electricity, gas, transport of postal services) and so called 'non-economic services' (e.g. policy, justice, statutory insurance schemes)'. It has been frequently highlighted that is difficult to précised ping down what services are included. (c.f. for instance COM(2007) 725 final, Brussles 20.11.2007). For the purposes of this analysis we adopt a wider perspective which includes include all services that are vital to peoples well being and participation in the society.

[53] C.f. Report on a public consultation on web accessibility and other e-accessibility issues launched on 2nd of July 2008 through the European Commission's interactive Internet platform "Your voice" (forthcoming)

the available evidence (as presented in Chapter 2 and also in Annex 4) suggests that the narrower scope (public websites only) is currently the most prevalent across the Member States. However, a few countries do already include some sites providing services of general interest and/or sites that are publicly funded within the scope of their provisions.

Overall conclusions

Overall, the analysis suggests that the widest scope (all public and commercial websites) would have the largest benefits in cost-benefit and internal market terms. In practice, however, most Member States currently focus more narrowly on public website accessibility. Given, the EU policy importance of services of general interest and the reality of blurred boundaries between public services and services of general interest, consideration should also be given to including a strong focus on the latter within an EU-driven coordination measure. Appropriate mechanims to encourage attention to accessibility of commercial websites, more generally, should also be explored.

3.5.2 Intranets

In addition to customer facing websites, the scope of possible European coordination measures could also extend to internal websites (intranets) of public and/or private organisations. The objective would be to ensure that intranets are accessible to employees and thus eliminate any barriers to employment for people with disabilities or others that would be affected by lack of accessibility. Of relevance in this regard are the results of the public consultation, where a large majority (94.9%) of the respondents agreed that, as well as customer-facing sites, intranet web sites should be encouraged to be accessible[54].

Cost-benefits

Cost-benefit issues in relation to accessibility of intranets arise especially around the employment of people with disabilities as well as more general issues of productivity of the workforce as it relates to usability/accessibility of ICTs. Benefits for employers can include increased productivity, help in meeting quotas set by national disability legislation and avoidance of other possible costs of non-compliance, such as compensation in the case of discrimination complaints. There is a lack of available data upon which to robustly assess the business case for accessibility of intranets or other workplace ICTs. However, research in the US has suggested that about 20% of working age adults are very likely to benefit from accessibility features of ICTs and up to 60% would be likely to benefit to some degree at least.[55] More generally, increased employment of people with disabilities has wider economic benefits in terms of greater mobilisation of the productive capacity, reduction of transfer payment costs, and so on.

As an illustrative example, an assessment of the potential economic gains if just a 1% increase in the employment rate of the core target population were achieved as a result

[54] In addition, 87.0% of respondents felt that web content authoring tools should also be addressed by a common European approach towards web accessibility.

[55] C.f. Forrester Research and Microsoft Corporation (2003): The Wide Range of Abilities and Its Impacts on Computer Technology, pp 7-9. See generally Blanck, P., Hill, E., Siegal, C., & Waterstone, M. (2006 Supp. to the 1 st Ed.). Disability Civil Rights Law and Policy: Cases and Materials, Thomson/West Publishers

of eAccessibility in selected countries is provided in section 5 of Annex 1. For instance in the case of Austria, a rough estimation suggests that a 1% increase in employment in the working age target population could generate additional societal benefits of €6.5 million per annum at minimum wage rate or €61.6 million at the average wage rate. There would also be additional revenues to the tax system of at least €2.5 million.

Internal market

Overall, the implications of intranet accessibility measures for the internal market would be more limited than in the case of customer-facing websites, with the main aspects of relevance being public procurement of intranet products and services and, especially, free movement of workers. Greater levels of workplace eAccessibility across Europe would support free movement of those workers for whom eAccessibility is important and sometimes even a sine qua non.

Feasibility / acceptability issues

Currently, very few Member States explicitly include intranets (even of public organisations) within their direct web accessibility measures. However, in principle, intranet accessibility falls within the scope of both the EU public procurement directives and the EU employment equality directive and thus should be within the scope of the relevant legislation in all Member States. In the procurement case, the scope is limited to public organisations but in the employment equality case extends to both public and private employers.

Overall conclusions

Overall, the analysis suggests that inclusion of intranet accessibility would be likely to have positive cost-benefit impacts, and that the widest scope (to cover intranets of both public and private employers) would yield greater benefits. European public procurement and employment equality legislation could be leveraged to support a coordinated European approach on this aspect.

3.5.3 Public Internet Access Points (PIAPs)

Public Internet Access Points (PIAPs) have been given an important place amongst the measures to promote eInclusion in both EU-level and Member State policy, particularly within the context of the eEurope initiative[56]. By providing an alternative to home access to ICTs and the Internet for those who cannot afford it, they can enable more people to participate in and benefit from the Information Society. According to recent statistics, 6.8% of all internet users in the EU25 had access via a PIAP in 2006.[57]

People with disabilities are amongst the groups at high risk of exclusion, not just because of accessibility barriers but because of the social and economic disadvantages

[56] In the eEurope Action Plan 2005 the target has been set that all citizens should have easy access to PIAP's, preferably with broadband connections, in their communes or municipalities, In establishing PIAP's, Member States should use structural funds and work in collaboration with the private and/or voluntary sector, where necessary; c.f. http://ec.europa.eu/information_society/eeurope/2005/all_about/egovernment/index_en.htm

[57] CEC (2007): Annual Information Society Report 2007 p.65

that are often associated with disability. It is important, therefore, that PIAPs are accessible to people with disabilities in terms of both physical and 'e' accessibility.

For the ICT accessibility dimension of PIAPs, a draft technical specification of the European Telecommunications Standards Institute's (ETSI) "Specialist Task Force 324: Extending e-Inclusion for Public Internet Access Points (PIAPs)"[58] gives guidance on the eAccessibility provisions that should be made and recommends that all PIAPs should have a percentage of their terminals adapted for disabled users (1 adapted terminal per 10 terminals installed in a PIAP is suggested as a reasonable yardstick).

In considering the eAccessibility provisions that might be implemented to adapt a terminal, a review of existing guidelines suggests that the following package might be regarded as a basic requirement[59]: screen reader software; headset with volume control; screen magnification software; special mouse and special keyboard to cater for those who have difficulties using standard models. The Table below presents information on current market price ranges for the products needed to provide the basic eAccessibility package. Taking the highest and lowest prices that were found, it can be estimated that the costs per accessible workstation could be expected to be between €1,000 and €2,000.

Product category		Low price	High price
Mouse	Large trackball mouse with coloured keys particularly suitable for those with motor skills difficulties	115.00 €	155.00 €
Keyboard	BigKeys keyboard more suitable for those with motor skills difficulties	85.00 €	101.00 €
Headphones	With volume control	20.00 €	55.00 €
Magnifier/ Screen Reader	Screen magnification of up to 16 times and screen reading features	740.00 €	1665.00 €
Total		960 €	1976 €

Although there is no reliable data available on the average overall costs of setting up and running a PIAP, it can be assumed that the costs for eAccessibility at the levels outlined above would be a relatively small part of the overall costs.

Turning to accessibility of the built environment, there is no reliable data on existing levels of accessibility of PIAPs or on existing regulations in this area in the Member States. In general, however, it can be expected that required adaptations may vary considerably.

Cost-benefits

Based on the positive cost-benefits from accessibility for eGovernment, it can be expected that, at the country level, good eAccessibility of PIAPs would have positive

[58] Draft ETSI TS 102 577 V<0.0.33> (2008-02)

[59] C.f. Draft ETSI TS 102 577 V<0.0.33> (2008-02) and Metamorphosis' draft standards for Public Internet Access Points (http://www.metamorphosis.org.mk/content/view/635/31/1/3/lang,en/, accessed on 23.06.08)

cost-benefit returns for the public purse overall if it enabled even relatively small percentages of the core eAccessibility target groups to access government services online. Cost-benefit outcomes for individual PIAPs would depend on how eAccessibility provisions were funded as well as more generally on their funding/revenue basis and user populations.

Cost-benefit assessment for provision of accessibility of the built environment would require data on the existing levels of accessibility of PIAPs.

Internal market

Accessibility of PIAPs could make an important contribution to supporting free movement, in particular through providing eAccessible access points for people with disabilities when travelling within Europe.

Feasibility / acceptability issues

On the basis of available evidence it seems that eAcessibility of PIAPs is not a very visible aspect of wider web accessibility policy in the Member States. However, reaching underserved or excluded groups is the essential raison d'etre of PIAPs and eAccessibility is an important dimension of the objectives and approach in this context. In principle, this applies also in relation to accessibility of the PIAP built environment, which would also be expected to fall within the scope of more general regulations applying to public buildings, where applicable.

Overall conclusions

It can be concluded that there is a good case to be made for including accessibility of PIAPs within the scope of a coordinated European approach to web accessibility. Ideally, the approach would include both ICT accessibility and building accessibility. The ETSI guidelines could be drawn-upon as a source of guidance for the ICT accessibility dimension.

3.6 Mechanisms for addressing web accessibility

This level of the analysis turns to consideration of what mechanisms could be included or otherwise emphasised in a co-ordinated European approach on web accessibility. Aspects addressed include possible legislative approaches; public procurement; implementation timeframes; common standards; and other relevant mechanisms.

3.6.1 Legislative approaches

Here the issue concerns what types of legislative approach have proven to be most effective in achieving web accessibility and could thus be encouraged through an EU-level coordination process.

As outlined in Chapter 2, there is currently considerable variability across the Member States in whether or not a legislative approach has been implemented in relation to web accessibility and, where it has, in the types of approach that have been adopted. In general, however, the main legislative approach in the Member States at present tends

to be direct legislation addressing the public sector only. This may be specific eAccessibility legislation or part of wider eGovernment legislation. The evidence from the benchmarking study shows that the countries with strong direct legislation tend to achieve higher levels of public website accessibility[60]. This reflects the main strength of this type of legislation, namely its power to promote systemic change in the field within its competence.

Some Member States also have non-discrimination legislation in place, with variability in terms of whether only public or public and commercial entities are included within the scope. The general value of the anti-discrimination approach is that it gives a right of complaint and to seek redress for those who feel they have been discriminated against, and thus can give a 'bottom-up' empowerment to users to complement top-down obligations on web owners. However, in the examples of this type of legislation in place today web accessibility is generally not specifically mentioned although codes of practice and other explanatory documentation in some countries do make specific reference to this. Nevertheless, already in Europe there have been some actions taken specifically in relation to web accessibility under such legislation[61], and there have also been a number of high profile court cases taken in other jurisdictions (such as the case involving the National Federation for the Blind and Target Stores in the US and the Sydney Olympics in Australia).

At EU level, current anti-discrimination legislation with relevance for accessibility only covers the workplace and employment (as discussed earlier, this has relevance for accessibility of intranets of employers). However, if adopted, the proposal for a Directive on equal treatment that would extend EU non-discrimination legislation to cover goods and services would widen the EU-level approach and result in the implementation of similar legislation in all Member States.

Against this background, options that could be considered for encouragement through a co-ordinated European approach would include promotion of strong direct legislation and/or a combination of direct legislation and non-discrimination legislation.

Aside from the 'top down' and 'bottom up' approaches discussed here, public procurement approaches also have an important relevance for web accessibility and are discussed separately in section 3.6.2.

Cost-benefits

Based on the cost-benefits of web accessibility outlined in Chapter 2, the wider the legislative scope the more sites that would be encouraged to become accessible and thus the larger the economic and social benefits that would accrue. A combination of both direct web accessibility legislation and non-discrimination legislation (that clearly includes web accessibility within its scope) would help to achieve the desirable wider reach across both public and commercial websites.

[60] C.f. Empirica, WRC, RNIB, RNID, eWORX (2007): MeAC - Measuring Progress of eAccessibility in Europe: Assessment of the Status of eAccessibility in Europe (Main Report)

[61] For instance in Malta, the Equal Opportunities Compliance Unit within the National Commission Persons with Disabilities (KNPD) established under anti-discrimination legislation has responded to complaints on eAccessibility. It is currently working with various organisations to ensure their websites are accessible as well as with a bank in relation to ATM accessibility. It has also been proactive in seeking to ensure that several Government websites are accessible.

Internal market

The largest contribution to the internal market would be a scope that covered all websites, public and commercial. Again, therefore, a combination of both legislative approaches would be likely to yield best results on this aspect.

Feasibility / acceptability issues

Quite a number of Member States already have some or both types of legislation in place and all will have to introduce non-discrimination legislation covering goods and services in any event if the proposed EU Directive on equal treatment is introduced.

Overall conclusion

The analysis suggests that encouragement of a combination of direct web accessibility legislation and indirect (non-discrimination) legislation would provide the most benefits. The expected implementation of the equal treatment Directive would increase the likely feasibility/acceptability of the anti-discrimination approach. However these broad observations would require further discussion with the Member States, given the considerable variation in current legislative and other approaches in general as well as in the web accessibility field in particular.

3.6.2 Public procurement

The Structural Funds' Regulation requires that the Member States consider accessibility for disabled persons in the criteria to be observed for co-financing. More specifically, the Public Procurement Directives encourage Member States to include accessibility requirements in their public procurements[62], stating that "whenever possible [these] technical specifications should be defined so as to take into account accessibility criteria for people with disabilities or design for all users". Public organisations make extensive use of procurement of web-related products and services, including web development software for their own staff to develop and maintain websites in-house, browsers and other user agents for use by their employees, and externally-contracted web design/maintenance services. Therefore, public procurement has an important contribution to make in the achievement of web accessibility, with the potential not just to support greater accessibility of public sector web sites but also to give an impetus to the web-related product and services markets to give more attention to accessibility.

In practice, a number of Member States already address some aspects of web accessibility in their public procurements. In some cases there is an explicit requirement to include accessibility in web-related procurements and in others this is employed as a natural way to address web accessibility obligations even if not specifically made explicit in legislation or other policy measures. Overall, however, it seems that still only a minority of Member States are systematically using public procurement in this regard.

The issue of eAccessibility in public procurement is being given in-depth attention by the European Standards Organisations under Mandate 376 and the analysis here is merely intended to be indicative for now, as any technical details would need to be based on the

[62] Directive 2004/18/EC; Directive 2004/17/EC

outcomes of the standards work as well as more in-depth legal analysis of the constraints that apply in the context of the EU public procurement Directives. For example, there are issues to be considered as regards the ways in which accessibility-related standards might be referenced in a coordinated EU approach as well as what standards might be referenced.

Cost-benefits

The perspectives of both purchasing and supplier organisations need to be considered in relation to cost-benefits.

For public organisations, inclusion of web accessibility requirements in web-related procurements will often be central to their achievement of web accessibility, and thus for realising the cost-benefits to be gained from customer-facing websites and/or intranets. However, the available evidence suggests that public procurers in Member States may have concerns about possible additional costs from addressing accessibility in their procurements, either because of the effort involved to develop the necessary skills or because it will add to the costs of the procured products and services. Based on evidence of actual procurement activities in the US and other countries, however, it would seem that there need not be significant additional costs when procurers are appropriately supported, for example, through toolkits. The work from the European standards organisations under Mandate 376 should provide very helpful in this regard.

For the supply side, consideration needs to be given both to the impact on the EU web products and services industries as a whole and to the impacts for individual supplier companies. For the sector as a whole, encouragement of attention to accessibility in public procurements in the MS would be likely to have positive cost-benefits overall as it would provide a stimulus to increase the competitivity of EU industry vis a vis US industry (which is already experienced in operating in an accessibility-sensitive public procurement market).[63] It would encourage EU industry to get up to speed and to compete on accessibility. Impacts on specific companies within any of the given sectors might be more variable and would need closer examination in the determination of an appropriate approach.

Internal market

From the internal market perspective, encouragement of consistent attention to accessibility in public procurements of web services and products would reduce the potential for fragmentation through different criteria being applied in different MS. Reference to common European standards (when available from the work under Mandate 376) would reinforce this and give certainty to the supply industries.

[63] Section 508, amended to the Rehabilitation Act in 1998, requires the US government to purchase accessible Electronic and Information Technology (E&IT) whenever it is not an "undue burden" to do so. It applies to all federal agencies when they develop, procure, maintain or use technology for use by staff, or by the public who get information or services from the agency. Section 508 specifically provides that federal agency web sites must be accessible to federal employees and the general public. C.f. also Annex 5. For a review of section 508, see Blanck, P., Hill, E., Siegal, C., & Waterstone, M. (2006 Supp. to the 1 st Ed.). Disability Civil Rights Law and Policy: Cases and Materials, Thomson/West Publishers

Feasibility / acceptability issues

The public procurement Directives already encourage inclusion of accessibility in public procurements and a coordinated approach to encouraging specific attention to web accessibility would, in principle, fit well within this context.

Another issue here concerns the suitability / maturity of existing standards / guidelines, especially as regards authoring tools and user agents, for usage in public procurement. In their current format they are more oriented towards developers than procurers and thus are not necessarily very suitable for the latter purpose. It can be expected that the work of the EU standards organisations under Mandate 376 will make available European standards that are specifically oriented towards the needs of procurers, as well as helping to address other requirements in relation to use of standards that arise from the public procurement Directives.

Overall conclusion

Overall, it is concluded that a good case can be made for including encouragement of attention to web accessibility in public procurements in the Member States. This will be helped when the work on standards and on a toolkit has been completed under Mandate 376.

3.6.3 Implementation timeframes

The issue here concerns the timeframes for the achievement of web accessibility in the Member States that might be considered within an EU-driven coordination approach.

Cost-benefits

As shown in the cost-benefit analysis in Chapter 2, the overall, aggregate cost-benefit return from web accessibility for users, for the public sector and for many business sectors can be assumed to be positive in principle. On this basis, alone, therefore, the sooner widespread web accessibility is achieved the better and there would be merit in setting a relatively short timeframe (say 2010 to align with Riga targets) for all websites covered within the scope of an EU-driven coordination approach.

At another level, however, it is important to consider the cost-benefit situation for individual web-owners. As has already been noted before, the evidence suggests that in some cases the initial costs for achieving accessibility may be relatively high (especially where accessibility must be retrofitted to large / complex sites that are currently some distance from being accessible). In addition, not all business logics will have wide reach across the population as a core element, and even where wide reach is a core logic the size of the population base over which to recover costs will vary widely. Therefore, it may be appropriate to consider an approach where Member States allowed derogations (on a case-by-case basis) where a web-owner can justify that keeping to the common timeframe would impose an undue burden on them. In such cases, the timeframe might be aligned with the re-launch or major update cycle for the website, as long as this was not too far into the future.

Internal market

Based on the logic that the wider the accessibility of web sites the greater the support for smooth functioning of the internal market, the largest contribution to the internal market would be from an approach that required all covered websites to be accessible within a relatively short common timeframe.

An additional factor to consider here is that some websites have more importance for the internal market than others (such as those public websites that are important for free movement and the websites of major players in online cross-border shopping). Thus, if the ultimately preferred scope were to be all websites, with the possibility of derogation because of undue burden, then it would be preferable to ensure that websites of central importance in relation to the internal market / free movement are encouraged to become accessible as soon as possible.

Feasibility / acceptability issues

As regards established timeframes for implementation of web accessibility, the most common approach amongst those Member States that have set a date has been to apply the same deadline for all sites covered within the scope of their legislation / regulations (see Chapter 2 and Annex 4 for details). The fact that Member States have signed up to the Riga Declaration would suggest that setting 2010 as a common timeframe might be an appropriate option, although given the low starting point in 2008 this might prove to be a substantial practical challenge.

It is also worth considering that a few Member States give a two-stage timeframe, with a shorter deadline for new websites and a longer one for existing websites. A few countries also have specific mechanisms for addressing possible derogation on the grounds of undue burden, such as the "comply or explain" approach adopted in DK. If a derogation process were to be encouraged then many Member States would have to set one up ad initio.

Overall conclusion

Overall, it would seem that a possible option for a co-ordinated European approach might be one that involved setting a common timeframe for the achievement of web accessibility of all covered websites, with the possibility of derogation to be allowed on a case-by-case basis in the Member States. On the basis of the types of timeframe that have been introduced in Member States already, and the Ministerial agreement at Riga, 2010 would seem to be an appropriate timeframe. Given the low levels of web accessibility at present, however, consideration might need to be given to the merits of agreeing on a common minimum set of priority websites that must be made accessible within that timeframe.

3.6.4 Web accessibility standards

Standards are important for coordination of web accessibility efforts across Europe. They are needed both in a general sense to ensure a common understanding and application of accessibility principles, and in a specific sense to provide a yardstick against which the accessibility or otherwise of web sites can be assessed. In this

regard, more than nine in ten respondents (94.3%) to the public consultation agreed that Member States should seek alignment with international web accessibility standards.

As regards web content, there is currently no European web accessibility standard, as such, although work in this area is ongoing under Mandate 376 on accessibility in public procurement of ICTs. In practice, *de facto* EU recognition has been given to the W3C/WAI Web Content Accessibility Guidelines, for example, with their inclusion in the eEurope 2002 Action Plan. The first version of these guidelines (WCAG 1.0) is soon to be replaced with an updated version (WCAG 2.0): WCAG 2.0 was published as a W3C Proposed Recommendation on 3 November 2008, final publication is expected in December 2008. Version 2.0 will maintain a large part of Version 1.0 but will also introduce important changes in the way that some specifications are stated and in the way that accessibility levels are assessed. In this regard, there have been concerns expressed that the nature of the new guidelines makes them inherently less testable, even if in principle they might lead to a better process of addressing accessibility issues.

There are also W3C/WAI guidelines for authoring tools (ATAG) and user agents (UUAG) and these are of particular potential relevance in the public procurement context.

Achieving web accessibility is not a simple matter of being accessible or not. In reality, it is not possible to be completely accessible, in the sense that every aspect of a site would be accessible for every user, no matter what degree of disability they have, what assistive technologies they use and so on. However, there is a commonly agreed gradation of degree of accessibility that has been formulated by the WAI and that is widely used by Member States and internationally. This approach is based on the current Web Content Accessibility Guidelines (Version 1.0) and distinguishes three levels - 'A', 'AA' and 'AAA'. Level 'A' can be regarded as a basic minimum level of accessibility.

There are also some other international approaches to web standards that warrant comment. In particular, for purposes of public procurement in the US the 'Section 508' standards have been developed, covering the range of ICTs used by federal agencies. The parts of the Section 508 standards on web accessibility are generally quite similar to the WAI guidelines although there are some differences, mainly due to the desire to ensure that they are suitable for use in the public procurement context. As these are a US standard they are not considered as candidates for a common EU standard as such.

In Europe, a majority of Member States currently refer to WCAG Version 1.0 and have implemented actions that are based in this. As regards target levels for accessibility, some countries have set the 'AA' level as the yardstick but many have set the 'A' level. Current levels of web accessibility are generally benchmarked against WCAG Version 1.0 and results show that only a small percentage of websites pass even the 'A' level.

Against this background and in order to support the objectives of a sustainable and future-proof approach to web accessibility across the Member States, it seems appropriate at this point in time to encourage the Member States to prepare for implementation of a European standard based on WCAG 2.0 when it becomes available. However, as compliance with WCAG 1.0 is the generally accepted international yardstick for assessing accessibility of individual sites and for benchmarking progress at sectoral and national levels, continued usage of this benchmark would seem necessary for the time being.

3.6.5 Other mechanisms

A number of other mechanisms also warrant consideration for attention in the context of a coordinated European approach to web accessibility. These include:

- Conformance assessment / certification / labelling / user information
- Monitoring / reporting
- Awareness-raising / skills development.

Conformance assessment / certification / labelling / user information

In a general sense, there is already recognition of the potential of certification and quality marks to contribute to the EU's objectives in the eAccessibility policy field. For instance, the 2003 Ministerial Declaration on eInclusion reflected that "a European web accessibility label that certifies compliance with WC3/WAI guidelines could be considered in order to avoid market fragmentation"[64]. In addition, in its January 2003 Resolution on eAccessibility, the Council called for an 'eAccessibility mark' for goods and services[65], thus envisaging a wider eAccessibility scope than web sites only. More recently, the Commission's Communication on eAccessibility in 2005 highlighted certification as one of the approaches to be given specific consideration[66] and a mandate has been issued to the European Standardisation organisations to develop necessary supports for the inclusion of eAccessibility in public procurements, including certification aspects[67]. More recently, the Ministerial Declaration on eInclusion in 2006 mentioned, amongst the priority approaches to be taken forward, the application of common requirements or standards, including conformance demonstration[68].

As regards web accessibility, there are a number of needs that these types of approach could fulfil. At the most basic and practical level, labelling or other forms of accessibility information would inform citizens/consumers about the accessibility of a web-site. If such labelling or other forms of information are underpinned by a recognised conformance assessment regime then they are likely to be more reliable and more trustworthy. At another level, conformance assessment can be used in a more formal sense, for example in monitoring / checking web accessibility for purposes of regulatory compliance or for purposes of public procurement.

There is currently no official EU or international certification system or label in the web or indeed any other eAccessibility field. Web and/or other accessibility related certification/labelling schemes can be found in a minority of Member States, in most cases driven by disability organisations or commercial parties.

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64 Ministerial Declaration: Towards an Inclusive Information Society in Europe", Heraklion, 11 April 2003.

65 Council Resolution on "eAccessibility" – improving the access of people with disabilities to the Knowledge Based Society. 5165/03. Brussels, 14 January 2003.

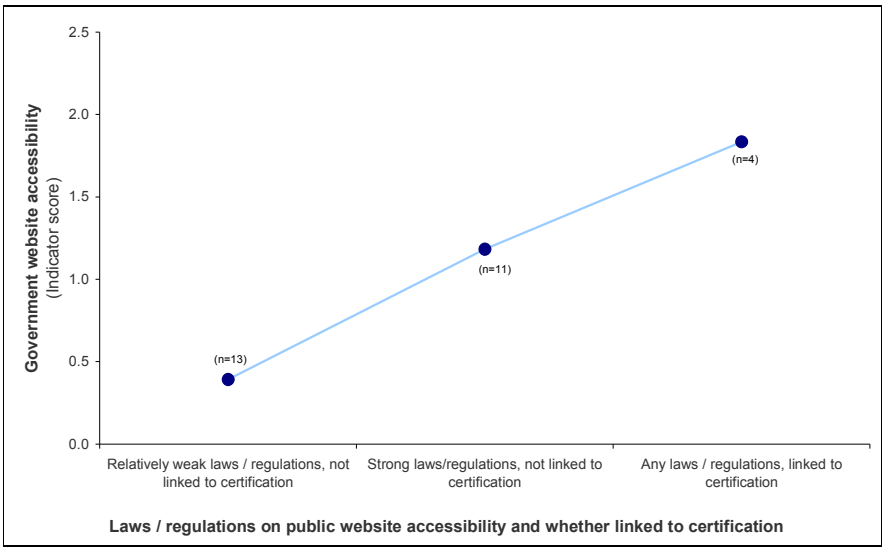
66 Communication on eAccessibility Brussels,13.9.2005. COM(2005)425 final.

67 Standardization Mandate 376 to the European Standards Organizations in support of European Accessibility Requirements for Public Procurement of Products and Services in the ICT domain. M 376 - EN; Brussels, 7th December 2005.

68 Ministerial Declaration on eInclusion. Riga. 11 June, 2006.

So far, only in few countries has a certification/labelling scheme emerged from dedicated government policy. Nevertheless, it is possible to already detect positive impacts in cases where web accessibility certification is implemented as a formal component of policy, as shown in Exhibit 6 below based on evidence from the benchmarking study.

Exhibit 6: Correlation between prevalence of web accessibility related legislation linked to certification and achieved accessibility (EU25, USA, CA,AU)



Source: MeAC 2007[69]

Although conformance assessment / certification / labelling clearly has a substantial potential value, there is no existing European system that could support a common approach across the Member States. This may change when the work under Mandate 376 is completed. In the meantime, it may be useful to consider a common approach to provision of accessibility information (e.g. web accessibility statement and guidance) on public and other websites in Europe.

Monitoring / reporting

As for all legislative and other policy measures, appropriate monitoring and reporting mechanisms are important to measure progress and to motivate the target groups to comply. As noted in Chapter 2, less than one-half of the Member States seem to have any form of benchmarking effort and regular (annual) benchmarking is even less common. Also, the various monitoring efforts that are pursued vary a lot in terms of scope (e.g. number and types of web sites sampled) and methods applied (e.g. accessibility criteria applied, self-evaluation vs. external evaluation). Development and implementation of a common monitoring/reporting approach would therefore be a useful component of a coordinated European approach to web accessibility.

[69] C.f. Empirica, WRC, RNIB, RNID, eWORX (2007): MeAC - Measuring Progress of eAccessibility in Europe: Assessment of the Status of eAccessibility in Europe (Main Report)

Apart from general monitoring across the broad range of relevant websites, attention might also be given to some specific issues. For example, identification and monitoring of accessibility of a core set of commonly agreed key websites in each country might be helpful, especially if aligned with the 2010 timeframe established at Riga.

Another issue concerns measurement of 'churn' in web accessibility over time, to provide an indicator of how well accessibility of websites is being sustained once achieved. Surveys of web owners and developers to assess their awareness, understanding, attitudes-towards and actions in relation to web accessibility might also have merit in order to provide an indicator of the extent to which the desired 'culture change' is being achieved (as discussed in more detail in the next section).

Finally, there is a broader issue concerning the possibility of a common approach to development of better metrics for measuring and monitoring web accessibility. There is evidence to suggest that reliance on a “pass” or “fail” rating system can be problematic as it does not give recognition to progress that is being achieved and can be a source of de-motivation for those involved. More sensitive and practical metrics might therefore be useful, for use as a complement to the currently used ones.

Awareness / training

One of the key challenges in the field of web accessibility appears to be a cultural one, with web owners and designers typically not aware of the generally positive cost-benefit returns of web accessibility and of the close linkage of accessible web design and good web design more generally. As a result, it seems that the response to calls for web accessibility is often defensive, with accessibility being attended to if it really must be rather than being embraced as the positive cost-benefit opportunity that it often is. This may be a contributory factor both in the low levels of achievement of web accessibility in the first place and the lack of sustainability of accessibility once it has been achieved.

For these reasons, both development of skills and promotion of culture change through awareness-raising are key requirements. The available evidence suggests that the costs associated with training and other promotional or awareness-raising activities on web accessibility are likely to be a very small proportion of overall web development and running costs. This type of expenditure can therefore be expected to have a very good cost-benefit return. [70]

[70] Steven Sintini (2007): Legislation on eAccessibility: the Italian approach. http://www.pubbliaccesso.gov.it/english/eAccessibility-Italy.doc

4 Summary and conclusions

The analysis presented in the preceding Chapters shows that reinforced efforts to achieve greater web accessibility are needed in Europe. **Levels of web accessibility across Europe remain very low** and it is unlikely that the targets set by the Member States at Riga in 2006 (that all public websites should be accessible by 2010) will be met without a coordinated intervention to accelerate progress. **Progress across the Member States is uneven** and there is **considerable fragmentation** in the approaches being implemented. The emerging situation presents barriers to optimal functioning of the internal market in areas such as cross-border shopping, procurement of web-development products and services, and free movement of the many citizens with eAccessibility needs.

A key factor underlying the lack of sufficient progress in Europe has been the wide **variation in approaches and degree of prioritisation of web accessibility** across the Member States. Some countries have quite strong legislation or policy statements but have not yet implemented much in the way of follow-up measures to ensure that the policy objectives are achieved; others have made only quite general policy statements without putting any concrete measures in place. Only a minority of countries can be considered to have strong legislation supported by extensive follow-up measures. The evidence shows that the best results are being achieved in this group of countries. A coordinated European approach aiming to encourage best practice across all Member States would therefore be expected to make a substantial contribution to the achievement of the objectives that have been set at Riga.

Importantly, the analysis also shows that implementation of web accessibility can generally be expected to present a very **favourable cost-benefit** return for governments overall as well as for individual public organisations and for many business sectors. The benefits can be achieved through the extended reach that accessibility provides, not just amongst disabled and older people with specific accessibility needs but also amongst a much wider range of users, such as those with older technologies or software, those using mobile or other small display devices and those without broadband connections. **Lack of awareness and skills** amongst web owners and web developers of the benefits of accessible web design, and of the close overlaps between accessible design and good design more generally, is one of the biggest barriers to the achievement of the substantial benefits on offer. This seems to be a key factor underlying the low levels of accessibility currently being achieved and also the fact that many web sites fail to maintain accessibility once it has been achieved.

Against this background, there is a strong case to be made for **better coordination of web accessibility efforts across the Member States.** Key objectives for a coordinated European-wide effort would include the achievement of **rapid improvement in levels of web accessibility in all Member States**, support for the internal market in aspects linked to web accessibility, and measures to ensure sustainability and future-proofing of web accessibility efforts in Europe.

Ultimately **a legislative approach may be required** to achieve the levels of progress and coordination that are needed. Such an approach would be consistent with many of the key policies and objectives of the European Union, including internal market and

freedom of movement, consumer policy, the Lisbon Strategy for the knowledge society and the social agenda, as well as the more specific fields of equality/non-discrimination and the implementation of commitments under the UN Convention on the Rights of Persons with Disabilities.

In the meantime, **reinforcement of non-legislative measures** can make an important contribution. These might include a renewed and reinforced OMC-type approach as well as supporting measures in standardisation and other areas.

Against this background, the analysis presented in Chapter 4 examines a number of dimensions that could be addressed in a coordinated approach. Based on this, it is suggested that although the main focus might be especially on **websites of public services and websites of services of general interest**, the scope of a coordinated approach could also include **intranets** and **Public Internet Access Points**. As regards Member State approaches, a coordinated effort to encourage the implementation of a combination of 'top-down' approaches (that impose direct obligations on web owners) and 'bottom-up' approaches (that give users rights of complaint and support them in various ways, such as provision of information about the accessibility of web sites) could be envisaged. This should also encourage the utilisation of public procurement as an important mechanism in support of the achievement of wider web accessibility.

EU-level support for various other actions could also be envisaged, such as encouraging and supporting the efforts to develop appropriate **European web accessibility standards** and associated conformance testing mechanisms, introduction of common web accessibility monitoring and reporting procedures (including the possibility of better metrics for assessing web accessibility), and programmes to increase awareness and skills amongst web owners, designers and other key players.

Annex 1

Quantitative assessment of economic costs and benefits of accessible web sites

Introduction

This Annex provides more detailed information on the quantitative assessment of economic cost and benefits of accessible web sites as discussed throughout the main document. Based on the best data available, a quantitative assessment is provided in relation to:

- costs and benefits to providers and end users of accessible public web sites
- consumer benefits of accessible web sites in the online retail sector
- provider benefits of accessible web sites in the online retail sector
- provider benefits of accessible web sites in the online banking sector
- benefits to the society in terms of increased employment among people with disabilities through accessible web sites.

For each of these aspects the conceptual approach adopted and assumptions made, as well as the sources of evidence (see literature list providede at the end of this Annex) and methods used to estimate the costs and benefits are provided in the individual subsections respectively.

1. Economic impacts of increased eAccessibility of public sector web sites

1.1 Conceptual approach and methods

For the purposes of a quantitative assessment of costs and benefits which may be associated with ensuring accessibility of public sector websites different dimensions have to be taken into account. On the one hand, it is necessary to consider the costs of any particular effort on the part of web owners that would be associated with ensuring that their web sites are accessible. Although there is no definitive evidence here, additional costs for web accessibility have been estimated to range between a few percentage points to 30% of the overall cost for a “standard web site” (c.f. Annex 2). On the other hand, any such costs need to be offset against the benefits that may be gained for web owners as a result of making their websites accessible. When it comes to the public sector in particular, there has for instance been growing attention to the cost-benefit assessment of eGovernment as a mode of delivery of government services when compared with non-electronic service provision[71]. Of particular relevance for the current analysis is the finding that substantial savings can be achieved for both government and users from online services due to reduced transaction costs (in terms of money and/or time, for example).

[71] OECD (2005) e-Government for better Government. Chapter 4: the Business Case for eGovernment.

Against this background, the analytical approach adopted for the purposes of this study focuses on an examination of cost-benefit implications potentially connected with achieving e-accessibility of a full suite of citizen-oriented eGovernment services across 25 Member States. Potential costs and benefits are estimated as follows:

a. additional costs incurring to public web site owners for achieving accessibility of a common set of public online services under different cost scenarios (using different estimates for the level of extra costs for accessibility - 2%, 5%, 15% and 30% of annual cost for a "standard web site").

b. transaction cost savings at the part of public web site owners due to extended reach of public online services among the core e-accessibility target groups under different scenarios (using different estimates - 5%, 10%, 20% or 40% - of the percentage of the core target population that would be reached by accessible public online services).

c. costs avoided by users of accessible public online services through achieved time savings when compared with service utilisation through non-electronic delivery modes, again making different assumptions in relation to extended reach among the core e-accessibility target population (5%, 10%, 20% and 40% of the overall core target population)

These estimations enable the setting-off of costs accruing on the part of the public sector for achieving accessibility of a common set of online services against benefits potentially to be gained by government through transaction costs saving as well as the benefits to be gained by those who are enabled to use the services.

1.2 Determining size of potential target population

General population data

Information on the populations of the Member States has been taken from the latest available figures from Eurostat (See Table 1). In determining the target population that might benefit from e-accessibility we have made a number of assumptions. Firstly we have excluded all those aged below 15 from our analysis, although they potentially would also benefit from greater access to e-accessible websites. We have assumed that the working age population are all those aged from 15-64 because of the nature of the dataset. We have also assumed that all those over the age of 65 constitute the older age population, although increasingly a minority of this population will continue to work beyond retirement age. From these two population groups we then have made assumptions on the prevalence of disability across the EU.

Specifying priority target groups for web accessibility

There is evidence that accessible web side coding makes web sites in general more usable to non-disabled people. Thus accessible web design can be generally regarded as 'good design' in the sense that it contributes to the usability of a web site to all its users, independent of what particular user characteristics these may have. Nevertheless, there are particular users groups who stand to benefit from accessibility in particular. For many people with disabilities or those who have age-related restrictions, web accessibility is a prerequisite if they are to be able to use the web at all or if they are to derive the same benefits from it when compared with the average user.

People with disabilities

Web accessibility affects a broad spectrum of people with disabilities, including those with visual, hearing, physical, speech, cognitive, learning and neurological disabilities. Accessibility issues for people with visual disabilities include the possibility to enlarge text size and to read content, navigate and complete transactions online even if they have no vision at all (using 'screen reader' assistive technologies that 'talk' the visual content to them), as well as use of colours in a manner that takes account of the needs of those who are colour-blind. For people with hearing disabilities, text captioning (and signing) of the audio content can be essential for accessibility. For people who have physical disabilities that prevent them from using a mouse (the typically 'expected' user interaction device in most web sites), accessibility means being able to use a web site using a keyboard or special assistive technology input devices. For people with cognitive or learning disabilities, easy-to-follow layout and plain language are important for accessibility. For people with certain forms of epilepsy, attention to information presentation rates, flicker and so on is important for accessibility.

Older people with disabilities

Although older people often experience changes in vision, hearing, dexterity and memory as they age, they might not consider themselves to have disabilities. Nevertheless, older people with such age-related changes are likely to have difficulties to use the many web sites that today are not designed to be accessible. In our analysis we have used an estimate from a previous study that 42.7% of those over the age of 60 have some restrictions in vision, hearing and dexterity (SeniorWatch 2002) Applying this to the 65 plus population in the EU-27 we have a core target group of 34,062,387 individuals. (Table 2)

Working age people with disabilities

The number of people with a disability or longstanding illness in the working age has been estimated to amount to just over 15% of the EU's overall population (Communications Committee Report 2004). This figure comprises a wide range of quite different types of restrictions and conditions, and it is difficult to establish which proportion of these would particularly benefit from accessible web sites. Particular conditions (e.g. mobility impairments) may not necessarily have an impact on an individual's ability to access the web. However, one study conducted in 2004 estimated the proportion of the whole US population being very likely to benefit from accessible computing to amount to 22%, based on self reporting of severe impairments. Moreover 38% of the working age population were estimated to be likely to benefit even with the mild impairments that they reported. Because participants were able to respond to questions using a gradient of answers, they were able to report experiencing mild and intermittent difficulties and impairments in addition to the more severe and long-term difficulties and impairments that are typically defined as "disabilities" in other studies. This approach enabled the study to identify a wider range of individuals with difficulties and impairments and may more accurately reflect the demand potential for accessible technology than other studies have been able to do.

For the purpose of this impact assessment we therefore have assumed that the 15% of the European working age population (15-64) who report a disability represents our second core target group, comprising 49,859,183 people in the EU-27 (Table 2). This is

the most conservative of the estimates available. It is important to recognise that other parts of the population not included in our model might also benefit. These include those with low literacy skills, those not fluent in the local language, people with low-bandwidth connections, and those using older technologies or devices with limited display or interaction capabilities. Potentially e-accessibility can also be of use to new web users, for example through clear and consistent design, navigation and links.

Table 1. Population EU-27 in 2006. (Source Eurostat 2008)

	Total Population	15-64	65 plus
Austria	8,282,424	5,596,308	1,749,621
Belgium	10,547,958	6,941,505	1,809,541
Bulgaria	7,699,020	5,332,926	1,326,614
Cyprus	772,549	538,058	114,828
Czech Republic	10,269,134	7,309,299	1,469,415
Denmark	5,437,272	3,593,372	828,888
Estonia	1,343,547	915,116	227,113
Finland	5,266,268	3,507,287	1,071,669
France	63,195,457	41,207,361	13,220,025
Germany	82,376,451	54,746,152	16,084,684
Greece	11,148,460	7,486,143	2,485,519
Hungary	10,071,370	6,931,907	1,954,875
Ireland	4,261,827	2,918,819	472,812
Italy	58,941,499	38,955,870	14,758,678
Latvia	2,287,948	1,576,650	463,030
Lithuania	3,394,082	2,320,285	627,115
Luxembourg	472,637	319,333	81,942
Malta	406,408	281,593	67,958
Netherlands	16,346,101	11,025,099	2,943,336
Poland	38,141,267	26,939,336	6,155,546
Portugal	10,584,344	7,124,053	2,243,209
Romania	21,587,666	15,047,712	3,759,063
Slovakia	5,391,409	3,872,807	769,584
Slovenia	2,006,868	1,408,466	382,299
Spain	44,116,441	30,358,396	9,324,039
Sweden	9,080,505	5,951,919	2,062,118
United Kingdom	60,622,964	40,188,843	12,399,540
European Union (27 countries)	**494,051,868**	**332,394,556**	**79,771,398**

Table 2. Size of target population groups used in models in the EU-27 countries.

	eAccessibility core target group 15-64 years	eAccessibility core target group 65 plus
Austria	839,446	747,088
Belgium	1,041,226	772,674
Bulgaria	799,939	566,464
Cyprus	80,709	49,032
Czech Republic	1,096,395	627,440
Denmark	539,006	353,935
Estonia	137,267	96,977
Finland	526,093	457,603
France	6,181,104	5,644,951
Germany	8,211,923	6,868,160
Greece	1,122,921	1,061,317
Hungary	1,039,786	834,732
Ireland	437,823	201,891
Italy	5,843,381	6,301,956
Latvia	236,498	197,714
Lithuania	348,043	267,778
Luxembourg	47,900	34,989
Malta	42,239	29,018
Netherlands	1,653,765	1,256,804
Poland	4,040,900	2,628,418
Portugal	1,068,608	957,850
Romania	2,257,157	1,605,120
Slovakia	580,921	328,612
Slovenia	211,270	163,242
Spain	4,553,759	3,981,365
Sweden	892,788	880,524
United Kingdom	6,028,326	5,294,604
European Union (27 countries)	**49,859,183**	**34,062,387**

1.3 Estimation of the extra costs for accessibility of a common set of public online services

Estimated figures on overall spending for eGovernment in 25 Member States in 2004 is available from the so called eGep study (Codagnone and Cilli, 2006). However, remarkably little information is available in the public domain specifically on the cost of developing websites for public sector services. Evidence available from the UK suggest however that costs for public web sites represent only a portion of overall eGovernment costs as estimated by the eGep study. An enquiry into the expansion of public web services in the UK by the National Audit Office (NAO) requested that different government departments provide information on the costs of running their websites. The report concluded that the quality of information on costs provided was very poor with more than 40% of websites unable to provide any cost estimates at all (National Audit Office, 2007a). As a result of the Inquiry NAO estimated in 2007 that £208 million was spent annually on public websites (House of Commons Committee of Public Accounts, 2008a). However, not all public services in the UK were fully e-enabled at that time. A survey estimated that 89% of UK government services were fully available online then (Capgemini, 2007).

Based on estimated figures available from the eGep study for 25 EU countries on national overall spending on eGovernment in 2004 and based on the percentage of government services that were available online at that time in these countries according to a Capgemini survey (Capgemini, 2005), costs for 100% online availability of government services in each country has been estimated. Annul costs for public web sites have then be estimated as a share of overall costs for eGovernment by applying the same ratio between overall eGovernment spending and spending for public web sites derived from the UK data available for 2007 to each of the other countries included in this analysis. Additional costs for accessibility have then been estimated as a percentage (2%, 5%, 15%, 30%) of spending for public sector web sites revealed for each country as described above.

1.4 Costs avoided in the public sector as a result of increased web accessibility

There are substantial potential efficiency gains to the public sector with an increased uptake of e-government services. Contact with e-government can take a number of forms including the simple dissemination of information, on-line filling in of forms, payment of taxes and purchasing of products. For the general population the potential gains through greater use of online resources are estimated to run into hundreds of millions of euros. A governmental review in the UK in 2006 estimated that £400 million (€500 million) could be saved from greater use of electronic service delivery in the public sector. If these contacts involve on-line transactions rather than simply access to information transaction costs avoided will be even greater (Varney, 2006).

To date, however, little information is available on the precise savings to be made as a result of switching to on-line transactions. Concrete data come from an oft cited pilot study conducted in Tameside Council, in Manchester, England. This council had been at the forefront of transforming its services to make them e-compliant. They estimated that there was a saving of £14.40 (€18.22) per transaction completed on-line, largely due to a

reduction in processing time (Fresh Minds, 2008). We have used this figure to estimate potential transaction cost savings by governments across 25 Member States through utilisation of accessible public online services among the e-accessibility core target population. To this end estimated transaction costs savings of €18.22 per consumer contact through the web at the part of the government has been applied to the target population identified in the 25 countries under different reach/contact scenarios, assuming levels of reach at 5%, 10%, 20% and 40% of the core target population and one, two and three transactions through the web per person per annum.

Other higher estimates suggest that efficiency savings may even be as much as €28 per transaction (Commission of the European Community, 2007) We have decided however to be as conservative as possible and used a value of €18.22 in our analysis to represent the potential benefits (cost reduction) to government of on-line transactions by people with disabilities. We have been even more conservative by not uprating this figure to take account of differing rates of inflation in both eurozone and non-eurozone countries; thus our estimate of benefits from efficiency savings is likely to be an underestimate of their current value.

1.5 Consumer benefits resulting from provision of accessible public online services

As in the case of governments, previous research suggests that considerable time savings can be realised by consumers when using public online services rather than non-electronic modes of service delivery. For the purposes of this analysis we have therefore estimated consumer benefits in terms of average time savings that can be achieved through the utilisation of accessible public online services among the core e-accessibility target group in the 25 Member States included in this analysis, again under different scenarios assuming levels of reach at 5%, 10%, 20% and 40% of the core target population and - at the same time – assuming one, two and three transactions through the web per person per annum.

As a source of evidence, we have drawn on a survey in the EU-15, Norway and Iceland of time saved for a range of public services when comparing on-line to offline transactions. This indicated that consumers can save between 37 minutes (applications for planning permission) to 81 minutes (public library services) (Rambøll Management, 2004). On average 69 minutes were saved for each on-line contact. We have used this time saving per contact in our analysis. The opportunity cost of time to individuals is often valued at the wage rates they enjoy. We have valued the time of those over the age of 65 (whom we have assumed are all retired) at the minimum wage rates applying in the EU-27, whilst using average hourly labour costs in the EU-27 countries for those of working age. Minimum wage rates and hourly labour rates have been taken from Eurostat and have been adjusted to reflect purchasing power parity (See Table 4). For those nine Member States that do not have statutory minimum wages, we have assumed that these are 45% of the average wage rate in the country. This is based on data from Eurostat which indicates that in most Member States where minimum wages apply, these are between 40% and 50% of the average wage (Eurostat, 2008a). One further exception is Ireland: Eurostat did not have data on hourly labour rates and we have instead taken these from data from the Central Statistical Office in Ireland (Central Statistics Office, 2008). Costs of connecting to the Internet such as use of a PC and

subscription to an internet service are not taken into account as these can be considered to be generic and not linked specifically to usage of eGovernment services, per se.

Table 4. Minimum and average hourly wage rates 2007 €PPPs.

	Hourly Rates	
	Average Wage	**Minimum Wage**
Austria*	26.67	12.00
Belgium	31.58	8.50
Bulgaria	1.65	0.73
Cyprus*	11.98	5.39
Czech Republic	7.14	1.97
Denmark*	33.09	14.89
Estonia	5.50	1.81
Finland*	27.39	12.33
France	30.31	8.31
Germany*	27.70	12.47
Greece	13.37	4.42
Hungary	6.34	1.77
Ireland	22.07	9.49
Italy*	21.39	9.63
Latvia	3.41	1.49
Lithuania	4.21	1.50
Luxembourg	31.98	10.19
Malta	8.69	3.98
Netherlands	27.41	8.67
Poland	6.03	2.03
Portugal	10.97	3.23
Romania	2.68	0.92
Slovakia	5.33	1.57
Slovenia	11.29	3.50
Spain	15.77	4.55
Sweden*	32.16	14.47
UK	33.81	7.94

***** In countries with no official minimum wage an assumption has been made that this would be equivalent to 45% of the average wage rate based on observations of the ratio between average and minimum wages in other EU Member States.

1.6 Results

Table 5 presents the results of our analysis for the EU-25 as a whole, assuming that there is just one contact per consumer per annum. This outlines the additional costs of making websites accessible and once accounting for the transaction cost savings to government of increasing the number of on-line transactions it provides the net costs and or benefits to government. In addition the gross benefits of increased use of public sector websites by our target population groups have also been taken into account allowing us to improve our estimate of impact from both these perspectives. Results are presented under difference scenarios where costs and reach are varied to test the robustness of findings (net costs to government are shown in red). Overall results range from net costs of €208 million for the EU-25 in the most extreme scenario to net gains of €1.22 billion in the most favourable scenario. For instance in Table 5, the results of the model indicate that there are only three potential scenarios where overall costs are greater than the combination of benefits to government and consumers: if the additional costs of making websites reach 15% and if reach is just 5%, or if costs are 30% higher and reach is just 5% or 10%. Even when adopting a narrower governmental perspective, only in a minority of scenarios do costs outweigh benefits: i.e. 15% additional costs and 5% or 10% additional reach; 30% additional costs and 5%, 10% or 20% additional reach. Much of the available literature to date indicates that the additional costs of websites are much more likely to be between 2% and 5% than these much higher estimates we have included here. Our baseline analysis is also extremely conservative, in assuming that individuals making use of websites will only use them once per year. When the number of contacts per consumer is increased modestly to just two or three per annum then the number of scenarios where costs outweigh benefits is reduced further (Tables 6 and 7). With two contacts, just one of our 16 possible scenarios indicates that costs will outweigh benefits, while with just three uses of websites per annum under all scenarios benefits outweigh costs at an EU-25 level.

Table 5. Baseline scenario results (one contact per consumer with the web per annum)

		2% additional costs	5% additional costs	15% additional costs	30% additional costs
5% reach	gov. costs for accessibility	-24,256,800	-60,641,999	-181,925,997	-363,851,994
	gov. transaction cost savings	79,111,941	79,111,941	79,111,941	79,111,941
	net government costs/benefits	54,855,141	18,469,942	-102,814,056	-284,740,053
	consumer benefits	76,556,354	76,556,354	76,556,354	76,556,354
	Total	**131,411,495**	**95,026,296**	**-26,257,703**	**-208,183,700**
10% reach	gov. costs for accessibility	-24,256,800	-60,641,999	-181,925,997	-363,851,994
	gov. transaction cost savings	158,223,882	158,223,882	158,223,882	158,223,882
	net government costs/benefits	133,967,082	97,581,883	-23,702,115	-205,628,112
	consumer benefits	153,112,707	153,112,707	153,112,707	153,112,707
	Total	**287,079,790**	**250,694,590**	**129,410,592**	**-52,515,405**
20% reach	gov. costs for accessibility	-24,256,800	-60,641,999	-181,925,997	-363,851,994
	gov. transaction cost savings	316,447,764	316,447,764	316,447,764	316,447,764
	net government costs/benefits	292,190,964	255,805,765	134,521,767	-47,404,230
	consumer benefits	306,225,415	306,225,415	306,225,415	306,225,415
	Total	**598,416,379**	**562,031,180**	**440,747,181**	**258,821,184**
40% reach	gov. costs for accessibility	-24,256,800	-60,641,999	-181,925,997	-363,851,994
	gov. transaction cost savings	632,895,528	632,895,528	632,895,528	632,895,528
	net government costs/benefits	608,638,729	572,253,529	450,969,531	269,043,534
	consumer benefits	612,450,829	612,450,829	612,450,829	612,450,829
	Total	**1,221,089,558**	**1,184,704,358**	**1,063,420,360**	**881,494,363**

Table 6. Scenario results (two contacts per consumer with the web per annum)

		2% additional costs	5% additional costs	15% additional costs	30% additional costs
5% reach	gov. costs for accessibility	-24,256,800	-60,641,999	-181,925,997	-363,851,994
	gov. transaction cost savings	158,223,882	158,223,882	158,223,882	158,223,882
	net government costs/benefits	133,967,082	97,581,883	-23,702,115	-205,628,112
	consumer benefits	153,112,707	153,112,707	153,112,707	153,112,707
	total	**287,079,790**	**250,694,590**	**129,410,592**	**-52,515,405**
10% reach	gov. costs for accessibility	-24,256,800	-60,641,999	-181,925,997	-363,851,994
	gov. transaction cost savings	316,447,764	316,447,764	316,447,764	316,447,764
	net government costs/benefits	292,190,964	255,805,765	134,521,767	-47,404,230
	consumer benefits	306,225,415	306,225,415	306,225,415	306,225,415
	total	**598,416,379**	**562,031,180**	**440,747,181**	**258,821,184**
20% reach	gov. costs for accessibility	-24,256,800	-60,641,999	-181,925,997	-363,851,994
	gov. transaction cost savings	632,895,528	632,895,528	632,895,528	632,895,528
	net government costs/benefits	608,638,729	572,253,529	450,969,531	269,043,534
	consumer benefits	612,450,829	612,450,829	612,450,829	612,450,829
	total	**1,221,089,558**	**1,184,704,358**	**1,063,420,360**	**881,494,363**
40% reach	gov. costs for accessibility	-24,256,800	-60,641,999	-181,925,997	-363,851,994
	gov. transaction cost savings	1,265,791,056	1,265,791,056	1,265,791,056	1,265,791,056
	net government costs/benefits	1,241,534,257	1,205,149,057	1,083,865,059	901,939,062
	consumer benefits	1,224,901,658	1,224,901,658	1,224,901,658	1,224,901,658
	total	**2,466,435,915**	**2,430,050,716**	**2,308,766,718**	**2,126,840,720**

Table 7. Scenario results (three contacts per consumer with the web per annum)

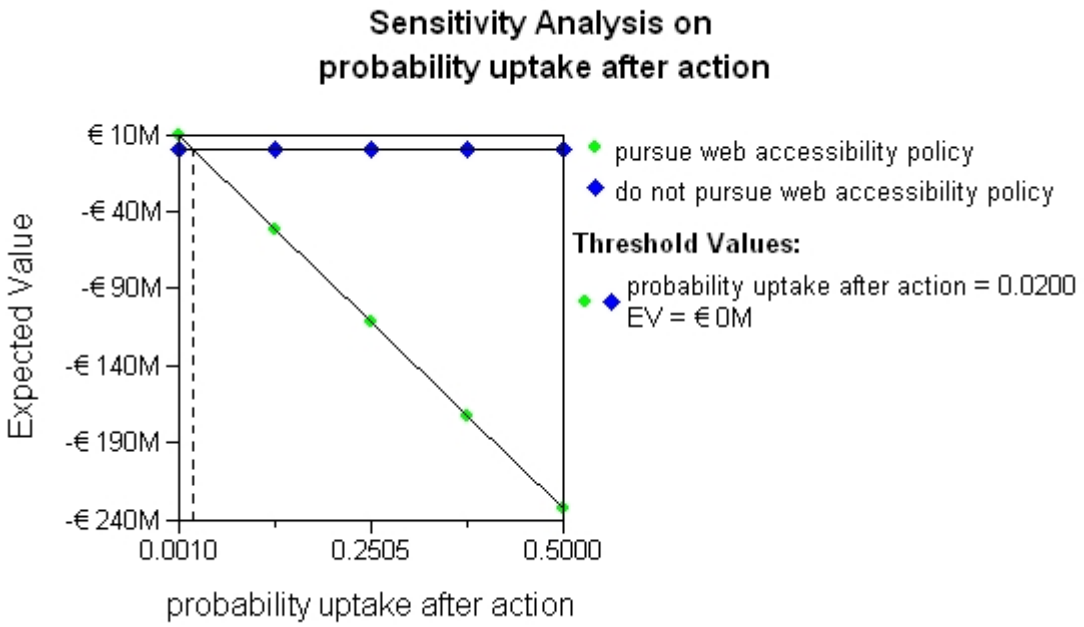
		2% additional costs	5% additional costs	15% additional costs	30% additional costs
5% reach	gov. costs for accessibility	-24,256,800	-60,641,999	-181,925,997	-363,851,994
	gov. transaction cost savings	237,335,823	237,335,823	237,335,823	237,335,823
	net government costs/benefits	213,079,023	176,693,824	55,409,826	-126,516,171
	consumer benefits	229,669,061	229,669,061	229,669,061	229,669,061
	total	**442,748,084**	**406,362,885**	**285,078,887**	**103,152,890**
10% reach	gov. costs for accessibility	-24,256,800	-60,641,999	-181,925,997	-363,851,994
	gov. transaction cost savings	474,671,646	474,671,646	474,671,646	474,671,646
	net government costs/benefits	450,414,847	414,029,647	292,745,649	110,819,652
	consumer benefits	459,338,122	459,338,122	459,338,122	459,338,122
	total	**909,752,968**	**873,367,769**	**752,083,771**	**570,157,774**
20% reach	gov. costs for accessibility	-24,256,800	-60,641,999	-181,925,997	-363,851,994
	gov. transaction cost savings	949,343,292	949,343,292	949,343,292	949,343,292
	net government costs/benefits	925,086,493	888,701,293	767,417,295	585,491,298
	consumer benefits	918,676,244	918,676,244	918,676,244	918,676,244
	total	**1,843,762,736**	**1,807,377,537**	**1,686,093,539**	**1,504,167,542**
40% reach	gov. costs for accessibility	-24,256,800	-60,641,999	-181,925,997	-363,851,994
	gov. transaction cost savings	1,898,686,585	1,898,686,585	1,898,686,585	1,898,686,585
	net government costs/benefits	1,874,429,785	1,838,044,586	1,716,760,588	1,534,834,590
	consumer benefits	1,837,352,487	1,837,352,487	1,837,352,487	1,837,352,487
	total	**3,711,782,272**	**3,675,397,073**	**3,554,113,075**	**3,372,187,078**

We have also undertaken threshold analysis at country specific level to look at the level of reach into the target group that would have to be achieved in order to break even, that is for costs to be equivalent to benefits. Table 8 provides information on break even points for selected countries in our baseline scenario. For instance looking at France if making web sites accessible costs is 5% extra on top of all web costs then the reach into the core target group needs to be greater than 2.0% of the target population in order for costs to outweigh benefits (See Figure 2).

Table 8. Reach level at which benefits outweigh costs under different assumptions about additional costs of web accessibility for selected countries

	2% additional costs	5% additional costs	15% additional costs	30% additional costs
Estonia	> 0.6%	> 1.6%	> 4.6%	> 9.3%
France	> 0.8%	> 2.0%	> 6.0%	> 12.0%
Netherlands	> 1.6%	> 3.9%	> 11.8%	> 23.6%
Spain	> 0.3%	> 0.8%	> 2.5%	> 5.1%

Figure 2. Reach needed in France to break even in baseline scenario when additional costs of website are 5%.



2. Economic impact of increased eAccessibility of web sites on consumers in the private retail sector

2.1 Approach and methods

On-line shopping can have economic benefits for consumers (Fresh Minds, 2008). Increased competition from on-line retailers may serve to promote competition and drive down prices in the marketplace. Work in the UK suggests that these costs are 13% lower for food and basic shopping needs; 15% for travel and 21% for other services (Verdict, 2007). Annual reductions in search time costs plus a reduction in the costs of products to consumers as a result of on-line shopping have been estimated to reduce costs to consumers of €358 (Demos 2007). It is important to note that this reflects benefits to consumers in general, it does not take account of disability or age. For illustrative purposes, based on these data we estimate economic impacts of increased reach of online shopping among the core e-accessibility target groups, as defined in the previous chapter.

We made the same assumptions about target population as in our public sector modelling presented in the previous chapter, but in this case we were able to include the full EU-27 as we have data on the potential target population in Bulgaria and Romania. We assumed that people with disabilities who made use of e-accessible websites would be just as likely to be on-line shoppers as the general population. We then assumed that the potential benefits to each consumer in our target population would be the same as that identified in the Demos survey, i.e. they would enjoy a reduction in costs of €358 per annum for their retail purchases. We estimated the impact in the UK context and then crudely scaled up these impacts across the EU-27 using our EU-27 wide target population of 83,921,570 individuals.

2.2 Results

Looking at the UK alone, if 1% of consumers with disabilities would shop on-line as a result of having access to e-accessible websites, the annual benefits will be more than €40 million. If 40% of our reach group in the UK shopped on-line then the benefits to consumers from reduced costs of products would be €1,621,443,580 per annum.

From a crude up-scaling of this figure for the EU it emerges that for every one percent increase in the use of on-line shopping by people with disabilities total savings to these consumers might be more than €300 million. If 40% of all consumers with disabilities across the EU made use of on-line shopping then cost savings to consumers would be more than €12 billion.

3. Economic impact of increased eAccessibility of web sites on online retailers

3.1 Conceptual approach and methods

There are also benefits to retailers of increased use of on-line shopping. Expanding the availability of on-line retailing will also provide retailers with an opportunity to reach additional consumers including people with disabilities. The on-line food and home shopping sector is one prime example where business is now substantial. The food retailer Tesco was generating €4.5 million in on-line revenues every day in 2007. Tesco has also sought to fully make its range of home shopping business e-accessible. Again for illustrative purposes, we estimate economic benefits that would be gained by retailers through increasing the reach of their online services through eAccessibility of their web sites among the core target groups defined earlier in this annex.

Again, we were able to able to include 27 Member States we have data on the potential target population in Bulgaria and Romania. One previous study indicates that average sales per customer are 20% greater on-line than using other mediums, with an average annual spend of €767 (Fresh Minds, 2008). In our model we have assumed that the value gained by private sector business is equivalent to this additional increase in revenue per additional consumer in our core target groups making use of e-accessible websites. We have not taken into account the costs to retailers of investing in on-line shopping services, but we can point to specific cases where the benefits of such investment outweigh costs. For instance, one commercial website that was re-launched in a more accessible format (www.legalandgeneralgroup.com) has seen a 66% saving in maintenance costs, a 30% increase in natural search engine traffic, a 75% reduction in time to load a page and an additional 13,000 visitors each month from improved browser compatibility alone. Legal and General anticipate recouping their outlay in only 5-6 months (Ability Net, 2006).

3.2 Results

If average on-line sales per customer are 20% greater on-line than using other mediums, with an average annual spend of €767 for every 1% increase in the use of on-line shopping by consumers with disabilities, retailers would per annum generate additional sales of more than €128 million. If 40% of our target group made use of services this would generate additional sales of €5.15 billion per annum.

4. Economic impact of accessible web sites to service providers in the online banking domain

4.1 Conceptual approach and method

The banking sector is changing rapidly; the growth in the use of on-line banking services potentially can allow banks to significantly reduce the costs of processing many routine transactions such as bill payments, money transfers, applications for overdrafts and credit cards, as well as routine requests for duplicate statements and cheque books. New on-line only banks have also been able to obtain substantial cash deposits from savers (Graeber et al., 2004). From a consumer point of view the time taken to make transactions is reduced while it is becoming easier to check bank balances and query bogus transactions. One disadvantage however may be that they may become more vulnerable to on-line scams and fraud.

The use of on-line banking services is growing rapidly. In Europe by 2007 it was expected that 21% of all European would make use of these services (Forrester Research, 2003b). Moreover 40% of all transactions were predicted to take place on-line. There are substantial potential benefits to the banks (Table 9). In the UK, for example, the National Savings and Investment bank in partnership with Siemens has been moving to increase its web presence. Since 2005 its volume of on-line sales has grown from £37 million per month in early 2005 to more than £100 million per month in 2007. Overall savings (including non web based changes) have totalled more than £2.6 million (National Savings and Investments, 2007). Work undertaken in Estonia has also compared the cost of delivering services through traditional mechanisms with new on-line alternatives (Luštšik, 2004). As part of this work they reviewed previous analyses in this area all of which confirm that on-line transactions are a small fraction of the cost of branch based transactions.

Table 9: Unit costs for transactions in different distribution channels. Sources: (Luštšik, 2004; Corrigan, 2006)

	Europe average (Forrester, 2003)		US average (Booz et al, 1996)		Nordea (Fin)		Union Bank (Est) (Toomla, 2003)	Bank of Ireland	
Channels	**Euro**	**%**	**US $**	**%**	**US $**	**%**	**%**	**€**	**%**
Branch	2.0	100	1.07	100	1	100	100	1.2	100
Online	0.14	7	0.01	1	0.11	11	7	0.29	24

For instance they cited a 1996 survey in the USA, which indicated that the estimated cost providing the routine business of a full-service branch in the USA was $1.07 per transaction, compared to 54 cents for telephone banking and 1.5 cents for Internet banking (Booz-Allen & Hamilton Inc, 1996). In the Nordea Bank in Finland, one online transaction cost the bank an

average of mere 11 cents, compared to $1 per transaction in the branch in 2001 (Anonymous, 2001). Forrester research looking at Europe's largest banks found that on average online transactions cost 14 times less than those made over the counter in branches (Forrester Research, 2003a). More recently, Dermot Nolan, head of business marketing at the Bank of Ireland commented that the cost of processing a cheque was €1.20 compared with a much lower cost of €0.29 for an on-line transaction (Corrigan, 2006).

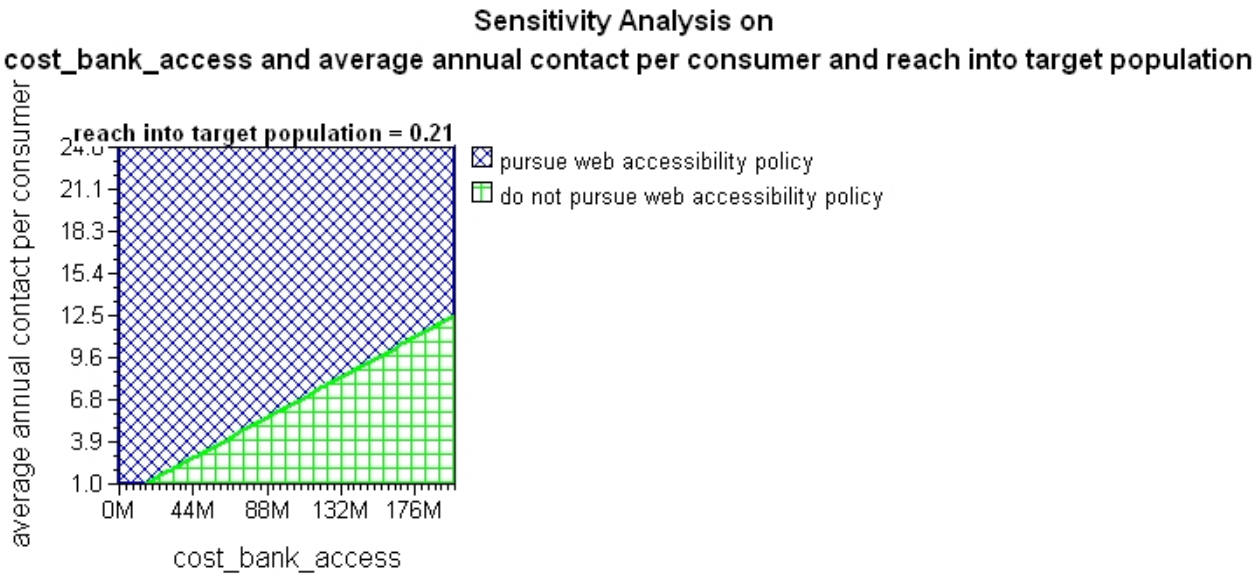
Against this background we sought to identify what some of the potential benefits would be to banks if they reached more consumers belonging to the e-accessibility core target population through the greater use of on-line banking across the EU. Again, we were able to include the full EU-27 as we have data on the potential target population in Bulgaria and Romania. We used the recent Bank of Ireland transaction cost data in our baseline model to assume that for each additional transaction performed on-line by someone with a disability that the banks will save €0.91 per transaction. We only estimate the potential savings generated but then using threshold analysis consider how much the banks could invest in making on-line banking e-accessible and at worst break even. We assume that there is no difference in the likelihood of older people and those of working age making use of e-banking services. In our baseline scenario we assumed that if an individual would use on-line banking services once a month, i.e. 12 times per annum.

4.2 Results

For each additional 1% of our target group making use of on-line e-banking services for one transaction per month, the potential transaction costs avoided to banks across the EU-27 would be almost €8.16 million. If 21% of people with disabilities were to use e-banking services – the same proportion as in the general population, making one transaction per month then the banks would avoid costs of €191,448, 945.

While we do not have data on the aggregate investment by banks into the provision of on-line services, we have undertaken a three way sensitivity analysis to identify the amount that could be spent on investment by the banks on e-accessibility and still have transaction cost savings outweighing the cost of additional investment. We created a dummy variable to account for potential cost of on-line services and varied this in combination with the number of contacts per annum (1-24) and the share of target population that would use the service (0% to 50%). As Figure 9 indicates if reach into the target population was 21% then if the number of contacts per person was just one per year the banks could still invest a total of approximately €10 million and still have savings from transaction costs outweighing the additional costs of investment. At a level of 12 contacts year (one per month) the banks could invest circa €176 million and still get a positive return on their investment.

Figure 9: Three way sensitivity analysis with 21% reach into target population



5. Economic impact of accessible websites on the society through increased employment among people with disabilities

5.1 Conceptual approach and methods

Increased access to the internet by people with disabilities as a result of the greater availability of e-accessible web sites can help them acquire a range of skills and knowledge. For those of working age, but currently excluded from the labour market this potentially can have a positive impact on their chances of employment: they may be able to access information on available jobs through on-line recruitment agencies and/or undergo various distance based training courses. Improved e-accessibility of the web and intranet sites within firms can also increase the likelihood of someone with a disability applying for a job; improved e-accessibility might also have a positive impact on participation of specific sectors of the economy e.g. the information communication technology sector.

As an illustrative example, we have sought to estimate the potential benefits of increased employment of people with disabilities as a result of e-accessible web sites. We have looked at this from two different perspectives: firstly a societal perspective where we estimate some of the potential productivity gains to the economy as a whole through increased labour force participation; secondly we look at some of the implications that a greater rate of employment has on the public purse.

We have undertaken this analysis at country specific level for countries where recent data is available on both the number of individuals registered with disabilities and their status as being in employment, unemployment or stated to be 'economically inactive.' The most recent data in this respect come from a recent report on the labour market situation of people with disabilities in EU 25 produced by the European Centre for Social Welfare Policy and Research (Shima et al., 2008). We contacted the report authors to obtain precise data from the countries they have studied. This allowed us to analyse the situation in 11 EU countries. We have aggregated data on inactivity and unemployment to identify the likelihood that someone registered as disabled will be outside the labour market. Because our target population includes people with lesser disabilities we assumed that additional individuals of working age in our target population group, i.e. the number over and above those registered disabled, would have the same chances of employment as observed in the general population. This assumption is conservative: it should be noted that as the rules on access to disability benefits vary across countries it may be the case that some people with more severe disabilities will in fact not be registered as being disabled. From a societal perspective we looked at the potential economic gains if 1% of our target population were employed on a full time basis for one year as a result of e-accessibility. We valued their productive time using both purchasing power parity adjusted country specific minimum wages (to adopt a very conservative approach) and also at the prevailing average wage rates in these countries for 2007. (See Table 4).

From a public purse perspective benefits include an increase in tax revenue as a result of individuals earning a wage; and secondly a reduction in the need to pay the income compensation element of disability welfare payments. In our analysis we adopt a very conservative approach: we only estimate the increase in tax take (after accounting for basic personal tax free allowances) in countries if individuals earn either the minimum or average wage rates. We use only the basic rate of income tax, even though those on higher incomes in most countries typically pay a higher rate of income tax. Information on tax rates are taken largely from the 2008 edition of Eurostat's taxation trends in the EU (Eurostat, 2008b).

5.2 Results

Table 10 gives info on both societal and public purse gains from both the minimum wage and average wage perspective. For some countries in the Table we were unable to find sufficiently accurate data in respect of taxation and have just reported societal gains.

As indicated in the Table there are substantial gains to be made even on a very conservative basis in all of these countries. For instance in the case of Austria, a 1% increase in employment in our working age target population could generate additional societal benefits of €6.5 m per annum at minimum wage rate or €61.6 million at the average wage rate. There would also be additional revenues to the tax system of at least €2.5 million and €23.6 million under the two scenarios respectively. Again this is conservative we do not account for higher tax take as a result of higher rates of income tax – nor do we account from a reduction in the need to pay out some disability and unemployment benefits.

Table 10: Potential benefits of employment to society and public purse of increase in 1% in employment rate of people with disabilities in selected EU countries.

Employment benefits	Minimum Wage		Average Wage	
	Societal	Public Purse	Societal	Public Purse
Austria	6,533,832	2,502,458	61,612,575	23, 597, 616
Belgium	46,770,130	N/A	173,764,791	N/A
Czech Republic	17,117,697	2,567,655	62,040,790	9,306,118
Finland	11,012,688	936,078	52,286,508	4,444,353
France	360,058,465	N/A	1,313,281,837	N/A
Germany	279,344,533	2,567,655	847,101,561	9,306,118
Ireland	39,321,414	7,864,283	98,582,816	19,716,563
Slovakia	4,895,881	930,217	16,621,047	3,157,999
Spain	165,804,325	N/A	574,666,859	N/A
Sweden	95,085,031	N/A	211,329,274	N/A
United Kingdom	148,229,315	29,645,863	1,040,781,849	208,156,370

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Verdict (2007) UK e-retail 2007, Verdict, London

Worthington, T. (2000) Olympic Failure: A case for making the web accessible. Available at http://www.tomw.net.au/2000/bat.html, Oxford University Computing Laboratory, Oxford.

Annex 2

Evidence available from existing sources on general costs and benefits of accessibility websites

A number of studies suggest that there is variation in the additional costs of making websites e-accessible, but as yet there remains little empirical information on the actual amount of additional costs incurred. One often cited example, is the legal case brought by the Australian Human Rights and Equal Opportunity Commission on behalf of a visually impaired man, Bruce Maguire against the Sydney Organising Committee for the Olympic Games (SOCOGs). Maguire complained that the website was inaccessible. Legal proceedings concluded that SOCOGs estimate of $A2.2 million to make the website accessible was inaccurate. It was reported that the site could be made accessible to WCAG Level A standards for a 'modest amount' by a team of one experienced developer with a group of five to ten assistants in just four weeks[72]. One consultant testified to the court that he could make the website accessible for just $A 29,450[73].

In general, additional costs for making websites accessible will be dependent in part upon the complexity of the website and the number of pages, as well as whether accessibility is added prospectively as web pages are developed or retrospectively to existing web pages, with costs ranging from between 2% of total web site costs for new websites to as much as 30% for retrofitting of existing web site costs (Table 1).

Table 1: Overview of published statements on extra costs for making a website accessible

Author	Citation	Source
Slatin, J.M., Author	"However, with up-front planning and good practices, the cost of accessibility can be lowered to negligible levels"	Slatin, J.M. (2001b). The art of alt: Toward a more accessible web. In Computers and Composition: An International Journal for Teachers of Writing, 18(1-2), 73-82.
Dave Wilton, Legal & General	"The cost of making the site accessible pales into insignificance."	http://download.bluemars.de/webmontag/2007-07-02/en/
Website design company	"Making a website accessible may increase cost of initial design by one or two percent, but may increase the audience by as much as twenty percent."	http://www.ilikecake.net/accessibility/costeffective.htm
Heerdt and Strauss,	"In a study Heerdt and Strauss estimated even less than 1.56%"	*Miesenberger et al. (eds.): ICCHP 2004, LNCS 3118, pp. 323–330, Springer, 2004*).
McKinsey & Company	"As the cost of building a barrier-free e-recruiting site was found to range from negligible, in the case of a new website, to only 5% of the original website cost in the case of an upgraded site, the potential benefits will in most cases outweigh the required expenditure"	http://www.barrierfree-recruitment.com/access/plan.htm

[72] Clark, J. (2004) Readers guide to Sydney Olympics accessibility complaint. Available at http://www.contenu.nu/socog.html, Contenu.nu, Toronto.

[73] Worthington, T. (2000) Olympic Failure: A case for making the web accessible. Available at http://www.tomw.net.au/2000/bat.html, Oxford University Computing Laboratory, Oxford

McKinsey & Company	"Making an existing website accessible costs, on average, less than five per cent of total development expenditure. This investment can significantly increase market share by improving the accessibility and usability of a site for all users. It also lowers maintenance costs, enhances reputation and reduces legal liability"	McKinsey & Company (2003): Making E-recruitment Barrier-free for People with Disabilities
Website design company	"We estimate it cost an extra 5% at the design phase to create an accessible website, and saves many times the website cost in reduced marketing costs. For a business website the marketing saving is likely to be much greater"	http://www.cornishwebservices.co.uk/pages/accessibility.shtml
Norbert Bollow, president of the Swiss Internet User Group (SIUG)	"5%-30% increase of costs of creating accessible websites (mainly because the company which develops the website has to learn how to do it so that the website will be accessible)"	http://atmig.org/igf06/swiss-perspective
Jan Eric Hellbusch, German Author	"Jan mentioned an estimated cost increase for adding accessibility to be in a one digit percentage range"	http://learningtheworld.eu/2006/accessible-e-government/
Danish government	In a survey of Danish public purchasers of web based services and their suppliers, as well as web consultants, in 30% of respondents believed the additional costs of e-accessibility to be under 10% and a further 57% between 10% and 30%	Sensus (2006) Kortlægning af eventuelle ekstraomkostninger ved krav om overholdelse af standarder for tilgængelighed, Sensus ApS, Hillerød.
Valeska Heerdt and Christine Strauss	Because the topic of accessibility is relatively new, there are as yet no studies reporting on the costs that may arise when a site is made accessible. Consequently, experts have widely differing opinions, ranging from negligible additional costs to extra costs of up to 25%. It can be assumed that a website's degree of complexity determines the design costs and, as a consequence, the relative extra costs for providing full accessibility (e. g., a website with online-shopping and associated payment functions is more complex and as such requires higher relative additional costs than a plain static homepage).	Valeska Heerdt and Christine Strauss (2004): A Cost-Benefit Approach for Accessible Web Presence

Apart from additional costs, web accessibility may however result in concrete benefits for the web sites owner through better technical performance going hand in hand with accessible coding. Related to increased outreach of online services to wider customer/user groups that can be achieved through web accessibility, an additional benefit of web accessibility for instance can often be found in terms of substantially increased search engine optimization (SEO), that is, better 'findability' and visibility of a web site via a search engine such as Google. Several accessibility techniques are the same as SEO techniques. Other accessibility features are also helpful for SEO, including text equivalents for multimedia and proper mark-up of headings.

Many accessibility features result in improved usability for users more generally. Apart from pages loading faster, accessibility also improves various aspects of usability:

- clear and consistent design, navigation and links
- helpful structuring of information in blocks
- clear and simple language as appropriate
- supplemental images and illustrations
- good colour contrast.

In addition, technical benefits can be of considerable value for many organisations. Some of the more important ones include[74]:

- reduced site development and maintenance time
- reduced server load
- improved interoperability
- preparation for advanced technologies.

All of these can deliver direct costs savings in terms of reduced personnel costs, amount of server capacity needed and avoiding the need for multiple versions of a site for different user devices.

Finally, efforts to make websites accessible are good for corporate image more generally and are an increasingly important element of Corporate Social Responsibility (CSR). CSR is now recognised to be important not just for image but in concrete business issues such as sales and customer loyalty, attraction and retention of employees, and access to capital and funding.

The box below presents a concrete illustration of how these types of benefits have been realised in practice[75].

Benefits of web accessibility - case study: Legal and general

- 30% increase in natural search-engine traffic
- significant improvement in Google rankings for target keywords
- 75% reduction in time for pages to load
- elimination of browser-compatibility complaints
- accessible to mobile devices
- reduced time to manage content (ten-fold)
- savings of £200,000 annually on site maintenance
- 95% increase in visitors getting a life insurance quote
- 90% increase in insurance sales online
- 100% return on investment in less than 12 months

[74] Shawn Lawton Henry (2006) Understanding web accessibility. In: Thatcher et al (2006) Web Accessibility, Web Standards and Regulatory Compliance

[75] Jim Thatcher et. al. (2006): Web Accessibility – Web Standards and Regulatory Compliance

Annex 3

Towards scaling the effort potentially required to achieve a basic level of accessibility of web sites across the EU

European surveys over the last few years have found that the majority of websites, be they public or private, do not comply with basic internationally accepted accessibility guidelines. Against the accepted basic accessibility yardstick[76], a survey of 436 public websites across Europe conducted under the UK European Presidency in 2005 found for instance that just 3% of sites were fully compliant with the accessibility guidelines.[77]

More recently, the MeAC survey of 314 government and key commercial/sectoral websites of major public interest (e.g. railways, TV, newspapers, retail banking) in Europe revealed that only 5.3% of government websites surveyed and none of the key commercial/sectoral websites surveyed were fully compliant with the basic accessibility guidelines.[78] When taking a closer look at the evidence available from national sources (c.f. Annex II) available data point into the same direction when compared with evidence available from cross-national surveys. Although reported figures vary in relation to levels of accessibility actually achieved, the majority of web sites tested were not regarded as accessible. It needs however to be born in mind that the diversity of methodological approaches adopted in terms of sampling schemes and evaluation methods / criteria applied by the variouse national studies does not allow for a valid comparison across countries.

It is widely accepted that retrofitting an existing web site for accessibility requires much more effort than designing for it. Experts have also highlighted that the former tends to lead to a lower level of accessibility than if it were a design goal from the very beginning. “The reason is that full accessibility is a combination of the WAI guidelines, web standards, and semantic coding. Think of these as the three legs of a stool; if one is shorter than the others, at some point, you’re going to fall over and land painfully on your backside.”[79] In fact, fixing accessibility obstacles imposed to people with disabilities by an existing web site in an ex-post manner may become a complex exercise, depending on a range of variables such as the level of accessibility actually aimed at, design and structure of a given web site, web technologies applied and the like.

Without expert evaluation on a case by case basis, it is therefore difficult to arrive at a definite picture of the effort that would be required make the current stock of European web sites accessible to users with disabilities.[80] Based on data available from the MeAC study it is however possible to put some scale on the fixes that would be required across the EU to satisfy basic accessibility requirements. As mentioned above, the MeAC study evaluated a sample of 314 government[81] and key commercial/sectoral[82] websites of major public interest

[76] W3C, Web Content Accessibility Guidelines 1.0, cf. http://www.w3.org/wai.

[77] Cabinet Office (2005) eAccessibility of public sector services in the European Union. November. (www.cabinetoffice.gov.uk/e-government/eaccessibility)

[78] Empirica, WRC, RNIB, RNID, eWORX (2007): MeAC - Measuring Progress of eAccessibility in Europe Assessment of the Status of eAccessibility in Europe (Main Report), http://ec.europa.eu/information_society/activities/einclusion/library/studies/meac_study/index_en.htm

[79] Jim Thatcher et. al. (2006): Web Accessibility – Web Standards and Regulatory Compliance

[80] And even if an individual web site is evaluated by experts outcomes may vary considerably depending on assumptions made. In the widely discussed Australian court case on the Olympics web site (the so called SOCOG case), the site's creator estimated for instance that fixes would cost around US$2.2 million. External experts' cost estimates were as follows: 15.5 days x $1,900 per day $29,450.00. C.f. http://www.tomw.net.au/2000/bat.html

[81] For each country six key government web sites were sampled, including the main web portal of the national government and the web sites of the national parliament as well as of several national ministries (social affairs, health, education, employment and labour, as applicable). For methodological details see empirica, WRC, RNIB, RNID, eWORX (2007): Measuring Progress of eAccessibility in Europe – Assessment of the Status of eAccessibility in Europe, Annex I.

[82] For each country six key commercial/sectoral web sites were sampled, including the web sites of the main national daily news paper, the main free-on –air broadcasting TV channel, the main national retail bank, the main national railway service and the main operators of mobile and fixed-line telecommunications respectively. For methodological details see empirica, WRC,

in Europe.[83] These web sites were tested against Priority 1 check points of WCAG 1.0, by means of both automatic and manual evaluation methods. It can be assume that if a web site does not comply with these check points one or more groups will find it impossible to access the site. Satisfying these checkpoints is thus a basic requirement for some groups to be able to use the web site.[84]

Our assessment of different levels of effort required for retrofitting such a basic level of accessibility into the web sites tested by MeAC is based on the assumption that the effort required to fix failure of a particular check point depends on variouse aspects:

- Processual aspects: Here it is assumed that the effort required to overcome failure of a particular check point depends on whether or not different types of expertise need to be involved. In more practical terms cooperation of different types of staff may be required, namely technical staff to implement fixes requiring changes to the code/programming of a website and editorial staff to generate / improve particular content elements (e.g. meaningful titling of graphic elements).
- Technical aspects: Here it is assumed that the effort required to overcome failure of a particular check point depends on the average time required to develop and implement an alternative solution for a typical instance of the inaccessible design element in question (e.g. whether or not a potentially diverse range of issue need to be addressed in a particular failure instance)
- Failure frequency: Here it is assumed that the effort required to overcome failure of a particular check point depends on the number of failure instances that occur throughout the web site (e.g. the frequency of usage of a particular design element throughout the web site)

The table below summarises these assumptions for the checkpoints that were failed by one or more of the web sites examined in the framework of MeAC. It is to be noted that for each web site included in the testing exercise 25 pages were examined at maximum. For our purposes we assume that failure patterns in terms of failure type and frequency that have been identified throughout these 25 pages continue throughout the entire web site (independent of the total number of pages a web site may actually comprise).

Exhibit 1: Effort-related assumptions made according to checkpoints failed

No	Checkpoint	Assumed implications
12.1	Title each frame to facilitate frame identification and navigation	Processual aspects Checkpoint requires technical expertise rather than content-related/editorial expertise to fix. Technical aspects Fixing one failure instance requires only a relatively limited amount of time by technical staff. Failure frequency The number of failure instances will usually be rather low,

RNIB, RNID, eWORX (2007): Measuring Progress of eAccessibility in Europe – Assessment of the Status of eAccessibility in Europe, Annex I.

[83] Empirica, WRC, RNIB, RNID, eWORX (2007): MeAC - Measuring Progress of eAccessibility in Europe Assessment of the Status of eAccessibility in Europe (Main Report), http://ec.europa.eu/information_society/activities/einclusion/library/studies/meac_study/index_en.htm

[84] C.f. Jim Thatcher et. al. (2006): Web Accessibility – Web Standards and Regulatory Compliance, p. 65

		since checkpoint concerns a high-level structural element of a website.
1.1	Provide a text equivalent for every non-text element (e.g., via "alt", "longdesc", or in element content). This includes: images, graphical representations of text (including symbols), image map regions, animations (e.g., animated GIFs), applets and programmatic objects, ascii art, frames, scripts, images used as list bullets, spacers, graphical buttons, sounds (played with or without user interaction), stand-alone audio files, audio tracks of video, and video.	Processual aspects Checkpoint requires both technical expertise and content-related/editorial expertise to fix. Technical aspects Fixing one failure instance requires only a relatively limited amount of time by technical and editorial staff. Failure frequency The number of failure instances depends on number of non-text elements used on a website.
1.2	Provide redundant text links for each active region of a server-side image map	Processual aspects Checkpoint requires technical expertise rather than content-related/editorial expertise to fix. Technical aspects Fixing one failure instance requires only a relatively limited amount of time by technical staff. Failure frequency: The number of failure instances depends on number of server-side image maps used on a website.
2.1	Ensure that all information conveyed with color is also available without colour, for example from context or mark-up.	Processual aspects: Checkpoint requires technical expertise and may also require content-related/editorial expertise to fix. Technical aspects: Fixing one failure instance requires only a relatively limited amount of time by technical and maybe editorial staff. Failure frequency: The number of failure instances depends on frequency of information conveyed with colour rather than context or mark-up.
4.1	Clearly identify changes in the natural language of a document's text and any text equivalents (e.g., captions).	Processual aspects Checkpoint requires both technical expertise and content-related/editorial expertise to fix. Technical aspects Fixing one failure instance requires only a relatively limited amount of time by technical and editorial staff. Failure frequency; The number of failure instances depends on number of language changes occurring on a website.
6.1	Organize documents so they may be read without style sheets. For example, when an HTML document is rendered without associated style sheets, it must still be possible to read the document.	Processual aspects: Checkpoint requires both technical expertise and content-related/editorial expertise to fix. Technical aspects: Fixing one failure instance may require a higher amount of time by technical and editorial staff. Per instance, a potentially diverse range of issues may have to be fixed. Time depends on the effort needed to identify the issue, develop a solution and programme it. Failure frequency

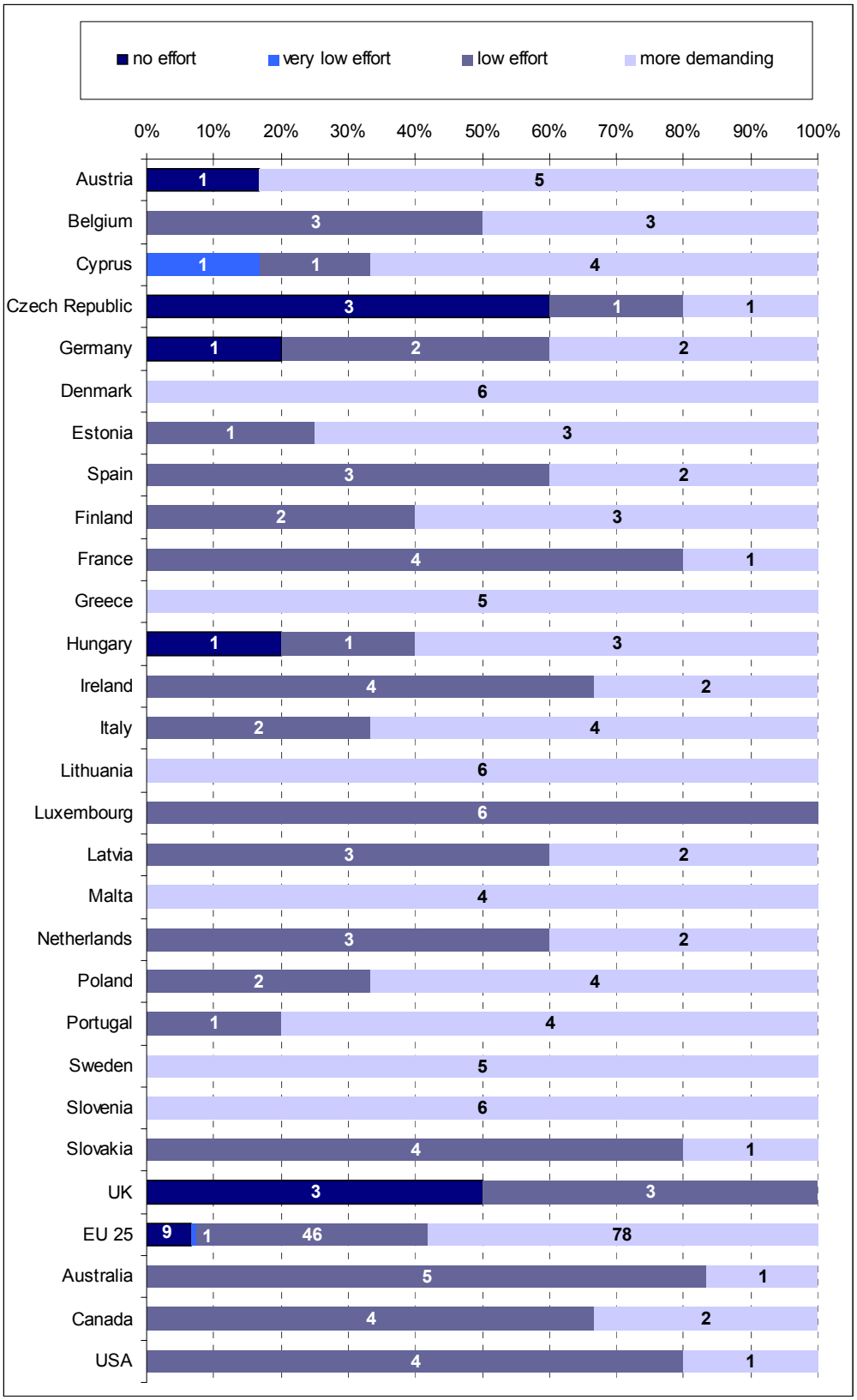
		The number of failure instances depends on the structure of the website.
6.2	Ensure that equivalents for dynamic content are updated when the dynamic content changes.	Processual aspects: Checkpoint requires both technical expertise and content-related/editorial expertise to fix. Technical aspects: Fixing one failure instance may require a higher amount of time by technical and editorial staff. Per instance, a potentially diverse range of issues may have to be fixed. Time depends on the effort needed to identify the issue, develop a solution and programme it. Failure frequency The number of failure instances depends on the amount of dynamic content used on the website.
6.3	Ensure that pages are usable when scripts, applets, or other programmatic objects are turned off or not supported. If this is not possible, provide equivalent information on an alternative accessible page. [Priority 1] For example, ensure that links that trigger scripts work when scripts are turned off or not supported (e.g., do not use "javascript:" as the link target). If it is not possible to make the page usable without scripts, provide a text equivalent with the NOSCRIPT element, or use a server-side script instead of a client-side script, or provide an alternative accessible page as per checkpoint 11.4. Refer also to guideline 1.	Processual aspect: Checkpoint requires both technical expertise and content-related/editorial expertise to fix. Technical aspects: Fixing one failure instance may require a higher amount of time by technical and editorial staff. Per instance, a potentially diverse range of issues may have to be fixed. Time depends on the effort needed to identify the issue, develop a solution and programme it. Failure frequency: The number of failure instances depends on the amount of dynamic content used on the website.

Based on the assumptions summarised in the table above, the web sites investigated can be categorised according to different levels of effort that would potentially be required to fix the checkpoints that were violated in each individual case. This is summarised in the table below (Exhibit 2). As can be seen from Exhibit 3**Erro! A origem da referência não foi encontrada.** overleaf, across the entire EU about two in five of the tested public web sites are estimated to require comparatively low efforts to achieve a basic level of accessibility. In a number of countries this is the case even for the majority of web sites.

Exhibit 2: effort-related interpretation of the checkpoints failed per web site investigated

Checkpoints failed	Level of effort required to fix failure
Did not fail any check point	No effort required
Sites that failed 12.1 and/or marginally failed 1.1 (failure occurs below quantitative thresholds)	Very low effort required
Sites that failed 1.1 and/or 1.2 and/or 2.1 and/or 4.1 (and 12.1)	Low effort required (may require more effort in cases where non-text elements are used extensively)
Sites that failed 6.1 and/or 6.2 and/or 6.3 (and 12.1/1.1/1.2/2.1/4.1)	More demanding effort required (could be very challenging depending on site structure/layout)

Exhibit 3: Estimated levels of effort required to achieve basic accessibility of existing public web sites across the EU



Annex 4

Comparative Analysis of Web Accessibility Legislation in the EU

1 Introduction

This Annex presents a comparative overview of policy interventions – including legislation – concerning accessibility of web sites as they can be currently observed across the European Union and beyond. The analysis is based on information that was available to the study team by the end of July 2008. It draws on different sources that were accessible in English language at that time, including existing literature and research reports as well as legal documents and input from interrogated experts.

On the basis of the information used and the verification efforts that were employed, it can be taken that the overall patterns emerging from the analysis are reliable, and that they provide a sound basis for input to further European-level policy development in the web accessibility area. Nevertheless, it may well be the case that individual measures pursued in some countries have remained uncovered – or inappropriately described – within the scope of this study. It is thus possible, of course, that in an exercise like this the classification of an individual country across the variouse analytical dimensions applied might not always reflect the situation in a fully appropriate manner, e.g. because of lack of available information and/or misinterpretation of information that was indeed available to the study team. The possibility of such occurrences does not detract in any significant way from the reliability of the overall results but does introduce a caution that the results are neither intended for or necessarily suitable for any type of 'naming and shaming' exercise.

The following Chapter 2 starts with presenting the current situation in relation to public web sites according to types of intervention, scope of relevant measures and implementation mechanisms (section 2.1). Subsequently, the current situation in relation to private web sites is presented (section 2.2). Chapter 3 then discusses the legislative approach adopted in the US accordingly. Finally, Chapter 4 presents evidence collated on the levels of accessibility actually achieved in the variouse countries and discusses impacts yielded by legal interventions.

2. Current interventions directed toward web accessibility in the EU

2.1 Public web sites

2.1.1 Types of interventions directed towards accessibility of public web sites

In almost all Member States accessibility of public web sites has received quite some policy attention during the last years. However, there is considerable variation when it comes to the type and nature of policies actually implemented in this regard. Where a developed policy exists, this seems to be a result of evolution of policy in many cases and can be fragmented in itself, sometimes involving overlapping measures (for details see Exhibit 11. As summarised by the table presented overleaf (Exhibit 1), both legal

and non-legal interventional approaches can be discerned on the basis of the available evidence base.

A number of Member States have introduced legislation that makes provisions in relation to accessibility of public web sites. Depending on the legislative approach adopted, the legal bases on which such provisions are made may however vary. Some countries make for instance reference to web accessibility in the framework of speciffic sectoral legislation, e.g. in the framework of eGovernment and/or public procurement legislation. Other countries make reference to web accessibility in the framework anti-discrimination and equality legislation that is directed towards equitable access to goods and services by people with disabilities in more general terms. The latter approach can provide disabled people, individually or collectively, with the right to seek redress if a public service provided over the internet is not accessible to them. In some cases, such legislation introduces a positive duty on public bodies to make the services they provide over the internet (and possibly by other electronic means) accessible in an anticipatory manner, i.e. even before a party seeks redress. In cases where antidiscrimination/equality legislation does not make explicit reference to web accessibility (e.g. in terms of a positive duty) as falling within its scope it may in practice well be interpreted as including this aspect within its scope, either by means of case law or by means of proactive policy measures (e.g. by the government issuing guidelines and best practice examples with a view to support compliance of public bodies with the general principles of existing anti-discrimination legislation).

Exhibit 4: Overview of legislation and other measures in place that are directed towards accessibility of public web sites

	Obligation or concrete target specified	**Specified time frame for achieving obligation/ target**	**No obligation or concrete target specified (but can be inferred at least in principle)**
Legislation (e.g. eGovernment, equality law)	AT, CZ, DE, ES, IT,UK, FR, MT, SK	AT, CZ, DE, ES, IT, UK, SK	IE, (EL[85]), (HU[86])
No legislation but other measures (e.g. ministerial resolution, action plan)	DK, EE, NL, PT, SI, FI, LI, SE	DK, EE, NL, PT, SE, SI, (BE[87])	LU, PL, (LV[88]) CY

At the same time, variouse countries have adopted interventional approaches that do not necessarily rely upon the introduction of hard law in terms of enforceable legislation. Rather these countries rely on non-legal interventional instruments such as ministerial resolutions, national action plans, strategic policy frameworks, codes of practice and the

[85] Since 2001 the constitution guarantees the right for everyone to participate in the Information Society, but no concrete legislation seems to have emerged from this yet

[86] Act 1998. XXVI on "The Rights of Disabled and on Ensuring Their Equality" does not impose a direct eAccessibility obligation but seems to have been influential in encouraging public agencies to make their web sites accessible

[87] In Belgium, the Walloon region and the Flemish region have set dedicated accessibility targets that were to be reached by 2005 and 2007 respectively (c.f. Exhibit2)

[88] The concept of equal right has been adopted on 30th June 1998

like. As in the case of legislation, in some cases such measures can place very concrete obligations on particular parties to make their webs sites accessible to people with disabilities. In Denmark for instance, as a result of a parliament resolution Danish Government, Local Government Denmark and the Danish regions concluded an agreement in September 2007 on the mandatory use of open standards in the public sector. The agreement implies that public authorities from 1st January 2008 are to use seven sets of open standards for new IT solutions, including standards for public web sites and accessibility.

Independent whether legislation or other interventional measures have been adopted, only in some cases an explicit time frame by which accessibility standards are to be implemented seems to have been specified (Exhibit2). According to the information available current time frames vary in terms of defined time horizons, ranging from 2005 to 2011 xxx. In the United Kingdom and the Netherlands a staged approach was adopted by means to setting out different time frames for web sites that are to be newly launched and for those that did already exists at the time when accessibility related obligations were imposed. In Spain, different levels of accessibility are to be achieved in different points in time.

Exhibit 2: Specified time frame for implementing accessibility standard at national level

Year	Country
2005	DE, BE (priority sites selected in the Walloon region)
2006	IT, NL/SK (new web sites)
2007	ES (WCAG A), UK (new web sites), BE (web sites of the Flemish regional government)
2008	AT, CZ, DK, ES (WCAG AA), PT, UK/SK (existing web sites)
2010	EE, NL (existing web sites), SE, SI

Despite the fact that the majority of Member States have by now taken at least some policy efforts towards accessibility of public web sites there are still countries that do not seem to have taken any action yet, neither in terms of legislation nor in terms of other interventional measures. In Belgium policy efforts seem to have primarily been driven at the level of the regions up to now (in terms of setting concrete targets to be achieved) rather than at the national policy level.

2.1.2 Scope of interventions directed towards accessibility of public web sites

The range of parties addressed by current accessibility related legislation and other measures vary in relation to different aspects (Exhibit 3). To begin with, there is some variation as regards the administrative levels that are targeted by existing interventions. While in some countries web sites owned by public bodies operating at the national, regional and local levels are explicitly addressed, either by means of dedicated legislation or by means of other interventional instruments, in other countries current efforts seem to address primarily public bodies operating at the national level. It may not

come as a surprise that interventional measures spanning across different administrative levels tend to be tailored to the specific structure of the administrative/legal system within which they are to be implemented. This may be illustrated by the following examples:

- In Germany, pursuant to national anti-discrimination legislation accessibility of public web sites was addressed in 2002 by means of issuing the Federal Ordinance on Barrier-free Information Technology (so called BITV). This ordinance did not automatically apply to the regional administrative level (the so called Budesländer). Therefore, the federal government has been playing an active role in promoting the adoption of similar legislation at the regional level for some time, which now seems to be the case in most regions (this may include a recommendation to local authorities to comply with regional law).
- In Italy, accessibility of web sites has been addressed by a national law in 2003 (the so called Stanca law) which makes explicit reference to the responsibility of regions, the autonomous provinces and municipalities for overseeing the application of the provisions made in the law (Article 7).
- In Spain, basic accessibility conditions have been established by framework legislation in 2003, without prejudice to the competences of the regions (so called Autonomous Communities).
- In Austria, accessibility of public web sites has been addressed by means of eGovernment legislation which seems to apply to all public sector organisations at national, regional and local level.
- As mentioned earlier, as a result of the Danish Parliament Resolution B103 on the use of mandatory open standards for software in the public sector, the Danish Government, Local Government Denmark and Danish Regions concluded an agreement that public authorities are to use a set of seven open standards for new IT solutions (including standards for websites and accessibility).

The available evidence suggests that the majority of interventional measures address bodies of the public administration, sometimes qualified as public bodies providing information and transaction services to the general public. However, there seems to be some variation in this regard as well. For instance, the Spanish legislation also makes explicit reference to parties that own web sites which are funded with public money and organisations that manage public services. Legislation that has been introduced in Finland seems to focus on public sector bodies concerned with administrative, juridical, prosecution and enforcement matters. In Italy ppublic administration services which make use of computer and data transmission and providers of services in the public interest fall into the scope of relevant legislation. Beyond this educational institutions are explicitly mentioned. In the Netherlands - apart from the national government, the provinces and municipalities - water boards are addressed by means of a voluntary agreement they seem to have concluded with the national government.

When it comes to speciffic types of web sites addressed by current interventions, most measures seem to be targeted towards web sites that are directed towards the general public. According to the available evidence intranet sites are excitedly targeted only in few cases (e.g. in BE, DE)

Exhibit 3: Scope of legislation and other measures

Country	Hard law (may be complemented by other measures)	Other measure only	Parties / web sites addressed
AT	X		All Web services of public sector (e.g. ministries, cities, local collectivities, public organisations, schools, hospitals) at the national, regional and local level providing information and transaction services
BE		X	Selected priority web sites in the Walloon region Government web sites available to the public and intranets in the Flemish region
CY			n.a.
CZ	X		Web sites of public authorities directed to the public. It concerns authorities acting on the federal (government organizations) and local level (regions, municipalities) too.
DE	X		Web sites of the federal government and publicly accessible intranet web sites owned or operated by federal public administrations (Note: A federal law regulates compliance of web sites at the federal administrative level and does not apply to the regional and local administrative level. However, many regions seem to have adopted similar legislation by now)
DK		X	Web sites maintained by the public administration the national, regional and local level
EL	(X)		Potentially public administration web sites at all administrative levels (Note: Since 2001 the constitution guarantees the right for everyone to participate in the Information Society, but no concrete legislation seems to have emerged from this yet)
ES	X		Web sites owned by public bodies, web sites funded with public money and web sites of organisations that manage public services at national and regional level. (Note: The central government has competence to regulate general conditions of accessibility, while the regions [Autonomous Regions] seem to have competence to further develop these basic conditions)
EE		X	Public sector web sites (Note: From the evidence available it is not clear whether the federal and local levels are concerned)
FI	X		Web sites of public sector bodies concerned with administrative, juridical, prosecution and enforcement matters (Note: From the evidence available it is not clear whether the federal and local levels are concerned)
FR	X		Web sites of public bodies that provide information and services to the public (Note: From the evidence available it is not clear whether the federal and local levels are concerned)
HU	(X)		Potentially public administration web sites at the national, regional and local level (Note: Act 1998 XXVI on “The Rights of Disabled and on Ensuring Their Equality” does not impose a direct eAccessibility obligation but seems to have been influential in encouraging public agencies to make their web sites accessible)
IE	X		Web sites of public agencies that provide services to the public at federal, regional and local level at least potentially (Note: the current legislation falls short on a direct statement of an obligation to make public web sites accessible, code of practice refers however to WCAG AA conformance as good practice)
IT	X		Web sites of public administration services which make use of computer and data transmission and of services in the public interest at the national, regional and municipal level. (Note: The law explicitly applies to educational and

Country	Hard law (may be complemented by other measures)	Other measure only	Parties / web sites addressed
			didactic materials used in all schools and at every level which may include intranet sites)
LI		X	Web sites of the national government, local authorities and public institutions
LU		X	Web sites of the national government/administration (Note: From the evidence available it is not clear whether the federal and local levels are concerned)
LV		X	Web sites of the public administration
MT	X		Web sites of the administration of the Luxemburg state and ministries (Note: From the evidence available it is not clear whether the federal and local levels are concerned)
NL		X	Web sites of the national government/administration (Note: Web sites of the provinces, water boards and the municipalities are addressed by means of subsequent formal agreement)
PL		X	Web sites of the public administration (Note: From the evidence available it is not clear whether the federal and local administrative levels are concerned)
PT		X	Web sites of public bodies providing services to the public at the national, regional an local level
SE		X	Web sites of public authorities providing information and services to the public on the national level (Note: From the evidence available it is not clear whether the federal and local levels are concerned)
SI		X	Web sites of the national public administration (Note: From the evidence available it is not clear whether the federal and local levels are concerned)
SK	X		Web sites of national government/administration providing information and services to the public at national, regional and local level
UK	X		Web sites of public bodies providing services and information to the public at the national, regional and local level

3.1.3 Implementation mechanisms

Technical requirements

A closer look at the available evidence base in relation to speciffic technical guidelines and/or standards referenced in the context of legal and non-legal interventions reveals that the Web Content Accessibility Guidelines 1.0 (WCAG 1.0) constitute a key reference point. Almost all national measures that make any reference to specific technical requirements – let them be based on the introduction of legislation or other interventional instruments – seem to refer to these guidelines in one way or another (Exhibit 5).

Exhibit 4: Refereeing of WAI guidelines and 508 guidelines by national measures

	WAI	WAI and section 508
Apparently no national guidelines but referencing of existing guidelines / standards	DK, EL, ES, EE, PT, SI	

National guidelines referencing existing guidelines / standards (may include guidelines / standards other than WAI and 508 as well)	AT, DE, BE, FI, FR, IE, LT, LU, NL, SE, SK, UK	CZ, IT, MT

In some cases these guidelines seem to be merely referenced, whereas in others an "officially" translated version seems to be available (Exhibit 4). However, in other cases national guidelines have been developed that draw upon the WAI guidelines without necessarily copying them in a one to one manner. Sometimes further guidelines or standards have been drawn upon, e.g. guidelines available from national NGOs or other bodies of expertise.

In three cases national guidelines draw upon the guidelines developed by the US Department of Justice, in the framework of the Section 508 of the Rehabilitation Act. The technical specifications under section 508 correspond with the WCAG 1.0 to a certain extent. However, some WCAAG check points were not adopted for variouse reasons, one reason being that not all WCAG check points were regarded as being enforceable in the regulatory framework[89]. Also, some rules seem to have formulated differently or are entirely different form WCAG due to the need to require a higher level of access or prescribe a more speciffic requirements.

Exhibit 5: Overview of technical guidelines/ standards referred to by current interventional measures

Country	Hard law (may be complemented by other measures)	Other measure only	Referencing of web accessibility guidelines/ standards
AT	X		"Guidelines for the design of barrier free websites" issued by the federal Ministry for Social Security and Consumer Protection in 2003. The national guidelines refer to WAI 1.0 guidelines
BE		X	Regional initiatives refer to AnySurfer (formally BlindSurfer) guidelines which are based on WCAG 1.0.
CY			n.a.
CZ	X		Best practice - Rules for the creation of an accessible web ("Pravidla pro tvorbu přístupného webu") contains 37 rules based on WCAG 1.0, Section 508 and "Blind Friendly Web" project of the Czech Blind United (Sjednocená organizace nevidomých a slabozrakých ČR)
DE	X		Guidelines are provided under BITV (based on -WCAG 1.0). A standardized content management system (so far called "Government Site Builder) is available for all federal agencies. After 3 years experience with the guidelines, the Ministry for Labour and Social Affairs has started a revision process. An extensive survey among authorities and disability organizations conducted in 2004/2005 revealed a need for revision of the BITV. Requirements of disability groups, technical changes, WCAG 2.0 and experiences of users, providers

[89] Cf. Electronic and Information Technology Accessibility Standards; Final Rule; 36 CFR Part 1194, p.80510

Country	Hard law (may be complemented by other measures)	Other measure only	Referencing of web accessibility guidelines/ standards
			and web designers are to be considered in this process.
DK		X	A web site (www.itst.dk/kia.dk) is being created by a working group in the National IT and Telecom Agency. It includes a collection of guidelines for webmasters of public websites on how to make public websites eAccessible (based on W3C WAI guidelines). A recent parliament resolution refers to WCAG 1.0 AA.
EL	(X)		WCAG 1.0 guidelines have been officially translated which is hoped to facilitate the formation of a law on web accessibility of public websites in the future.
ES	X		Pursuant to a national framework law on accessibility a decree refers to WCAG 1.0 levels A and AA
EE		X	National guidelines refer to WCAG 1.0
FI	X		JHS 129 Guidelines for designing web services in the public administration; The guidelines help how to plan, implement and purchase online services and recommend the A-level of WAI
FR	X		National guidelines providing a technical, methodological and organizational framework on French administration sites and services accessibility on Internet and Intranet based on WCAG 1.0
HU	(X)		Recommendation on the Inter-Ministerial Committee on e-Government encourages adherence to WCAG 1.0 guidelines
IE	X		“Code of practice on Accessibility of Public Services and Information providede by Public Bodies” refers to WCAG 1.0 AA conformance as good practice
IT	X		The Italian technical requirements imposed by legislation take into account - W3C WAI WCAG 1.0, U.S. Section 508 - 36 CFR Part 1194.22 for the Web and International Organization for Standardization technical specifications
LT		X	Methodological recommendation for design implementation and maintenance of websites for disabled of 31 March 2004, T-40 are based on WAI guidelines
LU		X	The ‘Charte de normalisation’ guidelines for the development of public web sites includes the ‘WAI 1.0 Guidelines’ as an Annex
LV			-
MT	X		The FITA Accessibility guidelines which are based on WCAG 1.0 AA have an 'official' status in that Government websites are required to pass FITA accessibility check at a pre-launch stage.

Country	Hard law (may be complemented by other measures)	Other measure only	Referencing of web accessibility guidelines/ standards
NL		X	National standard 'webrichtlijnen', based guidelines of 'drempels weg' initiative and the guidelines of 'W3C'..
PL		X	-
PT		X	National action plan includes a measure to guarantee, in cooperation with UMIC (Unit of Mission, Innovation and Knowledge), the application of the web accessibility standards in public administration websites (Not: seems to refer to WCAG 1. because a previous evaluation of government web sites an intervention aiming to introduce W3C accessibility requirements was found to be urgent).
SE		X	The 24 hour web guidelines for public web sites published by VERVA in 2006 (earlier versions in 2002 and 2004) contains an updated version of the WAI guidelines for accessibility of web pages
SI		X	Design Recommendations for Public Web Pages refers to WCAG 1.0 A as a minimum requirement.
SK	X		National legislation refers to all levels of WCAG 1.0, mandatory is full level A and to some additional rules of level AA and AAA.
UK	X		Best practice framework for guidance on the management of UK government websites prepared by the Government Cabinet Office refers to WCAG 1.0 AA

Certification

Certification / labelling schemes in the field of web accessibility could be identified in a number of Member States (Exhibit 6). However, in the majority of countries no such schemes have emerged yet. In many cases the implementation of such schemes seems to be driven by the initiative of disability organisations or commercial parties, rather than by dedicated government policies (Exhibit 7).

Exhibit 6: EU countries in which web accessibility certification / labelling schemes were identified

One or more schemes in place	No scheme in place
AT, IT DE, ES BE, FR, NL, UK, IE, SE, SK	CY, CZ, DK, EL, EE, FI, HU, LT, LU, LV, MT, PL, PT, SI

Merely in three countries a certification scheme seems to have been set up as part of a dedicated government policy. In Austria an eGovernment quality mark was developed in the framework of the national eGovernment strategy (which amongst other quality criteria includes web accessibility criteria). In the Netherlands a labeling scheme was set up on request of the Dutch government and in cooperation with a wide range of stakeholders. Italy provides the only example where a dedicated labeling scheme has been put in place as part of dedicated accessibility legislation.

With the support of the European Commission, a number of harmonized resources have become available as common references for a European certification scheme that has been set up by three national originations, including an evaluation methodology (UWEM) and a conformity assessment schema (CEN Workshop Agreement) and WCAG 1.0. The "Euracert" scheme has been set up on the basis of these references and defines a general framework allowing mutual recognition between organizations working to the international guidelines. A Web site is awarded the Euracert label in addition to a label issued locally in a European country by an accredited label issuing organization.

Exhibit 7: description of web accessibility certification / labelling schemes identified

Country	**Hard law** (may be complemented by other measures)	**Other measure only**	**Nature**	**Description**
AT	X		voluntary	Under the responsibility of the Austrian Federal Ministry for Public Services and Sport a national eGovernment quality mark was created. The label aims at signaling to the public a high level of security and reliability of eGovernment sites in general. It is not meant to be a dedicated accessibility label. However compliance with WCAG 1.0 criteria is included as an assessment criterion. The label can be requested by companies and administrations offering products or services in line with the established e-government standards and concepts. The label is issued for a period of three years. If, subsequently, the guidelines are violated, the E-government Quality Mark is suspended till the corrections are made or is even cancelled if, after a period of time for upgrading, insufficient changes are made to conform with the accessibility guidelines.
BE		X	voluntary	BlindSurfer is a collective organization of Belgian's largest organizations for the blind and visually impaired: Blindenzorg Licht en Liefde for the Flemish part of Belgium (Dutch speaking) and Oeuvre Nationale des Aveugles for the Walloon Region (which is French speaking). Organisations can ask AnySurfer to audit their websites. Besides audits Anysurfer offers consultancy services and organises training sessions for web designers. The scheme is one of three national schemes that have up to now joined the Euracert certification scheme.
DE	X		voluntary	Different certification/labeling schemes have emerged. This includes for instance the so called BIK-Test scheme offered by project BIK (informing and communicating barrier-free) run by DIAS (a consultancy organization specializing inter alia in web accessibility)

Country	**Hard law** (may be complemented by other measures)	**Other measure only**	**Nature**	**Description**
				since 2002. The Alliance for barrier free Information Technology - AbI - has elaborated a three stage test procedure and adopted the BIK test as a second layer. As the third layer, AbI developed a certification scheme as a DIN (German Industrial Norm) seal for accessible websites. The certificate is to be based on the BITV, experiences from usability tests, reviews by experts and open discussions. The DIN certification for barrier-free websites is delivered by DIN CERTCO, in cooperation with active members of the AbI discussions. The project brings together ABI (Alliance for barrier free information technologies), in which the IFIB (Institute for Information Management in Bremen) is an active partner, and DIN CERTCO, which guarantees that the seal has the German industrial norm.
ES	X		voluntary	The Spanish standards body AENOR offers a certification scheme that is based on the Spanish standard UNE 139803:2004, which again is based on and compatible with WCAG 1.0. AENOR certifies the website accessibility through the inspection of the web pages (both automatically and manually), and also conducts an audit of the processes put in practice to ensure the maintenance and improvement of accessibility (a web accessibility management system). This certification scheme has been referred to by Spanish legislation (Royal Decree 1494/2007 on basic accessibility conditions for the information society, and Law 56/2007 on the impulse of the information society), but it is not mandatory. This certificate seems to have been issued for several websites so far, both public and private. Moreover, an labeling scheme is maintained by Technosite, a Fundación ONCE's company specializing in technology and disability. The label can be issued together with the Euracert label once the evaluation has been carried out to check for accessibility issues at WCAG 1.0 Conformance Levels "A" or "Double A".
FR	X		voluntary	BrailleNet Association offers a web accessibility label (AccessiWeb). There is no link between the label and current legislation. It can be obtained on request based on an audit conducted by BrailleNet or authorised organisations. BrailleNet has joined the EURACERT scheme and is authorized to donate Euracert label.
IE	X		voluntary	The Irish company Segala offers a service of accessibility conformity assessment for websites. It may use different requirements depending on the needs of the customer (WCAG, 508, UK's DDA). The result of the process is a mark on the customer's website, which links to a detailed report that is stored in the Segala servers. In addition semantic data (content labels) are used so that software can detect the declared accessibility level.
IT	X		voluntary	The public agency National Centre for Informatics in Public Administration (CNIPA) has set up a voluntary assessment scheme for websites, with an accessibility logo, which can be requested by public and commercial websites. Several organisations recognised by the Italian government and listed by (CNIPA) can donate the label. Private subjects who wish to obtain the label must necessarily apply for an accessibility assessment made by a member of the

Country	Hard law (may be complemented by other measures)	Other measure only	Nature	Description
				evaluators' list in order to obtain the accessibility mark. Public agencies and bodies instead may autonomously assess their compliance with the accessibility requirements and with the provisions of the law, in adherence to the principle of self-government.
NL		X	voluntary	The quality mark "drempelvrij.nl" is based on WCAG 1.0, in particular with the 16 checkpoints of priority one. It has been set up at the request of and in cooperation with the Dutch government and all stakeholders involved. The Bartiméus Accessibility Foundation led the project, but transferred it to the foundation Quality Mark drempelvrij.nl in 2005. Overall, fifteen organizations have contributed to the creation of the Quality Mark drempelvrij.nl. The Quality Mark includes an inspection service offered by accredited third parties and a resulting logo specifying the reached accessibility level. A similar scheme is offered by the Accessibility Foundation, Netherlands.
SE		X	voluntary	Funkanu, a commercial company offers a labeling scheme to companies or public authorities on the basis of WAI guidelines
SK	X		voluntary	Unofficial certification scheme is in place, driven by Slovak Blind and Partially Sighted Union. The project is called "Blindfriendly", more information is on www.blindfriendly.sk. Project was supported by Government and is based on voluntary self certification.
UK	X		voluntary	The "See it Right: UseAbility" lable id providede by the RNIB, a charity organization, in the framework of a web accessibility audit that is based on the WAI guidelines A directory is maintained which The See it Right accessible websites directory includes organisations from a range of areas.

Legal enforcement

In countries that have implemented hard law to address web accessibility enforcement mechanisms vary a lot in terms of scope and strength.

There are currently no direct sanctions for non-compliance envisaged or foreseen under the Austrian law and no legal actions through the 'Amtshaftungsgesetz'" [official liability] have been taken. However, even though the Act does not envisage any sanctions itself, there may be some scope for redress stemming from its interaction with the Disabled Persons Equal Opportunities Act (2005) which deals with access to public services. For example if the public websites are not accessible after 1.01.08, that could be seen as discrimination under the Equal Opportunities Act.

In respect of enforcement a decree is envisaged in France which will state details including penalties. The decree hasn't been published yet, however. Several versions

have been circulated and submitted to the Constitutional Council (Conseil Constitutionnel), but were rejected.

In the German legislation there is no express provision in regard to enforcement. In response to unsatisfactory enforcement practice variouse NGOs have launched a campaign - "Implement BITV now!" – in the beginning of 2006 with the aim to monitor the implementation of the law (BITV) and to provide feed back to public organisations concerned about the status they have achieved in relation to accessibility of their web sites.

The Italian legislation assigns the duty to monitor the enforcement of the relevant legislation to the Presidency of the Council of Ministers (Department for Innovation and Technology) and to CNIPA (National Organism for ICT in the Public Administration), especially in relation to central public agencies. Breach of the legislation attracts civil liability and therefore an individual can pursue an action where they have legal standing. In respect of Article 9 there is the possibility of criminal prosecution in respect of breaches of the legislation. CNIPA has a role in monitoring and fostering the enforcement of the legislation. However it does not engage in enforcing the provisions in its own right. It monitors on the accessibility of central administration Web sites and keeps the national accessibility label database. In order to enforce the law on a local level, CNIPA is coordinating the establishment of regional accessibility competence centres to spread the effort of assisting, training, and monitoring on accessibility

In the Irish legislation compliance is defined in the Act in terms of compliance with an approved code of practice. The relevant code of practice for accessibility of public services has been prepared by the National Disability Authority (NDA). The Act also makes provisions for disabled people to make complaints if public services are inaccessible, first to an inquiry officer of the public agency in question and then, if necessary an appeal to the Ombudsman. An individual may have recourse to the provisions of the Equality Act 2000 and 2004 whereby they may submit a claim of discrimination to the statutory Equality Tribunal. The National Disability Authority has a role in the overseeing of the provisions of the Act. A complaint can be submitted to this body for investigation who may mediate a solution. This body has powers in relation to investigation where requesting documentation or relevant information.

The Spanish law considers sanctions as follows. In case any service from the information society attempt or could attempt against the principles that are expressed next, the organizations in charge of their protection, in exercise of the functions that they have legally attributed, could execute the actions needed to stop the benefit of the service or remove the data that harm them.

In Slovakia, under current legislation Ministry of Finance of Slovak Republic has a role of controlling body and sanctions responsible organisations for non respecting of mandatory accessibility standards.

In the UK, a complaint may be submitted to an Industrial Tribunal in the case of alleged discrimination. Additionally in the alternative an individual may pursue an action in accordance with the common law in the normal way. The Equality and Human Rights Commission has a role in the enforcement of the provisions of the Act. The Commission may serve a notice on a public authority where non compliance occurs. If the authority

fails to act in accordance with this notice then the Commission may apply to the Court for an order compelling compliance.

Monitoring

When it comes to national-level activities that are directed towards monitoring levels of accessibility actually achieved by public and/or commercial web sites owners the current evidence base suggest that regular benchmarking seems to happen only in some countries (Exhibit 8 and Exhibit9), whereby annular benchmarking remains an exception. Beyond this quite a number of once-off studies could be identified (e.g. DK, UK, IT). However some governments seem to have conduct benchmarking exercises in larger time intervals.

Exhibit 8: Efforts directed towards mentoring levels of accessibility identified in the Member States

Subsequent monitoring efforts	Once-off monitoring efforts	No monitoring efforts
AT, BE[90], DK, EE, IT, MT, NL, SE, PT, SK, UK	DE, EL, ES, IE, SI	CY, CZ, FI, FR, HU, LT, LU, LV, PL

In all cases, these efforts seem to vary a lot in terms of scope (e.g. number and types of sites sampled) and methods applied (self-assessment vs. assessment from external parties).

Exhibit 9: Overview of schemes directed towards monitoring of levels of accessibility achieved

Country	Hard law (may be complemented by other measures)	Other measure only	Description
AT	X		Up to now, three evaluation studies were carried out in the fretwork of the national eGovernment strategy (2002, 2004, 2007). The latter directly refers to the eGovernment law of 2006. It involved a self evaluation of a selected no. of web sites of the Federal Ministries.
DE	X		A campaign - "Implement BITV now!" - started at the beginning of 2006 with the aim to monitor the implementation of the BITV and to give concerned organizations feedback about their status of web accessibility. During the year approximately 250 websites were tested and reports about their status were published. Apart from this, there have been benchmarking studies in 2002 and 2003 by launched by NGOs (Aktionsbündnis für barrierefreie Informationstechnik,

[90] Just in the Flamish region the progress is being monitored

Country	Hard law (may be complemented by other measures)	Other measure only	Description
			AbI)
DK		X	In 2006 a survey of 122 public web sites was conducted which included 98 borough web sites, 5 regional authority web sites, and 19 ministry web sites. The survey also included an evaluation of the costs of implementing accessible websites. Every year since 2001 the National Danish IT and Telecom Agency has evaluated and benchmarked the quality of public websites. In 2007 the project "Bedst på Nettet" (Best on the Net) examines around 600 websites on criteria pertaining to user-friendliness, advances in e-government, utility, openness, and technical accessibility. Every year awards are presented for the best public websites. Each web site receives a number of crowns according to how well they have performed. They are not required to advertise the result on their web site, but may do so if they want. From 2008 on the national government will conduct an annual benchmarking of public websites according to WCAG AA and publish the results on the internet. It is to involve automatic testing and manual expert evaluation. It will also included a survey among decision makers and IT responsible persons in all the fields, regarding the use of IT-based tools, and the view of the respondents on the cost of implementing accessible web tools..
EL	(X)		In March 2004, the university of Crete has conducted a study on Universal Access and equal participation of People with Disabilities in the Information Society. In total, 256 sites were evaluated. This was a once-of survey, commissioned by the Secretariat for the Information Society, Hellenic Ministry of Economy and Finance. This report seems to be the only reference point so far.
ES	X		There seems to be no official monitoring scheme to check the level of web accessibility requirements imposed by legislation. However, a so called Infoaccessibility observatory was launched in 2004 by Discapnet, the leading Spanish-language disability web portal. It is jointly funded by ONCE Foundation, the European Regional Development Fund (ERDF) and the European Social Fund (ESF). Since 2004 eight reports had covered different sectors including Spanish universities, national government online services, regional government, city and town councils, travel agencies and transport, banks, and online newspapers
EE		X	Compliance with Web Content Accessibility Guidelines has been studied in Estonia in 2000, 2002, 2006 and 2007 by the Ministry of Economics. Web sites of different Estonian public authorities were included in survey (ministries, state administrations, constitutional institutions and two main state portals.
FI	X		A one off study was conducted in 2003 by the University of Art and Design Helsinki UIAH and the Medialab. The survey included a total of 14 websites of Finnish ministries and the Finnish government
IE	X		A once-off surrey One-time has benn launched in 2008 by NDA (National Disability Authority) to monitor the application of the “Code of Practice on Accessibility of Public Services and Information Provided by Public Bodies”.
IT	X		Since 2006 CNIPA carries out an annual monitoring action in over tens of central administration Web sites to assess their compliance with the law and to aid and

Country	Hard law (may be complemented by other measures)	Other measure only	Description
			coordinate their adjustment
NL		X	The "Accessibility Monitor Government" is an annual monitoring study that evaluates accessibility of electronic government services. The Bartiméus Accessibility Foundation evaluates 100 government websites against WCAG A check points The monitor is not official and it doesn't award any label
PT		X	A survey on the ICT Use by Central and Local Public Administration 2006 (launched by UMIC), as far as public websites are concerned, had a specific question on whether e-Accessibility requirements were taken into account during site design and maintenance.
SE		X	In 2003 an once-off audit of accessibility of the State's websites was conducted by the Swedish National Audit Office (SNAO, Riksrevisionen). VERVA (the ggovernment's central advisory agency) is regularly running an automatic test of basic accessibility of public web sites. The start pages of about 1000 public sector organizations are tested with help of a tool that is based on W3C Validator. The latest measurement was made in March, 2007.
SI		X	A once-off report study was conducted by the Ministry of Information Society. Websites of governmental bodies and federal ministries were investigated. Methods used included interviews and automatic checking with help of a WCAG-based tool.
SK		X	Annual monitoring study has been conducted since 2006 by the responsible ministry. From 2008 on, it will be carried out two times a year. The study is mainly aimed on public administration websites, but monitors also a rough number of 50 web pages of various private and academia sectors. The number of monitored web pages is increased in with each study.
UK	X		In 2004, there was a formal investigation commissioned by the Disability Rights Commission (DRC) into the accessibility of 1000 publicly available web sites (including key government web sites). The local government Society of IT Management (Socitm) conducts an annual 'Better connected' review addressing every UK council website from

Support measures

From the evidence base available it appears that a number of countries have adopted variouse kinds of flanking measures amid at supporting the implementation of legal and other interventional measures directed towards web accessibility. Key aspects of such measures include:

- awareness rising among public parties targeted by interventional measures

- networking of relevant actors with a view to providing more practical guidance
- organisational capacity building

This is illustrated by the following examples.

In Austria a coordination structure for e-government has been consolidated in 2005 with the establishment of the Platform 'Digital Austria'. The platform is composed of representatives of the federal government, regions, cities, municipalities, private and public sector bodies. Amongst other things, the platform supports the implementation of the eGovernment Act of 2004 at all administrative levels. In this framework, it has coordinated the initiative "Erhebung Barrierefreiheit 2007" ("survey on web accessibility 2007" based on self-evaluation of selected sites of federal ministries) in order to determine the current situation in this area. In particular, this activity was directed towards: (a) generating an overview of the current sate of affairs, (b) highlighting good practice, (c) rising awareness at the part of administrative bodies, (d) contributing to planning of further measures, (e) compiling an evidence base in the case of arbitration (assessment of proportionality). Conclusions that have been drawn from this exercise in terms of needs for further action include (a) complement the self evaluation exercise by external evaluations through users or experts, (b) conduct training measures on web accessibility (through Federal Academy of Administration) and (c) include minimum technical criteria in handbook of public procurement of ICT (Allgemeine Vertragsbedingungen für IT - AVB-IT).

The German government has funded the so called "Alliance for Barrier-free Information Technology in Germany" (Aktionsbündnis für barrierefrei Informationstechnik, ABI). ABI is a cooperation involving national associations for disabled persons and different centres of excellence in the field of web accessibility. The project played a crucial role in implementing the BITV (Federal Decree on Barrier-free Information Technology) by providing required expertise into this process. Guidelines were developed on how to make public web sites accessible to disabled users (based on WCAG 1.0 guidelines). Beyond this, various awareness raising and training activities were conducted in the framework of this project. More generally, ABI aims at networking among relevant actors in the field and general support towards making web sites accessible. Special emphasis is given to employment related sites. When the deadline for making Federal web sites accessible according to BITV had passed (31.12.2005) impacts on the ground were regarded unsatisfactory. In response to this assessment, ABI and the federal authority together with NGOs and social partners representing people with disabilities had jointly lounged a campaign entitled "Implement BITV now!" (BITV umsetzen jetzt) to promote full implementation of the regulation.

As mentioned earlier, the Italian legislation directed towards web accessibility (the so called STANCA law) assigns the duty to monitor the enforcement of the Law to the Presidency of the Council of Ministers (Department for Innovation and Technology) and to CNIPA (National Organism for ICT in the Public Administration), especially in relation to central public agencies. These two agencies must also trace the accessibility criteria for the development of IT systems in public administration, and introduce the issues relating to accessibility in public personnel training programs. Moreover, the regions, the autonomous provinces and municipalities are responsible for the enforcement of the provisions of the law by local authorities. As a result many regions now establish own competence centres in order to support the effective implementation of the law on a local

level through positive actions and training programmes under the coordination of CNIPA. CNIPA together with the Italian International Webmasters Association (IWA) and many Public Agencies and Universities have organized seminars, events and workshops on accessibility. In particular, training programs on web accessibility are provided to chief officers, editors and webmasters of public web sites. Apart from CNIPA, variouse federal ministries seem to have developed their own "flanking measures" to increase the quantity of web content that complied with the legal requirements, particularly with a view to helping the smaller agencies and branches of central institutions to fulfil their duties. For example, the Ministry of Foreign Affairs has provided every Italian Embassy with a standard, accessible Web template and the Ministry of Cultural Heritage and Activities has developed a Content Management System for small museums and libraries. The Ministry of Education has set up a project called "School and Services" with the aim of providing schools all across the country with tools and training courses to ease the development of accessible web sites.

In 2005, the UK's Disability Rights Commission (DRC) has commissioned the British Standards Institution to develop guidance on how to commission accessible web sites, the so called 'PAS 78: a guide to good practice in commissioning accessible websites'. According to Julie Howell, the leader of a working group established for this purpose[91], DRC research on web accessibility had found that awareness of the issue among public bodies was rather high, but good practice was comparatively low. This indicates that responsible bodies basically where willing to make their sites accessible, but didn't know how to go about it. In this sense, the PAS does not constitute 'new web design guidelines' and is not 'the law'. Rather is to help site commissioners (those that procure web design) to ensure that they are able to commission accessible sites. It is intended to be a document that commissioners can understand and can discuss with web design project managers. For example, heavy reference is made to WAI guidelines, usability testing, automated checking tools, etc. A new technical committee IST/45 has been assembled in 2008 to oversee the development of a full British standard which is expected to be published in the first quarter of 2009.

Although Denmark has adopted a non-legislative approach towards accessibility of public web sites, the use of WAI guidelines has been made mandatory to the public sector by means of a formal agreement spanning across the federal, regional and local distractive levels. The Danish Ministry of Science, Technology and Innovation carried out a national review, and the results indicated that there are still major obstacles for eAccessibility on public websites. Consequently, the Danish Minister of Science, Technology and Innovation launched a number of measures directed towards improving the current state of affaires. To begin with mandatory use of accessibility standards is followed by an obligation to explain non-compliance to the agreement (comply or explain principle). Moreover, from 2008 on there will be an annual benchmarking that evaluates all public websites against WCAG AA criteria, and the results will be published on the internet. The initial review concluded that many public web developers find it difficult to understand and implement the WCAG guidelines. In 2008 the National IT and Telecom Agency is to launch an improved online guidance effort about web accessibility issues including explanatory text, practical examples and a video of how to use the web accessibility toolbar. Already in April 2004 a public procurement accessibility toolbox was released by the agency which includes a section on web accessibility. The toolkit is not

[91] c.f. http://www.accessifyforum.com/viewtopic.php?t=3242 (accessed on 25.05.08)

a part of the national legislation / regulatory framework, but is intended to provide a practical assistance to public authorities that wish to incorporate accessibility for disabled persons into their procurement. A second edition of the toolbox was published in 2005. The toolkit has been promoted both by the National IT and Telecom Agency and Danish Council of Organisations of Disabled People by communication to the Danish local and regional authorities.

For Slovakia planning of an awareness rising seminar for public administrations in 2008 was reported.

2.2 Private web sites

When compared with public web sites, commercial web sites are addressed to considerably lesser extent by current policy interventions. In Italy, accessibility legislation makes reference to commercial web sites in terms of encouraging non-public web site owners to comply with the requirements imposed to public web sites owners without imposing mandatory requirements on them. In Germany, accessibility legislation stipulates the right of registered disability organisations to call upon private sector companies or relevant umbrella organisations to enter into structured negotiations with the aim to generate a so called "target agreement" ("Zielvereinbarungen") that defines technical measures to be undertaken by the private company to implement the BITV. Key elements that have to be addressed include (a) specification of the parties concluding the “target agreement” and of its scope and duration, (b) specification of minimum requirements on how relevant offerings are to be changed so that they are accessible to disabled people and (c) a deadline or time plan by when the minimum requirements must be fulfilled. All “target agreements” that are under negotiation or have been concluded under the BITV are published on a dedicated web site. Overall, 12 target agreements are reported at the moment. Of these, two instances explicitly address web accessibility. The agreements are concluded on a case by case basis and agreed targets may vary accordingly, bearing the risk of fragmentation in terms of diverse minimum standards and/or technical requirements ultimately agreed. Since its introduction in 2002, this interventional instrument does not seem to have been used to a large extent to force private organisations into negotiations. The disability organisations seem to lack resources and expertise to enforce wider implementation of web accessibility with help of this instrument. The government has announced support to the process.

In some countries, equlity legislation seems to have the potential to impact on accessibility of commercial web sites. In Austria, although there is no legislation explicitly referring to accessibility of private web sites, in conjunction consumer legislation and equlity legislation seem to have started to exert some impact nevertheless. Based on these acts the national Litigation Association of NGOs Against Discrimination has entered into negotiations with a major Austrian airline company because it has been found that the e-booking services were not equally accessible to people with disabilities. In Ireland equlity legislation principally applies to private services as well and would thus appear to cover private online service provision. It would appear to cover discrimination in the provision of private online and web based services, although to date there is no specific case law which might clarify this.

Apart from legislation, private web sites owners are addressed in some countries by means of persuasive measures such as provision of supportive materials and capacity building as well as labelling and award schemes.

Exhibit 10: Legal interventions addressing non-public web sites

Country	Description
AT	There is no legislation explicitly referring to accessibility of private web sites. In conjunction, two pieces of legislation seem to have started to exert some impact nevertheless: the Consumer Protection Act (Konsumentenschutzgesetz 2006) in conjunction with the Disabled Persons Equal Opportunities Act (Behindertengleichstellungsgesetz, BGStG 2005). Although the Consumer Protection Act does not explicitly refer to private web sites, the websites of companies that offer services are within the scope of the Act. The Act's importance is illustrated by the fact that the Klagsverband (Litigation Association of NGOs Against Discrimination) has entered into negotiations with a major Austrian airline company because it has been found that the e-booking services were not equally accessible to people with disabilities. The possibility to take such cases derives from the Equal Opportunities Act. While the Act does not refer to e-accessibility directly it is relevant due to the requirement for equal access to services offered in public. Services offered to the general public may include access to public websites (also covered by the eGovernment Act) or access to e-services of companies (which is within the scope of the Consumer Protection Act). A person with a disability can report on discrimination at the Klagsverband in order to start an appeal procedure.
BE	There is no legislation directly addressing commercial web sites. Any organization (public and private) can apply for the AnySurfer audit (formerly BlindSurfer). It seems however that currently only few commercial website has obtained the AnySurfer quality label. The labeling initiative seems to have too little resources to pro-actively target the private sector.
CY	There is no legislation regarding accessibility of other web sites.
CZ	There is no legislation regarding accessibility of other web sites. However, the legislation addressing public sector seems to have some impacts on the private sectors as well. Many private sector organizations (particularly large companies) seem to voluntarily create their web-paged in accordance with the public sector “e-Accessibility Law”.
DE	Barrierefreie Informationstechnik-Verordnung" (BITV of July 2002) stipulates the right of registered disability organisations to call upon private sector companies or relevant umbrella organisations to begin negotiation to generate "target agreements" ("Zielvereinbarungen") that regulate the technical measure to be undertaken by the private company to implement the BITV. Key elements that have to be addressed include (a) specification of the parties concluding the “target agreement” and of its scope and duration, (b) specification of minimum requirements on how relevant offerings are to be changed so that they are accessible by disabled people and (c) a deadline or time plan by when the minimum requirements must be fulfilled.
DK	There is no specific policy measure to achieve accessibility of private website. The public procurement toolkit can be used by private procurers, but the expectation is that the public sector websites must lead in achieving accessibility. Equally, the private sector could in principle

	avail of the www.itst.dk/kia for advice on how to achieve accessibility.
ES	There is no legislative or other measure directed towards accessibility of other web sites. Some companies and organisations are voluntarily complying with accessibility guidelines and pay attention to eAccessibility
EL	There has been no direct attention to accessibility of private web sites.
ES	There is no legislative or other measure directed towards accessibility of other web sites. Some companies and organisations are voluntarily complying with accessibility guidelines and pay attention to eAccessibility
FI	There is no legislative measure directed towards accessibility of other web sites. The Finnish Information Society Development Centre (TIEKE) has published a brochure on web accessibility and variouse online materials.
FR	There is no direct obligation on private websites in relation to accessibility. However, it is reported that the AccessiWeb criteria, training and label are taken up by the private sector. Private companies send their employees to AccessiWeb training (Nearly 200 people trained and certified since 2005), apply or recommend the AccessiWeb label, and seek for accessibility audits provided by BrailleNet or authorised companies.
HU	There is no legislation that stipulates that private web sites must be accessible for blind and visually impaired. The NGO initiative aims to inform web site developers how to develop web sites that are accessible for blind and visually impaired. www.paramedia.hu lists 17 web sites (the same number as in 2004) which received a certification by the organisation. Among those listed there are some very important sites like www.index.hu (a leading content provider in Hungary).
IE	The Equality Act also applies to private services and would thus appear to cover private online service provision. It would appear to cover discrimination in the provision of private online and web based services, although to date there is no specific case law which might clarify this.
IT	The Stanca law refers to accessibility of private sites and invites them to address this issue. The law gave some authority to the notion that accessibility for disabled people is a right so that accessibility of private services and websites is seen as an aspect of the overall service quality and may even be used as a marketing tool.
LT	The standard (Methodological recommendation for design implementation and maintenance of websites for disabled) foresees advisory requirements for adapting private websites for the needs of disabled (non-mandatory). However, legal acts in Lithuania do not provide any measures to encourage implementation of the standard requirements on private web sites.
LU	There is no legislation regarding accessibility of other web sites.
LV	There are no formal initiatives in place. Some private sector organizations are striving to provide accessible websites, which in practice means conforming to WAI guidelines and ensuring compatibility with AT devices.
MT	There is no legislation addressing private web sites. ICT Accessibility Audits is an advisory service for anyone in the private sector who wishes to get advice regarding the accessibility of their websites. Evaluation of accessibility is offered, apparently at market rates. FITA

	accessibility guidelines are used by private sector on a voluntary basis.
NL	The Drempels Weg certification schemes also apply to private organizations.
PL	There is no legislation in this area, nor standardization system of quality assurance that would ensure e-Accessibility of private websites. Nevertheless, according to experts' interviewed, many private websites fulfill the [basic] criteria of e-Accessibility, corresponding to WAI guidelines. The web site osiolki.net publishes lists of accessible / inaccessible web sites.
PT	In terms of the private organizations, UMIC has made some efforts to introduce the accessibility requirements in the banking sector. A study about home [online] banking is in progress, (by UMIC and CapGemini) to evaluate the accessibility of Web services available from national banks and an individual report for each bank with improvement measures will be compiled. The UMIC's team will be available to make the adjustments needed in the banking institutions.
SE	There is no legislation regarding accessibility of other web sites.
SI	In Slovenia there are no activities directed towards accessibility of private web sites (private companies are not obliged to adapt their web sites for disabled persons).
SK	There is no obligatory legislation for the private sector yet, however the Act 275/2006 and the initiative BlindFriendly are gradually applied, on a voluntary basis.
UK	Nothing specific reported

Exhibit 11 Summary table of interventional measures pursued at the nation al level

Country	Government policy	Legislation	Scope	Time frame
AT Austria	Commitment of the federal administration in the framework of the national eGovernment strategy to implement WCAG level A in the short term and level AA in the longer run	eGovernment Law of 2004 (in force since 1.3.2004) stipulates that open standards are to be for eGovernment applications, including international web accessibility standards	What sites: All web sites of public bodies providing information and transaction services What obligations: Legal obligation to implement international accessibility standards Administrative levels: Web sites at state, regional and local level are covered by the eGovernment law	By 2008 all public administration web sites should be accessible
BE Belgium	Different eGovernment initiatives have been launched to accessibility of public web sites. More important are the regional initiatives "Wall-On-Line", a special project set up (and adopted) by the	No legislation	What sites: All government web sites accessible to the public and intranets (Flemish region) Selected priority web sites (Wallon regions) What obligation:	In the Walloon region priority sites should become accessible by 2005 In the Flemish region

Country	Government policy	Legislation	Scope	Time frame
	Walloon Government in April 2003 and TOEWEB (abbreviation of Toegankelijke Websites), a program of theFlemish Government of June 2004.		No legal obligation Administrative level: Walloon regional government Flemish region government	government web sites should have become accessible by 2007.
CY Cyprus	No policies identifies	No legislation identified	What sites: All government web sites accessible to the public and intranets (Flemish region) Selected priority web sites (Wallon regions) What obligation: No legal obligation Administrative level: Walloon regional government Flemish region government	n.a.
CZ Czech Republic	Government resolution No. 596, 18th June 2003, which provided harmonisation with and implementation of EU requirements. Among other things, the Ministry of Informatics to prepare a standard on publishing information that complies with the WAI initiative. These recommendations were published in 2004 to comprise altogether 37 rules putting together the three methodologies used for eAccessibility (WCAG 1.0, Section 508 and Blind Friendly Web). This is a very detailed material (37 chapters) encompassing explanations and examples. Government resolution No. 64, 7th February 2008, which provided harmonisation with and implementation of EU requirements. Among other things, the Ministry of Interior is to prepare a standard on publishing information that complies with the WAI initiative. These recommendations were published to comprise altogether 33 rules putting	Act on Public Administration Information Systems No. 365/2000 Coll. as amended by the Act No. 81/2006 Coll.: The act stipulates that stipulates that public authorities shall provide on-line information in a form that allows for people with disabilities to access it. Relevant technical details are laid down in secondary rules for implementation which were issued in 2008 with a vie to providing technical and organizational specifications	What sites: All public administration web sites What obligations: Public authorities shall provide on-line information in a form that allows for people with disabilities to access it. Administrative levels: National, regional and local governments	All public web sites should be accessible by 1.1.2008

Country	Government policy	Legislation	Scope	Time frame
	together the three methodologies used for eAccessibility (WCAG 2.0 and Blind Friendly Web). This is very detailed material (33 chapters) encompassing explanations and examples.			
DE Germany	The Federal Ordinance on Barrier-free Information Technology (BITV) is currently being revised by a working group lead by the Federal Ministry of Labour and Social Affaires. The aim is to better cater for the needs of different disability groups and to adapt current requirements to WAI 2.0 guidelines as these become available	BGG Behindertengleichstellungsgesetz (Federal disabled equalization law) of 2002 guarantees equial treatment of people with disabilities Pursuant to this legislation a federal Ordinance on Barrier Free Information Technology has been implemented (so-called BITV). It seeks accessibility of public web sites by laying down a standard (refers to WCAG). A time frame is allowed to comply with this standard which expired in December 2005 .	<u>What sites:</u> all Internet websites as well as all publicly accessible Intranet sites owned or operated by the federal public administrations. For commercial web sites Barrierefreie Informationstechnik-Verordnung" (BITV of July 2002) stipulates the right of registered disability organisations to call upon private sector companies or relevant umbrella organisations to begin negotiation to generate "target agreements" ("Zielvereinbarungen") that regulate the technical measure to be undertaken by the private company to implement the BITV. Key elements that have to be addressed include (a) specification of the parties concluding the “target agreement” and of its scope and duration, (b) specification of minimum requirements on how relevant offerings are to be changed so that they are accessible by disabled people and (c) a deadline or time plan by when the minimum requirements must be fulfilled. <u>What obligations:</u> Obligations on public bodies to make their websites accessible to people with disabilities. <u>Administrative levels:</u> The federal decree applies	By the end of 2005 web sites of the federal public administration were supposed to comply with the standard laid down in the BITV

Country	Government policy	Legislation	Scope	Time frame
			to the federal government only. (Most regions - Länder - have by now adopted similar legislation)	
DK Denmark	In September 2007, as a result of the Danish Parliament Resolution B103 on the use of mandatory open standards for software in the public sector, the Danish Government, Local Government Denmark and Danish Regions concluded an agreement that public authorities are to use a set of seven open standards for new UT solutions. This includes standards for websites and accessibility. Through this strategy the national government is promoting 3 alternatives to legislation given that it is felt that the country is too small a market for regulation as this would limit regulation: - use of open software standards (including accessibility standard) - guidance and training - comply or explain - national annual benchmarking starting in 2008 (against WCAG 1.0 AA)	No legislation	<u>What sites:</u> Web sites maintained by public authorities (Note, It is nor clear whether this applies only to newly established web sites or to existing web sites as well) <u>What obligations:</u> Open standards for public webs sites / home page accessibility are to be applied. If not, this needs to be explained <u>Administrative levels:</u> Federal, regional and local governments (Note: the in September 2007, the national, regional and local governments concluded an agreement)	From 01.01.2008 all governments have to implement accessibility standards
GR Greece	W3C/WCAG 1.0 guidelines have been officially translated into national language. A task force had been established on Universal Access and Usability in the Information Society for all citizens, including people with disabilities and other disadvantaged groups (initiated by the Secretariat for the Information Society, Hellenic Ministry of Economy and Finance).	No direct legislation (Note: In 2001 a change in the Constitution aimed to guarantee everyone a right to participation in Information Society. In principle this may imply that public and other web sites are to be accessible to people with disabilities. No direct law seems however to have emerged from this yet)	<u>What sites:</u> Potentially all public web sites. <u>What obligations:</u> Accessibility to people with disabilities <u>Administrative levels:</u> Potentially public bodies national, regional and local level.	n.a.

Country	Government policy	Legislation	Scope	Time frame
	(Note: Currently this task force seems to be inactive)			
ES Spain	In 1998 Spain adopted the first norm on referring to the creation of accessible web sites, which was afterwards rewarded and extended. The norm refers to requirements concerning computer software accessibility in relation to operating systems, applications and the Internet. (Note: the successively adopted norms include UNE 139802:1998 EX, UNE 139802:2003, UNE 139802:2004 and seem to be based on W3C guidelines) The program "Plan Avanza", Plan for the Development of Information Society (2006-2010) seems to address eAccessibility , A bill has been drafted for the creation of a State Fund for Accessibility Promotion An act has been drafted establishing infringements and penalties in relation to equal opportunities, non discrimination and universal accessibility of people with disabilities The 1st national Action Plan for Accessibility (2004-2012) has been adopted: - Introduce DFA as a reference in innovation public policy - Elaboration of statistics and studies - Programme to promote sub-titling and audiodescription - Programme for the promotion of sign language	Ley 34/2002 de 11 de julio de 2002 de servicios de la sociedad de la información y comercio electrónico. Basis for : Law 51/2003 [Equal Opportunities Disposition. (Accessibility for the persons with disability and of advanced age to the information provided by electronic means)] Disposición adicional quinta.Accesibilidad para las personas con discapacidad y de edad avanzada a la información proporcionada por medios electrónicos (Note: This is a framework law. It establishes the basic accessibility conditions, without prejudice to regions competences. The government has been given two years time to establish the basic conditions for the access and use of ICT technologies, products and services) First Draft for the Law on Electronic Access of citizens to Public Administration; [Anteproyecto de Ley para el Acceso Electrónico de los Ciudadadanos a las Administraciones Públicas] Article 5 of the Royal Decree 1494/2007 provides regulation related to Law 51/2003 by specifying a mandatory	What sites: Public websites, websites funded with public money and those belonging to organizations that manage public services. What obligations: The laws include an obligation to fulfil generally recognized accessibility criteria (Note: interpretation by decree refers to WCAG 1.0 A and AA) Administrative level: Central government is competent to regulate the basic conditions of accessibility. Autonomous Communities (=regions) are competent to further develop those basic conditions.	Decree 1494/2007 defines deadlines for public websites to be accessible: November 22nd (one day after publication), 2007 for new websites to comply with priority 1 (WCAG A) May 22nd (six months after publication), 2007 for existing websites to comply with priority 1 (WCAG A) December 31st 2008 for all public websites to conform to priority 2 (WCAG AA)

Country	Government policy	Legislation	Scope	Time frame
	in TV - Participation of disabled in technological forums and projects - Creation of a forum bringing together stakeholders (research centres, academia, business, disabled, etc.) to anticipate accessibility requirements of future ICT products and services - Involvement of disabled in the development of new ICT laws and policies - Foster the exploitation by regional and local authorities of the opportunities offered by public procurement legislation	minimum level of accessibility for government websites of "priorities 1 and 2" of the UNE Standard 139803:2004 (referring to WCAG Levels A and AA).		
EE Estonia	In the Estonian State IT Architecture (ver 1.01, 14.01.2007) and the IT Interoperability Framework (ver 2.0, 15.09.2005) the Department of State Information Systems of the Ministry of Economic Affairs and Communications has approved the guidelines concerning the State IT Architecture and Interoperability	No legislation	What sites: All public sector websites What obligations: All public organisations are obliged to follow the Web Content Accessibility Guidelines (Note: Only recommended) Administrative levels: National government (Note: It is not clear whether regional/local governments are concerned as well)	The objective is by 2010 to make all public sector websites comply with WAI quality criteria.
FI Finland	The initiative "Towards barrier-free communication, Programmes and strategies 2005" of the Ministry of Transport and Communications includes objectives and areas of priority: broadband, digital television, accessible websites, emergency services and positioning, directory services, easy-to-use-terminals. It highlights the importance of accessible websites and certain features supporting	Act on Electronic Service and Communication in the Public Sector (13/2003, 24.1.2003): The act applies to the dwellings / premises of administrative, judicial, prosecution and enforcement matters. It also requires that the authorities shall aim to use the equipment and software that is technically as compatible as possible with AT tools and, from their customer's point of	What sites: Public sector bodies concerned with administrative, judicial, prosecution and enforcement matters What obligations: Rrequires authorities to seek to offer web services so that they can be used with the most common AT tools. Administrative levels: Not clear	No time frame

Country	Government policy	Legislation	Scope	Time frame
	accessibility and refers to JHS guidelines.	view, as user-friendly as possible This legislation, by extension, requires authorities to seek to offer web services so that they can be used with the most common AT tools.		
FR France	Adoption of official guideline concerning eAccessibility "Référentiel accessibilité des services Internet de l'administration française". This document has been published by the ADAE (Agence pour le Développement de l'Administration Electronique) in February 2004. This document is intended to provide a technical, methodological and organisational framework on French administration sites and services accessibility on Internet and Intranet. It was comprised of two parts: one dedicated to the presentation of accessibility criteria and the second one on usability criteria. It is based on AccessiWeb criteria from the BrailleNet Association, with a clear coverage of the WCAG1.0.	Law n° 2005-102 of 11 February 2005 (Article 47) - "Loi pour l'égalité des droits et des chances, la participation et la citoyenneté des personnes handicapées" : The law creates obligations to provide equal treatment and opportunities to people with disabilities at work, in accessing on-line services, in the provision of telecommunications services By this law accessibility of all public-online services is made mandatory. The law itself does not specify in more detail what services are concerned nor are any speciffic standards referenced. A decree stating speciffic rules, time frames and penalties was announced but has not yet been issues. This delay has received criticisms by disability organisations)	<u>What sites:</u> All public digital communication services including web sites, phone services and TV services <u>What obligations:</u> Public digital communication services must be accessible according international standards (no reference to speciffic standards) <u>Administrative level</u>: National government/ administration (Note: it is not clear whether regional and local governments/ administrations are covered as well)	No time frame (Note: specification per decree still pending)
Hungary	The "19th Recommendation of the Inter-Ministerial Committee on e-Government of the Hungarian Government" (01.03.2006) encourages the adherence to the Web Content Accessibility Guidelines (WCAG) in order to develop	<u>No direct legislation</u> (Note: Act 1998. XXVI on "The Rights of Disabled and on Ensuring Their Equality" does not impose a direct eAccessibility obligation but seems to have been influential in encouraging public	<u>What web sites:</u> Potentially, government and public administration web sites <u>What obligations:</u> Potentially, to be made accessible according to WCAG <u>Administrative level:</u>	n.a.

Country	Government policy	Legislation	Scope	Time frame
	governmental web sites accessible to the blind and visually impaired.	agencies to make their web sites accessible)	Potentially, national, regional and local government/administrative level	
Ireland	In October 1999, the report of the Inter-Departmental Implementation Group on the Information Society emphasised user-centred website design and consists of a number of recommendations with explanations. Recommendation 1.1 states the guiding principle that "websites should be designed and operated in accordance with the needs of users". Section 7 deals with accessibility, stating that "The key principle underlining accessibility is that websites should be easy for everyone to use, including people with a disability." In 2002, the government restated its commitment to accessibility online in the document New Connections: A strategy to realise the potential of the Information Society. The third report of the Information Society Commission (Dec 2000) in Section 6.3.2. recommended that: - "websites should comply with WCAG Double-A by the end of 2001; - accessibility be included as a requirement in all tenders for government website design with immediate effect; - all public service tenders should specify compliance with universal design principles for IT	Disability Act 2005 The act is positive action measure that provides a statuary basis for making web sites accessible, at least in principle (through sections 26, 27 and 28 which refer to services provides, communications made and good an services purchased by public agencies). It falls however short of a direct statement of an obligation to make public web sites accessible. The “Code of Practice on Accessibility of Public Services and Information provided by Public Bodies”, prepared by the NDA and launched in July 2006, interprets and guides the public agencies in meeting the terms of the Disability Act (2005). In fact, the code only gives limited attention to web site accessibility, referring to WAI AA conformance as good practice target.	<u>What sites:</u> Public agencies <u>What obligations:</u> No direct obligation to make web sites accessible. In principle, provision made can be interpreted in a way that a website, if regarded as a service, must be made available to a disabled person. Otherwise the service is discriminatory, unless the body providing the service deems it not to be practicable, the cost unjustifiable or the delay in making the services available to other persons unreasonable. Code of practice refers to WAI AA conformance as good practice target. <u>Administrative levels:</u> Federal, regional and local level	No time frame

Country	Government policy	Legislation	Scope	Time frame
	projects with immediate effect."			
IT (Italy)	March 2001 - Directive n. 3/2001 by the Ministry of Civil Service: "Guidelines for the organization, the usability and the accessibility of Public Administration Web Sites". September 2001 - Circular Letter by the Authority for Informatics in Public Administration: "Criteria and instruments to improve the accessibility of Web Sites and computer programs for disabled people". May 2002 - Directive by the Presidency of the Council of Ministers: "Information on the use of the '.gov.it' domain". These directives either invited Public Agencies to comply with the Web Content Accessibility Guidelines (WCAG) 1.0 or gave specific suggestions on how to develop accessible web pages. These recommendations seemed mostly unattended, and disability associations were beginning to claim for their rights. In response, the Government established an Interministerial Committee (the "Interministerial Committee for the development and the employment of IT for the weak" which involved three Ministries) in May 2002. The studies carried on by these experts produced a White Book on accessibility and suggested that a stronger competence centre on eInclusion	During 2003, the European year of People with Disabilities, the Italian Government chose to address the topic of eAccessibility through a body of legislative acts which, at the moment, is made up of a Law (No. 4/2004, also know as the "Stanca" Law), containing the general principles, and two Decrees, containing the implementation regulations and the technical accessibility requirements respectively. This body of laws provides that public services and information should be accessible, that disabled people should be provided with adequate IT working instruments and equipment and the public Procurement of ICT goods and services should always take accessibility into consideration: The Stanca Law of 2004 "Disposizioni per favorire l'accesso dei soggetti disabili agli strumenti informatici" Decreto del Presidente della Repubblica, 1 marzo 2005, n.75. With the president's decree the implementation of regulations for the Stanca Law came into force. Decreto del Ministro per l'innovazione e le tecnologie, 8 luglio	What sites: All a public bodies What obligations: Web sites must not only be barrier-free but also simple, effective, efficient and they must satisfy the user's needs. The technical specifications require almost full compliance with WCAG AA (Note: will be updated the WCAG 2.0 and the ISO accessibility recommendations shall be released). Administrative levels: The Stanca law concerns the federal, regional and local level	All existing contracts should be updated to meet such requirements within twelve months from the date the technical Decree comes into force. (means July 2006)

Country	Government policy	Legislation	Scope	Time frame
	needed to be established. It was concluded that a law was required.	2005. Decree of the Minister for the innovation defined the technical criteria for the accessibility of public websites		
LI (Lithuania)	The "National programme for disabled people social integration for 2003-2012" includes conceptual framework and requirements for accessibility of information services "The detailed plan of creation of Information Society in Lithuania" in 2002 was developed for creating and testing web sites accessible for disabled persons Resolution No. 1054, amending the 18 April 2003 Resolution No. 480 approved by the Government of the Republic of Lithuania by the 25 October 2006. One of the Resolution's requirements is adaptation of public websites for people with disabilities. Coordination of the measure is assigned to the competence of the Information Society Development Committee. Standard is issued by the Information Society Development Committee operating under the auspices of the Government of the Republic of Lithuania.	No legislation	What sites: Web sites of the nnational government, local authorities and public institutions What obligations: Websites are to be adapted according a standard developed by the Information Society Development Committee on the basis of WAI guidelines Administrative level: National government, local authorities and public institutions.	No time frame
LU (Luxembourg)	The "Charte de normalization" guidelines for the development of public web sites refers to WCAG a guidelines	No legislation	What sites: Web sites of the administration of the Luxemburg's state and Ministries What obligations: No obligation (Note: application of	No time frame

Country	Government policy	Legislation	Scope	Time frame
			guidelines is voluntary) Administrative level: National government / administrations	
LV (Latvia)	No information	The equlity principle prescribed in the Conception “Equal rights for all” (adopted in June 30, 1998) potentially provides a framework for web accessibility related measures, which seems to have been not strongly invoked as of today. The web site of the Ministry of Welfare has been designed to be accessible for people with visual impairments. Only a ministerial web site seems to have been designed to be accessible yet.	What sites: At least potentially web sites of all public administration What obligations: n.a. Administrative level: At least potentially all administrative levels.	No time frame
MT Malta	The Foundation for IT Accessibility (FITA) based within Malta Information Technology and Technical Services (MITTS) Ltd, as the Government's principal advocate and coordinator for making information technology accessible for disabled people, has been working on a set of guiding principles relating to ICT and accessibility for disabled persons. The Foundation acts both proactively and reactively in notifying organisations of ICT accessibility issues and cooperating with them to rectify these issues. FITA and KNPD (National Commission for Persons with Disability) are supported by the Government's Central Information Management Unit (CIMU) in these endeavours to enhance ICT social inclusivity. The Gvernment, in its commitment to accessibility	The Equal Opportunities Act (Disabled Persons) of 2000 provides the basis for public web sites accessibility obligations. The foundation of Information Technology Accessibility (FITA) has been set by to ensure that all government web sites and eGovernment services are compliant with WCAG AA. FITA has developed guidelines that have an ‘official status’ in that government web sites are required to pass a FITA-accessibility check at a pre-launch stage.	What sites: All government web sites What obligation: Compliance with WCAG AA Administrative level: National government (Not it is not clear whether existing web sites have to undergo a FITA-accessibility check as well)	No time frame

Country	Government policy	Legislation	Scope	Time frame
	eGovernment, has kept cots free mobile interaction with the citizens for pus services and keep the ones of pull services as a minimum			
NL (Netherlands)	"Better governance" policy addressed web accessibility already since 2003. Compliance with WCAG 1.0 AA level was embedded in a quality model for web interfaces in terms of the so called "Web Guidelines" (contain a collection of international standards such as WCAG1.0 priority 1 and 2+, XHTML 1.0 and CSS). In 2004, these Web Guidelines were primarily developed as an instrument to strengthen the procurement process of government organisations, related to web sites and web applications. Since April 2007, the Web Guidelines are a national standard. In 2005, all ministries in the Netherlands decided to redevelop their corporate web sites based on a common style guide. Application of the Web Guidelines quality model is designated mandatory in this style guide. An English version is available at stijlgids.overheid.nl/. This includes solutions for accessible audio and video content. It was developed under the supervision of the Style Guide working group. Cabinet decision of 2006 ('kabinetsbesluit'): A ministerial decision on the quality of government web sites was published. This decree is based on the Web Guidelines and is mandatory for national level government organisations	No legislation	What sites: All web sites of the national government (Note: Web sites of provinces, water boards and municipalities according to voluntary formal agreement with the national government) What obligations: Public web sites have to comply with national web guidelines guaranteeing compliance with WCAG AA, and other standards (Note: For conformance assessment purposes, a normative document was developed in close co-operation with the Quality Mark Drempelvrij Foundation and the Bartiméus Accessibility Foundation based on WCAG 1.0. After the WCAG 2.0 specification reaches a formal status, a new version of the normative document will be made in which the WCAG 2.0 checkpoints are used) Administrative level: National government, provinces, municipalities and water boards	All new government websites as of September 2006 Existing government web sites by 20010

Country	Government policy	Legislation	Scope	Time frame
	in the Netherlands. The content and time frame of the decree are aligned with the objective of i2010 (Riga, Ministerial Declaration June 2006). Other government organisations in the Netherlands - provinces, water boards and municipalities - have formally agreed to use the Web Guidelines in new web projects.			
PL (Poland)	There are some recommendations on public web site accessibility (i.e. Informatization Strategy for Republic of Poland: ePoland 2004-2006) accepted by The Council of Ministers 13.01.2004. In March 2006 a white paper on the New Public Information Bulletin proposed that the regulation for this should be amended to included accessibility requirements for the online version, as well as for all other public administration web sites (WAI guidelines for accessibility for people with disabilities, older people or those who use less popular operating systems and internet browsers). However, it appears that this may not have been implemented. The Project Infostart – "research for friendly administration" by PFRON (State Fund for Disabled People. The programme was aimed at analysing the needs of disabled in relation to Internet and has also identified standards for website creation (with reference to WCAG) which ate to be promoted among the public sector /	No legislation	What sites: Potentially public web sites What obligations: Potentially compliance with WAI guidelines Administrative levels: Potentially public administrations at the national, regional and local level	n.a.

Country	Government policy	Legislation	Scope	Time frame
	eGovernment webmasters.			
PT Portugal	Resolution of the Council of Ministers (RCM) nº 97/99 states that layout and presentation public administration web sites (national and local) should allow or facilitate access by persons with special needs. It also states that sites that are accessible should use a clearly recognisable symbol (without mentioning a speciffic symbol). RCM nº110/2003, the National Programme for the Inclusion of Disabled People in the Information Society, in Action 1.2 establishes a mechanism for monitoring and receiving suggestions and claims concerning public websites accessibility and general ICTs used in services of Public Administration. From 2000 to 2004, UMIC has promoted several training actions for the webmasters of Public Administration organisations, aiming at the improvement of accessibility requirements for those with special needs in accordance with the RCM 97/99. Since 2004/2005, the UMIC gives direct consultancy to the teams responsible for the web sites/portal development in public organisations during its development and tries to correct some accessibility aspects. According to the results of an external evaluation of the public administration web sites' accessibility, one future intervention aiming to introduce the accessibility requirements of the W3C	No legislation	What sites: All public websites (Note: the action plan seems to address electronic access to public services in a general sense) What obligations: Public websites to be accessible to people with disabilities Administrative levels: National and local public bodies	Public web sites shall be made accessible from February 2008 on

Country	Government policy	Legislation	Scope	Time frame
	have found to be urgent,. The UMIC during 2007 has done an assessment of the work undertaken in the past, of the advances achieved and define the priorities for action for the future. The National Action Plan for the Inclusion of People with Disabilities (2006-2009) is formally in place since August/2006, as per Government Resolution 120/2006RCM under Action 1: Accessibility and Information, Strategy 1.2 - Promote access to communication and information, includes a measure to guarantee, in conjunction with UMIC (Unit of Mission, Innovation and Knowledge) the application of the web accessibility standards in public administration websites. RCM nº 9/2007, the National Plan for the Promotion of Accessibility 2007-2015 in action 2.5.b) Electronic access to public services intends to ensure accessibility for people with a disability (namely people with vision and hearing impairments) to public services available in electronic format. The entities responsible for the execution of this action will be several national ministries (Ministry of Justice, Ministry of Economy and Innovation, and the National Bureau for the Rehabilitation and Integration of Persons with Disabilities (SNRIPD). According the RCM document, the deadline for the execution of this measure is February 2008.			
SE	The office of the disability ombudsman has	No legislation	What sites: Web sites accessible to the	No specific deadlines, but

Country	Government policy	Legislation	Scope	Time frame
Sweden	developed guidelines for accessible public administration which refer to voice telephony, relay services, text telephones, written information, films and web sites (refereeing to WAI guidelines) Decree 2001:526 on the government authorities' responsibility for the implementation of the disability policies mentions that authorities shall especially focus on providing the same accessibility at premises, activities and information to disabled people as to the rest of the population. This includes all kinds of interaction such as web pages, mail, voice telephony etc. The decree has providede further incentive to draw up national guidelines on how to implement WAI guidelines on web accessibility such as "the 24 hour web" guidelines developed by VERVA, a Swedish government agency. They have been updated several times (2002, 2004, 2006)		public What obligations: Web sites are to comply with national standards (Administrative levels: National government (Note: It is not clear whether other web sites are concerned as well)	Government goal is to make Sweden accessible by 2010
SI Slovenia	Strategy of Work and Development of the Public Administration in Slovenia on World Wide Web (2004) - recommends that Slovenian public administration bodies should follow the guidelines and standards (such as mentioned in Design recommendations) on accessibility of web sites for people with disabilities. The strategy does not relate to "Easily Reached Slovenia" and is not part of the same package.	No legislation	What sites: Websites and electronic services of the public administration that are publicly accessible What obligations: Web sites are to be made accessible tom people with disabilities (Not: it is not clear whether WCAG 1.0 A is applied) Administrative levels: National administration (Note: It is not clear whether regional and local	Originally all of the provisions should be realized not later than 2007 but now according to the Strategy of e-Government of the Republic of Slovenia 2006-2010 the accessibility must be implemented by the end of the Year 2010.

Country	Government policy	Legislation	Scope	Time frame
	The Ministry of Higher Education, Science and Technology has developed design recommendations for public web sites referring to WCAG 1.0 level A. Strategy of e-Government of the Republic of Slovenia 2006- 2010 (2006) - envisages that all citizens, including people with special needs will be getting the benefits related to e-government. National Guidelines to Improve Built Environment, Information and Communications Accessibility for Disabled Persons (December 2005): "Easily Reached Slovenia" set out amongst other things that eGovernment services are accessible to people with disabilities. The guidelines are based on the Constitution of the Republic of Slovenia and seem to have legally binding status. Action Plan for Disabled Persons 2007-2013 (adopted 30/11/2006): Provision 3.9: Information and other services of the government on world wide web should be equally accessible to all citizens.		administrations are concerned as well)	
SK Slovakia	Strategy of Information of the Society in the Conditions of the Slovak Republic, and the Action Plan, approved by the resolution of the Slovak government, resolution No. 43/2004 / Roadmap for implementation of	eGovernment Act No. 275/2006 (Act on Information Systems of Public Administration): Although the act does not directly refer to eAccessibility requirements, on the basis of the act the Ministry of Transport, Post and Telecommunications, as	What sites: All web sites accessible to the public What obligations: obligation for accessible public web sites Administrative levels: National governments and administration, i.e.	2006 for new websites 2008 for all websites

Country	Government policy	Legislation	Scope	Time frame
	electronic services of public administration states that the web accessibility guidelines have to be implemented at the creation of publicly accessible electronic services. Both make reference to ensure eAccessibility for people with disabilities	per decree, has issued standards for development of information systems of public administrations which include eAccessibility Decree of the Ministry of Transport, Post and Telecommunications No. 1706/M-2006: This decree provides a range of standards to be adopted in the framework of eGovernment, including web acessibility standards (reference is made to WCAG 1.0 level A criteria and some criteria of level AA)	both federal (state) and regional and local level as well	
UK United Kingdom	The Cabinet Office has developed a guide for UK government web sites. The guide is not mandatory and tries to enable interoperability and accessibility at the same time. It sets targets for public web sites to comply with WCAG 1.0 level AA, PAS 78 - Publicly Available Specification Guide to Good Practice in Commissioning Accessible Web Sites is a British pre-standard document developed to support public procurement to address web accessibility. It is "applicable to all public and private organizations that wish to observe good practice under the existing voluntary guidelines and the relevant legislation" The British standards institute has received a mandate to develop the PAS in a full British standard during 2008.	The Disability Discrimination Act 1995 (DDA) contains provisions to prevent discrimination against disabled people by service providers and requires service providers to make [reasonable adjustments in order to make] services accessible to disabled people. The Code of Practice to part III of the Act (A practical guide on how the DDA applies) gives the example of a website as a service that is covered by the Act. The Disability Discrimination Act of 2005 amending the Disability Discrimination Act of 1995 introduced a positive duty on providers of public web sites. It applies to all public services and a code of Practice to the Act for government departments gives examples of the procurement of new IT systems and redesign of a department by external	<u>What sites:</u> Web sites of public bodies providing services to the public <u>What obligations:</u> Make web sites accessible to people with disabilities (Note. The law itself does not specify technical requirements) <u>Administrative levels:</u> National, regional and local public bodies providing services to the public via the web.	As an anti-discrimination law, the DDA is complaints driven, so that the law itself does not specify a dedicated time frame for making web sites accessible. The Cabinet Office guidelines set a minimum level of accessibility for government web sites: The minimum level of accessibility for all Government websites is Level Double-A of the W3C guidelines. Any new site approved by the Cabinet Sub-Committee on Public Engagement and

Country	Government policy	Legislation	Scope	Time frame
		contractors as services to which the DED applies. In 2007, a specific guidance document "Delivering inclusive websites: user-centred accessibility" was issued by the Cabinet Office. This document sets out the minimum level of accessibility for Government websites and contains practical guidance on how to achieve this. It states that, in order to help fulfill the disability equality duty for web publishing and online service provision, Government website owners should adopt best practice in commissioning accessible websites, as set out in PAS (Publicly Available Specification) 78		the Delivery of Service (DA(PED)) must conform to these guidelines from the point of publication. Continuing standalone sites must achieve this level of accessibility by December 2008. Websites which fail to meet the mandated level of conformance shall be subject to the withdrawal process for .gov.uk domain names, as set out in Naming and Registering Websites (TG101).

3. The legislative approach adopted in the US

3.1 Nature of legislative approach

With the exception of § 508, amended to the Rehabilitation Act in 1998, there are no U.S. Federal laws in place that mandate or regulate web accessibility. Titles II and III of the Americans with Disabilities Act (ADA) may apply to the public websites of state and local government entities (Title II) and commercial websites of public accommodations (Title III), given certain factual situations and Federal jurisdictions. However, the ADA, absent these circumstances and/or regional interpretation of federal law, does not mandate web accessibility. Furthermore, the legislative history of the ADA (pre-1990) does not contemplate the Internet as we know it today. Though also not contemplating the Internet, § 504 of the Rehabilitation Act likely requires recipients of federal funds (e.g., local public schools, state universities) to ensure their web sites are accessible to the federal government and general public.

Section 508 specifically provides that federal agency web sites must be accessible to federal employees and the general public.[92] Federal contractors also are bound by this mandate. There are exceptions for federal agencies involved with national security systems, "military command, weaponry, intelligence, and cryptologic activities,"[93] and their contractors. Relevant to best understanding the legislative approach to enactment of § 508 is a thorough review and analysis of the legislative history behind the 1998 amendments. A preliminary review has not identified particular reasons, concerns, or goals regarding the need for § 508.[94] A thorough review would exceed available time.

Some states have chosen to ensure web site accessibility by adopting § 508 and similar standards, in part, to comply with ADA Title II of the ADA.[95] For instance, Florida modelled its standards "applicable to the development, procurement, maintenance and use of electronic and information technology" on § 508.[96] Pursuant to state law,[97] the Indiana Office of Technology developed standards that comply with § 508, and require "all web pages hosted by or for the state" to be accessible.[98] Similarly, North Carolina directed its Office of the State Chief Information Officer (OSCIO) to implement web portal standards that "allow persons to access State government services on a 24-hour basis."[99] "The OSCIO [then] produced Standard 2.2.1 requiring state government full compliance with Priority 1 of the World Wide Web Consortium's Web Content Accessibility Guidelines."[100]

3.2 Scope

The § 508 Electronic & Information Technology Accessibility Standards (EITAS)[101] require the federal web sites, telecommunications, software, multimedia, and other ICTs "used by employees of the federal government who have disabilities, and utilized to provide federal services to persons with disabilities, to be accessible."[102] Moreover, Federal agencies may not "develop, procure, maintain, or use" ICT if "not comparably

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92 29 U.S.C. §§794d,794(a)(1)(A) (2000).

93 34 C.F.R. § 1194.3 (2007).

94 See generally H.R. Rep. No. 105-659 (1998) (Workforce Investment Act of 1998); H.R. Rep. No. 105-657 (1998) (Workforce Improvement and Protection Act of 1998); S. Rep. No. 105-166 (1998) (Rehabilitation Act Amendments of 1998); H.R. Rep. No. 102-973 (1992) (Rehabilitation Act Amendment of 1992); H.R. Rep. No. 102-822 (1992) (Rehabilitation Act Amendments of 1992); S. Rep. No. 102-357 (1992) (Rehabilitation Act Amendments of 1992).

95 Ga. Tech. Research Inst., State IT Database (Feb. 2006), available at http://accessibility.gtri.gatech.edu/sitid/stateLawAtGlance.php

96 "It is the intent of the Legislature that, in construing this part, due consideration and great weight be given to the interpretations of the federal courts relating to comparable provisions of s. 508 of the Rehabilitation Act of 1973, as amended, and 29 U.S.C. s. 794(d), including the regulations set forth under 36 C.F.R. part 1194, as of July 1, 2006." Florida Statutes § 282.606 (West 2007).

97 Indiana Code § 4-13.1-3(1)(a) & (d) (West 2006).

98 Indiana Office of Technology, *Information Technology Policy (ITP) 02-1*, at 1 (2005). Available at http://www.in.gov/iot/pdfs/policies/ITP_02-1_Assistive_Technology_Standards.pdf

99 North Carolina General Statutes, § 66-58.20(a) (West 2006).

100 William N. Myhill et al., *Distance Education Initiatives and Their 21st Century Role in the Lives of People with Disabilities*, in *Focus on Distance Education Developments* 16 (Frank Columbus, Ed., Nova Science Publishers, 2007)

101 U.S. Access Bd., *About the U.S. Access Board*, at http://www.access-board.gov/about.htm (last visited April 2, 2007).

102 Myhill et al., supra note **Erro! Marcador não definido.**, at 15; see also 29 U.S.C. § 794(a)(1)(A) (2000); 36 C.F.R. §§ 1194.1, 1194.4, 1194.21–.26 (2006).

accessible to persons with and without disabilities, unless accessibility would pose an undue burden upon the agency."[103]

Title II of the ADA (and § 504 of the Rehabilitation Act when federal funds are involved) require state and local government agencies to ensure effective communications,[104] and to "remove communication barriers, including those posed by the design of the web resources."[105] This has included requiring online bus and rail service schedules to be accessible.[106] Title III public accommodation are "obligated to make reasonable modifications to their procedures, practices, and policies necessary to accommodate [the] unique needs" of individual with disabilities.[107]

3.3 Implementation mechanism

Federal agencies are responsible for enforcing § 508 within their own agency,[108] often designating a 508 Coordinator "as the central point of contact for information concerning accessibility issues and solutions."[109] The U.S. Department of Justice (DOJ) is responsible for monitoring federal compliance, though has been criticized by the National Council on Disability for failing in this duty.[110] The Office of Management and Budget requires federal agencies to report their IT spending and whether it is consistent with § 508 compliance.[111]

Section 508 enforcement provisions permit an individual with a disability to file a complaint alleging an accessibility violation with the applicable Federal agency, which in turn applies the internal anti-discrimination complaint procedures used for § 504 allegations.[112] They also may file a private lawsuit in federal court seeking injunctive relief.[113] The DOJ "may seek individual relief for the victim(s), in addition to changes in the policies and procedures of the law enforcement agency."[114]

The obvious strength of § 508 is its clear applicability to federal web sites as provided by statute. Its weakness lies in the over reliance on individuals with disabilities to bring

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[103] Myhill et al., supra note **Erro! Marcador não definido.**, at 15; see also 29 U.S.C. § 794(a)(1)(A); 36 C.F.R. **§** 1194.1.

[104] 28 C.F.R. § 35.160(a).

[105] Blanck, et al., *Disability Civil Rights Law and Policy: Cases and Materials* 345 (2005); U.S. Department of Education, Letter to Dr. James Rosser, President of California State University at Los Angeles, from Adriana Cardenas, Team Leader, Office for Civil Rights (Apr. 7, 1997). Available at http://www.rit.edu/~easi/law/csula.htm; 28 C.F.R. § 35.160(b)(1).

[106] Martin v. Metropolitan Atlanta Rapid Transit Authority, 225 F.Supp.2d 1362 (N.D. Ga. 2002).

[107] Myhill et al., supra note **Erro! Marcador não definido.**, at 27; 42 U.S.C. § 12182(a)-(b) (2000).

[108] Section 508.gov, available at http://www.section508.gov/index.cfm?FuseAction=Content&ID=13 (last visited June 20, 2007).

[109] Section 508.gov, *508 Coordinators*, available at http://section508.gov/index.cfm?FuseAction=Content&ID=6 (last visited May 24, 2007).

[110] National Council on Disability, *National Disability Policy: A Progress Report December 2004–December 2005*, at 25 (Nov. 9, 2006), available at http://www.ncd.gov/newsroom/publications/2006/pdf/progress_report.pdf

[111] Section 53.1 of the Office of Management and Budget's 2006 OMB Circular No. A-11

[112] 29 U.S.C. § 794d(f)(1)–(3) (2000); U.S. Dep't of Justice, *Administrative Complaints* (June 14, 2004), *available at* http://www.usdoj.gov/crt/508/report2/complaints.htm.

[113] 29 U.S.C. § 794 a(a)(2).

[114] U.S. Dep't of Justice, Addressing Police Misconduct, *available at* http://www.usdoj.gov/crt/cor/Pubs/polmis.txt (last visited June 20, 2007).

about enforcement by filing complaints. DOJ and OMB have obligations to monitor federal agency compliance, however, they may not have the resources and incentive to effective enforce compliance.

Title II entities are required to have an ADA Coordinator, the first point of contact for inquiry from the public regarding an accessibility concern, to oversee implementation within the entity. If a formal complaint is necessary, persons with disabilities have two options: 1) filing a complaint with the Title II entity or with the DOJ toward an administrative remedy;[115] or 2) filing a private lawsuit without having to exhaust administrative remedies.[116] Alleging a Title III violation also does not require exhausting administrative remedies,[117] but can be filed as a private suit seeking injunctive relief, such as making a service or facility accessible.[118]

In 2004 the New York State Attorney General alleged Ramada Franchise Systems and Priceline.com were in violation of ADA Title III for inaccessible online services. The issue of applicability did not reach a court of law because the parties entered into 'Assurance of Discontinuance' agreements with the State of New York to remedy the alleged violations.[119] In other areas of the country, courts have ruled on the ADA's applicability to business websites.[120] In 2006, plaintiffs filed an action against Target Corporation alleging the Target.com website violated ADA Title III by creating unnecessary barriers to persons who are blind and use screen readers to access web content.[121] Target argued Title III prohibits discrimination only at their physical premises.[122] The federal district court disagreed, concluding Title III "applies to the services *of* a place of public accommodation, not services *in* a place of public accommodation."[123]

No one standard emerges a uniform rule; however, the ADA does appear to apply when there is a nexus between the website and a business with a physical location. The website may be considered part of a public accommodation when it is not merely an online business, but rather a business with a clear physical existence.[124]

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115 28 C.F.R. § 35.170(b) (2006).

116 Blanck, et al., supra note **Erro! Marcador não definido.**, at 623–24 (citations omitted).

117 Id. at 665.

118 Id. at 674.

119 Attorney General of the State of New York Internet Bureau. (2004a). *In the matter of Priceline.com Inc.*, Assurance of Discontinuance, available at http://www.icdri.org/News/Priceline%20AOD.pdf; Attorney General of the State of New York Internet Bureau. (2004b). *In the matter of Ramada Franchise Systems, Inc.*, Assurance of Discontinuance, avaialbe at http://www.icdri.org/News/Ramada%20AOD.pdf

120 See generally Nat'l Fed'n of the Blind v. Am. Online, Inc., No. 99CV12303EFH (D. Mass. Nov. 4, 1999); Access Now, Inc. v. Southwest Airlines, Co., 227 F.Supp.2d 1312 (S.D. Fla. 2002); Henry K. Lee, Blind Student Sues Target over Firm's Web Site, *S.F. Chronicle*, Feb.8, 2006, at B5. See also Noah v. AOL Time Warner, Inc., 261 F.Supp.2d 532, 540-45 (E.D. Va. 2003) (concluding that an Internet chatroom is a not "public accommodation" under Title II of the Civil Rights Act). This is significant because the ADA's definition of "public accommodation" is drawn directly from the Civil Rights Act. Id. at 543.

121 Peter Blanck, A Flat Cyber World; and Access to it By People with Disabilities, *Assistive Tech. J.* (forthcoming 2008) (citing Nat'l Fed'n of the Blind v. Target, Corp., No. C 06-01802 MHP, 2006 WL 2578282 (N.D. Cal., Sept. 6, 2006)).

122 Id.

123 Nat'l Fed'n of the Blind, 452 F.Supp.2d at 953.

124 Blanck, et al., supra note **Erro! Marcador não definido.**, at 1075.

The obvious weakness of Titles II and III is that their statutory provisions do not address web site accessibility. While Title II generally is understood to apply to state and local government web sites, at least in regard to state entities it faces the possibility of being made mute due to state sovereign immunity. Title III is dependant on positive case law to expand its applicability.

4 Levels of accessibility achieved

European surveys over the last few years have found that the majority of websites, be they public or private, do not comply with basic internationally accepted accessibility guidelines. Against the accepted basic accessibility yardstick, a survey of 436 public websites across Europe conducted under the UK European Presidency in 2005 found for instance that just 3% of sites were fully compliant with the accessibility guidelines.[125]

More recently, the MeAC survey of 314 government and key commercial/sectoral websites of major public interest (e.g. railways, TV, newspapers, retail banking) in Europe found that only 5.3% of government websites surveyed and *none* of the key commercial/sectoral websites surveyed were fully compliant with the basic accessibility guidelines.[126] The MeAC findings seem to reflect the considerably larger amount of interventional measures directed towards public web sites, and the more forceful nature these tend to have, when compared with policy efforts directed towards the private web sites.

Also it is striking that in most of those countries in which hard law (e.g. sectoral legislation, equlity legislation) has been introduced with reference to web accessibility not more than one half of the government sites that were tested clearly failed level A checkpoints (CZ, DE, ES, IE; IT, UK) (Exhibit12). In other words, half or more of their sites either passed the full test or they failed only marginally. However, two caveats need to be considered. To begin with, the introduction of legislation happened at different points in time in the variouse countries concerned, so that actual outcomes on the ground cannot be expected to become observable in a uniform time frame across all these countries. Further to this, it needs to be considered that the MeAC survey was designed to deliver a comparable picture across a large number of countries and a range of different ICT domains, so that the sampling approach needed to be tailored towards generating a web accessibility indicator for government sites in terms of a good proxy for the situation in a given country as part of an overall indicator system covering a diverse range of ICT domains, rather than a statistically representative sub-sample of public web sites.

When taking a closer look at the evidence available from national sources (Exhibit 13), available data largely seem to point into a similar direction when compared with the MeAC outcomes. Again, it needs however to be born in mind that the diversity of methodological approaches (in terms of sampling schemes and evaluation methods)

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[125] Cabinet Office (2005) eAccessibility of public sector services in the European Union. November. (www.cabinetoffice.gov.uk/e-government/eaccessibility)

[126] Empirica, WRC, RNIB, RNID, eWORX (2007): MeAC - Measuring Progress of eAccessibility in Europe Assessment of the Status of eAccessibility in Europe (Main Report), http://ec.europa.eu/information_society/activities/einclusion/library/studies/meac_study/index_en.htm

adopted by the variouse national studies does not allow for a valid statistical comparison across countries. A closer look at national investigations however reveals some interesting insights into impact mechanisms of public interventions in the field of web accessibility, suggesting that legislation - if it is to become effective on the ground within a reasonable time frame - would need to be augmented with well targeted flanking measures aimed at enabling the relevant parties concerned to actually implement any obligations that may be imposed by legislation.

A recent benchmarking exercise conducted in 2007 by the Austrian government revealed for instance that - although some progress was observable following to the introduction of eGovernment legislation addressing accessibility of public web sites - further flanking measures were required to accelerate progress on the ground, including evaluation of web sites by third parties possessing required expertise, training measures and guidance in terms of a hand book of public procurement of ICTs.[127]

The latter aspect was also identified in the UK where equality legislation had been put in place (with positive duty to public services to make their web sites accessible). As mentioned earlier in this report, own research conducted by the Disability Rights Commission had revealed unsatisfactory progress, mainly due to lacking know how at organisational level.[128] As a result, a working group was set up in 2005 involving a range of experts and stake holders form variouse fields with a view to developing guidance to site commissioners and ultimately ensure that they are able to commission accessible sites.

Also, experiences made in Italy following to the introduction of legislation in 2003 suggest that "the compulsiveness of the legislative approach had of course an influence on this process but it would not have been so effective if it hadn't been supported by a strong campaign of information, training and sensitization."[129] Also, a strong incentive seems to have come from introducing an accessibility labelling scheme as part of the legislation.

Exhibit 12: Outcome of the 2007 MeAC survey

Country	Selected governmental sites selected				Selected private/sectoral sites			
	Fail Level A (%)	Marginal Fail (%)	Pass Level A Automatic (%)	Pass Level A (%)	Fail Level A (%)	Marginal Fail (%)	Pass Level A Automatic (%)	Pass Level A (%)
AT	83	0	17	0	83	17	0	0
BE	67	17	17	0	100	0	0	0
CY	83	0	17	0	100	0	0	0
CZ	40	0	0	60	60	20	20	0
DE	40	20	20	20	83	17	0	0
DK	100	0	0	0	67	0	33	0

[127] Erhebung Barrierefreiheit 2007 Endbericht, Bundeskanzleramt, IKT-Strategie des Bundes, Abteilung I/11, E-Government –Recht, Organisation, Internationales

[128] c.f. http://www.accessifyforum.com/viewtopic.php?t=3242 (accessed on 25.05.08)

[129] Steven Sintini: Legislation on eAccessibility: the Italian approach, available at http://www.pubbliaccesso.gov.it/english/index.htm

Country	Selected governmental sites selected				Selected private/sectoral sites			
	Fail Level A (%)	Marginal Fail (%)	Pass Level A Automatic (%)	Pass Level A (%)	Fail Level A (%)	Marginal Fail (%)	Pass Level A Automatic (%)	Pass Level A (%)
EE	100	0	0	0	100	0	0	0
ES	40	40	20	0	80	20	0	0
FI	60	20	20	0	75	25	0	0
FR	40	60	0	0	100	0	0	0
GR	100	0	0	0	100	0	0	0
HU	80	0	0	20	67	33	0	0
IE	33	67	0	0	100	0	0	0
IT	50	0	50	0	67	17	17	0
LT	100	0	0	0	100	0	0	0
LU	33	67	0	0	100	0	0	0
LV	60	20	20	0	83	17	0	0
MT	75	0	25	0	100	0	0	0
NL	60	0	40	0	100	0	0	0
PL	100	0	0	0	100	0	0	0
PT	60	0	40	0	100	0	0	0
SE	100	0	0	0	83	17	0	0
SI	100	0	0	0	100	0	0	0
SK	80	0	20	0	100	0	0	0
UK	17	17	17	50	67	0	33	0
EU25	68	13	13	6	89	7	4	0
AU	67	33	0	0	83	0	17	0
CA	33	50	17	0	100	0	0	0
US	60	20	20	0	100	0	0	0

Evidence available from the US seems to point into a similar direction. Although, accessibility of government web sites seems to have become a matter of growing public concern due to the implementation of legislation, observable progress toward greater accessibility seems to be however less rapid that one might expect.[130] In a multi-method study of federal compliance with Section 508 conducted in 2006, researchers at the Information Use Management and Policy Institute found:

- Widely varying compliance and accessibility between web sites, in part, associated with whether disability was a topic of the web site. Notable distinctions between agencies in viewing accessibility as an important issue, in part, associated with agency mission and goals. Agencies significantly oriented toward disability issues were more likely to have more accessible web sites.
- The lack of a standardized approach to implementing Section 508, such as consulting external sources, establishing panels to review accessibility, using internal staff to assess site accessibility, and using assistive technologies to assess accessibility.

[130] Paul T. Jaeger, Assessing Section 508 Compliance on Federal E-Government Web Sites: A Multi-method, User-centered Evaluation of Accessibility for Persons with Disabilities, 23 *Gov't Info. Q.* 169, 170 (2006).

- Some agencies build accessibility into website design while others retrofit websites.
- Varying prioritization of accessibility issues by agency, such as targeting certain user groups (e.g., persons with mobility versus visual impairments).
- Unclear and inconsistent means to contact the agency or webmaster for assistance or to report accessibility problems.
- Inaccurate agency perceptions of web site accessibility, including web developers generally believing their sites were 508 compliant.
- General insufficient training for staff in 508 awareness and accessible web site design, and difficulty finding qualified web developers with 508 knowledge and training.[131]

Similarly, a 2008 study of state government web accessibility concluded that accessibility policies alone are "insufficient to create proactive behaviour."[132] People with disabilities also have been shut out by as many as half of all Internet stores.[133] Of the 50–100 most visited sites in the United States across six categories, including clothing, international, jobs, and college, only 33% passed even the most basic accessibility tests.[134] In an analysis of forty-four retail (Title III) web sites, selected from top online product and service business in eight business sectors (e.g., Google, Old Navy, AutoTrader.com, Hewlett Packard, and MSN Money), 91% of sites did not meet § 508 standards.[135]

Another important aspect which has been uncovered by recent research concerns the fact that there can be considerable 'churn' in web accessibility over time, with some sites which previously passed the accessibility test failing when tested at a different point in time. In the UK, for example, national surveys of local authority websites found that almost 14% passed the accessibility test in 2007 but only 8% did in 2008 and, of the total of 64 websites that passed in 2007 just 14 passed in 2008.[136] The same effect has been reported by the Infoaccessibility observatory launched in 2004 by Discapnet, the leading Spanish-language disability web portal. The observatory uses a methodology that integrates W3C/WAI's Web Content Accessibility Guidelines 1.0 and usability tests with people with disabilities. Since 2004 eight reports had covered different sectors including Spanish universities, national government online services, regional government, city and town councils, travel agencies and transport, banks, and online

131 Id. at 183–85.

132 Nadia Rubaii-Barrett & Lois Recascino Wise, Disability Access and E-Government: An Empirical Analysis of State Practices, 19 *Journal of Disability Policy Studies* 52, 60 (2008).

133 Bob Tedeschi, *ECommerce Report; Advocates for People with Disabilities Take Online Stores to Task for not being Accessible Enough* (Jan. 1, 2001), available at http://query.nytimes.com/gst/fullpage.html?res=9C05E3DB153BF932A35752C0A9679C8B63

134 AccountAbility, *Disability and the Digital Divide: An Employers' Forum on Disability Briefing for CSR Practitioners* 8, available at http://www.accountability21.net/uploadstore/cms/docs/Disability%20and%20the%20Digital%20Divide.doc (last visited on June 20, 2007).

135 Eleanor Loiacono & Scott McCoy, Web Site Accessibility: An Online Sector Analysis, 17 *Info. Tech. & People* 87, 93 & 96–97 (2004).

136 10th annual 'Better connected' review (2006)

newspapers. The latest report[137] presents an inter-sector view of how Web accessibility has evolved over these years (February 2008). Based on a sample of 93 pages analyzed from a total of 19 different websites, the results show little change in the overall picture of web accessibility. The slowdown was found to be not because the websites made no changes, but rather, because improvements made to some have been offset by a worsening in others. The table below presents average percent success by sector, on both the analysis carried out in June 2007 and the previous study, and the difference between the two percentages.

Sector	Average % Success June 2007	Average % Success: Previus	Difference in Averages
General Public Administration e-Services	51,76	69,41	-17,65
Regional Governments	36,10	41,77	-5,66
Universities	30,87	35,17	-4,30
Official City Websites	65,35	55,34	10,01
Travel and Transportation	33,66	29,54	4,12
Banking	61,77	38,85	22,92

The report concludes that websites showing a slacking off in applying the characteristics of accessibility did so due to maintenance problems. Lack of specific, specialized training on accessibility in the staff who maintain those websites seems to be the underlying cause of the trouble.

Overall, such outcomes suggest that effective procedures need to be in place to ensure that once accessibility has been achieved it is actually maintained over time.

Exhibit 13: National sources of information identified across the EU

Country	National studies
Austria	Survey „Erhebung Barrierefreiheit 2007“ Overall 68 domains selected from federal ministries were self-evaluated. Results revealed that 51% of evaluated domains needed improvements regarding WAI A.
Belgium	Wallonia’s agency of Telecommunications (AWT)

[137] Inter-sector Study on Web Accessibility (2007)

	Survey of 2004 The AWT evaluated the 262 Websites of Wallonia local administration. Their results shown that less than 5% of Web sites could be considered accessible. *4.1.1.1.1 Academic research on web accessibility 2007* Fifteen municipal Web sites in the Walloon region have been inspected by master students. The general accessibility of these Web sites was found to be very disappointing. According to a published research paper, serious problems were found with many labels on links not referring to the proper page. In most cases it was impossible to navigate using just the keyboard, which is a main requirement for blind users. Only 1 web site provided an average accessibility but it presented too many links on pages which reduce the legibility of content and the navigation using the keyboard. The quality of the web sites was not dependent on the size of the city.
Cyprus	Zaphiris, Panayiotis/ Zacharia, Giorgos: Website Content Accessibility of 30,000 Cypriot Web Sites, 2003 The analysis revealed that the Cyprus websites analyzed are ranked very low in terms of accessibility (only 20% of them are Bobby approved). Even though academic and organization websites were found to be rated significantly better than the governmental and commercial websites still only 25% of them were accessible.
Germany	Test by "BITV umsetzen - jetzt!", 2006 Overall 116 public websites were tested. From these 21,5% were well accessible, 43% were accessible with some restrictions and 35,5% were not at all accessible
Denmark	Benchmarking of the web accessibility of government websites in Denmark (Dec 06). The result and conclusion of the benchmarking initiative was that none of the websites complied with the WCAG level A or AA guidelines.
Estonia	Survey on Compliance with Web Content Accessibility Guidelines (2002) Oout of 64 public web-sites analyzed, 58 did not comply at all, only 1 corresponded to level AA (Patent Office), 5 to level A. There were no web-sites with AAA ranking. Survey (2006) Out of 60 sites of different Estonian public authorities tested only 4 (6.67%) met the elementary standards A. Out of others 11 pages were close to meeting the standard A, but failed by one certain aspect of priority I. None of the pages met the priorities II and III. Thus none of the tested websites complied with the WCAG level AA or AAA. Survey (2007)

	Out of 252 web sites tested, only 11 (4,37%) met the elementary standards A. Amongst these were 3 web sites of county government and 8 web sites of local governments. Only one web site met the standards AA and no web sites met the standards AAA.
Spain	Infoaccessibility observatory 2007 Results presenting an average percent success by sector: Websites of General Public Administration e-Services 51,76%, Regional Governments 36,10% and Official City Websites 65,35%.
Finland	Academic research on web accessibility 2003 Accessibility level varied strongly but at the time none of the websites scored WAI A-level.
France	
Ireland	Vivienne Trulock 2006 Masters thesis: "A Comparative Investigation of the Accessibility Levels of Irish Websites" "Accessibility levels have increased among the 152 sites tested in 2002 during the WARP study. This is clearly indicated by the *automatic testing* compliance results, attained using WebXact online, which have risen from the 2002 levels of 6.3%, 0% and 0% respectively for Compliancy Levels A, AA and AAA to 36.2%, 8.6% and 3.3% in 2005. Further *manual* checks on the same sites indicate that the *actual* compliance levels for 2005 are 1.3%, 0% and 0% for A, AA and AAA Compliance Levels respectively. While over a third of web developers know about accessibility (as indicated by the 55 sites which are compliant with the automatic checks at level A), the automatic checks have become the standard, and fully testing the sites against the WCAG 1.0 guidelines is generally not done." Red Cardinal study, 2006 According to the survey, only a small number of websites met the standards requirement at the time.
Italy	Monitoring study 2008 A survey, carried out in March 2008 by CNIPA, examined 1426 web-sites belonging to the five Ministries with the highest number of local and territorial branches (Home Affairs, Foreign Affairs, Health, Justice and Cultural Heritage). The web sites were examined against nine major accessibility issues recalled by the Italian legislation and by WCAG 1.0. The table below shows the results in terms of total number of checkpoints passed out of nine that were tested.

<table>
<tr><td></td><td>
<table>
<tr><th># of passed checkpoints</th><th># of websites out of 1426</th><th>% of websites out of 1426</th></tr>
<tr><td>9 out of 9</td><td>47</td><td>3%</td></tr>
<tr><td>8 out of 9</td><td>51</td><td>4%</td></tr>
<tr><td>7 out of 9</td><td>60</td><td>4%</td></tr>
<tr><td>6 out of 9</td><td>48</td><td>3%</td></tr>
<tr><td>5 out of 9</td><td>61</td><td>4%</td></tr>
<tr><td>4 out of 9</td><td>77</td><td>5%</td></tr>
<tr><td>3 out of 9</td><td>141</td><td>10%</td></tr>
<tr><td>2 out of 9</td><td>534</td><td>37%</td></tr>
<tr><td>1 out of 9</td><td>188</td><td>13%</td></tr>
<tr><td>0 out of 9</td><td>219</td><td>15%</td></tr>
</table>
</td></tr>
<tr><td>Latvia</td><td>Report on monitoring of e-environment (2007)

Websites of 15 state institutions and 2 local governments were analyzed evaluating the comprehensibility of content provided, and determining accessibility for people with intellectual disabilities. The results showed that almost all websites lack audio, video and photo materials, which would help to perceive the information better.</td></tr>
<tr><td>Malta</td><td>FITA study 2002

FITA has reviewed 123 websites out of which 113 where certified as accessible, 2 as Partially Accessible and 8 as inaccessible.</td></tr>
<tr><td>Portugal</td><td>Survey on the ICT Use by Central and Local Public Administration 2006 (launched by UMIC)

Specific question on whether e-Accessibility requirements were taken into account during site design and maintenance concerning public websites. The replies were: Yes, completely: 19%; Yes, partially: 36%, No: 35%, Don’t know / no reply: 10%.</td></tr>
<tr><td>Slovakia</td><td>Study about accessible web pages 2007.

The study is mainly aimed on public administration websites, but monitors also a rough number of 50 web pages of various private and academia sectors. The number of monitored web pages is increased with each study.

http://www.informatizacia.sk/pristupnost-webovych-stranok/2824s</td></tr>
<tr><td>Sweden</td><td>Audit of accessibility of the State’s websites, conducted by the Swedish National Audit Office (SNAO, Riksrevisionen), 2003

The audit found that not one of the state’s websites meets the international recommendations and requirements, although the grade of accessibility varies extensively between the different sites.</td></tr>
<tr><td>UK</td><td>Survey: 'The Web: Access and Inclusion for Disabled People' (2004)

81% of websites failed to meet the most basic criteria for conformance to web accessibility guidelines.

10th annual 'Better connected' review (2006)</td></tr>
</table>

	Of every UK council website from the local government Society of IT Management (Socitm), 2008. The number of local authority websites achieving the most basic standard of accessibility - Level 'A' of the World Wide Web consortium's web content accessibility guidelines (WCAG 1.0) has fallen to just 37 out of 468. Not a single local authority website reached level AA. Almost 14% passed the accessibility test in 2007 but only 8% did in 2008 and, of the total of 64 websites that passed in 2007 just 14 passed in 2008.
Australia	A Content Analysis of Disability Access on Government Websites in Australia, the United Kingdom, and the United States, 2001 Twenty-two websites from each of the top levels of government in each of the three countries (66 total websites) were examined for compliance to current disability standards as set forth by the World Wide Web Consortium's Web Accessibility Initiative (WAI). The results show that, despite legislative efforts mandating disability access on government websites, these sites are not fully accessible. The study found the United States to have the highest levels of accessibility, followed by Australia, with the United Kingdom at the lowest levels of accessibility.