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PART 2/3

**COMMISSION STAFF WORKING DOCUMENT**

**IMPACT ASSESSMENT**

*Accompanying the document*

**Proposal for a Directive**

**of the European Parliament and of the Council on the approximation of the laws,  
regulations and administrative provisions of the Member States as regards the  
accessibility requirements for products and services**

{ COM(2015) 615 final }

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## 1. ANNEX 1: LIST OF CONSULTED STUDIES

- Study on the socio-economic impact of new measures to improve accessibility of goods and services for people with disabilities; led by Deloitte in partnership with Technosite, for the European Commission, DG Justice, Fundamental Rights and Citizenship, Unit D.3 'Rights of persons with disabilities';
- ANED report on enforcement of accessibility; 2012;
- Study on Economic Assessment for Improving eAccessibility Services and Products; led by Technosite in partnership with Tech4i2, AbilityNet and NOVA, in collaboration with The Blanck Group, for the European Commission, DG Information Society and Media, Unit H.3 'ICT for inclusion';
- MeAC - Measuring Progress of eAccessibility in Europe - Assessment of the Status of eAccessibility in Europe; study conducted by empirica and the Work Research Centre in cooperation with the Royal National Institute for Deaf People, the Royal National Institute for Blind People and eWORX S.A; October 2007;
- Electronic communications services: Ensuring equivalence in access and choice for disabled end-users; BEREC Report; February 2011;
- Final Joint Report "Inventory, analysis and feasibility of European and International accessibility standards in the built environment"; produced by Project Team A & Project Team B under CEN/BTWG 207 "Accessibility in the built environment" and CENELEC/BTWG 101-5 "Usability and safety of electrical products with reference to people with special needs" as the CEN and CENELEC response to Phase I of Mandate M/420 on Public requirement the built environment; November 2011;
- Elaborating metrics for the accessibility of buildings; Nikkos Sakkas and Julian Perez; 2005;
- Impact assessment of possible EU initiatives in the freedom of movement for workers, DG EMPL: Study to analyse and assess the socio-economic and environmental impact of possible EU initiatives in the area of freedom of movement of workers, in particular with regard to the enforcement of the current EU provisions (in particular Article 45 TFEU); International Experts, Bendikte Akre;
- Exploring the synergy between promoting active participation in work and in society and social, health and long-term care strategies; led by the Centre for European Social and Economic Policy (CESEP) Asbl in partnership with BBJ Consult AG and CREPP ULg; 2008;
- European Commission/DG Enterprise, Ex post evaluation of EC legislation and its burden on Business, 2004-2005. Estimation of regulatory burdens incurred in business when complying with EC legislation. The study covered eight EU Member States and regulation in four different areas; Rambøll Management;
- International Study on the implementation of the UN Convention on the rights of persons with disabilities; ZERO PROJECT Report 2012; Michael Fembek, Tom Butcher, Ingrid Heindorf and Caroline Wallner-Mikl in cooperation with more than 100 experts from NGOs, foundations, academics and persons with disabilities; November 2011;

- Reasonable Accommodation and Accessibility Obligations: Towards a More Unified European approach?; 11 European Anti-Discrimination Law review 11-21; Anna Lawson, University of Leeds (UK); 2011;
- Secondary analysis of existing data on disabled people’s use and experiences of public transport in Great Britain; Debbie Jolly; Mark Priestley; Bryn Matthews; University of Leeds (UK), Centre for Disability studies; 2007;
- Breaking new ground: the implications of ratifications of the EU convention on rights of persons with disabilities for the European community - The UN convention on the rights of persons with disabilities. European and Scandinavian perspectives, international Studies in human rights; Martinus Nijhoff Publishers; Oddny Mjöll Arnadóttir and Gerhard Quinn; 2009;
- Strategic Use of Public Procurement in Europe, Final Report to the European Commission, DG Internal Market and Services; led by Adelphi in cooperation with Belmont, Innovation & Sustainability and the Research Center for Law and Management of Public Procurement, University of Munich; 2010;
- Economic Impact of accessible Tourism for all - the case of Germany; Peter Neumann; In: Newsletter of Design for all institute of India, Vol-1, Number-4/2006;
- Stadtplanung für Menschen mit Behinderungen. Ergebnisse eines gemeinsamen Forschungsprojektes von Stadsplanern und sozialgeographen am beispiel der stadt Münster (Urban planning for people with disabilities. Results of a joint research project by urban planners and spatial sociologists on the city of Münster); Arbeitsberichte der Arbeitsgemeinschaft Angewandte Geographie Münster, Heft 28; Peter Neumann and Martin Korda; 1997;
- Ökonomische impulse eines barrierefreien Tourismus für Alle. Langfassung einer studie im Auftrag des Bundesministeriums für Wirtschaft und arbeit (Economic impulses of accessible Tourism for All; Long version of a study commissioned by the Federal Ministry of Economics and Labour); Münstersche Geographische Arbeiten, Band 47; Peter Neuman & Paul Reuber; 2004;
- Projecting the Economic Impacts of Improved Accessibility in Ontario; commissioned by the Government of Ontario, Canada; prepared by three collaborating research bodies: the Martin Prosperity Institute (MPI), the Adaptive Technology Resource Centre (ATRC) and the Institute for Competitiveness & Prosperity (ICP); 2010;
- Regulatory Assessment of the Final Revised Accessibility Guidelines for the Americans with Disabilities Act and Architectural Barriers Act; prepared by the Access Board; USA, July 2004;
- Electronic and Information Technology Accessibility Standards Economic Assessment; prepared by the EOP Foundation, Washington, D.C.; USA, November 2000;
- Initial Regulatory Impact Analysis of the Proposed Revised Regulations Implementing Titles II And III of the ADA, Including Revised ADA Standards for Accessible Design; prepared by HDR HLB DECISION ECONOMICS INC.; USA, May 9, 2008;

- Universal design and standardization - Norwegian visions (Universell utforming og standardisering - norske visjoner); Paper presented on the World Standards Day 2010 Conference in Stockholm 2010-10-14;
- Universal Design. Societal Consequences of the Introduction of obligatory Standards for the Web (Universell utforming. Samfunnsmessige konsekvenser ved innføring av pliktige standarder for web); Report to the Agency for Public Management and eGovernment (DIFI); Standards Norway, Lysaker2010;
- Standards for self-service ICT solutions (automats) to be covered by the new Discrimination and Accessibility Act etc. (Standarder for selvbetjente IKT-løsninger (automater) som skal omfattes av ny lov om diskriminering og tilgjengelighet m.v.) Report to the Ministry of Government Administration and Reform; Standards Norway, Lysaker 2009;
- Report on obligatory universal design in the field of ICT in basic and higher education. (Utredning om plikt til universell utforming av /KT/ grunnopplæring og videregående opplæring); Report made for the Norwegian Directorate for Education and Training; Standards Norway, Lysaker 2009;
- Universal design in the field of services; Report from survey of specifications, guidelines and standards (Universell utforming på tjenestområdet. Rapport fra kartlegging av spesifikasjoner, retningslinjer og standarder).; Standards Norway, Lysaker 2009;
- Experiences of European Countries in Assistive Technology distribution systems (Erfaringer fra andre land); Chapter in public report (NOU) on Assistive Technology distribution system in Norway; Ministry of Labour and Social Inclusion, Oslo 2009;
- A cost efficiency approach to universal access for public transport for disabled people; Nelson and Stambrook, Social Research in Transport (SORT) Clearinghouse; Lyche and Hervik, More Research Molde; 2001, Norway;
- Cost and benefit analyses of Universal design in public buildings; in Kooperation with Vista Utredning AS and WSP Analyse & Strategi; Norwegian ministry for local government and regional development; 2010-2011;
- Universal design of ICT of self-service machines (Norway); Analyse & Strategi, in partnership with Vista Analyse;
- Public transport users valuing measures for universal design (Norway) (Kollektivtrafikanter verdsetting av tiltak for universell utforming); Analyse & Strategi in collaboration with the Institute of Transport Economics; Secondary Analysis of Existing Data on Disabled People's Use of public Transport, Disability Rights Commission. (Principal applicant); 2006;
- Evaluation of special transport service for disabled people; Municipality of Oslo; Rambøll Management; 2007-2008;
- Norwegian document that quantifies the benefits of DFA (*further reference to be added*);
- Television Accessibility; International Expert, Guido Gybels; Representing EBU at IEC meeting Oct 2011, Melbourne Australia;

### **European Institutions consulted documents:**

- Communication from the Commission to the European Parliament, the Council, The Economic and Social Committee and the Committee of the Regions - European Disability Strategy 2010-2020: A Renewed Commitment to a Barrier-Free Europe; SEC(2010) 1323; SEC(2010) 1324;
- Commission Staff Working Document; Initial plan to implement the European Disability Strategy 2010-2020; List of actions 2010-2015; COM(2010) 636;
- Commission Staff Working Document; Impact Assessment accompanying the document 'Proposal for a Directive of the European Parliament and of the Council on the accessibility of public sector bodies' websites'; SWD(2012) 401 final;
- Commission Staff Working Paper; Impact Assessment accompanying the document 'Proposal for a Regulation of the European Parliament and of the Council on a Common European Sales Law'; SEC(2011) 1165 final;
- 2009 Ageing Report: Underlying Assumptions and Projection Methodologies for the EU-27 Member States (2007-2060); Joint Report prepared by the European Commission (DG ECFIN) and the Economic Policy Committee (AWG); European Economy 7; 2008;
- Communication from the Commission to the European Parliament, the Council, The Economic and Social Committee and the Committee of the Regions - Towards a Single Market Act - For a highly competitive social market economy; 50 proposals for improving our work, business and exchanges with one another; COM(2010) 608 final;
- Commission Staff Working Paper; Impact Assessment accompanying the document 'Proposal for a Directive of the European Parliament and of the Council on Public Procurement' and the 'Proposal for a Directive of the European Parliament and of the Council on procurement by entities operating in the water, energy, transport and postal sectors'; COM(2011) 896 final; SEC(2011) 1586 final;
- Commission Staff Working Paper; Guide to the application of the European Union rules on state aid, public procurement and the internal market to services of general economic interest, and in particular to social services of general interest; SEC(2010) 1545 final.

## **2. ANNEX 2: RESULTS OF THE STAKEHOLDER CONSULTATIONS**

Further to the main highlights already included in section '1.2. Consultation and expertise' of the Impact Assessment Report, this annex contains some more information and findings from the three main external consultations that have been conducted with a view of a European Accessibility Act. They are:

1. Eurobarometer on Accessibility (2012);
2. Public Consultation on Accessibility (2012); and
3. SME Panel (2012). Information on this panel is included in Annex 11 on SMEs.

### **1. Eurobarometer on Accessibility (2012)**

#### Introduction

The interviews were carried out by telephone (fixed-line and mobile phone) between the 15th and the 17th of March 2012 with nationally representative samples of EU citizens (aged 15 and older) living in the 27 Member States. The target sample size in most countries was 1,000 interviews; in total, 25,516 interviews were conducted. Statistical results were weighted to correct for known demographic discrepancies.

The summary of the analysis is presented along the following topics:

- Profile of people with disabilities and the difficulties of accessibility they are facing in their daily life
- Perception of improved accessibility of goods and services and benefits in removing barriers
- How to improve and guarantee accessibility

#### Profile of people with disabilities and the difficulties of accessibility they are facing in their daily life

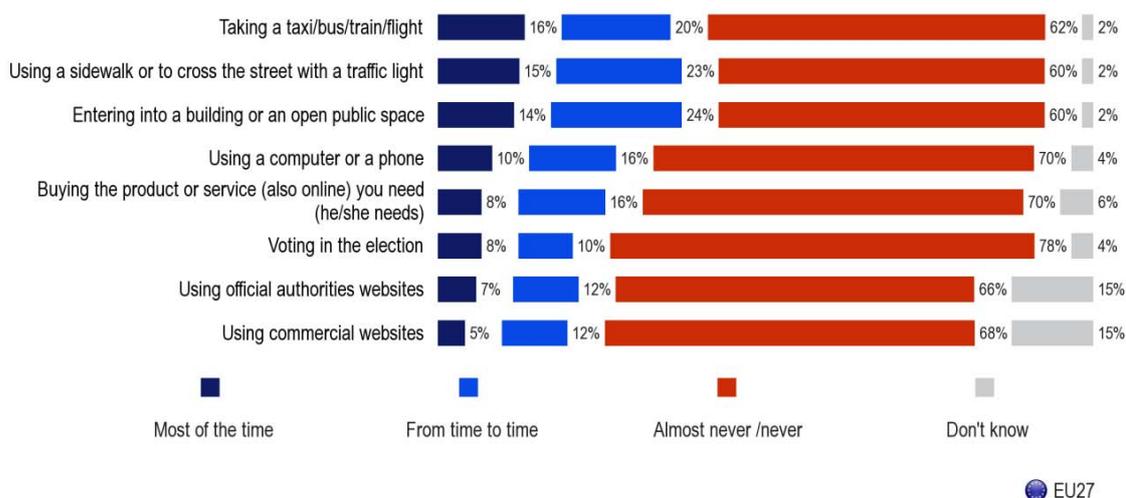
Almost three in ten Europeans (29%) say that they or someone in their household has a longstanding illness or health problem, which has lasted, or was expected to last, for 6 months or more.

Overall 29% of respondents say that they or a member of their household has been limited in some way, with one in eight (12%) describing this as severe limitation and 17% saying that it has limited them but not severely.

It is mobility issues that cause the most difficulty amongst EU citizens that say that they or a member of their household have a longstanding illness or health problem.

Nearly two in five respondents (38%) who say that they or a member of their household have a longstanding illness or health problem have experienced difficulties using the sidewalk or crossing the street with a traffic light. The same proportion (38%) say that they have experienced difficulties entering into a building or an open public space, while more than a third (36%) have experienced difficulties taking a taxi, bus, train or flight.

Q6. Have you and/or someone from your household who has some kind of disability ever experienced difficulties in any the of the following:



*BASE = Respondents who say that they or someone in their household have any longstanding illness or health problem (n=7403)*

Around a quarter of those who say that they or a member of their household have a longstanding illness or health problem have experienced difficulties using a computer of telephone (26%) or when buying a product or service they needed (online purchasing included) (24%).

Fewer than one in five respondents (18%) who say that they or a member of their household have a longstanding illness or health problem has experienced difficulties voting in an election.

Just under one in five respondents (19%) who say that they or a member of their household have a longstanding illness or health problem has experienced difficulties using official authorities' websites, while slightly fewer (17%) have experienced difficulties using commercial websites.

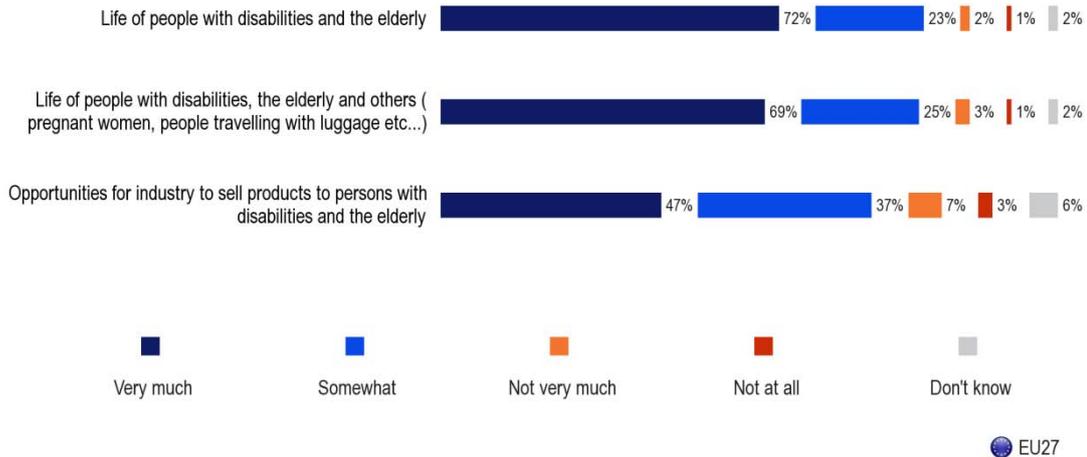
### **Perception of improved accessibility of goods and services and benefits in removing barriers**

Almost all respondents (97%) agree that people with disabilities should be able to participate fully in society like people without disabilities (*i.e.* they should be able to go to school, get a job, access shops and supermarkets, go on holidays etc.). Eight in ten respondents (80%) totally agree with this statement.

Overall more than nine in ten respondents (93%) agree that barriers make it difficult for people with disabilities, with two in three (66%) saying that they 'totally agree' and 27% saying that they 'tend to agree'.

7 in 10 Europeans believe better accessibility of goods and services would very much improve the lives of people with disabilities, the elderly and others with accessibility issues (72% say this when asked just about people with disabilities and the elderly and 69% say this when asked about people with disabilities, the elderly and others such as pregnant women and those travelling with luggage).

Q5. In your opinion, better accessibility of goods and services would improve:



47% of Europeans believe better accessibility of goods and services would very much improve opportunities for industry to sell products to people with disabilities and the elderly.

Two thirds (66%) of respondents say that they would buy, or pay, more for products if they were more accessible and better designed for all, with specific reference to the inclusion of people with disabilities and the elderly.

### How to improve and guarantee accessibility

86% of Europeans agree that having similar accessibility solutions across Europe would enable them to travel, study and work in another EU country. Countries with the highest level of agreement with this statement are Malta (96%), Italy (94%), Ireland (93%), Lithuania (92%) and Greece (92%).

96% of Europeans agree that when public authorities provide goods and services they should be obliged to ensure that they are also accessible to people with disabilities.

94% of Europeans agree that more money should be spent on eliminating physical obstacles which make the lives of people with disabilities and the elderly difficult.

93% of Europeans agree that manufacturers and service providers should be required to ensure accessibility of the goods and services that they sell.

85% of Europeans agree that it should be possible to complain and go to court to seek sanctions against manufacturers and service providers who do not comply with binding measures to improve accessibility.

Across Europe as a whole, 48% agree that 'existing rules on accessibility are sufficient to ensure them a good access to goods and services' (14% totally agree and 34% tend to agree) whilst 47% disagree (15% totally disagree and 32% tend to disagree).

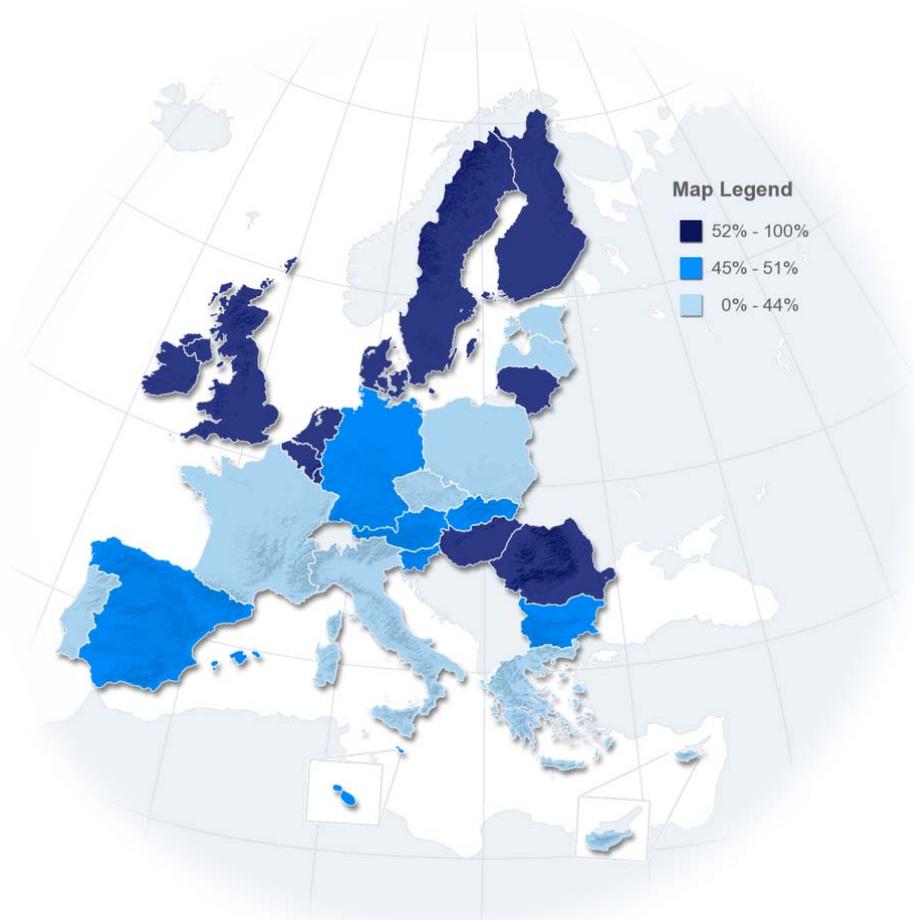
There is a difference of 46 percentage points between the country with the highest and lowest level of agreement (combined totally agree and tend to agree). In the UK seven in ten (70%) agree that existing rules are adequate while in the country with the lowest level of agreement, Greece, around a quarter (24%) agree. Other countries that have high levels of agreement with this statement overall are Sweden (66%), Luxembourg (61%), the Netherlands (59%) and Finland (58%).

 UK	70%
 SE	66%
 LU	61%
 NL	59%
 FI	58%
 LT	56%
 RO	55%
 HU	54%
 BE	53%
 DK	52%
 IE	52%
 SI	51%
 AT	51%
 DE	49%
 SK	48%
 EU	48%
 MT	47%
 BG	46%
 ES	45%
 CZ	43%
 LV	41%
 PT	41%
 PL	39%
 FR	38%
 IT	36%
 CY	36%
 EE	32%
 EL	24%

Question: Q9.1. Please tell me to what extent do you agree with the following statements regarding people with disabilities:

Option: Existing rules on accessibility in [OUR COUNTRY] are sufficient to ensure them a good access to goods and services

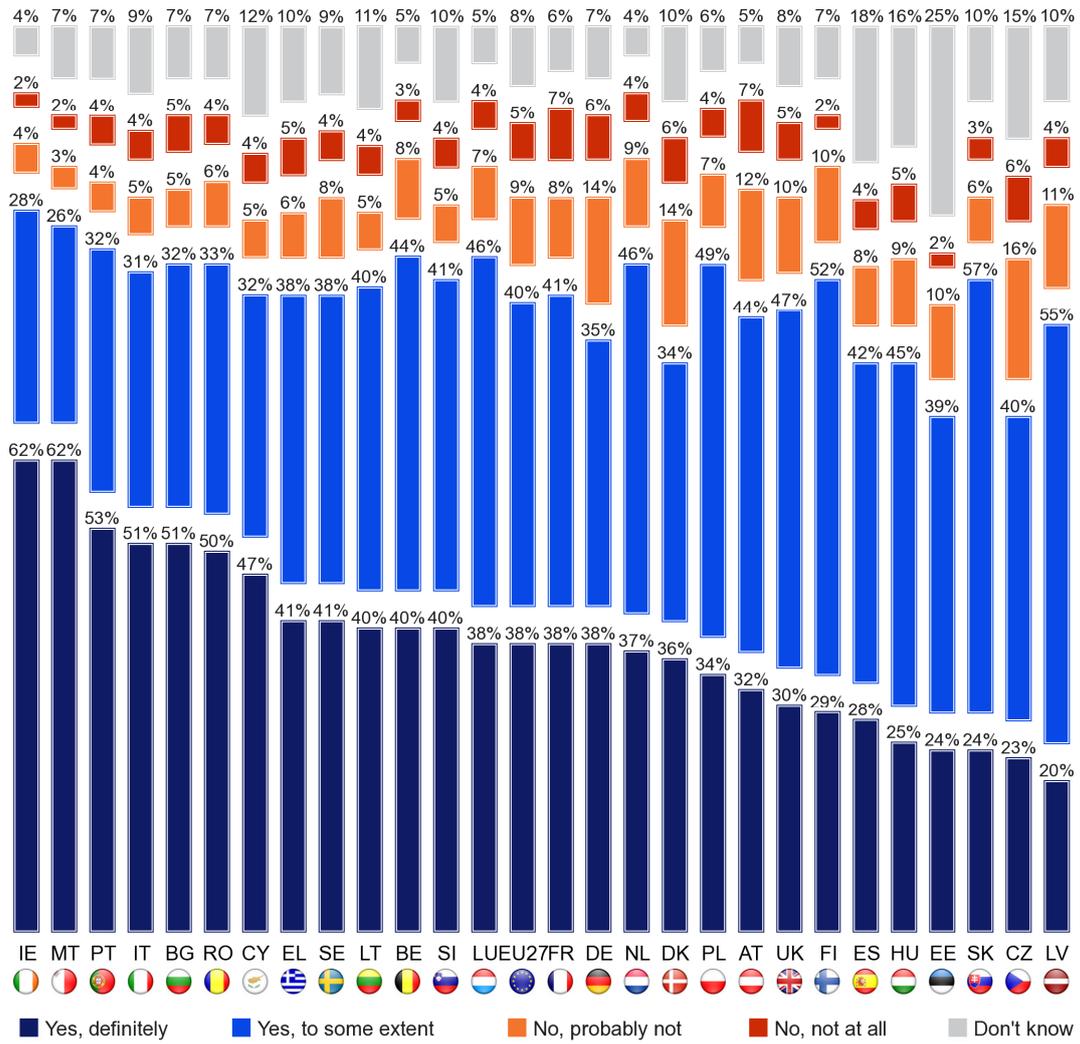
Answers: Total 'Agree'



78% of Europeans think that having common rules on accessibility in the EU will make it easier for companies to operate in another EU country.

There is a difference of 27 percentage points between the country with the highest and lowest level of positive response. The highest proportion saying yes overall is 90% and was recorded in Ireland. The lowest is 63% and was recorded in both the Czech Republic and Estonia.

Q7. Do you think that having common rules on accessibility in the EU will make it easier for companies to operate in another EU country?



## 2. Public Consultation on Accessibility (2012)

### Introduction

Aiming to gather stakeholder views as input for the impact assessment of the measures to improve the accessibility of goods and services in the internal market, the “Public consultation with a view to a European Accessibility Act” (open from 12 December 2011 to 29 February 2012) was addressed to all citizens (including people with disabilities and older people), as well as to public and private sector organisations. The geographic scope covered includes EU Member States, EFTA/EEA countries and candidate countries to the enlargement of the EU.

The objective of the analysis was also to detect the goods and services prioritised by respondents to be rendered accessible, problems related to the internal market, as well as the potential measures to be taken in order to improve the current situation regarding accessibility and the functioning of the internal market for accessible goods and services.

In total, 2956 respondents accessed the public consultation online and an additional 42 responses were submitted in other formats. A high percentage of respondents merely accessed the survey and left the survey without completing the core questions of the questionnaire. Due to this factor, it was necessary to filter the data in order to analyse the valid responses. The sample of valid responses consists of 821 responses - 648 citizens (79%) and 173 representatives of organisations (21%).

The summary of the analysis is presented along the following topics:

- Current situation in the Member States and possible measures, from both a citizens’ and organisations’ perspective;
- Barriers, priority areas for an accessibility act and impacts from a citizens’ perspective;
- Barriers, customers, costs and benefits, and measures from an organisations’ perspective;
- Prioritised goods and services.

### Current situation in the Member States and possible measures

#### From the citizens’ perspective

Citizens indicated three areas as the most problematic (ranked from the poorest to the highest accessibility perceived):

- **Transport:** Accessibility in the transport area was also perceived as low as 40% of the respondents stating so. An equal percentage did not answer the question and only 10% considered accessibility in the Transport sector as medium or high in both.
- **Information and communication:** In line with respondents’ opinions on the Built environment, the ICT accessibility level was considered low by 35% of citizens, whereas 9% and 10% defined it as medium or high, respectively. When looking at the country distribution, it is worth mentioning that the poorest perception of accessibility can be found in Belgium (79%) and Italy (88%). On the other hand, Germany and the United Kingdom showed the highest perception of accessibility (25% in both countries).

- **Built environment:** Most citizens that provided a scale of the accessibility level in the built environment ranked it low (29%), whereas others ranked it as medium (9%) or high (10%). Per country analysed (only those having a minimum of 15 responses), more than half of respondents considered it low, particularly in Italy (82%) and Belgium (62%).

In line with the answers to above mentioned question, the three most relevant areas presenting many accessibility barriers for citizens are presented below, ranked in order of importance<sup>1</sup>: Transport is again the most important, whereas the built environment is considered more priority than information and communication:

- Transport and mobility (33%)
- Built environment (20%)
- Information and communication, including ICT (16%)
- Health (14%)
- Education (12%)
- Other goods and services (11%)
- Public services (9%)
- Culture and/or leisure (6%)
- Employment (6%)
- Integration in society (3%)
- Tourism (3%)

Scope and efficiency of legislations as perceived by citizens and organisations.

Most citizens ranked badly in terms of efficiency (34%) and scope (29%). Organisations' perception of current legislation show an equal split (19% good and 19% bad) and the efficiency of the legislation is judged to be bad by most organisations (24%) while 19% deem the efficiency to be good. Therefore, particularly among citizens there is a clear perception that the legislation is part of the reason why there is a problem with regards to accessibility, it being bad in scope and inefficient.

Concerning the possible actions that can be undertaken, several respondents outlined possible policy measures and best practices that could be taken in order to improve accessibility levels.

The main transversal items found in citizens' responses are the following:

- **Legislation:** When asked about essential provisions on existing national or foreign accessibility legislations, 16% of citizens cited international legislations such as the public procurement law of the US and some legal requirements on accessibility in Australia regarding consumer information on accessibility features for electronic devices.

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<sup>1</sup> Percentages surpass 100% since questions were open and responses were not mutually exclusive. Accordingly, one respondent may mention as many sectors as considered relevant.

- **Standards:** Some citizens considered essential that public authorities unify standards so that there is a comprehensive and coherent standard norm that can be referenced by different legislations and markets. It is important to remark that the lack of unified standards was considered to be a barrier; whereas also the counter part was mentioned: unified international standards are needed to foster accessibility.
- **Enforcement and control mechanisms:** More than one third of the citizens (35%) mentioned the lack of enforcement as a general problem concerning accessibility. These questions referred to what the respondents considered essential on accessibility legislation and important measures to be acknowledged by authorities. As above, the lack of enforcement is seen both as a barrier and a measure (i.e. the need of effective legislative enforcement).
- **Fines:** In line with the need of enforcement and control mechanisms, many citizens highlighted the importance of fines in order to implement legislation successfully.
- **Universal design:** This concept, linked to the UNCRPD, was the third most important policy measure for citizens.
- **Cooperation between public bodies:** Respondents ranked the cooperation among the four layers of government (EU 54%, national authorities, 48%, regional authorities 33% and local authorities 35%). The main concern declared was the actual integration and cooperation of different government levels so that accessibility is effectively accomplished.

Other citizens assigned to the EU a core important role, indicating that it should:

- Provide a common framework to support and harmonise legislation for disabled people across the EU that is reasonably enforceable;
- Set a standards across all countries, especially on transit and transport across the EU for disabled passengers;
- Set common practices on wheelchair policy and resource booking at the time of booking travel.;
- Set an equal policy for assistance dogs (registered) to travel.

Other specific roles or initiatives identified in the public consultation include:

- **Awareness campaigns:** Within the policy and legal measures acknowledged as important by citizens, it is worth mentioning the need of awareness campaigns focused not only on the topic of accessibility, but also on disability.
- **Information:** Even though not too many citizens commented on this item, some of them seemed very concerned about the lack of information relating to accessibility for businesses, citizens and disabled organisations themselves, especially regarding the question about the role that SMEs could play. Citizens declared that SMEs are very important facilitators in providing improved accessibility. Specific measures and assistance maybe be required, as costs involved in changing systems and procedures, training staff, and providing equipment could be difficult for smaller businesses to meet.
- **Training:** With less importance for citizens than for organisations, training was suggested as a policy and legal measure for the improvement of accessibility (5%).

Moreover, some responses fostered the idea that special training for SME's staff on how to deliver and facilitate service to disable people was needed.

- **Financial/Tax incentives:** The role of financial incentives was suggested as a relevant policy measure in order to foster accessibility (9%). Since many respondents argued that accessibility represents an important financial burden for small and medium enterprises (SMEs), incentives in the form of funds, subsidies or tax exemptions were suggested.
- **UNCRPD implementation:** The importance of the UNCRPD implementation was remarked by citizens as an important measure that public authorities as well as market operators should foster.
- **Understanding people with disabilities' needs:** A relevant number of citizens (27%) responded that people with disabilities should have an active role on the policy making process for public measures regarding accessibility as well as in the co-design phase of goods and services in private corporations. This was also marked as a suggestion for public authorities and market operators in order to improve accessibility of goods and services.
- **Public procurement:** Even though citizens did not mention public procurement as often as organisations did, this resort is a possible option since it can assure accessibility at least in public sector services. For some citizens, this is a starting point for the development and accomplishment of accessibility. This aspect was mentioned also within the group of suggestions for public authorities and market operations.
- **Research, Development and innovation:** Regarding existing national or foreign accessibility provisions, citizens remarked the importance of innovation and new research supported by government funds that can generate new solutions for improving accessibility. They linked it to the financial incentives measure. Within those citizens suggesting to encourage R&D and innovation, a significant number mentioned the importance of SMEs developing new accessible solutions

## From the organisations' perspective

Conclusions from the organisations' perspective are presented below, including a breakdown per type of organisation when possible<sup>2</sup>.

In line with responses received by citizens, three areas were pointed out by organisations as the most problematic, although ranked differently:

- **Transport:** About one in every four organisations responding mentioned transport as a sector with low accessibility, whereas 10% considered it high and 8% medium.

**Industries** from the rail sector noted that Denmark set aside dedicated funding to improve accessibility, which may contribute to improve the current situation.

Goods mentioned by **NGOs** respondents regarding the transport sector include trains, buses, and coaches.

- **ICT:** In the ICT area, 23% of the organisations mentioned this sector's accessibility as low, whereas only 10% marked it as high and 8% as medium. There were a number of goods and services mentioned by the **industry**, including enlarged teletext internet services, and broadcasting accessibility requirements. On a communication and training level, it was noted that people with disabilities require a number of communication channels in order to precisely receive the products they need, and that staff working at stores should be trained to familiarise themselves with these needs.

Goods listed by **NGOs** as important included basic ICT equipment, mobile phones, assistive products, Internet Protocol television (IPTV), Video on Demand (VoD) services and internet TV protocols.

- **Built environment:** Some organisations (17%) perceived accessibility to be low in the built environment, whereas others considered it medium (13%) and high (7%) respectively. **Industry** respondents pointed out the lack of standards on accessibility in place to guarantee that people with disabilities are supported to fully participate in society. Responses from **NGOs** towards the built environment did point out the current state of affairs of accessibility legislation in countries such as Spain, the UK and the Czech Republic. Additionally, it was highlighted that local authorities in the UK volunteer to cooperate with civic initiatives on subsequent adaptations (physical barrier elimination) of buildings in use. Other topics discussed were access to (public) buildings, museums and exhibitions and prisons, access and use of urbanised public spaces and buildings, to name a few.

Concerning the priority areas, the top three priorities are the same as indicated above, although information and communication was considered the most important area, followed by built environment and transport (which was indicated as the most problematic):

- Information and communication (39%)
- Built environment (37%)
- Transport (36%)

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<sup>2</sup> Feedback from different types of organisations (Industry, NGO's and Public Bodies) is also included in the analysis, although as the questions were open-ended, some topics attracted more attention from some types of organisations than from others. Note that some relevant feedback on these measures was also provided throughout the questionnaire.

- Health (17%)
- Public services (16%)
- Education (14%)
- Other goods and services (12%)
- Culture and/or leisure (8%)
- Employment (5%)
- Integration in society (4%)
- Tourism (3%)

Again, the underlying reasons for the current problems identified by organisation in relation to the legislation from the point of view of organisations have been analysed. The perceptions seem to be divided regarding the scope of legislation (19% considers it good and 19% considers it bad). Similarly, efficiency of the legislation is judged as bad by 24% organisations in contrast to 19% who deem the efficiency to be good. Therefore, it can be concluded that there is no consensus about the current legislation, however there is an indication that organisations consider the lack of efficiency as a reason for identified problems with regard to accessibility.

The number of organisations' responses received per country impeded to examine the influence of the country variable; however, some responses provided more insights about the issues causing problems in the sectors prioritised above:

- **ICT:** Organisations responding about the scope and efficiency of legislation regarding ICT stated that the efficiency can represent a barrier.

Barriers pointed out in the field of ICT by **NGOs** include:

- lack of including the needs of people with disabilities in the design stage of technology development;
- basic ICT equipment not having inbuilt accessibility features;
- expensive specialist assistive/accessible ICT equipment;
- information being inaccessible;
- difficulties accessing travel information;
- lack of awareness campaigns to inform professionals and public authorities;
- high price of assistive technologies.

NGOs had an overarching agreement that access to information is the key element to being an active member of society. Without access to information, blind and partially sighted people are not able to access goods and services, they may not even know that these are available; so it is of paramount importance to address this issue.

- **Built environment:** Some elements were mentioned as important, such as the lack of lifts and ramps in public places and shops. The main physical barriers mentioned by the **industry** were footpaths, parking, inaccessible buildings, signage on footpaths that impede movement, deliveries on footpaths, and also that pathways in supermarkets could be too narrow for wheelchair users, for example.

- **Transport:** Organisations that indicated barriers in Transport accessibility mostly pointed out the poor efficiency of the existing legislation. **NGOs** noted a lack of enforcement of accessibility measures, giving examples such as lack of universality on accessible trains and buses. Difficulties accessing travel information and the behaviour of drivers and other transport staff cause many of the problems people experience when travelling. **Public bodies** participating declared that the main barrier was the information at bus stops being accessible visually and also in audio form, also noting that people with disabilities should pay lower fees for public transportation services.

Concerning the possible actions or policy measures that could be undertaken to tackle these issues, perceptions of respondents have been identified within different questions posed in the public consultation.

- **Legislation:** For organisations, restrictive legislation is the most important policy and legal measure, mentioned by the 36% of them. Some organisations noted international legislation for diverse topics such as fines or public procurement laws from a variety of countries such as the United States, Australia and Republic of Korea. International legislation was also mentioned when respondents were asked about essential provisions to take into account from existing legislations.
- **Standards:** When asked about what market operators should do to improve accessibility, one of the top five suggestions was working on unifying and integrating common standards so that the general rule complying standardisation for accessibility is simple and solid. In many cases, an explicit reference to international standards was made<sup>3</sup>.
- **Enforcement and control mechanisms:** Organisations considered that actual control, monitoring and even monetary penalties are necessary for the enforcement of accessibility. Respondents made reference to these mechanisms as a measure for public authorities (35%). A number of **industry** respondents stated that standardisation efforts should be voluntary, industry-led, transparent and open to all stakeholders, especially people with disabilities. The general consensus of **NGOs** is that enforcement is key to maintaining beneficial accessibility legislation.
- **Fines:** Organisations often mentioned the need for more fines in order to enforce accessibility. Although enforcement of accessibility legislation was deemed important, no further information was specified by industries, NGOs and public bodies.
- **Universal design:** The third most popular policy and legal measure perceived to improve accessibility was universal design. One in every four organisations explained the importance of this concept when cutting costs, gaining new clients and improving accessibility. The use of universal design and design for all was a frequent suggestion found throughout **NGOs** responses.
- **Cooperation between public bodies:** Organisations considered that effective cooperation between the four levels of governance is essential highlighting the aspect that cooperation with disabled people and their representatives should be included in structures on those levels.

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<sup>3</sup> NGO respondents applauded the EU ensuring mainstream ICT and mobile equipment and devices having built-in accessibility features, European e-publications conformed to accessibility and interoperability standards.

- **Awareness campaigns:** Organisations, similarly to citizens, pointed out awareness campaigns as a policy measure to promote accessibility (13%).

NGOs considered awareness as important, as it can be used to help the integration of people with disabilities and at the same time enrich those who have not experienced disability so far. Awareness campaigns can also help shift the general regard that people with disabilities are in need of help, towards a view of them being active citizens who demand respect for their specific needs<sup>4</sup>.

**Public bodies** noted that there is a growing need for awareness on the behalf of non-disabled people to train them in matters of accessibility.

- **Information:** Within the response for specific measures aimed for SMEs, respondents considered that fluid information to and from SMEs had to be improved (9%).
- **Training:** Doubling the percentage of respondents compared to citizens, organisations (11%) responded highlighting training as an item for policy and legal measures; it is mostly interpreted as staff training on accessibility as well as on disability in general. A few respondents expressed some concern about the need of training for SME's staff and managers when dealing with accessibility as well as disability.

Training staff working in public services were declared important by many **industries**. People who deliver transport services need to be trained in how to support a person with a disability to access transport services to ensure equality for all.

NGOs also emphasised training staff who are dealing with the public, in various topics including sign language, design for all and accessibility. It was pointed out as especially important to train staff in the transport and health sectors.

When respondents spoke of persons with disabilities receiving training themselves, digital literacy for people with disabilities was considered crucial in order to join the labour market and to enhance personal independence within their communities.

Training was a subject discussed in depth by **public bodies'** respondents. It was stated that the training of product development experts should include "accessibility" and "design-for-all" themes.

- **Financial /Tax incentives:** The role of financial and tax incentives were acknowledged as a measure for improving accessibility for some organisation respondents: fiscal incentives as well as specific funds will enhance a proper and fair accessibility implementation. SMEs were identified as problematic for improving accessibility due primarily to the financial burden that sometimes represent some adaptations. One of the solutions given by respondents was to endow SMEs with financial and tax incentives from public programmes (10%).

**Industry** respondents suggested miscellaneous measures such as:

- European and national film subsidy programs could, for example, foster the promotion of subtitling and / or audio description in their programmes.
- The European Commission should support Member States in developing national plans including dedicated funding on transport. The funding must be

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<sup>4</sup> It was also believed that lack of awareness can be explained by a lack of adequate communication efforts and a lack of funding.

on a sector by sector basis that supports the Commission's goals on a Europe-wide basis.

- In a brief way, one industry stated that there is a need for fiscal incentives in order to face technical challenges presented by accessibility.
- Economic incentives including tax reductions could be designed that market retailers develop original, accessible solutions.

The notion that public authorities should create incentives for market operators in order to make accessibility more attractive to them was emphasised throughout **NGOs** responses. Many respondents found tax incentives pertinent for companies which include design for all when manufacturing goods aimed at assisting persons with disabilities. One respondent proposed the exemption of customs duties on all assistive technology equipment, as well as relevant IT software. This call is similar to the tax exemption for cars adapted for drivers with motor disabilities that is already in place, however if implemented in the future it would include people with non-motor disabilities.

Finally, **public bodies** stated that the federal/national governments could develop financial incentives for the creation of barrier-free access to or barrier-free equipment of hospitals.

- **UNCRPD implementation:** One in four organisations stated that legislation that public authorities should successfully implement the UNCRPD.

Both **industry** and **public bodies'** respondents stated that the German Federal Government presented an action plan to implement the UNCRPD which recently passed through the parliament. Germany alone created a National Action Plan (NAP), of over 200 projects and activities, highlighting the overall strategy of implementing the Convention and showing that inclusion is a process that should include all areas of life for people with disabilities.

- **Understanding people with disabilities' needs:** Organisations expressed that market operators and public authorities should listen to people with disabilities and their organisations (40% of respondents), suggesting that stable communication channels should be constructed for a fluid dialogue. Similarly to the "awareness campaigns" section above, user feedback from people with disabilities was stated to be of a great value for **industries'** future product developments. A few industries participate in regular outreach and "gain useful insights" through exchanges with the disability community in order to understand needs and create product design.

**NGOs** mentioned some measures:

- Both public authorities and market operators should involve persons with intellectual disabilities and their representative organisations (whether at local, regional or national level) in their initiatives aiming at improving accessibility.
- Experts with disabilities should be invited to take part as consultants in all stages of the development process.
- Crucial needs of people with disabilities should be included at the design stage of technology development.
- Market operators must be aware of end users' needs, understand the benefits of including design for all and discover the potential business opportunities the disability segment offers.

**Public sector** organisations expressed to rely very much on NGOs of disabled people/relatives in order to have feedback from policy created and implemented.

- **Public procurement:** A suggestion by some organisations (16%) was that public authorities should strongly include accessibility on their tender requirements for public procurement.
- **Research, development and innovation:** Research, development and innovation linked with public funding for new solutions in accessibility were proven to be an essential aspect reported by respondents. Moreover, this measure is essential for SMEs in order to facilitating competitive advantages through innovation.

**Industry** respondents indicated that the EU research framework programme should ensure accessibility as a precondition for funding.

#### **Barriers, priority areas for an accessibility act and impacts from a citizens' perspective**

Concerning barriers perceived by citizens, the same three areas remain the most cited in relation to accessibility barriers for citizens. Presented below and ranked in order of importance, specific types of barriers mentioned per area are highlighted:

- **Built environment:** Concerning barriers perceived in this sector, answers were focused on architectural barriers (such as lack of lifts, absence or inappropriately designed ramps, inaccessible entrances to public places and high curbs) and on the lack of enforcement of accessibility measures.
- **Information and communication:** The lack of unified standards across Europe is considered the most important barrier in the Information and communication sector, followed by lack of appropriate information in public places (e.g. streets and transport stations signs, braille signing or signing interpretation for the deaf).
- **Transport:** Regarding the barriers perceived, access to public transport was considered to be the most important issue, mainly trains and buses, stating that not all routes are accessible, creating uncertainty and a feeling of lack of freedom of movement among citizens.

On a separate note, a pointed out in the Built environment and ICT sectors, lack of enforcement and standards represent an important general barrier for citizens.

Sectors and areas considered by citizens as most important (in order of importance) are:

- Built environment
- Information and communication, including ICT
- Transport and mobility
- Health
- Culture
- Education
- Employment
- Participation in society

➤ Tourism

When citizens were asked about the impacts of an increased availability of accessible goods and services, they explicitly pointed out that the main effects would be found in the areas of:

- Participation in Society
- Built environment
- Transport & Mobility
- Information and communication

Starting with 'participation in society', it is extensively believed that by improving access to goods and services, disabled people will automatically have a stronger involvement in society, taking part more actively of the public sphere. This would improve quality of life as well as independent living. The impact expected for the built environment normally refers to retailing, buildings and toilets. Concerning the impact of measures improving accessibility in transport, it is linked with a better mobility within and around cities. Regarding the impact on Information and communication, the main importance was given to websites and online transactions, media and self-service terminals such as vending machines.

Respondents from the UK also mentioned an increased choice and affordability of accessible goods and services in the market, which would generate increased sales (potential disabled customers are often unable to find goods that they can use or unable to afford the very few goods that exist).

### **Barriers, customers, costs and benefits, and measures from an organisations' perspective**

Conclusions from the organisations' perspective are presented below, including a breakdown per type of organisation when possible<sup>5</sup>.

When organisations were requested to explain to what extent they were confronted with different accessibility rules in different Member States, 54% expressed that different Member States' rules create barriers, whereas 28% stated that no barriers were apparently found. The remaining 18% pointed out that different regional rules create barriers. In relation to the three most important areas the following barriers were identified:

- **Built environment:** As a general view, organisations considered that the lack of coherence concerning accessibility rules is an important barrier, along with a lack of enforcement. Barriers found in the built environment for **industry** respondents referred to the high cost of accessibility and different Member States' accessibility rules. The items most found refer to lifts, public and residential buildings, and thresholds.
- **ICT:** The main items or aspects highlighted were websites as well as the lack of standards and enforcement on how to present public information accessible to all in alternative formats such as Braille. **Industry** representatives pointed out that the main barrier perceived for accessibility is the lack of unified standards as well as the

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<sup>5</sup> Feedback from different types of organisations (Industry, NGO's and Public Bodies) is also included in the analysis, although as the questions were open-ended, some topics attracted more attention from some types of organisations than from others.

different legislations around Member States concerning accessibility. The main items found were ATMs, hardware, software, websites and web content.

- **Transport:** The lack of universality on accessible trains and buses, was deemed important. Barriers detected by the **industry** include the high costs and rigid legislation on accessibility. According to respondents, making transport accessible is rather expensive and legislation enforces strict requirements. Some items found in the responses are buses, trains, wheelchair lifts and transport stations. Some respondents pointed out that the different accessibility rules are a fact which makes travel and information difficult for tourists; moreover, they could entail that there are better levels of service in some countries than others. Assistance dogs were mentioned by **NGOs** as example of barriers created by different legislations, because laws are not only different countries, but also within different regions in the same country.

Regarding the role persons with disabilities play as customers and regarding market share, they were reported as being organisations' main clients (24% of respondents). It is clear for private businesses that people with disabilities are a commercial target to aim for. Other organisations affirmed that people with disabilities test their products and services in order to improve them in terms of accessibility.

From the **industry** perspective, accessibility is seen as a relevant trend in the market. Some industries target these segments directly due to their experience in producing goods and services for people with disabilities in a high percentage, whereas others target larger segments producing goods and services for the general public but fostering accessibility in order to entice people with disabilities to be customers.

**Public bodies** are also aware of the market potential for accessible products.

The actual costs and benefits of producing accessible goods and services are still not quite clear for organisations. Some agree on the fact that designing and producing accessible goods and services is expensive, especially when asked about the costs faced by their own organisation. Compliance with legislation is also mentioned as a source of cost that in many cases is hard to quantify. On the other hand, some benefits were identified such as reaching or retaining more clients and the improvement of consumer satisfaction.

Some **industry** respondents indicated that the estimation of financial costs and benefits was difficult to calculate. For some organisations, accessibility implies no extra cost, whereas for others it is considered a significant burden though, very few specified actual figures or estimations.

**NGOs** particularly highlighted the benefits of accessibility measureable in monetary terms. In their opinion, adopting EU common accessibility standards could lead to the overcoming of a lot of obstacles as well as to the improvement of the feeling of safety and autonomy of disabled people. If mainstream manufacturers emphasised on built-in accessibility, their products would be in the hands of consumers who otherwise would not buy them. Increased availability of accessible goods and services on the market would immediately increase choice for disabled people.

Finally, some **public authorities** declared that there are generally high costs in making infrastructures accessible. For instance, older public transport infrastructure may imply high costs. In contrast, new public transport infrastructure is already built accessible all over Europe, (in some cases with legal national obligations in others without them). Concerning vehicles, the continuous modernisation of fleets has resulted that in many cities (e.g. bus or

urban rail) fleets are 100 % accessible and in some cities, still existing buses (e.g. high-floor) will be replaced in the coming years.

Legislation was considered the most relevant measure (23%) supporting the industry, followed by standards (22%), enforcement (13%), best practices (7%), certification schemes (7%), cooperation between public bodies (5%) and awareness campaigns (4%), among others. Feedback received is focused on the two most important measures (legislation and standards).

Concerning **legislation**, the following conclusions have been identified:

**Industry** representatives indicated that an EU Accessibility Act should include a link to EU public procurement rules since the amount of different accessibility requirements and legislation at different levels is not helpful for businesses. There is a general agreement among industry respondents that rigid legislation represents a burden, whereas certain standards such as the WCAG for websites are supporting industries in their efforts to improve accessibility. In addition, a mix of EU and Member State legislation were mentioned pointed out as relevant:

- EU: the Audiovisual Media Services Directive, the 2009 revision of the EC Regulatory Framework for Electronic Communications Networks and Services (2002/21/EC) and General Equal Treatment Act and Directive 2008/57/EC on the “Interoperability of the Rail System within the Community”
- Germany: Copyright Act and Disability Discrimination Act
- UK: 2003 Communications Act,
- International legislation mentioned include the Australian Code for Accessibility Reporting, where manufacturers provide accessibility reports for fixed and mobile phones, and the Australian Disability Discrimination Act requiring goods used in the delivery of a service to be accessible.

**NGOs** indicated the following national legislations as examples:

- France: 2005 Act on Equal Opportunities,
- Spain: Act 51/2003 regarding Equal Opportunities, Non-discrimination and Universal Accessibility for Persons with Disabilities law (LIONDAU), the Royal Decree 366/2007 regarding Persons with Disabilities and Relations with the General State Administration, and the Spanish Royal Decree 505/2007 on Access and Use of Urbanised Public Spaces and Buildings.
- UK: General Building Code and Building Regulations Code, Equality Act 2010, Law no. 448/2006 on protection and promotion of persons with disabilities, and the Copyright (Visually Impaired Persons) Act of 2002.
- Although international legislation was not specifically named, many NGOS respondents included references to how the United States with both strong legislation in the education market and strong public procurement legislation has driven companies like Apple to include accessibility features in their products.

Finally, **Public bodies** the following Member State laws:

- France: Code of Construction and Housing, which provides public funding to remodel existing facilities so that every disabled person can gain access.

- Germany: Act on Equal Opportunities for Persons with Disabilities (BGG) (providing for the prohibition of discrimination against disabled persons by public authorities)
- Regarding international legislation, the success of American accessibility legislation was mentioned and how the American inclusion of mandatory accessibility requirements in public procurement was found favourable.

Concerning **standards**, the following conclusions have been identified:

The majority of organisations (60%) declared that having EU accessibility standards in line with the existing international ones will facilitate and foster accessibility.

Among the EU standardisation initiatives mentioned by **industry** responses, the Mandates M/376 and M/420 were deemed important in order to promote regulatory harmonisation. It was pointed out that a unified or common accessibility standard throughout Europe, in line with standards or regulations existing in North America and other major countries, will greatly benefit all the stakeholders including industry, end-users and service providers. Regulations and guidelines such as Section 508 in the US<sup>6</sup> and WCAG have been in place for a few years now and have gained wide acceptance amongst all stakeholders, even in Europe. Moreover, it was indicated that standards should specify functional requirements, be cross platform, industry-led and support further innovation and competition.

Standards mentioned by **NGOs** include the Spanish DBUSA Technical Building Code, British Standard BS 8878: 2010 “Web accessibility: code of practice”. It was stated that European, rather than Member State accessibility standards, should be enforced for the safety of people with disabilities visiting other countries to avoid disorientation and enhance safety for all citizens. Many existing goods and services would be more usable to the population as such if they were designed in a standardised manner giving access for everyone. Standards regarding built environment are different across member states which is stated to have a risk for imported devices and materials being incompatible with local standards.

**Public bodies** indicated the following statements:

- The standards of accessibility to be called on in a future Accessibility Act are subject to constant change.
- A Europe-wide adoption of common standards for accessibility of goods and services is essential. These standards should be agreed by the European standards agencies.
- EU mandatory standards on accessibility should reflect best practice and should not result in a regression of existing national standards.

### **Priority goods and services**

The top fifteen goods and services mentioned are aligned with the feedback provided by respondents throughout the questionnaire: built environment, transport and information and communication are the areas causing more problems and barriers related to the Internal Market to all stakeholders consulted. In general terms, buildings open to the public, websites and educational services have been the three most cited items.

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<sup>6</sup> Electronic and Information Technology Accessibility Standards - Section 508 of the Rehabilitation Act.

Whereas citizens and public bodies are more concerned about buildings open to the public and websites, industry representatives indicated goods and services related to transport as core. Finally, NGOs found websites and educational services the most important to be covered by an EU Accessibility Act.

Many goods and services listed are not regulated in regards to accessibility or are competence of different levels of the administration (national, regional and local), and are demanded to be enforced regarding accessibility by an EU initiative.

### 3. SME Panel (2012)

#### Introduction

The SME Panel was conducted through Enterprise Europe Network between end of April and end of July 2012. **180 companies responded** to this survey on accessibility, which focused on mainstream accessible goods and services used by most people, not the so-called assistive devices<sup>7</sup>. The aim of this survey was to gain a better understanding of the most important sectors and to identify problematic issues from the industry's perspective, which may arise as a result of current legal fragmentation concerning the regulation of accessibility of goods and services and market issues. Of particular importance is the market supply of goods and services for which accessibility is included in the design stage to take into account the needs of the widest variety of users (*i.e.* Design for All/Universal Design).

The summary of the analysis, including its results, are presented along the following topics **in annex 11 on SMEs**:

- General information about the companies;
- How accessibility is considered in the organisation;
- Obstacles to producing and providing accessible goods and services;
- Estimates of the costs and benefits derived from providing accessible goods and services; and
- Possible EU measures to encourage companies to provide more accessible goods and services.

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<sup>7</sup> *i.e.* special devices used to replace, compensate for, or improve the functional abilities of people with disabilities like mobility and visual/hearing aids, orthotics/prosthetics, speech devices, medical supplies, environmental controls, and respiratory devices.

### 3. ANNEX 3: DETAILS ON NUMBER OF PEOPLE WITH DISABILITIES IN THE EU

*EU27 2010. Estimation of number of people with disabilities, by age group<sup>8</sup>*

	<b>EU-SILC disability prevalence rates (%)</b>	<b>Population 1 January 2010 (millions)</b>	<b>Estimation of population with disability 2010 (millions)</b>
<b>Less than 5 (e)</b>	3.6	26.40	0.96
<b>5 - 14 (e)</b>	4.8	51.88	2.49
<b>15 - 24</b>	7.1	60.63	4.36
<b>25 - 34</b>	9.2	68.36	6.32
<b>35 - 44</b>	14.6	74.26	10.87
<b>45 - 64</b>	23.1	71.52	16.49
<b>55 - 64</b>	33.3	60.96	20.32
<b>65 - 74</b>	46.0	45.96	21.09
<b>75 - 84</b>	61.7	30.72	18.98
<b>85 or over</b>	71.8	10.41	7.48
<b>Total</b>		<b>501.10</b>	<b>109.37</b>

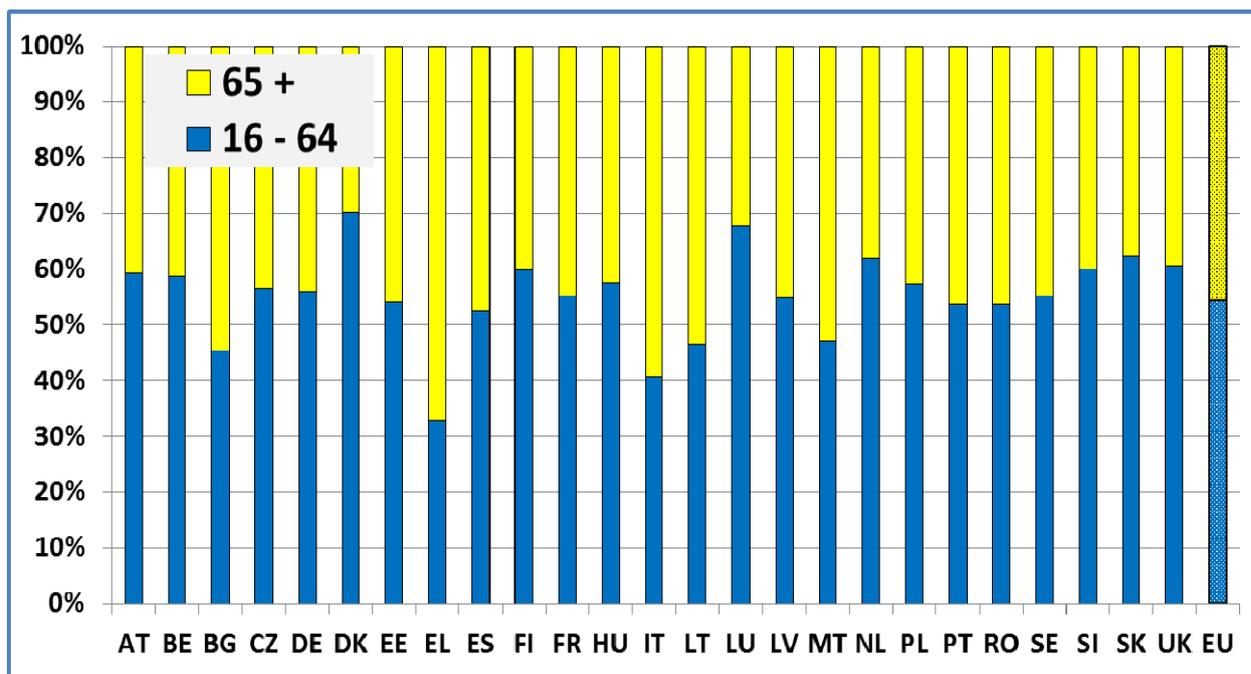
*(e) estimated by extrapolation*

*EU27 2010. Estimation of number of people with disabilities, comparison between the age group 16-24 with the 65+<sup>9</sup>*

**EU:** About 46% of disabled people are persons aged 65+.

<sup>8</sup> Source: Deloitte elaboration based in Eurostat EU-SILC 2010 and Population on 1 January 2010 by age groups and sex.

<sup>9</sup> Source: Centre for European Social and Economic Policy (CESEP ASBL).



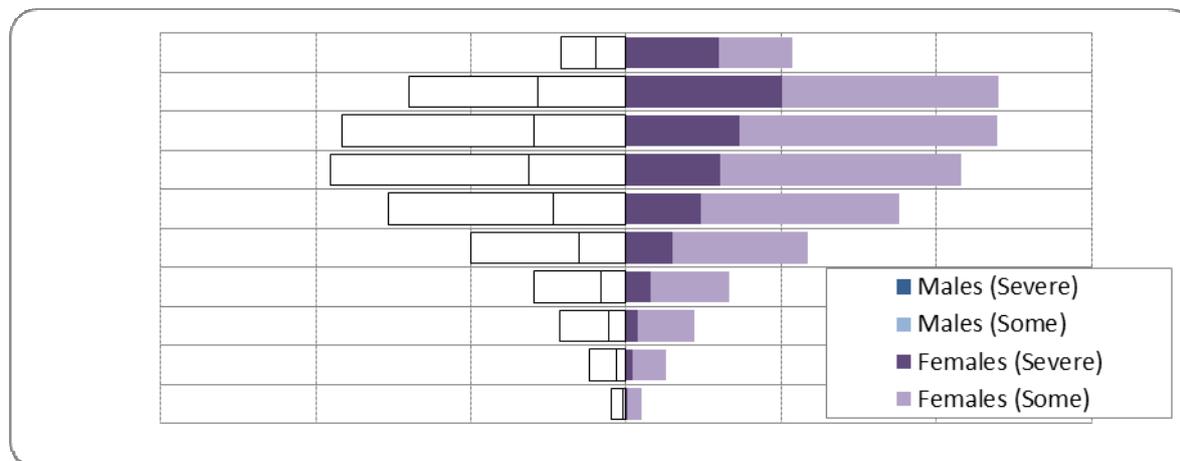
EU27 2010. Estimated number of people with disabilities, by sex and age group (millions)<sup>10</sup>

	Total			Males			Females		
	Total	Some	Severe	Total	Some	Severe	Total	Some	Severe
<b>Total</b>	109.37	70.98	34.94	47.19	30.46	15.07	62.18	40.52	19.87
<b>Less than 5</b>	0.96	0.79	0.18	0.46	0.35	0.11	0.50	0.44	0.07
<b>5 - 14</b>	2.49	1.99	0.49	1.20	0.90	0.30	1.29	1.10	0.19
<b>15 - 24</b>	4.36	3.42	0.94	2.14	1.58	0.56	2.22	1.84	0.39
<b>25 - 34</b>	6.32	4.71	1.61	2.98	2.18	0.80	3.34	2.53	0.81
<b>35 - 44</b>	10.87	7.86	3.01	5.01	3.52	1.50	5.86	4.35	1.51
<b>45 - 64</b>	16.49	11.74	4.76	7.67	5.32	2.34	8.82	6.41	2.41
<b>55 - 64</b>	20.32	14.14	6.18	9.51	6.38	3.13	10.82	7.77	3.05
<b>65 - 74</b>	21.09	14.49	6.61	9.13	6.18	2.95	11.96	8.31	3.66
<b>75 - 84</b>	18.98	11.12	7.86	7.00	4.18	2.82	11.98	6.94	5.04

<sup>10</sup> Source: Deloitte elaboration based in Eurostat EU-SILC 2010 and Population on 1 January 2010 by age groups and sex.

**85 or over**      7.48      3.50      3.98      2.11      1.13      0.98      5.37      2.37      3.00

EU27 2010. Population pyramid of people with disabilities (millions)<sup>11</sup>



EU27 2010. Estimated number of people with disabilities, by country and sex (millions)<sup>12</sup>

	<b>Total</b>	<b>Males</b>	<b>Females</b>
<b>EU27</b>	<b>109.37</b>	<b>47.19</b>	<b>62.18</b>
Belgium	2.36	1.03	1.33
Bulgaria	1.68	0.71	0.96
Czech Republic	2.22	0.95	1.26
Denmark	1.17	0.52	0.65
Germany	19.18	8.33	10.85
Estonia	0.29	0.11	0.18
Ireland	0.80	0.36	0.44
Greece	2.55	1.13	1.42
Spain	9.89	4.32	5.57
France	13.90	5.93	7.96

<sup>11</sup> Source: Deloitte elaboration based in Eurostat EU-SILC 2010 and Population on 1 January 2010 by age groups and sex.

<sup>12</sup> Source: Own elaboration based in Eurostat EU-SILC 2010 and Population on 1 January 2010 by age groups and sex.

Italy	14.14	6.06	8.08
Cyprus	0.15	0.07	0.08
Latvia	0.49	0.18	0.30
Lithuania	0.69	0.27	0.43
Luxembourg	0.10	0.04	0.06
Hungary	2.16	0.87	1.28
Malta	0.09	0.04	0.05
Netherlands	3.48	1.55	1.93
Austria	1.84	0.79	1.05
Poland	7.70	3.22	4.48
Portugal	2.34	1.00	1.34
Romania	4.35	1.86	2.49
Slovenia	0.44	0.19	0.25
Slovakia	1.05	0.44	0.61
Finland	1.18	0.51	0.67
Sweden	2.06	0.92	1.14
United Kingdom	13.09	5.77	7.32

*EU27 2015-2050. Estimated number of people with disabilities, by country (millions)<sup>13</sup>*

	2015	2020	2025	2030	2035	2040	2045	2050
<b>EU27</b>	<b>114.93</b>	<b>120.11</b>	<b>125.36</b>	<b>130.23</b>	<b>134.72</b>	<b>138.36</b>	<b>140.99</b>	<b>142.52</b>
Belgium	2.50	2.62	2.76	2.89	3.02	3.14	3.23	3.30
Bulgaria	1.68	1.68	1.69	1.70	1.70	1.69	1.68	1.66
Czech Republic	2.33	2.45	2.56	2.66	2.73	2.78	2.83	2.87

<sup>13</sup> Source: Own elaboration based in Eurostat EU-SILC 2010 and Eurostat Population Projections EUROPOP 2010.

Denmark	1.23	1.29	1.36	1.41	1.45	1.48	1.50	1.52
Germany	19.84	20.42	20.81	21.12	21.33	21.45	21.37	20.93
Estonia	0.30	0.30	0.31	0.31	0.32	0.32	0.32	0.32
Ireland	0.86	0.94	1.03	1.12	1.20	1.29	1.36	1.43
Greece	2.67	2.77	2.87	2.96	3.06	3.15	3.22	3.26
Spain	10.51	11.16	11.88	12.60	13.32	13.97	14.54	14.94
France	14.72	15.46	16.22	16.97	17.65	18.21	18.56	18.83
Italy	14.96	15.67	16.38	17.04	17.68	18.26	18.72	19.03
Cyprus	0.17	0.18	0.20	0.22	0.23	0.25	0.26	0.27
Latvia	0.49	0.50	0.50	0.51	0.51	0.52	0.52	0.52
Lithuania	0.70	0.71	0.72	0.73	0.75	0.76	0.77	0.77
Luxembourg	0.11	0.12	0.13	0.14	0.15	0.16	0.17	0.18
Hungary	2.21	2.27	2.34	2.39	2.45	2.48	2.52	2.54
Malta	0.09	0.09	0.10	0.10	0.11	0.11	0.11	0.11
Netherlands	3.72	3.94	4.15	4.32	4.46	4.54	4.57	4.58
Austria	1.93	2.03	2.13	2.22	2.31	2.38	2.43	2.46
Poland	8.09	8.45	8.83	9.19	9.48	9.66	9.72	9.74
Portugal	2.45	2.56	2.66	2.76	2.85	2.94	2.99	3.03
Romania	4.50	4.61	4.77	4.89	5.06	5.14	5.25	5.27
Slovenia	0.47	0.50	0.52	0.55	0.57	0.58	0.59	0.59
Slovakia	1.11	1.19	1.26	1.33	1.38	1.43	1.46	1.48
Finland	1.25	1.31	1.37	1.42	1.45	1.47	1.47	1.47
Sweden	2.17	2.29	2.41	2.51	2.60	2.67	2.74	2.81
United Kingdom	13.85	14.60	15.41	16.17	16.89	17.54	18.10	18.61

Estimates of types of disability across the EU suggest that 54.75 million people have mobility impairments, 23.97 million people have hearing impairments, 23.87 million people have

cognitive impairments, 21.08 million people have visual impairments and 20.49 million people have mental health problems.

*EU27 2010 - Estimated number of people with disabilities, by broad type or impairment (millions)<sup>14</sup>*

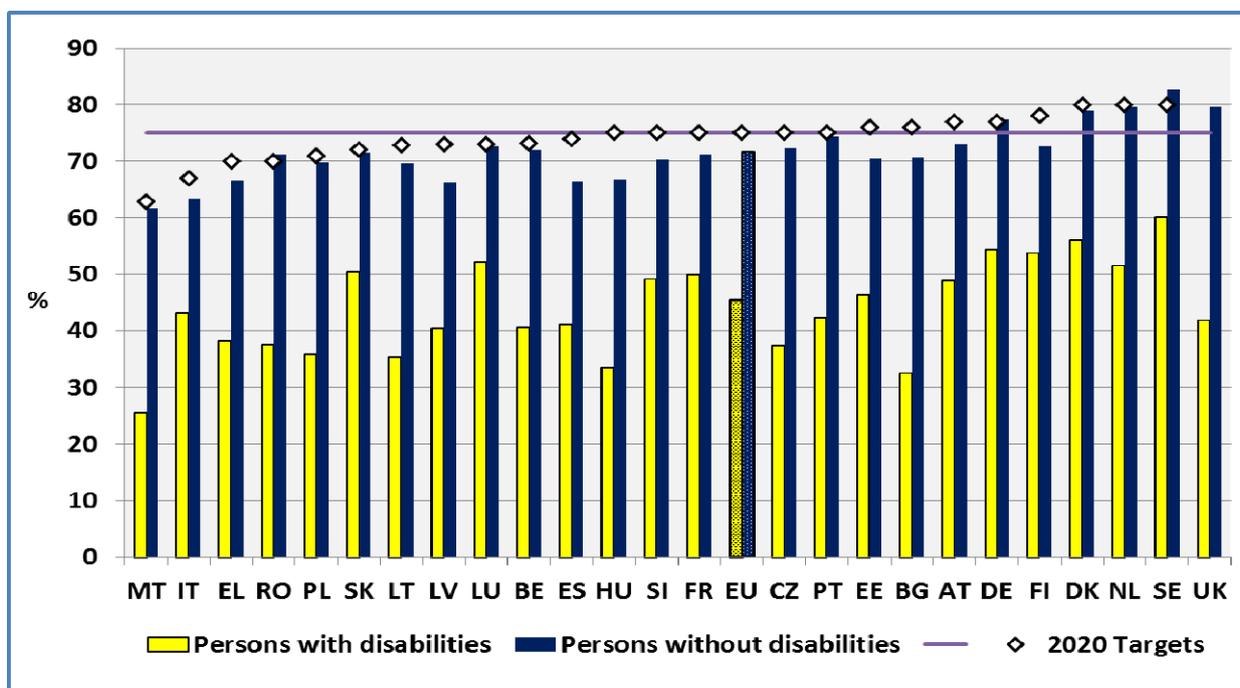
	<b>Total</b>	<b>Males</b>	<b>Females</b>
Mobility impairments	<b>54.75</b>	23.06	31.69
Visual Impairments	<b>21.08</b>	8.93	12.15
Hearing Impairments	<b>23.97</b>	10.11	13.86
Cognitive Impairments	<b>23.87</b>	10.36	13.50
Mental Health Problems	<b>20.49</b>	8.57	11.92

<sup>14</sup> Source: Own elaboration based in Eurostat EU-SILC 2010 and Population on 1 January 2010 by age groups and sex.

#### 4. ANNEX 4: EUROPE 2020 HEADLINE TARGETS AND DISABILITY

Information based on SILC 2010 data<sup>15</sup>

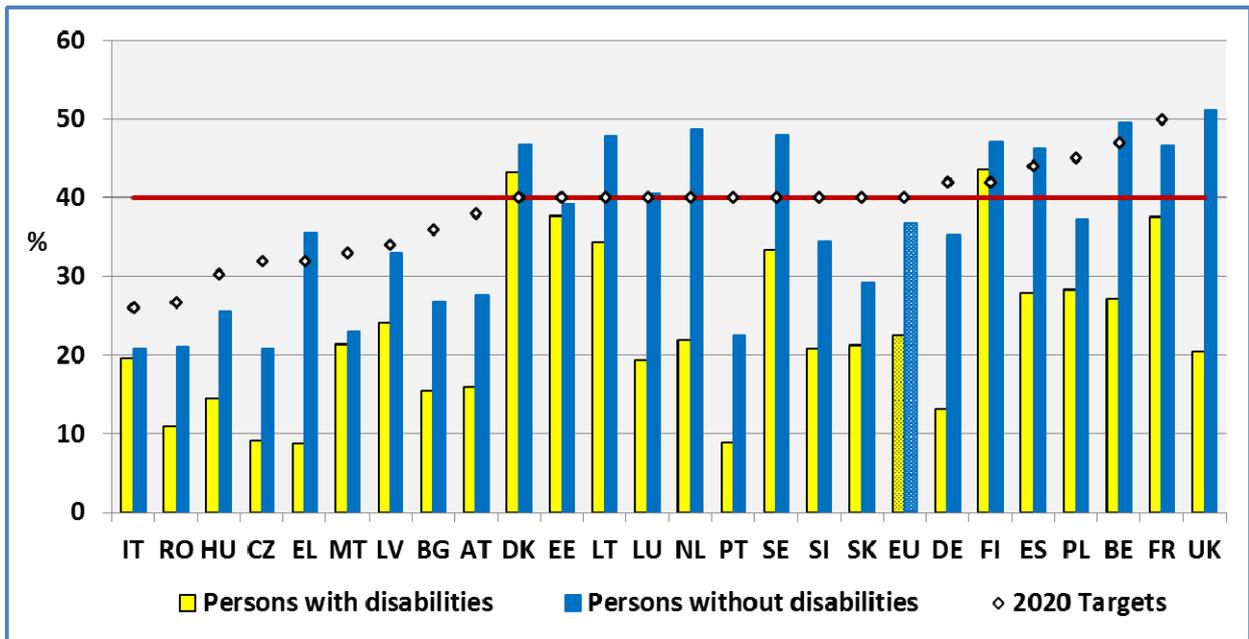
*Number of persons aged 20 to 64 in employment as a % of the same age group; 2010*



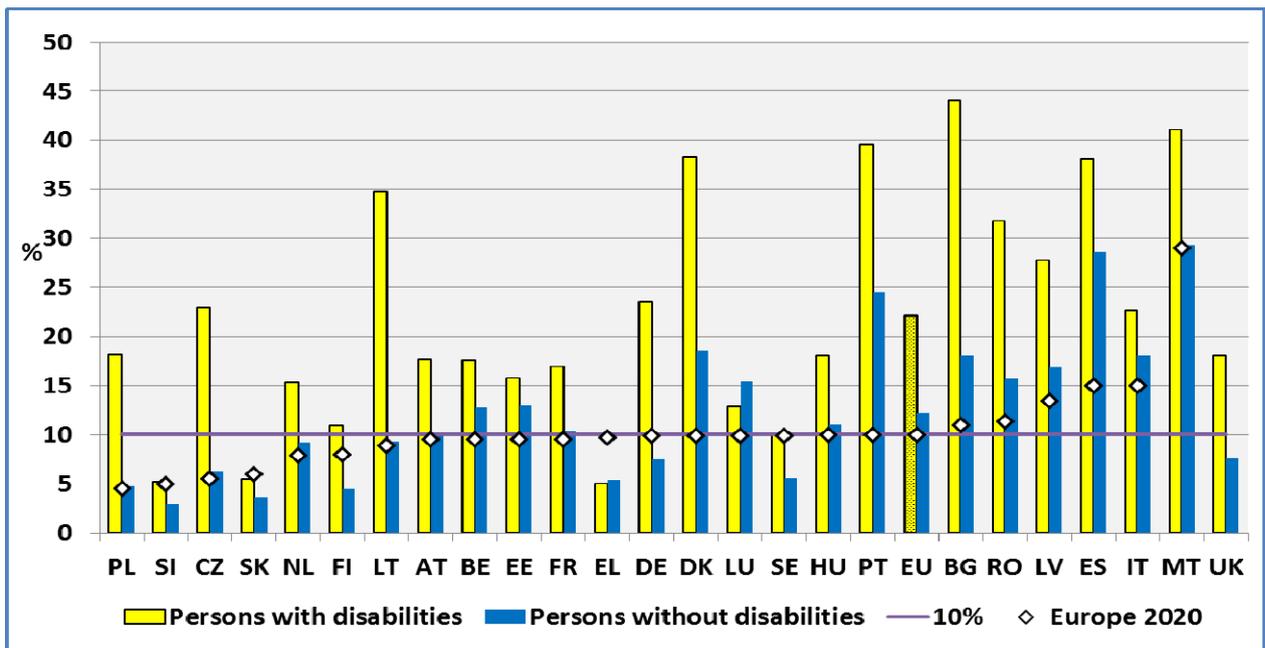
Employment gap: 26,2% - Disabled: 45,5%; Non-Disabled: 71,7%; Total: 67,2%.

*Percent of persons aged 30-34 who have completed a tertiary or equivalent education; 2010*  
*Indicative results: Small samples in certain Member States*

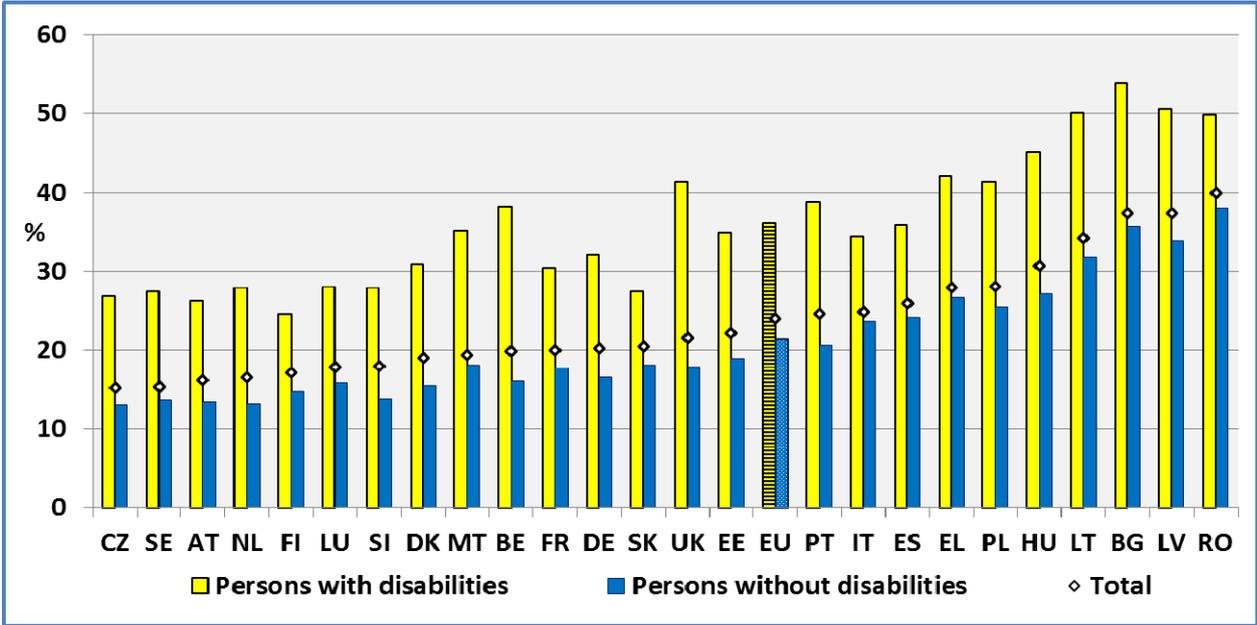
<sup>15</sup> Source: Centre for European Social and Economic Policy (CESEP ASBL).



Percent of persons aged 18-24 with at most lower secondary education:early leavers from education and training. 2010 Indicative results: Small samples in certain Member States.



Percent of persons who are either at risk of poverty after social transfers or severely materially deprived or living in households with very low work intensity, Age 16-64, 2010



## 5. ANNEX 5: SCREENING PROCESS

A screening process was carried out to establish a list of goods and services affected by the divergence of accessibility requirements, which result in distortions and prevent the smooth functioning of the internal market.

The responsible services of the Commission were assisted by a contractor (Deloitte) who was asked to gather the necessary data and conduct the screening process according to the predefined criteria.

The list was established based on **the following criteria:**

- goods and services which are the most relevant for the socio-economic integration into society of persons with disabilities and other persons with functional limitations and
- encounter or are expected to encounter barriers in cross-border trade due to the already existing and growing divergence of national accessibility requirements and/or
- encounter or are expected to encounter difficulties while participating in the EU level public procurement calls for tender.

and using **the following sources:**

- United Nations Convention on the Rights of Persons with Disabilities (UNCRPD);
- EU legislation including accessibility provisions;
- National legislation, regulations or administrative actions including accessibility provisions;
- Public consultations and other contacts with stakeholders.

The screening process was carried out in successive stages:

### **1<sup>st</sup> stage: Identification of relevant goods and services**

**Objective: Identification of goods and services which are the most relevant for persons with disabilities and other persons with functional limitations.**

Possible relevant goods and services were identified based on two screenings:

- *screening of goods and services for which accessibility is required/regulated by the provisions of the UNCRPD and by EU legislation*

As a starting point, possible relevant goods and services were identified based on the analysis of the Articles of the UNCRPD. The Convention can be considered as providing the basis for accessibility policy in the EU due to the fact that the EU as well as most Member States ratified it (all of them having signed it). This is complemented by a review of existing EU accessibility-related legislation. The UNCRPD refers to accessibility on several occasions. Accessibility is established as one of the general principles (Article 3) to be observed

throughout the implementation and application of the UNCRPD. State Parties committed themselves to take all "appropriate measures to ensure to persons with disabilities, on equal basis with others, access to the physical environment, to transportation, to information and communications, including information and communication technologies and systems, and to other facilities and services open or provided to the public" (Article 9, 1.). Moreover, the "State Parties shall also take appropriate measures to develop, promulgate and monitor the implementation of minimum standards and guidelines for the accessibility of facilities and services open or provided to the public" (Article 9, 2. (a)). The UNCRPD also requires that the State Parties "ensure that private entities that offer facilities and services which are open or provided to the public take into account all aspects of accessibility for persons with disabilities" (Article 9, 2. (b)).

A summary of the different areas of EU level legislation that are related to accessibility has also been produced. In line with the UNCRPD most of the pieces of legislation identified deal with the areas of transport, the built environment and information and communication (including ICT). The legislation covers a wide range of policy areas including employment, education, information society, health, enterprise, internal market, information society, etc. It is important to note that a specific legislation in one policy area may address different aspects of accessibility that has implications for the built environment, transport information and communication (including ICT) and other areas related to accessibility.

- *screening of goods and services for which accessibility is regulated or referred to in provisions of national legislation, regulations or administrative actions*

This next stage of the screening process analysed the state of play of the national rules in the Member States, which refer to or **regulate accessibility** of goods and services at the national or local level. Within that exercise a wide range of national provisions or administrative practices was screened.

The review of existing national level accessibility legislation identifies obligations and requirements related to accessible goods and services in different Member States with a specific focus on differences in terms of scope, level of detail, 'softness' (mandatory vs. voluntary), timeline and enforceability. This conveys an overview of the different approaches that Member States have taken so far in implementing the requirements of the UNCRPD<sup>16</sup> (or of their national strategies, namely for the Member States that have not yet ratified it). It further provides insights on the goods and services which require a specific attention from a legislator's point of view and indicated potential future developments in relation to accessibility policy and legislation in Europe.

**Conclusion of the 1st stage:** A list of 87 goods and services relevant for persons with disabilities and other persons with functional limitations was established, with the goods and services coming from the following areas:

- Information and communications, including information and communications technologies and systems (31 goods and services);
- Built (physical) environment (24 goods and services);
- Transportation (14 goods and services); and
- Other areas (18 goods and services).

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<sup>16</sup> Some of the Member States have pointed out that (some) legislation was already in place prior to the UNCRPD or has been adopted independently of the UNCRPD.

## **2nd stage: Prioritisation and selection of relevant goods and services**

**Objective: Limitation of the list to those goods and services which are the most relevant for persons with disabilities and which hinder or are expected to hinder the well-functioning of the internal market.**

In the 2<sup>nd</sup> stage of the general screening process, the list of 87 relevant goods and services was reduced notably to those for which there are obstacles or expected obstacles to the well-functioning of the internal market. Such goods and services encounter or are expected to encounter barriers in cross-border trade or their market emergence or amelioration is hindered due to a lack of economy of scale. The prioritisation and selection of selected goods and services was based in particular on quantitative and qualitative approaches.

- *Quantitative analysis based on public consultations and other contacts with the stakeholders*

As a following step, the relevant goods and services were prioritised based on the results of the European Commission's public consultation with a view to a European Accessibility Act. Citizens and organisations had the opportunity to express their opinion on which goods and services are, according to them, the most important for the integration of persons with disabilities and other persons with functional limitations. Due to the high number of responses<sup>17</sup>, the analysis of the public consultation has been conducted by automatized word counts within the relevant response fields. More specifically, for each of the 87 relevant goods and services, a number of keywords are defined. Of course, this quantitative analysis of the public consultation can only give an approximate indication of the goods and services that should be prioritised according to the stakeholder community, additional sources have been consulted.

At this stage, the following 23 goods and services were prioritised:

- in the area of the area of information and communication (including ICT):
  1. Websites and website content management systems;
  2. Application software (*e.g.* generic office software as well as business-specific software applications, educational software, websites and virtual learning environments (VLEs));
  3. Analogue and digital TV equipment (incl. consumer equipment and all related remote controls, product documentation, etc.);
  4. Cultural media content (*e.g.* performances, theatres, cinema, concerts);
  5. Accessibility services for audio/visual media (including captioning, audio description, text transcripts, sign language interpretation);
  6. Mobile and fixed line telephones;
  7. Documents – electronic and print formats (incl. Braille documents); and
  8. Self-service terminals such as automated teller machines, parking metres, transport ticket machines, vending machines, and voting machines.

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<sup>17</sup> In total 821 responses were collected, including 648 responses by individual citizens and 173 responses on behalf of organisations.

➤ in the area of the built environment:

9. Buildings open to the public or parts thereof (*e.g.* libraries, shops and other retail outlets, community social centres, community health centres, sports centres and facilities, parks, playgrounds, restaurant, cafes, hotels, theatres, monuments, cultural heritage, leisure and entertainment etc.);

10. Shared spaces, public plaza, public roads, pavements, etc.;

11. Construction related products (including lifts, doors, handrails, ramps);

12. Buildings related to the workplace, industrial buildings, offices, conferences and meetings venues;

13. All buildings and related facilities open to the public associated with the provision of bank services and post services; and

14. Transport infrastructure (*e.g.* bus stops, train stations, airports).

➤ in the area of transportation:

15. Bus / coach vehicles and line operations;

16. Rolling stock (*e.g.* trains, metros, trams) and railway operations;

17. Cars and car lease / rental services;

18. Airplanes and airline operations;

19. Vessels and maritime and waterway operations.

➤ in other areas:

20. Financial services/banking;

21. Educational services and professional training;

22. Retail services; and

23. Hospitality services (*i.e.* accommodation services).

To determine which ones of these 23 goods and services encounter or are expected to encounter barriers in cross-border trade or which market emergence or amelioration is hindered due to a lack of economy of scale, the Commission proceeded with a qualitative analysis.

- *Qualitative analysis of national provisions or administrative practice which already impose or are expected to impose accessibility requirements on particular goods and services*

In order to establish such national requirements, the screening process analysed the current national legislation in more detail, looking into provisions with **accessibility requirements**. For example, the national building requirements showed a level of divergence in terms of accessibility requirement, diverging national requirements were also found in the rules governing ATMs. Such divergence of national accessibility requirements is expected to grow in the near future. In particular, the obligations on the Member States stemming from the UNCRPD show the areas in which accessibility requirements are expected to be regulated by the Member States in the near future.

- ***Qualitative analysis based on other contacts with stakeholders and EU experts***

The second stage of the screening process also analysed the results of other consultations, in particular, the SME Panel where some companies signalled that they had to deal with different accessibility requirements in different Member States. Moreover, the screening process took into account the conclusions of the various meetings and interviews. In particular the contractor undertook an important amount of meetings with relevant industries already engaged in the production of accessible goods and services. The Commission had also a series of meetings with stakeholders (such as DigitalEurope, Confederation of British Industry - CBI, ATM Industry Association - ATMIA, Community of European Railway and Infrastructure Companies - CER, etc.) where they gave their opinion on issues and concerns regarding accessible goods and services and the internal market.

In addition, exchanges with different Directorates-General of the European Commission (including DG ENTR, DG INFSO (now DG CONNECT), DG MARKT, DG MOVE, and DG SANCO as well as DG JUSTICE) provided valuable feedback and input with regard to the prioritisation of relevant goods and services. Furthermore information received via the Disability High level Group was also used in this context.

**Conclusions of the 2<sup>nd</sup> stage:**

The quantitative and qualitative analysis process to identify prioritised goods and services has yielded a list of 14 priority goods and services, which are relatively evenly distributed over the four core policy areas identified in the UNCRPD. The table below list the 14 priority goods and services and summarises their characteristics with regard to the three selection criteria: (1) results of the EC public consultation, (2) legislative review at EU and Member State level and, when applicable (3) other relevant qualitative aspects.

High level comparison table of selected priority goods and services

<b>Selected priority goods and services</b>	<b>Results of the public consultation</b>	<b>Legislative review</b>	<b>Other qualitative aspects</b>
<b><i>Information and Communication, including ICT</i></b>			
<b>Computers and Operating Systems</b>	Total hits: 208 (high)	Low legal coverage – Potential differences in requirements across Member States	The accessibility of application software is very often dependant on the accessibility of computers (hardware) and their operating system.
<b>Digital TV services and equipment</b>	Total hits: 141 (medium)	High legal coverage - Identified differences in requirements across Member States	
<b>Telephony services and related terminal equipment</b>	Total hits: 133 (medium)	High legal coverage – Potential differences in requirements across Member States	

<b>Electronic documents (including eBooks)</b>	Total hits: 122 (medium)	Low legal coverage	Strongly growing market. Ensuring accessibility of eBooks today is considered to be crucial in order to secure access to public life and culture for disabled persons in the future.
<b>Self-service terminals including ATMs, ticketing and check-in machines</b>	Total hits: 473 (high)	High legal coverage – potential differences in requirements across Member States	Stakeholders particularly focus on the accessibility of ATMs.
<b><i>Built environment</i></b>			
<b>Architect services</b>	Total hits: 97 (medium)	High legal coverage – Potential differences in requirements across Member States	Link to the Regulation on Construction products is considered as well as the Rail PRMTSIs.  EU legislation is also available on the free movement of the architect profession but does not refer to accessibility.
<b><i>Transport</i></b>			
<b>Bus/Coach Transport</b>	Total hits: 516 (high)	High legal coverage – Potential differences in requirements across Member States	
<b>Rail Transport</b>	Total hits: 397 (high)	High legal coverage – Potential differences in requirements across Member States	
<b>Maritime Transport</b>	Total hits: 79 (medium)	High legal coverage – Potential differences in requirements across Member States	
<b>Air Transport</b>	Total hits: 63 (medium)	High legal coverage – Potential differences in requirements across Member States	
<b><i>Other</i></b>			
<b>Retail services (including eCommerce)</b>	Total hits: 223 (high)	Low legal coverage	Strong cross-border component through ecommerce requires more

			legislative coherence across the EU in a domain that is currently mainly regulated at Member State level (if at all).
<b>Hospitality services (concerning built-environment and websites)</b>	Total hits: 135 (high)	High legal coverage – Identified differences in Requirements across Member States	Strong cross-border component requires more legislative coherence across the EU in a domain that is currently mainly regulated at Member State level.
<b>Banking services (concerning ATMs, built-environment and websites)</b>	Total hits: 432 (high)	High legal coverage – Potential differences in requirements across Member States	
<b>Websites</b>	Total hits: 500 (high)	High legal coverage – Potential differences in requirements across Member States	May also include e-voting as a specific aspect.

Thanks to such an analysis and comparison of different areas covered by legislation and the existence of technical accessibility requirements, combined with other qualitative insights and taking into account the EU competences, the list of priority goods and services/relevant sectors was established:

- **Computers and Operating Systems;**
- **Digital TV services and equipment;**
- **Telephony services and related terminal equipment;**
- **eBooks;**
- **Private sector websites;**
- **Architect services;**
- **Self-service terminals** including ATMs, ticketing and check-in machines;
- **eCommerce;**
- **Banking services** (concerning ATMs, built-environment and websites);
- **Passenger transport services** - Air, Rail, Bus and Maritime (concerning ticketing and check-in machines, built-environment<sup>18</sup> and websites);
- **Hospitality services** (concerning built-environment and websites).

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<sup>18</sup> Built-environment is considered for all transport modes, with the exception of rail, as it is already regulated at EU level through the PRM-TSI.

## 6. ANNEX 6: PROBLEM DEFINITION: EXAMPLES OF DIVERGENT ACCESSIBILITY REQUIREMENTS

### 1. Computers and Operating Systems

Computers are in essence electronic devices that process information, designed for a broad range of home and office applications like web browsing, email, word processing, gaming, etc.<sup>19</sup> Computer hardware is split up into desktop-PCs and portable PCs, which can in turn be split up into laptops and tablets.

Computers and their operating systems are a “platform” that enable the use of application software, peripheral devices and of course access to the Internet. They have an obvious and very close relationship with other categories of goods such as peripheral equipment e.g. mice, keyboards, printers, photocopiers, assistive devices and application software such as Microsoft Office, Adobe Acrobat etc. The accessibility of peripheral equipment and application software is very closely linked to and dependent on that of the computer hardware and the operating system. Key factors in this relationship include the extent to which accessibility is natively supported in the operating system.

Computers and operating systems are nowadays imperative for work, and constitute an important means for consumption and relations. Therefore, information concerning their accessibility is imperative for consumers.

While most companies claim to comply with the current United States legislation<sup>20</sup>, with the evolution in technology the current US standards have become obsolete and do not ensure anymore adequate accessibility of both computers and operating systems through a comprehensive universal design approach. In Europe, specific pieces of legislation and guidance relating to the accessibility of computers and operating systems have at least been identified in Ireland, Italy, Norway and Spain (within the selected countries that were within the scope of Deloitte's analysis). The obligations contained in these legislations pertain mainly to public administrations. They either differ from US legislation containing additional elements or address the issues from a somewhat different way. ANED<sup>21</sup> identified existing requirements in five additional EU Member States.

The US compulsory standards are in the process of being substantially reviewed and modernised by the US Access Board<sup>22</sup> with references to various international technical standards. It is expected that the final rules will be published mid-2013. Therefore, the current accessibility requirements in use by countries in Europe will depart even more from those to be used globally in the near future in the absence of specific actions to ensure harmonisation. It is questionable, if the Spanish standard or the Italian legislation for these national requirements will be updated to keep pace with the new guidelines, setting the scene for fragmentation to occur between these national requirements and those in the US, which have been adopted by the computer industry as the global *de facto* baseline accessibility standards.

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<sup>19</sup> AEA Energy & Environment (2008): Discussion Report: EU Ecolabel for personal Computers – Desktops and Computer Monitors, p. 3.

[http://ec.europa.eu/environment/ecolabel/ecolabelled\\_products/categories/pdf/discussion\\_desktops.pdf](http://ec.europa.eu/environment/ecolabel/ecolabelled_products/categories/pdf/discussion_desktops.pdf)

<sup>20</sup> Electronic and Information Technology Accessibility Standards - Section 508 of the Rehabilitation Act.

<sup>21</sup> Academic Network of European Disability Experts.

<sup>22</sup> <http://www.access-board.gov/sec508/update-index.htm>

This will also be the case for national guidelines. The new US standards are a significant departure from the current standards. They are not structured according to types of ICT but around “characteristics” that are found in many different types of technology. This is due to the converging nature of technologies such as computers, smart phones and games consoles. The newer requirements differ greatly in content as well. Therefore, it is to be expected that current legislation in Italy and in Spain will not comply with it anymore. In Europe efforts are on the way under Mandate 376 to develop a voluntary standard taking into account the foreseen changes in the US legislation. Being voluntary this cannot prevent Member States of taking divergent legislative measures.

The total market demand is estimated at €165 billion for the EU-27<sup>23</sup>. In the EU, the overall level of on line information on (built-in) accessibility features in desktops and laptops, as well as in software for the major operating systems and computer peripherals (i.e. printers, copiers, scanners) is estimated at 40%, according to the MeAC 2011 study. Furthermore, the provision of accessibility information by the main computer manufacturers on their websites in the EU is low, with a score of 33% in the MeAC 2011 report<sup>24</sup>. Overall it can be concluded that in spite of progress on real levels of accessibility, access to information for consumers on the accessibility features of these hardware and software products remains an issue in many EU Member States. The situation is, however, slightly more positive as concerns information on accessible operating systems. According to MeAC, 70% of the main operating system developers provide web-based information on the accessibility of their products. This is, however, only the case for 54% of the main (application) software developers. In addition, only 43% of the main software developers provide information about the compatibility of products with peripheral devices. There is a link between these levels of accessibility and the regulatory situation in the US given the global nature of the computer market.

In summary, main limitations in accessibility of computer hardware and operating systems for consumers are linked to the limited information available including for example in the packaging, the lack of information about the instructions for use, installation and maintenance, storage and disposal, limitations about the functionality of the good by providing functions aimed to address the needs of persons with functional limitations and the lack of interfacing with assistive devices.

The costs of making computers and operating systems accessible are twofold: one-off development costs and subsequent on-going costs related to technological advancements updates (no specific regularity). A leading authority<sup>25</sup> on accessibility technology has estimated that the costs of modifying hardware and software for a fully accessible system would not exceed 1%, at most 2%, of the entire development costs. Hence, accessibility costs are a fraction of the total development costs. This estimate is based on existing accessibility requirements and design standards and their implementation in the technology.

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<sup>23</sup> The Economist Intelligence Unit (2012).

<sup>24</sup> Technosite. Monitoring eAccessibility in Europe: 2011 Annual Report, p. 104. <http://www.eaccessibility-monitoring.eu/researchResult.aspx>

<sup>25</sup> Best available data relates to ATMs (which incorporate hardware and software similarly to computers). Information from Deloitte's study on the socio-economic impact of new measures to improve accessibility of goods and services for people with disabilities.

In addition to the above accessibility cost estimate of 1-2%, which is based on industry expertise, it is assumed that the relevant total general development costs of computers are between 5% and 15% of the total market turnover<sup>26</sup>.

Deloitte<sup>27</sup> identified 17 manufacturers of Desktop-PCs, 14 manufacturers that provide portable PCs and 25 companies that provide tablets. The market concentration in Western Europe is high, with the five top players together accounting for 64.8% of total sales in the first quarter of 2012. Assuming that the European market accounts for roughly 10% to one third of the worldwide revenue, a total number of  $467,116,320 * 10\% = 46,711,632$  to  $467,116,320 * 33\% = 154,148,386$  desk-based PCs and mobile PCs (including mini-notebooks) and tablets is estimated to having been sold in Europe in 2012.

Based on the Economist Intelligence Unit's estimates of the market demand for computers, peripherals and other office equipment<sup>28</sup> between 2010 and 2016 for 20 Member States (except Cyprus, Estonia, Lithuania, Luxembourg, Latvia, Malta and Slovenia) a Compound Annual Growth Rate (CAGR) of 4.8% until 2020 has been calculated.

The future annual costs for businesses (both one-off and ongoing) until 2020 to comply with the accessibility requirements similar to the revised United States legislation (Section 508 standards) is estimated at around 95.2 EURm, taking a moderate estimation. Annex 7 provides the detailed calculation.

The regulatory landscape related to the accessibility of computers and operating systems in Europe is fragmented and patchy. Specific pieces of legislation were identified in Italy, Spain and Norway. In addition in Ireland IT Accessibility guidelines are in place but not referenced by law. The obligations contained in these regulations pertain mainly to public administrations:

- In **Ireland**, voluntary accessibility guidelines have been introduced for public procurers;
- In **Italy** obligations are in place for public administrations, public agencies as well as transport and communication agencies in which the State has a prevalent shareholding (as well as private firms that are licensees of public services);
- In **Spain** obligations are in place for public administrations;
- An interesting alternative approach is followed in **Norway** where any Information and Communication Technology (ICT) intended for general public use is to be universally designed (new ICT from 2011 and all existing from 2021).

The regulatory landscape in more detail *per* country:

- **Ireland:** The “Irish National IT Accessibility Guidelines” cover both hardware and “Software Applications”.<sup>29</sup> These are not referenced in law, although they are official

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<sup>26</sup> Note that this is an estimate of the sum of the costs that are incurred not on an annual basis, but once at a certain point in the past for each business in the market separately.

<sup>27</sup> Study on the socio-economic impact of new measures to improve accessibility of goods and services for people with disabilities.

<sup>28</sup> The exact definition, i.e. the degree to which desktops, laptops and tablets are considered, is unknown.

<sup>29</sup> <http://www.universaldesign.ie/useandapply/ict/irishnationalitaccessibilityguidelines>

publications of the government agency in charge of disability affairs, the National Disability Authority. They are, however, referenced in the Irish Accessible IT Procurement Toolkit as specifications to be included by public procurers in “Requests for Tenders” for the procurement of hardware and software.<sup>30</sup> Accessibility issues covered include user input (e.g. keyboard and mouse navigation) and system output (e.g. screen contrast and font size), compatibility with assistive devices and software as well as packaging and installation/configuration.

- **Italy:** The “Stanca Law” No. 4 of 9th January 2004 on “provisions to support the access of the disabled to information technologies”<sup>31</sup> regulates the access to information technologies for disabled persons. It *inter alia* states that the government protects each person’s right to access all sources of information and their relevant services, such as IT and data transmission instruments.

Rules for the implementation and enforcement are provided by Decree of the President of the Republic, March 1st 2005, No. 75 on the “implementation Regulations for Law 4/2004 to promote the access for the disabled to computer technologies”.<sup>32</sup>

The Ministerial Decree of July 8, 2005 on “technical requirements and the different levels of accessibility of computer tools”<sup>33</sup> contains detailed technical requirements for the technical assessment and technical accessibility requirements of Internet technology-based applications (Annex A); the methodology and criteria for the subjective accessibility assessment of Internet technology-based applications (Annex B); the technical accessibility requirements of desktop and laptop personal computers (Annex C); the technical accessibility for the operating system, applications and retail products (Annex D); the accessibility logo for Internet technology-based websites and applications (Annex E); and the maximum amounts incumbent on private parties as consideration for the activities performed by assessors (Annex F). The technical accessibility requirements are based partly on the US Section 508 Standards and partly on the on WCAG 1.0 guidelines; these requirements are also referenced within the different technical Annexes of the Ministerial Decree.

The Ministerial Decree of 30 April 2008 on “Technical rules governing access to educational tools and training for pupils with disabilities”<sup>34</sup> defines accessibility guidelines for educational software by students with disabilities.

- **Spain:** The Royal Decree 1494/2007<sup>35</sup> (Article 8) establishes that computer equipment and programmes used by public administrations must be accessible to elderly and disabled, in accordance with the guiding principle of “Design for all” and specific accessibility requirements, with preference given to the national technical standards that incorporate European standards, international standards, other systems of technical references prepared by the European standardisation bodies or, failing that, national standards (Standards UNE 139801:2003<sup>36</sup> for hardware and 139802:2003<sup>37</sup>

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<sup>30</sup> <http://www.universaldesign.ie/useandapply/ict/itprocurementtoolkit>

<sup>31</sup> [http://www.pubbliaccesso.gov.it/normative/law\\_20040109\\_n4.htm](http://www.pubbliaccesso.gov.it/normative/law_20040109_n4.htm)

<sup>32</sup> [http://www.pubbliaccesso.gov.it/normative/implementation\\_regulations.htm](http://www.pubbliaccesso.gov.it/normative/implementation_regulations.htm)

<sup>33</sup> <http://www.pubbliaccesso.gov.it/normative/DM080705-en.htm>

<sup>34</sup> <http://www.pubbliaccesso.gov.it/normative/DM300408.htm>

<sup>35</sup> English translation available under: <http://sid.usal.es/idocs/F3/LYN11920/LIONDAUinfosociety.pdf>

<sup>36</sup> <http://www.udc.es/fcs/es/web-to/terapia/asignaturas/toyafam/08tema/UNE139801-2003.pdf>

<sup>37</sup> <http://www.udc.es/fcs/es/web-to/terapia/asignaturas/toyafam/08tema/UNE139802-2003.pdf>

for software). The technical accessibility requirements listed in the UNE Standard 139801 (Hardware) has been developed based on ISO 9241-171 and the UNE Standard 139802 (Software) has been based on ISO EMC- 29136, on JTC1 work and on the UNE of 1998, their revision was propelled by the US legislation.<sup>38</sup> Accessibility issues covered include user input (e.g. keyboard and mouse navigation) and system output (e.g. screen contrast and font size) as well as compatibility with assistive devices and software.

- **Norway:** The 2008 Anti-Discrimination and Accessibility Act (Section 11)<sup>39</sup> contains a (non-technical) requirement of universal design of ICT. The Act contains two main requirements with regard to the accessibility of computers: (1) all new ICT intended for the general public is to be universally designed as from 2011; and (2) all existing ICT intended for the general public is to be universally designed by 2021. However, the requirement has so far not been translated into technical specifications in law, but work in the field is on-going and this year the Ministry of Government Administration, Reform and Church Affairs has made a proposal for regulations pertaining to universal design of information and communication technology solutions (ICT solutions) with reference to various technical standards.<sup>40</sup>

It can be noted that as part of a previous initiative, the Nordic Cooperation on Disability – an organisation under the Nordic Council of Ministers, i.e. the governments of Denmark, Finland, Iceland, Norway and Sweden – published “Nordic Guidelines for Computer Accessibility”<sup>41</sup> in 1998. These include recommendations for accessible computers, peripheral equipment and software.

- **USA:** Section 508 of the Rehabilitation Act (29 U.S.C. § 794d) requires federal agencies to develop, procure, maintain, or use electronic and information technology (EIT) that is accessible to people with disabilities – regardless of whether or not they work for the federal government. The U.S. Access Board establishes the Section 508 compulsory standards in order to implement the law.<sup>42</sup>

The “Section 508 Standards”<sup>43</sup> contains technical requirements with regard to the accessibility of software applications and operating systems (subpart B – section 1194.21), of web-based intranet and Internet information and applications (subpart B – section 1194.22) as well as desktop and portable computers (subpart B – section 1194.26). These guidelines are in the process of being substantially reviewed and modernised with references to various international technical standards. A draft version of the new “Section 508 Information and Communication Technology (ICT) Standards and Guidelines”<sup>44</sup> was published in December 2011. Accessibility issues covered include user input (e.g. keyboard and mouse navigation) and system output

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<sup>38</sup> <http://mags.acm.org/interactions/20120910/?pg=61#pg61>

<sup>39</sup> English translation available under: <http://www.regjeringen.no/upload/BLD/Diskriminering/Engelsk/Lovteksten%20eng-22.09%20ELR.CBK.doc>

<sup>40</sup> <http://www.ud2012.no/abstractsearch.cfm?pMode=AbstractView&pAbstractId=24927>

<sup>41</sup> [http://trace.wisc.edu/docs/nordic\\_guidelines/nordic\\_guidelines.htm](http://trace.wisc.edu/docs/nordic_guidelines/nordic_guidelines.htm)

<sup>42</sup> <http://www.epa.gov/inter508/faqs/index.htm>

<sup>43</sup> <http://www.section508.gov/docs/Section%20508%20Standards%20Guide.pdf>

<sup>44</sup> <http://www.access-board.gov/sec508/refresh/draft-rule.htm>

(e.g. screen contrast and font size), operating systems as well as compatibility with assistive devices and software.

The number of countries that are likely to produce their own national accessibility requirements is expected to increase in the future given national action plans and commitments to accessibility, particularly in light of the signing and ratification of the UNCPRD by Member States.

As referred above, binding technical accessibility requirements have been identified in two Member States, namely Italy and Spain. Guidelines are in place in Ireland. Work to establish accessibility requirements is ongoing in Norway. As concerns the situation outside the EU/EEA, technical requirements are in place in the US. These are currently being revised, which may or may not be closely followed by the EU Member States.

The importance of computers and operating systems being a global market should not be underestimated. In interviews, manufacturers have stated not having economic incentives to provide versions of their products that are specifically adapted to the European market. In fact, this would lead to a reduced potential for economies of scale. Therefore, while voluntary efforts to align EU accessibility requirements with those in the US are undertaken under Mandate 376 this will not prevent Member States to adopt different legal requirements or even voluntary guidelines. This has been the case in examples above where none of the Member States identified have follow fully the US compulsory standards.

## **2. Digital TV services and equipment**

Digital TV services and equipment concerns the audio-visual content provided in broadcasting services, notably technical aspects of access services such as font size and other aspects of how subtitles are rendered on-screen and menus presented to the user, audio description, and the digital terrestrial television equipment containing digital decoders such as set-top boxes and iDTV (integrated digital TVs) and the remote control needed to use these. The two components combined encompass a TV viewer's experience of the accessibility of a piece of audio-visual content.

The extent to which television is considered accessible was measured in the MeAC study in 2011, where an average score for the accessibility of television in the countries covered by the study was 33%, while the score for policy implementation in this area is 34%. This shows that accessibility in this area has some way to go and is important to consider.

The 2011 MeAC report measured, by surveying national experts, the availability of the following four accessibility features:

- Availability of DTV set-top boxes with built-in screen reader/voice recognition functionalities;
- Availability of screen reader/voice recognition software to be downloaded from retailers' website for accessing their DTV set-top boxes;
- Availability of DTV set-top models that allow subtitles display/audio description/sign language interpretation display when provided by the broadcaster;

- Availability of DTV set top models that allow users to configure the font and contrast features of the interface.

The results for digital TV equipment were reported as moderate with a score of 38% being achieved in the EU. According to Deloitte, the evidence gathered so far in the study through interviews with experts would suggest that these figures appear to be quite high.

Looking at the status of digital TV equipment accessibility by country, this shows that countries where initiatives have been taken to develop accessible digital TV equipment have got much higher scores than others. One possible implication of this is that a small amount of investment in innovation is sufficient to assist the markers in providing accessible digital TV equipment.

Research<sup>45</sup> suggests that the availability of broadcasting in terms of coverage is nearly complete, with practically the whole planet covered by a signal. Televisions are available in over 1.4 billion households around the world, representing 98% of households in the developed countries and nearly 73% of households in developing countries. However, television is far from being fully accessible.

The main beneficiaries of accessible features in **Digital TV equipment** such as talking EPGs, and easy-to use, tactile remotes can be grouped as follows:

- People with vision impairments including blind people;
- Persons with cognitive impairments;
- Older persons; and
- Any user with low experience of or ability in using technology.

The beneficiaries of **accessibility services** are similar, but include people with hearing impairments including deaf and other, wider groups including people with low literacy, older people, people whose first language is not that of the programme content and people in 'disabling environments'. Looms in "Design models for accessible media" discusses the 2006 OFCOM review in the UK, which shows that the demand for access services such as subtitling is very significant. More specifically, 12.3% of the population said that they had used subtitles to watch television, of whom about 6 million (10%) did not have a hearing impairment. Looms goes on to say that:

*"more recent studies indicate that same language subtitles can make a difference not only for persons who are deaf or have serious disablements related to their hearing, but also elderly persons who find that unscripted speech on television has low intelligibility, persons who are learning to read, immigrants and refugees. They are also used by persons without disablements in public areas (e.g. watching TV news in airports or at hotels where the sound has been turned off)."*<sup>46</sup>

Linear broadcast television continues to occupy a crucially important place in the lives of Europeans, in spite of the rise of other media such as the Internet. The main limitations in accessibility of digital TV services include the lack of accessible information about the functioning of the service and the accessibility characteristics, the lack of accessible on-line related applications including electronic information needed in the provision of the service,

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<sup>45</sup> Brahim, Sanou (2011) Making TV Accessible for Persons with Disabilities is Everyone's Business. in Looms, Peter Olaf. (2011). Making Television Accessible. G3ict.ITU, ITU, Geneva, Switzerland.

<sup>46</sup> Looms, Peter. Awaiting publication "Design models for media accessibility"

limited accessibility of EPGs (electronic programme guides) and navigation menus, the lack of accessible information to facilitate complementarities with assistive services and the lack of functions in the operation of the service (such as subtitles and audio description). For example, there is poor and inconsistent use of symbols or abbreviations that represent the various accessibility services either within the on-screen programme guides or in TV programming listing etc. provided in newspapers/magazines. The main limitations in the accessibility of the digital TV equipment are linked to the information provided about their accessibility, for example in the packaging, the lack of information about the instructions for use (of set-top boxes and remote controls), installation and maintenance, storage and disposal, limitations about the functionality of the good by providing functions aimed to address the needs of persons with functional limitations, limited accessibility of the remote controls, and the lack of interfacing with assistive devices.

DTT (digital terrestrial television) equipment is already today largely covered by technical accessibility requirements (obligations, requirements, standards/guidelines have been identified in all the examined countries - 9 EU Member States and Norway). These standards differ in scope and technical rules. Broadcasters and manufactures of equipment are faced with a fragmented landscape. There is no certainty that products that follow one national specification will fully work without modifications in other Member States. ANED identified at least three other Member States, outside the scope of Deloitte's analysis, with requirements in this area.

Similarly, the provision of broadcasting accessibility services is already today largely covered by technical accessibility requirements (such requirements have been defined in all countries within the scope of Deloitte's analysis, with the exception of Norway and Portugal). ANED identified at least 10 other Member States, outside the scope of Deloitte's analysis, with requirements in this area.

Regarding the cost of support for accessibility features in set-top boxes, while there are apparently no costs associated with manufacturers "*switching on and switching off features that are already available in DVB (Digital Video Broadcast standards) compliant set-top boxes*", it would appear, according to the NorDig study<sup>47</sup>, that the implementation of these standards may be problematic in the area of audio description at least.

Clear costs have been identified for text-to-speech support in set-top boxes. For a typical entry-level set-top box currently available in a supermarket, adding these features would cost add an additional 6 EUR to the costs of a 19 EUR product, an increase of 30%.<sup>48</sup> The ITU report "Making Television Accessible" provides an overview of the relative production costs for specific TV accessibility services.

One potential benefit to increased levels of accessibility for television is an increase in reach by advertising. Current regulations on the levels of broadcasting accessibility services to be provided do mainly focus on the TV programming content and not on advertising. Figures from the "2011 Magnaglobal Advertising Forecast" predicted advertising revenues per person

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<sup>47</sup> [www.nordig.org](http://www.nordig.org)

<sup>48</sup> [http://www.itu.int/ITU-D/sis/PwDs/Documents/ITU-G3ict%20Making\\_TV\\_Accessible\\_Report\\_November\\_2011.pdf](http://www.itu.int/ITU-D/sis/PwDs/Documents/ITU-G3ict%20Making_TV_Accessible_Report_November_2011.pdf)

in the European countries to be amongst the highest in the world. (7 of the 10 countries with the highest advertising revenue per person were Norway, Switzerland, Austria, Ireland, Finland, United Kingdom, and Germany).<sup>49</sup>

According to a study conducted by Digital TV Research, Europe will not be completely digitalised by 2017 as initially planned although 85% of the televisions in the EU Member States already received digital TV by the end of 2011. Western Europe<sup>50</sup> has been stated to be expected to have passed 150 million digital TV households during summer of 2012, with an increase to 175 million by 2017.<sup>51</sup> The worldwide market trend is expected to lead to a total number of 1.3 billion digital TV households by 2017.<sup>52</sup> Within the EU, Germany and France will have the biggest market for digital TV with 37.1 million and 27.5 million subscriptions respectively.

Furthermore, triple-play subscriptions (defined as homes subscribing to TV, broadband and fixed telephony services) are expected to increase up to 400 million by 2017 on a worldwide basis.<sup>53</sup> The deepest market penetration of triple-play subscriptions are expected to be reached in Belgium and the Netherlands (both with 64%), while Germany and France are expected to have the highest total number of triple-play households in the EU by 2017 (11.5 million and 7.9 million respectively). The volume of the triple-play market in France, Germany, Belgium and the United Kingdom is expected to reach approximately 14.3 USDb by 2017.<sup>54</sup>

As concerns the number of set-top boxes sold, according to two studies by iSuppli and ABIresearch, the global set-top boxes market reached a market volume in 2011 of between 134.9 million and 221 million units.<sup>55</sup> <sup>56</sup> The market value has been estimated at approximately EUR 6.9bn<sup>57</sup> in 2011.<sup>58</sup> As a remote control is included with and needed to operate these devices, the forecasted sale of devices that contain a digital decoder in units can serve as well as a proxy for the potential market size of remote controls.

According to IHS iSuppli Research, worldwide shipments of set-top boxes were anticipated to have reached 134.9 million units in 2011. This represents a decrease of 5.5% compared to the previous year. It is projected that worldwide shipments of set-top boxes will grow in the next two years and will face a situation of saturation in 2014/2015.<sup>59</sup> According to IMS Research, global set-top box shipments for the digital terrestrial platform were expected to be 20.5

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<sup>49</sup><http://www.neoadvertising.com/ch/wp-content/uploads/2011/06/2011-MAGNAGLOBAL-Advertising-Forecast-Abbreviated.pdf>

<sup>50</sup> The study did not specify which countries are classified under “Western Europe”. However, the contractor assumed that Western Europe comprises Austria, Belgium, Denmark, Germany, Finland, France, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the UK, because different figures and tables in the study refer to these countries.

<sup>51</sup> <http://www.digitaltvresearch.com/ugc/press/29.pdf>

<sup>52</sup> <http://www.digitaltvresearch.com/ugc/press/36.pdf>

<sup>53</sup> <http://www.digitaltvresearch.com/ugc/press/42.pdf>

<sup>54</sup> Ibid.

<sup>55</sup> <http://www.isuppli.com/Home-and-Consumer-Electronics/MarketWatch/pages/Set-Top-Box-Market-to-Decline-in-2011,-but-Semiconductors-Stay-Strong.aspx>

<sup>56</sup> <http://www.abiresearch.com/research/1003752>

<sup>57</sup> Using an exchange rate of 1.2590 as of 29 June 2012, <http://www.ecb.int/stats/exchange/eurofxref/html/index.en.html>

<sup>58</sup> <http://www.companiesandmarkets.com/News/Information-Technology/Set-top-box-devices-market-to-hit-15-6-billion-by-2018/NI3331>

<sup>59</sup> <http://www.isuppli.com/Home-and-Consumer-Electronics/MarketWatch/pages/Set-Top-Box-Market-to-Decline-in-2011,-but-Semiconductors-Stay-Strong.aspx>

million in 2012, whereof Western Europe<sup>60</sup> was expected to account for approximately 25% (5.1 million), especially due to the analogue switch-off.<sup>61</sup>

Considering the provision of broadcasting (accessibility) services and according to a market study for the European Commission<sup>62</sup> the **total European TV revenue** of 78.1 EURb in 2009 was attributed as follows: Delivery platforms retain 13.6 EURb; the remainder of 64.5 EURb flowed to broadcasters of which 5.0 EURb is spent on transmission, 35.0 EURb is invested in programming, and the remaining 24.5 EURb covers all profits, administration and management costs. Furthermore, the report notes that of the 35.0 EURb spent on programming, 16.6 EURb was spent on acquiring rights of various kinds, 6.2 EURb on sports rights, and 10.4 EURb on film and TV acquisitions. The remaining 18.4 EURb was invested in original programming, including 8.9 EURb on in house production, 2.6 EURb on the production of news programming, and 6.9 EURb invested in the external production market.

In addition, BusinessWire research on the broadcasting and cable TV market in Europe provides indications on **market growth expectations**.<sup>63</sup> The broadcasting & cable TV market consists of all terrestrial, cable and satellite broadcasters of digital and analog television programming. The market is valued as the revenues generated by broadcasters through advertising, subscriptions, or public funds (either through TV licenses, general taxation, or donations). The European broadcasting and cable TV market had total revenues of EUR 84.7 billion in 2011, representing a compound annual growth rate (CAGR) of 2.9% between 2007 and 2011.

Regarding the provision of cross-border supply of audiovisual content, the market and, more specifically, public service broadcasters currently supply consumers with audiovisual content and services from other EU countries. However, the availability of video content from other EU countries depends greatly on which country a consumer is resident in, which country they seek content from and which distribution platform they happen to use.

The regulatory landscape related to the accessibility of digital TV services and equipment is linked with the Digital Video Broadcast (DVB) family of standards, approved by the European Telecommunications Standards Institute (ETSI)<sup>64</sup>, which cover both the devices and the end-to-end services provided. The Digital Terrestrial Television (DTT) Equipment is therefore included in the DVB family of standards for digital TV used in Europe.

National specifications for DTT such as NorDig used in the Nordic region and Ireland and the 'D-Book' used in the UK are essentially 'profiles' of the DVB. All the national specifications for DTT are based on the DVB family of standards; each implements a profile of these standards. This results in differences in the fundamental requirements supported in different countries. For instance, some countries used MPEG 4 and others MPEG 2 as the compression standard for the transmission of the TV signal. This is the main reason why digital tuners that

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<sup>60</sup> The source does not elaborate this term.

<sup>61</sup> [http://imsresearch.com/news-events/press-template.php?pr\\_id=2495](http://imsresearch.com/news-events/press-template.php?pr_id=2495)

Attentional Limited, Oliver & Ohlbaum Associates, Rambøll Management and Headway International (2009): *The application of measures concerning the promotion of distribution and production of European works in audiovisual media services, including television programmes and non-linear services*, study commissioned by EC DG INFSO,

[http://ec.europa.eu/avpolicy/docs/library/studies/art4\\_5/presentation.ppt](http://ec.europa.eu/avpolicy/docs/library/studies/art4_5/presentation.ppt)

<sup>63</sup> <http://finance.yahoo.com/news/research-markets-broadcasting-cable-tv-173300015.html> and

[http://www.researchandmarkets.com/research/j9hcp9/broadcasting\\_and](http://www.researchandmarkets.com/research/j9hcp9/broadcasting_and)

<sup>64</sup> <http://www.etsi.org/>

are compatible with the national specifications in one country or region may not work in another.

While the national and regional specifications for DTT require different set-top boxes to be developed for the different countries or regions, these specifications may add to, but not take away the core set of accessible features that are mandatory in the DVB standards. While the access features specified tend to be similar, some variances do arise. Yet, any receiver in Europe (terrestrial, cable or satellite) that has the DVB logo on it must be able to handle same language DVB subtitles and same language DVB digital teletext subtitles.

The table below provides a synthetic overview of obligations, technical requirements, standards and guidelines with regard to the accessibility of DTT equipment in the selected countries that are within the scope of Deloitte's study analysis.

Table 1: Digital terrestrial television equipment: overview of identified obligations, requirements, standards/guidelines

	Name of DTT service (if one identified)	Name of DTT specification	Compression	Support for subtitles	Support for Audio Description	Others/comments
France	Télévision Numérique Terrestre <sup>65</sup> (TNT)	Services et profil de signalisation pour la diffusion de la TV numérique de terre <sup>66</sup>	MPEG-2, H.264	Requires support for the DVB Subtitling standard: ETSI EN 300 743	Requires support for receiver mix and broadcast mix Audio Description	Nothing identified in the specification with regard to remote controls
Germany		"DVB-T Minimum Requirements and Guidelines for DVB-T Receivers" <sup>67</sup>	MPEG-2 / H.264	Does not require support for DVB complaint subtitles (ETSI EN 300 743 )	Nothing identified in the specification with regard to Audio Description	Nothing identified in the specification with regard to remote controls.  Note: The status of this 2003 document is being queried. It is currently the 'outlier' in terms of not supporting DVB subtitles.
Ireland	SAORView	Minimum Receiver Requirements Irish Digital Terrestrial Television <sup>68</sup>	H.264/MPEG-4 AVC	Requires support for the DVB Subtitling standard: ETSI EN 300 743	Mandatory as Broadcast mix  Optional as receiver mix	Based on the NorDig specification, with some minor differences not related to accessibility. NorDig compliant receivers have an optional provision for a subtitles button on the television remote control. If present this subtitles button must behave according to the NorDig specification. In practice all remotes in Ireland contain the subtitles button.
Italy		"Compatible DTV receivers for the Italian market: baseline requirements" <sup>69</sup>	MPEG-2, H.264	Requires support for the DVB Subtitling standard: ETSI EN 300 743	Requires support for receiver mix and broadcast mix Audio Description	Detailed non-mandatory description of remote control. Provision of a dedicated 'audio' and 'subtitles' button is optional.

<sup>65</sup> <http://www.recevoirlatnt.fr>

<sup>66</sup> <http://www.csa.fr/es/content/download/16480/308960/file/CSATNT.pdf>

<sup>67</sup> [http://www.ueberalltv.de/download/AG\\_DVBT2/MinAnfor/MinAn-V11e.pdf](http://www.ueberalltv.de/download/AG_DVBT2/MinAnfor/MinAn-V11e.pdf) (EN version), [http://www.ueberalltv.de/download/AG\\_DVBT2/MinAnfor/MinAn-V11d.pdf](http://www.ueberalltv.de/download/AG_DVBT2/MinAnfor/MinAn-V11d.pdf) (DE version)

<sup>68</sup> <http://rtenl.ie/wp-content/uploads/2012/09/Irish-DTT-Minimum-Receiver-Requirements.pdf>

<sup>69</sup> <http://www.dgtvi.it/upload/1286542855.pdf>

	Name of DTT service (if one identified)	Name of DTT specification	Compression	Support for subtitles	Support for Audio Description	Others/comments
Netherlands	-	-	-	-	-	No minimum receiver requirements specification document identified. Queries on-going with ITU and Dutch experts to identify such.
Norway		NorDig v2.3 <sup>70</sup>	H.264/MPEG-4 AVC	Requires support for the DVB Subtitling standard: ETSI EN 300 743	Requires support for receiver mix and broadcast mix Audio Description	Optional provision for a subtitles button on the television remote control.
Poland		"Requirements for the Polish Digital Terrestrial Television Receiver" <sup>71</sup>	H.264/MPEG-4 AVC	Requires support for the DVB Subtitling standard: ETSI EN 300 743	Requires support for receiver mix and broadcast mix Audio Description	Detailed specifications provided on remote control. "Subtitles" and "Audio" are provided as optional. See figure below.
Portugal		"Signalling Specifications for DTT deployment in Portugal" <sup>72</sup>	H.264/MPEG-4 AVC	Requires support for the DVB Subtitling standard: ETSI EN 300 743	No explicit requirements for Audio Description.	No Recommendation related to remote controls present.
Spain		"Especificación de receptores de televisión digital terrestre para el mercado español" ("Specifications of digital terrestrial receivers") - August 2012. <sup>73</sup>		Requires support for the DVB Subtitling standard: ETSI EN 300 743	No recommendation related to Audio Description present.	No Recommendation related to remote controls present.
United Kingdom	FreeView	"D-Book" <sup>74</sup>		Requires support for the DVB Subtitling standard: ETSI EN 300 743	Requires support for receiver mix and broadcast mix Audio Description	Subtitles button "essential", AD button "strongly recommended"

<sup>70</sup> [www.nordig.org/pdf/NorDig-Unified\\_ver\\_2.3.pdf](http://www.nordig.org/pdf/NorDig-Unified_ver_2.3.pdf)

<sup>71</sup> [http://www.kigeit.pl/FTP/kl/stirc/SPECv0\\_6\\_EN.pdf](http://www.kigeit.pl/FTP/kl/stirc/SPECv0_6_EN.pdf)

<sup>72</sup> <http://tdt.telecom.pt/recursos/apresentacoes/Signalling%20Specifications%20for%20DTT%20deployment%20in%20Portugal.pdf>

<sup>73</sup> <http://www.televisiondigital.es/Terrestre/ForoTecnico/receptor-tdt/Documents/ReceptoresTDT.pdf>

<sup>74</sup> The D-Book is a closed specification provided by the DTG group in the UK. Chapter 25 of the D-Book on remote controls was provided by Ocean Blue.

The table shows a mixed level of implementation of **audio description**. The specifications in France, Ireland (broadcast mix only), Italy, Norway and the United Kingdom contain mandatory requirements. This is a clear fragmentation between the requirements, with some countries having made audio description mandatory and some optional, while some do not deal with it at all. However, the fact that all countries/regions use the MPEG standard is significant in terms of what this means for manufacturers of set-top boxes selling into these different countries, still they do not all use the same version. Audio description is most commonly provided by means of a separate, optional audio track. This functionality is implicitly supported by the MPEG suite of standards, which allow for different audio tracks to be supported for the same video stream. Therefore, even if a country/region's specification does not require the support of audio description, the fact that they use MPEG means that this functionality is implicitly supported.

The regulatory analysis in the table above shows a mixed level of support for the design of **remote controls**. Some countries (Ireland, Norway, Poland, and Italy) allow for support of a subtitles and audio description buttons. Although these buttons are optional, the functionality they provide is mandatory. Only the United Kingdom specification has a mandatory subtitles button.<sup>75</sup>

Under the DVB family of standards there are multiple delivery mechanisms for **subtitles**, namely DVB subtitles and DVB Teletext subtitles. In countries such as the United Kingdom there is only one delivery mechanism in use (DVB subtitles). In territories such as the Nordic region that use both, there needs to be a mechanism that defaults to, say, DVB-text then digital Teletext. The button itself will need to activate something in the receiver to prevent both subtitles being activated. The NorDig specification has a mandatory requirement to select DVB subtitles if both delivery mechanisms are present.<sup>76</sup> Therefore, the way in which subtitles are implemented differ in both “what” is to be provided as well as “how” it is to be done.

Apart for the DVB, there is a wide a range of voluntary standards, guidelines and other advisory materials that deal with various aspects of the accessibility of digital TV. An extensive literature review of resources in the English languages conducted by the Irish Centre for Excellence in Universal Design in 2011 highlighted that manufacturers are faced with an extremely confusing landscape when developing new products or services in terms of what advice to follow on accessibility.<sup>77</sup> Many of the guidelines and standards were found to contain recommendations that others do not, or had reconfigured their recommendations at different priority levels, or were optimised to suit a particular disability sector.<sup>78</sup>

Regarding Linear TV Broadcasting Accessibility Services while all Member States within the scope of Deloitte's analysis with the exception of Norway have introduced some kind of

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<sup>75</sup> It is important to consider that a subtitle button has different connotations in different territories.

- In territories where foreign language programmes have subtitles, pressing the button would activate interlingual subtitles and intralingual subtitles.
- In territories where foreign language programmes are dubbed, pressing the button would activate intralingual (same language) subtitles.

<sup>76</sup> “If both DVB Subtitling and Teletext subtitling are received simultaneously with the same language code, the IRD shall only display the DVB Subtitling stream”. From [http://www.nordig.org/pdf/NorDig-Unified\\_ver\\_2.2.pdf](http://www.nordig.org/pdf/NorDig-Unified_ver_2.2.pdf)

<sup>77</sup> <http://www.universaldesign.ie/dtv>

<sup>78</sup> Source: Centre for Excellence in Universal Design. “The editorial guidelines for audio description, e.g. what tense should be used, how to describe body language that indicates emotions, etc. The fact that some of the guidelines are quite old brings in some differences.”

accessibility requirements, the nature, legal force and coverage of these instruments vary considerably across the countries. In all Member States within the scope of Deloitte's analysis, with the exception of Norway and Portugal, technical accessibility requirements for broadcasting services have been defined. These requirements typically take the form of target percentages of the broadcasting programme which need to be covered by broadcasting accessibility services such as subtitling, audio description and sign language interpretation. While Portugal is currently in the process of defining such technical accessibility requirements, no such initiative could be identified in Norway.

While most countries have set legal target accessibility rates for both public and private broadcasters, Italy and Germany have only established contractual target agreements with public broadcasters. Target levels of broadcasting accessibility services vary between countries in both the quantities and types of broadcasting accessibility services to be provided. While required levels for subtitling are strong for most public broadcasters (from 80% upwards in most cases) these fall significantly for commercial broadcasters. Levels for the provision of audio description tend to be much lower.

Coupled with this, the mechanisms for calculating a broadcaster's achievement of these targets vary, with some broadcasters counting e.g. shows that have been imported from other networks and shows that are repeated after midnight with subtitles towards their targets. Other broadcasters such as the BBC in the UK have made significant efforts to subtitle most of their live broadcasting.

In conclusion, the legislative landscape at national level is fragmented, with a patchwork of requirements in place.

### 3. Telephony services and related terminal equipment

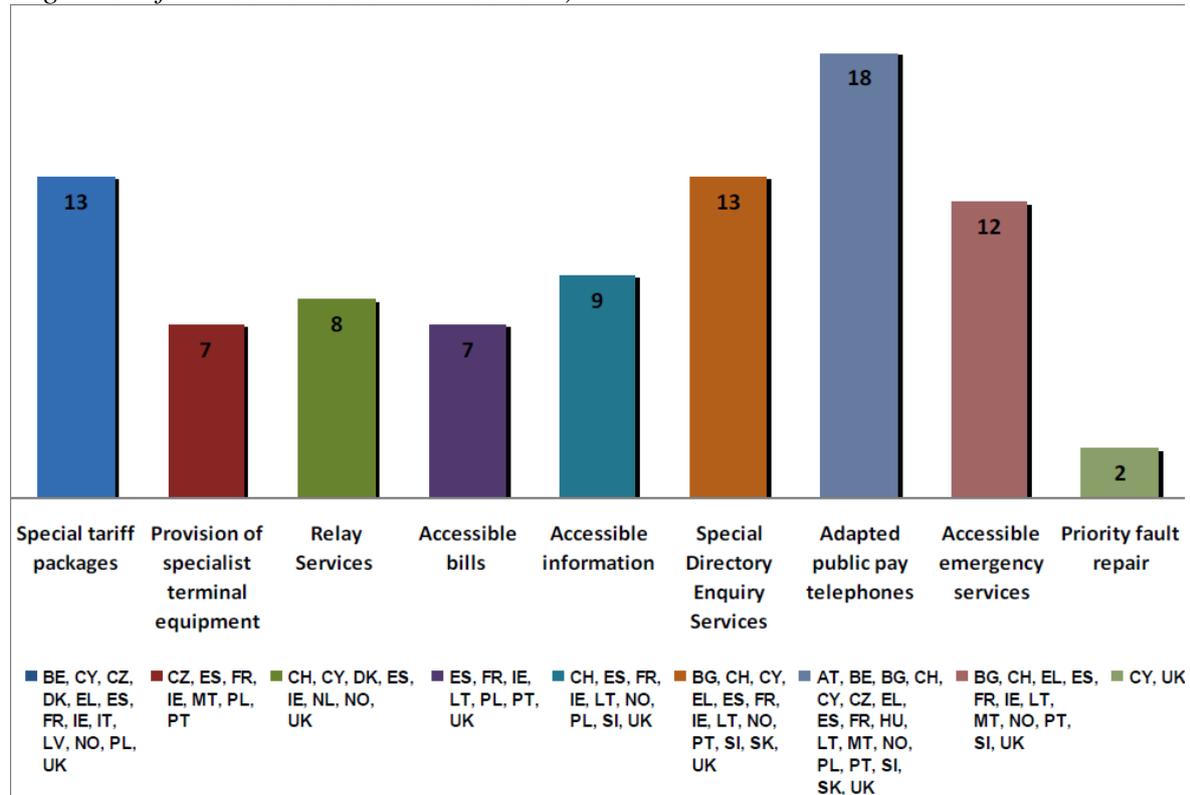
Telecommunications services include those services that can support communications between two or more people over a distance by electronic means. These services are known as telephony services. The scope of this section does not cover data communication. Besides the telecommunications service itself, this section also covers terminal equipment that is necessary in order to be able to effectively communicate using a telephony service.

Based on EU obligations under the EU regulatory framework for electronic communications to provide equivalent access for users with disabilities, Member States and their National Regulatory Authorities (NRAs) have responded and have taken a number of measures that address different components of the services, the network or the terminals. Following the revision of the framework in 2011, the Member States are obliged to take special measures to ensure that disabled persons have affordable access to fixed telephony services, including emergency services, directory enquiry services and directories. In addition, the other services covered by the universal service obligation can include mobile telephony and Internet access. These services are being considered recently in several Member States. The framework also contains certain provisions that commit Member States to make additional measures possible. These measures give power to the NRAs to take certain actions when needed (information of users, access and choice of providers, etc.). Finally, Member States can take measures to ensure that disabled users can benefit from a choice between providers of services. Practices in the Member States indicate that **making the services accessible** include the provision of accessible information, the accessibility of the directory enquiry service and the bills, the accessibility of public pay phones, the provision of relay services, the availability of special tariffs for disabled persons, the provision of special terminal equipment, the adaptation of public pay phones to be accessible and the accessibility of emergency services<sup>79</sup>. In particular making accessible the "voice" telephony for deaf persons has been achieved in some cases by the provision of video telephones that permit person using sign language to communicate among themselves. In other cases this has been achieved by the provision of Real Time Text (RTT) permitting in addition those deaf and hard of hearing persons that are not sign language users to communicate directly among themselves but also with hearing persons. Usually Real Time Text is provided as a separate service not connected to the general voice telephony. The introduction of SMS (Short Message Service) has allowed some mainstreaming of the written communication but cannot be considered equivalent to voice conversation. Recent punctual efforts for example related to the provision of 112 provided for the combination of coordinated video and Real Time Text is provided in solutions called "Total Conversation". The term Total Conversation is defined by the ITU-T recommendation F.703 as "An audiovisual conversation service providing bidirectional symmetric real-time transfer of motion video, text and voice between users in two or more locations". ITU-T does not refer to interoperability with relay services.

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<sup>79</sup> Concerning the provision of accessibility to 112 some Member States have put the obligations to provide accessibility using alternative numbers, use of faxes, use of SMS or video and/or the use of Real Time Text services and devices. Some Member States require a combination of those.

*Specific measures, already in place for users with disabilities in relation to electronic communications, according to information provided by NRAs to BEREC (Body of European Regulators for Electronic Communications) in 2010*<sup>80</sup>



While mainstream solutions are emerging in the markets that combine voice and video and some text capabilities they are not interoperable among themselves or with PSTN Real Time Text telephony and their related terminals and are not Total Conversation solutions. They do not provide the RTT that is needed to access to real conversational services, comparable to and complementing voice communication. This is the case of mainstream solutions like Joyn and WhatsApp that still belong to the messaging concept. The following is missing from these for them to be accessible and equivalent to voice communication:

- They lack a more fluent form, with real-time transmission. They are stressful to use in intensive conversational situations. Their equivalent would be like having a voice call through a technology that forced the interlocutors to first record a spoken sentence, and then after being ready, to press a button to play it out to the other party.
- They seem to lack a convenient link to voice phone calls. The value with RTT is in many cases that it can be used interchangeably with voice in a call. That suits a much wider population than the pure text calls and permit deaf persons communicating directly with those using voice.
- They lack interoperability with other similar services e.g. a WhatsApp user cannot

<sup>80</sup> BEREC 2010, Electronic communications services: Ensuring equivalence in access and choice for disabled end-users, [http://berec.europa.eu/doc/berec/bor\\_10\\_47Rev1.pdf](http://berec.europa.eu/doc/berec/bor_10_47Rev1.pdf)

communicate with a Joyn user, they need to communicate in another way before the chat session to ask each other what chat service they use and install support for that service and sign up for it. Then they need to both have the tool for the same service running in their phones.

- There is no indication that they are open for connection with relay services and emergency services. Such services cannot be expected to install support for a multitude of private communication methods, but should be contacted through openly specified standard protocols. IP multimedia standards for relay and emergency service connections have recently been settled and it is a huge job to introduce new ways to contact them. Instead, providers of other services need to adapt to the protocols used by emergency and relay services.

So, while the emergence in the market of mainstream services providing some combination of voice, video and some textual capability is a good step forward, their constraints from an accessibility perspective result in persons with disabilities considering that they are not entitled to the equivalent access indicated in the Telecom Directives.

National initiatives to fulfil obligations under the above mentioned Directives relate also to efforts to make voice communication accessible to disabled persons through "Total Conversation".

Currently, Real Time Text solutions in use in the Member States are based on old technology mainly PSTN. These solutions are also used for communications with Relay services.

The national solutions are not interoperable and while operators are moving toward IP based networks, in many Member States, the fact that Real Time Text and related terminals are needed to provide access to relay services or to the emergency services would imply that service providers and manufacturers need to provide interoperability between the old and current "PST solution" used by the final consumer and the "new solutions" when using IP networks. While this is a so called "legacy problem" that technology could solve by moving all the relay services and user terminals to IP based solution, market forces have not yet remove this problem and Member States have not yet removed obligations of interoperability with "PST solutions". This is a complex problem that cannot be solved at national level given that different solutions are used in the Member States. This is particularly important in relation to emergency services through the EU number 112.

Making the terminals accessible includes both hardware and software aspects and relates to the provision of information about the accessibility features of the terminals, the accessibility of the design of their user interface addressing issues related to the input, the output, the controls functions, and the display. Other issues relate to interoperability with assistive devices in terms of connectivity and compatibility for example avoidance of interference for hearing aids. The accessibility features of terminals concerning text and video communication depends on the hardware configuration and the software available.

The functionality of terminals is also changing following service trends. A study from BITKOM estimates that only 22% of the EU customers in 2010 used Internet telephony while in 2011 there were up to 28%. This percentage is expected to increase until 2020. The **market of mobile devices** has been increasing in Europe with a figure of about 14 Million sold in 2005 to a figure of 17 Million in 2010 while the manufacturing in Europe is being replaced progressively by import. In those figures the weight of smart phones versus traditional mobile phones is also progressively increasing. Already in 2011 smart phones were about one third of the total mobile telephone devices worldwide. So the scope of this section will focus on mobile devices and in particular smart phones.

Based on the MeAC 2011 an estimate for the **current accessibility rate of smart phones** has been calculated as the average of mobile telephony accessibility and mobile web accessibility 2011 study (i.e.  $(49\% + 19\%) / 2 = 34\%$ ).

Telecommunication services providers would need to comply with a significant and different number of measures related to accessibility if they were to operate across all the EU countries. Some of those measures relate to affordability but many of those different measures concern accessibility sometimes provided via assistive solutions in the absence of mainstream equivalents. This divergence is expected to increase by 2020.

National Telecom legislation varies also in terms of personal scope. Sometimes obligations related to disability and accessibility require the undertakings designated with universal service obligations to provide accessibility and affordability for disabled end-users but in other occasions concern all telecom providers for that country. The legal situation makes it difficult for industry to provide the same solutions concerning accessibility across the EU. National differences in regulations exist in relation to the services and the terminals as well as a large variety of standards and practices.

The differences of national accessibility requirements make it particularly difficult for SMEs, for examples those that want to provide solutions for hearing-impaired and speech-impaired persons or relay services (relay services, etc.) to be able to enter the market or compete with large established industry for example for the provision of total conversation solutions.

In the telecommunications area, changes in technology point at a move towards mobile communications as well as an increase use of Internet Based solutions replacing fixed point networks and technologies.

The BEREC report concludes that "Article 23a (of the Universal Service Directive and User Rights as amended in 2009) is important in all Member States for end-users with disabilities in respect of electronic communication services. However, BEREC is of the view that the measures put in place to implement Article 23a, will vary between Member States".

Focusing on terminals, while in the 9 Member States whose legislation has been examined in detail no direct legislation obliging manufacturers to develop accessible terminals has been found it is plausible that Member States will develop obligations in the future. Today, already very detailed and diverse technical requirements exist for Public pay phones. For example in France it concerns the lay out of the user interface having a special button for blind users while in Italy a special solution for hearing aid users is provided as well as some design features for blind persons using sticks. In Lithuania accessible public phones must be equipped for example with large and easy to read fonts. Polish legislation contains not only provisions related to public pay phones but also the possibility "to specify additional

requirements for the adaptation and use by disabled persons" of terminal equipment placed in the market. In Ireland some of the services that are provided for disabled persons have implications for the design of fixed terminals with issues like inductive couplers, tele-flash and virtual alerts, hands free phones, etc. Several Member States require connection and access to the fixed network and services for users of relay services. Portugal in relation to access to emergency service requires accessibility of handsets for fixed telephony.

Furthermore, according to the MEAC Study the following Member States have some standards and guidelines concerning telephone devices: Germany Sweden, United Kingdom and Ireland that has in addition some legal obligations.

In addition, Spain has introduced provisions about accessible telephone directories via the internet. Royal Decree 424/2005: specifies "the range of universal service, imposing obligations on the designated operator with regard to accessibility, such as those that guarantee the existence of an adequate supply of special terminals, technologically up to date, adapted to the different types of disabilities and giving them adequate public exposure;

In the UK, the 2003 Communications Act further stipulates that OFCOM has the power to take steps towards the development of domestic electronic communications apparatus capable of being used with ease and without modification by the widest possible range of individuals (including those with disabilities). The 'General Conditions of Entitlement' published by Oftel on 22 July 2003 requires that all providers of publicly available telephone services or public telephone networks implement special measures for end users with disabilities, such as "to provide particular groups of disabled customers with inter alia (ii) access to text relay services which include particular facilities". In doing so, providers will have to support the technical solutions used in the UK.

Furthermore, the BEREC report notes that seven Member States have put in place obligations with respect to terminal equipment under Universal Service and that Article 23a of the 2009 USD is not specific regarding the measures that can or cannot be mandated by NRAs under it.

The rules related to emergency services terminals are likely to be strengthened by Member States. In spite of the Universal Services obligations at EU level, which cover access to emergency number, operator and directory services, MeAC 2 (2011) found that only 47% of Member States analysed provide direct access to emergency services via text telephony, with only 38% through video phone service. The accessibility level is therefore variable across countries: direct accessibility to emergency services is highly supported for both text and video telephone users only in Spain and Italy, while in Sweden and the UK direct accessibility is only provided to text telephone users. Moreover, in light of the developments planned by national and regional public bodies in charge of 112 numbers (such as the Dutch government and the Castilla y Leon region in Spain), it is likely that this situation evolves towards the adoption of new different solutions to deliver accessible emergency services to citizens, thus creating more divergence in the European market.

The total **Telecommunications services revenues** in Europe in 2010 were reported to be 275 Billion Euros<sup>81</sup> from which mobile services account for at least 142 billion Euros. While the revenues of mobile services and data/Internet services increased, fixed telephony lost more and more market share. The Digital Agenda Score Board reports that the total revenues of the electronic communications sector in EU27 was 327,111 million euros in 2010 constituting a decrease compared to 2009.

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<sup>81</sup> ETNO annual economic report 2011

The number of smart phones in the market is expected to grow with a CAGR of 33% between 2009 and 2014 and that CGAR has been applied till 2020. This is in line with an increase demand for mobile data and internet services. The **total market size** (total industry turnover for smart phones in the EU is estimated at **31,659,436,588 Euros** and consequently the forecast till 2020 is 729,241,259,571 Euros. Five market players account for 73% of the total smart phone market value in Europe.

The situation above described has also an impact for Public-safety answering points (PSAPs) call centres in the provision of emergency centres<sup>82</sup>. It relates to the PSAPs back-office equipment, for instance, the 112 call centres in Member States and their ability to receive 'accessible calls' requesting emergency assistance (e.g. through text, video call, etc.) The general problem within the European Union is that Emergency service terminal providers do not have a unified standard of accessibility for 112 emergency services. The existing different requirements in legislation lead to market fragmentation since service and equipment providers have to do an extra-effort in order to adapt their goods and services to the national or even regional market. Moreover, the market fragmentation may lead to problems for disabled travellers and cross-border workers in emergency situations. MeAC 2 (2011) found that only 47% of Member States analysed provide direct access to emergency services via text telephony, with only 38% through video phone service.

Looking to the particular case of terminals used in the provision of emergency services, the so called PSAPS, it is estimated that the **market size** for the whole EU to be in a range of **1,200 to 1,500 PSAPs**. These terminals need to receive emergency calls from a variety of modes, most frequently voice but video and text are increasingly being demanded in order to fulfil the obligation under the Telecom Directives of providing equivalent access to 112 for persons with disabilities. Terminals that would operate in one Member State would require adaptations unless similar accessibility requirements would be required. It is estimated that the hardware and software costs related to the set-up of the infrastructure of a PSAP and the annual replacement cash flow to be between approx. 330 EURm and 700 EURm. Furthermore the annual on-going costs related to PSAPs can be estimated to be between approx. 400 EURm and 600 EURm. Based on those different assumptions the **annual market value of Emergency Service Centres** to be approx. **730 EURm** (330 EURm set-up costs plus 400 EURm annual costs) **to 1,300 EURm** (700 EURm set-up costs plus 600 EURm annual costs). The market consists largely of global players that focus on this market as one of many in their portfolio, while smaller firms also exist that focus specifically on emergency solutions for disabled persons.

Information from Spain related to the net cost of providing the disability related obligations for the provision of accessible telephony services under the Universal Service obligations in 2010 is reported to be 5,296 Euros excluding special services for deaf person what can be still

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<sup>82</sup> PSAPs are defined as: "The first point of contact for 112 calls. The PSAP answers the incoming emergency call and transmits the emergency information to the concerned emergency authority, such as police, fire, and ambulance services. The PSAP may be either part of one of the above mentioned emergency authorities or just an interface between callers and emergency authorities."

a significant amount. In the UK the annual cost of relay services is estimated to be 10,101,945 Euros *per* year and the annual cost for accessible billing is calculated at 8,004,500 Euros.

Based on that and other information from various Member States, as well as various sources on other specific measures<sup>83</sup> and after weighting the GDP where the service is provided, the **costs of making the telephony services accessible** covering the various measures described in the BEREC report are estimated to be **179 Million Euro for the EU** with a proportion of 50% of turnover from cross border trade. The estimation used for the **additional accessibility cost due to different requirements in the Member States is between 1% and 5%**.

The **availability of accessible fixed telephony features**<sup>84</sup> is generally considered to be rather good, however, the availability varies between countries with The Netherlands on the last position with an availability score (calculated based on a scoring model and derived from a set of different questions) of 10% compared to a value of 64% for Ireland. Looking at mobile telephone technology, no exact figures on the **take-up by people with disabilities and elderly** were identified for the EU overall, but only examples for individual Member States. In the UK, take-up by people with disabilities was lower (82%) than the national average for adults under 65 (90%)<sup>85</sup>. It is estimated<sup>86</sup> that the average take-up rate of mobile telephony in the EU27 for people aged 15-64 to be five percentage points below the average of all citizens (91%), i.e. at approximately 86%.

The availability of mobile telephones is considered to be better than for fixed line telephones, which is partly driven by the growing availability of smart phones that come with more embedded accessibility features or can easily be made accessible by installing external applications. Nevertheless, as per the fixed telephone market, there are variations between the EU Member States. According to an assessment by Technosite, Portugal performed best with a score of 71% availability, while the lowest figures were recorded for Hungary (20%). Persons with visual impairments were less satisfied with mobile telephones, with text messaging and other visual functions being inaccessible to many consumers with this type of disability and elderly.<sup>87</sup>

The **take-up of smart phones** is not yet as progressed as the take-up of mobile phones in general with figures declining significantly with age which is the group with the highest

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<sup>83</sup> for example OFCOM in the UK, PSAP centre in Germany studies like MeAC and outside Europe like Australia

<sup>84</sup> Study led by Technosite in partnership with NOVA and CNIPA for the EC ,

<sup>85</sup> In Spain the take-up rate by people with disabilities is in line with or even higher than the take-up rate for the general population. More specifically, the take-up rates were as high as 98.4% for hearing impaired people, 91.6% for visually impaired people and 89.4% for people with a physical impairment (compared to a mobile telephone uptake of 89.0% for the general population in Spain<sup>85</sup>). However, senior people with disabilities had a low uptake of 24.7% compared to the 58.0% reported by Eurostat for the general population aged 65-74. DG INFSO - Study on the Internal Market for assistive ICT - Final report, 2008.

<sup>86</sup> 'The Internal Market for assistive ICT' published by Deloitte.

<sup>87</sup> <http://stakeholders.ofcom.org.uk/binaries/research/consumer-experience/GfKNOP.pdf>

prevalence of disability<sup>88</sup>. An estimation of the take-up rate of smart phones by persons with disabilities can be calculated<sup>89</sup> at 36.86%.

Member States have developed different **legislation, technical rules, programmes and practices** putting direct obligations on services providers affecting in a different way the two components mentioned above, namely services and terminals. A report of the European Regulator BEREC concludes that "most significant differences exist with regard to telecommunications-related services to be provided by the operators in different Member States". The measures taken are a mix of legislative, policy, programme and technical measures. In the 9 Member States examined there were no direct obligations placed on terminal manufactures. The obligations on the provision of accessible terminals are indirectly placed through their provision by telecommunication service providers. Telecommunication services providers and manufacturers of terminals would need to comply with a significant and different number of measures related to accessibility if they were to operate across all the EU countries. Some of those measures relate to affordability but many of those different measures concern accessibility sometimes provided via assistive solutions in the absence of mainstream equivalents.

The functionality of the internal market in relation to telecommunications services is compromised. There are barriers and obstacles to free trade as the telecommunications service providers cannot offer their services in all Member States without investing time to understand the relevant national requirements and making respective adaptations to their service portfolio (e.g. to ensure that accessible billing is available). Furthermore, service providers in some Member States experience higher costs than providers in other Member States as they have to ensure that accessible services are available, which operators in other countries currently do not need to ensure. While there are no legal barriers for mainstream terminal manufactures to place their products in the market, the existence of **different national practices and standards** in relation mainly to Real Time Text services seems to have a negative impact in the availability of mainstream terminals that would address those services, being left often to old PSTN specialised terminals.

Concerning emergency services and the terminals used in the PSAPS, it was perceived that businesses usually look at all of Europe instead of focusing only on single national markets. It was stated that there was a lack of economies of scale, as the goods/services produced cannot be sold in other Member States without adaptations of the accessibility features. However, the lack of economies of scale is more closely linked to technical details other than accessibility, as accessibility is only one of several challenges in the market. The existing different requirements in legislation lead to market fragmentation since service and equipment providers have to do an extra-effort in order to adapt their goods and services to the national

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<sup>88</sup> [http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/CMR\\_UK\\_2012.pdf](http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/CMR_UK_2012.pdf) p. 58

<sup>89</sup> using the ratio of the take-up of mobile telephony of PwD / take-up of mobile telephony of Non-PwD (i.e. 86%/91%=94.51%) and applied it to the 39% of UK smart phones owners. Hence, our estimate of PwD smart phone take-up is 36.86% (i.e. 94.51%\*39%).

or even regional market. Moreover, the market fragmentation may lead to problems for disabled travellers and cross-border workers in emergency situations.

People with disabilities need to be able to communicate with the emergency services using the same conversational terminal for the emergency call that they use for everyday calls and this is a problem when travelling across the EU as for example terminals that would interoperate with PSAPs terminals in one Member State, will most probably not be able to do so in another Member State when using Real Time Text or video. This fragmentation affects fixed and mobile terminals. However market forces have solved the voice interoperability issues long time ago.

The main obstacles encountered by disabled people are the physical and financial accessibility of the services. Certain disabled people cannot have access to some telecommunication services without adaptation (expensive handsets, etc.). They also may face higher costs because they need more time to use a service.

In the United States, technical standards exist related to accessibility of telecommunications services, networks and equipment. Those standards are compulsory under the section 255 of the Telecom Act and 508 of the Rehabilitation Act. The evolution of technology has been one of the reasons that lead the US administration to update those standards, which for example in the area of Real Time Text were based on old TTY (Teletype) solutions. Recently, the 21st Century Communications & Video Accessibility Act of 2010 (CVAA) (section 104) defines general non-technical accessibility requirements for advanced communications equipment and services, including RTT and video communication services and access to the next generation of 911 services. The Federal Communications Commission (FCC) has the competence to issue guidelines with compulsory technical requirements after a participative consultation of stakeholders. Such guidelines have not yet been published but they are under development. Industry has developed a number of initiatives to raise awareness about their efforts to comply with US regulations and raise visibility about the accessibility features of their products. Some seem to be directly linked to legislative obligations like the information about the level of compatibility between mobile phones and hearing aids. Such information is commonly available at retail telephone shops in the US. Others initiatives seem to respond to voluntary efforts of industry to reach disabled customers like the database on accessibility features of phones. Despite these efforts, and according to the FCC, the adoption by Congress of the CVAA was needed to ensure that telephone and television services would be accessible to all Americans with disabilities.: *"The CVAA follows a string of laws, passed in the 1980s and 1990s that were designed to ensure that telephone and television services would be accessible to all Americans with disabilities. But these laws were not able to keep up with the fast paced technological changes that our society has witnessed over the past decade. The new law contains ground breaking protections to enable people with disabilities to access broadband, digital and mobile innovations."*

#### 4. eBooks

Electronic books, generally referred to “eBooks”, are books that are provided in digital form, consisting of text and / or images and which are readable on computers, mobile telephones or other electronic devices, such as dedicated eBook readers. eBooks are available in numerous formats. Some of these are supported by large software companies such as Adobe (PDF formats) while others are supported by open-source and independent programmers.

Figures from the Royal National Institute of Blind People (RNIB) in the United Kingdom suggest that “just 7% of all books are available in Braille, audio and large print, including titles available in these formats using eBooks”. The **overall share of accessible eBooks** is estimated to be **32.5%**, according to the MeAC 2 study (2011), which considered the following two indicators: (1) provision of accessibility information by the two main public electronic libraries; and (2) provision of accessibility information by the main eBook reader manufacturers. In this context it can be noted that accessible eBooks are often provided by public or publicly funded organisations such as national libraries for blind people – not by the market.

Generally making the document accessible includes mark-up of the document as per its semantics (headings, pages, footnotes etc.) and then converting it to DAISY XML and DAISY text-only book. The work starts from unformatted electronic files such as Word, TXT, HTML etc. The DAISY XML file can be used to create other accessible formats such as Braille and audio while the DAISY text-only book can be directly used for reading purposes.

Publishers continue to discuss the merits of different file formats. Formats are especially important to consumers, as few eReader or eBook companies in Europe provide full interoperability with all formats available on the market. This means that consumers have to be aware of the file type and compatibility with their own devices. Another related issue refers to Digital Rights Management (DRM) practices which limit the user’s access rights to eBook content which are needed to operate text-to-speech programmes for blind persons. Therefore, even where an electronic version of a book is available, it is not ensured that the end user has the “permission” to convert it from text to speech or that the software/reader can support this facility

In conclusion, the main limitations in accessibility of digital publications include the lack of accessible information about the functioning of the service and the accessibility characteristics of the publications themselves, including interoperability with assistive devices, the lack of accessible online related applications including electronic information needed in the provision of the service.

The overall share of accessible products is estimated to be 32.5%, according to the MeAC 2 study (2011), which considered the following two indicators: (1) provision of accessibility information by the two main public electronic libraries; and (2) provision of accessibility information by the main eBook reader manufacturers. In this context it can be noted that accessible eBooks are often retrofitted by public or publicly funded organisations such as national libraries for blind people.

ANED already identified accessibility requirements on eBooks in five EU Member States in addition to Italy (identified by Deloitte).

As concerns the key players on the market, as a starting point a distinction can be made between two types of players in the eBook market, namely publishers and retailers. The main activity of publishers is to distribute eBooks, whereas retailers supply eBooks to the end-

users<sup>90</sup>. Focusing on actions covered by publishers, the market consists of at least 31 players. It must, however, be noted that the European eBook market in addition includes a large number of smaller publishers that operate in certain niche segments of the market. Furthermore, “self-publishing” is an increasing market for writers and especially academics. The market share of eBooks in the European publishing market is about 1%, while it is about 15-20% in the USA.

In the next years, the European eBook markets are expected to grow strongly. Based on a PricewaterhouseCoopers<sup>91</sup> market outlook for Germany, the Netherlands and the United Kingdom, the growth potential for accessible eBooks (CAGR) in Europe is estimated to be about 36.6% from 2012-2015. Because no growth estimations for the time period after 2015 could be identified, it was assumed that the growth rate will remain constant until 2020.

The regulatory landscape related to the accessibility of eBooks in Europe remains weak as legal technical accessibility requirements for eBooks were only identified for a niche market in Italy. This said the existing European and Member State legislation on copyright waivers for disabled persons under certain conditions also impacts on the accessibility of eBooks. Furthermore, several Member States (as well as the USA) have implemented legal accessibility requirements in relation to the provision of electronic information by public bodies. While eBooks do not fall directly under their scope, it is possible that as the market for eBooks matures, governments may in the future adopt the practice of providing official publications in eBook formats. In addition, some Member States such as Spain have implemented governmental support schemes to foster the accessibility of books (including eBooks) and libraries. Finally, international industry initiatives for the standardisation of eBook formats in the framework of the International Digital Publishing Forum (IDPF) and the DAISY Consortium have been an important – yet insufficient – driver to foster the accessibility of eBooks on a voluntary basis.

The **Italian accessibility requirements** for electronic versions of educational textbooks have been introduced through the Ministerial Decree of 30 April 2008 on "Technical rules governing access to educational tools and training for pupils with disabilities"<sup>92</sup>. These requirements “apply to the educational and didactic materials used in all schools and at every level” in Italy (Art. 5 of the ‘Stanca’ Law 4/2004<sup>93</sup>). The accessibility requirements in Italy cover the structure, navigation features, use of images, graphs and tables, magnification features, content export and interoperability with reading devices and assistive technology.<sup>94</sup>

Several EU/EEA Member States have introduced **copyright waivers** for disabled persons under specific conditions based on the European Directive<sup>95</sup>, including France, Germany, Ireland, the Netherlands, Norway and the United Kingdom. While eBooks are not explicitly mentioned in the European and Member State legislation on copyright exemptions for

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<sup>90</sup> Prieto/Schiro (2011): “E-book market: recent developments and competitive concerns”. The main retailers in the U.S. in 2010 were Amazon (58%), Barnes & Nobles (27%) and Apple (9%), <http://www.bloomberg.com/news/2011-03-22/barnes-noble-is-said-to-be-likely-to-end-search-for-buyer-without-a-sale.html>

<sup>91</sup> PwC: Global Entertainment and Media Outlook 2010 – 2014, German Entertainment and Media Outlook 2010 – 2014; see [http://www.pwc.com/en\\_GX/gx/entertainment-media/pdf/eBooks-Trends-Developments.pdf](http://www.pwc.com/en_GX/gx/entertainment-media/pdf/eBooks-Trends-Developments.pdf)

<sup>92</sup> <http://www.pubbliaccesso.gov.it/normative/DM300408/htm>

<sup>93</sup> [http://www.pubbliaccesso.gov.it/normative/law\\_20040109.htm](http://www.pubbliaccesso.gov.it/normative/law_20040109.htm)

<sup>94</sup> A full translation of the requirements can be found in the Annex (see section 3.2).

<sup>95</sup> Directive 2001/29/EC on the harmonisation of certain aspects of copyright and related rights in the information society.

disabled persons, the provisions can be interpreted to have an impact on eBooks. It is yet to be seen how such exemptions will impact the market for (accessible) eBooks. On the one hand, such copyright exemptions would need to be integrated in Digital Rights Management (DRM) systems of eBooks in order to allow disabled persons to benefit of their legal entitlement. On the other hand, such exemptions may restrain eBook publishers to consider disabled persons as an interesting segment in the mainstream market because this customer group benefits from specific rights with regard to copyrights, which may negatively affect their profitability.

Some Member States such as **France** or Germany have adopted specific and detailed accessibility requirements in relation to the provision of electronic information by public bodies. This does not cover eBooks *per se* and the regulations are most relevant to content and format (e.g. the provision of official documents in PDF and HTML). For instance, the French General Reference Document for Accessibility in Administrations<sup>96</sup> (Référentiel Général d'Accessibilité des Administrations, RGAA) sets out detailed technical requirements and guidance for electronic (online) content published by public authorities by inter alia referring to the WCAG 2.0 recommendations. While these guidelines mainly focus on web-accessibility issues, many requirements (e.g. with regard to document structure, navigation elements, use of graphics and formulas, etc.) may also be applied to eBooks and other electronic documents. Even though such accessibility requirements in relation to the provision of electronic information by public bodies are not directly relevant to publication of eBooks (from a legal point of view), they may become relevant in the future.

In **Spain**, Law 10/2007 on reading, books and libraries<sup>97</sup> regulates the management system of public libraries and citizens' rights on their use. This piece of legislation does not provide technical requirements, but contains the government's engagement to promote access to reading without discrimination and the obligation that support programmes for the book industry must take into account the particular needs of people with disabilities, especially regarding the promotion, dissemination and standardisation of accessible formats and methods. While governmental support schemes cannot be expected to ensure the accessibility of all eBooks, they are certainly an important measure to raise awareness of and provide guidance to publishers and retailers in order to foster the voluntary industry uptake of international accessibility standards for eBooks.

**International industry initiatives for the standardisation of eBook formats** have been a driving force to foster the accessibility of eBooks on a voluntary basis. Yet, these efforts have so far not been sufficient to ensure a broad accessibility of the European eBook market. The International Digital Publishing Forum (IDPF), the global trade and standards organisation dedicated to the development and promotion of electronic publishing and content consumption, supports ePub to be the standard format for electronic publishing.<sup>98</sup> "ePub defines a means of representing, packaging and encoding structured and semantically enhanced Web content - including XHTML, CSS, SVG, images, and other resources - for distribution in a single-file format. ePub allows publishers to produce and send a single digital publication file through distribution and offers consumers interoperability between software/hardware for unencrypted reflowable digital books and other publications."<sup>99</sup> The DAISY Consortium<sup>100</sup> has developed accessibility solutions that have been integrated into the ePub standard.

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<sup>96</sup> <http://references.modernisation.gouv.fr/rgaa-accessibilite>

<sup>97</sup> <http://www.boe.es/boe/dias/2007/06/23/pdfs/A27140-271>

<sup>98</sup> <http://idpf.org/>

<sup>99</sup> <http://idpf.org/>

<sup>100</sup> <http://www.daisy.org/>

The ePub standard has established itself as the predominantly used format for eBooks. However, other proprietary formats such as those of Apple or Amazon remain very significant. Furthermore, some popular reading devices such as Amazon's Kindle do not support ePub. Another related issue refers to Digital Rights Management (DRM) practices that limit the access rights to eBook content, which is needed to operate text-to-speech programmes for blind persons, as mentioned before.

Interviewed industry players have pointed out the following challenges when operating in the EU internal market: technical problems; a narrow and fragmented market; a costly, overly complicated and time-consuming process of acquiring information and knowledge on accessibility for SMEs; no specific guidance on accessibility; and rapidly changing requirements and technologies. Furthermore, several accessibility features would need to be considered to take into account consumers' different abilities. For these reasons, many eBook industry players consider that the incentives are very limited to invest in accessible products, leading to an insufficient provision of accessible eBooks. This said, obstacles may arise for businesses if Member States would introduce diverging accessibility requirements for eBooks in the future.

## **5. Private sector websites**

This case only addresses the assessment from the perspective of businesses, meaning web developers, given the fact that the situation across these sectors is similar (i.e. in terms of the legislative environment as well as cost estimates, etc.). The assessment of the problems from a consumer perspective and the subsequent baseline scenario are presented in the cases on eCommerce, hospitality, banking and transport services. More qualitative and / or quantitative elaborations and calculations regarding the consumers' situation can be found in the respective single cases.

Web accessibility refers to the inclusive practice of making websites usable by people of all abilities and disabilities. When websites are correctly designed, developed and edited, all users can have equal access to information and functionality. People with disabilities may use assistive technologies to facilitate the management and interaction with web contents.

It is essential that several different components of web development and interaction work together in order for the web to be accessible to people with disabilities. These components<sup>101</sup> include: contents (information in a Web page or Web application), web browsers, media players and other "user agents", assistive technology (e.g. screen readers, alternative keyboards, switches, scanning software, etc.), authoring tools and evaluation tools. For the purpose of this impact assessment only private sector websites are taken into account.

The accessibility of private sector websites is low. The 2011 benchmarking study MEAC 2 selected per country a handful of much used commercial websites with public relevance such as public transport, banks, newspapers and other media, and found that 18% of them were web-accessible.

While the accessibility of private sector websites among the 10 countries studied in detail in Deloitte's study is currently only covered with mandatory requirements in Spain, this situation can be expected to evolve in the future. Furthermore in some Member States like the UK accessibility of private sector websites is covered by antidiscrimination legislation in relation to access to services. This has resulted in some court cases for companies failing to fulfil

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<sup>101</sup> <http://www.w3.org/WAI/intro/components.php>

accessibility obligations<sup>102</sup>. Voluntary standards to promote web-accessibility among private businesses have also been identified in Italy and the United Kingdom. ANED has also identified requirements on private sector websites in five additional EU Member States (Belgium, Cyprus, Malta, Netherlands and Slovenia).

Furthermore, the Commission has prepared an in-depth impact assessment on the problem of the non-functioning of the internal market of web accessibility based on the existing diverging rules for public sector websites in the proposal COM (2021) 721. The information and calculations in Annex 7 have been as much as possible aligned. This is the case for example of the information used to calculate the costs of making websites accessible.

Completely different approaches to web-accessibility of public sector websites have been taken in 13 EU Member States within the scope of the analysis of an EU study<sup>103</sup>. Indeed some Member States introduced detailed technical mandatory requirements, whereas others only have possible protection from equality law. Some Member States have already extended their accessibility requirements for private sector websites<sup>104</sup>. If the rest of the Member States were to do so and extend also their accessibility requirements to private sector websites, this would lead to a strongly fragmented regulatory landscape for private sector websites.

Eurostat's latest available structural business statistics (referring to 2010) indicate that 189,960 businesses were active in computer programming activities (NACE rev. 2, J6201) generating a total turnover of 136,410.13 EURm. According to the most recent data from 2011, the total turnover generated went slightly up to 146,016.8 EURm. Data on the number of companies active in the field of web portals (NACE re.v 2, J6312) was not available. In 2009, however, the web portal industry generated a turnover of 14,269.98 EURm.<sup>105</sup>

A good proxy for the number of websites in the EU27 is the number of businesses<sup>106</sup>. In the EU27 there were some 21,761,617 companies in 2010 which would imply that there could be around the same number of websites run by private sector.

The main limitations in accessibility of websites include the lack of accessible information about the functioning of the service and the accessibility characteristics, the lack of accessible online related applications including electronic information needed in the provision of the service.

Projections for future development are uncertain, therefore it is assumed that the number of businesses (i.e. websites) remains at the same level.

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<http://www.rnib.org.uk/aboutus/mediacentre/mediareleases/mediareleases2012/Pages/pressrelease27Jan2012.aspx>

<sup>103</sup> Technosite, NOVA and CNIPA (2010) Study on Monitoring eAccessibility – MeAC2. Report on implementation and interpretation of WCAG 2.0. Available at [http://www.eaccessibility-monitoring.eu/descargas/MeAC2\\_Report\\_on\\_implementation\\_and\\_interpretation\\_of\\_WCAG\\_2\\_0.docx](http://www.eaccessibility-monitoring.eu/descargas/MeAC2_Report_on_implementation_and_interpretation_of_WCAG_2_0.docx)

<sup>104</sup> <http://ec.europa.eu/digital-agenda/en/news/study-assessing-and-promoting-e-accessibility>

<sup>105</sup> [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=sbs\\_na\\_1a\\_se\\_r2&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=sbs_na_1a_se_r2&lang=en)

<sup>106</sup> As used in the impact assessment accompanying the proposal for a Directive of the European Parliament and of the Council on the accessibility of public sector bodies' websites, page 9  
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SWD%3A2012%3A0401%3AFIN%3AEN%3APDF>

The regulatory landscape related to the accessibility of private sector websites is weak in comparison with the accessibility of public websites which is increasingly regulated across Europe.

**Mandatory web-accessibility requirements** for certain private undertakings have been identified in **Spain**. The Royal Decree Royal Decree 1494/2007 regulates the basic terms and conditions of access for the disabled to technologies, goods and services related to the information society and social media. It also provides legal force to the national standard UNE 139803:2012 “Web content accessibility requirements”. The Spanish legislation covers all governmental websites. Law 56/2007 on measures for the promotion of the Information Society extends this obligation of web accessibility to enterprises offering services of public interest (public or private ones). This concerns Spanish companies with over 100 employees or a turnover of more than EUR 6,010,121.04, if operating in any of the following economic sectors: electronic communication services giving services to consumers; consumer financial services, which include banking services, credit or debit services, investment services, insurance, pension plans and brokering; water supply companies giving services to consumers; gas supply companies giving services to consumers; gas supply companies giving services to final consumers; travel agencies; companies transporting travellers (by road, rail, sea or air); and retail companies giving services to final consumers. Law 49/2007 establishing the system of offenses and penalties relating to equal opportunities, non-discrimination and universal accessibility for people with disabilities foresees penalties of up to 30,000 EUR per site in case of non-compliance.

Accessibility of private sector websites falls also under the scope of some national antidiscrimination legislation but without the provision of specific technical requirements.

**Voluntary standards to promote web-accessibility among private businesses** have been identified in **Spain** and the **United Kingdom**. In **Italy**, a voluntary scheme to encourage the accessibility of private sector websites has been launched in 2004. Yet, in a large majority of countries, the provision of accessible private sector websites mainly depends on the voluntary action by service providers.

In Spain, the aforementioned national standard UNE 139803:2012 “Web content accessibility requirements” also intends to promote the take-up of web-accessibility features by private businesses that are not covered by the obligations of Law 56/2007.

In the United Kingdom, the British Standard 8878: 2010 “web accessibility code of practice” provides guidance on web-accessibility to private businesses of all sectors. The BS 8878:2010 code of practice applies to all products delivered via a web browser, including websites, web services and web-based applications such as email. It is intended to help anyone commissioning or designing a website or product to ensure it can be accessed by anyone. It outlines ways to define and assess the impact of web products on users, especially disabled and older people. The BS 8878:2010 is not a technical standard, but a process standard aimed not to substitute WCAG but to work alongside it. Compliance with the standard implies compliance with WCAG version 2.0, as the websites has to be tested against it.

In Italy, The Law 4/2004 on provisions to support the access of the disabled to information technologies (“Stanca Law”) as well as the implementing legislation (Decree of the President of the Republic, March 1st 2005, No. 75 on Enforcement Regulations for Law 4/2004 to promote the access of the disabled to information technologies; Ministerial Decree of July 8, 2005 on technical requirements and the different levels of accessibility of computer tools ) define technical accessibility requirements as well as a conformity assessment and labelling scheme for accessible websites. While the legal obligation to comply with these requirements

is limited to public administrations, public agencies, private firms which are licensees of public services, regional municipal companies, public assistance and rehabilitation agencies as well as transport and telecommunication companies in which the State has a prevalent shareholding and ICT services contractors (art. 3 para 1 Law 4/2004), the voluntary uptake by private sector websites is encouraged via the labelling scheme which is implemented by the public agency CNIPA (Centro Nazionale per l'Informatica nella Pubblica Amministrazione).

Voluntary standards and certification schemes for the promotion of the accessibility of private sector websites have so far had a limited impact on private businesses, even though anecdotic evidence points to a few success stories.

**Costs** associated with the regulatory fragmentation in the EU are **incurred by web professionals** that basically provide websites with accessibility features. Web professionals cannot provide their services to businesses without incurring costs for efforts they have to make in order to understand the legislation (namely the Spanish one) and adapting their services and products accordingly. It can be expected that web professionals directly forward their costs of adapting to the legislation to their customers, i.e. the businesses that have commissioned web professionals to develop an accessible website. Furthermore, this is a problem that applies to all types and sectors of professional website services. Web professionals face accessibility compliance costs of 1.1 EURm to 9.7 EURm (depending on the complexity of the website) when providing web development services to Spanish online service providers that operate in Spain.

It should be noted that web-accessibility services are themselves examples of cross-border online services and lend themselves well to be delivered over the internet, provided language is not a barrier, thus creating job opportunities also in low-wage EU countries. Yet, an increasing number of eCommerce businesses are providing accessible websites and services on a voluntary basis - not least in view of the important customer base of disabled persons and elderly.

## 6. Architect services

Accessibility requirements for the built environment affect primarily the architect services' sector.

These services according to the European Union structural business statistics NACE Rev. 1.1<sup>107</sup> *inter alia* include:

- Architectural and engineering activities, corresponding to NACE Group 74.2, which include:
  - o Architectural consulting activities (such as building design and drafting, supervision of construction, town and city planning, and landscape architecture);
  - o Various engineering and technical activities related to construction;
  - o Geological and prospecting activities;
  - o Weather forecasting activities;

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<sup>107</sup>[http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/Architectural,\\_engineering\\_and\\_technical\\_services\\_statistics\\_-\\_NACE\\_Rev.\\_1.1](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Architectural,_engineering_and_technical_services_statistics_-_NACE_Rev._1.1)

- Geodetic surveying;
- Technical testing and analysis activities, corresponding to NACE Group 74.3, which include:
  - Environmental measuring;
  - Testing of food hygiene, buildings and equipment;
  - Periodic testing of vehicles for roadworthiness.

The differences identified in legislation and detailed technical accessibility requirements for the built environment by Deloitte lead to barriers for architectural design and construction companies providing services across borders within the Internal Market. Businesses face extra costs every time they work on projects in other countries because they have to understand and comply with differing local regulations on accessibility and other technical areas. Different accessibility requirements concerning issues such as entrances, corridors, stairways, toilets and manoeuvring areas roughly affect 25% or more of the net space of buildings. Compliance with local requirements may require the hiring of local designers in order to operate swiftly enough during the design process, and to minimise the likelihood of expensive mistakes.

Another example of fragmented legislation related to the vertical design of buildings for accessibility which in simple terms relates to the obligation to have lifts for buildings of more than one floor. The fragmented situation resulting from national regulations is such that for example in some German Länder it is still allowed the construction of residential buildings of 4 levels without a lift and at least 6 EU Member States only require the placement of lifts in a limited number of public buildings. Slovenia requires the lift from 3 floors onwards. At least 14 Member States require the placement of a lift in public buildings of more than 1 floor. Architects need to be aware of these divergences and adapt their designs accordingly.<sup>108</sup> In fact a design that would be fulfilling national accessibility legislation in one country would not be legally correct in others. Furthermore this plays also a role in public procurement as the placement of lifts in public buildings is a key component of their accessibility. Bids from other Member States could be excluded if they were following national rules on the placement of lifts.

Some 129.6 EURb of value added was generated in 2006 by the EU's technical business services sector (NACE Groups 74.2 and 74.3) from a turnover of 269.6 EURb<sup>109</sup>. This

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<sup>108</sup> ELA - EEA - ELCA - EFESME – EPSA-EDF - ANEC – EUCAN report on Accessibility of the built environment legislation in Europe; 2013. It is important to note that this study concerns the divergent legislation related to the design of buildings and not the design of the lifts themselves for which EU legislation already exists and it has been indicated by ELA (European Lift Association) to have been extremely useful in removing fragmentation from EU market and provided new market opportunities for industry

<sup>109</sup> The update from 2011 is "Some 147.8 EURb of value added was generated in 2011 by the EU's technical business services sector (NACE Rev.2 division 71) from a turnover of 297.6 EURb. This corresponded to 28 % of the total turnover for business services excluding software publishing, data processing, hosting and related activities; web portals (NACE Rev.2 Divisions 69, 71, 73 and 78 and group 70.2)

corresponded to 15.3 % of the total turnover for business services (NACE Divisions 72 and 74) and 14.5 % of the value added. According to other Eurostat statistics, around 26% of the EU turnover of architecture, engineering and technical testing related to architectural services.<sup>110</sup>

Using these numbers, the **turnover of architect services** in Europe in 2006 is estimated to have been **37.74 EURb**. In **2011**, according to the most recent data, this turnover went up to **39.4 EURb**.

Large **architectural design companies regularly work across borders**. Hiring local expertise or co-contracting local companies are typical market solutions in order to more quickly understand and comply with local (accessibility) requirements.

The **fragmentation of the legislative situation** (analysed in detail further down) in the EU27 architect service market can, however, **lead to additional costs for architect firms**. As noted above, these costs relate to efforts that need to be made in order to understand the different domestic accessibility legislations in the EU Member States where the building needs to be set up and to adapt the architectural services accordingly. Evidence from Germany suggests that architect fees are in the range of 10% to 13% of the total (monetary) building sum for new buildings and 15% to 18% for existing buildings.<sup>111</sup>

Data from the Royal Institute of British Architects suggests that an architect's working hour on average costs 61 EUR in the UK.<sup>112</sup> Thus, an average cost of 50 EUR to 70 EUR *per* working hour has been assumed. Furthermore, it has been assumed that in order to understand the existing legislative requirements in the EU Member State where an architect is providing services, one fulltime equivalent's (FTE) work is needed to be put in for two to ten days.

About 40% of architect service projects undertaken by major architectural companies can be on buildings in other countries. For smaller companies the fraction is much lower, around 10%<sup>113</sup>. The total volume has not been identified as early discussions with major architectural design companies indicated that the exact number of projects affected was not regarded as having a significant impact on their annual financial turnover. Since it can be assumed that most of the cross-border architect projects in Europe are undertaken by major companies, the rate for **cross-border trade** in the area of architect services has been fixed at **40%**.

The provision of architect services across national borders within the Internal Market typically covers situations where an architectural company wins a competition or is awarded a public procurement contract on designing buildings in another Member State. The early plans

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and 25.2% of the value added. According to other Eurostat statistics, around 13% of the EU turnover of architecture, engineering and technical testing related to architectural services."

<sup>110</sup> [http://epp.eurostat.ec.europa.eu/cache/ITY\\_OFFPUB/KS-SF-08-042/EN/KS-SF-08-042-EN.PDF](http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-SF-08-042/EN/KS-SF-08-042-EN.PDF), p. 3

<sup>111</sup> <http://www.aknw.de/bauherren/planen-und-bauen/architektenhonorar/>

<sup>112</sup> <http://www.servicemagic.co.uk/resources/guide-to-architect-fees-costs-and-prices/>

<sup>113</sup> Review of portfolios of 20 major European architectural companies and 20 smaller German and Nordic companies, by Soren Ginnerup, Building Research Institute of Denmark, 2012, plus interviews with members of the Association of Danish Architects.

as well as more detailed designs often rely on domestic, standardised architectural designs compliant with the accessibility requirements in the home country of the company. Such requirements include a range of elements such as design of ramps, entrances, door placement, door widths, thresholds, automatic door controls, access control interfaces, lobby space layout, toilet room layout, toilet room equipment specifications, alarm system placement, dimensions of handrails, stair layout, signage and self-service terminals. The needs of most users of a building have to be considered under building regulations nowadays, and accessibility requirements derive from the needs of a wide range of persons, primarily with reduced mobility, but also with cognitive and sensory impairments.

**All EU Member States require built environment elements to be designed to be accessible** for persons with disabilities. The CEN/CENELEC/AENOR Mandate 420 report provided an overview of the coverage of various accessibility issues in the built environment by legislation and other statutory documents in different European countries and regions. While a large number of accessibility issues are covered in all EU Member States, the detailed level of coverage varies strongly across countries.

Furthermore, the **detailed technical specifications for the accessibility requirements vary across Member States**. As an illustrative example, the table below provides examples of technical accessibility requirements in the built environment (with regard to ramps, doors, toilet room free space and stair cases) in seven European countries. It appears that while most countries have regulated the accessibility of these built environment elements, the detailed technical requirements vary across countries. As a result, **architectural designs** that are exported to other countries **have to be adapted to meet national codes and regulations**, and consequently no single, standard design can be put to use across Europe.

*Table 2: Examples of technical accessibility requirements in the built environment*

Differences in requirements, non-domestic buildings	France	Ireland	Spain	United Kingdom	Germany	Norway	Italy
Ramp slopes, max.	1:20	1:12	-	1:12	1:16.5	1:12	1:12.5
Ramp widths, min.	1.4 m	1.0 m	-	1.5 m	1.5 m	1.6 m	0.9 m
Corridor widths, min.	1.4 m	1.2 m	0.9 m	1.2 m	1.5 m	1.6 m	1.0 m
Door widths, min.	0.9 m	0.8 m	0.85 m	0.8 or 1.0 m	0.9 m	1.0 m	0.8 m
Toilet room free space	One side	One side	One side	One side	Two sides	Two sides	-
Relative size of staircases	Small	Small	-	Medium	Larger	Larger	-

In view of overcoming this legislative fragmentation, the European Commission issued a Standardisation Mandate to CEN, CENELEC and ETSI in support of European accessibility requirements for public procurement in the built environment (Mandate 420<sup>114</sup>) in 2007. The main objectives of this mandate are to: (1) facilitate the public procurement of accessible built environment following the Design for All principles by developing a set of standards/Technical specifications that will contain (I) a set of functional European accessibility requirements of the built environment; and (II) a range of minimum technical data to comply with those functional requirements, and (2) to provide a mechanism through which the public procurers have access to an online toolkit, enabling them to make easy use of these harmonised requirements in procurement process. The results of the first phase of Mandate 420 are available and identify a set of standards on accessibility along with various methods to assess conformity with those standards for the built environment.<sup>115</sup> The progress with the Mandate is highly welcomed, yet European standards not accompanied by other legal measures are voluntary tools.

Based on the above findings, it can be concluded that the legislative landscape at national level is fragmented, with **large variations between different jurisdictions in terms of how accessibility in the built environment should be ensured**. National or regional technical accessibility requirements for the built environment exist in all 27 EU Member States.

The differences identified in legislation and detailed technical accessibility requirements for the built environment **lead to barriers for architectural design companies providing services across borders** within the Internal Market. Businesses face **extra costs** every time they work on projects in other countries because they have **to understand and comply with differing local regulations on accessibility** and other technical areas. Accessibility requirements concerning issues such as entrances, corridors, stairways, toilets and manoeuvring areas roughly affect 25% or more of the net space of buildings. Compliance with local requirements may require the hiring of local designers in order to operate swiftly enough during the design process, and to minimise the likelihood of expensive mistakes.

In some case, software toolkits attempt to supply a better overview of national/regional (accessibility) requirements, where these may be difficult or time-consuming to understand by professionals. Cross-border information, however, does not seem to be included. BIM and CAD systems used for modelling increasingly act as on the fly toolkits making adaptations of different local requirements easier, typically offering ranges of standard building elements and solutions to choose from.

Designers may use some of the existing toolkits and they might be helpful to a certain extent. However, they will never solve the legislative fragmentation problem.

## 7. Self-service terminals including ATMs

Self-service terminals (SSTs) are computerised telecommunications device or electronic outlets that provide the users with access to various operations in public spaces without

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<sup>114</sup> EC (2007): *Standardisation Mandate to CEN, CENELEC and ETSI in support of European accessibility requirements for public procurement in the built environment*, M/420 EN, [http://ec.europa.eu/enterprise/standards\\_policy/mandates/database/index.cfm?fuseaction=search.detail&id=392#](http://ec.europa.eu/enterprise/standards_policy/mandates/database/index.cfm?fuseaction=search.detail&id=392#)

<sup>115</sup> CEN, CENELEC and AENOR (2011): *Final Joint Report - CEN/BT WG 207 (PT A and PT B) – Phase I: Inventory, analysis and feasibility of European and International accessibility standards in the built environment*, <ftp://ftp.cen.eu/CEN/Sectors/Accessibility/ReportAccessibilityBuiltEnvironment%20Final.pdf>

personal assistance. SSTs are commonly used in several sectors such as banking (ATMs), retail (self-checkout machines) and transport services (check-in machines and ticketing machines).

More specifically, an Automated Teller Machine (ATM) is a computerised telecommunications device or an electronic banking outlet that provides the users (e.g. clients of financial institutions) with access to banking operations in public spaces without the assistance of a clerk. There are two primary types of ATMs: the basic units allow the customer to only withdraw cash and receive a report of the account balance. The more complex machines will accept deposits, facilitate credit card payments and report account information. On most modern ATMs, the customer is identified by inserting a plastic ATM card with a magnetic stripe or a plastic smart card with a chip and by entering a personal identification number (PIN)<sup>116</sup>.

As computerised devices, SSTs require operating systems in order to perform the various available functions. In the case of ATMs, their vast majority nowadays use a Microsoft Windows operating system or Linux. In addition to the operating systems, SSTs require various applications (constantly improved) that allow transactions to be performed. Hence it is important that both the physical device (the SST machine) and the software are accessible for a fully user-friendly experience.

The accessibility requirements of the physical setting usually stem from regulation addressing the built environment, and can vary depending on different aspects such as the access to the pathway towards the machine, the lighting of the environment, etc. The accessibility features behind the SST should include more than ensuring that the SST has the right position/height, such as that facilities can be accessed, e.g. because of lack of sound, wrong lightning, lack of logic etc.

Regarding the barriers linked to the usability of the interface, the following challenges have been highlighted both in the public consultation and by the other sources of information consulted: the height of the machine relative to users in a wheelchair; the lack of similarity of the display from one machine to another (inconsistent layout of keypads, number orientation, size and style of the keys, colour and contrast); the lack of audio output; the small print of the receipts issued by SSTs which makes them difficult to read, and poor general functionality. In addition, according to the public consultation, there needs to be a requirement for ATMs to use the already existent speech technology, as speech technology is seen as adding significant value to the user experience<sup>117</sup>.

In summary, the main limitations in the accessibility of ATMs and self-service terminals are linked to the functionality of the good, the limited accessibility of the user interface and the limited interoperability with assistive devices and when existent, it is very seldom standardised across the EU<sup>118</sup>.

Technical accessibility requirements have been identified in 8 out of 9 EU Member States (i.e. 89%) within the scope of the analysis. ANED identified at least six other Member States, with requirements in this area.

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<sup>116</sup> Among others, cf.

[http://www.sccs.swarthmore.edu/users/08/ajb/tmve/wiki100k/docs/Automated\\_teller\\_machine.html](http://www.sccs.swarthmore.edu/users/08/ajb/tmve/wiki100k/docs/Automated_teller_machine.html),  
<http://banksindia.in/atm-services>, [http://www.diebold.com/atmsecurity/security/EMV\\_WhitePaper.pdf](http://www.diebold.com/atmsecurity/security/EMV_WhitePaper.pdf)

<sup>117</sup> Technosite. Accessible Personalised Services in PDTs for All (*work in progress*). 2012

<sup>118</sup> In the US a standard connector exists in ATMs so that a blind person can plug a headset and use the ATM to make transactions.

The regulatory fragmentation identified further down, introduces obstacles in the EU Internal Market. It is clear that in the current situation, an ATM that complies with the accessibility requirements in one Member States would not be compliant with the requirements other Member States and can therefore be sold in only one or two of these countries without adaptations<sup>119</sup>. This can be considered as an obstacle to the free movement of goods within the Internal Market.

Leading ATM manufacturers have confirmed that such regulatory differences in technical requirements lead to obstacles in the internal market and additional costs for accessibility because they have to familiarise themselves with the diverging national accessibility requirements and adapt their products in order to be able to sell them in the different national sub-markets within the internal market.

More specifically, based on the analysis above, it appears that:

- ATM manufacturers (large companies that sell their goods worldwide) face additional cost for product adaptations due to inconsistent and incompatible accessibility requirements across countries in the Internal Market;
- Retrofitting non-accessible ATMs can be very expensive; typically accessibility features are added when replacing existing ATMs by new (accessible) ones and seldom by retrofitting existing ones.
- European-level standardisation of accessibility requirements is advocated by the industry as the most appropriate way to overcome barriers in the Internal Market caused by inconsistent requirements. A single European voluntary standard would only potentially remove the costs that are necessary for national level adaptations and make accessible ATMs more affordable if enforced by EU legislation.

Disabled consumers find barriers in two dimensions of SSTs (including ATMs): on the one hand, the physical setting and surrounding of the machine and on the other, the design and usability of the interface.<sup>120</sup>

The accessibility requirements of the physical setting usually stem from regulation addressing the built environment, and can vary depending on different aspects such as the access to the pathway towards the machine, the lighting of the environment, etc. The accessibility features behind the ATM concern more than ensuring that the ATM has the right position/height, so that facilities can be accessed. They address many other barriers, for example those related to the user interface, e.g. lack of sound, wrong lightning, lack of logic etc.

Regarding the barriers linked to the usability of the interface, the following differences in features have been highlighted as challenges for compatibility, both in the public consultation and by the other sources of information consulted: the height of the machine relative to users in a wheelchair; the lack of similarity of the display from one ATM to another (inconsistent layout of keypads, number orientation, size and style of the keys, colour and contrast); the lack of audio output; the small print of the receipts issued by ATMs which makes them

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<sup>119</sup> As explained in the Annex on problem definition, for instance, an ATM with a height of operation of 1250 mm would be considered as accessible in France, Ireland and the UK, while it would be considered as inaccessible in Austria, Germany, Denmark, Spain and the Netherlands. Similarly, an ATM with a height of operation of 750 mm would be considered as accessible in Spain and the UK, while it would be assessed as inaccessible in Austria, Germany, Denmark, France, Ireland and the Netherlands

<sup>120</sup> INREDIS Project: <http://www.inredis.es/Default.aspx>

difficult to read, and poor general functionality. In addition, according to the public consultation, there needs to be a requirement for ATMs to use the already existent speech technology<sup>121</sup>.

In comparison to ATMs, ticketing machines and check-in machines have lower sales prices. Industry expertise provided by Wincor-Nixdorf suggests that EU sales prices for ATMs are between 8,000 and 42,000 EUR *per* product depending on the included features. According to Hoefft & Wessels, a ticketing machines manufacturer, sales prices for ticketing machines are around 10,000 EUR per good. By applying the same range of sales prices as for ATMs, the sales prices are expected to be between 3,200 EUR to 16,800 EUR. Since check-in machines are basically only provided with a touch screen and printing functionality their sales prices is expected to be even lower, i.e. 2,000 EUR to 8,000 EUR.

A leading authority on accessibility technology estimates that the costs of modifying hardware and software for a fully accessible system would not exceed 1%, at most 2%, of the entire development cost of a SST's hardware and software. This estimate is based on existing accessibility technology and design standards. On the other hand, retrofitting is usually very expensive (up to half the costs of a new ATM), meaning that embedding accessibility from the design phase would be a win-win situation both for the company and the end-user, since the latter would be more likely to engage in transactions and generate higher sales if the ATMs are accessible.<sup>122</sup>

According to Eurostat data (PRODCOM code 26201200) the **total production value** of "Point-of-sale terminals, ATMs and similar machines capable of being connected to a data processing machine or network" was **222,335,531 EUR** in 2011. Although the number of point-of-sale (POS) terminals is expected to be very high since almost every in-store check-out terminal is equipped with a POS payment device, it is expected that the majority of the market size can be attributed to ATMs. Hence, Deloitte assumed that 60% to 70% of the total annual production value can be attributed to ATMs. Thus, the applied annual market turnover stemming from ATMs is equal to 60% to 70% of the annual production value:

Lower range estimate: 60% \* 222,335,531 EUR = 133,401,319 EUR

Upper range estimate: 70% \* 222,335,531 EUR = 155,634,872 EUR

According to the European Central Bank (ECB), there were about 434,200 ATMs in the EU in 2010.<sup>123</sup> While the total number of ATMs has strongly increased in all EU Member States over the last decade<sup>124</sup>, growth has come to halt in recent years. For instance, in 2010 the total number of ATMs in the EU decreased slightly by 0.2%.<sup>125</sup> The ATM density in the Euro area has grown from about 675 ATMs per million inhabitants in 2001 to more than 950 ATMs per million inhabitants at the end of the decade. Since then the ATM density in the Euro area has been stagnating. The ATM market is largely controlled by eleven global players. Currently all major ATM manufacturers are able to develop and deploy accessible ATMs; some ATM

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<sup>121</sup> Technosite. Accessible Personalised Services in PDTs for All (*work in progress*). 2012

<sup>122</sup> See Frieden (2006); Gill (2009b).

<sup>66</sup> <http://www.ecb.int/press/pr/date/2011/html/pr110912.en.html>

<sup>124</sup> Data on the total number of ATMs for individual countries is available in the ECB's Statistical Data Warehouse: <http://sdw.ecb.europa.eu/search.do?type=series&q=number+of+ATMs>

See also: <http://www.epractice.eu/files/European%20Journal%20epractice%20Volume%2010.1.pdf>

<sup>125</sup> <http://www.ecb.int/press/pr/date/2011/html/pr110912.en.html>

manufacturers even sell accessible machines across the full pricing spectrum<sup>126</sup> thus making it more affordable for ATM operators to provide accessible machines to their clients.

To calculate the **market size for ticketing machines and check-in machines** the PRODCOM figures were also used. For “Accounting machines, cash registers, postage-franking machines, ticket-issuing machines and similar machines, incorporating a calculating device” (code 28231300), the total production value in the EU27 was **304,379,040 EUR**, corresponding to a total export value of 172,822,250 EUR and an import value of 437,393,710 EUR. Deloitte assumed the value that can be attributed only to ticket-issuing machines to be between 20% and 50%, while the share of check-in machines is expected to be between 5% and 15%. Due to a lack of data, this is, however, not backed by evidence. Thus, the applied annual market turnover stemming from ticketing machines is estimated as follows:

Ticketing machines:

Lower range estimate: 20% \* 304,379,040 EUR = 60,875,808 EUR

Upper range estimate: 50% \* 304,379,040 EUR = 152,189,520 EUR

Check-in machines:

Lower range estimate: 5% \* 304,379,040 EUR = 15,218,952 EUR

Upper range estimate: 15% \* 304,379,040 EUR = 45,656,856 EUR

The market for these SSTs is likely to increase, taking into account the potential benefits of using these machines: revenues increase and efficiency gains.

As regards the regulatory landscape, while **technical accessibility requirements** for ATMs exist in several EU Member States, these mainly refer to the built environment relating to the ATMs (e.g. an obstacle free route to the ATM, the height of the installation, etc.) and in some cases to the user interface. For instance, Austria, Denmark, France, Germany and the United Kingdom provide accessibility requirements for ATMs through building regulations. ICT-related accessibility requirements are rarely present in legislation.

“More complete” technical accessibility **guidelines or standards** for SSTs, including ATMs, i.e. covering both ICT- and built environment-related requirements, are available in most of the analysed countries. These have typically a non-binding self-regulatory character or have been published as recommendations by disability organisations or public authorities.

The table below provides an overview of identified obligations in legislation, related technical accessibility requirements and standards/guidelines of a mandatory or voluntary nature in both selected EU and non-EU countries.

*Overview of identified obligations, requirements, standards and guidelines*

	Obligations	Technical Accessibility Requirements	Standards/Guidelines (mandatory)	Standards/Guidelines (voluntary)
<b>Austria</b>	X (*)	X	S (*)	S
<b>Denmark</b>	X	X	S	G

<sup>126</sup> Disability Rights Education and Defense Fund (2010): Electronic and Information Technology. Retrieved from <http://www.dredf.org/anprm/electronic-and-information-technology.shtml>

<b>France</b>	X	X		G
<b>Germany</b>	X (*)	X	S, G (*)	S, G
<b>Ireland</b>				G
<b>Netherlands</b>				G
<b>Norway</b>				G
<b>Spain</b>	X	X		G
<b>Sweden</b>				G
<b>United Kingdom</b>	X	X	S	S, G
<b>Australia</b>				S
<b>Canada</b>				S
<b>United States</b>	X	X	S	

(\*) = *Only in those regions where the regional building codes give legal force to accessibility standards.*

There are significant differences between the accessibility requirements for self-service terminals (including ATMs) specified by legislation, standards and technical guidance documents across Europe. These relate inter alia to issues of the built environment such as the height of operation, the knee space or the access area in front of the SSTs. The regulatory coverage with regard to ICT-related accessibility requirements is more limited.

The illustrative comparison of selected technical accessibility requirements for SSTs in Europe shows that incompatibilities exist across countries. For instance, an ATM with a height of operation of 1250 mm would be considered as accessible in France, Ireland and the UK, while it would be considered as inaccessible in Austria, Germany, Denmark, Spain and the Netherlands. Similarly, an ATM with a height of operation of 750 mm would be considered as accessible in Spain and the UK, while it would be assessed as inaccessible in Austria, Germany, Denmark, France, Ireland and the Netherlands. With regard to knee space provided below the ATM in order to make the operating devices reachable (i.e. accessible) for wheelchair users, (diverging) technical requirements exist in Germany, France, the Netherlands and the UK, while no requirements have been defined in the other countries under scope.

Similar problems can be observed with regard to the minimum requirements for the access area in front of the SSTs as well as the degree of coverage of ICT-related accessibility requirements.<sup>127</sup>

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<sup>127</sup> For example, the Irish Guidelines for Public Access Terminals Accessibility contain requirements for keyboards and displays of ATMs and other SSTs.

While the general non-technical accessibility requirements for ATMs are broadly aligned, technical accessibility requirements vary significantly across EU Member States. As a result, adaptations for the different national markets within the EU Internal Market are necessary. Interviewed SSTs manufacturers reported that the fragmentation and inconsistency of accessibility requirements across the EU prevent them from exploiting potential economies of scale of Europe-wide or worldwide standardised products. These differences also lead to additional costs because they have to familiarise with the diverging national accessibility requirements and adapt their products in order to be able to sell them in the different sub-markets within the internal market.

Therefore, European-level accessibility requirements is advocated by the industry as the most appropriate way to overcome barriers in the internal market caused by inconsistent requirements<sup>128</sup>.

## 8. eCommerce

In addition to what has been said under the private sector websites section, eCommerce refers to retail services which are available online (independently of the existence or not of physical facilities). Even though data on the online retail website market is scarce, Deloitte provided the following conclusions:

- There will be costs related to cross-border trade for online retail businesses in the future due to an eventual legal fragmentation related to accessibility requirements;
- A qualitative assessment of the consumer situation suggests that consumers could use accessible eCommerce websites to impact price levels and the supply side through market adjustments. Furthermore, consumers benefit from an additional supply of goods that are not available in the domestic market but could be purchased cross-border.

Regarding the number of enterprises among the Member States, it can be pointed out that of all EU countries Italy is characterised as having the largest number of retailers in 2009 (over 650,000). Although the number of retail service enterprises declined between 2008 and 2009, Italy has the largest retail service market, followed by Spain (nearly 500,000), France (nearly 380,000) and Germany (nearly 330,000). These numbers had few variations if comparing with the updated data from 2011. Out of these, only Germany experienced an increase in 2009 compared with the foregoing year. Approximately 20% more enterprises were active in the retail service sector in Germany than one year prior. The highest decrease is observed in Poland (15.4%).<sup>129</sup> Concerning the **number of companies that engaged in eCommerce**, in 2010, 15% of all EU enterprises sold their goods and services online (i.e. 3,555,397 \* 15% = 533,310), 14% sold them in their own EU Member State and 6% of all enterprises sold their

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<http://www.universaldesign.ie/useandapply/ict/itaccessibilityguidelines/publicaccessterminals/guidelines/guidelinesforpublicaccessterminalsaccessibilityprinta>

<sup>128</sup> Contribution to the public consultation by the industry association ATMIA: “The costs incurred can be very high and varies according to the requirements of particular accessibility standards or the accessibility policy of the ATM operator. Currently there are different accessibility regulations that have to be complied with in some of the EU nation states. In some countries there are existing mature standards such as CAE Guidelines in the UK and the decrees on self-service & ATM heights in France. In other countries regulations are in development, for example in Germany work is undergoing to develop a standard for banking machines. And then there are some EU countries where no regulations exist pertaining to ATMs. It would be sensible to bring together current activity in member states to reduce the chance of confusion between national and EU wide standards.”

<sup>129</sup> Eurostat, NACE code G47 (retail trade except for motor vehicles and motorcycles).

goods online in other EU Member States. Within the EU27 in 2010, the most enterprises which are active online were recorded in Denmark (28%). However, only 8% of Danish enterprises engaged in eCommerce outside Denmark. In Spain, the number of businesses active in online retail trade in 2010 was  $497,992 * 15\% = 74,699$ .

The specific accessibility requirements for e-shops can be classified into the following groups<sup>130</sup>:

- Web page template: having an application to generate web content makes publication simple and easy to define. This means that there is a page-model (template) where there will always be similar content where the only differences are the name, description, images, options (for example, related items) displayed for the chosen item. For the web page template, the recommendations will be the same as those for a simple web page, referring to the WCAG 2.0 Guidelines or similar standards. These are a set of rules with an international scope in order to agree on the development of accessible websites. This is very helpful for all kind of disabilities, including people with visual, motor and cognitive impairments.
- Website sections and good/service presentation: eCommerce web solutions usually organise navigation in sections. Every section has a description and can contain other sections and/or goods/services. Users who rely on screen readers to obtain the information due to visual impairments often do not have the same ability to access the information as someone who is sighted. In order to ensure web accessibility of the website sections and the presentation of the good/service, the e-shop application developer needs to:
  - Make a clear navigation structure for the section, using list elements.
  - In a web page that contains a list of sections, make the text used in the links unique and clear to describe each section.
  - Data tables for good/service listings: when users with assistive technologies browse a web page, they must understand the goods'/services' details, and must be able to interact with the content. For example, with an inaccessible goods/services listing, the user might not be able to select goods/services options, or determine its price, or other problems that might make it impossible to continue shopping. A set of information about a good or service requires a data table because the navigation of the data table allows the user to retrieve the heading information.
  - Use explicit label associations and clear text inside button images: When a user interacts with the goods/services in order to add them to the shopping cart, usually there are different options for the same item: for example, choose the size for a T-shirt, the colour, number of items, etc. Every element needs to

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<sup>130</sup> Web Page Template. (2007). <http://juicystudio.com/article/eshop-accessibility.php#webtemplate>

have a label and this label must be explicitly associated.

- One must be careful with the use of colour or text decoration to provide information. In an e-shop catalogue, there are commonly goods and services available for sale at special prices (special offers). It is important to remember that all information should be available without relying on the use of colour. For example, if we have a special price, we should not indicate the price through colour alone, such as displaying bargains in red. By doing this, colour blind people or people with some kind of cognitive impairment would be undermined.
- There must be clear information about prices, offers, etc. Some visitors can have learning disabilities and we must ensure that information about prices and offers are clear. Moreover the use of pictograms is highly recommended for people with cognitive impairments.
- The use of an accessible document format for documentation is necessary. Some goods/services include technical specifications - usually made available in PDF format. To ensure that all users can read the content of this documentation it is important that PDFs are accessible.
- Shopping Cart: When goods/services are added to the shopping cart, the user should be able to:
  - View shopping cart content.
  - Modify shopping cart content.
  - Go back and continue to shop or proceed to checkout.
  - The shopping cart visualisation should be consistent with the good/service visualisation to ensure the user knows how to interact with the content (delete, modify or confirm orders).
- Checkout: Confirming the order for payment and processing is a process known simply as “checkout”. To ensure accessibility for the checkout procedure, there are some issues that must be addressed:
  - The user must be able to review the shopping cart content. Using a data table, it is possible to organise table headers and table data to ensure the correct reading order for screen reader users. If the user desires to go back to the shop and/or to the previous page, they must be able to do so without use of scripts.
  - The user must be able to know how many steps are involved to complete the checkout – preferably not too many.
  - All instructions and information should also be concise and clear. If there are

extra-costs that will be added to the cart during the checkout process, the user must be prompted with textual information.

- Existing registered users must be able to be recognised. The first form in the checkout module should be a login form for existing users: this will help them fill all the required information by retrieving existing data from the shop archive.
- Every form control must be identified with a unique ID and must have an associated label.
- Payment Gateway In this step the user is moved to another website that may be inaccessible. This would cause serious problems for a user with visual impairments. The best solution is to use payment gateways that use server-2-server communication. This way, the user provides payment details directly inside the shop (last step in the checkout form) and the shop sends to the payment gateway the required information to confirm/decline the transaction.
- Customer Area In the customer area, the user must be able to interact with the orders placed and with the merchant: this means that the e-shop developer should include some interaction between customer and merchant:
  - Search and view orders: The user must be able to interact with previous orders, and to have the ability to search among them and visualise the order details.
  - Manage personal data: The user must be able to manage personal data and update information as needed. The edit form should be similar to the registration form, with all the accessibility issues addressed and solved (for example, using the label for form controls, device independence, etc.).
  - Send messages to the merchant: The user must be able to interact with the merchant and be able to send messages (not just through a client e-mail application).
  - Make payments for unpaid orders: The user must be able to interact with the payment gateway to pay orders that haven't previously been paid. The entire payment procedure should be accessible using simple input forms.

IBM<sup>131</sup> has pointed out that many accessibility tools can help users navigate the Internet more easily by reading web pages aloud and by allowing them to resize panes, enlarge font sizes, and change background colours for better contrast. Some retailers have introduced these technological features on their websites to assist low-vision users as a way to be more customer-oriented to people with disabilities. However, while most of these inventions were initially designed with disabled users in mind, they also further the cause for usability by

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<sup>131</sup> In-store and online accessibility with IBM  
[http://www-03.ibm.com/able/industries/retail/execbrief\\_advantage.html#section5](http://www-03.ibm.com/able/industries/retail/execbrief_advantage.html#section5)

designing goods to be usable by more people. The simplicity and the comfort of accessible websites are not only for disabled people, but for all. People without disabilities also benefit from accessible services since it makes their lives easier, when suffering from fatigue, minor illnesses and stress.

An **estimate of the total current eCommerce market size** in Europe is thus calculated by multiplying the total retail turnover in Europe (2,585,213,880,000 EUR in 2010) with the percentage of eCommerce in total retail turnover (14% in 2010). The total current eCommerce market turnover in Europe is estimated to be: 2,585 EURb \* 14% = **362 EURb**.

There is a growing importance of eCommerce for the retail service sector in particular in recent years. Trends varied slightly between different Member States; some countries (primarily EU12 Member States) continued to show a positive trend.<sup>132</sup>

In the EU27 over 3.5 million enterprises are active in the retail service sector according to the European statistical office (NACE code G47 and its sub categories). Especially in the sub segment “retail sale of other goods in specialised stores” approximately 350,000 enterprises are counted for 2009.<sup>133</sup>

Mandatory accessibility requirements for private eCommerce websites were identified in Spain and voluntary ones also in Italy and the United Kingdom, as already pointed out in detail under 'private sector websites'. The obstacles created by this **regulatory landscape** fall on web professionals that are not able to provide their services across the internal market without incurring costs that relate to efforts made to understand the legislative requirements in each country.

In the framework of the Technosite study “Economic Assessment for Improving e-Accessibility”<sup>134</sup> various accessibility experts were consulted in order to provide a rough estimate of extra costs faced when different web accessibility standards apply. Costs are twofold: Initial costs (comprised by all work done in order to have the website ready for the first time) and on-going costs (running costs which have to be paid annually). Concerning on-going costs, accessibility would need slightly more powerful resources, as well as additional testing and maintenance (it is important to remark that accessibility degrades over time, and it must be assumed as a procedure to manage the website. Some testing should be made periodically –each 3/6/12 months, depending on the certification body - to ensure that the website remains accessible according to the guidelines followed).

Illustration of costs based on the Technosite Study:

The average price of a given accessible website in Spain is, on average, 52,116.64 EUR. Moreover, it is 8.28% more expensive to make a website compliant with WCAG 1.0 AA, and 8.76% more expensive if compliant with UNE 139803 (Spanish standard based on WCAG

<sup>132</sup> The information is the result of a survey carried out by the National Statistical Institutes on usage of Information and Communication Technologies (ICT) by enterprises. The indicator is calculated as the enterprises' receipts from sales through the Internet as percentage of their total turnover. Only enterprises from NACE sections manufacturing, distributive trades, hotels and accommodation, transport and communication and real estate, renting and business activities with 10 or more employees are covered. Eurostat, code TSIIR100, last update 05.10.2011.

<sup>133</sup> This subsegment includes for instance the retail sale of clothing and footwear; medical and orthopaedic goods; cosmetic and toilet articles; flowers, plants and pet animals.

<sup>134</sup> <http://www.eaccessibility-impacts.eu/>

1.0) rather than WCAG 2.0.

If a company would like to make the website compliant with a national legislation different from the local one (i.e. a Spanish company that have to make their website, already compliant with UNE 139803:2004<sup>135</sup>, also with (voluntary) Italian Stanca Law requirements), would have to face 400 EUR (1 working day according to Technosite) extra in order to learn how to apply the norms (web developers need 133 working days to make a website compliant with WCAG 1.0 vs. 134 working days if compliant with UNE, which is based on WCAG 1.0). Therefore, in order to make one website compliant with the other “X” EU Web accessibility laws, a company must add 10,400 EUR to the 56,433.15 EUR that costs WCAG 1.0 AA (please note that this is an estimate and it has been assumed that all national legislations are based on WCAG 1.0 AA with slightly differences).

In what concerns barriers for business, it should be noted that retail services are a key intermediary factor in the modern economy acting as the conduit between thousands of good and service suppliers and consumers. Many consumers in Europe benefit from the EU integrated retail market by buying goods from other Member States. The retail sector is also one of the biggest users of Information and Communications Technology (ICT) when considering its role with eCommerce, and thus a driver of innovation. It has a major part to play in the sustainability of small businesses<sup>136</sup> and it also allows citizens to face the current economic downturn by giving them easy access to affordable and good quality consumables<sup>137</sup> due to the cutting costs of intermediation and stocking. These are among the reasons, why an increasing number of eCommerce businesses are providing accessible websites and services on a voluntary basis.

Retailers that use eCommerce operations should – ideally – give website visitors a good online shopping experience by way of easy navigation, fast loading web pages and secure, easy-to-use online payment gateways. Website visitors should have the opportunity to browse a catalogue, search for goods and services, add items in their shopping carts, manage the shopping cart and then proceed to check-out in order to end their order. It is also important that the user is able to communicate with the e-shop management.

## 9. Banking services

Banking services are composed by several elements which if accessible, they allow for a fully user-friendly banking experience. These elements are: ATMs, the banking related built-environment and the online banking (websites).

The level of accessibility, market size and its potential growth of ATMs and private sector websites have already been analysed in previous sections. The built environment will be further analysed from the perspective of architect services. Therefore, in this section only particular information related to the banking sector will be added.

In summary regarding **ATMs**, accessibility barriers have to do with on one hand, the physical setting and surrounding of the machine and on the other hand, the design and usability of the interface.<sup>138</sup>

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<sup>135</sup> Note that UNE 139803:2004 has been replaced in July 2012 by UNE:139803:2012.

<sup>136</sup> Iain Richmond (2011) E-commerce Evolution is Key to Small Business Sustainability <http://technorati.com/business/small-business/article/e-commerce-evolution-is-key-to/>

<sup>137</sup> European Commission website (2012) Retail services: [http://ec.europa.eu/internal\\_market/retail/index\\_en.htm](http://ec.europa.eu/internal_market/retail/index_en.htm)

<sup>138</sup> INREDIS Project: <http://www.inredis.es/Default.aspx>

Consumers benefit through the use of websites, since it enables the collection and comparison of eventually scarce information, in particular **online banking** facilitates the consumers' efforts to take care of their financial matters. This increases consumer confidence and saves time and thus, societal life is not thinkable anymore without websites anymore.

Online banking consists of three main parts: the marketing / information pages, the online application and the transactional banking area, all of these can provide the user with problems:

- Inconsistent navigation and page layouts;
- On-site search engines that don't find information, even when it is available;
- Bank orientated language that is not explained;
- Poor feedback when using interactive tools and forms;
- Inability to save an application and complete it at a later date;
- Too many steps in transactions and no visibility of progress;
- Unhelpful error messages; and
- Pages which are inaccessible to assistive technology.

The specific accessibility requirements for banking service websites can be classified into the following groups<sup>139</sup>, most of them related with visual and cognitive impairments. The requirements for the websites transactional area, not included here in detail, should be aligned with the new Regulation on electronic identification and trust services for electronic transactions in the internal market<sup>140</sup>.

- Web page template: having an application to generate web content makes publication simple and easy to define. This means that there is a page-model (template) where there will always be similar content where the only differences are the name, description, images, options (for example, Related items) displayed for the chosen item. For the web page template, the recommendations will be the same as those for a simple web page, referring to the WCAG 2.0 Guidelines. These are a set of rules with an international scope in order to agree on the development of accessible websites. This is very helpful for all kind of disabilities, but especially for people with visual and cognitive impairments.
- Website sections and service presentation: web solutions usually organise navigation in sections. Every section has a description and can contain other sections and/or services. Users who rely on screen readers to obtain the information due to visual impairments often do not have the same ability to access the information as someone who is sighted. In order to ensure web accessibility of the website sections and the presentation of the good/service, the online banking application developer needs to:
  - Make a clear navigation structure for the section, using list elements.
  - In a web page that contains a list of sections, make the text used in the links unique and clear to describe each section.

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<sup>139</sup> Web Page Template. (2007). <http://juicystudio.com/article/eshop-accessibility.php#webtemplate>

<sup>140</sup> COM (2012) 238

- Data tables for services listings: when users with assistive technologies browse a web page, they must understand the services' details, and must be able to interact with the content. For example, with an inaccessible services listing, the user might not be able to select services options, or determine its price, or other problems that might make it impossible to continue using the website. A set of information about a service requires a data table because the navigation of the data table allows the user to retrieve the heading information.
- Use explicit label associations and clear text inside button images: When a user interacts with the services in order to select one of them. Every form element needs to have a label and this label must be explicitly associated.
- One must be careful with the use of colour or text decoration to provide information. It is important to remember that all information should be available without relying on the use of colour. Otherwise, colour blind people or people with some kind of cognitive impairment would be undermined.
- There must be clear information about prices, offers, etc. Some visitors can have learning disabilities and we must ensure that information about prices and offers are clear. Moreover the use of pictograms is highly recommended for people with cognitive impairments.
- The use of an accessible document format for documentation is necessary. Some services include technical specifications - usually made available in PDF format. To ensure that all users can read the content of this documentation it is important that PDFs are accessible.

By the end of 2010, the number of banks in the EU had fallen by 2.2% to 6,825. 5,404 of which were banks based in the Euro zone. Bank branches also registered a decline of 1.9%, to 215,000, on the account of a rise in popularity of online banking.<sup>141</sup> Hence, the number of EU27 banking service websites is assumed to be 6,825,

Most banks also have physical facilities (agencies/branches), the accessibility of these facilities (**built environment**) is mostly regulated through national building regulations/plans. In some cases it is specified that they are applicable to the banking sector.

The number of Member States with accessibility requirements on **private sector websites** and **ATMs** has already been pointed out above. 11 EU Member States with specific accessibility requirements for banks have been evidenced as part of CEN/CENELEC/AENOR research under Mandate 420. ANED identified general obligations for the **built environment** of banks in 10 additional EU Member States.

The estimated turnover of architect services in Europe in 2006 was 37.74 EURb. With regard to banking services facilities, the number of banks (including the ones based in the Euro zone) and the number of bank branches has been pointed out above. The number of bank branches in the EU will be further used to calculate potential costs for architect service providers.

The **regulatory landscape** in the EU regarding ATMs and private sector websites had been described in detail in previous specifically dedicated sections. The CEN/CENELEC/AENOR

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<sup>141</sup> <http://www.ebf-fbe.eu/uploads/Facts%20&%20Figures%202011.pdf>

Mandate 420 report<sup>142</sup> provides a broad view on the legislative coverage of various accessibility issues in the built environment in different European countries and regions. The report identifies specific accessibility requirements for banking service facilities in 11 EU Member States (Austria, Belgium, Cyprus, Denmark, Finland, Greece, the Netherlands, Portugal, Spain, Sweden and the United Kingdom) out of 15 EU Member States covered by the analysis.

Regulatory differences in accessibility technical requirements in ATMs, private sector websites and the built environment in the banking sector lead to obstacles for both industry and consumers and create barriers to the free movement of goods and services.

## 10. Passenger transport services

Passenger transport services are composed of some elements which if accessible, they allow for a fully user-friendly transport experience. These elements are: SSTs (including ticketing machines and check-in machines), transport related built-environment and transport services websites (where one can get information on schedules, ticket prices, purchasing tickets, etc.).

Passenger transport services are not only important in themselves, but also as key enablers to access many other services. They are included in most of the chains of activities people follow in everyday life.

The level of accessibility, market size and its potential growth of private sector websites and SSTs have already been analysed. The built environment will be analysed further down from the perspective of architect services. Therefore, in the following sub-sections, *per* mode of transport, only particular information related to the specific transport service will be added.

All Member States have got some kind of transport accessibility legislation often covering the built environment or concerning vehicles or assistance. While those concerning vehicles and assistance are often harmonised as a result of EU legislation the rules related to the built environment significantly differ except for rail where EU rules are in place. Some of those laws also concern websites and self-service terminals but with differences in scope and requirements as previously explained.

It is important to notice that in some countries passenger transport services, despite being provided by private entities, operate under public service obligation and may be covered by national accessibility obligations addressed to the public authorities. However, this does not modify the nature of the entities providing the service.

Technical accessibility requirements on self-service terminals (including **ticketing machines and check-in machines**) have been identified in 8 out of 9 EU Member States within the scope of the analysis.

In line with Deloitte's research, ANED confirmed the existence of general requirements regarding the **built-environment** in most of the EU Member States. Efforts at European level related to on-going voluntary standardisation work under the European Commission Mandate 420 are insufficient to remove existing fragmentation.

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<sup>142</sup> CEN, CENELEC and AENOR (2011): *Final Joint Report - CEN/BT WG 207 (PT A and PT B) – Phase I: Inventory, analysis and feasibility of European and International accessibility standards in the built environment*,  
<ftp://ftp.cen.eu/CEN/Sectors/Accessibility/ReportAccessibilityBuiltEnvironment%20Final.pdf>

- **Air transport services**

Air transport is examined with regard to the accessibility of online information concerning air transport services, the accessibility of self-service terminals (SSTs), including check-in machines, used in air transport services, as well as the accessibility of the built environment related to the provision of these services.

A valuable source is the Commission's Impact Assessment report for the Web Accessibility Directive<sup>143</sup> which states that a good proxy for the number of **websites** in the EU27 is the number of businesses.

The EU27 air transport service market is dominated both by the established globally active airlines such as Lufthansa (which was the dominant EU market leader in 2011) as well as some airlines focussing on the intra-European market, such as Ryanair and Vueling.

Desk research brought upon a total number of **390 airlines based in EU27** Member States. It has to be noted, however, that this is only an indicative number that has to be viewed as a maximum amount since it was not clear for all airlines whether or not they still operate on a day to day basis.

Furthermore, the **total number of airports in the EU27** has to be considered as well since their websites are one of the main points of contact for citizens that try to find information on air transport services. Desk research has found that there are approx. **482 airports** with at least 15,000 passenger movements per year in Europe<sup>144</sup>.

Hence, the **overall number of websites relevant for the EU27 air transport service sector** is  $(390 + 482 =) 872$ . Please note that this number does not contain third party private sector websites on which consumers can book tickets online (e.g. Opodo, Expedia, lastminute.com, cheaptickets.com), since an actual number of those sites could not be identified. It is expected, however, that various national websites exist. Therefore, the number of 872 air transport websites in Europe is to be regarded as the minimum level. The actual number of relevant websites is likely to be higher.

With regard to websites' accessibility, it can be assumed that air transport businesses gain significant additional customer share since air transport customers are expected to take-up air transport services at a higher rate when provided information and online booking possibilities are accessible.

**Self-Service Terminals (SSTs)** have become an essential interface for customers who want to gather information on specific transport services, buy and validate tickets or check-in to their journey, SSTs in the area of transportation typically include ticketing machines, ticket validation machines and self-service check-in terminals at airports.

Today, only about 41% of the SSTs in the area of transportation in the EU can be considered as accessible according to a recent Technosite survey.<sup>145</sup> About 53% of all SSTs are wheelchair-accessible, while only 39% are accessible to visually impaired persons according to the same source.

Although considerable progress in the development of accessible SSTs in the area of transportation has been made, persons with disabilities still face challenges when using SSTs

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<sup>143</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SWD:2012:0401:FIN:EN:PDF>

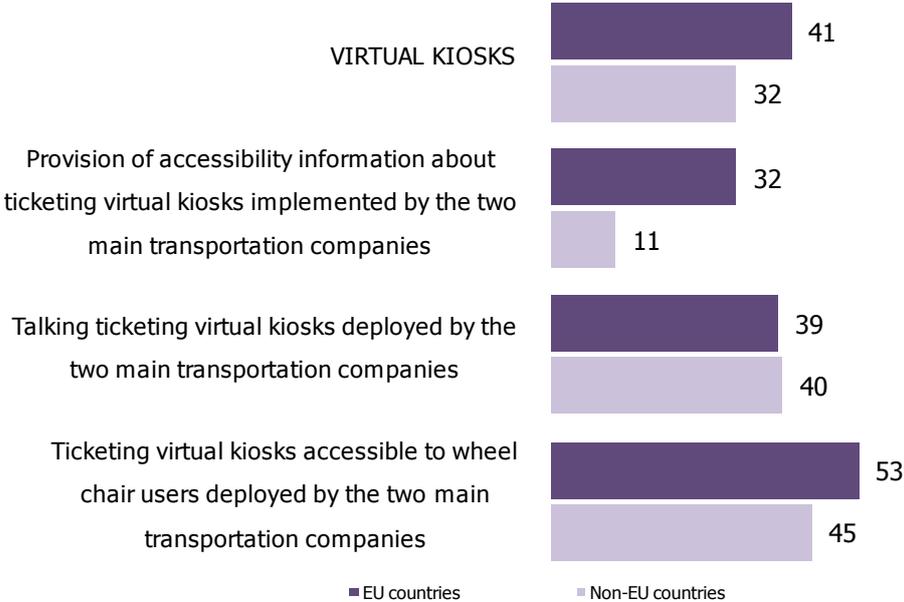
<sup>144</sup> [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=avia\\_if\\_arp&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=avia_if_arp&lang=en)

<sup>145</sup> Technosite. Monitoring eAccessibility in Europe: 2011 Annual Report. p. 153.

such as self-service check-in terminals. The recent Technosite study “Monitoring eAccessibility in Europe: 2011” provides some data on the level of accessibility of virtual kiosks, i.e. SSTs, in the area of transportation.

Virtual kiosks are vending machines which do not only require a commercial transaction to obtain a physical product, but commonly focus on electronic services (e.g. internet access, digital printing, tourist information, ticketing, etc.) that require user interaction with information and can be for both free and pay services. The virtual kiosks focused on in the report were those used for ticketing at transport stations (train/bus/airports), since this covers a main functionality (i.e. mobility) in the urban environment. It figures the level of accessibility of virtual kiosks in the EU against the ones in various non-EU countries (Australia, Canada, USA, and Norway). The figure below presents an overview of virtual kiosk accessibility in EU and selected non-EU countries with regard to particular key aspects, such as available information about accessible virtual kiosks, the share of talking virtual kiosks or the share of virtual kiosks that are accessible to wheel chair users.

*Status of ticketing machine accessibility in EU vs. non-EU countries in percentages<sup>146</sup>*



Calculations suggest that **architect services** providers incur annual costs of between 138,880 EUR and 1.0 EURm when providing cross-border architect services for airports. It is assumed that these costs cannot be forwarded to architect service customers (i.e. cities, municipalities, and / or local authorities) since they are expected to be incurred as part of the general preparation for projects and / or market entrance.

<sup>146</sup> Technosite. Monitoring eAccessibility in Europe: 2011 Annual Report. p. 153.

The **turnover of the air transport industry** was **111,662 EURm in 2009**.<sup>147</sup> It went up to **126,808 EURm** in 2011. According to the Air Transport Action Group (ATAG), passenger numbers in the EU are expected to approximately double from 605.8 million in 2010 to nearly 1.2 billion in 2030<sup>148</sup>. Also taking into consideration catalytic effects in terms of increased tourism receipts, the real GDP for the industry is **expected to grow at an average annual rate of 4.4%** with an implied creation of 1.6 million jobs up to 2030<sup>149</sup>. It should be noted that these analyses relate to Europe as a whole, not only EU Member States.<sup>150</sup>

Additional relevant data to assess the market size in aviation is the service relevant growth rates of overall passenger numbers and passengers with reduced mobility (PRMs). The total European air transport passenger volume slightly decreased between 2007 and 2010, by a Compound Annual Growth Rate (CAGR) of 0.7%<sup>151</sup>. The most significant decrease in the period analysed was observed in 2009 with a year-on-year decline in passenger volume of 5.9% compared with 2008, which was mainly related to the consequences of the financial crisis starting in the autumn of 2008. The European market for passenger air transport services has been recovering from the crisis-related decline in passenger volumes as well as airport and airline profitability in 2010 and 2011. However, EU growth rates still fall short of other rates observed in the developing markets such as Asia, Pacific, Latin America and the Middle East<sup>152</sup>. In total, the relative growth in the EU between 2010 and 2011 mainly relates to EU Member States such as Latvia and Romania.

The **regulatory fragmentation** regarding **SSTs** introduces obstacles in the EU Internal Market. It is clear that in the current situation, check-in machines that comply with the accessibility requirements in the UK may not be compliant with the requirements in Germany or Denmark and can therefore be sold in only one or two of these countries without adaptations. This can be considered as an obstacle to the free movement of goods within the Internal Market.

All EU Member States require **built environment** elements to be designed to be accessible for persons with disabilities, including facilities for air transport.

While a large number of accessibility issues are covered in all EU Member States, the detailed level of coverage varies strongly across countries. While some Member States have implemented specific accessibility requirements for airport facilities (these countries include, according to the Mandate 420 report, AT, BE, CY, DK, FI, GR, IE, LU, ES, SE, and the UK), other Member States cover the accessibility of air transport facilities with general requirements for buildings open to the public and for the external built environment (e.g. general rules for ramps, signage, manoeuvring spaces, etc.).

Based on the above findings, it can be concluded that the legislative landscape at national level is fragmented, with a patchwork of strong or weak requirements in place, depending on the specific elements of the built environment and the jurisdiction. National or regional

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[http://epp.eurostat.ec.europa.eu/statistics\\_explained/images/8/8c/Key\\_indicators%2C\\_air\\_transport\\_%28NACE\\_Division\\_51%29%2C\\_EU-27%2C\\_2009.png](http://epp.eurostat.ec.europa.eu/statistics_explained/images/8/8c/Key_indicators%2C_air_transport_%28NACE_Division_51%29%2C_EU-27%2C_2009.png)

<sup>148</sup> <http://www.aviationbenefitsbeyondborders.org/around-the-world/europe>

<sup>149</sup>

[http://www.aviationbenefitsbeyondborders.org/sites/default/files/pdfs/REGIONAL\\_ANALYSIS\\_ABB\\_B\\_Europe1.pdf](http://www.aviationbenefitsbeyondborders.org/sites/default/files/pdfs/REGIONAL_ANALYSIS_ABB_B_Europe1.pdf)

<sup>150</sup> See also <http://www.jadc.or.jp/wmf11.pdf>

<sup>151</sup> Eurostat

<sup>152</sup> [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/Air\\_passenger\\_transport\\_-\\_monthly\\_statistics](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Air_passenger_transport_-_monthly_statistics) and European Commission, Annual Analyses of the EU Air Transport Market 2010, September 2011

technical accessibility requirements for the built environment for air transport services (i.e. buildings open to the public and the external built environment) exist in all 27 EU Member States.

- **Railway transport services**

The built-environment in relation to railway transport services operating cross-border is already covered by European legislation<sup>153</sup>, therefore it will not be analysed in this impact assessment. The rail transport services encompass the accessibility of online information concerning rail transport services, the accessibility of self-service terminals (SSTs), including ticketing machines, in rail transport services as well as the accessibility of the built environment related to the provision of rail transport services.

Continuing to follow the approach of the Commission's Impact Assessment report for the Web Accessibility Directive<sup>154</sup> which states that a good proxy for the number of **websites** in the EU27 is the number of businesses.

The rail transport service sector comprises operators in the sub-sectors heavy rail transport, light rail transport, metro, and tram. Since market entrance is difficult due to the sector's capital and labour intensive nature, passenger transport in Europe is mainly operated by state and regional monopolies in single Member States. Furthermore, there are strong monopolistic incumbents that effectively hinder market entrance for smaller competitors (for example, the strong market participant Deutsche Bahn in Germany).

Due to extensive liberalisation efforts made in the last decades by some Member States, the international market since 2010 and the EU proposal concerning domestic markets, it cannot anymore be expected that each EU Member State's rail network is operated by one operator. What can, however, be expected is that the number of operators varies considerably from country to country. Desk research brought upon a total number of **289<sup>155</sup> rail transport operators based in EU27** Member States. This is only an indicative number that has to be viewed as a maximum amount since it was not clear for all railway companies whether or not they still operate on a day to day basis.

In the metro sector, operations are mainly performed by public companies. As a matter of fact these tend to be local, mostly city-owned or state owned companies. However, there are both private operating companies as well as companies in shared ownership in the market. There are **44 cities with a metro system in the EU27**. The operators being active in these cities are the key market players in Europe. As examples, the operators in London, Paris and Berlin are public companies, while those in Madrid and Barcelona are private.

As in the metro sector, tram or light rail sector operators are also mainly public companies. These tend to be local, mostly city-owned or state owned companies as well. **203 cities operate tram and/ or light rail networks in Europe** (197 cities with tram networks, 38 of

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<sup>153</sup> Directive 2008/57/EC of 17 June 2008 on the interoperability of the rail system within the Community (Recast) (OJ L 191, 18.7.2008, p.1) and Commission Decision 2008/164/EC of 21 December 2007 concerning the technical specification of interoperability relating to 'persons with reduced mobility' in the trans-European conventional and high-speed rail system (OJ L 64, 7.3.2008, p. 72)

<sup>154</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SWD:2012:0401:FIN:EN:PDF>

<sup>155</sup> The Commission Staff Working document SWD(2012) 246 final/2 accompanying the 2012 Report from the Commission to the Council and the European Parliament on monitoring development of the rail market {COM(2012) 459 final} reports that in 2010 there were **526 active licences** in rail passenger transport (of which 320 in Germany). As some of these are inactive, this IA considers **289** as a conservative estimate.

them with additional light rail networks, six cities that only have light rail). 16 of them are Spanish with 13 having tram networks, one having tram and light rail and three only having a light rail network. As in the metro sector, the key market players in this sector are those who operate the largest networks in the EU27. However, these are not necessarily located in the biggest cities (Sofia in Bulgaria for example has one of the biggest networks).

To sum up, whereas the EU landscape of operators is relatively fragmented for metro and tram or light rail with many local service providers (public and private), the railway operations market is dominated by a few large players (usually evolved from formerly federal public railway operators).

It can be assumed that a total of 203 businesses are active in the tram/light rail sector. Hence, the **overall number of websites/businesses relevant for the EU27 rail transport service sector** is expected to be around  $(289 + 203 + 44 =) 536$ .

Calculations show that non-Spanish web professionals face accessibility compliance costs of 272 EUR to 2,624 EUR when providing web development services to Spanish railway transport service providers that operate in Spain.

Service providers do not face these costs directly due to the fact that Spain has websites accessibility legislation in place. Costs are, however, incurred by web professionals that are not able to provide their services and products on the Spanish market without facing costs for efforts made to understand the Spanish legislative requirements and adapt their products accordingly. As can be seen above, the costs are negligible in the current situation.

For the level of accessibility of **SSTs**, including ticketing machines, please consult the overview included under the air transport sub-section.

The German operator Deutsche Bahn provides figures on its total numbers of **ticketing machines** which is 7,349, i.e.  $7,349 / 5,685 = 1.3$  ticketing machines per railway station.<sup>156</sup> Assuming an estimated number of 27 000 railway stations in the EU27<sup>157</sup>, a total number of  $1.3 * 27\ 000 = 35\ 100$  **ticketing machines** is **operated at EU27 railway stations**.

The total **one-off development and investment costs** for ticketing machine manufacturers are calculated. The calculated costs refer to both hard- and software since no distinction could be made due to a lack of data. **Ongoing costs** were not estimated since the marginal costs of providing ticketing machines with accessibility features are close to zero.

Calculations show that ticketing machine manufacturers, at some point in the past, faced a total cost impact of at least 3,156 EUR and 86,023 EUR at most to develop accessibility features for ticketing machines due to regulatory fragmentation within the EU if six EU Member States had accessibility requirements in place. The cost impact increases to at least 4,223 EUR and 115,118 EUR if 18 Member States required accessibility features in ticketing machines.

Although railway service operators generally provide online booking functionalities for tickets, they are still mostly purchased at SSTs or in-store (at least for long-distance travel). Desk-research evidence suggests, however, that 33% to 44% of the total number of railway

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<sup>156</sup>

[http://lokster.deutschebahn.com/fileadmin/Redaktion/Images/06\\_Mitnehmen/Bahn-Wissen/Daten\\_und\\_Fakten\\_2011.pdf](http://lokster.deutschebahn.com/fileadmin/Redaktion/Images/06_Mitnehmen/Bahn-Wissen/Daten_und_Fakten_2011.pdf)

<sup>157</sup> Based on information obtained from Member States, rail infrastructure Network Statements and own sources, the European Railway Agency considers there to be around 27.000 railway stations in the EU. This figure has been used in the carrying out of an impact assessment on revisions to the PRM TSI.

tickets sold by Deutsche Bahn is purchased online.<sup>158</sup> Furthermore, it is expected that, as for example in the case of ticket purchases at SSTs in the transport sector, tickets purchased online are less expensive than tickets purchased in-store. Indeed, evidence from Deutsche Bahn suggests that consumers who purchase railway tickets (both short and long distance travel) at the ticket office face additional costs of 2 EUR to 5 EUR compared to tickets bought at ticketing machines and online.

Future costs saving potentials for persons with disabilities with regard to accessible websites and SSTs in the railway transport sector are expected to be in the range of the whole cost saving potential of online booking services and accessible SSTs, i.e. within 91.3 EURm – 11.6 EURb).

- **Bus transport services**

Bus transport is examined with regard to the accessibility of online information concerning bus transport services, the accessibility of self-service terminals (SSTs), as well as the accessibility of the built environment related to the provision of bus transport services.

Continuing to follow the approach of the Commission’s Impact Assessment report for the Web Accessibility Directive<sup>159</sup> which states that a good proxy for the number of **websites** in the EU27 is the number of businesses.

According to the German Federal Association of Bus transport Businesses (Bundesverband Deutscher Omnibusunternehmen), the total number of bus transport service businesses in Europe was **65,000 in 2012**. More specific numbers state that 4,747 businesses were active in the German market of which 452 are local / municipal companies (i.e. 9.5%), 4,121 businesses were active in the field of occasional excursion trips (i.e. 86.8%), 2,541 were active in short-distance public transport (i.e. 53.5%), and 82 were active in long-distance public transport (i.e. 1.7%).<sup>160</sup>

Applying these percentages to the total EU27 market, the following numbers can be calculated:

*Total numbers on bus transport operating companies in Europe*

Description	Share of total number of German bus operators	Total number of bus operators (extrapolation to EU27)
Local / municipal bus operators	9.5%	6,175
Bus operators of occasional excursion trips	86.8%	56,420

<sup>158</sup> <http://www.sueddeutsche.de/bayern/neue-vertriebs-plaene-bahn-will-weniger-fahrkartenautomaten-1.1368448>

<sup>159</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SWD:2012:0401:FIN:EN:PDF>

<sup>160</sup> [http://www.bdo-online.de/fileadmin/Dateien/Infographiken/2012/Branchendaten/bdo\\_chart\\_wirtschaftsfaktor\\_bus2v2.pdf](http://www.bdo-online.de/fileadmin/Dateien/Infographiken/2012/Branchendaten/bdo_chart_wirtschaftsfaktor_bus2v2.pdf)

Short-distance public bus transport operators	53.5%	34,775
Long-distance public bus transport operators	1.7%	1,105

Based on desk research, the following large operators have been identified, including the countries in which they are operating.

#### *Large Bus & Coach Operators in Europe*

Operator	Country Coverage
Nobina <sup>161</sup>	Sweden, Denmark, Finland, Norway
Arriva <sup>162</sup>	Czech Republic, Denmark, Hungary, Italy, Malta, the Netherlands, Poland, Portugal, Slovakia, Spain, Sweden, UK
Firstgroup <sup>163</sup>	UK
Stagecoach Group <sup>164</sup>	UK
Deutsche Bahn <sup>165</sup>	Germany
Keolis <sup>166</sup>	France
Eurolines	Austria, Belgium, Bulgaria, Czech Republic, Denmark, France, Germany, Hungary, Ireland, Italy, Lithuania, Netherlands, Poland, Romania, Slovakia, Spain, Sweden, UK

#### *Large minibus operators in Europe<sup>167</sup>*

Operator	Country	Region
Vlaamse Vervoermaatschappij VVM De Lijn	Belgium	Western Europe
Regie Autonome Des Transports Parisiens	France	Western Europe
Societe Regionale Wallonie Du Transport	Belgium	Western Europe

<sup>161</sup> <http://www.nobina.com/en/Nobina/>

<sup>162</sup> [http://www.arriva.co.uk/arriva/en/about\\_arriva/company\\_profile/overview/](http://www.arriva.co.uk/arriva/en/about_arriva/company_profile/overview/)

<sup>163</sup> [http://www.firstgroup.com/corporate/our\\_company/ukbus.php](http://www.firstgroup.com/corporate/our_company/ukbus.php)

<sup>164</sup> <http://www.stagecoach.com/>

<sup>165</sup> <http://www.deutschebahn.com/de/konzern/geschaeftsfelder/dbbahnregio/2190568/dbregio.html?start=0>

<sup>166</sup> <http://www.keolis.com/en/business-activities/transport-expertise/bus-and-coach.html>

<sup>167</sup> statistical reports and company information

Operator	Country	Region
Transports Metropolitans De Barcelona	Spain	Western Europe

It can be noted that for small buses the operators that have been identified are active only nationally. Indeed, the current accessible minibus market can be seen as national, retro-fitting oriented, fragmented and predominantly small scale.

Further information on the level of accessibility and the legal fragmentation regarding the several elements that compose the bus passenger transport services, can be consulted in the respective sections of these annex ('private sector websites', 'SSTs', including also 'air transport' for some particular information of SSTs in the transport sector and 'architect services').

- **Maritime and Inland Waterway transport services**

Maritime transport is examined with regard to the accessibility of online information concerning maritime transport services, the accessibility of self-service terminals (SSTs), as well as the accessibility of the built environment related to the provision of maritime transport services.

According to the German Federal Association of Inland Waterway (Bundesverband der Deutschen Binnenschifffahrt), the total number of inland waterway service businesses that are involved in passenger transport in Germany was 311 in 2010 with an annual turnover of 246.9 EURm.<sup>168</sup> Furthermore, desk research evidence indicates that 56 of 74 cities in Germany with more than 100,000 inhabitants have a port (i.e. 75.7%). Assuming that inland waterway businesses are distributed equally across harbours<sup>169</sup>, it is estimated that  $311 / 56 = 5.6$  companies for inland waterway transport operate in each harbour in Germany. Furthermore, desk research evidence indicates that across the EU27 446 cities have more than 100,000 inhabitants. This may lead to the conclusion that  $5.6 * 446 = \mathbf{2,498}$  **passenger transport companies operate within the EU27 inland waterway transport market**. Hence, it is assumed that the **number of websites** in the EU27 for inland waterway transport is 2,498. Please note that this is to be seen as a minimum estimate since the number of maritime transport number is not known.

Calculations suggest that **architect services** providers incur annual costs of between 54,080 EUR and 560,000 EURm when providing cross-border architect services in the maritime transport sector. It is assumed that these costs cannot be forwarded to architect service customers (i.e. cities, municipalities, and / or local authorities) since they are expected to be incurred as part of the general preparation for projects and / or market entrance.

The costs related to the provision of accessible architect services across borders can be compared with the industry turnover. In 2006<sup>170</sup> the turnover of architect services in Europe was 37.74 EURb. The costs associated with efforts made in order to understand accessibility legislation in place and to adapt the services accordingly is estimated to be between approx. 0.0001% and 0.002%.<sup>171</sup>

<sup>168</sup> [http://www.binnenschiff.de/downloads/daten\\_und\\_fakten/Daten\\_und\\_Fakten\\_2011\\_2012.pdf](http://www.binnenschiff.de/downloads/daten_und_fakten/Daten_und_Fakten_2011_2012.pdf)

<sup>169</sup> There is, however, no quantitative or qualitative evidence for this highly disputable assumption.

<sup>170</sup> The latest year for which data have been identified.

<sup>171</sup>  $54,080 \text{ EUR} / 37.74 \text{ EURb} = 0.0001\%$ ;  $560,000 \text{ EUR} / 37.74 \text{ EURb} = 0.002\%$

As concerns the implications of this regulatory fragmentation for architects that provide their services across borders, it should be noted that accessibility aspects only constitute part of the built environment legislation. Even in a scenario where common harmonised accessibility requirements are adopted at EU level, architects would continue to incur costs for understanding and implementing the varying built environment legislation when supplying their services in different Member States.

**All EU Member States require built environment elements to be designed to be accessible** for persons with disabilities, including facilities for maritime and inland waterway transport. The CEN/CENELEC/AENOR Mandate 420 report – provides a view of the detailed coverage of various accessibility issues in the built environment by legislation and other statutory documents in different European countries and regions.

While a large number of accessibility issues are covered in all EU Member States, the detailed level of coverage varies strongly across countries. While some Member States have implemented specific accessibility requirements for port facilities (these countries include, according to the Mandate 420 report, BE, CY and GR)<sup>172</sup>, other Member States cover the accessibility of maritime and inland waterway transport facilities with general requirements for buildings open to the public and for the external built environment (e.g. general rules for ramps, signage, manoeuvring spaces, etc.).

Based on the above findings, it can be concluded that the legislative landscape at national level is fragmented, with a patchwork of strong or weak requirements in place, depending on the specific elements of the built environment and the jurisdiction. National or regional technical accessibility requirements for the built environment for maritime and inland waterway transport services (i.e. buildings open to the public and the external built environment) exist in all 27 EU Member States.

Further information on the level of accessibility and the legal fragmentation regarding the several elements that compose the maritime and inland waterway transport services, can be consulted in the respective sections of these annex ('private sector websites', 'SSTs', including also 'air transport' for some particular information of SSTs in the transport sector and 'architect services').

## 11. Hospitality services

The two key elements of accessibility hospitality services are hospitality related **built-environment and websites**. These are 2 independent components that relates to 2 different professional markets but are equally relevant for the accessibility of the service. These two elements will be analysed separately. The level of accessibility, market size and its potential growth of private sector websites have already been analysed in its respective section. The built environment will be analysed further down in this document from the perspective of architect services. Therefore, in this section only particular information related to the hospitality sector will be added.

Challenges currently encountered by disabled consumers relate e.g. to the insufficient availability of (comparable and reliable) information concerning the accessibility of

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<sup>172</sup> See also annex section **Error! Reference source not found.** for a review of accessibility legislation for maritime and inland waterway transport services in selected EU/EEA Member States, including guidance documents to specific built environment issues such as port facilities.

hospitality services, as well as problems in relation to the actual accessibility of the built environment and websites where hospitality services can be booked.<sup>173</sup>

Disabled **consumers** assert that they **are confronted with** inaccessibility and **very different solutions in accessibility**, in relation to the different providers and across the various EU Member States.<sup>174</sup> Any disabled traveller, either from an EU Member State or from overseas, who wishes to make use of hospitality services in an (other) EU country – be it for business or for pleasure – faces a major challenge due to the **lack of similar or coordinated accessibility requirements across Europe**. The choice of suitable hospitality services is limited firstly by the difficulty of obtaining reliable information about accessibility, prior to travel, and subsequently by the highly variable quality of the venues and services, in terms of their accessibility.<sup>175</sup> Disabled persons affirm their right to have at their disposal accessible hospitality and transport services all across Europe, according to comparable procedures in every European country.<sup>176</sup>

The market for accessible hospitality services is short in supply, i.e. many disabled persons and elderly in Europe who want to use accessible hospitality services (and have sufficient means to do so) face insufficient and inadequate market offerings and thus do not consume as much of these services as they would wish. While this is partly caused by regulatory failures and fragmentation as discussed above, market failures remain a core problem.

Accessibility for consumers of hospitality services refers to a series of issues which can be structured in eight main themes as depicted below:

*Accessibility aspects in hospitality services*<sup>177</sup>

Theme	Benefit for disabled	Impact on the business
<b>1. Standardised terminology</b>	<ul style="list-style-type: none"> <li>• Clarify terms</li> <li>• Allow common comprehension</li> <li>• Facilitate accommodation, contractual relation, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Allow comparison of services</li> <li>• Allow statistics on common bases</li> <li>• Clarify contractual relation</li> </ul>
<b>2. Information provision</b>	<ul style="list-style-type: none"> <li>• Provide complete information provision on accessible services</li> <li>• In adequate formats (Braille, large print, easy-to-read,</li> </ul>	<ul style="list-style-type: none"> <li>• Allow comparison of services</li> <li>• Inform the disabled on the services provided</li> <li>• Clarify competition</li> </ul>

<sup>173</sup> With regard to barriers faced by disabled consumers when using websites, please also refer to the private websites section.

<sup>174</sup> AFNOR (2008), *Feasibility and opportunity to develop a standardisation work programme concerning “Criteria for accessibility to tourist and transport services for disabled people”*, p. 14,

<sup>175</sup> Fundación ONCE (2009): *Study of Access Requirements Related to Quality Norms in European Tourism*, p. 6.

<sup>176</sup> AFNOR (2008), *Feasibility and opportunity to develop a standardisation work programme concerning “Criteria for accessibility to tourist and transport services for disabled people”*, p. 14, <ftp://ftp.cen.eu/cen/Sectors/List/Services/feasibilitystudies/Project2Accessibility.pdf>

<sup>177</sup> Source: Adapted from AFNOR (2008): *Feasibility and opportunity to develop a standardisation work programme concerning “Criteria for accessibility to tourist and transport services for disabled people”*, p. 48, <ftp://ftp.cen.eu/cen/Sectors/List/Services/feasibilitystudies/Project2Accessibility.pdf>

Theme	Benefit for disabled	Impact on the business
	etc.)	
<b>3. Accessibility criteria (incl. built environment and web sites)</b>	<ul style="list-style-type: none"> <li>• Feel confident to travel and to enjoy it</li> <li>• Facilitate the choice</li> </ul>	<ul style="list-style-type: none"> <li>• Allow comparison of services</li> <li>• Clarify competition</li> <li>• Recognition of providers</li> <li>• Encourages provider's responsibility on accessibility</li> </ul>
<b>4. Signs, symbols and labels</b>	<ul style="list-style-type: none"> <li>• Help identify the availability of accessible services in an easy and simple manner regardless of the country.</li> <li>• Facilitate reliability of information on accessible services</li> <li>• Provide information on achievement of minimum accessibility criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Increase security of services and clients</li> </ul>
<b>5. Safety of services</b>	<ul style="list-style-type: none"> <li>• Give safety requirements for disabled</li> <li>• Clarify safety procedures for disabled</li> </ul>	<ul style="list-style-type: none"> <li>• Increase security of services and clients</li> </ul>
<b>6. Training<sup>178</sup> and competence requirements for assistance and care services</b>	<ul style="list-style-type: none"> <li>• Preparation of the professionals</li> <li>• Increase the disability awareness and disability equality treatment of the personnel working in the sector</li> </ul>	<ul style="list-style-type: none"> <li>• Clarify what such training should include at minimum</li> <li>• Help the professionals in their daily work</li> </ul>
<b>7. Guidelines: good practices</b>	<ul style="list-style-type: none"> <li>• Service providers well prepared to welcome disabled</li> </ul>	<ul style="list-style-type: none"> <li>• Allow the sharing of good European initiatives</li> <li>• Encourage investment and accessibility improvement</li> </ul>
<b>8. Complaints and redress procedures</b>	<ul style="list-style-type: none"> <li>• Facilitate the complaints procedures</li> </ul>	<ul style="list-style-type: none"> <li>• Give complaints procedure with minimum specifications</li> <li>• Allow the improvement of services</li> </ul>

<sup>178</sup> It is important to note that in addition, the training of architects and engineers as well as web professionals on accessibility matters is essential to achieve results in this area. Some Member States have taken measures in that direction but there is no comprehensive and systematic training for these professionals across the EU. National initiatives are limited in their possibilities to train professionals to be knowledgeable of the wide range of rules, guidance, and practices in the Member States limiting in practice the exercise of the freedom to provide services across the EU.

Theme	Benefit for disabled	Impact on the business
		<ul style="list-style-type: none"> <li>• Opportunity to minimise potential client dissatisfaction</li> </ul>

While all above accessibility aspects are relevant to ensure a barrier-free provision of hospitality services to disabled persons, some accessibility aspects can be considered as being of particular importance for disabled consumers. For instance, an empirical study from Germany shows that almost half (47%) of disabled customers with activity limitations travelling claim to encounter difficulties in terms of accommodation. According to customers with disabilities, the greatest barrier is the accessibility of the facilities. Furthermore, it is reported that there is also a lack of (online) information about the accessibility and usage of accommodation establishments. The lack of standardised assessment and recording criteria means that even the existing range of accessible facilities is unclear and cannot be reliably assessed.<sup>179</sup> A comparable survey conducted among 416 disabled persons in Australia brought the same accessibility issues to the forefront: accessibility of the transient lodging facilities and the need for more and better information on accessibility features based on clearly defined criteria.<sup>180</sup> The availability of that information on line helps to remove the barriers.

Today many **barriers still prevent potential customers from travelling and consuming accessible hospitality services** in Europe. For instance, empirical evidence from Germany shows that 37% of persons with activity limitations have in the past decided not to undertake a trip due to the lack of accessible facilities, equipment or services. According to the same survey, 48% of persons with disabilities would travel more frequently if more accessible facilities were available. Especially persons with physical, mental, emotional or learning disabilities would travel more frequently if appropriate facilities were available.<sup>181</sup>

Very few figures exist on the actual take-up of accessible hospitality services by people with disabilities and elderly. The OSSATE study provides data on the existing degree of accessibility of accommodation facilities in Europe.<sup>182</sup> This supply side information may serve as an indication on the degree of actual take-up by disabled persons and elderly.

It appears that **5.6% of the total known stock of accommodation units in Europe was accessible for wheelchair use in 2005**. No further cross-country data on accessible hospitality facilities could be identified.<sup>183</sup> However, the European Regulation 692/2011 concerning European statistics on tourism<sup>184</sup> obliges national statistical offices to transmit to

<sup>179</sup> BMWi (2004), p. 25.

<http://www.bmwi.de/English/Redaktion/Pdf/economic-impulses-of-accessible-tourism-for-all-526,property=pdf,bereich=bmwi,sprache=en,rwb=true.pdf>

<sup>180</sup> Darcy (2008a): *Accessible Tourism Accommodation Information Preferences*, p. 3ff, <http://epress.lib.uts.edu.au/dspace/bitstream/handle/2100/982/1stwp10%20.pdf?sequence=1>

<sup>181</sup> BMWi (2004), p. 19.

<http://www.bmwi.de/English/Redaktion/Pdf/economic-impulses-of-accessible-tourism-for-all-526,property=pdf,bereich=bmwi,sprache=en,rwb=true.pdf>

<sup>182</sup> Buhalis et al. (2005), *OSSATE - Accessibility Market and Stakeholder Analysis*, p. 74ff, [http://www.ossate.org/doc\\_resources/OSSATE\\_Market&Stakeholder%20Analysis\\_Public\\_Version\\_Final.pdf](http://www.ossate.org/doc_resources/OSSATE_Market&Stakeholder%20Analysis_Public_Version_Final.pdf).

<sup>183</sup> Some regional / local assessments of the stock of accessible hospitality facilities have been undertaken recently. Yet, these provide neither comparable results nor a full coverage of the EU. Examples include a recent study commissioned by the Greater London Authority revealing that currently the proportion of accessible rooms is less than 2% of total existing stock.

See: Greater London Authority (2010): *Accessible Hotels in London*, p. 2.

<sup>184</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:192:0017:0032:EN:PDF>

Eurostat triennial data on the “*number of establishments having one or more bedrooms accessible for persons with reduced mobility, including wheelchair users*” from 2015 onwards. This data will provide a necessary evidence base for EU level policies in the area of accessibility.<sup>185</sup>

Empirical market studies<sup>186</sup> show that disabled persons travel on a level comparable with the general population for domestic overnight and day trips. Furthermore, disabled customers typically spend similar or higher amounts inter alia for hospitality services than the general population<sup>187</sup>. Almost two thirds of the 4,000 interviewed disabled persons (62.3%) were willing to pay a charge for using additional accessible facilities and services.<sup>188</sup>

Even though accessible hospitality services has shown promising signs of expansion in recent years, it has been regularly reported that the market is delivering way below its potential, thus preventing disabled persons of consuming more accessible hospitality services.<sup>189</sup>

Accessibility labels for hospitality services are promoted to increase the number of disabled customers. Often these labels are used in the context of tourism but their information is meant to be equally relevant for those using hospitality services for professional reasons. While **accessibility certification schemes and labels** are intended to foster market development, their large number, **fragmentation and diversity across Europe** has led to a situation where these schemes and labels have not only lost most of their practicality for disabled customers, but may also cause security problems for disabled customers due to wrong or misleading information. The main problems can be summarised as follows:

- The increasingly large number of different accessibility labels across Europe is more and more confusing for customers. It is very difficult for them to understand the meaning of the different labels<sup>190</sup> and thus to make active use of them – especially when purchasing hospitality services abroad. Indeed, accessibility labels can be difficult to understand when the person looking at the label does not have the “key” or description close by. As a result, potential time savings and market efficiency gains of labelling (overcoming the problem of incomplete and asymmetric information in the market) are not realised.
- None of the accessibility certifications, classifications and labels answers the same logic and technical accessibility requirements. As a consequence, they are not comparable or

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<sup>185</sup> RPA (2012): *Study on the impact of EU policies and the measures undertaken in their framework on tourism – Vol. 1: Measures*, study commissioned by the European Commission DG ENTR, pp. 49ff, [http://ec.europa.eu/enterprise/newsroom/cf/itemdetail.cfm?item\\_id=6227](http://ec.europa.eu/enterprise/newsroom/cf/itemdetail.cfm?item_id=6227).

<sup>186</sup> CRC (2008), p. 5; BMWi (2004), p. 16ff.  
<http://www.bmwi.de/English/Redaktion/Pdf/economic-impulses-of-accessible-tourism-for-all-526,property=pdf,bereich=bmwi,sprache=en,rwb=true.pdf>

<sup>187</sup> CRC (2008), p. 5.

<sup>188</sup> BMWi (2004), p. 18.  
<http://www.bmwi.de/English/Redaktion/Pdf/economic-impulses-of-accessible-tourism-for-all-526,property=pdf,bereich=bmwi,sprache=en,rwb=true.pdf>

<sup>189</sup> See for instance: CRC (2008); AFNOR (2008), *Feasibility and opportunity to develop a standardisation work programme concerning “Criteria for accessibility to tourist and transport services for disabled people”*, p. 48, <ftp://ftp.cen.eu/cen/Sectors/List/Services/feasibilitystudies/Project2Accessibility.pdf>; Buhalis et al. (2005), *OSSATE - Accessibility Market and Stakeholder Analysis*, [http://www.ossate.org/doc\\_resources/OSSATE\\_Market&Stakeholder%20Analysis\\_Public\\_Version\\_Fin a..pdf](http://www.ossate.org/doc_resources/OSSATE_Market&Stakeholder%20Analysis_Public_Version_Fin_a..pdf)

<sup>190</sup> BMWi (2008), p. 34. and Toerisme Vlaanderen (2001), p. 27.

transferable.<sup>191</sup> For example, a disabled person in the UK intending to book an accessible hotel room in Germany cannot expect a hospitality facility certified with the DEHOGA accessibility label to fulfil the same accessibility requirements as a hospitality facility certified with the National Accessible Scheme (NAS) in the UK – even though the pictograms used are very similar.

<b>Accessibility of accommodation services for mobility impaired persons – Comparison of the German DEHOGA labels and the UK National Accessibility Scheme</b>	
<p>When comparing the German DEHOGA accessibility scheme and the UK National Accessibility Scheme (NAS) for mobility impaired persons, it is clear that the logic of both schemes differs and that various types of accessibility categories are used. The underlying accessibility requirements differ as well. For instance, the DEHOGA scheme only covers accessibility issues related to the built environment and equipment of the accommodation facilities, while the NAS also defines requirements with regard to the personal services provided to guests.</p>	
<b>Germany: DEHOGA accessibility certification scheme: labels for mobility impaired guests</b>	
	<p><b>Category A</b>            Guests with mobility impairments, who may need to use a non-motorised wheelchair or a walking aid some of the time</p>
	<p><b>Category B</b>            Wheelchair users, who are unable to walk and constantly depend on the use of a wheelchair</p>
<b>United Kingdom: NAS accessibility certification scheme: labels for mobility impaired guests</b>	
	<p><b>M1 (One step ahead) – Older and less mobile guests</b>            Typically suitable for a person with sufficient mobility to climb a flight of steps, but who would benefit from fixtures and fittings to aid balance.</p>
	<p><b>M2 – Part-time wheelchair users</b>            Typically suitable for a person with restricted walking ability and for those who may need to use a wheelchair some of the time and can negotiate a maximum of three steps.</p>

<sup>191</sup> AFNOR (2008) *Feasibility and opportunity to develop a standardisation work programme concerning “Criteria for accessibility to tourist and transport services for disabled people”*, p. <ftp://ftp.cen.eu/cen/Sectors/List/Services/feasibilitystudies/Project2Accessibility.pdf>, p. 31ff. and Toerisme Vlaanderen (2001), p. 27.

	<p><b>M3I – Independent wheelchair users</b></p> <p>Typically suitable for a person who depends on the use of a wheelchair and transfers unaided to and from the wheelchair in a seated position. This person may be an independent traveller.</p>
	<p><b>M3A – Assisted wheelchair users</b></p> <p>Typically suitable for a person who depends on the use of a wheelchair and requires assistance from a carer and maybe a hoist, when transferring to and from the wheelchair in a seated position.</p>
<p>Comparing the different labels, one notices that the logo of the DEHOGA category A (which has the lowest accessibility requirements) is very similar to the NAS category M3A (which corresponds to the category with the highest accessibility requirements). Mobility impaired customers who travel cross-border may misunderstand the meaning of the accessibility labels if they would transfer their understanding of accessibility in their home country to a foreign country's labels.</p>	

- Many accessibility certification schemes and labels are based on self-assessments by the hospitality service providers without any third party testing (e.g. the German DEHOGA accessibility scheme). As a consequence, consumers often have no assurance that labelled hospitality facilities are actually accessible. It has been reported that some providers of hospitality services have wrongly labelled their facilities – generally because of a lack of technical skills to perform a correct conformity assessment.<sup>192</sup> As a result, disabled customers relying on accessibility labels without third party testing run a risk of unintended booking non-accessible services (potentially even endangering their security).
- Many accessibility certification schemes and labels focus only on accessibility aspects of the built environment and do not include accessibility of services. Yet, disabled consumers often require accessibility of both the physical facilities and the related services.<sup>193</sup>

At least five EU Member States already have voluntary accessibility **certification schemes and labels** for hospitality services. It is likely that more (voluntary) standardised accessibility certification schemes and labels for hospitality services will be initiated across Europe in the future. All the nine EU Member States examined by Deloitte have technical accessibility requirements for **hospitality services and facilities**. 16 additional EU Member States, have been identified by ANED.

National level legislation, standards, technical guidance, certification schemes and labels aiming at ensuring and/or promoting the accessibility of hospitality services are strongly fragmented across Europe. In addition, the coverage of these instruments is often insufficient to ensure an adequate level of accessibility of hospitality services. At the European level, no harmonised standards or technical guidance documents exist and initiatives for regulatory solutions appear to be on hold since several years.

<sup>192</sup> BMWi (2008), p. 34ff.

<sup>193</sup> BMWi (2008), p. 34.

This situation has negative consequences for the hospitality industry. Industry professionals argue that they are confronted with the difficulty of applying the various accessibility requirements across Europe considering their number and fragmentation, costs of implementation and the calendar of application.<sup>194</sup> Understanding different sets of regulations, ensuring compliance with non-consistent accessibility requirements, and obtaining various labels certifying accessibility in different Member States comes with substantial additional costs and prevents the realisation of economies of scale for example for using the same accessibility label across the UE or having the same number of accessible rooms in the same design construction.

In order to overcome the regulatory failure (*i.e.* regulatory fragmentation as well as diverse and insufficient regulatory coverage), some industry representatives have called for more international cooperation with a view to develop good practices and international standards for accessibility. They considered that the principle of a European standard established on the basis of already elaborated rules which are transparent and recognised at international level would enable the establishment of common reference points shared by all the players in the hospitality sector. It would also ensure a greater coherence in the service chain for travellers who have to cross different countries and who require services of a different character (such as transport, hoteliers, restaurant, leisure, etc.).<sup>195</sup> Once more it is important to note that standards are of voluntary nature and that on their own they cannot replace divergent laws.

“Most accommodation providers do not generally have easy access to information about how to build or adapt their premises to make them accessible – they simply do not know what “accessible” means. Indeed, most accommodation providers do not know the requirements of disabled customers or how to provide for them. To be effective, the information must be carefully standardised, reliable and authoritative.”<sup>196</sup> The fragmentation of these schemes across Europe and their reliance on inconsistent accessibility criteria hampers their effectiveness.

According to Datamonitor data, the European hotels and motels industry generated total **revenues** of approx. 130 EURb in 2010, representing a compound annual growth rate (CAGR) of 0.9% between 2006 and 2010.<sup>197</sup> Slightly divergent figures were estimated in a European Commission study, in which the total accommodation sector (hotels, rural gîtes, campsites, youth hostels and apartments for rent as well as other private accommodation facilities) realised a turnover of approx. 135 EURb in 2006, accounting for approx. 1.2% of GDP in the EU27.<sup>198</sup> Of the accommodation revenues, approx. 77.6% related to leisure, whereas the remainder of 22.4% was generated by business guests in 2010.<sup>199, 200</sup>

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<sup>194</sup> AFNOR (2008), opt. cit., p. 14.

<sup>195</sup> AFNOR (2008), opt. cit., p. 3f.

<sup>196</sup> Toerisme Vlaanderen (2001), opt. cit., p. 13f.

<sup>197</sup> Datamonitor (2011): *Hotels & Motels in Europe*, p. 7.

<sup>198</sup> Ecorys (2009): Study on the Competitiveness of the EU tourism industry, commissioned by the European Commission, Directorate General Enterprise and Industry, [http://ec.europa.eu/enterprise/newsroom/cf/getdocument.cfm?doc\\_id=5257](http://ec.europa.eu/enterprise/newsroom/cf/getdocument.cfm?doc_id=5257).

<sup>199</sup> Datamonitor (2011): *Hotels & Motels in Europe*, p. 7.

<sup>200</sup> More than 80% of companies active in the sub-sector of restaurants and cafés; tour operators and travel agents represent 4% of the enterprises. Cf. Ecorys (2009): Study on the Competitiveness of the EU tourism industry, commissioned by the European Commission, Directorate General Enterprise and Industry, [http://ec.europa.eu/enterprise/newsroom/cf/getdocument.cfm?doc\\_id=5257](http://ec.europa.eu/enterprise/newsroom/cf/getdocument.cfm?doc_id=5257).

It can be noted that in 2010, the ‘Big Five’ Member States – France, Italy, the United Kingdom, Germany and Spain – accounted for almost 75% of the entire hotels and motels market in the EU. All of these countries belong to the group of “old” EU15 Member States.<sup>201</sup>

The general market development of the accommodation and food services industry was positive between 2007 and 2011, with a drop in 2009 related to the financial crisis and the overall economic decline in Europe. Growth rates in individual countries vary significantly within a range of -7.3% in Greece and more than +20% in the Baltic countries between 2010 and 2011.

It appears that non-resident guests (i.e. guests that have their main residence in another country than the hosting country<sup>202</sup>) account for approx. 40.7% to the total EU market volume.<sup>203</sup> Yet, the situation varies significantly across Member States, with some countries accommodating more national residents than non-residents (e.g. Germany) and others having more guest-nights booked by non-residents (e.g. Spain). In sum, the cross-border business plays an important role in the hospitality services market, which is therefore sensitive to potential internal market barriers.

The accommodation sector in the EU is very fragmented, with a total of approx. 260,000 enterprises being active in this sector in 2006.<sup>204</sup> The market structure is characterised by a few large hotel chains on the one hand and a very large number of micro-enterprises with one to nine employees on the other hand. In most Member States, these micro-enterprises represent 75% or more of all accommodation companies. In all countries across the EU, more than 90% of the companies in the market employed 50 people or less. Additionally, the accommodation industry is very fragmented in terms of ownership, with the top 10 of the largest players in the industry having less than 5% of the total bed stock in Europe. The vast majority of accommodation companies are located in the EU15.

The general market structure of the accommodation sector also holds for the hotel sub-segment, where large multinational hotel chains operate alongside very small local establishments. On average, integrated hotel chains are responsible for 25% of the total hotel market in the EU, with a large degree of disparity between different Member States.

It appears that most of the world’s largest hotel chains’ headquarters are located in the USA. IHG and Accor are the two largest European hotel groups seen in a global context. It can be noted that although Accor is by far the most important player in the European hotel sector in terms of revenue, IHG has a larger global capacity of hotel rooms.<sup>205</sup>

According to a 2011 Datamonitor study, four major hotel chains are active in the European hospitality market, three of these having their headquarters in the EU. Other sources also identify Best Western and Groupe du Louvre among the key market players<sup>206</sup>.

While the total number of market participants is very high, there are only few very large players active in the market, partly serving different market segments. Accordingly, the

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<sup>201</sup> Datamonitor (2011): *Hotels & Motels in Europe*.

<sup>202</sup> Relevant statistical definitions are provided under

[http://epp.eurostat.ec.europa.eu/cache/ITY\\_SDDS/EN/tour\\_occ\\_esms.htm](http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/EN/tour_occ_esms.htm)

<sup>203</sup> Source: EUROSTAT, [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/Tourism\\_statistics\\_-\\_nights\\_spent\\_in\\_tourist\\_accommodation\\_establishments](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Tourism_statistics_-_nights_spent_in_tourist_accommodation_establishments)

<sup>204</sup> Ecorys (2009): *Study on the Competitiveness of the EU tourism industry*, commissioned by the European Commission, Directorate General Enterprise and Industry,

[http://ec.europa.eu/enterprise/newsroom/cf/\\_getdocument.cfm?doc\\_id=5257](http://ec.europa.eu/enterprise/newsroom/cf/_getdocument.cfm?doc_id=5257).

<sup>205</sup> <http://www.bighospitality.co.uk/Trends-Reports/Chain-hotel-market-stabilises-boosted-by-budget-demand>

<sup>206</sup> <http://www.bighospitality.co.uk/Trends-Reports/Chain-hotel-market-stabilises-boosted-by-budget-demand>

implementation of accessibility features by any of these major accommodation providers has a significant impact on guests with disabilities.

Other relevant areas of built environment regulations which are not further assessed here include for instance the minimum dimensions and of accessible rooms, minimum dimensions of moving spaces as well as the equipment of hospitality facilities (e.g. availability of accessible bathrooms and accessible telecommunication equipment).

As a result of diverging requirements and standards, it may be difficult for consumers that travel cross-border to predict the available capacities of accessible guest rooms in hospitality facilities. For providers that are established in several countries, the cost of accessibility may be higher because standardised building designs for hospitality facilities may not be re-usable across countries due to diverging accessibility requirements.

To conclude, due to a relatively small number of providers with a significant market share in a very fragmented market, the analysis of accessibility measures put in place by individual hotel chains might be of particular importance for the understanding of the hospitality sector as a whole.

In the USA, technical accessibility requirements for hospitality services are included in the Section 508 ADA Guidelines for Buildings and Facilities” (section 224). These requirements mainly refer to the built environment (e.g. minimum number of accessible rooms, minimum dimensions and of accessible rooms, minimum dimensions of moving spaces, etc.) and equipment of hospitality facilities (e.g. availability of accessible bathrooms and text-relay telecommunication equipment).

The study commissioned by the German Ministry of Economics and Technology that has been used to estimate the annual monetary benefits for consumers (i.e. the potential cost savings) is also used for the baseline scenario. It has been calculated that persons with disabilities spend an annual amount of 14.9 EURb to 21.0 EURb on accommodation in 2010. Assuming that the reported **market growth between 2006 and 2010 (CAGR of 0.9%)** also applies to the period from 2010 until 2020, the **annual amount spend on accommodation by persons with disabilities increases to 16.3 EURb to 23.0 EURb in 2020.**

Concerning information about accessibility on line, as previously presented, it can be assumed that the total number of businesses is equal to the number of **websites**, i.e. each business has at least on website. Hence, the total number of websites in the EU27 hospitality service sector is **260,000**.

The Internet could be regarded as a good source for potential (disabled) customers to find detailed, reliable and up to date information on (accessible) hospitality services since printed material of specialised travel guides are often not accurate enough or out of date. Furthermore, the Internet provides opportunities to reduce and simplify the search procedure. Therefore, the use of the Internet generally represents an appropriate and dynamic source of information.<sup>207</sup>

Offering information about accessible hospitality services online (information and booking) to individuals with disabilities requires web accessibility, *i.e.* websites have to be accessible to all people, no matter whether they have impairments or not. In the large majority of countries,

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<sup>207</sup> Buhalis et al. (2005), *OSSATE - Accessibility Market and Stakeholder Analysis*, p. 58, [http://www.ossate.org/doc\\_resources/OSSATE\\_Market&Stakeholder%20Analysis\\_Public\\_Version\\_Fin\\_a..pdf](http://www.ossate.org/doc_resources/OSSATE_Market&Stakeholder%20Analysis_Public_Version_Fin_a..pdf).

the provision of accessible websites for information and booking of hospitality services mainly depends on voluntary action by service providers.

With regard to the actual implementation of accessible websites by hospitality providers, a recent ENAT study<sup>208</sup> reports relatively low degrees of progress across Europe – even though the implementation of accessible websites is in the economic self-interest of service providers intending to attract disabled customers and their travel companions. As a result, online information and booking services for (accessible) hospitality services across Europe remain mostly inaccessible, despite the fact that there is some legislation and voluntary standards in some Member States (as seen under private sector websites).

**Standardised certification schemes and labels** are often used to facilitate the information gathering and quality assessment process for customers – they are generally a solution to problems of incomplete and asymmetric information in markets.

In the market for accessible hospitality services where disabled customers require detailed and trustful information before booking their accommodation, standardised accessibility certification schemes and labels can support and accelerate the information and purchasing process. For example, a customer requiring a wheelchair accessible hotel room could choose his/her hotel room among offers that have been certified and labelled as wheelchair accessible without having to analyse the accessibility of every single offer – leading to a significant time saving. The multiplication of labels also applies to the accessibility of the websites themselves. Self-use of labels often overestimate the level of accessibility of the websites.

The existence of standardised accessibility certification schemes and labels for hospitality services has been used as a proxy to estimate the baseline scenario in this area and to identify the market at risk of fragmentation. They have been identified in five out of ten EU Member States (i.e. 50%) within the scope of the analysis. This led to the following extrapolation range for the EU27:

- **Lower range limit:** standardised accessibility certification schemes and labels for hospitality services in **5 EU Member States** (i.e. those countries where accessibility certification schemes and labels for hospitality services have been evidenced as part of the research: France, Germany, Ireland, Italy and the UK).
- **Upper range limit:** standardised accessibility certification schemes and labels for hospitality services in 50% \* 27 EU Member States = **14 EU Member States** (extrapolation to the EU27 level).

The **regulatory review** for selected EU/EEA Member States shows that, in general, **legislation, standards, technical guidance as well as certification schemes with regard to accessibility of hospitality services are diverse and fragmented across Europe**. While some Member States have introduced mandatory accessibility requirements (AT (some regions), FR, DE (some regions), ES, IE and UK), others build on voluntary schemes only (AT (some regions), DE (some regions) and NO). The type, scope, content and legal force of (technical) accessibility requirements vary widely across Member States, but also within federalist countries such as Germany, Spain or Austria. While many Member States regulate only accessibility related to the built environment and equipment of hospitality facilities, other Member States also define requirements for personal services (e.g. reception services)

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<sup>208</sup> ENAT (2012): *Reaching All Customers: How do European NTOs Compare on Online Accessibility?*, [http://www.accessibletourism.org/resources/enter2012-helsingborg\\_enat\\_final\\_.pdf](http://www.accessibletourism.org/resources/enter2012-helsingborg_enat_final_.pdf)

provided to disabled persons. See also what has been said above under 'architect services' regarding the placement of lifts in public buildings. Standardised accessibility certification schemes and labels, which are implemented on a voluntary basis, were identified in FR, IE and the UK as well as in Germany, where several national and regional schemes exist. Standards which are specifically related to accessibility of hospitality services could be identified in AT, FR, ES, NO and the UK. The coverage and degree of detail of these standards vary widely across countries.

In sum, accessibility is not regulated along common lines throughout Europe. The adopted instruments are “rarely based on a shared outlook between the different parties concerned, something which contributes to the variation of practices and, in certain cases, to the inadequacy of certain solutions”.<sup>209</sup>

A detailed review of requirements with regard to the minimum number of accessible rooms in hospitality facilities in the countries under scope is provided below:

**Austria:** The basic standard for accessibility in the built environment – ÖNORM B 1600:2012:02<sup>210</sup> – is explicitly referenced within the Austrian Institute of Construction Engineering’s (OIB) harmonised Guideline n° 4 on “Usability and accessibility of the built environment”<sup>211</sup> which has legal force in seven out of nine federal states in Austria. ÖNORM B 1600:2012:02 (section 5.11) specifies that in hotels and similar facilities such as youth hostels and holiday homes, etc. at least one guest room per 50 guest beds has to be accessible.

Furthermore, the voluntary ÖNORM B 1603:2005<sup>212</sup> standard for barrier free buildings for tourism specifies that in hotels and similar facilities such as youth hostels and holiday homes etc. at least one guest room per 15 guest rooms has to be accessible – and in order to meet the voluntary higher requirements, all guest rooms have to be accessible.

**France:** The building code sets mandatory minimum requirements with regard to the minimum number of accessible rooms in hospitality facilities:

*France – Minimum number of accessible rooms in hospitality facilities*<sup>213</sup>

Number of Rooms	Accessible Rooms
1 to 20	1
21 to 50	2
51 and over	2 plus 1 for each 50 over 50

**Germany:** According to DIN 18025-2, 1% of all rooms in hospitality facilities (in any case at least one room) need to be accessible (i.e. planned and equipped in line with the standard DIN 18025-1, which has been partly replaced by DIN 18040-1).<sup>214</sup> The

<sup>209</sup> AFNOR (2008), *Feasibility and opportunity to develop a standardisation work programme concerning “Criteria for accessibility to tourist and transport services for disabled people”*, p. 33, <ftp://ftp.cen.eu/cen/Sectors/List/Services/feasibilitystudies/Project2Accessibility.pdf>

<sup>210</sup> The standard can be purchased on: <http://www.as-institute.at/>

<sup>211</sup> [http://www.oib.or.at/RL4\\_061011.pdf](http://www.oib.or.at/RL4_061011.pdf)

<sup>212</sup> The standard can be purchased on: <http://www.as-institute.at/>

<sup>213</sup> [http://www.bordeaux.fr/ebx/ShowBinary/BEA%20Repository/flip/fr/groupePiecesJointes/21756/2/pieceJointeSpec/57525/file/FICHE\\_12e\\_etablissement\\_hebergement.pdf](http://www.bordeaux.fr/ebx/ShowBinary/BEA%20Repository/flip/fr/groupePiecesJointes/21756/2/pieceJointeSpec/57525/file/FICHE_12e_etablissement_hebergement.pdf)

<sup>214</sup> <http://nullbarriere.de/din18024-2-beherbergung.htm>

legal force of the standard is determined by the federal state level building codes. While in some federal states, the application of the standard is mandatory, it only serves as a guideline in others. The building codes of some federal states also go beyond the standard; for example in the *Land Berlin*, 10% of all rooms in hospitality facilities need to be accessible.<sup>215</sup>

**Ireland:** According to the Technical Guidance Document for Part M of the Building Regulations (2000) (section 1.18) “one guest bedroom out of every twenty, or part thereof, of guest bedrooms [is required to be] suitable in terms of size, layout and facilities for independent use by a wheelchair user”.<sup>216</sup>

**United Kingdom:** According to the technical guidance (“Approved Document M”) for the Building Regulations (2010) (section 4.24g)<sup>217</sup> “at least one wheelchair-accessible bedroom should be provided for every twenty bedrooms”, i.e. 5% of the rooms of hospitality facilities are required to be accessible.

A recent study for the Greater London Authority recommends a requirement of 10% accessible rooms in hospitality facilities in order to meet the existing and future demand.<sup>218</sup>

The voluntary standard “*BS 8300:2009 Design of buildings and their approaches to meet the needs of disabled people. Code of practice*”<sup>219</sup> recommends an increase in accessible bedrooms to a minimum of 15%, comprising: 5% without a fixed tracked-hoist system; 5% with a fixed tracked-hoist system or similar system giving the same degree of convenience and safety; and 5% capable of being adapted in the future to accessibility standards (i.e. with more space to allow the use of a mobile hoist, wider doors, provision for services and with enclosing walls capable of supporting the required fittings, e.g. grab rails and drop-down support rails).<sup>220</sup>

**USA:** The Americans with Disabilities Act Accessibility Guidelines set mandatory minimum requirements with regard to the minimum number of accessible rooms in hospitality facilities:

*USA – Minimum number of accessible rooms in hospitality facilities*<sup>221</sup>

Number of Rooms	Accessible Rooms	Rooms with Showers	Roll-in
1 to 25	1		
26 to 50	2		
51 to 75	3	1	
76 to 100	4	1	
101 to 150	5	2	

<sup>215</sup> <http://nullbarriere.de/planung-hoteleinrichtung.htm>

<sup>216</sup>

<http://www.environ.ie/en/Publications/DevelopmentandHousing/BuildingStandards/FileDownload.1655.en.pdf>

<sup>217</sup> [http://www.planningportal.gov.uk/uploads/br/BR\\_PDF\\_ADM\\_2004.pdf](http://www.planningportal.gov.uk/uploads/br/BR_PDF_ADM_2004.pdf)

<sup>218</sup> Greater London Authority (2010): *Accessible Hotels in London*, p. 4ff.

<sup>219</sup> <http://shop.bsigroup.com/en/ProductDetail/?pid=00000000030217421>

Please note that this standard is not publically available and is sold by national standardisation bodies.

<sup>220</sup> [http://www.newham.gov.uk/NR/rdonlyres/BC015437-8B02-4813-AEB4-1EBC0FB89069/0/Hotels\\_FactsheetNov09\\_final.pdf](http://www.newham.gov.uk/NR/rdonlyres/BC015437-8B02-4813-AEB4-1EBC0FB89069/0/Hotels_FactsheetNov09_final.pdf)

<sup>221</sup> Cf. section 9.1.2 of the Americans with Disabilities Act Accessibility Guidelines.

Number of Rooms	Accessible Rooms	Rooms with Roll-in Showers
151 to 200	6	2
201 to 300	7	3
301 to 400	8	4
401 to 500	9	4 plus 1 for each add. 100 over 400
501 to 1000	2% of total	
1001 and over	20 (1 for each 100 over 1000)	

**Italy, Netherlands, Norway, Poland, Portugal and Spain:** No minimum requirements with regard to the minimum number of accessible rooms in hospitality facilities could be identified.

Based on the above findings, it can be concluded that the legislative landscape at national level is fragmented, with a patchwork of strong, weak and no requirements in place.

National technical accessibility requirements for the built environment of hospitality services have been identified in nine out of ten EU Member States (i.e. 90%) within the scope of the analysis. This led to the following extrapolation range for the EU27:

- **Lower range limit:** technical requirements in **9 EU Member States** (i.e. those EU Member States where technical accessibility requirements have been evidenced as part of the research: Austria, France, Germany, Ireland, Italy, the Netherlands, Portugal, Spain and the United Kingdom).
- **Upper range limit:** technical requirements in 90% \* 27 EU Member States = **24 EU Member States** (extrapolation to the EU27 level).

National level legislation, standards, technical guidance, certification schemes and labels aiming at ensuring and/or promoting the accessibility of hospitality services are strongly fragmented across Europe. In addition, the coverage of these instruments is often insufficient to ensure an adequate level of accessibility of hospitality services. At the European level, no harmonised standards or technical guidance documents exist and initiatives for regulatory solutions appear to be on hold since several years.

This situation has negative consequences for the hospitality industry. Industry professionals argue that they are confronted with the difficulty of applying the various accessibility requirements across Europe considering their number and fragmentation, costs of implementation and the calendar of application.<sup>222</sup>

<sup>222</sup> AFNOR (2008), opt. cit., p. 14.

Despite the abundant evidence for the business case and the potential market size of accessible hospitality services, the industry has so far failed to recognise enough the business opportunities of this market.<sup>223</sup> There are several reasons behind this.

First, there is a general lack of awareness in the hospitality industry of the business potential that lies in the provision of accessible services to disabled persons and elderly. “Owners and managers do not recognise disability as a market and, hence, do not promote the rooms in an appropriate manner for people with disabilities to make an informed choice about their accommodation needs. In addition, some accommodation managers report low occupancy of the accessible rooms and that non-disabled customers do not like using accessible accommodation.”<sup>224</sup> “The incentive to attract “neglected” customers has driven some successful developments in the direction of improved provisions for disabled customers over the past decade”<sup>225</sup>, but the take-up of this business case remains too low in order to cover existent supply shortages.

Finally, “most accommodation providers do not generally have easy access to information about how to build or adapt their premises to make them accessible – they simply do not know what “accessible” means. Indeed, most accommodation providers do not know the requirements of disabled customers or how to provide for them. To be effective, the information must be carefully standardised, reliable and authoritative.”<sup>226</sup>

**The regulatory fragmentation with regard to accessibility requirements across Europe is not only an obstacle for disabled citizens intending to travel across borders, but also for businesses** that intend to provide accessible hospitality services in different Member States. Understanding different sets of regulations, ensuring compliance with non-consistent accessibility requirements, and obtaining various labels certifying accessibility in different Member States comes with substantial additional costs and prevents the realisation of economies of scale. For instance, large hospitality undertakings that operate cross-border have to comply with different national accessibility requirements in building regulations when building / adapting their facilities for the provision of accessible hospitality services. The regulatory fragmentation, for instance with regard to the minimum number of accessible rooms in a facility, impedes the use of standardised buildings plans and thus the realisation of economies of scale.<sup>227</sup> As a consequence, large market players of the hospitality industry may have lost their interest in the active provision and marketing of accessible services

Providing accessible online information on hospitality services has a cost for business, which may be significant for smaller undertakings. Indeed, the average price difference between a non-accessible website (total cost of 33,816.61 EUR) and a, for example, WCAG 2.0 AA accessible website (total cost of 52,116.64 EUR) is of 18,300.03 EUR. While mandatory web-accessibility requirements for private hospitality undertakings currently only exist in Spain and voluntary ones in a few other Member States (Italy, Ireland and the United Kingdom), it is probable that other countries will introduce similar obligations. National-level diverging obligations mean that businesses will face additional costs for the understanding and compliance with the different national requirements when operating across borders.

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<sup>223</sup> International Centre for Responsible Tourism (2010), opt. cit., p. 15.

<sup>224</sup> Darcy (2008a), opt. cit., p. 3.

<sup>225</sup> Toerisme Vlaanderen (2001), opt. cit., p. 8.

<sup>226</sup> Toerisme Vlaanderen (2001), opt. cit., p. 13f.

<sup>227</sup> Another consequence of the regulatory fragmentation with regard to the built environment of hospitality facilities is that architects cannot easily provide their services across borders because they need to familiarise with different national (accessibility) requirements. This issue is further discussed in the fiche on architect services.

## 12. Public Procurement

Public Procurement at EU level is defined in the related Directives.<sup>228</sup>

Public procurement practices in the Member States can have an important impact on the market, since it represents a large volume of public spending each year, corresponding to approximately 17% of the EU GDP<sup>229</sup>. Given its economic significance, public procurement has the potential to influence the market in terms of production and consumption trends in favour of socially responsible goods and services – including accessible goods and services – on a large scale.

According to the Adelphi-Report, the desire to integrate such policy objectives into public procurement is already widespread throughout Europe<sup>230</sup>, and the European Commission also attributes considerable importance to this issue as an important measure for the implementation of the EU 2020 Strategy, as well as the European Sustainability Strategy.

In order to contribute to reduce the existing fragmentation and to foster interoperability, the European Commission has issued two standardisation mandates for European accessibility requirements suitable for public procurement of products and services in the ICT domain (Mandate 376<sup>231</sup>) and in the built environment (Mandate 420<sup>232</sup>). The main objectives of these mandates are: (1) to harmonise and facilitate the public procurement of accessible goods and services by identifying a set of functional European accessibility requirements for public procurement, and (2) to provide a mechanism through which the public procurers have access to an electronic toolkit, enabling them to make use of these harmonised requirements in procurement process.

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<sup>228</sup> Directive 2004/17/EC coordinating the procurement procedures of entities operating in the water, energy, transport and postal service sectors:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:134:0001:0001:EN:PDF>;

and Directive 2004/18/EC on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts sets out the rules for awarding contract within Europe:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:134:0114:0240:EN:PDF>.

These Directives were adopted after the finalisation of these Annexes to the IA. The changes proposed by the Commission making accessibility compulsory were accepted and remained in the adopted Directives. This should be considered throughout the text. References in to those Directives adopted in 2014 are: Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC, OJ L 94, 28/03/2014, p. 65; Directive 2014/25/EU of the European Parliament and of the Council of 26 February 2014 on procurement by entities operating in the water, energy, transport and postal services sectors and repealing Directive 2004/17/EC, OJ L 94, 28/03/2014, p. 243; Directive 2014/23/EU of the European Parliament and of the Council of 26 February 2014 on the award of concession contracts, OJ L 94, 28/03/2014, p. 1.

<sup>229</sup> EC (2010): *Europe 2020 Flagship Initiative - Innovation Union*, COM(2010) 546 final, p. 16.

[http://ec.europa.eu/research/innovation-union/pdf/innovation-union-communication\\_en.pdf](http://ec.europa.eu/research/innovation-union/pdf/innovation-union-communication_en.pdf)

<sup>230</sup> Adelphi (2010): *Strategic Use of Public Procurement in Europe*, Final Report to the European Commission MARKET/2010/02/C,

[http://ec.europa.eu/internal\\_market/publicprocurement/docs/modernising\\_rules/strategic-use-public-procurement-europe\\_en.pdf](http://ec.europa.eu/internal_market/publicprocurement/docs/modernising_rules/strategic-use-public-procurement-europe_en.pdf)

<sup>231</sup> EC (2005): *Standardisation Mandate to CEN, CENELEC and ETSI in support of European accessibility requirements for public procurement in the ICT domain*, M/376 EN, [http://www.ictsb.org/Working\\_Groups/DATSCG/Documents/M376.pdf](http://www.ictsb.org/Working_Groups/DATSCG/Documents/M376.pdf)

<sup>232</sup> EC (2007): *Standardisation Mandate to CEN, CENELEC and ETSI in support of European accessibility requirements for public procurement in the built environment*, M/420 EN, [http://ec.europa.eu/enterprise/standards\\_policy/mandates/database/index.cfm?fuseaction=search.detail&id=392#](http://ec.europa.eu/enterprise/standards_policy/mandates/database/index.cfm?fuseaction=search.detail&id=392#)

According to the current EU Public Procurement Directives it is possible – yet not mandatory – to integrate social considerations and specifically the use of Design for All and accessibility requirements in the technical specifications and award criteria of public bids. The current Proposal for a Directive on public procurement<sup>233</sup> strengthens the legislative framework by obliging contracting authorities to draw up technical specifications that shall “take into account accessibility criteria for people with disabilities or design for all users”, “except in duly justified cases”. And the Proposal for a Directive on procurement by entities operating in the water, energy, transport and postal services sectors<sup>234</sup> states that “where mandatory accessibility standards are adopted by a legislative act of the Union, technical specifications shall, as far as accessibility criteria are concerned, be defined by reference thereto”.<sup>235</sup>

Furthermore, the European Commission’s legislative proposal for the review of the EU Public Procurement Directives foresees a “comply or explain” regime for a generalised public procurement of accessible goods and services, where the exceptional procurement of non-accessible goods and services needs to be duly justified. The consistency and interoperability in the internal market would be facilitated via European Standards. The proposed legal framework for public procurement of accessible goods and services is comparable to the Section 508 regime in force in the USA.<sup>236</sup>

Currently, the national level implementation and take-up of such accessibility criteria in public procurement has, however, proven to be very low and heterogeneous across Member States.<sup>237</sup> In practice, in most Member States contracting authorities do not make sufficient use of the possibilities offered under Article 23 of Directive 2004/18/EC, as this Article does not currently include a clear requirement for goods and services to be accessible.<sup>238</sup> Furthermore, the cost criteria have often been an overriding concern to the detriment of the accessibility criteria.<sup>239</sup>

While all EU/EEA Member States within the scope of the Deloitte analysis – with the notable exception of Germany and Poland – have transposed the legal possibility (i.e. not obligation) to include accessibility requirements in public procurement specifications and award criteria as foreseen in Directives 2004/17/EC and 2004/18/EC, only the UK has implemented a cross-sector scheme for the promotion of accessibility in public procurement and Italy legislation focusing on ICT. In the other Member States the promotion of accessibility in public procurement is limited to ICT-related toolkits and/or guidelines for public procurement, mainly concerning the accessibility of public websites<sup>240</sup>. The specific accessibility

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<sup>233</sup> EC (2011): *Proposal for a Directive of the European Parliament and of the Council on public procurement*, COM(2011) 896 final, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0896:FIN:EN:PDF>

<sup>234</sup> EC (2011): *Proposal for a Directive on procurement by entities operating in the water, energy, transport and postal services sectors*, COM(2011) 895 final, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0895:FIN:EN:PDF>

<sup>235</sup> Respectively Article 40 (1) Proposal for a Directive on public procurement; Article 54 (1) Proposal for a Directive on procurement by entities operating in the water, energy, transport and postal services sectors.

<sup>236</sup> Please refer to annex 10 of this report for a detailed presentation of the EC legislative proposal for the revision of the EU Public Procurement Directives.

<sup>237</sup> ETSI (2008): *ETSITR 102 612 - Human Factors; European accessibility requirements for public procurement of products and services in the ICT domain*, [http://www.mandate376.eu/doc/tr\\_102612v010101p.pdf](http://www.mandate376.eu/doc/tr_102612v010101p.pdf).

<sup>238</sup> [http://www.mandate376.eu/ws1/Open%20Workshop%20public%20procurement\\_speech\\_Cattani.pdf](http://www.mandate376.eu/ws1/Open%20Workshop%20public%20procurement_speech_Cattani.pdf)

<sup>239</sup> [http://www.euroblind.org/media/position-papers/EBU\\_response\\_EC\\_Green\\_Paper\\_public\\_procurement\\_final.doc](http://www.euroblind.org/media/position-papers/EBU_response_EC_Green_Paper_public_procurement_final.doc)

<sup>240</sup> Please refer to the case fiche on websites for a more in-depth analysis of web-accessibility of public websites.

requirements and recommendations in the national toolkits and guidelines for public procurement differ across countries resulting in regulatory fragmentation.

A web-survey on the strategic use of public procurement by contracting authorities across Europe conducted for the European Commission DG MARKT<sup>241</sup> in 2010 shows that 20% of those public contracting authorities that include social responsibility/ethical requirements in their tender documents included accessibility/design-for-all requirements in their tender documents.<sup>242</sup> Furthermore, 13% of those public contracting authorities that include social responsibility/ethical requirements in their tender documents included accessibility/design-for-all requirements in the award criteria.<sup>243</sup>

When considering the entire survey sample, it appears that 9.8% of all responding contracting authorities included accessibility/design-for-all requirements in their tender documents<sup>244</sup> and 6.4% of all responding contracting authorities included accessibility/design-for-all requirements in the award criteria.<sup>245</sup>

Enforcement of the actual use of such accessibility requirements in public procurement is mostly ineffective. As an example, the Irish government has developed the Irish Accessible IT Procurement Toolkit that refers to the Irish National IT Accessibility Guidelines, which provide accessibility requirements for among others things computers and operating systems. The specific case of the Irish Department of Finance, shows that the enforcement is ineffective due to mainly issues concerning lack of awareness, understanding and expertise of accessibility concepts and accessible goods/services available on the market. This was also confirmed through interview with the largest OS manufacturer that closely monitors the situation in Europe regarding fragmentation of standards. It is aware that “to the extent that standards exist, there is no large difference“ and admits that it has “never seen real enforcement“ in Europe, in contrast to the USA where it must comply with Section 508 in all procurement exercises with Federal governments and increasingly with individual States. It was this company’s view that “training governments how to ask for accessibility features” should be undertaken.

As a consequence of the legal fragmentation across Europe, the strategic potential of public procurement as a powerful leverage factor for the development of the market for accessible goods and services remains largely unused. Furthermore, there is a risk of fragmentation of the internal market due to differences in national legislation and public procurement practices that lead to barriers for businesses and professionals to provide their goods and services cross-border, since they have to modify their goods and services in order to be able to provide them

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See also annex section **Error! Reference source not found.** for a presentation of the Irish Accessibility Toolkit and a comparison with the US Section 508 guidelines.

<sup>241</sup> Adelphi (2010): *Strategic Use of Public Procurement in Europe*, Final Report to the European Commission MARKT/2010/02/C, [http://ec.europa.eu/internal\\_market/publicprocurement/docs/modernising\\_rules/strategic-use-public-procurement-europe\\_en.pdf](http://ec.europa.eu/internal_market/publicprocurement/docs/modernising_rules/strategic-use-public-procurement-europe_en.pdf)

See annex 4 of the report (unpublished – provided by the European Commission DG MARKT) for a detailed discussion of the methodology of the web-survey and statistical considerations on its representativeness.

<sup>242</sup> *Results based on the survey question 23: “What kind of specific requirements do you set with regard to socially responsibility objectives in your tender documents?” [various pre-defined choices, including “Promoting accessibility and design for all”]*

<sup>243</sup> *Results based on the survey question 24: “Do you use social responsibility objectives in award criteria in the tender documents?” [various pre-defined choices, including “Promoting accessibility and design for all”]*

<sup>244</sup> 226 out of 2,299 valid responses – see Adelphi (2010), opt. cit., annex 4, p. 45

<sup>245</sup> 147 out of 2,299 valid responses – see Adelphi (2010), opt. cit., annex 4, p. 46

in other countries and / or because of significant differences in terms of compliance costs in the different Member States.

As to the magnitude of the impacts of the varying accessibility requirements, it is assumed for example that 8.5% of the services provided by web professionals will take place cross-border in 2020. It is further assumed that for the cross-border cases, companies will incur between 1% and 5% additional costs for ensuring accessibility due to differences between national technical accessibility requirements. It is expected that the differences between national technical accessibility requirements has a negative impact on cross-border trade and that the full potential of the internal market would not be achieved.



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PART 3/3

**COMMISSION STAFF WORKING DOCUMENT**

**IMPACT ASSESSMENT**

*Accompanying the document*

**Proposal for a Directive**

**of the European Parliament and of the Council on the approximation of the laws,  
regulations and administrative provisions of the Member States as regards the  
accessibility requirements for products and services**

{ COM(2015) 615 final }

{ SWD(2015) 265 final }

{ SWD(2015) 266 final }

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**ANNEX 7: DETAILS ON THE BASELINE SCENARIO AND IMPACT ANALYSIS FOR SELECTED GOODS AND SERVICES AND PUBLIC PROCUREMENT (INCLUDING METHODOLOGY)**

**A - METHODOLOGICAL SUMMARY IMPACT ASSESSMENT**

This section presents the methodological approach taken for the calculation of the costs of accessibility requirements and the quantitative assessment of the policy options for the priority goods and services (also referred to as “cases”), including public procurement. The aim is to describe the broad approach taken and the types of assumptions that have been made for the purpose of carrying out the estimates. Distinction is made between cases for which a “top-down” or a “bottom-up” approach has been applied for calculating the costs of accessibility. Additionally, the cases of architect services and telecommunication services are described separately as their features required a slightly different methodological approach.

**1.1 General approach**

1. A set of “**basic assumptions**” has been identified for each case that is necessary to carry out the problem assessment and assessment of impacts of the policy options. They vary slightly between the cases as a result of the availability of data and specifics of the market.

Examples of generally applicable basic assumptions include:

Type of figure	Source
Market volume	Based on available data, e.g. Prodcom figures or extrapolated from individual company data
Number of companies	Based on available data or extrapolated based on the share of GDP
Proportion of turnover stemming from cross-border trade	Estimates based on assumptions
Share of GDP of the countries where accessibility requirements have been evidenced or are expected to be adopted by 2020	Eurostat
Level of additional costs resulting from contradicting accessibility requirements	Estimates based on assumptions
Compound Annual Growth Rate (CAGR)	Based on available data from various sources

Further details regarding data sources and assumptions are given in the Deloitte study.

2. An **assessment of the current problem** in monetary terms. This comprises the total cost of accessibility based on one set of requirements across the EU<sup>1</sup>, adjusted to take account of the costs to ensure accessibility of goods/services sold across borders, and the costs of understanding different accessibility requirements across borders (explained below).

3. An **assessment of the baseline scenario, i.e. the expected situation in 2020**, which takes the same approach as in step 2 and takes account of projected growth of the market for each good and service (e.g. by applying the CAGR to the total market volume 2011) and changes in the number of Member States that are anticipated to legislate for accessibility.

4. Finally, **the expected impacts (costs and benefits) of the three following policy options are assessed compared to the Baseline Scenario:** *Policy Option 2: Recommendation* (adopted either by all Member States that are expected to have adopted legislation by 2020 or only a share of them); *Policy Option 3: a Directive applicable to all the Member States that are expected to have requirements in place by 2020*; and *Policy Option 4: a Directive applicable to all Member States*.

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<sup>1</sup> This total cost figure relates to the overall cost of accessibility that would be incurred by the industry if one general set of requirements was in place. It is related to the accessibility of the physical product only as the cost of understanding legislative requirements can be considered as negligible since the assumption for this figure is that only one set of requirements would be in place. This figure is calculated in order to be able to estimate the product-related cost to ensure accessibility of good / service sold across borders under differing national accessibility requirements and the costs of understanding these.

## 1.2 Assessed Goods and Services

The following table provides an overview of the **goods and services** as well as their "components" that are considered in the framework of the present study.

Good / Service	Component 1	Component 2	Component 3
Computers and Operating systems	-	-	-
Digital TV services and equipment	DTT equipment	Broadcasting services	-
Telephony services and related terminal equipment	Services	Terminal manufacturing	-
eBooks	-	-	-
Private sector websites	-	-	-
Architect Services	-	-	-
Self-service terminals	ATMs	Ticketing machines	Check-in machines
E-commerce	-	-	-
Banking services	Websites	Built environment	ATMs
Air transport services	Websites	Built environment	Check-in machines
Rail transport services	Websites	Ticketing machines	
Bus transport services	Websites	Built environment	Ticketing machines
Maritime transport services	Websites	Built environment	Ticketing machines
Hospitality services	Websites	Built environment	-
Public Procurement	-	-	-

## 1.3 Approach to the assessments: Top-down vs. Bottom-up

Since for each case, there are differences in the availability, detail and applicability of data, two different approaches have had to be made in order to achieve the most valid results. These two approaches can best be described as “top-down” and “bottom-up” approaches.

The main difference is that in the **top-down approach**, estimates of the costs of accessibility and the quantitative assessment of the policy options are derived from high-level market turnover figures that are broken down by (assumed) shares of accessibility costs. This approach is applied to the cases of Computers and operating systems, Terminal manufacturing, DTT equipment, Broadcasting services, Self-service terminals as well as Public procurement.

In contrast, the starting point of the **bottom-up approach** is data on the cost of accessibility per good or service. The bottom-up approach varies slightly from case to case depending on the detail of the data available for that case. It is applied in the cases of Websites, Architect services, eBooks, and Telecom services.

### 1.3.1 Top-down cases

#### 1.3.1.1 General approach to estimates

A **three step-logic** lies behind the top-down approach. Each step results in a different estimate that is used both in the problem assessment and in the baseline scenario calculations.

- Step 1: Estimate the total cost of accessibility based on one set of requirements in the EU;
- Step 2: Estimate the costs to ensure accessibility of goods/services sold across borders; and
- Step 3: Estimate the costs for understanding different accessibility requirements across borders.

#### **Step 1: Estimate the total cost of accessibility assuming that one set of requirements is applied to the EU**

The current "**on-off**" **development costs** (= capital expenditure (**CAPEX**<sup>2</sup>)) **are calculated** by multiplying

- the [Total market volume in the current situation] *with*
- the [Assumed share of development costs, i.e. the costs to develop a product generally] *with*
- the [Assumed share of accessibility costs, i.e. the additional development costs of making a product accessible].

Then, the current **ongoing costs** (operational expenses (**OPEX**<sup>3</sup>)) are calculated by multiplying

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<sup>2</sup> CAPEX: Production-related capital expenditures that are incurred as one-off development costs for specific goods or services by all EU businesses in a specific industry sector. These costs can, in some cases, be incurred on an annual basis since technological advancement necessitates new product developments in industries such as, for example, the telecommunication terminal manufacturing industry.

- the [CAPEX] *times*
- the [Assumed share of ongoing costs].

Next, CAPEX and OPEX are summed in order to arrive at **the current total cost of accessibility** (based on one set of requirements in the EU).

*Formula 1*

[Total cost (CAPEX + OPEX) of accessibility based on one set of requirements (EU)] = CAPEX: ([Total market volume in 2011] \* ([Assumed share of development costs] \* [Assumed share of accessibility costs])) + OPEX: ([Total market volume in 2011] \* [Assumed share of development costs] \* [Assumed share of accessibility costs] \* [Assumed share of ongoing costs])

**Step 2: Estimate the costs to ensure accessibility of goods/services sold across borders**

Now, in order to calculate cost to ensure the accessibility of a good or service when sold across borders the [total costs of accessibility] is multiplied by

- the [(assumed) proportion of turnover stemming from cross-border trade] (different requirements are only relevant for goods/services that are traded across borders)
- the [number of countries that are expected to have legislation in place by 2020] (in order to take account of the fact that EU Member States' legislation may impose different requirements on goods and services and, hence, costs are incurred several times by manufacturers and providers)
- the [respective share of EU GDP these countries account for] ( to value the cost figures for the size of the market at risk of fragmentation)
- a [correction factor]

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<sup>3</sup> OPEX: Marginal production-related operational expenditures that are incurred as on-going costs for specific goods or services by all EU businesses in a specific industry sector. These on-going costs relate, for example, to providing each produced good or service with accessibility features, as well as maintenance costs of the product, but also to labour costs. Hence, they are incurred on an annual basis by businesses.

The methodology used to derive quantitative estimates of the costs of fragmentation assumes that these costs increase with the number of Member States that adopt their own national requirements for accessibility. In practice, these national requirements will often overlap to a greater or lesser extent, so that companies will not in every case be faced with a set of completely incompatible national requirements. To take account of this overlap, a correction factor is applied to the number of Member States that are assumed to have introduced national accessibility requirements. The correction factor is specific to each good or service and is based on expert judgement, taking into account the range of possible choices Member States will have in establishing national accessibility requirements. The higher the correction factor, the greater the anticipated differences in national requirements, and the greater the level of internal market fragmentation. Thus, if the correction factor is set at its maximum value of 100%, this implies a judgment that Member States are expected to adopt totally different accessibility requirements for that good or service. A correction factor of 10%, on the other hand, would imply that national accessibility requirements are expected to overlap to a considerable extent.

The costs of accessibility for states which do already have some requirements in place, will therefore only constitute a share of the costs, linked to the correction factor, which have to be incurred by those states which will not have put respective legislation in place at all or only to a lesser extent. This is the case since it is highly unlikely that the accessibility requirements already put in place in a state would be totally different from the ones required by this *EU initiative*.

In the same vein, especially for states which already have some legislation in place containing accessibility requirements, the costs of making their goods and services accessible according to one common set of rules, is considerably less also in comparison to the initial on-off and on-going costs of making the good accessible, since the correction factor numerically depicts the fact that the added accessibility costs will almost always constitute only a fraction of these initial costs.

In some cases ranges of estimates have been applied, where there is a certain degree of uncertainty concerning the underlying assumptions, leading to lower and upper ranges.

As the correction factor is a key variable both in determining the costs of fragmentation in the baseline scenario, and of the relative benefits of reducing or eliminating fragmentation in the different policy options, a sensitivity analysis has been performed to assess how changing the correction factor affects the relative reduction in costs of fragmentation that is expected to result from each of the policy options.

*Formula 2*

[Cost to ensure accessibility of good / service sold across borders] = [Total cost of accessibility (CAPEX + OPEX) based on one set of requirements (EU)] \* [Proportion of turnover stemming from cross-border trade] \* [Number of countries in the sample for which legislation could be identified] \* [Share of EU GDP of the identified countries] \* [correction factor]

**Step 3: Estimate the costs for understanding different accessibility requirements across borders**

While the costs that are estimated as part of Step 2 reflect a more product-related cost element, i.e. costs for the physical adaptation of the product or various production processes in order to comply with national requirements, they do not take into account the organisational costs for identifying, reading and analysing national accessibility requirements in other countries.

Therefore, an additional, assumed share of [Cost to ensure accessibility of good/service sold across borders] is added in step 3 accounting for these extra costs.

*Formula 3*

[Costs of understanding different accessibility requirements across borders] = [Cost to ensure accessibility of good / service sold across borders] \* [Additional accessibility costs due to understanding of legislation]

***1.3.1.2 Baseline scenario estimates***

The above three steps and formulas are then also applied, in principle, for the quantitative assessment of the baseline scenario in and until 2020.

The difference to the problem assessment calculations is that now the estimated figures for 2020 are used. Thus, the base numbers for the baseline scenario are the estimated 2020 market volume, which is estimated by multiplying the 2011 data by a projected growth rate specific to each good or service, the number of EU Member States that are expected to have legislation in place by 2020, as well as the respective share of GDP of these countries.

### 1.3.1.3 Quantitative assessment of the policy option

#### *Policy Option 1: Baseline scenario*

The cost in EUR of the baseline scenario is calculated as the sum of the cost to ensure accessibility of good/service sold across borders in 2020 (formula 2 using 2020 numbers) and the costs of understanding different accessibility requirements across borders in 2020 (formula 3 using 2020 numbers).

#### Formula 4

$$[\text{Costs of Policy Option 1}] = [\text{Cost to ensure accessibility of good / service sold across borders in 2020}] + [\text{Costs of understanding different accessibility requirements across borders in 2020}]$$

#### *Policy Option 2: Recommendation*

The cost or benefit of an EU Recommendation that a certain number of EU Member States will follow is also calculated based on the cost to ensure accessibility of good/service sold across borders and the costs of understanding different accessibility requirements across borders. What differs in the calculation is that the "country-factor" is reduced to take account of the reduction in the number of different standards that results from a number of Member States applying the recommendation, so that there are no additional costs of fragmentation when trading cross-border with these states.

#### Formula 5

$$[\text{Saving of Policy Option 2}] = [\text{Costs of Policy Option 1 (Formula 4)}] - [\text{Total cost of accessibility (CAPEX + OPEX) (Formula 1)}] * [\text{Share of Proportion of turnover stemming from cross-border trade}] * [\text{share of GDP for relevant countries}] * ([\text{number of all states relevant in the scenario}] - [\text{number of states that apply recommendation}] + 1) * (\text{correction factor}) + [\text{costs of understanding different requirements in MS (Formula 3)}]$$

#### *Policy Option 3: Directive applicable to Member States that have requirements in place*

Policy Option 3 aims at harmonising requirements through a Directive applicable to Member States that regulate accessibility of the selected goods and services. Therefore, the cost or benefit in EUR is equal to the cost or benefit in EUR of the Policy Option 2 scenario, in which all Member States that are expected to have requirements in place adopt the EU Recommendation. Compared to the baseline, the costs of fragmentation due to different national requirements are eliminated completely, but firms still face the costs of making goods accessible in the Member States with accessibility requirements.

Formula 6

[Savings of Policy Option 3] = [Costs of Policy Option 1 (*Formula 4*)] – [total costs of accessibility (CAPEX+OPEX) (*Formula 1*)] \* [proportion of turnover stemming from cross-border trade] \* [share of GDP for relevant countries]

*Policy Option 4: Directive applicable to all Member States*

As Policy Option 4 aims at a full harmonisation of accessibility requirements on the EU level, further costs will have to be incurred by firms in those states which have not regulated until then, which will reduce the savings under Policy Option 3.

Formula 7

[Savings of Policy Option 4] = [Savings of Policy Option 3 (*Formula 6*)] – [Total costs of accessibility (CAPEX + OPEX) (*Formula 1*)] \* (1 - [share of GDP of relevant states under Policy Option 3])

**1.3.2 Bottom-up cases: General approach to estimates**

**1.3.2.1 eBooks**

The costs in the eBooks case are based on the assumption that providing accessibility features costs 400 EUR on average per title, and that the additional marginal costs of supplying an eBook with accessibility features relative to an inaccessible eBook are zero.

In order to calculate the total cost of accessibility, this cost estimate is multiplied with the total number of eBook titles published per year which, in turn, is extrapolated from available data in the following way:

Formula 8

*[Total cost of accessibility based on one set of requirements (EU)] = [One-off costs of accessible eBooks] \* (Total Number of eBook- titles published in 2011 in the EU ([Number of ebook titles published in France and Germany in 2011] / [Published printed book titles in Germany and France in 2011]) \* [Number of printed book titles published in the EU in 2011])*

### 1.3.2.2 Websites

CAPEX and OPEX of accessibility per website are extrapolated based on the number of websites in a certain industry<sup>4</sup> (this is also applied for the website-subcases under online retail, hospitality, banking and transport). The number of inaccessible websites is deduced from the total number of websites in the respective market reduced by the number of accessible websites.

Then, the costs associated with accessibility are calculated by multiplying the difference between the costs of accessible websites and the costs of inaccessible websites with the number of websites that is currently expected to be inaccessible. This approach therefore does not take account of the fact that different websites may already be equipped with more or less accessibility features.

#### *Formula 9*

*[Total cost of accessibility (CAPEX + OPEX) based on one set of requirements (EU)] = ([One-off costs of accessible websites] + [Ongoing costs of accessible websites] – ([One-off costs of inaccessible websites] + [Ongoing costs of inaccessible websites])) \* (Estimated number of inaccessible websites ([Total Number of websites] – [Estimated number of accessible websites]))*

### 1.3.2.3 Architect Services

In the case of architect services the bottom-up approach differs significantly from the top-down approach as only the costs of understanding different accessibility requirements across borders could be estimated. The main reasons for the unfeasibility of estimating costs of accessibility for an average facility were that no quantitative data on the average costs of refurbishment per type of facility could be identified and the significant differences between the facilities.

The approach taken (and also applied for the subsequent analysis under banking, hospitality and transport) extrapolates the costs of understanding different accessibility requirements across borders based on fixed average costs for architect services per working day (i.e. labour costs), the number of working days, full time equivalents (FTEs), and the number of working

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<sup>4</sup> It is assumed that the number of websites is equal to the number of businesses in a certain industry, i.e. every business has one website.

days it takes to understand legislative requirements per project. Furthermore, the share of facilities that need to be replaced/refurbished per year and the number of facilities relevant for the case is taken into account, as well as the share of GDP for the relevant countries<sup>5</sup> and the share of architect services that is assumed to be procured cross-border.

*Formula 10*

*[Costs of understanding different accessibility requirements across borders] =  
[Average costs for architect services per working hour] \* [Number of working days]  
\* [Number of FTEs] \* [Number of working hours per day] \* [Share of facilities that  
need to be replaced or refurbished per year] \* [Number of facilities relevant for the  
case] \* [Share of GDP of relevant countries] \* [Share of architect services that is  
assumed to be procured cross-border]*

No CAGR has been applied to the calculations since it is assumed that the number of facilities can be expected to remain constant until 2020.

The policy options in the case of architect services basically have been assessed in the same way as in the other cases. However, concerning policy option 2, an estimated share of 50% of Member states assumed to apply the EU-recommendation is used.

#### ***1.3.2.4 Telecommunications Services***

While following the bottom-up logic as described above, the calculation of the estimates of the total cost of accessibility (CAPEX+OPEX) differs from this approach.

At first, it is assumed that these services are especially relevant for deaf citizens so that the relevant market turnover of telecom providers has been adjusted with the share of deaf people in the total population [relevant market size]. Furthermore, it has to be noted that only relay services and accessible access to emergency services for persons with disabilities is covered and are assumed to account together for 100% of the relevant market.

In the problem assessment, due to a lack of data for emergency services, the total annual costs of relay and emergency services for persons with disabilities have been extrapolated based on

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<sup>5</sup> It has to be noted that it is assumed that all EU Member States have accessibility requirements in place. However, the number of countries is not taken into account for the calculations as the (extraoplated) number of facilities in the EU is already included.

data available for relay services only. Moreover, it has been assumed that costs for emergency services are equal to the costs for relay services.

Step 1:

a) [Share of telecom services market size that can be attributed to relay services] = [Annual cost of relay services in UK] \* [Countries in which relay services are provided according to BEREC and own further research] / [Relevant market size]

b) [Share of telecom services market size that can be attributed to emergency services] = [Annual cost of relay services in UK in EUR] \* [Countries in which emergency services are provided according to BEREC and own further research] / [Relevant market size]

Step 2:

a) [Market share of relay services in EUR] = [Share of telecom services market size that can be attributed to relay services (*Formula 1a*)] \* [Share of GDP of the countries in which relay services are provided according to the BEREC report and further research] \* [Relevant market size]

b) [Market share of emergency services in EUR] = [Share of telecom services market size that can be attributed to emergency services (*Formula 1b*)] \* [Share of GDP of the countries emergency services are provided according to the BEREC report and further research] \* [Total market size of the telecom services sector]

Step 3:

[Total cost of accessibility (CAPEX + OPEX) based on one set of requirements in the relevant Member States] = [Market share of relay services in EUR] + [Market share of emergency services in EUR]

Since in the current situation, telecom providers only serve national markets, businesses do not incur [Cost to ensure accessibility of good/service sold across borders] and [Costs of understanding different accessibility requirements across borders].

For the baseline scenario calculations, the problem assessment figure of the [Total cost of accessibility (CAPEX + OPEX)] has been extrapolated to a scenario in which 20 Member

States have different relay services and accessible access to emergency services in place. The further calculation process follows the same approach as the top-down cases.

**B - IMPACT ANALYSIS FOR EACH SELECTED GOOD AND SERVICE  
AND PUBLIC PROCUREMENT**

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# 1. Computers and Operating Systems

## 1.2 Base figures

Problem Assessment (2011) and Baseline Scenario (2020)	
Market turnover in 2011	165,000,000,000
CAGR	4.8%
Market turnover in 2020	251,614,397,508
Share of development costs	5%
Share of accessibility costs	1%
Share of ongoing costs	10%
Proportion of turnover stemming from cross-border trade	50%
Share of countries in the sample for which legislation could be identified	
Sample size	9
Countries for which legislation could be identified	
In 2011	2
In 2020 (extrapolation)	6
Correction factor	25.0%
Share of GDP for relevant countries	
In 2011	21.0%
In 2020	
2 Member States have legislation in place	21.0%
6 Member States have legislation in place	33.6%

27 Member States have legislation in place	100.0%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	1.0%

## 1.2. Effects of the problem on consumers

Computers are nowadays imperative for work, communication and entertainment and constitute an important means for consumption and relations. Furthermore, and especially from a consumer's perspective, computers can be viewed as an initial step for the accessibility chain since they enable further accessible services (assistive software, e-Commerce etc).

When manufacturers ensure on one hand provide a platform for the interoperability of peripheral devices (e.g. adaptive keyboard, Braille display, assistive software such as screen readers) with mainstream computers and operating systems, and include in the devices accessibility features rather than making them accessible without having to connect peripheral assistive technologies, it results in additional cost savings for the consumers. Indeed, prices of accessibility kits assistive technologies normally double the price of mainstream accessible solutions. Incompatibility between mainstream accessible solutions with assistive technology is a problem for users who are faced with the need to invest in very expensive new assistive solutions with the releases of new mainstream technologies. This means that in the absence of common accessibility features in computers and operating systems, disabled consumers currently face higher costs, for purchasing peripheral assistive technologies, than other consumers.

### 1.3. Assessment of the impacts per policy option

#### 1.3.1 Policy Option 1: Baseline Scenario – Impact Assessment

Table 1: Effectiveness and Efficiency of Policy Option 1 (Baseline Scenario, Computers and operating systems)

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	0	0	Over the next years, accessibility requirements covering Computers and Operating Systems can be expected to be adopted in a range from 2 to 27 Member States based on the current availability of accessibility legislation in the field of the Computers and Operating Systems and due to the obligations for the MS under the UNCRPD <sup>6</sup> . The mid-range scenario is 6 countries.  As to the magnitude of the impacts of the varying accessibility requirements, it is assumed that 50% of the Computers and Operating Systems will be provided cross-borders in 2020. It is expected that the differences between national technical accessibility requirements has a negative impact on cross-border trade and that the full potential of the internal market would not be achieved.
To increase competition among industry in the area of selected goods and services and in the area of public procurement	0	0	The expected variations between national technical accessibility requirements are likely to make it difficult for new market entrants, in particular, to engage in cross-border trade. Differences between legislation in the countries are likely to have a negative impact on the industry.
Overall score	0	0	
Average score	0	0	

Table 2: Impacts of Policy Option 1 (Baseline Scenario, Computers and operating systems)

Assessment criteria	Rating	Explanation
Social Impacts (impacts on different groups)	0	<b>Disabled persons</b>  The increased number of countries that are expected to adopt accessibility requirements concerning Computers and Operating Systems is likely to have a positive impact on the level of accessibility of computers. This means that more disabled people are likely to be able to have access to computer-based online services such as eGovernment services, online banking services or eCommerce provided through Computers and

<sup>6</sup> Based on an examination of the current situation in nine Member States, technical accessibility legislation has been for 2 Member States Spain and Italy.

Assessment criteria	Rating	Explanation
		<p>Operating Systems.</p> <p><b>Elderly</b></p> <p>While it can be expected that the take-up by elderly of Computers and Operating Systems will increase by 2020, it is still expected that it will not be at the same level as younger consumers. Hence, while the types of benefits that result from accessible Computers and Operating Systems are likely to be similar to those of disabled people, it is expected that the anticipated increase in the level of accessibility will benefit elderly slightly less than disabled consumers. However, keeping in mind that the prevalence of accessibility needs among the elderly population is considerably higher than that of the rest of the population the actual number of people that will likely benefit is still considerably high.</p> <p><b>General population</b></p> <p>The level of accessibility of Computers and Operating Systems is unlikely to have any major impacts on non-disabled persons.</p>
Environmental impacts	0	The level of accessibility of Computers and Operating Systems for is not likely to have any major environmental impacts. Potentially, less paper-based processes will result from the increased use of Computers and Operating System.
Overall score	0	
Average score	0	

### 1.3.2. Policy Options 2, 3 and 4 – Impact Assessments

*Table 3: Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating (Computers and operating systems)*

Policy specific Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	✓(✓)	✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓
To increase competition among industry in the area of selected goods and services and in the area of public procurement	✓(✓)	✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓
Overall score	3	2	6	6	8	4

Policy specific Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
Average score	1.5	1	3	3	4	2

*Table 4: Impacts of Policy Options 2, 3 and 4: Rating (Computers and operating systems)*

Assessment criteria	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
Social Impacts (impacts on different groups)	(✓)	✓	✓✓
Environmental impacts	0	0	0

Table 5: Assessment of Impacts of Policy Options 2, 3 and 4: Explanation of Ratings (Computers and operating systems))

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<b>Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating</b>				
<p><i>To improve cross-border trade in the area of selected goods and services and in the area of public procurement</i></p>	<p>Companies that are active on the EU market would have to ensure the accessibility of Computers and Operating Systems in terms of their user interface, functionality and information about those features:</p> <ul style="list-style-type: none"> <li>• image and turnover; and</li> <li>• the interfacing of the good with assistive devices.</li> </ul>	<p>It is assumed that a range of two to all of those countries (6) that are expected to adopt technical accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 50%.</p>	<p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in those six countries that are expected to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p>This would mean that local businesses that are active in countries where accessibility requirements have not been adopted may face lower costs than companies that are based in countries where accessibility requirements are in place. This said, the companies that do not provide accessible goods may miss out on a larger consumer group.</p> <p>It is expected that the cross-border trade could increase.</p>	<p>Under this policy option common requirements would have EU wide coverage. This would, in combination with the mutual recognition principle, result in an elimination of costs for business that are due to variations between national accessibility requirements.</p> <p>However, at the same time, business in those 21 countries that are not expected to have adopted accessibility requirements by 2020 would face additional costs for ensuring accessibility (to the degree that they are not already doing so on a voluntary basis).</p> <p>This would in turn lead to a playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>The policy option is expected to have a positive impact on cross-border trade.</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<p><i>To increase competition among industry in the area of selected goods and services and in the area of public procurement</i></p>		<p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, i.e. two to six countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. The extent to which new market entry can be expected to spur competition is linked to amount of countries that follow the Recommendation, i.e. the more Member States adopt the technical requirements proposed in the Recommendation the more likely it is that new market entrants compete on the internal market. However, the impact is expected to be low given that the market for computer and operating systems is dominated by a limited number of global companies.</p>	<p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, i.e. six countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. With six Member States, representing 33.6% of EU GDP, transposing this Directive it is expected that new market entry will increase competition due to lower costs and an effective increase of the market. However, the impact is expected to be low given that the market for computer and operating system is dominated by a limited number of global companies.</p>	<p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, across the EU. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market.</p> <p>Under this policy option the Internal Market for computers and operating systems is effectively based on common accessibility requirements and therefore not only is new market entry likely based on lower costs (as in policy option 3). However, the impact is expected to be low given that the market for computers and operating systems is dominated by a limited number of global companies.</p>
<p><b>Impact of the Policy Options on social groups and the environment</b></p>				
<p><i>Social Impacts (impacts on different groups)</i></p>	<p>Disabled consumers would be ensured (in line with the coverage of the policy option) accessible Computers and Operating Systems in terms of their user interface, functionality and information about those features:</p>	<p>The benefits would be limited to those countries where accessibility requirements are in place. Consumers that use computers and operating systems cross-border in countries where accessibility requirements are in place would also benefit.</p> <p>The introduction of the relevant accessibility requirements will lead to that a higher number of disabled consumers may benefit from reduced transaction costs.</p>	<p>The types of impacts will be similar to those described for PO2, but the scale of the impacts is likely to be larger than PO2 in line with the expected increased number of countries that would have the same requirements in place.</p>	<p>The types of impacts will be similar to those described for PO2 and PO3, but the scale of the impacts is likely to be larger than both options.</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<i>Environmental impacts</i>	<i>No explicit requirements.</i>	Improving accessibility of Computers and Operating Systems may lead to a minor environmental impact due to less paper-based processes, but more electricity consumption. In sum, the level of accessibility of Computers and Operating Systems is not likely to have any major environmental impacts.		

## 2. Television

### 2.1. Base figures

#### 2.1.1. Digital Television (DTT) equipment

Problem Assessment (2011) and Baseline Scenario (2020)	
Market turnover in 2011	2.200.000.000
CAGR	1,8%
Market turnover in 2020	2.493.241.091
Share of one-off development costs	0,1%
Share of turnover stemming from cross-border trade	50%
Number of countries in the sample for which legislation could be identified	
Sample size	9
In 2011	
	8
In 2020 (extrapolation)	
Only baseline scenario: see legislative analysis	24
Extrapolation to EU level	27
Share of GDP for relevant countries	
In 2011	
8 Member States have legislation in place	76,6%
In 2020	
8 Member States have legislation in place	76,6%
24 Member States have legislation in place	96,3%
27 Member States have legislation in place	100,0%

Correction factor	15,0%
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## 2.1.2. TV broadcasting accessibility services

<b>Problem Assessment (2011) and Baseline Scenario (2020)</b>	
<b>Market turnover in 2011</b>	84.700.000.000
CAGR	3,6%
<b>Market turnover in 2020</b>	116.445.097.542
Share of development costs	10%
Share of accessibility costs	10%
Share of on-going costs	0%
Share of turnover stemming from cross-border trade	20%
Number of countries in the sample for which legislation could be identified	
Sample size	9
As identified in country sample	
	8
Only baseline scenario: see legislative analysis	24
Extrapolation to EU level	27
Share of GDP for relevant countries	
In 2011	
8 Member States have legislation in place	88,9%
In 2020	
8 Member States have legislation in place	80,0%
24 Member States have legislation in place	96,8%
27 Member States have legislation in place	100,0%

Correction factor	20,0%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	1,0%

## 2.2. Effects of the problem on consumers

Research suggests that the availability of broadcasting in terms of coverage is nearly complete, with practically the whole planet covered by a signal . However, television is far from being fully accessible to persons with disabilities. In spite of barriers encountered even when using the related equipment such as set-top boxes and remote controls, the majority of persons with disabilities are consumers of TV programming. Disabled persons are dependent of the provision of access services such as subtitles and audio description to be able to enjoy TV programming on equal basis with others. They also need accessible electronic programming guides, user interfaces, remote controls...

Notwithstanding variances in the levels of accessibility services that broadcasters are obliged to provide, customers with disabilities may also be faced with technical issues on how these access services are supported by digital TV equipment. There is a large variance in the degree to which the disables' groups benefit from and require accessible features in the equipment and the availability of access services. For many deaf or hard of hearing users, a lack of access to captions results in no possibility of perceiving the spoken content in a programme. For many blind people it is completely impossible to use on-screen menus without text-to-speech support.

Common accessibility solutions in the EU for broadcasting services and receivers including remote controls will permit disabled consumers to be able to watch television when travelling to other EU countries using familiar accessible equipment or to enjoy their prefer foreign channel at home.

## 2.3. Assessment of the impacts per policy option

### 2.3.1. Policy Option 1: Baseline Scenario – Impact Assessment

*Table 6: Effectiveness and Efficiency of Policy Option 1 (Baseline Scenario, Television)*

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	0	0	<p>Over the next years, accessibility requirements covering both DTT equipment and broadcasting services can be expected to be adopted in a range from 8 to 27 Member States based on the current availability of accessibility legislation under the UNCRPD. The mid-range scenario is 24 countries.</p> <p>As to the magnitude of the impacts of the varying accessibility requirements, it is assumed that 50% of the DTT equipment will be provided across-borders in 2020. With regard to the cross-border provision of broadcasting services, the percentage is, on average, 19. It is expected that the differences between national technical accessibility requirements has a negative impact on cross-border trade and that the full potential of the internal market would not be achieved.</p>
To increase competition among industry in the area of selected goods and services and in the area of public procurement	0	0	The expected variations between national technical accessibility requirements are likely to make it difficult for new market entrants, in particular, to engage in cross-border trade. Differences between legislation in the countries are likely to have a negative impact on the industry.
Overall score	0	0	
Average score	0	0	

*Table 7: Impacts of Policy Option 1 (Baseline Scenario, Television)*

Assessment criteria	Rating	Explanation
Social Impacts (impacts on different groups)	0	<p><b>Disabled persons</b></p> <p>The increased number of countries that are expected to adopt accessibility requirements concerning DTT equipment and broadcasting services is likely to have a positive impact on the level of accessibility of both goods and services. This means that more disabled people are likely to be able to have access TV through DTT equipment and broadcasting services.</p> <p><b>Elderly</b></p> <p>The take-up of elderly of TV broadcasting and DTT equipment is expected to be relatively higher than the rest of the population, therefore the types of benefits that result from accessible TV broadcasting and DTT equipment are likely to be higher for the group of elderly people. Therefore, it is expected that the anticipated increase in the level of accessibility will benefit elderly more than disabled consumers.</p> <p><b>General population</b></p> <p>The level of accessibility of DTT equipment and broadcasting services is unlikely to have any major impacts on non-disabled persons. However benefits for example from subtitles for learning foreign languages remain important.</p>

Assessment criteria	Rating	Explanation
Environmental impacts	0	The level of accessibility of DTT equipment and broadcasting services is not likely to have any major environmental impacts.
Overall score	0	
Average score	0	

## 2.3.2. Policy Options 2, 3 and 4 – Impact Assessments

### Digital Terrestrial Television (DTT) equipment

Table 8: Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating (DTT, Television)

Policy Objectives (Assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	✓(✓)	✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓
To increase competition among industry in the area of selected goods and services and in the area of public procurement	✓(✓)	✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓
Overall score	3	2	6	6	8	4
Average score	1.5	1	3	3	4	2

Table 9: Impacts of Policy Options 2, 3 and 4: Rating (DTT, Television)

Assessment criteria	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
Social Impacts (impacts on different groups)	✓	✓✓	✓✓(✓)
Environmental impacts	0	0	0

## Linear TV broadcasting accessibility services

Table 10: Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating (Broadcasting, Television)

Policy Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	✓✓(✓)	✓✓(✓)	✓✓✓	✓✓✓	✓✓✓✓	✓
To increase competition among industry in the area of selected goods and services and in the area of public procurement	✓✓(✓)	✓✓(✓)	✓✓✓	✓✓✓	✓✓✓✓	✓
Overall score	5	5	6	6	8	2
Average score	2.5	2.5	3	3	4	1

Table 11: Impacts of Policy Options 2, 3 and 4: Rating (Broadcasting, Television)

Assessment criteria	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
Social Impacts (impacts on different groups)	✓	✓✓	✓✓(✓)
Environmental impacts	0	0	0

Table 12: Assessment of Impacts of Policy Options 2, 3 and 4: Explanation of Ratings (Television)

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<b>Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating</b>				
<i>To improve cross-border trade in the area of selected goods and services and in the area of public procurement</i>	Companies that are active on the EU market would have to ensure the accessibility of DTT equipment mainly in terms of their user interface and remote controls as well as their capacity related to subtitles and audio description and their interoperability with assistive technology and in services mainly on subtitles and audio description and other functionality addressing the needs of persons with disabilities. .	<p>It is assumed that for both DTT equipment and broadcasting services a range of eight to all of those countries (24), that are expected to adopt technical accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 50% for DDT equipment.</p>	<p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in those 24 countries that are expected to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p>This would mean that businesses that are active in countries where accessibility requirements have not been adopted may face lower costs than companies that are based in countries where accessibility requirements are in place. This said, the companies that do not provide accessible goods may miss out on a larger consumer group.</p> <p>It is expected that the cross-border trade could increase up. .</p>	<p>Under this policy option common requirements would have EU wide coverage. This would, in combination with the mutual recognition principle, result in an elimination of costs for business that are due to variations between national accessibility requirements.</p> <p>However, at the same time, business in those 3 countries that are not expected to have adopted accessibility requirements by 2020 would face additional costs for ensuring accessibility (to the degree that they are not already doing so on a voluntary basis).</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>The policy option is expected to have a positive impact on cross-border trade.</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<p><i>To increase competition among industry in the area of selected goods and services and in the area of public procurement</i></p>		<p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, i.e. eight to 24. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. The extent to which new market entry can be expected to spur competition is linked to amount of countries that follow the Recommendation, i.e. the more Member States adopt the technical requirements proposed in the Recommendation the more likely it is that new market entrants compete on the internal market.</p>	<p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, i.e. 24 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. With 24 Member States, representing 96.3% (in the case of DTT equipment) or 96.8% (in the case of broadcasting services) of EU GDP, transposing this Directive it is expected that new market entry will increase competition due to lower costs and an effective increase of the market.</p>	<p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, across the EU. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market.</p> <p>Under this policy option the Internal Market for DTT equipment and broadcasting services is effectively based on common accessibility requirements and therefore not only is new market entry likely based on lower costs (as in policy option 3).</p>
<p><b>Impact of the Policy Options on social groups and the environment</b></p>				
<p><i>Social Impacts (impacts on different groups)</i></p>	<p>Disabled consumers would be ensured (in line with the coverage of the policy option) accessible DTT equipment in mainly terms of their user interface and remote controls as well as their capacity related to subtitles and audio description and their interoperability with assistive technology and in services mainly on subtitles and audio description and other functionality addressing</p>	<p>The benefits would be limited to those countries where accessibility requirements are in place.</p> <p>Consumers that use accessible DDT equipment and broadcasting services cross-border in countries where accessibility requirements are in place would also benefit.</p> <p>The introduction of the relevant accessibility requirements will lead to that a higher number of disabled consumers may benefit from reduced transaction costs.</p>	<p>The types of impacts will be similar to those described for PO2, but the scale of the impacts is likely to be larger than PO2 in line with the expected increased number of countries that would have the same requirements in place.</p>	<p>The types of impacts will be similar to those described for PO2 and PO3, but the scale of the impacts is likely to be larger than both options.</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
	the needs of persons with disabilities..			
<i>Environmental impacts</i>	<i>No explicit requirements.</i>	Improving accessibility of DTT equipment and broadcasting services is not expected to have significant environmental impacts.		

# 3. Telecommunications (telephony services and related terminal equipment)

## 3.1. Base figures

### 3.1.1. Telephony Services

Problem Assessment (2011) and Baseline Scenario (2020)	
Total Market turnover in 2011	274.900.000.000
Share of deaf people	4,78%
<b>Total relevant market size in 2011</b>	<b>13.140.220.000</b>
CAGR	0,26%
<b>Total relevant market size in 2020</b>	<b>13.450.918.428</b>
Annual cost of relay services (in the UK)	10.101.945
Countries in which relay services are provided according to BEREC and own further research	7
Countries in which emergency services are provided according to BEREC and own further research	10
Share of GDP of Member States in which a service is provided in 2011	
Relay services	56,8%
Accessible emergency services	43,2%
Share of GDP of Member States in which a service is provided in 2020	
Relay services	100,0%
Accessible emergency services	100,0%

Proportion of turnover stemming from cross-border trade	30%
Number of relevant countries in 2020	
PO1 and PO3	20
PO2	15
PO4	27
Total EU share of GDP	100%
Number of countries in Eu27	27
Average share per country	3,7%
Share of GDP for 2020	
PO1 and PO3	74,1%
Hypothetical PO2	55,6%
Hypothetical PO4	100,0%
Additional accessibility costs due to different requirements in Member States (understanding of legislation)	1%
Correction factor	100%

### 3.1.2. Related Terminal equipment

Problem Assessment (2011) and Baseline Scenario (2020)	
Smart phone Market turnover in 2011	31.659.436.588 €
Share of unit sales in 2011	
Smart phones	31,8%
"Feature phones"	68,2%
"Feature phones" Market turnover in 2011	67.823.264.560
<b>Total Market turnover in 2011</b>	<b>99.482.701.147</b>

CAGR	6,3%
<b>Market turnover in 2020</b>	<b>172.403.845.812</b>
Share of development costs (analogy to computers case)	5%
Share of accessibility costs (analogy to computers case)	1%
Share of ongoing costs (analogy to computers case)	10%
Share of turnover stemming from cross-border trade	50%
Number of countries in the sample for which legislation could be identified	
Sample size	3
In 2011	
	3
In 2020 (extrapolation)	
As identified in country sample	3
Only baseline scenario: see legislative analysis	6
Extrapolation to EU27 level	27
Share of GDP for relevant countries	
In 2011	
3 Member States have legislation in place	23,5%
In 2020	
3 Member States have legislation in place	23,5%
6 Member States have legislation in place	43,6%
27 Member States have legislation in place	100%
Correction factor	25%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	1%

### 3.2. Effects of the problem on consumers

Disabled consumers can currently not benefit of a genuine Internal Market for accessible mobile telecommunication devices and services. The limited technical accessibility requirements in most EU Member States lead to an insufficient integration of accessibility features in mainstream mobile telecommunication devices and services. In addition, where such accessibility features are provided in mobile devices, they are not necessarily interoperable across brands, across service operators or across borders due to a lack of EU level standardisation. Interoperability issues – notably when travelling across national borders within the Internal Market – may worsen in future with the introduction of diverging national technical accessibility requirements intended to ensure the compliance with the UNCRPD. Users with disabilities will benefit from being able to call cross border with friend family and for work either directly or using relay services. They will be able to call the emergency number when travelling to other Member State and will be able to use the mobile devices and related services with similar accessibility features.

### 3.3. Assessment of the impacts per policy option

#### 3.3.1. Policy Option 1: Baseline Scenario – Impact Assessment

*Table 13: Effectiveness and Efficiency of Policy Option 1 (Baseline Scenario, Telephony services)*

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	0	0	<p>Currently, in the EU a number of Member States have implemented accessible telecommunication services through a number of different measures including relay services and accessible emergency services. However, the interoperability of these services across borders is not ensured nor addressed.</p> <p>In the current situation this leads to barriers for consumers who cannot make use of these services across borders. Also Industry that wants to offer their services in other Member States needs to adapt their accessibility solutions. Ensuring cross border interoperability of Total conversations solutions for example to be used in emergency services would require adaptation to national technical rules.</p> <p>In the baseline scenario the assumption has been made that 20 Member States would have in place relay services and accessible emergency services based on different standards and solutions and that these Member States would act to make their services interoperable without agreement on a common standard.</p> <p>As to the magnitude of the impacts of the varying solutions and standards for these services, it is assumed that 30% of the telephony for the relevant market occurs</p>

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
			across borders. It is expected that the differences between national services have a negative impact on cross-border trade and that the full potential of the internal market would not be achieved.
To increase competition among industry in the area of selected goods and services and in the area of public procurement	0	0	Given that relay services and emergency services are organised centrally at national level this is not expected to have any impact on competition of those specific solutions but this could be an issue if companies would decide to market these solutions as part of their mainstream products for example competing with messaging.
Overall score	0	0	
Average score	0	0	

*Table 14: Impacts of Policy Option 1 (Baseline Scenario, Telephony Services)*

Assessment criteria	Rating	Explanation
Social Impacts (impacts on different groups)	0	<p><b>Disabled persons</b></p> <p>In the baseline scenario the assumed evolution of Member States making relay services and accessible emergency services interoperable would mean that people with a disability would now be able to access these services on an equal basis compared to other consumers including cross border and communicate with services providers using their preferred solution.</p> <p><b>Elderly</b></p> <p>As far as the elderly population is considered the group that would benefit by gaining access to telecommunication services on an equal basis compared to other consumers would be mainly those elderly that have some type of hearing impairment.</p> <p><b>General population</b></p> <p>It is unlikely to have any major impacts on non-disabled persons.</p>
Environmental impacts	0	The cross-border interoperability and availability of relay services and accessible emergency service terminals is not likely to have any major environmental impacts.
Overall score	0	
Average score	0	

### 3.3.2. Policy Options 2, 3 and 4 – Impact Assessments

Table 15: Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating (Telecommunication Services)

Policy Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	✓	✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓✓
To increase competition among industry in the area of selected goods and services and in the area of public procurement	0	0	0	0	0	0
Overall score	1	1	3	3	4	3
Average score	0.5	0.5	1.5	1.5	2	1.5

Table 16: Impacts of Policy Options 2, 3 and 4: Rating (Telecommunication Services)

Assessment criteria	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
Social Impacts (impacts on different groups)	(✓)	✓✓	✓✓✓
Environmental impacts	0	0	0

### 3.3.3. Policy Option 1: Baseline Scenario – Impact Assessment

Table 17: Effectiveness and Efficiency of Policy Option 1 (Baseline Scenario, Telephony Mobile Terminals)

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	0	0	<p>Currently, in the EU accessibility requirements covering Terminals has been placed through telecommunications operators and focuses on public pay phones and fixed phones. These types of terminals are becoming obsolete and are being replaced by mobile devices. Furthermore, the Mobile Terminals market is a global one and accessibility requirements established in the United States under Section 255 have impacts at a global scale. The United States is reviewing the accessibility requirements and introducing new ones in the 21<sup>st</sup> Century Communications and Video Accessibility Act. This will lead to new accessibility requirements for mobile terminals. It is this expected that Member States, in order to fulfil their obligations under the UN Convention will shift their focus to the accessibility of mobile telephony terminals. Cross-border trade barriers might arise if Member States would regulate in this area up to 2020 based on their commitments under the UNCRPD. Furthermore, due to the likely future changes in the United States the industry may face new costs to ensure accessibility of mobile terminals. Barriers to trade would occur if Member States would adopt accessibility requirements that differ from those established in the United States.</p> <p>Therefore, in the baseline scenario the assumption has been made that 6 Member States would introduce different accessibility requirements by 2020. As to the magnitude of the impacts of the varying accessibility requirements, it is assumed that 50% of the Mobile Terminals will be provided across-borders in 2020. It is expected that the differences between national technical accessibility requirements has a negative impact on cross-border trade and that the full potential of the internal market would not be achieved.</p>
To increase competition among industry in the area of selected goods and services and in the area of public procurement	0	0	Possible variations between national technical accessibility requirements are likely to make it difficult for industry and new market entrants, in particular, to engage in cross-border trade. Such differences in accessibility requirements in the countries are likely to have a negative impact on the industry in particular in terms of costs.
Overall score	0	0	
Average score	0	0	

*Table 18: Impacts of Policy Option 1 (Baseline Scenario, Telecommunication Mobile Terminals)*

Assessment criteria	Rating	Explanation
Social Impacts (impacts on different groups)	0	<p><b>Disabled persons</b></p> <p>The ongoing revision of accessibility requirements in the United States and the countries that are assumed to adopt accessibility requirements concerning Mobile Terminals is likely to have a positive impact on the level of accessibility. This means that more people with a disability will have access to mobile telephony means.</p> <p><b>Elderly</b></p> <p>While it can be expected that the take-up by elderly of Mobile Terminals will increase by 2020, it is still expected that it will not be at the same level as younger consumers. The types of benefits that result from accessible Mobile Terminals are likely to be similar to those of disabled people.</p> <p><b>General population</b></p> <p>The level of accessibility of Mobile Terminals is unlikely to have any major impacts on non-disabled persons although some accessibility features will help people ion the move.</p>
Environmental impacts	0	The level of accessibility of Mobile Terminals is not likely to have any major environmental impacts.
Overall score	0	
Average score	0	

### 3.3.4. Policy Options 2, 3 and 4 – Impact Assessments

*Table 19: Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating (Telephony Mobile Terminals)*

Policy Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	✓(✓)	✓	✓✓✓	✓✓✓	✓✓✓	✓✓
To increase competition among industry in the area of selected goods and services and in the area of public procurement	✓(✓)	✓	✓✓✓	✓✓✓	✓✓✓	✓✓

Policy Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
Overall score	3	2	6	6	6	4
Average score	1.5	1	3	3	3	2

*Table 20: Impacts of Policy Options 2, 3 and 4: Rating (Telephony Mobile Terminals)*

Assessment criteria	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
Social Impacts (impacts on different groups)	(✓)	✓	✓✓
Environmental impacts	0	0	0

Table 21: Assessment of Impacts of Policy Options 2, 3 and 4: Explanation of Ratings (services)

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<b>Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating</b>				
<i>To improve cross-border trade in the area of selected goods and services and in the area of public procurement</i>	Accessibility feature of telephony services would be available across the EU and in particular relay services and emergency services would be made interoperable and accessible in terms of the technical characteristics of their applications, user interface and information about accessibility features.	<p>For telephony services 20 countries are assumed to put in place accessible services basing on relay services and emergency services by 2020 (as assumed in the baseline scenario). It is assumed that 15 will follow the Recommendation to make these interoperable across borders.</p> <p>Costs related to diverging national solutions and standards are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border use. In the baseline scenario, cross-border trade has been fixed at 30%.</p>	<p>Under this policy option common accessibility for telephony services and in particular relay services and emergency services and the mutual recognition principle would be applicable in those 20 countries that are assumed to have these services in place by 2020. This would result in a reduction of those costs for business that are due to variations between national standards and solutions.</p> <p>This would mean that based on the remaining differences between solutions and standards between countries higher costs are still incurred.</p> <p>Similar to PO2, it is expected that the cross-border use could increase.</p>	<p>Under this policy option common requirements would have EU wide coverage. This would, in combination with the mutual recognition principle, result in an elimination of costs for business that are due to variations between national accessibility requirements.</p> <p>However, at the same time, business in those 7 countries that are assumed not to have accessible telephony services and in particular relay services and emergency services in place by 2020 would face additional costs for putting these in place.</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border use.</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<i>To increase competition among industry in the area of selected goods and services and in the area of public procurement</i>			N/A	N/A
<b>Impact of the Policy Options on social groups and the environment</b>				
<i>Social Impacts (impacts on different groups)</i>	Disabled consumers would be ensured (in line with the coverage of the policy option) accessible telephony services and in particular relay services and emergency services in terms of the technical characteristics of their applications, user interface and information about accessibility features.	The benefits would be limited to those countries where accessible telephony services and in particular relay services and emergency services are assumed to be in place and made interoperable.  Consumers that use these services cross-border would benefit.  The introduction of the relevant accessibility requirements will lead to that a higher number of disabled consumers may benefit from reduced transaction costs.	The types of impacts will be similar to those described for PO2, but the scale of the impacts is likely to be larger than PO2 in line with the expected increased number of countries that would have accessible telephony services and in particular interoperable relay services and accessible emergency services in place.	The types of impacts will be similar to those described for PO2 and PO3, but the scale of the impacts is likely to be larger than both options.
<i>Environmental impacts</i>	<i>No explicit requirements.</i>	Improving accessibility of Mobile Terminals is not expected to have significant environmental impacts.		

Table 22: Assessment of Impacts of Policy Options 2, 3 and 4: Explanation of Ratings (Telecommunication Mobile Terminals)

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<b>Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating</b>				
<p><i>To improve cross-border trade in the area of selected goods and services and in the area of public procurement</i></p>	<p>Companies that are active on the EU market would have to ensure the accessibility of Mobile Terminals in terms of their user interface, interoperability with assistive solutions and information on their accessibility.</p>	<p>For Mobile Terminals a range of 3 to 6 countries are assumed to adopt technical accessibility requirements by 2020 (as assumed in the baseline scenario). It is assumed that some or all of these countries will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 50% for Mobile Terminals.</p>	<p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in those 6 countries that are assumed to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p>This would mean that businesses that are active in countries where accessibility requirements have not been adopted may face lower costs than companies that are based in countries where accessibility requirements are in place. This said, the companies that do not provide accessible goods may miss out on a larger consumer group.</p> <p>Similar to PO2, it is expected that the cross-border trade could increase.</p>	<p>Under this policy option common requirements would have EU wide coverage. This would, in combination with the mutual recognition principle, result in an elimination of costs for business that are due to variations between national accessibility requirements.</p> <p>However, at the same time, business in those 21 countries that are assumed not to have adopted accessibility requirements by 2020 would face additional costs for ensuring accessibility (to the degree that they are not already doing so on a voluntary basis).</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>The policy option is expected to have a positive impact on cross-border trade.</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<p><i>To increase competition among industry in the area of selected goods and services and in the area of public procurement</i></p>		<p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, i.e. three to six countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. The extent to which new market entry can be expected to spur competition is linked to amount of countries that follow the Recommendation, i.e. the more Member States adopt the technical requirements proposed in the Recommendation the more likely it is that new market entrants compete on the internal market. However, the impact is expected to be low given that the market for Mobile Terminals is dominated by a limited number of global companies.</p>	<p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, i.e. six countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. With six Member States, representing 43.6% of EU GDP, transposing this Directive it is expected that new market entry will increase competition due to lower costs and an effective increase of the market. However, the impact is expected to be low given that the market Mobile Terminals is dominated by a limited number of global companies.</p>	<p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, across the EU. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market.</p> <p>Under this policy option the Internal Market for Mobile Terminals is effectively based on common accessibility requirements and therefore not only is new market entry likely based on lower costs (as in policy option 3).</p>
<p><b>Impact of the Policy Options on social groups and the environment</b></p>				
<p><i>Social Impacts (impacts on different groups)</i></p>	<p>Disabled consumers would be ensured (in line with the coverage of the policy option) accessible Mobile Terminals in terms of their user interface, interoperability with assistive solutions and information on their accessibility.</p>	<p>The benefits would be limited to those countries where accessibility requirements are assumed to be in place.</p> <p>Consumers that use accessible Mobile Terminals cross-border in countries where accessibility requirements are in place would also benefit.</p> <p>The introduction of the relevant accessibility requirements will lead to that a higher number of disabled consumers may benefit from reduced transaction costs.</p>	<p>The types of impacts will be similar to those described for PO2, but the scale of the impacts is likely to be larger than PO2 in line with the expected increased number of countries that would have the same requirements in place.</p>	<p>The types of impacts will be similar to those described for PO2 and PO3, but the scale of the impacts is likely to be larger than both options.</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<i>Environmental impacts</i>	<i>No explicit requirements.</i>	Improving accessibility of Mobile Terminals is not expected to have significant environmental impacts.		

# 4. eBooks

## 4.1. Base figures

Problem Assessment (2011) and Baseline Scenario (2020)	
Market turnover in 2011	798.000.000
CAGR	11,0%
Market turnover in 2020	2.041.313.466
One-off costs for eBooks accessibility features (per title)	400
Published eBook titles in Germany & France (in 2011)	47.000
Published printed book titles in France & Germany (in2011)	123.950
Number of printed book titles published in 2011 in the EU	530.000
Total annual accessibility costs for eBook titles published in EU in 2011	80.387.253
Share of turnover stemming from cross-border trade	10,0%
Number of countries in the sample for which legislation could be identified	
Sample size	9
In 2011	
	7
In 2020 (extrapolation)	
As identified in country sample	3
Only baseline scenario: see legislative analysis	21
Extrapolation to EU level	27

Share of GDP for relevant countries	
In 2011	
7 Member States have legislation in place	77,0%
In 2020	
7 Member States have legislation in place	77,0%
21 Member States have legislation in place	93,1%
27 Member States have legislation in place	100,0%
Correction factor	30,0%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	1,0%

## 4.2. Effects of the problem on consumers

Compared to the USA, the mainstream market for eBooks in Europe is less mature . Some authors have argued that this can be explained by relatively few affordable e-readers, insufficient availability of eBooks (as compared to the print offering), and too high prices for eBooks in Europe. In immature markets, the specific needs of smaller customer sub-groups such as blind or dyslexic people are often not sufficiently taken into account, because market players first focus on the most profitable target groups. Where no legal obligations exist, the incentives for market players to invest in accessibility features remain very limited. As a result, disabled consumers are insufficiently served by the market.

Publishers still discuss the merits of different file formats. Formats are especially important to consumers, as few eReader or eBook companies in Europe provide full interoperability with all formats available on the market. This means that consumers have to be aware of the file type and compatibility with their own devices as well as the accessibility features they contain. In some cases the accessibility features which are needed for blind persons to operate text-to-speech programmes are not ensured. End users will benefit from accessible electronic version of books without the need to retrofit the books adding the recorder voice as it is happening now as for example text to speech and the software/reader will support this facility.

## 4.3. Assessment of the impacts per policy option

### 4.3.1. Policy Option 1: Baseline Scenario – Impact Assessment

Table 23: Effectiveness and Efficiency of Policy Option 1 (Baseline Scenario, E-Books)

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	0	0	<p>Over the next years, accessibility requirements can be expected to be adopted in a range from 7 to 27 Member States based on the growing market of eBooks, the current availability of accessibility legislation in the field of copyrights and due to the obligations for the MS under the UNCRPD<sup>7</sup>.</p> <p>The accessibility requirements are likely to vary between the MS, leading to barriers for businesses and resulting in costs (relating to in particular the need to understand the accessibility requirements in other countries and necessary adaptations to the good). No specific information concerning the potential content of this legislation is available. It can be assumed that some of these MS will only regulate the private or the public eBook market.</p> <p>As to the magnitude of the impacts of the varying accessibility requirements, it is assumed that 10% of the trade in eBooks will take place cross-border in 2020. It is expected that the differences between national technical accessibility requirements has a negative impact on cross-border trade and that the full potential of the internal market would not be achieved.</p>
To increase competition among industry in the area of selected goods and services and in the area of public procurement	0	0	The expected variations between national technical accessibility requirements are likely to make it difficult for new market entrants, in particular, to engage in cross-border trade.
Overall score	0	0	
Average score	0	0	

<sup>7</sup> Based on an examination of the current situation in nine Member States, technical accessibility legislation has been identified for educational books in Italy. Other Member States have made use of the exceptions under the copy right legislation.

Table 24: Impacts of Policy Option 1 (Baseline Scenario, E-Books)

Assessment criteria	Rating	Explanation
Social Impacts (impacts on different groups)	0	<p><b>Disabled persons</b></p> <p>The accessibility of eBooks for disabled persons depends on a number of factors, including the format of the eBook and the degree to which this incorporates accessibility features. The accessibility of information on the accessibility of the eBooks is another factor that may impact on the (cross-border) purchasing of eBooks by disabled persons.</p> <p>As concerns the current situation, the accessibility of the formats eBooks are provided in varies. ePub is considered as state of the art in terms of accessible eBooks formats. While this format is supported by many eReaders, one of the most popular eReaders, the Amazon Kindle, does not, for example, support this format. An overall positive development in relation to the accessibility of eBooks is expected by 2020 as the market is still relatively new and rather rapid progress in relation to the technical functionalities – including the accessibility features – of the product is expected over the next years.</p> <p>As noted above, according to the MeAC2 study, the current level of accessibility of eBooks in the EU is medium; the average among the countries surveyed being 32%. In line with technological development and the general development of the eBook market, it is expected that the accessibility will increase up to 40% or 50% by 2020.</p> <p>The take up rate has been estimated to be app. 13% by non-disabled persons and 10% by disabled persons, thus there is an estimated gap of app. 3%. It can be assumed that the take-up rate will increase up to 20 to 30% by 2020.</p> <p><b>Elderly</b></p> <p>Elderly are likely to consume less eBooks than younger consumers due to their more limited use of the Internet and ICT products. It is likely that there will be a positive trend in terms of the use of eBooks by elderly by 2020, in line with general consumption trends of eBooks among the general population and ICT in “overall” by elderly.</p> <p>Problems and needs for elderly in relation to the accessibility of eBooks are likely to be similar to those of disabled persons, depending on their functional limitations.</p> <p><b>General population</b></p> <p>The level of accessibility of eBooks is unlikely to have any impacts on non-disabled persons although a lot of people benefit from some of the features for example related to screen enlargement.</p>
Environmental impacts	0	<p>Printed books and eBooks both leave an environmental footprint. The per book impact compared to printed books depends on user behaviour and the number of eBooks consumed. It can be noted that the energy used when reading eBooks is estimated to be relatively small compared to manufacturing the device. The average printed book is responsible for app. 4 KG of greenhouse gas emissions. According to estimates, any reader would have to offset 32 to 42 printed books to break even as regards the carbon footprint. It is expected that the consumption of eBooks will increase up until EU2020. A CAGR of 36.6% has been estimated. Clearly, this will have positive environmental impacts, including due to the availability of accessible eBooks. The extent of impacts by 2020 will in</p>

Assessment criteria	Rating	Explanation
		addition to the consumption of eBooks be affected by the production of eReaders and the degree to which they are manufactured in an environmentally friendly way or not.
Overall score	0	
Average score	0	

### 4.3.2. Policy Options 2, 3 and 4 – Impact Assessments

Table 25: Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating (E-Books)

Policy Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	✓(✓)	✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓
To increase competition among industry in the area of selected goods and services and in the area of public procurement	✓(✓)	✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓
Overall score	3	1	6	6	8	4
Average score	1.5	1	3	3	4	2

Table 26: Impacts of Policy Options 2, 3 and 4: Rating (E-Books)

Assessment criteria	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
Social Impacts (impacts on different groups)	0	✓(✓)	✓(✓)
Environmental impacts	0	0	(✓)

Table 27: Assessment of Impacts of Policy Options 2, 3 and 4: Explanation of Ratings (eBooks)

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<b>Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating</b>				
<p><i>To improve cross-border trade in the area of selected goods and services and in the area of public procurement</i></p>	<p>Companies that are active on the EU market would have to ensure / provide the following:</p> <ul style="list-style-type: none"> <li>• Accessible information concerning the good / service</li> <li>• Accessible online related applications</li> <li>• Accessible functions in the operation of the service targeted to address the needs of persons with functional limitations</li> </ul>	<p>It is assumed that one third (six) to all of those countries (21) that are expected to adopt technical accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 10%.</p>	<p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in those 18 countries that are expected to have accessibility requirements in place by 2020. This would result in an elimination of those costs for business that are due to variations between national accessibility requirements.</p> <p>This would mean that local businesses that are active in countries where accessibility requirements have not been adopted may face lower costs than companies that are based in countries where accessibility requirements are in place. This said, the companies that do not provide accessible goods may miss out on a large consumer group.</p> <p>It is expected that the cross-border trade could increase.</p>	<p>Under this policy option common requirements would have EU wide coverage. This would, in combination with the mutual recognition principle, result in an elimination of costs for business that are due to variations between national accessibility requirements.</p> <p>However, at the same time, business in those nineteen countries that are not expected to have adopted accessibility requirements by 2020 would face additional costs for ensuring accessibility (to the degree that they are not already doing so on a voluntary basis).</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>The policy option is expected to have a positive impact on cross-border trade</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<p><i>To increase competition among industry in the area of selected goods and services and in the area of public procurement</i></p>		<p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, i.e. 3 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. The extent to which new market entry can be expected to spur competition is linked to amount of countries that follow the Recommendation, i.e. the more Member States adopt the technical requirements proposed in the Recommendation the more likely it is that new market entrants compete on the internal market.</p>	<p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, i.e. 7 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. With 7 Member States transposing this Directive it is expected that new market entry is likely to increase competition due to lower costs and an effective increase of the market.</p>	<p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, across the EU. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. Under this policy option the Internal Market for accessible eBooks is effectively based on common accessibility requirements and therefore not only is new market entry likely based on lower costs (as in policy option 3) but also due to a larger market overall internal market for accessible eBooks.</p>
<p><b>Impact of the Policy Options on social groups and the environment</b></p>				
<p><i>Social Impacts (impacts on different groups)</i></p>	<p>Disabled consumers would be ensured (in line with the coverage of the policy option) accessible:</p> <ul style="list-style-type: none"> <li>• Information concerning the accessibility of the good / service;</li> <li>• Online-related applications;</li> <li>• Functions in the operation of the service targeted to address the needs of persons with functional limitations</li> </ul>	<p>The benefits would be limited to those countries where accessibility requirements are in place.</p> <p>Consumers that buy cross-border from countries where accessibility requirements are in place would also benefit.</p> <p>The introduction of the relevant accessibility requirements is likely to have a limited positive impact on take up rates.</p>	<p>Disabled consumers across the EU would have access to accessible eBooks.</p> <p>Due to the increased competition that would result, prices may be reduced compared to the baseline scenario.</p> <p>The introduction of the relevant accessibility requirements is likely to have a relatively strong positive impact on take up rates.</p>	<p>The benefits are similar to those that can be expected to result due to the introduction of PO2.</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<i>Environmental impacts</i>	<i>No explicit requirements.</i>	<p>The expected increase in trade is likely to have an impact on the number of eBooks sold and used, which will leave an environmental footprint. The impact is likely to be particularly high under those policy options where the strongest impacts on competition are expected, since this is likely to result in reduced sales prices and higher sales turnovers. Based on this line of argumentation, the environmental impact is expected to be most significant under PO4, followed by PO3 and PO4. All options are likely to lead to an increase compared to the baseline scenario. Due to a lack of data it has not been possible to calculate the impact in quantitative terms.</p>		

# 5. Private sector websites

## 5.1. Base figures

Figures are provided as websites are key enablers for the accessibility of services and are needed to calculate costs related to the services in coming sections

Problem Assessment (2011) and Baseline Scenario (2020)	
Market turnover in 2011	251,464,000,000
CAGR	0%
Market turnover in 2020	251,464,000,000
One-off costs of accessible websites: (WCAG 2.0)	50.128
Ongoing costs of accessible websites: (WCAG 2.0)	1.989
Number of businesses in EU	936.915
Number of Spanish Businesses to which Spanish accessibility legislation applies	
Hospitality services	21000
Online retail	74699
Banking services	64
Bus transport	7475
Air transport	71
Maritime transport	218
Rail transport	32
Share of Spanish Businesses to which Spanish accessibility legislation applies	
Hospitality services	50,0%
Online retail	50,0%
Banking services	90,0%
Bus transport	1,0%
Air transport	95,0%

Maritime transport	5,0%
Rail transport	90,0%
Total Number of businesses in Spain to which Spanish accessibility legislation applies	48089
Share of turnover stemming from cross-border trade	10%
One-off costs of non-accessible websites	33.317
Ongoing costs of non-accessible websites	500
Number of accessible websites	
Lower range estimate	8.656
Upper range estimate	28.950
Number of inaccessible websites	
Lower range estimate	19.139
Upper range estimate	39.433
Number of countries in the sample for which legislation could be identified	
Sample size	9
In 2011	
	1
In 2020 (extrapolation)	
EU level	3
Using additional data	12
Share of GDP for relevant countries	
In 2011	
1 Member States has legislation in place	8,5 %
In 2020	
3 Member States have legislation in place	15,5%
12 Member States have legislation in place	85,3%
27 Member States have legislation in place	100,0%

Correction factor	30%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	5.0%

## 5.2. Effects of the problem on consumers

Through the use of websites, consumers are able to collect and compare information, purchase products or book services, and take care of their financial matters while for businesses, websites can be seen as a means to get into contact with consumers, advertise their products (in the widest sense), and also to be able to cut personnel costs. Hence, modern economy and societal life are not any longer thinkable without the Internet and the broad use of websites. This applies in particular to transport, online retail, banking, and hospitality services since those are sectors that affect the everyday life of consumers and are a viable part of the EU economy.

# 6. Architect Services

## 6.1. Base figures

Figures are provided as websites are key enablers for the accessibility of services and are needed to calculate costs related to the services in coming sections

Problem Assessment (2011) and Baseline Scenario (2020)	
Turnover in 2011	14.525.640.676
CAGR	0%
Turnover in 2020	14.525.640.676
Average costs for architect services per working hour	70
Number of working days	2
Number of FTEs	1
Number of working hours/day	8
Share of facilities that need to be replaced / refurbished per year	5,0%
Number of facilities relevant for the case in the problem assessment	578451
Share of architect services that is assumed to be procured cross-border	40,0%
Number of Member States that is expected to have legislation in place	27
Share of total EU GDP	100%
Share of Member States that is expected to apply the eventual EU Recommendation	50%
Correction factor	100,0%

## 6.2. Effects of the problem on consumers

All EU Member States require built environment elements used in the provision of the services concerned to be designed to be accessible for persons with disabilities. Nevertheless, technical specifications for the accessibility requirements (for example with regard to ramps, doors, toilet room free space and stair cases) vary across Member States. The divergence of these requirements creates uncertainty for customers and limits the free movement of disabled persons and elderly persons.

Detailed impacts on consumers are considered in the cases covering hospitality services and transport services.

# 7. Self-Service Terminals

## 7.1. Base figures

### SSTs: ATMs

Problem Assessment (2011) and Baseline Scenario (2020)	
Total production value of SSTs PRODCOM code 26201200 in 2011	222,335,531
Share that can be attributed to SSTs	66%
SSTs value in 2011	146,741,450
Share of production value that can be attributed to ATMs	65%
<b>Market turnover in 2011</b>	<b>95.381.943</b>
CAGR	0.0%
<b>Market turnover in 2020</b>	<b>95.381.943</b>
Share of development costs	5%
Share of accessibility costs	1%
Share of ongoing costs	0%
Share of turnover stemming from cross-border trade	50%
Number of countries for which legislation could be identified	
Sample size	9
In 2011	5
In 2020 (extrapolation)	
As identified in country sample	5
Only baseline scenario: see legislative analysis	10

Extrapolation to EU level	15
Share of GDP for relevant countries	
In 2011	
5 Member States have legislation in place	54.3%
In 2020	
5 Member States have legislation in place	54.3%
10 Member States have legislation in place	73.2%
15 Member States have legislation in place	75,1%
27 Member States have legislation in place	100.0%
Correction factor	100.0%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	1.0%

### SSTs: Ticketing machines

Problem Assessment (2011) and Baseline Scenario (2020)	
Total production value of "Point-of-sale terminals, ATMs and similar machines capable of being connected to a data processing machine or network" PRODCOM code 26201200	222,335,531
Share that can be attributed to SSTs	66%
SSTs value in 2011	146,741,450
Share of production value that can be attributed to ATMs	30%
<b>Market turnover in 2011</b>	<b>44.022.435</b>
CAGR	0%
<b>Market turnover in 2020</b>	<b>44.022.435</b>

Share of development costs	5%
Share of accessibility costs	1%
Share of ongoing costs	0%
Share of turnover stemming from cross-border trade	50%
Number of countries for which legislation could be identified	
Sample size	9
In 2011	6
In 2020 (extrapolation)	
As identified in country sample	6
Only baseline scenario: see legislative analysis	9
Extrapolation to EU level	18
Share of GDP for relevant countries	
In 2011	
6 Member States have legislation in place	62,8%
In 2020	
6 Member States have legislation in place	62,8%
9 Member States have legislation in place	68,5%
18 Member States have legislation in place	84,1%
27 Member States have legislation in place	100,0%
Correction factor	100.0%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	1.0%

## SSTs: Check-in machines

<b>Problem Assessment (2011) and Baseline Scenario (2020)</b>	
Total production value of "Point-of-sale terminals, ATMs and similar machines capable of being connected to a data processing machine or network" PRODCOM code 26201200	222.335.531
Share that can be attributed to SSTs	66%
SSTs value in 2011	146.741.450
Share of production value that can be attributed to ATMs	5%
<b>Market turnover in 2011</b>	<b>7.337.073</b>
CAGR	0.0%
<b>Market turnover in 2020</b>	<b>7.337.073</b>
Share of development costs	5%
Share of accessibility costs	1%
Share of ongoing costs	0%
Share of turnover stemming from cross-border trade	50%
Number of countries in the sample for which legislation could be identified	
Sample size	9
In 2011	
	6
In 2020 (extrapolation)	
As identified in country sample	6
Only baseline scenario: see legislative analysis	9
Extrapolation to EU level	18
Share of GDP for relevant countries	

In 2011	
6 Member States have legislation in place	62,8%
In 2020	
6 Member States have legislation in place	62,8%
9 Member States have legislation in place	68,5%
18 Member States have legislation in place	84,1%
27 Member States have legislation in place	100,0%
Correction factor	100.0%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	1.0%

## 7.2. Effects of the problem on consumers

Disabled consumers find barriers in two dimensions of SSTs (including ATMs): on the one hand, the physical setting and surrounding of the machine and on the other, the design and usability of the interface. Senior consumers, disabled and other would benefit by an increase in the accessibility level of SSTs. They would be able to fully operate SSTs in a fast and independent way, enhancing their self-esteem and autonomy. Indeed, ATMs are linked to a key resource in every individual's life – capital – and if they are inaccessible, an important segment of consumers can be excluded from financial services and an equal participation in the economic life . Such terminals can also reduce transaction and staffing costs, and increase customer service and satisfaction . For instance, providing accessible ATMs reduces the costs of banking operations supported by disabled persons that previously depended on assistance by a clerk.

In general, people with a disability and elderly are not seen as a relevant consumer group by the STT operators, and thus, their specific needs are often disregarded. However, since around 80 million people and a third of the population aged over 75 have some disability (and the number is set to increase given the ageing of the European society), the need for accessible STTs is already currently significant and it will be even more so in the near future.

### 7.3. Assessment of the impacts per policy option

#### 7.3.1. Policy Option 1: Baseline Scenario – Impact Assessment

Table 28: Effectiveness and Efficiency of Policy Option 1 (Baseline Scenario, SSTs)

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	0	0	Over the next years, accessibility requirements covering Self-service terminals (SST) including ATMs can be expected to be adopted in a range from 9 to 27 Member States based on the current availability of accessibility legislation in the field of the built environment in relation to banks and due to the obligations for the MS under the UNCRPD <sup>8</sup> . The mid-range scenario is 15 countries for ATMs. For check-in machines and ticketing machines accessibility requirements can be expected to be adopted in a range from 9 to 27 Member States, where the mid-range scenario is 18 countries.  As to the magnitude of the impacts of the varying accessibility requirements, it is assumed that 50% of the SSTs will be provided across-borders in 2020. It is expected that the differences between national technical accessibility requirements has a negative impact on cross-border trade and that the full potential of the internal market would not be achieved.
To increase competition among industry in the area of selected goods and services and in the area of public procurement	0	0	The expected variations between national technical accessibility requirements are likely to make it difficult for new market entrants, in particular, to engage in cross-border trade. Differences between legislation in the countries are likely to have a negative impact on the industry.
Overall score	0	0	
Average score	0	0	

Table 29: Impacts of Policy Option 1 (Baseline Scenario, SSTs)

Assessment criteria	Rating	Explanation
Social Impacts (impacts on different groups)	0	<b>Disabled persons</b>  The increased number of countries that are expected to adopt accessibility requirements concerning ATMs is likely to have a positive impact on the level of accessibility of ATMs. This means that more disabled people are likely to be able to have access to banking services provided through ATMs.  It is estimated that there is a cost difference between transactions based on ATMs and those not using ATMs. These costs differences are assumed

<sup>8</sup> Based on an examination of the current situation in nine Member States, technical accessibility legislation has only been identified for a niche market in Italy. No problems in relation to cross-border trade due to these technical accessibility requirements have been identified in the current situation.

Assessment criteria	Rating	Explanation
		<p>to be accrued by people with disabilities.</p> <p>Similarly, benefits from using check-in machine or ticketing machines stem from the cost difference between tickets purchased at ticket offices and tickets purchased at ticketing machines that actually is saved by consumers with disabilities.</p> <p><b>Elderly</b></p> <p>While it can be expected that the take-up by elderly of ATMs and SSTs in the area of transport will increase by 2020, it is still expected that it will not be at the same level as younger consumers. Hence, while the types of benefits that result from accessible SSTs are likely to be similar to those of disabled people, it is expected that the anticipated increase in the level of accessibility will benefit elderly slightly less than disabled consumers. However, keeping in mind that the prevalence of accessibility needs among the elderly population is considerably higher than that of the rest of the population the actual number of people that will likely benefit is still considerably high.</p> <p><b>General population</b></p> <p>The level of accessibility of SSTs is unlikely to have any major impacts on non-disabled persons.</p>
Environmental impacts	0	The level of accessibility of SSTs for is not likely to have any major environmental impacts. Apart from ATMs based on the assumption that less paper-based processes will result from the increased use of ATMs for banking transactions.
Overall score	0	
Average score	0	

### 7.3.2. Policy Options 2, 3 and 4 – Impact Assessments

Table 30: Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating (SSTs)

Policy Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	✓(✓)	✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓
To increase competition among industry in the area of selected goods and services and in the area of public procurement	✓	✓	✓✓	✓✓	✓✓✓	✓✓✓

Policy Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
Overall score	2.5	2	5	5	7	5
Average score	1.25	1	2.5	2.5	3.5	2.5

*Table 31: Impacts of Policy Options 2, 3 and 4: Rating (SSTs)*

Assessment criteria	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
Social Impacts (impacts on different groups)	(✓)	✓✓	✓✓✓
Environmental impacts	0	0	0

Table 32: Assessment of Impacts of Policy Options 2, 3 and 4: Explanation of Ratings (SSTs)

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<b>Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating</b>				
<i>To improve cross-border trade in the area of selected goods and services and in the area of public procurement</i>	<p>Companies that are active on the EU market would have to ensure the accessibility of the good in terms of the characteristics mentioned above namely user interfaces and functionality.</p> <ul style="list-style-type: none"> <li></li> </ul>	<p>It is assumed that:</p> <ul style="list-style-type: none"> <li>for ATMs a range of nine to all of those countries (15), and</li> <li>for check-in and ticketing machines a range of nine to all of those countries (18),</li> </ul> <p>that are expected to adopt technical accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 50%.</p>	<p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in those 15 (in the case of ATMs) and 18 (in the case of ticketing and check-in machines) countries that are expected to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p>This would mean that local businesses that are active in countries where accessibility requirements have not been adopted may face lower costs than companies that are based in countries where accessibility requirements are in place. This said, the companies that do not provide accessible goods may miss out on a larger consumer group (based on the assumption that in the banking and transport sector accessible SSTs will be demanded).</p> <p>It is expected that the cross-border trade could increase up to 60% (15 or 18 countries).</p>	<p>Under this policy option common requirements would have EU wide coverage. This would, in combination with the mutual recognition principle, result in an elimination of costs for business that are due to variations between national accessibility requirements.</p> <p>However, at the same time, business in those 12 or 9 countries that are not expected to have adopted accessibility requirements by 2020 would face additional costs for ensuring.</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>The policy option is expected to have a positive impact on cross-border trade.</p>
<i>To increase competition among industry in the area of selected goods and services and in the area of public</i>		<p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, i.e. nine to 15 or 18 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has</p>	<p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, i.e. 15 or 18 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been</p>	<p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, across the EU. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<i>procurement</i>		<p>been removed, more companies may enter the market. The extent to which new market entry can be expected to spur competition is linked to amount of countries that follow the Recommendation, i.e. the more Member States adopt the technical requirements proposed in the Recommendation the more likely it is that new market entrants compete on the internal market. However, the impact is expected to be low given that the market for SSTs is dominated by a limited number of global companies.</p>	<p>removed, more companies may enter the market. With 15 or 18 Member States, representing 75.1% or 84.1% of EU GDP, transposing this Directive it is expected that new market entry will increase competition due to lower costs and an effective increase of the market. However, the impact is expected to be low given that the market for SSTs is dominated by a limited number of global companies.</p>	<p>been removed, more companies may enter the market.</p> <p>Under this policy option the Internal Market for SSTs is effectively based on common accessibility requirements and therefore not only is new market entry likely based on lower costs (as in policy option 3). However, the impact is expected to be low given that the market for SSTs is dominated by a limited number of global companies and the market in particular for ATMs is not likely to grow significantly.</p>
<b>Impact of the Policy Options on social groups and the environment</b>				
<i>Social Impacts (impacts on different groups)</i>	<p>Disabled consumers would be ensured (in line with the coverage of the policy option) accessible SSTs in terms of the characteristics mentioned above namely user interfaces and functionality.</p>	<p>The benefits would be limited to those countries where accessibility requirements are in place.</p> <p>Consumers that use SSTs cross-border in countries where accessibility requirements are in place would also benefit, although this number is estimated to be relatively low.</p> <p>The introduction of the relevant accessibility requirements will lead to that a higher number of disabled consumers may benefit from reduced transaction costs.</p> <p>Elderly people travelling would also benefit.</p>	<p>The types of impacts will be similar to those described for PO2, but the scale of the impacts is likely to be larger than PO2 in line with the expected increased number of countries that would have the same requirements in place.</p>	<p>The types of impacts will be similar to those described for PO2 and PO3, but the scale of the impacts is likely to be larger than both options.</p>
<i>Environmental impacts</i>	<i>No explicit requirements.</i>	<p>Improving accessibility of ATMs could lead to an environmental impact based on the conducting of transactions through ATMs electronically leading to a less paper-based process. The level of accessibility of check-in and ticketing machines is not likely to have any major environmental impacts.</p>		

# 8. eCommerce

## 8.1. Base figures

Problem Assessment (2011) and Baseline Scenario (2020)	
Private sector websites market turnover in 2011	251.464.000.000
CAGR	0,0%
Private sector websites market turnover in 2020	251.464.000.000
Estimated share of ecommerce Websites	2,1%
One-off costs of accessibility (CAPEX):	50.128
Ongoing costs of accessibility	1.989
One-off costs of non-accessible websites	33.317
Ongoing costs non-accessible	500
Number of goods/services	
number of websites within Spain	74.699
number of websites within the EU	533.310
Share of turnover stemming from cross-border trade	10%
Share of businesses to which Spanish accessibility legislation applies	
Lower range estimate	50%
Upper range estimate	50%
Current share of accessible websites	
Lower bound	60%
Upper bound	60%
Problem assessment: Number of websites (2011 or latest figure):	
Accessible websites	
Lower range estimate	22.484

Upper range estimate	22.484
Inaccessible websites	
Lower range estimate	14.865
Upper range estimate	14.865
Baseline scenario: Number of websites (forecast 2020):	
Accessible websites	
Lower range estimate	321.053
Upper range estimate	321.053
Inaccessible websites	
Lower range estimate	212.257
Upper range estimate	212.257
Number of countries in the sample for which legislation could be identified	
Sample size	9
In 2011	1
In 2020 (extrapolation)	
As identified in country sample	3
Only baseline scenario: see legislative analysis	12
Extrapolation to EU level	27
Share of GDP for relevant countries	
In 2011	
1 Member State has legislation in place: Spain	8,5%
In 2020	
3 Member State has legislation in place	15,5%
12 Member States have legislation in place	85,3%
27 Member States have legislation in place	100,0%
Correction factor	30%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	5%

## 8.2. Effects of the problem on consumers

From a consumer perspective, impacts of accessibility on eCommerce would be similar to those already developed in the Private website sub-section above.

## 8.3. Assessment of the impacts per policy option

### 8.3.1. Policy Option 1: Baseline Scenario – Impact Assessment

Table 33: Effectiveness and Efficiency of Policy Option 1 (Baseline Scenario, Online Retail)

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	0	0	<p>Over the next years, accessibility requirements covering eCommerce websites can be expected to be adopted in a range from 3 to 27 Member States based on the current availability of accessibility legislation and due to the obligations for the Member States under the UNCRPD. The mid-range scenario is 12 countries.</p> <p>The revised Section 508 in the US and the debate on the application of ADA to websites is likely to be used as an inspiration by EU Member States adopting legislation in relation to websites. Nevertheless, some divergences can be expected, thus hampering cross-border trade. These efforts will potentially be fostered also by currently on-going standardisation work at the EU level.</p> <p>As to the magnitude of the impacts of the varying accessibility requirements, it is assumed that 10% of the services provided by web professionals will take place cross-border in 2020. It is expected that the differences between national technical accessibility requirements has a negative impact on cross-border trade and that the full potential of the internal market would not be achieved.</p>
To increase competition among industry in the area of selected goods and services and in the area of public procurement	0	0	<p>The expected variations between national technical accessibility requirements are likely to make it difficult for new market entrants, in particular, to engage in cross-border trade. Differences between legislation in the countries are likely to have a negative impact on the industry. Despite that most countries are expected to follow the revised Section 508 or the web accessibility guidelines from W3C, differences between national legislation can be expected as it has happened extensively in the case of public websites.</p>
Overall score	0	0	
Average score	0	0	

Table 34: Impacts of Policy Option 1 (Baseline Scenario, Online Retail)

Assessment criteria	Rating	Explanation
Social Impacts (impacts on different groups)	0	<p><b>Disabled persons</b></p> <p>The increased number of countries that are expected to adopt accessibility requirements concerning eCommerce websites is likely to have a positive impact on the level of accessibility of online retail services. Disabled persons and elderly will be able to benefit of better choice and lower prices generally offered in eCommerce (as compared to traditional retail).</p> <p><b>Elderly</b></p> <p>While it can be expected that the absorption rate by elderly of ICT and Internet products will increase by 2020, it is still expected that it will not be at the same level as younger consumers. Hence, while the types of benefits that result from accessible eCommerce websites are likely to be similar to those of disabled people, it is expected that the anticipated increase in the level of accessibility will benefit elderly slightly less than disabled consumers. However, keeping in mind that the prevalence of accessibility needs among the elderly population is considerably higher than that of the rest of the population, the actual number of people that will likely benefit is still high.</p> <p><b>General population</b></p> <p>The level of accessibility of eCommerce websites is unlikely to have any major impacts on non-disabled persons.</p>
Environmental impacts	0	The level of accessibility of eCommerce websites is not likely to have any major environmental impacts. While the overall consumption of Internet and computers will have an impact on the use of electricity, the number of hours spent on researching and buying goods and services online is likely to be limited on a yearly basis.
Overall score	0	
Average score	0	

### 8.3.2. Policy Options 2, 3 and 4 – Impact Assessments

Table 35: Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating (Online Retail)

Policy Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	✓✓✓(✓)	✓✓✓(✓)	✓✓✓✓	✓✓✓✓	✓✓✓✓✓	✓✓
To increase competition among industry in the area of selected goods and services and in the area of	✓✓✓(✓)	✓✓✓(✓)	✓✓✓✓	✓✓✓✓	✓✓✓✓✓	✓✓

Policy Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
public procurement						
Overall score	7	7	8	8	10	4
Average score	3.5	3.5	4	4	5	2

*Table 36: Impacts of Policy Options 2, 3 and 4: Rating (Online Retail)*

Assessment criteria	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Social Impacts (impacts on different groups)	0		✓(✓)		✓✓✓
Environmental impacts	0		0		0	

Table 37: Assessment of Impacts of Policy Options 2, 3 and 4: Explanation of Ratings (Online Retail)

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<b>Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating</b>				
<p><i>To improve cross-border trade in the area of selected goods and services and in the area of public procurement</i></p>	<p>Companies that are active on the EU market would have to ensure / provide the following:</p> <ul style="list-style-type: none"> <li>• Accessible eCommerce websites</li> <li>• Accessible information concerning the accessibility of the online retail service</li> </ul>	<p>It is assumed that a range of three to all of those countries (12) that are expected to adopt technical accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 10%.</p>	<p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in those 12 countries that are expected to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p>This would mean that local businesses that are active in countries where accessibility requirements have not been adopted may face lower costs than companies that are based in countries where accessibility requirements are in place. This said, the companies that do not provide accessible goods may miss out on a large consumer group.</p> <p>It is expected that the cross-border trade could increase.</p>	<p>Under this policy option common requirements would have EU wide coverage. This would, in combination with the mutual recognition principle, result in an elimination of costs for business that are due to variations between national accessibility requirements.</p> <p>However, at the same time, business in those 15 countries that are not expected to have adopted accessibility requirements by 2020 would face additional costs for ensuring accessibility (to the degree that they are not already doing so on a voluntary basis).</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>The policy option is expected to have a positive impact on cross-border trade.</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<i>To increase competition among industry in the area of selected goods and services and in the area of public procurement</i>		Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, i.e. three to 12 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. The extent to which new market entry can be expected to spur competition is linked to amount of countries that follow the Recommendation, i.e. the more Member States adopt the technical requirements proposed in the Recommendation the more likely it is that new market entrants compete on the internal market.	Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, i.e. 12 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. With 12 Member States, representing 85.3% of EU GDP, transposing this Directive it is expected that new market entry will increase competition due to lower costs and an effective increase of the market.	Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, across the EU. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. Under this policy option the Internal Market for accessible eCommerce websites is effectively based on common accessibility requirements and therefore not only is new market entry likely based on lower costs (as in policy option 3) but also due to a larger market overall internal market for accessible websites.
<b>Impact of the Policy Options on social groups and the environment</b>				
<i>Social Impacts (impacts on different groups)</i>	<p>Disabled consumers would be ensured (in line with the coverage of the policy option):</p> <ul style="list-style-type: none"> <li>• Accessible eCommerce websites</li> <li>• Accessible information concerning the accessibility of the online retail service</li> </ul>	<p>If it is assumed that no further countries will adopt legislation due to the recommendation there will be no additional benefit to different social groups compared to the baseline scenario. If however, countries other than those identified in the baseline scenario would introduce new accessibility requirements, then the level of accessibility would increase and consumers would benefit.</p> <p>For example, consumers that buy cross-border from countries where accessibility requirements are in place would also benefit. In addition, the introduction of the relevant accessibility requirements will lead to that a higher number of disabled consumers may benefit from reduced</p>	The types of impacts will be similar to those described for PO2, but the scale of the impacts is likely to be larger than PO2 if the number of countries increases vis-à-vis the number of countries that take-up the recommendation.	The types of impacts will be similar to those described for PO2 and PO3, but the scale of the impacts is likely to be larger than both options.

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<i>Environmental impacts</i>	<i>No explicit requirements.</i>	prices online.		
		Improving accessibility of eCommerce websites could lead to a considerable share of the population being able to use online retail services and is likely to increase take-up of these online services provided. This may result in more lean processes, less paperwork and potentially less need for transport (e.g. from and to a shop). Overall, however, the relevant environmental impact is difficult to determine and should be judged on a case by case basis. For example, for online retail websites the impact of less transport from and to a shop may be (more than) offset by the transport for delivery of goods ordered online.		

# 9. Banking Services

## 9.1. Base figures

### Banking services: Websites

Problem Assessment (2011) and Baseline Scenario (2020)	
Private sector websites market turnover in 2011	251,464,000,000
CAGR	0.0%
Private sector websites market turnover in 2020	251,464,000,000
Share of Banking services websites	0,027%
One-off costs of accessible websites (WCAG 2.0)	50.128
Ongoing costs of accessible websites (WCAG 2.0)	1.989
Number of businesses in the EU	6.825
Number of Spanish Businesses	64
One-off costs of non-accessible websites	33.317
Ongoing costs of non-accessible websites	500
Share of Spanish Businesses to which Spanish accessibility legislation applies	
Lower Estimate	90%
Upper Estimate	99%
Number of accessible websites in 2011	
Lower range estimate	10
Upper range estimate	38
Number of inaccessible websites in 2011	
Lower range estimate	19
Upper range estimate	53
Number of accessible websites in 2020	

Lower range estimate	1.229
Upper range estimate	4.109
Number of inaccessible websites in 2020	
Lower range estimate	2.716
Upper range estimate	5.597
Share of turnover stemming from cross-border trade	10%
Number of countries in the sample for which legislation could be identified	
Sample size	9
In 2011	1
In 2020 (extrapolation)	
EU level	3
Using additional data	12
Share of GDP for relevant countries	
In 2011	
1 Member States has legislation in place	8,5 %
In 2020	
3 Member States have legislation in place	15,5%
12 Member States have legislation in place	85,3%
27 Member States have legislation in place	100,0%
Correction factor	30%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	5.0%

## Banking services: Built environment

Problem Assessment (2011) and Baseline Scenario (2020)	
Average costs for architect services per working hour	70
Number of working days	2
Number of FTEs	1
Number of working hours	8
Share of facilities that need to be replaced / refurbished per year	5,0%
Number of facilities relevant for the case in the problem assessment	215221
Share of architect services that is assumed to be procured cross-border	40,0%
Total Architect Market Turnover in 2011	14.525.640.676
Market share at risk of fragmentation	15%
Total industry turnover at risk of fragmentation in 2011	2.178.846.101
CAGR	0%
Total industry turnover at risk of fragmentation in 2020	2.178.846.101
Number of countries in the sample for which legislation could be identified	
Sample size	15
In 2011	11
EU level (extrapolation)	20
In 2020 (extrapolation)	11
EU level (extrapolation)	20
Share of GDP for relevant countries	
In 2011	
11 Member States have legislation in place	42,0%
20 Member States have legislation in place	73,9%
In 2020	
11 Member States have legislation in place	15,5%

27 Member States have legislation in place	42%
Correction factor	100%
Share of Member States that is expected to apply the eventual EU Recommendation	50%
Number of Member States that is expected to have legislation in place	27
Share of total EU GDP	100%
<b>Correction factor</b>	100,0%

### Banking services: ATMs 215221

<b>Problem Assessment (2011) and Baseline Scenario (2020)</b>	
SSTs value in 2011	146,741,450
Share of production value that can be attributed to ATMs	65%
<b>Market turnover in 2011</b>	<b>95.381.943</b>
CAGR	0.0%
<b>Market turnover in 2020</b>	<b>95.381.943</b>
Share of development costs	5%
Share of accessibility costs	1%
Share of ongoing costs	0%
Share of turnover stemming from cross-border trade	50%
Number of countries for which legislation could be identified	
Sample size	9
In 2011	5

In 2020 (extrapolation)	
As identified in country sample	5
Only baseline scenario: see legislative analysis	10
Extrapolation to EU level	15
Share of GDP for relevant countries	
In 2011	
5 Member States have legislation in place	54.3%
In 2020	
5 Member States have legislation in place	54.3%
10 Member States have legislation in place	73.2%
15 Member States have legislation in place	75,1%
27 Member States have legislation in place	100.0%
Correction factor	100.0%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	1.0%

## 9.2. Effects of the problem on consumers

As regards of banking services, SSTs and website have become essential elements in the provision of the service for customers who want to gather personal financial information or banking services. Accessible banking services for individuals with disabilities require accessibility of SSTs, built environment and the online part of the services. Persons with disabilities, as other customers, want their banking and dealing with their financing in a trustful and confidential way. For example, lack of accessibility in ATMs and websites results in disabled person having to share secret pin numbers with others in order to perform their financial transactions. Improving accessibility of banking services will have direct impact on the independence, autonomy and dignity of persons with disabilities.

Similarly than for the hospitality services, accessibility of the banking built environment is a condition sine qua non for persons with disabilities to be able to use the services, that includes

the entering and moving in the bank buildings as well as the place where the Automated Teller Machines are situated.

### 9.3. Assessment of the impacts per policy option

#### 9.3.1. Policy Option 1: Baseline Scenario – Impact Assessment

Table 38: Effectiveness and Efficiency of Policy Option 1 (Baseline Scenario, Banking Services)

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	0	0	<p><b>The built environment</b></p> <p>Technical accessibility requirements are expected to be in place in all 27 Member States in 2020. Problems due to varying accessibility requirements result in problems for architects providing services across borders. Based on available data, it is estimated that 40% of architect services are taking place in a cross-border context. Problems due to variations between national requirements are expected in all of these cases. The differences in accessibility requirements are a challenge for architect service providers; according to anecdotal evidence gathered in the framework of the current study, many architect firms collaborate with local firms in the countries where they provide their services due to these problems, as well as other differences in building regulations. The costs for architects for understanding technical accessibility requirements have been estimated to be equal to 2 to 10 working days.</p> <p><b>Websites</b></p> <p>Over the next years, accessibility requirements covering online banking websites can be expected to be adopted in a range from 3 to 27 Member States based on the current availability of accessibility legislation and due to the obligations for the Member States under the UNCRPD. The mid-range scenario is 12 countries.</p> <p>The revised Section 508 in the US and the debate on the application of ADA to websites is likely to be used as an inspiration by EU Member States adopting legislation in relation to websites. Nevertheless, some divergences can be expected, thus hampering cross-border trade. In the area of the built environment, it is likely that many Member States will implement, maintain or develop their technical accessibility requirements by 2020. These efforts will potentially be fostered by currently on-going standardisation work at the EU level.</p> <p>As to the magnitude of the impacts of the varying accessibility requirements, it is assumed that 10% of the services provided by web professionals will take place cross-border in 2020. It is expected that the differences between national technical accessibility requirements has a negative impact on cross-border trade and that the full</p>

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
			<p>potential of the internal market would not be achieved.</p> <p><b>ATMs</b></p> <p>Over the next years, accessibility requirements covering ATMs can be expected to be adopted in a range from 9 to 27 Member States based on the current availability of accessibility legislation in the field of the built environment in relation to banks and due to the obligations for the MS under the UNCRPD<sup>9</sup>. The mid-range scenario is 15 countries.</p> <p>As to the magnitude of the impacts of the varying accessibility requirements, it is assumed that 50% of the ATMs will be provided across-borders in 2020. It is expected that the differences between national technical accessibility requirements has a negative impact on cross-border trade and that the full potential of the internal market would not be achieved.</p>
To increase competition among industry in the area of selected goods and services and in the area of public procurement	0	0	<p><b>Built environment</b></p> <p>The expected variations between national technical accessibility requirements are likely to make it difficult for new market entrants, in particular, to engage in cross-border trade.</p> <p><b>Websites</b></p> <p>The expected variations between national technical accessibility requirements are likely to make it difficult for new market entrants, in particular, to engage in cross-border trade. Differences between legislation in the countries are likely to have a negative impact on the industry. Despite that most countries are expected to follow the revised Section 508 or the accessibility guidelines of W3C, differences between national legislation can be expected as it has been the case for public websites.</p> <p><b>ATMs</b></p> <p>The expected variations between national technical accessibility requirements are likely to make it difficult for new market entrants, in particular, to engage in cross-border trade. Differences between legislation in the countries are likely to have a negative impact on the industry.</p>
Overall score	0	0	
Average score	0	0	

<sup>9</sup> Based on an examination of the current situation in nine Member States, technical accessibility legislation has only been identified for a niche market in Italy. No problems in relation to cross-border trade due to these technical accessibility requirements have been identified in the current situation.

Table 39: Impacts of Policy Option 1 (Baseline Scenario, Banking Services)

Assessment criteria	Rating	Explanation
Social Impacts (impacts on different groups)	0	<p><b>Disabled persons</b></p> <p><i>a) Built environment</i></p> <p>As noted above, all Member States are expected to have technical accessibility requirements in place in relation to the built environment of bank facilities in 2020. Technical accessibility requirements generally apply to new built environment and major refurbishments. Disabled persons are likely to be able to benefit from progressive improvements in this area by 2020.</p> <p><i>b) Websites</i></p> <p>The increased number of countries that are expected to adopt accessibility requirements concerning private sector websites is likely to have a positive impact on the level of accessibility of online banking services. Disabled persons and elderly will be able to benefit of better choice and lower prices generally offered in online banking (as compared to traditional retail banking).</p> <p><i>c) ATMs</i></p> <p>The increased number of countries that are expected to adopt accessibility requirements concerning ATMs is likely to have a positive impact on the level of accessibility of ATMs. This means that more disabled people are likely to be able to have access to banking services provided through ATMs.</p> <p>It is estimated that there is a cost difference between transactions based on ATMs and those not using ATMs. These costs differences are assumed to be accrued by people with disabilities.</p> <p><b>Elderly</b></p> <p><i>a) Built environment</i></p> <p>For the built environment, similar impacts as for disabled people are expected.</p> <p><i>b) Websites</i></p> <p>While it can be expected that the absorption rate by elderly of ICT and Internet products will increase by 2020, it is still expected that it will not be at the same level as younger consumers. Hence, while the types of benefits that result from accessible private are likely to be similar to those of disabled people, it is expected that the anticipated increase in the level of accessibility will benefit elderly slightly less than disabled consumers. However, keeping in mind that the prevalence of accessibility needs among the elderly population is considerably higher than that of the rest of the population, the actual number of people that will likely benefit is still considerably high.</p> <p><i>c) ATMs</i></p> <p>While it can be expected that the take-up by elderly of ATMs will increase by 2020, it is still expected that it will not be at the same level as younger consumers. Hence, while the types of benefits that result from accessible ATMs are likely to be similar to those of disabled people, it is expected that the anticipated increase in the level of accessibility will benefit elderly</p>

Assessment criteria	Rating	Explanation
		<p>slightly less than disabled consumers. However, keeping in mind that the prevalence of accessibility needs among the elderly population is considerably higher than that of the rest of the population the actual number of people that will likely benefit is still considerably high.</p> <p><b>General population</b></p> <p><i>a) Built environment</i></p> <p>The accessibility of the built environment has impacts in particular on families with small children as well as bank clients with temporary functional limitations. Problems and needs of these groups of people in relation to the built environment are likely to be similar to those of disabled persons, depending on their functional limitations.</p> <p><i>b) Websites</i></p> <p>The level of accessibility of websites is unlikely to have any major impacts on non-disabled persons, except that websites designed to be accessible are easily and better adapted to their use in mobile devices what seems to be the trend among the general population.</p> <p><i>c) ATMs</i></p> <p>The level of accessibility of ATMs is unlikely to have any major impacts on non-disabled persons.</p>
Environmental impacts	0	<p><b>Built environment</b></p> <p>The level of accessibility of the built environment of banking facilities for is not likely to have any major environmental impacts.</p> <p><b>Websites</b></p> <p>The level of accessibility of online banking websites is not likely to have any major environmental impacts. While the overall consumption of Internet and computers will have an impact on the use of electricity, the number of hours spent on online banking services online is likely to be limited on a yearly basis.</p> <p><b>ATMs</b></p> <p>The level of accessibility of ATMs for is not likely to have any major environmental impacts.</p>
Overall score	0	
Average score	0	

### 9.3.2. Policy Options 2, 3 and 4 – Impact Assessments

Table 40: Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating (Banking Services)

Policy Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency

Policy Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	✓(✓)	✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓
To increase competition among industry in the area of selected goods and services and in the area of public procurement	✓(✓)	✓	✓✓✓	✓✓✓	✓✓✓✓	✓✓
Overall score	3	2	6	6	8	4
Average score	1.5	1	3	3	4	2

*Table 41: Impacts of Policy Options 2, 3 and 4: Rating (Banking Services)*

Assessment criteria	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
Social Impacts (impacts on different groups)	(✓)	✓(✓)	✓✓✓
Environmental impacts	0	0	✓(✓)

Table 42: Assessment of Impacts of Policy Options 2, 3 and 4: Explanation of Ratings (Banking Services)

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<b>Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating</b>				
<p><i>To improve cross-border trade in the area of selected goods and services and in the area of public procurement</i></p>	<p>Companies that are active on the EU market would have to ensure / provide the following:</p> <ul style="list-style-type: none"> <li>• Accessible built environment of banking facilities;</li> <li>• Accessible websites for online banking;</li> <li>• Accessible Automated Teller Machines; and</li> <li>• Accessible information concerning the accessibility of banking services.</li> </ul>	<p><b>Built environment</b></p> <p>It is assumed that all countries are expected to adopt technical accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 40%.</p> <p><b>Websites</b></p> <p>It is assumed that three of the countries (12) that are expected to adopt technical accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 10%.</p> <p><b>ATMs</b></p> <p>It is assumed that for ATMs a range of nine to all of those countries (15) that are expected to adopt technical accessibility requirements by 2020 as</p>	<p><b>Built environment</b></p> <p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in the 11 countries (i.e. the entire EU) that are expected to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p><b>Websites</b></p> <p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in those 12 countries that are expected to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p>This would mean that local businesses that are active in countries where accessibility requirements have not been adopted may face lower costs than companies that are based in countries where accessibility requirements are in place. This said, the companies that do not provide accessible goods may miss out on a large consumer group.</p> <p>It is expected that the cross-border trade could</p>	<p><b>Built environment</b></p> <p>Under this policy option common requirements would have EU wide coverage. This would, in combination with the mutual recognition principle, result in an elimination of costs for business that are due to variations between national accessibility requirements.</p> <p>However, at the same time, business in those 16 countries that are not expected to have adopted accessibility requirements by 2020 would face additional costs for ensuring accessibility (to the degree that they are not already doing so on a voluntary basis).</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p><b>Websites</b></p> <p>Under this policy option common requirements would have EU wide coverage. This would, in combination with the mutual recognition principle, result in an elimination of costs for business that are due to variations between national accessibility requirements.</p> <p>However, at the same time, business in those 15 countries that are not expected to have adopted</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
		<p>identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 50%.</p>	<p>increase.</p> <p><b>ATMs</b></p> <p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in those 15 countries that are expected to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p>This would mean that local businesses that are active in countries where accessibility requirements have not been adopted may face lower costs than companies that are based in countries where accessibility requirements are in place. This said, the companies that do not provide accessible goods may miss out on a larger consumer group (based on the assumption that in the banking and transport sector accessible ATMs will be demanded).</p> <p>It is expected that the cross-border trade could increase.</p>	<p>accessibility requirements by 2020 would face additional costs for ensuring accessibility (to the degree that they are not already doing so on a voluntary basis).</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>The policy option is expected to have a positive impact on cross-border trade.</p> <p><b>ATMs</b></p> <p>Under this policy option common requirements would have EU wide coverage. This would, in combination with the mutual recognition principle, result in an elimination of costs for business that are due to variations between national accessibility requirements.</p> <p>However, at the same time, business in those countries that are not expected to have adopted accessibility requirements by 2020 would face additional costs for ensuring accessibility (to the degree that they are not already doing so on a voluntary basis).</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>The policy option is expected to have a positive impact on cross-border trade.</p>
<i>To increase competition</i>		<b>Built environment</b>	<b>Built environment</b>	<b>Built environment</b>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<p><i>among industry in the area of selected goods and services and in the area of public procurement</i></p>		<p>The impact on new market entrants is likely to be limited. The positive impact on cross-border trade may, however, in turn have a positive impact on competition in this sector.</p> <p><b>Websites</b></p> <p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, i.e. three to 12 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. The extent to which new market entry can be expected to spur competition is linked to amount of countries that follow the Recommendation, i.e. the more Member States adopt the technical requirements proposed in the Recommendation the more likely it is that new market entrants compete on the internal market.</p> <p><b>ATMs</b></p> <p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, i.e. nine to 15 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. The extent to which new market entry can be expected to spur competition is linked to amount of countries that follow the Recommendation, i.e. the</p>	<p>The impact on new market entrants is likely to be limited. The positive impact on cross-border trade may, however, spur competition in this sector, as one of the barriers to cross-border provision of services would be removed.</p> <p><b>Websites</b></p> <p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, i.e. 12 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. With 12 Member States transposing this Directive it is expected that new market entry will increase competition due to lower costs and an effective increase of the market.</p> <p><b>ATMs</b></p> <p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, i.e. 15 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. With 15 Member States transposing this Directive it is expected that new market entry will increase competition due to lower costs and an effective increase of the market. However, the impact is expected to be low given that the market for ATMs is dominated by a limited</p>	<p><i>See PO3 (the impact would be the same, since the policy options would have the same coverage).</i></p> <p><b>Websites</b></p> <p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, across the EU. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. Under this policy option the Internal Market for accessible websites is effectively based on common accessibility requirements and therefore not only is new market entry likely based on lower costs (as in policy option 3) but also due to a larger market overall internal market for accessible websites.</p> <p><b>ATMs</b></p> <p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, across the EU. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market.</p> <p>Under this policy option the Internal Market for ATMs is effectively based on common accessibility requirements and therefore not only is new</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
		<p>more Member States adopt the technical requirements proposed in the Recommendation the more likely it is that new market entrants compete on the internal market. However, the impact is expected to be low given that the market for ATMs is dominated by a limited number of global companies.</p>	<p>number of global companies.</p>	<p>market entry likely based on lower costs (as in policy option 3). However, the impact is expected to be low given that the market for SSTs is dominated by a limited number of global companies and the market in particular for ATMs is not likely to grow significantly.</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<b>Impact of the Policy Options on social groups and the environment</b>				
<i>Social Impacts (impacts on different groups)</i>	<p>Disabled consumers would be ensured (in line with the coverage of the policy option):</p> <ul style="list-style-type: none"> <li>• Accessible built environment of banking facilities;</li> <li>• Accessible websites for online banking;</li> <li>• Accessible Automated Teller Machines; and</li> <li>• Accessible information concerning the accessibility of banking services.</li> </ul>	<p><b>Built environment</b> <i>See the baseline scenario.</i></p> <p><b>Websites</b> If it is assumed that no further countries will adopt legislation due to the recommendation there will be no additional benefit to different social groups compared to the baseline scenario. If however, countries other than those identified in the baseline scenario would introduce new accessibility requirements, then the level of accessibility would increase and consumers would benefit. For example, consumers that access their banks cross-border from countries where accessibility requirements are in place would also benefit. In addition, the introduction of the relevant accessibility requirements will lead to that a higher number of disabled consumers may benefit from reduced prices online.</p> <p><b>ATMs</b> The benefits would be limited to those countries where accessibility requirements are in place. Consumers that use ATMs cross-border in countries where accessibility requirements are in place would also benefit, although this number is estimated to be relatively low. The introduction of the relevant accessibility</p>	<p><b>Built environment</b> <i>See the baseline scenario.</i></p> <p><b>Websites</b> The types of impacts will be similar to those described for PO2, but the scale of the impacts is likely to be larger than PO2 if the number of countries increases vis-à-vis the number of countries that take-up the recommendation.</p> <p><b>ATMs</b> The types of impacts will be similar to those described for PO2, but the scale of the impacts is likely to be larger than PO2 in line with the expected increased number of countries that would have the same requirements in place.</p>	<p><b>Built environment</b> <i>See the baseline scenario.</i></p> <p><b>Websites</b> The types of impacts will be similar to those described for PO2 and PO3, but the scale of the impacts is likely to be larger than both options.</p> <p><b>ATMs</b> The types of impacts will be similar to those described for PO2 and PO3, but the scale of the impacts is likely to be larger than both options.</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
		requirements will lead to that a higher number of disabled consumers may benefit from reduced transaction costs.		
<i>Environmental impacts</i>	<i>No explicit requirements.</i>	<p><b>Built environment</b></p> <p>None of the policy options is likely to leave a major environmental footprint.</p> <p><b>Websites</b></p> <p>Improving accessibility of websites could lead to a considerable share of the population being able to use online banking services websites and is likely to increase take-up of these online services provided. This may result in more lean processes, less paperwork and potentially less need for transport (e.g. from and to a bank). Overall, however, the relevant environmental impact is difficult to determine and should be judged on a case by case basis. Online banking can lead to more paperless processes would result from increased use of online banking and less transport to and from the bank is needed.</p> <p><b>ATMs</b></p> <p>Improving accessibility of ATMs could lead to an environmental impact based on the conducting of transactions through ATMs electronically leading to a less paper-based process. The level of accessibility of check-in and ticketing machines is not likely to have any major environmental impacts.</p>		

# 10. Transport – Air

## 10.1. Base figures

### Air transport services: Built environment

Problem Assessment (2011) and Baseline Scenario (2020)	
Total Architect Market Turnover in 2011	14.525.640.676
Market share at risk of fragmentation	15%
Total industry turnover at risk of fragmentation in 2011	2.178.846.101
CAGR	0%
Total industry turnover at risk of fragmentation in 2020	2.178.846.101
Average costs for architect services per working hour	70
Number of working days	2
Number of FTEs	1
Number of working hours/day	8
Share of facilities that need to be replaced / refurbished per year	5,0%
Number of facilities relevant for the case in the problem assessment	482
Share of architect services that is assumed to be procured cross-border	40,0%
Number of Member States that is expected to have legislation in place	27
Share of total EU GDP	100%
Share of Member States that is expected to apply the eventual EU Recommendation	50%
Correction factor	100,0%

### Air transport services: Check-in machines

Problem Assessment (2011) and Baseline Scenario (2020)	
Total production value of “Point-of-sale terminals, ATMs and similar machines capable of being connected to a data processing machine	146.741.450

or network" PRODCOM code 26201200	
Share of production value that can be attributed to ATMs	5%
Share of production value that can be attributed to the Air transport sector	100%
<b>Market turnover in 2011</b>	<b>7.337.073</b>
CAGR	0.0%
<b>Market turnover in 2020</b>	<b>7.337.073</b>
Share of development costs	5%
Share of accessibility costs	1%
Share of ongoing costs	0%
Share of turnover stemming from cross-border trade	50%
Number of countries in the sample for which legislation could be identified	
Sample size	9
In 2011	
	6
In 2020 (extrapolation)	
As identified in country sample	6
Only baseline scenario: see legislative analysis	9
Extrapolation to EU level	18
Share of GDP for relevant countries	
In 2011	
6 Member States have legislation in place	62,8%
In 2020	
6 Member States have legislation in place	62,8%

9 Member States have legislation in place	68,5%
18 Member States have legislation in place	84,1%
27 Member States have legislation in place	100,0%
Correction factor	100.0%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	1.0%

### Air transport services: Websites

<b>Problem Assessment (2011) and Baseline Scenario (2020)</b>	
<b>Private sector websites market turnover in 2011</b>	251,464,000,000
CAGR	0.0%
<b>Private sector websites market turnover in 2020</b>	251,464,000,000
<b>Share of Air transport services websites</b>	0,003%
One-off costs of accessible websites (WCAG 2.0)	50.128
Ongoing costs of accessible websites (WCAG 2.0)	1.989
Number of businesses in EU	872
Number of Spanish Businesses	71
One-off costs of non-accessible websites	33.317
Ongoing costs of non-accessible websites	500
Share of Spanish Businesses to which Spanish accessibility legislation applies	
Lower Estimate	95%
Upper Estimate	100%
Number of accessible websites in 2011	
Lower range estimate	12

Upper range estimate	43
Number of inaccessible websites in 2011	
Lower range estimate	28
Upper range estimate	59
Number of accessible websites in 2020	
Lower range estimate	157
Upper range estimate	525
Number of inaccessible websites in 2011	
Lower range estimate	347
Upper range estimate	715
Share of turnover stemming from cross-border trade	10%
Number of countries in the sample for which legislation could be identified	
Sample size	9
In 2011	1
In 2020 (extrapolation)	
EU level	3
Using additional data	12
Share of GDP for relevant countries	
In 2011	
1 Member States has legislation in place	8,5 %
In 2020	
3 Member States have legislation in place	15,5%
12 Member States have legislation in place	85,3%
27 Member States have legislation in place	100,0%
Correction factor	30%
Share of Additional accessibility costs due to understanding different accessibility	5.0%

requirements across borders	
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## 10.2. Effects of the problem on consumers

Considering that one main barrier that people with disabilities and elderly people experience is the ability to move outside of their homes, the potential benefit of accessible transport has a direct impact on the possibility for their participation in society and be included in common activities that all citizens do. To enjoy the use of transport services the various elements of the transport chain need to be accessible, namely booking the travel, buying tickets and circulating in the transport infrastructures. Websites including online information and online booking is increasing and are essential sometimes for example; even to be able to access the service given the lack of person managed stations in some cases. Indeed, consumers with disabilities currently face challenges when planning travels and purchasing tickets online or through automatic vending machines. In addition challenges also relate to problems such as, for example, schedules not provided in an accessible format or difficulties to enter stations. Accessible websites will enhance the possibility to travel but also have access to more competitive prices. Just like the Internet and smart mobile communication devices, SSTs have become an essential interface for customers who want to gather information on specific transport services, buy and validate tickets or check-in to their journey, SSTs in the area of air transportation typically include self-service check-in terminals at airports.

## 10.3. Assessment of the impacts per policy option

### 10.3.1. Policy Option 1: Baseline Scenario – Impact Assessment

*Table 43: Effectiveness and Efficiency of Policy Option 1 (Baseline Scenario, Air Transport)*

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	0	0	<p><b>The built environment</b></p> <p>Technical accessibility requirements are expected to be in place in all the 27 Member States in 2020. Problems due to varying accessibility requirements result in problems for architects providing services across borders. Based on available data, it is estimated that 40% of architect services are taking place in a cross-border context. Problems due to variations between national requirements are expected in all of these cases. The differences in accessibility requirements are a challenge for architect service providers; according to anecdotal evidence gathered in the framework of the current study, many architect firms collaborate with local firms in the countries where they provide their services due to these problems, as well as other differences in building regulations. The costs for architects for understanding</p>

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
			<p>technical accessibility requirements have been estimated to be equal to 2 to 10 working days.</p> <p><b>Websites</b></p> <p>Over the next years, accessibility requirements covering websites can be expected to be adopted in a range from 3 to 27 Member States based on the current availability of accessibility legislation in the field of copyrights and due to the obligations for the MS under the UNCRPD. The mid-range scenario is 12 countries. The revised Section 508 in the US and the recent obligations for accessible websites under the Air Carriers Access Act is likely to be used as an inspiration by EU Member States adopting legislation in relation to websites. Nevertheless, some divergences can be expected, thus hampering cross-border trade.</p> <p>As to the magnitude of the impacts of the varying accessibility requirements, it is assumed that 10% of the services provided by web professionals will take place cross-border in 2020. It is expected that the differences between national technical accessibility requirements has a negative impact on cross-border trade and that the full potential of the internal market would not be achieved.</p> <p><b>SSTs</b></p> <p>Over the next years, accessibility requirements covering check-in machines can be expected to be adopted in a range from 9 to 27 Member States based on the current availability of accessibility legislation in the field of the built environment and due to the obligations for the MS under the UNCRPD and inspired in eth recent obligations in the US under the Air Carriers Access Act. The mid-range scenario is 18 countries.</p> <p>As to the magnitude of the impacts of the varying accessibility requirements, it is assumed that 50% of the SSTs will be provided across-borders in 2020. It is expected that the differences between national technical accessibility requirements has a negative impact on cross-border trade and that the full potential of the internal market would not be achieved.</p>
To increase competition among industry in the area of selected goods and services and in the area of public procurement	0	0	<p>The expected variations between national technical accessibility requirements are likely to make it difficult for new market entrants, in particular, to engage in cross-border trade.</p> <p>It is not expected that there will be any major new market entrants in the built environment sector by 2020 due to the maturity of the market and the market structure. Similarly, for the SSTs sector which is dominated by global companies and not projected to grow significantly.</p> <p>As concerns the situation in the websites sector, differences between legislation in the 12 countries that are expected to have legislation in place are likely to have a negative impact on the industry. Despite that most</p>

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
			countries are expected to follow the revised Section 508, differences between national legislation can be expected as it was the case in relation with public websites, thus impeding competition.
Overall score	0	0	
Average score	0	0	

*Table 44: Impacts of Policy Option 1 (Baseline Scenario, Air Transport)*

Assessment criteria	Rating	Explanation
Social Impacts (impacts on different groups)	0	<p><b>Disabled persons</b></p> <p>Airports have some degree of accessibility and assistance is provided to disabled persons in need. An increase on accessibility is expected to decrease the level of assistance required by disabled persons.</p> <p>The increased number of countries that are expected to adopt accessibility requirements concerning websites is likely to have a positive impact on the level of accessibility of the websites. This means that more disabled people are likely to be able to book air tickets online. It is assumed that the price of air tickets may be on average between 5 and 10% cheaper than booking directly with the airline or via a travel agency. Hence, greater accessibility of websites will result in cost reductions for disabled persons. As concerns the potential impact on the absorption of air travel by disabled consumers, there may be a small positive impact due to increased travel if tickets can be bought at a better price.</p> <p>The benefits from using check-in machine stem from the cost related to time savings and reduced personnel.</p> <p><b>Elderly</b></p> <p>Airports generally have some degree of accessibility and assistance is provided to disabled persons in need. An increase on accessibility is expected to decrease the level of assistance required by disabled persons.</p> <p>While it can be expected that the absorption rate by elderly of ICT and Internet products will increase by 2020, it is still expected that it will not be at the same level as younger consumers. Hence, while the types of benefits that result from accessible websites in relation to air services are likely to be similar to those of disabled people, it is expected that the anticipated increase in the level of accessibility will benefit elderly slightly less than disabled consumers. Accessible checking machines will be easy to use by elderly travellers.</p> <p><b>General population</b></p> <p>The level of accessibility of websites is unlikely to have any major impacts on non-disabled persons except that they would be easily used on mobile devices.</p>
Environmental impacts	0	The level of accessibility of airports is not expected to have any major environmental impacts.

Assessment criteria	Rating	Explanation
		<p>The same is relevant for websites; the level of accessibility of websites for booking air services online is not likely to have any major environmental impacts. While the overall consumption of Internet and computers will have an impact on the use of electricity, the number of hours spent on researching and booking air travel online is likely to be limited on a yearly basis. Environmental impacts due to a change in the absorption rates of air travel are also expected to be minor.</p> <p>The level of accessibility of check-in machines for is not likely to have any major environmental impacts.</p>
Overall score	0	
Average score	0	

### 10.3.2. Policy Options 2, 3 and 4 – Impact Assessments

Table 45: Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating (Air Transport)

Policy Objectives (Assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	✓(✓)	✓	✓✓	✓✓	✓✓✓✓	✓✓✓
To increase competition among industry in the area of selected goods and services and in the area of public procurement	✓	✓	✓	✓	✓✓	✓✓
Overall score	2.5	2	3	3	6	5
Average score	1.25	1	1.5	1.5	3	2.5

Table 46: Impacts of Policy Options 2, 3 and 4: Rating (Air Transport)

Assessment criteria	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
Social Impacts (impacts on different groups)	(✓)	✓(✓)	✓✓✓
Environmental impacts	0	0	0

Table 47: Assessment of Impacts of Policy Options 2, 3 and 4: Explanation of Ratings (Air Transport)

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<b>Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating</b>				
<p><i>To improve cross-border trade in the area of selected goods and services and in the area of public procurement</i></p>	<p>Companies that are active on the EU market would have to ensure / provide the following:</p> <ul style="list-style-type: none"> <li>• Accessible information concerning the accessibility of the service</li> <li>• Accessible websites for booking air travel</li> <li>• Accessible check in machines</li> </ul> <p>In addition, common technical requirements for the built environment would be adopted</p>	<p><b>Built environment</b></p> <p>It is assumed that a range of half to all of those countries (27) that are expected to adopt technical accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 40%.</p> <p><b>Websites</b></p> <p>It is assumed that a range of three to all of those countries (12) that are expected to adopt technical accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 10%.</p> <p><b>SSTs</b></p> <p>It is assumed that for check-in machines a range of</p>	<p><b>Built environment</b></p> <p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in the 27 countries (i.e. the entire EU) that are expected to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p>It is expected that the cross-border trade could increase.</p> <p><b>Websites</b></p> <p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in those 12 countries that are expected to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p>This would mean that local businesses that are active in countries where accessibility requirements have not been adopted may face lower costs than companies that are based in countries where accessibility requirements are in place. This said, the companies that do not provide accessible goods</p>	<p><b>Built environment</b></p> <p>See PO3 (the impact would be the same, since the policy options would have the same coverage).</p> <p><b>Websites</b></p> <p>Under this policy option common requirements would have EU wide coverage. This would, in combination with the mutual recognition principle, result in an elimination of costs for business that are due to variations between national accessibility requirements.</p> <p>However, at the same time, business in those 15 countries that are not expected to have adopted accessibility requirements by 2020 would face additional costs for ensuring accessibility (to the degree that they are not already doing so on a voluntary basis).</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>The policy option is expected to have a positive impact on cross-border trade.</p> <p><b>SSTs</b></p> <p>For check-in machines business in those 9 countries that are not expected to have adopted accessibility requirements by 2020 would face</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
		<p>nine to all of those countries (18) that are expected to adopt technical accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 50%.</p>	<p>may miss out on a large consumer group.</p> <p>It is expected that the cross-border trade could increase.</p> <p><b>SSTs</b></p> <p>For check-in machines business in and 18 countries that are expected to have accessibility requirements in place by 2020 would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p>This would mean that local businesses that are active in countries where accessibility requirements have not been adopted may face lower costs than companies that are based in countries where accessibility requirements are in place. This said, the companies that do not provide accessible goods may miss out on a larger consumer group (based on the assumption that in the air transport sector accessible SSTs will be demanded).</p> <p>It is expected that the cross-border trade could increase up.</p>	<p>additional costs for ensuring accessibility (to the degree that they are not already doing so on a voluntary basis).</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>The policy option is expected to have a positive impact on cross-border trade.</p>
<p><i>To increase competition among industry in the area of selected goods and services and in the area of public</i></p>		<p><b>Built environment</b></p> <p>The impact on new market entrants is likely to be limited. The positive impact on cross-border trade may, however, in turn have a positive impact on competition in this sector.</p>	<p><b>Built environment</b></p> <p>The impact on new market entrants is likely to be limited but yet positive. The positive impact on cross-border trade may, however, spur competition in this sector, as one of the barriers to cross-border provision of services would be removed.</p>	<p><b>Built environment</b></p> <p><i>See PO3 (the impact would be the same, since the policy options would have the same coverage).</i></p> <p><b>Websites</b></p> <p>Positive impacts on competition are expected in</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<i>procurement</i>		<p><b>Websites</b></p> <p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, i.e. three to 12 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. The extent to which new market entry can be expected to spur competition is linked to amount of countries that follow the Recommendation, i.e. the more Member States adopt the technical requirements proposed in the Recommendation the more likely it is that new market entrants compete on the internal market.</p> <p><b>SSTs</b></p> <p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, i.e. nine to 18 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. The extent to which new market entry can be expected to spur competition is linked to amount of countries that follow the Recommendation, i.e. the more Member States adopt the technical requirements proposed in the Recommendation the more likely it is that new market entrants compete on the internal market. However, the</p>	<p><b>Websites</b></p> <p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, i.e. 12 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. With 12 Member States, representing 85.3% of EU GDP, transposing this Directive it is expected that new market entry will increase competition due to lower costs and an effective increase of the market.</p> <p><b>SSTs</b></p> <p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, i.e. 18 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. With 18 Member States, representing 84.1% of EU GDP, transposing this Directive it is expected that new market entry will increase competition due to lower costs and an effective increase of the market. However, the impact is expected to be limited given that the market for SSTs is dominated by a small number of global companies.</p>	<p>those countries that are covered by the common accessibility requirements, across the EU. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. Under this policy option the Internal Market for accessible websites is effectively based on common accessibility requirements and therefore not only is new market entry likely based on lower costs (as in policy option 3) but also due to a larger market overall internal market for accessible websites.</p> <p><b>SSTs</b></p> <p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, across the EU. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market.</p> <p>Under this policy option the Internal Market for SSTs is effectively based on common accessibility requirements and therefore not only is new market entry likely based on lower costs (as in policy option 3). However, the impact is expected to be low given that the market for SSTs is dominated by a limited number of global companies and the market is not likely to grow</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
		<p>impact is expected to be low given that the market for SSTs is dominated by a limited number of global companies.</p>		<p>significantly.</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<b>Impact of the Policy Options on social groups and the environment</b>				
<i>Social Impacts (impacts on different groups)</i>	<p>Disabled consumers would be ensured (in line with the coverage of the policy option) accessible:</p> <ul style="list-style-type: none"> <li>Information concerning the accessibility of the service;</li> <li>Websites for booking air travel;</li> <li>Accessible check in machines</li> <li>Accessible airports</li> </ul>	<p><b>Built environment</b></p> <p>In view of that assistance is already provided to persons in need, impacts are related to increase of independence and comfort by person with disabilities.</p> <p><b>Websites</b></p> <p>The benefits would be limited to those countries where accessibility requirements are in place.</p> <p>Consumers that buy cross-border from countries where accessibility requirements are in place would also benefit.</p> <p>If requirements would not be introduced in any further countries, then the situation is expected to remain the same as in the baseline scenario.</p> <p>The introduction of the any new accessibility requirements in further countries will lead to that a higher number of disabled consumers may benefit from reduced prices online.</p> <p><b>SSTs</b></p> <p>The benefits would be limited to those countries where accessibility requirements are in place.</p> <p>Consumers that use SSTs cross-border in countries where accessibility requirements are in place would also benefit.</p> <p>The introduction of relevant accessibility</p>	<p><b>Built environment</b></p> <p>See PO2</p> <p><b>Websites and SSTs</b></p> <p>The types of impacts will be similar to those described for PO2, but the scale of the impacts is likely to be larger than PO2 in line with the expected increased number of countries that would have the same requirements in place.</p>	<p><b>Built environment</b></p> <p>See PO2</p> <p><b>Websites</b></p> <p>The types of impacts will be similar to those described for PO2 and PO3, but the scale of the impacts is likely to be larger than both options.</p> <p><b>SSTs</b></p> <p>The types of impacts will be similar to those described for PO2 and PO3, but the scale of the impacts is likely to be larger than both options.</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
		requirements in any further countries will lead to that a higher number of disabled consumers may benefit from easy check in procedures in an independent manner.		
<i>Environmental impacts</i>	<i>No explicit requirements.</i>	None of the policy options is likely to leave a major environmental footprint. Action in this area is not expected to have a major impact on the take up of air transport or of Internet / computer uptake and use or check-in machines.		

# 11. Transport – Rail

## 11.1. Base figures

### Rail transport services: Websites

Problem Assessment (2011) and Baseline Scenario (2020)	
Private sector websites market turnover in 2011	251,464,000,000
CAGR	0.0%
Private sector websites market turnover in 2020	251,464,000,000
Share of Rail transport services websites	0.002%
One-off costs of accessible websites (WCAG 2.0)	50.128
Ongoing costs of accessible websites (WCAG 2.0)	1.989
Number of businesses in EU	536
Number of Spanish Businesses	32
One-off costs of non-accessible websites	33.317
Ongoing costs of non-accessible websites	500
Share of Spanish Businesses to which Spanish accessibility legislation applies	
Lower Estimate	90%
Upper Estimate	95%
Number of accessible websites in 2011	
Lower range estimate	5
Upper range estimate	18
Number of inaccessible websites in 2011	
Lower range estimate	1
Upper range estimate	25
Number of accessible websites in 2020	

Lower range estimate	96
Upper range estimate	323
Number of inaccessible websites in 2020	
Lower range estimate	213
Upper range estimate	440
Share of turnover stemming from cross-border trade	10%
Number of countries in the sample for which legislation could be identified	
Sample size	9
In 2011	1
In 2020 (extrapolation)	
EU level	3
Using additional data	12
Share of GDP for relevant countries	
In 2011	
1 Member States has legislation in place	8,5 %
In 2020	
3 Member States have legislation in place	15,5%
12 Member States have legislation in place	85,3%
27 Member States have legislation in place	100,0%
Correction factor	30%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	5.0%

## Rail transport services: Ticketing machines

Problem Assessment (2011) and Baseline Scenario (2020)

Total production value of "Point-of-sale terminals, ATMs and similar machines capable of being connected to a data processing machine or network" PRODCOM code 26201200	146.741.450
Share of production value that can be attributed to ATMs	30%
Share of production value that can be attributed to the Rail transport sector	45%
<b>Market turnover in 2011</b>	19.810.096
CAGR	0.0%
<b>Market turnover in 2020</b>	<b>19.810.096</b>
Share of development costs	5%
Share of accessibility costs	1%
Share of ongoing costs	0%
Share of turnover stemming from cross-border trade	50%
Number of countries in the sample for which legislation could be identified	
Sample size	9
In 2011	
6	
In 2020 (extrapolation)	
As identified in country sample	6
Only baseline scenario: see legislative analysis	9
Extrapolation to EU level	18
Share of GDP for relevant countries	
In 2011	
6 Member States have legislation in place	62,8%

In 2020	
6 Member States have legislation in place	62,8%
9 Member States have legislation in place	68,5%
18 Member States have legislation in place	84,1%
27 Member States have legislation in place	100,0%
Correction factor	100,0%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	1.0%

## 11.2. Effects of the problem on consumers

Considering that one main barrier that people with disabilities and elderly people experience is the ability to move outside of their homes, the potential benefit of accessible transport has a direct impact on the possibility for their participation in society and be included in common activities that all citizens do. To enjoy the use of transport services the various elements of the transport chain need to be accessible, namely booking the travel, buying tickets and circulating in the transport infrastructures. Websites including online information and online booking is increasing and are essential sometimes for example; even to be able to access the service given the lack of person managed stations in some cases. Indeed, consumers with disabilities currently face challenges when planning travels and purchasing tickets online or through automatic vending machines. In addition challenges also relate to problems such as, for example, schedules not provided in an accessible format or difficulties to enter stations. Accessible websites will enhance the possibility to travel but also have access to more competitive prices. Just like the Internet and smart mobile communication devices, SSTs have become an essential interface for customers who want to gather information on specific transport services, buy and validate tickets or check-in to their journey, SSTs in the area of rail transportation typically include self-service check-in terminals at rail stations.

## 11.3. Assessment of the impacts per policy option

### 11.3.1. Policy Option 1: Baseline Scenario – Impact Assessment

Table 48: Effectiveness and Efficiency of Policy Option 1 (Baseline Scenario, Rail Transport)

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	0	0	<p><b>Websites</b></p> <p>Over the next years, accessibility requirements covering websites can be expected to be adopted in a range from 3 to 27 Member States based on the current availability of accessibility legislation in the field of copyrights and due to the obligations for the MS under the UNCRPD. The mid-range scenario is 12 countries. The revised Section 508 in the US and the discussion on the applicability of ADA to websites is likely to be used as an inspiration by EU Member States adopting legislation in relation to websites. Nevertheless, some divergences can be expected, thus hampering cross-border trade as it is the case in public websites.</p> <p>As to the magnitude of the impacts of the varying accessibility requirements, it is assumed that 10% of the services provided by web professionals will take place cross-border in 2020. It is expected that the differences between national technical accessibility requirements has a negative impact on cross-border trade and that the full potential of the internal market would not be achieved.</p> <p><b>SSTs</b></p> <p>Over the next years, accessibility requirements covering ticketing machines can be expected to be adopted in a range from 9 to 27 Member States based on current availability of accessibility legislation referring to SST and due to the obligations for the MS under the UNCRPD. The mid-range scenario is 18 countries.</p> <p>As to the magnitude of the impacts of the varying accessibility requirements, it is assumed that 50% of the SSTs will be provided across-borders in 2020. It is expected that the differences between national technical accessibility requirements has a negative impact on cross-border trade and that the full potential of the Internal Market.</p>
To increase competition among industry in the area of selected goods and services and in the area of public procurement	0	0	<p>The expected variations between national technical accessibility requirements are likely to make it difficult for new market entrants, in particular, to engage in cross-border trade.</p> <p>As concerns the situation in the websites sector, differences between legislation in the 12 countries that are expected to have legislation in place are likely to have a negative impact on the industry. Despite that most countries are expected to follow the revised Section 508 standards or the guidelines from W3C, differences between national legislation can be expected as it was the</p>

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
			<p>case in public websites, thus impeding competition.</p> <p>Concerning ticketing machines the legislation 18 countries would have a negative impact on the industry, however, the market is highly concentrated and not much new market entry is expected.</p>
Overall score	0	0	
Average score	0	0	

*Table 49: Impacts of Policy Option 1 (Baseline Scenario, Rail Transport)*

Assessment criteria	Rating	Explanation
Social Impacts (impacts on different groups)	0	<p><b>Disabled persons</b></p> <p>The increased number of countries that are expected to adopt accessibility requirements concerning websites is likely to have a positive impact on their level of accessibility. This means that more disabled people are likely to be able to book rail ticket online and consult time tables. It is assumed that the price of rail tickets may be on average between 5 and 10% cheaper than booking directly with the rail service provider or via a travel agency. Hence, greater accessibility of websites will result in cost reductions for disabled persons. As concerns the potential impact on the absorption of rail travel by disabled consumers, there may be a small positive impact due to increased travel if tickets can be bought at a better price.</p> <p>The benefits from using ticketing machines stem from the cost difference between tickets purchased at ticket offices and tickets purchased at ticketing machines that actually is saved by consumers with disabilities.</p> <p><b>Elderly</b></p> <p>While it can be expected that the absorption rate by elderly of ICT and Internet products will increase by 2020, it is still expected that it will not be at the same level as younger consumers. Hence, while the types of benefits that result from accessible websites in relation to rail services are likely to be similar to those of disabled people, it is expected that the anticipated increase in the level of accessibility will benefit elderly slightly less than disabled consumers.</p> <p>However, keeping in mind that the prevalence of accessibility among the elderly population is considerably higher than that of the rest of the population the actual number of people that will likely benefit is still considerably high This also holds for the use of ticketing machines.</p> <p><b>General population</b></p> <p>The level of accessibility of websites is unlikely to have any major impacts on non-disabled persons except for the easily access in mobile devices.</p> <p>The level of accessibility of SSTs is unlikely to have any major impacts on non-disabled persons.</p>
Environmental impacts	0	<p>The level of accessibility of websites for booking rail services online is not likely to have any major environmental impacts. While the overall</p>

Assessment criteria	Rating	Explanation
		<p>consumption of Internet and computers will have an impact on the use of electricity, the number of hours spent on researching and booking rail travel online is likely to be limited on a yearly basis. Environmental impacts due to a change in the absorption rates of rail travel are also expected to be minor. A small positive impact could result in those cases disabled persons choose to travel by train instead of individually.</p> <p>The level of accessibility of SSTs for is not likely to have any major environmental impacts.</p>
Overall score	0	
Average score	0	

### 11.3.2. Policy Options 2, 3 and 4 – Impact Assessments

Table 50: Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating (Rail Transport)

Policy Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	✓(✓)	✓	✓✓	✓✓	✓✓✓✓	✓✓✓
To increase competition among industry in the area of selected goods and services and in the area of public procurement	✓	✓	✓	✓	✓✓	✓✓
Overall score	2.5	2	3	3	6	5
Average score	1.25	1	1.5	1.5	3	2.5

Table 51: Impacts of Policy Options 2, 3 and 4: Rating (Rail Transport)

Assessment criteria	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
Social Impacts (impacts on different groups)	(✓)	✓(✓)	✓✓✓
Environmental impacts	0	0	0

Table 52: Assessment of Impacts of Policy Options 2, 3 and 4: Explanation of Ratings (Rail Transport)

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<b>Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating</b>				
<p><i>To improve cross-border trade in the area of selected goods and services and in the area of public procurement</i></p>	<p>Companies that are active on the EU market would have to ensure / provide the following:</p> <ul style="list-style-type: none"> <li>• Accessible information concerning the accessibility of the service</li> <li>• Accessible websites for booking rail travel</li> <li>• Accessible ticketing machines</li> </ul>	<p><b>Websites</b></p> <p>It is assumed that a range of three to all of those countries (12) that are expected to adopt technical accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 10%.</p> <p><b>SSTs</b></p> <p>It is assumed that a range of nine to all of those countries (18) that are expected to adopt technical accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 50%.</p>	<p><b>Websites</b></p> <p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in those 12 countries that are expected to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p>This would mean that local businesses that are active in countries where accessibility requirements have not been adopted may face lower costs than companies that are based in countries where accessibility requirements are in place. This said, the companies that do not provide accessible goods may miss out on a large consumer group.</p> <p>It is expected that the cross-border trade could increase.</p> <p><b>SSTs</b></p> <p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in those 18 countries that are expected to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p>	<p><b>Websites</b></p> <p>Under this policy option common requirements would have EU wide coverage. This would, in combination with the mutual recognition principle, result in an elimination of costs for business that are due to variations between national accessibility requirements.</p> <p>However, at the same time, business in those 15 countries that are not expected to have adopted accessibility requirements by 2020 would face additional costs for ensuring accessibility (to the degree that they are not already doing so on a voluntary basis).</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>The policy option is expected to have a positive impact on cross-border trade of 20%.</p> <p><b>SSTs</b></p> <p>Under this policy option common requirements would have EU wide coverage. This would, in combination with the mutual recognition principle, result in an elimination of costs for business that are due to variations between national accessibility requirements.</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
			<p>This would mean that local businesses that are active in countries where accessibility requirements have not been adopted may face lower costs than companies that are based in countries where accessibility requirements are in place. This said, the companies that do not provide accessible goods may miss out on a larger consumer group (based on the assumption that in the rail transport sector accessible SSTs will be demanded).</p> <p>It is expected that the cross-border trade could increase.</p>	<p>However, at the same time, business in those 9 countries that are not expected to have adopted accessibility requirements by 2020 would face additional costs for ensuring accessibility.</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>The policy option is expected to have a positive impact on cross-border trade.</p>
<p><i>To increase competition among industry in the area of selected goods and services and in the area of public procurement</i></p>		<p><b>Websites</b></p> <p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, i.e. three to 12 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. The extent to which new market entry can be expected to spur competition is linked to amount of countries that follow the Recommendation, i.e. the more Member States adopt the technical requirements proposed in the Recommendation the more likely it is that new market entrants compete on the internal market.</p> <p><b>SSTs</b></p> <p>Positive impacts on competition could be expected</p>	<p><b>Websites</b></p> <p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, i.e. 12 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. With 12 Member States, representing 15.5% of EU GDP, transposing this Directive it is expected that new market entry will increase competition due to lower costs and an effective increase of the market.</p> <p><b>SSTs</b></p> <p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, i.e. 18 countries. Given that cross-border trade is expected to increase and</p>	<p><b>Websites</b></p> <p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, across the EU. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. Under this policy option the Internal Market for accessible websites is effectively based on common accessibility requirements and therefore not only is new market entry likely based on lower costs (as in policy option 3) but also due to a larger market overall internal market for accessible websites.</p> <p><b>SSTs</b></p> <p>Positive impacts on competition could be</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
		<p>in those countries that are covered by the common accessibility requirements, i.e. nine to 18 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. The extent to which new market entry can be expected to spur competition is linked to amount of countries that follow the Recommendation, i.e. the more Member States adopt the technical requirements proposed in the Recommendation the more likely it is that new market entrants compete on the internal market. However, the impact is expected to be limited given that the market for SSTs is dominated by a small number of global companies.</p>	<p>the costs for understanding different requirements across Member States has been removed, more companies may enter the market. With 18 Member States, representing 84.1% of EU GDP, transposing this Directive it is expected that new market entry will increase competition due to lower costs and an effective increase of the market. However, the impact is expected to be limited given that the market for SSTs is dominated by a few large players.</p>	<p>expected in all countries that are now covered by the common accessibility requirements, across the EU. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market.</p> <p>Under this policy option the Internal Market for SSTs is effectively based on common accessibility requirements and therefore not only is new market entry likely based on lower costs (as in policy option 3). However, the impact is expected to be limited given that the market for SSTs is dominated by a small number of global companies and the market is not likely to grow significantly.</p>
<b>Impact of the Policy Options on social groups and the environment</b>				
<i>Social Impacts (impacts on different groups)</i>	<p>Disabled consumers would be ensured (in line with the coverage of the policy option) accessible:</p> <ul style="list-style-type: none"> <li>Information concerning the accessibility of the service;</li> <li>Websites for booking rail travel;</li> <li>Accessible ticketing machines</li> </ul>	<p><b>Websites</b></p> <p>The benefits would be limited to those countries where accessibility requirements are in place. Consumers that buy cross-border from countries where accessibility requirements are in place would also benefit.</p> <p>If requirements would not be introduced in any further countries than at present, the situation would remain the same as in the baseline scenario.</p> <p>To the degree that new accessibility requirements would be introduced in further countries, a higher</p>	<p><b>Websites and SSTs</b></p> <p>The types of impacts will be similar to those described for PO2, but the scale of the impacts is likely to be larger than PO2 in line with the expected increased number of countries that would have the same requirements in place.</p>	<p><b>Websites and SSTs</b></p> <p>The types of impacts will be similar to those described for PO2 and PO3, but the scale of the impacts is likely to be larger than both options.</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
		<p>number of disabled consumers may benefit from reduced prices online.</p> <p><b>SSTs</b></p> <p>The benefits would be limited to those countries where accessibility requirements are in place.</p> <p>Consumers that use SSTs cross-border in countries where accessibility requirements are in place would also benefit.</p> <p>Similar to what is the case for websites, the introduction of relevant accessibility requirements in any further countries will lead to that a higher number of disabled consumers may benefit from reduced transaction costs.</p>		
<i>Environmental impacts</i>	<i>No explicit requirements.</i>	None of the policy options is likely to leave a major environmental footprint. Action in this area is not expected to have a major impact on the take up of rail services or of Internet / computer uptake and use.		

# 12. Transport - Bus

## 12.1. Base figures

### Bus transport services: Websites

Problem Assessment (2011) and Baseline Scenario (2020)	
Private sector websites market turnover in 2011	251,464,000,000
CAGR	0.0%
Private sector websites market turnover in 2020	251,464,000,000
Share of Bus transport services websites	0.3%
One-off costs of accessible websites (WCAG 2.0)	50.128
Ongoing costs of accessible websites (WCAG 2.0)	1.989
Number of businesses in the EU	65.000
Number of Spanish Businesses	7.475
One-off costs of non-accessible websites	33.317
Ongoing costs of non-accessible websites	500
Share of Spanish Businesses to which Spanish accessibility legislation applies	
Lower Estimate	1%
Upper Estimate	10%
Number of accessible websites in 2011	
Lower range estimate	13
Upper range estimate	450
Number of inaccessible websites in 2011	
Lower range estimate	1
Upper range estimate	734
Number of accessible websites in 2020	

Lower range estimate	11.700
Upper range estimate	39.130
Number of inaccessible websites in 2020	
Lower range estimate	25.870
Upper range estimate	53.300
Share of turnover stemming from cross-border trade	10%
Number of countries in the sample for which legislation could be identified	
Sample size	9
In 2011	1
In 2020 (extrapolation)	
EU level	3
Using additional data	12
Share of GDP for relevant countries	
In 2011	
1 Member States has legislation in place	8,5 %
In 2020	
3 Member States have legislation in place	15,5%
12 Member States have legislation in place	85,3%
27 Member States have legislation in place	100,0%
Correction factor	30%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	5.0%

## Bus transport services: Built environment

Problem Assessment (2011) and Baseline Scenario (2020)	
Total Architect Market Turnover in 2011	14.525.640.676
Market share at risk of fragmentation	15%
Total industry turnover at risk of fragmentation in 2011	2.178.846.101
CAGR	0%
Total industry turnover at risk of fragmentation in 2020	2.178.846.101
Average costs for architect services per working hour	70
Number of working days	2
Number of FTEs	1
Number of working hours/day	8
Share of facilities that need to be replaced / refurbished per year	5,0%
Number of facilities relevant for the case in the problem assessment	82500
Share of architect services that is assumed to be procured cross-border	40,0%
Number of Member States that is expected to have legislation in place	27
Share of total EU GDP	100%
Share of Member States that is expected to apply the eventual EU Recommendation	50%
Correction factor	100,0%

## Bus transport services: Ticketing machines

Problem Assessment (2011) and Baseline Scenario (2020)	
Total production value of "Point-of-sale terminals, ATMs and similar machines capable of being connected to a data processing machine or network" PRODCOM code 26201200	146.741.450
Share of production value that can be attributed	30%

to Ticketing Machines	
Share of production value that can be attributed to the Bus transport sector	45%
<b>Market turnover in 2011</b>	19.810.096
CAGR	0.0%
<b>Market turnover in 2020</b>	<b>19.810.096</b>
Share of development costs	5%
Share of accessibility costs	1%
Share of ongoing costs	0%
Share of turnover stemming from cross-border trade	50%
Number of countries in the sample for which legislation could be identified	
Sample size	9
In 2011	
	6
In 2020 (extrapolation)	
As identified in country sample	6
Only baseline scenario: see legislative analysis	9
Extrapolation to EU level	18
Share of GDP for relevant countries	
In 2011	
6 Member States have legislation in place	62,8%
In 2020	
6 Member States have legislation in place	62,8%
9 Member States have legislation in place	68,5%
18 Member States have legislation in place	84,1%

27 Member States have legislation in place	100,0%
Correction factor	100.0%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	1.0%

## 12.2. Effects of the problem on consumers

Considering that one main barrier that people with disabilities and elderly people experience is the ability to move outside of their homes, the potential benefit of accessible transport has a direct impact on the possibility for their participation in society and be included in common activities that all citizens do. To enjoy the use of transport services the various elements of the transport chain need to be accessible, namely booking the travel, buying tickets and circulating in the transport infrastructures. Websites including online information and online booking is increasing and are essential sometimes for example; even to be able to access the service given the lack of person managed stations in some cases. Indeed, consumers with disabilities currently face challenges when planning travels and purchasing tickets online or through automatic vending machines. In addition challenges also relate to problems such as, for example, schedules not provided in an accessible format or difficulties to enter stations. Accessible websites will enhance the possibility to travel but also have access to more competitive prices. Just like the Internet and smart mobile communication devices, SSTs have become an essential interface for customers who want to gather information on specific transport services, buy and validate tickets or check-in to their journey, SSTs in the area of bus transportation typically include self-service check-in terminals at bus stations.

## 12.3. Assessment of the impacts per policy option

### 12.3.1. Policy Option 1: Baseline Scenario – Impact Assessment

*Table 53: Effectiveness and Efficiency of Policy Option 1 (Baseline Scenario, Bus Transport)*

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	0	0	<b>The built environment</b> Technical accessibility requirements are expected to be in place in all the 27 Member States in 2020. Problems due to varying accessibility requirements result in problems for architects providing services across borders. Based on available data, it is estimated that 40% of architect

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
			<p>services are taking place in a cross-border context. Problems due to variations between national requirements are expected in all of these cases. The differences in accessibility requirements are a challenge for architect service providers. The costs for architects for understanding technical accessibility requirements have been estimated to be equal to 2 to 10 working days.</p> <p><b>Websites</b></p> <p>Over the next years, accessibility requirements covering websites can be expected to be adopted in a range from 3 to 27 Member States based on the current availability of accessibility legislation in the field of copyrights and due to the obligations for the MS under the UNCRPD. The mid-range scenario is 12 countries. The revised Section 508 in the US and the discussion of coverage of web sites under ADA is likely to be used as an inspiration by EU Member States adopting legislation in relation to websites. Nevertheless, some divergences can be expected as it is the case for public web sites, thus hampering cross-border trade.</p> <p>As to the magnitude of the impacts of the varying accessibility requirements, it is assumed that 10% of the services provided by web professionals will take place cross-border in 2020. It is expected that the differences between national technical accessibility requirements has a negative impact on cross-border trade and that the full potential of the internal market would not be achieved.</p> <p><b>SSTs</b></p> <p>Over the next years, accessibility requirements covering ticketing machines can be expected to be adopted in a range from 9 to 27 Member States current availability of accessibility legislation in the field of the built environment and due to the obligations for the MS under the UNCRPD. The mid-range scenario is 18 countries.</p> <p>As to the magnitude of the impacts of the varying accessibility requirements, it is assumed that 50% of the SSTs will be provided across-borders in 2020. It is expected that the differences between national technical accessibility requirements has a negative impact on cross-border trade and that the full potential of the Internal Market.</p>
To increase competition among industry in the area of selected goods and services and in the area of public procurement	0	0	<p>The expected variations between national technical accessibility requirements are likely to make it difficult for new market entrants, in particular, to engage in cross-border trade.</p> <p>It is not expected that there will be major new market entrants in the built environment sector by 2020 due to the maturity of the market and the market structure.</p> <p>As concerns the situation in the websites sector, differences between legislation in the 12 countries that</p>

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
			<p>are expected to have legislation in place are likely to have a negative impact on the industry. Despite that most countries are expected to follow the revised Section 508, or the guidelines of W3C differences between national legislation can be expected, thus impeding competition.</p> <p>Concerning ticketing machines the legislation 18 countries would have a negative impact on the industry, however, the market is highly concentrated.</p>
Overall score	0	0	
Average score	0	0	

*Table 54: Impacts of Policy Option 1 (Baseline Scenario, Bus Transport)*

Assessment criteria	Rating	Explanation
Social Impacts (impacts on different groups)	0	<p><b>Disabled persons</b></p> <p>As noted above, all Member States are expected to have technical accessibility requirements in place in relation to the built environment in the field of bus transport in 2020. Technical accessibility requirements generally apply to new built environment and major refurbishments. Disabled persons are likely to be able to benefit from progressive improvements in this area by 2020 and be more able to use bus transport.</p> <p>The increased number of countries that are expected to adopt accessibility requirements concerning websites is likely to have a positive impact on their level of accessibility. This means that more disabled people are likely to be able to book bus tickets online. It is assumed that the price of bus tickets may be on average between 5 and 10% cheaper than booking directly with the bus company or via a travel agency. Hence, greater accessibility of websites will result in cost reductions for disabled persons. As concerns the potential impact on the absorption of bus travel by disabled consumers, there may be a small positive impact due to increased travel if tickets can be bought at a better price.</p> <p>The benefits from using ticketing machines stem from the cost difference between tickets purchased at ticket offices and tickets purchased at ticketing machines that actually is saved by consumers with disabilities.</p> <p><b>Elderly</b></p> <p>For the built environment, similar impacts as for disabled people are expected.</p> <p>While it can be expected that the absorption rate by elderly of ICT and Internet products will increase by 2020, it is still expected that it will not be at the same level as younger consumers. Hence, while the types of benefits that result from accessible websites in relation to bus services are likely to be similar to those of disabled people, it is expected that the anticipated increase in the level of accessibility will benefit elderly slightly less than disabled consumers.</p> <p>However, keeping in mind that the prevalence of accessibility among the elderly population is considerably higher than that of the rest of the</p>

Assessment criteria	Rating	Explanation
		<p>population the actual number of people that will likely benefit is still considerably high This also holds for the use of ticketing machines.</p> <p><b>General population</b></p> <p>The accessibility of the built environment has impacts in particular on families with small children as well as tourists with temporary functional limitations. Problems and needs of these groups of people in relation to the built environment are likely to be similar to those of disabled persons, depending on their functional limitations.</p> <p>The level of accessibility of websites is unlikely to have any major impacts on non-disabled persons except from their easy use on mobile devices.</p> <p>The level of accessibility of SSTs is unlikely to have any major impacts on non-disabled persons.</p>
Environmental impacts	0	<p>The level of accessibility of bus stations can have an environmental impact in terms of replacement of individual travel with public transport (positive impact) or increased travel by disabled people (minor negative environmental impact).</p> <p>The level of accessibility of websites for booking bus services online is not likely to have any major environmental impacts. While the overall consumption of Internet and computers will have an impact on the use of electricity, the number of hours spent on researching and booking bus travel online is likely to be limited on a yearly basis. Environmental impacts due to a change in the absorption rates of bus travel are also expected to be minor.</p> <p>The level of accessibility of SSTs for is not likely to have any major environmental impacts.</p>
Overall score	0	
Average score	0	

### 12.3.2. Policy Options 2, 3 and 4 – Impact Assessments

Table 55: Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating (Bus Transport)

Policy Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	✓(✓)	✓	✓✓	✓✓	✓✓✓✓	✓✓✓
To increase competition among industry in the area of selected goods	✓	✓	✓	✓	✓✓	✓✓

Policy Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
and services and in the area of public procurement						
Overall score	2.5	1	3	3	6	5
Average score	1.25	1	1.5	1.5	3	2.5

*Table 56: Impacts of Policy Options 2, 3 and 4: Rating (Bus Transport)*

Assessment criteria	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
Social Impacts (impacts on different groups)	(✓)		✓(✓)		✓✓✓	
Environmental impacts	0		0		0	

Table 57: Assessment of Impacts of Policy Options 2, 3 and 4: Explanation of Ratings (Bus Transport)

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<b>Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating</b>				
<p><i>To improve cross-border trade in the area of selected goods and services and in the area of public procurement</i></p>	<p>Companies that are active on the EU market would have to ensure / provide the following:</p> <ul style="list-style-type: none"> <li>• Accessible information concerning the accessibility of the service</li> <li>• Accessible websites for booking bus travel</li> <li>• Accessible ticketing machines</li> </ul> <p>In addition, common technical requirements for the built environment would be adopted</p>	<p><b>Built environment</b></p> <p>It is assumed that a range of half to all of those countries (27) that are expected to adopt technical accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 40%.</p> <p><b>Websites</b></p> <p>It is assumed that a range of three to all of those countries (12) that are expected to adopt technical accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 10%.</p> <p><b>SSTs</b></p> <p>It is assumed that a range of nine to all of those countries (18) that are expected to adopt technical</p>	<p><b>Built environment</b></p> <p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in the 27 countries (i.e. the entire EU) that are expected to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p>It is expected that the cross-border trade could increase.</p> <p><b>Websites</b></p> <p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in those 12 countries that are expected to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p>This would mean that local businesses that are active in countries where accessibility requirements have not been adopted may face lower costs than companies that are based in countries where accessibility requirements are in place.</p> <p>It is expected that the cross-border trade could</p>	<p><b>Built environment</b></p> <p><i>See PO3 (the impact would be the same, since the policy options would have the same coverage).</i></p> <p><b>Websites</b></p> <p>Under this policy option common requirements would have EU wide coverage. This would, in combination with the mutual recognition principle, result in an elimination of costs for business that are due to variations between national accessibility requirements.</p> <p>However, at the same time, business in those 15 countries that are not expected to have adopted accessibility requirements by 2020 would face additional costs for ensuring accessibility (to the degree that they are not already doing so on a voluntary basis).</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>The policy option is expected to have a positive impact on cross-border trade.</p> <p><b>SSTs</b></p> <p>Under this policy option common requirements would have EU wide coverage. This would, in combination with the mutual recognition</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
		<p>accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 50%.</p>	<p>increase.</p> <p><b>SSTs</b></p> <p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in those 18 countries that are expected to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p>This would mean that local businesses that are active in countries where accessibility requirements have not been adopted may face lower costs than companies that are based in countries where accessibility requirements are in place.</p> <p>It is expected that the cross-border trade could increase.</p>	<p>principle, result in an elimination of costs for business that are due to variations between national accessibility requirements.</p> <p>However, at the same time, business in those 18 or 9 countries that are not expected to have adopted accessibility requirements by 2020 would face additional costs for ensuring accessibility (to the degree that they are not already doing so on a voluntary basis).</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>The policy option is expected to have a positive impact on cross-border trade.</p>
<p><i>To increase competition among industry in the area of selected goods and services and in the area of public procurement</i></p>		<p><b>Built environment</b></p> <p>The impact on new market entrants is likely to be limited. The positive impact on cross-border trade may, however, in turn have a positive impact on competition in this sector.</p> <p><b>Websites</b></p> <p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, i.e. three to 12 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has</p>	<p><b>Built environment</b></p> <p>The impact on new market entrants is likely to be limited. The positive impact on cross-border trade may, however, spur competition in this sector, as one of the barriers to cross-border provision of services would be removed.</p> <p><b>Websites</b></p> <p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, i.e. 12 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements</p>	<p><b>Built environment</b></p> <p><i>See PO3 (the impact would be the same, since the policy options would have the same coverage).</i></p> <p><b>Websites</b></p> <p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, across the EU. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. Under this policy option the Internal Market for</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
		<p>been removed, more companies may enter the market. The extent to which new market entry can be expected to spur competition is linked to amount of countries that follow the Recommendation, i.e. the more Member States adopt the technical requirements proposed in the Recommendation the more likely it is that new market entrants compete on the internal market.</p> <p><b>SSTs</b></p> <p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, i.e. nine to 18 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. The extent to which new market entry can be expected to spur competition is linked to amount of countries that follow the Recommendation, i.e. the more Member States adopt the technical requirements proposed in the Recommendation the more likely it is that new market entrants compete on the internal market. However, the impact is expected to be low given that the market for SSTs is dominated by a limited number of global companies.</p>	<p>across Member States has been removed, more companies may enter the market. With 12 Member States, representing 85.3% of EU GDP, transposing this Directive it is expected that new market entry will increase competition due to lower costs and an effective increase of the market.</p> <p><b>SSTs</b></p> <p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, i.e. 18 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. With 18 Member States, representing 84.1% of EU GDP, transposing this Directive it is expected that new market entry will increase competition due to lower costs and an effective increase of the market. However, the impact is expected to be limited given that the market for SSTs is dominated by a few large players.</p>	<p>accessible websites is effectively based on common accessibility requirements and therefore not only is new market entry likely based on lower costs (as in policy option 3) but also due to a larger market overall internal market for accessible websites.</p> <p><b>SSTs</b></p> <p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, across the EU. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market.</p> <p>Under this policy option the Internal Market for SSTs is effectively based on common accessibility requirements and therefore not only is new market entry likely based on lower costs (as in policy option 3). However, the impact is expected to be limited given that the market for SSTs is dominated by a small number of global companies and the market is not likely to grow significantly until 2020.</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<b>Impact of the Policy Options on social groups and the environment</b>				
<i>Social Impacts (impacts on different groups)</i>	<p>Disabled consumers would be ensured (in line with the coverage of the policy option) accessible:</p> <ul style="list-style-type: none"> <li>• Information concerning the accessibility of the service;</li> <li>• Websites for booking bus travel;</li> <li>• Accessible ticketing machines</li> <li>• Accessible bus stations</li> </ul>	<p><b>Built environment</b> <i>See the baseline scenario.</i></p> <p><b>Websites</b> The benefits would be limited to those countries where accessibility requirements are in place. If no further countries would adopt accessibility requirements, the situation would remain the same as in the baseline scenario.  In case further countries would introduce accessibility requirements than in the current situation, the introduction of the relevant accessibility requirements will lead to that a higher number of disabled consumers may benefit from reduced prices online as well as easier to access information on the accessibility of the service. Consumers that buy cross-border from countries where accessibility requirements are in place would also benefit.</p> <p><b>SSTs</b> The benefits would be limited to those countries where accessibility requirements are in place (see websites above).  The potential introduction of relevant accessibility requirements in further countries would lead to that a higher number of disabled consumers may benefit from reduced transaction costs and being</p>	<p><b>Built environment</b> <i>See the baseline scenario.</i></p> <p><b>Websites and SSTs</b> The types of impacts will be similar to those described for PO2, but the scale of the impacts is likely to be larger than PO2 in line with the expected increased number of countries that would have the same requirements in place.</p>	<p><b>Built environment</b> <i>See the baseline scenario.</i></p> <p><b>Websites and SSTs</b> The types of impacts will be similar to those described for PO2 and PO3, but the scale of the impacts is likely to be larger than both options.</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
		<p>able to travel more independent. Consumers that use SSTs cross-border in countries where accessibility requirements are in place would also benefit, although this number is estimated to be relatively low.</p>		
<i>Environmental impacts</i>	<i>No explicit requirements.</i>	<p>None of the policy options is likely to leave a major environmental footprint. Action in this area is not expected to have a major impact on the take up of bus transport or of Internet / computer uptake and use.</p>		

# 13. Transport – Maritime

## 13.1. Base figures

### 13.1.1. Websites

Problem Assessment (2011) and Baseline Scenario (2020)	
Private sector websites market turnover in 2011	251.464.000.000
CAGR	0,0%
Private sector websites market turnover in 2020	251.464.000.000
Share of Maritime transport services websites	0.01%
One-off costs of accessible websites	50.128
Ongoing costs of accessible websites	1.989
One-off costs of non-accessible websites	33.317
Ongoing costs non-accessible	500
Number of goods/services	
Number of websites within Spain	218
Number of websites in the EU	2.498
Share of turnover stemming from cross-border trade	10%
Share of Spanish businesses to which Spanish accessibility legislation applies	
Lower range estimate	5%
Upper range estimate	25%
Problem assessment: Number of websites (2011 or latest figure):	
Accessible websites	
Lower range estimate	2

Upper range estimate	33
Inaccessible websites	
Lower range estimate	185
Upper range estimate	216
Baseline scenario: Number of websites (forecast 2020):	
Accessible websites	
Lower range estimate	450
Upper range estimate	1.504
Inaccessible websites	
Lower range estimate	994
Upper range estimate	2.048
Number of countries in the sample for which legislation could be identified	
Sample size	9
In 2011	1
In 2020 (extrapolation)	
As identified in country sample	3
Only baseline scenario: see legislative analysis	12
Extrapolation to EU level	27
Share of GDP for relevant countries	
In 2011	
1 Member State has legislation in place: Spain	8,5%
In 2020	
3 Member State has legislation in place	15,5%
12 Member States have legislation in place	85,3%

27 Member States have legislation in place	100,0%
Correction factor	30%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	5%

### 13.1.2. Built environment

Problem Assessment (2011) and Baseline Scenario (2020)	
Total Architect Market Turnover in 2011	14.525.640.676
Market share at risk of fragmentation	15%
Total industry turnover at risk of fragmentation in 2011	2.178.846.101
CAGR	0%
Total industry turnover at risk of fragmentation in 2020	2.178.846.101
Average costs for architect services per working hour	70
Number of working days	2
Number of FTEs	1
Number of working hours/day	8
Share of facilities that need to be replaced / refurbished per year	5,0%
Number of facilities relevant for the case in the problem assessment	338
Share of architect services that is assumed to be procured cross-border	40,0%
Number of Member States that is expected to have legislation in place	27
Share of total EU GDP	100%
Share of Member States that is expected to apply the eventual EU Recommendation	50%
Correction factor	100,0%

### 13.1.3. Ticketing machines

Problem Assessment (2011) and Baseline Scenario (2020)	
Total production value of "Point-of-sale terminals, ATMs and similar machines capable of being connected to a data processing machine or network" PRODCOM code 26201200	146.741.450
Share that can be attributed to SSTs	30%
SSTs value in 2011	44.022.435
Share of production value that can be attributed to ATMs	10%
Market turnover in 2011	4.402.244
CAGR	0.0%
Market turnover in 2020	4.402.244
Share of development costs	5%
Share of accessibility costs	1%
Share of ongoing costs	0%
Share of turnover stemming from cross-border trade	50%
Number of countries in the sample for which legislation could be identified	
Sample size	9
In 2011	
	6
In 2020 (extrapolation)	
As identified in country sample	6
Only baseline scenario: see legislative analysis	9
Extrapolation to EU level	18
Share of GDP for relevant countries	

In 2011	
6 Member States have legislation in place	66,7%
In 2020	
6 Member States have legislation in place	62,8%
9 Member States have legislation in place	68,5%
18 Member States have legislation in place	84,1%
27 Member States have legislation in place	100,0%
Correction factor	1%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	100 %

### 13.2. Effects of the problem on consumers

Considering that one main barrier that people with disabilities and elderly people experience is the ability to move outside of their homes, the potential benefit of accessible transport has a direct impact on the possibility for their participation in society and be included in common activities that all citizens do. To enjoy the use of transport services the various elements of the transport chain need to be accessible, namely booking the travel, buying tickets and circulating in the transport infrastructures. Websites including online information and online booking is increasing and are essential sometimes for example; even to be able to access the service given the lack of person managed stations in some cases. Indeed, consumers with disabilities currently face challenges when planning travels and purchasing tickets online or through automatic vending machines. In addition challenges also relate to problems such as, for example, schedules not provided in an accessible format or difficulties to enter stations. Accessible websites will enhance the possibility to travel but also have access to more competitive prices. Just like the Internet and smart mobile communication devices, SSTs have become an essential interface for customers who want to gather information on specific transport services, buy and validate tickets or check-in to their journey, SSTs in the area of maritime transportation typically include self-service check-in terminals.

### 13.3. Assessment of the impacts per Policy option

#### 13.3.1. Policy Option 1: Baseline Scenario – Impact Assessment

Table 58: Effectiveness and Efficiency of Policy Option 1 (Baseline Scenario, Maritime Transport)

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	0	0	<p><b>The built environment</b></p> <p>Technical accessibility requirements are expected to be in place in all the 27 Member States in 2020. Problems due to varying accessibility requirements result in problems for architects providing services across borders. Based on available data, it is estimated that 40% of architect services are taking place in a cross-border context. Problems due to variations between national requirements are expected in all of these cases. The differences in accessibility requirements are a challenge for architect service providers. The costs for architects for understanding technical accessibility requirements have been estimated to be equal to 2 to 10 working days.</p> <p><b>Websites</b></p> <p>Over the next years, accessibility requirements covering websites can be expected to be adopted in a range from 3 to 27 Member States based on the current availability of accessibility legislation in the field of copyrights and due to the obligations for the MS under the UNCRPD. The mid-range scenario is 12 countries. The revised Section 508 in the US and the discussion on the coverage of websites under ADA is likely to be used as an inspiration by EU Member States adopting legislation in relation to websites. Nevertheless, some divergences can be expected, thus hampering cross-border trade.</p> <p>As to the magnitude of the impacts of the varying accessibility requirements, it is assumed that 10% of the services provided by web professionals will take place cross-border in 2020. It is expected that the differences between national technical accessibility requirements has a negative impact on cross-border trade and that the full potential of the internal market would not be achieved.</p> <p><b>SSTs</b></p> <p>Over the next years, accessibility requirements covering ticketing machines can be expected to be adopted in a range from 9 to 27 Member States current availability of accessibility legislation in the field of the built environment in relation to the maritime sector and due to the obligations for the MS under the UNCRPD<sup>10</sup>. The mid-range scenario is 18 countries.</p>

<sup>10</sup> Based on an examination of the current situation in nine Member States, technical accessibility legislation has only been identified for a niche market in Italy. No problems in relation to cross-

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
			As to the magnitude of the impacts of the varying accessibility requirements, it is assumed that 50% of the SSTs will be provided across-borders in 2020. It is expected that the differences between national technical accessibility requirements has a negative impact on cross-border trade and that the full potential of the Internal Market.
To increase competition among industry in the area of selected goods and services and in the area of public procurement	0	0	<p>The expected variations between national technical accessibility requirements are likely to make it difficult for new market entrants, in particular, to engage in cross-border trade.</p> <p>It is not expected that there will be any major new market entrants in the built environment sector by 2020 due to the maturity of the market and the market structure.</p> <p>As concerns the situation in the websites sector, differences between legislation in the 12 countries that are expected to have legislation in place are likely to have a negative impact on the industry. Despite that most countries are expected to follow the revised Section 508 or the guidelines of W3C, differences between national legislation can be expected, thus impeding competition.</p> <p>With regard to ticketing machines the legislation 18 countries would have a negative impact on the industry, however, the market is highly concentrated and not much new market entry is expected.</p>
Overall score	0	0	
Average score	0	0	

*Table 59: Impacts of Policy Option 1 (Baseline Scenario, Maritime Transport)*

Assessment criteria	Rating	Explanation
Social Impacts (impacts on different groups)	0	<p><b>Disabled persons</b></p> <p>As noted above, all Member States are expected to have technical accessibility requirements in place in relation to the built environment in the field of maritime transport in 2020. Technical accessibility requirements generally apply to new built environment and major refurbishments. Disabled persons are likely to be able to benefit from progressive improvements in this area by 2020.</p> <p>The increased number of countries that are expected to adopt accessibility requirements concerning websites is likely to have a positive impact on the level of accessibility of the websites. This means that more disabled people are likely to be able to book boat tickets online. It is assumed that the price of boat tickets may be on average between 5 and 10% cheaper than</p>

border trade due to these technical accessibility requirements have been identified in the current situation.

Assessment criteria	Rating	Explanation
		<p>booking directly with the company or via a travel agency. Hence, greater accessibility of websites will result in cost reductions for disabled persons. As concerns the potential impact on the absorption of boat travel by disabled consumers, there may be a small positive impact due to increased travel if tickets can be bought at a better price.</p> <p>The benefits from using ticketing machines stem from the cost difference between tickets purchased at ticket offices and tickets purchased at ticketing machines that actually is saved by consumers with disabilities.</p> <p><b>Elderly</b></p> <p>For the built environment, similar impacts as for disabled people are expected.</p> <p>While it can be expected that the absorption rate by elderly of ICT and Internet products will increase by 2020, it is still expected that it will not be at the same level as younger consumers. Hence, while the types of benefits that result from accessible websites in relation to boat services are likely to be similar to those of disabled people, it is expected that the anticipated increase in the level of accessibility will benefit elderly slightly less than disabled consumers.</p> <p>However, keeping in mind that the prevalence of accessibility among the elderly population is considerably higher than that of the rest of the population the actual number of people that will likely benefit is still considerably high. This also holds for the use of ticketing machines.</p> <p><b>General population</b></p> <p>The accessibility of the built environment has impacts in particular on families with small children as well as tourists with temporary functional limitations. Problems and needs of these groups of people in relation to the built environment are likely to be similar to those of disabled persons, depending on their functional limitations.</p> <p>The level of accessibility of websites is unlikely to have any major impacts on non-disabled persons except their easy use in mobile devices.</p>
Environmental impacts	0	<p>The level of accessibility of maritime ports is not expected to have any environmental impacts.</p> <p>The same is relevant for websites; the level of accessibility of websites for booking boat services online is not likely to have any major environmental impacts. While the overall consumption of Internet and computers will have an impact on the use of electricity, the number of hours spent on researching and booking boat travel online is likely to be limited on a yearly basis.</p> <p>The level of accessibility of SSTs for is not likely to have any major environmental impacts.</p>
Overall score	0	
Average score	0	

### 13.3.2. Policy Options 2, 3 and 4 – Impact Assessments

Table 60: Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating (Maritime Transport)

Policy Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	✓(✓)	✓	✓✓	✓✓	✓✓✓✓	✓✓✓
To increase competition among industry in the area of selected goods and services and in the area of public procurement	✓	✓	✓	✓	✓✓	✓✓
Overall score	2.5	2	3	3	6	5
Average score	1.25	1	1.5	1.5	3	2.5

Table 61: Impacts of Policy Options 2, 3 and 4: Rating (Maritime Transport)

Assessment criteria	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
Social Impacts (impacts on different groups)	(✓)	✓(✓)	✓✓✓
Environmental impacts	0	0	0

Table 62: Assessment of Impacts of Policy Options 2, 3 and 4: Explanation of Ratings (Maritime Transport)

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<b>Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating</b>				
<p><i>To improve cross-border trade in the area of selected goods and services and in the area of public procurement</i></p>	<p>Companies that are active on the EU market would have to ensure / provide the following:</p> <ul style="list-style-type: none"> <li>• Accessible information concerning the accessibility of the service</li> <li>• Accessible websites for booking boat travel</li> <li>• Accessible ticketing machines</li> </ul> <p>In addition, common technical requirements for the built environment would be adopted</p>	<p><b>Built environment</b></p> <p>It is assumed that a range of half to all of those countries (27) that are expected to adopt technical accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 40%.</p> <p><b>Websites</b></p> <p>It is assumed that a range of three to all of those countries (12) that are expected to adopt technical accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 10%.</p> <p><b>SSTs</b></p> <p>It is assumed that a range of nine to all of those</p>	<p><b>Built environment</b></p> <p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in the 27 countries (i.e. the entire EU) that are expected to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p>It is expected that the cross-border trade could increase up.</p> <p><b>Websites</b></p> <p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in those 12 countries that are expected to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p>This would mean that local businesses that are active in countries where accessibility requirements have not been adopted may face lower costs than companies that are based in countries where accessibility requirements are in place. This said, the companies that do not provide accessible goods</p>	<p><b>Built environment</b></p> <p><i>See PO3 (the impact would be the same, since the policy options would have the same coverage).</i></p> <p><b>Websites</b></p> <p>Under this policy option common requirements would have EU wide coverage. This would, in combination with the mutual recognition principle, result in an elimination of costs for business that are due to variations between national accessibility requirements.</p> <p>However, at the same time, business in those 15 countries that are not expected to have adopted accessibility requirements by 2020 would face additional costs for ensuring accessibility.</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>The policy option is expected to have a positive impact on cross-border trade.</p> <p><b>SSTs</b></p> <p>Under this policy option common requirements would have EU wide coverage. This would, in combination with the mutual recognition principle, result in an elimination of costs for business that are due to variations between</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
		<p>countries (18) that are expected to adopt technical accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 50%.</p>	<p>may miss out on a large consumer group.</p> <p>It is expected that the cross-border trade could increase up to 15% (12 countries).</p> <p><b>SSTs</b></p> <p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in those 18 countries that are expected to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p>This would mean that local businesses that are active in countries where accessibility requirements have not been adopted may face lower costs than companies that are based in countries where accessibility requirements are in place. This said, the companies that do not provide accessible goods may miss out on a larger consumer group (based on the assumption that in the maritime transport sector accessible SSTs will be demanded).</p> <p>It is expected that the cross-border trade could increase up.</p>	<p>national accessibility requirements.</p> <p>However, at the same time, business in those 15 or 9 countries that are not expected to have adopted accessibility requirements by 2020 would face additional costs for ensuring accessibility (to the degree that they are not already doing so on a voluntary basis).</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>The policy option is expected to have a positive impact on cross-border trade.</p>
<p><i>To increase competition among industry in the area of selected goods and services and in the area of public</i></p>		<p><b>Built environment</b></p> <p>The impact on new market entrants is likely to be limited. The positive impact on cross-border trade may, however, in turn have a positive impact on competition in this sector.</p>	<p><b>Built environment</b></p> <p>The impact on new market entrants is likely to be limited. The positive impact on cross-border trade may, however, spur competition in this sector, as one of the barriers to cross-border provision of</p>	<p><b>Built environment</b></p> <p><i>See PO3 (the impact would be the same, since the policy options would have the same coverage).</i></p> <p><b>Websites</b></p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<i>procurement</i>		<p><b>Websites</b></p> <p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, i.e. three to 12 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. The extent to which new market entry can be expected to spur competition is linked to amount of countries that follow the Recommendation, i.e. the more Member States adopt the technical requirements proposed in the Recommendation the more likely it is that new market entrants compete on the internal market.</p> <p><b>SSTs</b></p> <p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, i.e. nine to 18 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. The extent to which new market entry can be expected to spur competition is linked to amount of countries that follow the Recommendation, i.e. the more Member States adopt the technical requirements proposed in the Recommendation the more likely it is that new market entrants compete on the internal market. However, the</p>	<p>services would be removed.</p> <p><b>Websites</b></p> <p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, i.e. 12 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. With 12 Member States, representing x% of EU GDP, transposing this Directive it is expected that new market entry will increase competition due to lower costs and an effective increase of the market.</p> <p><b>SSTs</b></p> <p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, i.e. 18 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. With 18 Member States, representing 84.1% of EU GDP, transposing this Directive it is expected that new market entry will increase competition due to lower costs and an effective increase of the market. However, the impact is expected to be low given that the market for SSTs is dominated by a few large players.</p>	<p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, across the EU. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. Under this policy option the Internal Market for accessible websites is effectively based on common accessibility requirements and therefore not only is new market entry likely based on lower costs (as in policy option 3) but also due to a larger market overall internal market for accessible websites.</p> <p><b>SSTs</b></p> <p>Positive impacts on competition could be expected in those countries that are covered by the common accessibility requirements, across the EU. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market.</p> <p>Under this policy option the Internal Market for SSTs is effectively based on common accessibility requirements and therefore not only is new market entry likely based on lower costs (as in policy option 3). However, the impact is expected to be low given that the market for SSTs is dominated by a limited number of global</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
		<p>impact is expected to be limited given that the market for SSTs is dominated by a small number of global companies.</p>		<p>companies and the market is not likely to grow significantly.</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<b>Impact of the Policy Options on social groups and the environment</b>				
<i>Social Impacts (impacts on different groups)</i>	<p>Disabled consumers would be ensured (in line with the coverage of the policy option) accessible:</p> <ul style="list-style-type: none"> <li>Information concerning the accessibility of the service;</li> <li>Websites for booking boat travel;</li> <li>Accessible ticketing machines</li> <li>Accessible ports</li> </ul>	<p><b>Built environment</b> <i>See the baseline scenario.</i></p> <p><b>Websites</b> The benefits would be limited to those countries where accessibility requirements are in place. Consumers that buy cross-border from countries where accessibility requirements are in place would also benefit. The introduction of the relevant accessibility requirements will lead to that a higher number of disabled consumers may benefit from reduced prices online.</p> <p><b>SSTs</b> The benefits would be limited to those countries where accessibility requirements are in place. Consumers that use SSTs cross-border in countries where accessibility requirements are in place would also benefit, although this number is estimated to be relatively low. Similar to what is the case for websites, the introduction of relevant accessibility requirements in any further countries will lead to that a higher number of disabled consumers may benefit from reduced transaction costs.</p>	<p><b>Built environment</b> <i>See the baseline scenario.</i></p> <p><b>Websites and SSTs</b> The types of impacts will be similar to those described for PO2, but the scale of the impacts is likely to be larger than PO2 in line with the expected increased number of countries that would have the same requirements in place.</p>	<p><b>Built environment</b> <i>See the baseline scenario.</i></p> <p><b>Websites</b> The types of impacts will be similar to those described for PO2 and PO3, but the scale of the impacts is likely to be larger than both options.</p> <p><b>SSTs</b></p>
<i>Environmental impacts</i>	<i>No explicit requirements.</i>	None of the policy options is likely to leave a major environmental footprint. Action in this area is not expected to have a major impact on the take up of boat		

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
		transport or of Internet / computer uptake and use.		

# Hospitality Services

## 13.4. Base figures

### 13.4.1. Websites

Problem Assessment (2011) and Baseline Scenario (2020)	
Market turnover in 2011	251.464.000.000
CAGR	0,0%
Market turnover in 2020	251.464.000.000
One-off costs of accessibility (CAPEX):	50.128
Ongoing costs of accessibility	1.989
One-off costs of non-accessible websites	33.317
Ongoing costs non-accessible	500
Number of goods/services	
number of websites within Spain	21.000
number of websites within the EU	260.000
Share of turnover stemming from cross-border trade	10%
Share of Spanish businesses to which accessibility legislation applies	
Lower range estimate	50%
Upper range estimate	50%
Problem assessment: Number of websites (2011 or latest figure):	
Accessible websites	
Lower range estimate	1.890
Upper range estimate	6.321
Inaccessible websites	
Lower range estimate	4.179
Upper range estimate	8.610

Baseline scenario: Number of websites (forecast 2020):	
Accessible websites	
Lower range estimate	46.800
Upper range estimate	156.520
Inaccessible websites	
Lower range estimate	103.480
Upper range estimate	213.200
Number of countries in the sample for which legislation could be identified	
Sample size	9
In 2011	1
In 2020 (extrapolation)	
As identified in country sample	3
Only baseline scenario: see legislative analysis	12
Extrapolation to EU level	27
Share of GDP for relevant countries	
In 2011	
1 Member State has legislation in place: Spain	8,5%
In 2020	
3 Member State has legislation in place	15,5%
12 Member States have legislation in place	85,3%
27 Member States have legislation in place	100,0%
Correction factor	30%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	5%

### 13.4.2. Built environment

Problem Assessment (2011) and Baseline Scenario (2020)	
Total Architect Market Turnover in 2011	14.525.640.676
Market share at risk of fragmentation	15%
Total industry turnover at risk of fragmentation in 2011	2.178.846.101
CAGR	0%
Total industry turnover at risk of fragmentation in 2020	2.178.846.101
Average costs for architect services per working hour	70
Number of working days	2
Number of FTEs	1
Number of working hours/day	8
Share of facilities that need to be replaced / refurbished per year	5,0%
Number of facilities relevant for the case in the problem assessment	279910
Share of architect services that is assumed to be procured cross-border	40,0%
Number of Member States that is expected to have legislation in place	27
Share of total EU GDP	100%
Share of Member States that is expected to apply the eventual EU Recommendation	50%
Correction factor	100,0%

### 13.5. Effects of the problem on consumers

Challenges currently encountered by disabled consumers relate e.g. to the insufficient availability of (comparable) information concerning the accessibility of hospitality services, as well as problems in relation to the actual accessibility of the built environment and websites where hospitality services can be booked. Indeed, any disabled traveller, either from an EU Member State or from overseas, who wishes to travel to an (other) EU faces to the lack of similar or coordinated access standards across Europe. The choice of suitable holiday destinations is limited firstly by the difficulty of obtaining reliable information about accessibility, prior to travel, and subsequently by the highly variable quality of transport, venues and services, in terms of their accessibility.

For instance, many accessibility certification schemes and labels are only based on self-assessments by the hospitality service providers without any third party testing<sup>11</sup> and are based on different criteria. As a consequence, consumers often have no assurance that labelled hospitality facilities are actually accessible. Moreover some providers of hospitality services have wrongly labelled their facilities – generally because of a lack of technical skills to perform a correct conformity assessment. As a result, disabled customers relying on such accessibility labels run a risk of unintended booking non-accessible services which could potentially even endangering their security.

Lastly, many accessibility certification schemes and labels focus only on accessibility aspects of the built environment and do not include accessibility of services. Yet, disabled consumers often require accessibility of both the physical facilities and the related services<sup>12</sup>.

## 13.6. Assessment of the impacts per policy option

### 13.6.1. Policy Option 1: Baseline Scenario – Impact Assessment

*Table 63: Effectiveness and Efficiency of Policy Option 1 (Baseline Scenario, Hospitality Services)*

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	0	0	<p>Over the next years, accessibility requirements covering websites can be expected to be adopted by 12 Member States based on the current availability of accessibility legislation in the field of copyrights and due to the obligations for the MS under the UNCRPD. In the built environment, technical accessibility requirements are expected to be adopted in all the 27 Member States.</p> <p>The revised Section 508 in the US is likely to be used as an inspiration by EU Member States adopting legislation in relation to websites as well as the on-going debate of the applicability of ADA to websites. Nevertheless, some divergences can be expected, thus hampering cross-border trade. In the area of the built environment, it is likely that many Member States will implement, maintain or develop their technical accessibility requirements for hospitality services and facilities by 2020. These efforts will potentially be fostered by currently on-going standardisation work at the EU level.</p> <p>As to the magnitude of the impacts of the varying accessibility requirements, it is assumed that 10% of the services provided by web professionals will take place cross-border in 2020. It is expected that the differences</p>

<sup>11</sup> e.g. the German DEHOGA accessibility scheme.

<sup>12</sup> BMWi (2008), p. 34., <http://www.bmwi.de/English/Redaktion/Pdf/economic-impulses-of-accessible-tourism-for-all-526,property=pdf,bereich=bmwi,sprache=en,rwb=true.pdf>

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
			<p>between national technical accessibility requirements has a negative impact on cross-border trade and that the full potential of the internal market would not be achieved.</p> <p>Turning to the built environment sector, problems due to varying accessibility requirements result in problems for architects providing services across borders. Based on available data, it is estimated that 40% of architect services are taking place in a cross-border context. Problems due to variations between national requirements are expected in all of these cases. The differences in accessibility requirements are a challenge for architect service providers; according to anecdotal evidence gathered in the framework of the current study, many architect firms collaborate with local firms in the countries where they provide their services due to these problems, as well as other differences in building regulations. The costs for architects for understanding technical accessibility requirements have been estimated to be equal to 2 to 10 working days. Overall, the costs have been estimated to be between 4.5 EURm and 62.7 EURm for the architect industry. The costs associated with efforts made in order to understand accessibility legislation in place and to adapt the services accordingly is estimated to be between approx. 0.01% and 0.17% of the turnover in this sector in 2020.</p>
To increase competition among industry in the area of selected goods and services and in the area of public procurement	0	0	The expected variations between national technical accessibility requirements are likely to make it difficult for new market entrants, in particular, to engage in cross-border trade. It is not expected that there will be any major new market entrants in the built environment sector by 2020 due to the maturity of the market and the market structure. As concerns the situation in the websites sector, differences between legislation in the countries are likely to have a negative impact on the industry. Despite that most countries are expected to follow the revised Section 508, differences between national legislation can be expected as it has been the case in relation to public websites.
Overall score	0	0	
Average score	0	0	

*Table 64: Impacts of Policy Option 1 (Baseline Scenario, Hospitality Services)*

Assessment criteria	Rating	Explanation
Social Impacts (impacts on different groups)	0	<p><b>Disabled persons</b></p> <p>The increased number of countries that are expected to adopt accessibility requirements concerning websites is likely to have a positive impact on their level of accessibility. This means that more disabled people are likely to be able to book accommodation online. It is assumed that the price of accommodation may be on average between 5 and 10% cheaper than booking directly with the hospitality service provider or via a travel agency.</p>

Assessment criteria	Rating	Explanation
		<p>It can be noted that building regulations that impose accessibility requirements generally refer to new buildings and major refurbishments. Therefore, older buildings may not be accessible. Furthermore, the current varying certification and information concerning the actual accessibility of facilities creates problems for consumers, since the certification schemes vary between the Member States.</p> <p><b>Elderly</b></p> <p>While it can be expected that the absorption rate by elderly of ICT and Internet products will increase by 2020, it is still expected that it will not be at the same level as younger consumers. Hence, while the types of benefits that result from accessible websites in relation to hospitality services are likely to be similar to those of disabled people, it is expected that the anticipated increase in the level of accessibility will benefit elderly slightly less than disabled consumers.</p> <p>Problems and needs for elderly in relation to the accessibility of hospitality facilities are likely to be similar to those of disabled persons, depending on their functional limitations.</p> <p><b>General population</b></p> <p>The level of accessibility of websites is unlikely to have any major impacts on non-disabled persons except from their easiness to be used in mobile devices. The accessibility of the built environment has impacts in particular on families with small children as well as tourists with temporary functional limitations. Problems and needs of these groups of people in relation to the built environment are likely to be similar to those of disabled persons, depending on their functional limitations.</p>
Environmental impacts	0	<p>The level of accessibility of websites for booking hospitality services online is not likely to have any major environmental impacts. While the overall consumption of Internet and computers will have an impact on the use of electricity, the number of hours spent on researching and booking hospitality services online is likely to be limited on a yearly basis.</p> <p>The level of accessibility of the built environment is expected limited environmental impacts.</p>
Overall score	0	
Average score	0	

### 13.6.2. Policy Options 2, 3 and 4 – Impact Assessments

Table 65: Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating (Hospitality Services)

Policy Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	✓✓✓(✓)	✓✓✓(✓)	✓✓✓✓	✓✓✓✓	✓✓✓✓✓	✓✓
To increase competition among industry in the area of selected goods and services and in the area of public procurement	✓✓✓(✓)	✓✓✓(✓)	✓✓✓✓	✓✓✓✓	✓✓✓✓✓	✓✓
Overall score	7	7	8	8	10	4
Average score	3.5	3.5	4	4	5	2

Table 66: Impacts of Policy Options 2, 3 and 4: Rating (Hospitality Services)

Assessment criteria	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
Social Impacts (impacts on different groups)	(✓)	✓(✓)	✓✓✓
Environmental impacts	0	0	0

Table 67: Assessment of Impacts of Policy Options 2, 3 and 4: Explanation of Ratings (Hospitality Services)

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<b>Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating</b>				
<p><i>To improve cross-border trade in the area of selected goods and services and in the area of public procurement</i></p>	<p>Companies that are active on the EU market would have to ensure / provide the following:</p> <ul style="list-style-type: none"> <li>• Accessible websites</li> <li>• Accessible hospitality facilities</li> </ul>	<p><b>Websites</b></p> <p>It is assumed that a range of three to all of those countries (12) that are expected to adopt technical accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This may in turn have a positive impact on cross-border trade. In the baseline scenario, cross-border trade has been fixed at 10%.</p> <p><b>The built environment</b></p> <p>It is assumed that a range of half to all of those countries (27) that are expected to adopt technical accessibility requirements by 2020 as identified in the baseline scenario will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>Trade has been fixed at 40%.</p>	<p><b>Websites</b></p> <p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in those 12 countries that are expected to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p>This would mean that local businesses that are active in countries where accessibility requirements have not been adopted may face lower costs than companies that are based in countries where accessibility requirements are in place. This said, the companies that do not provide accessible websites may miss out on a large consumer group.</p> <p>It is expected that the cross-border trade could increase.</p> <p><b>The built environment</b></p> <p>Under this policy option common accessibility requirements and the mutual recognition principle would be applicable in the 27 countries (i.e. the entire EU) that are expected to have accessibility requirements in place by 2020. This would result in a reduction of those costs for business that are due to variations between national accessibility</p>	<p><b>Websites</b></p> <p>Under this policy option common requirements would have EU wide coverage. This would, in combination with the mutual recognition principle, result in an elimination of costs for business that are due to variations between national accessibility requirements.</p> <p>However, at the same time, business in those 15 countries that are not expected to have adopted accessibility requirements by 2020 would face additional costs for ensuring accessibility (to the degree that they are not already doing so on a voluntary basis).</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>The policy option is expected to have a positive impact on cross-border trade.</p> <p><b>The built environment</b></p> <p><i>See PO3 (the impact would be the same, since the policy options would have the same coverage).</i></p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
			<p>requirements.</p> <p>It is expected that the cross-border trade could increase.</p>	
<p><i>To increase competition among industry in the area of selected goods and services and in the area of public procurement</i></p>		<p><b>Websites</b></p> <p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, i.e. three to 12 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. The extent to which new market entry can be expected to spur competition is linked to amount of countries that follow the Recommendation, i.e. the more Member States adopt the technical requirements proposed in the Recommendation the more likely it is that new market entrants compete on the internal market.</p> <p><b>The built environment</b></p> <p>The impact on new market entrants is likely to be limited. The positive impact on cross-border trade may, however, in turn have a positive impact on competition in this sector.</p>	<p><b>Websites</b></p> <p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, i.e. 12 countries. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. With 12 Member States, representing 85.3% of EU GDP, transposing this Directive it is expected that new market entry will increase competition due to lower costs and an effective increase of the market.</p> <p><b>The built environment</b></p> <p>The impact on new market entrants is likely to be limited. The positive impact on cross-border trade may, however, spur competition in this sector, as one of the barriers to cross-border provision of services would be removed.</p>	<p><b>Websites</b></p> <p>Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, across the EU. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. Under this policy option the Internal Market for accessible websites is effectively based on common accessibility requirements and therefore not only is new market entry likely based on lower costs (as in policy option 3) but also due to a larger market overall internal market for accessible websites.</p> <p><b>The built environment</b></p> <p><i>See PO3 (the impact would be the same, since the policy options would have the same coverage).</i></p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
<b>Impact of the Policy Options on social groups and the environment</b>				
<i>Social Impacts (impacts on different groups)</i>	<p>Disabled consumers would be ensured (in line with the coverage of the policy option) accessible:</p> <ul style="list-style-type: none"> <li>• Websites for booking accommodation abroad;</li> <li>• Accessible hospitality facilities</li> </ul>	<p><b>Websites</b></p> <p>The benefits would be limited to those countries where accessibility requirements are in place.</p> <p>If no further countries would adopt accessibility requirements, the situation would remain the same as in the baseline scenario.</p> <p>In case further countries would introduce accessibility requirements than in the current situation, the introduction of the relevant accessibility requirements will lead to that a higher number of disabled consumers may benefit from reduced prices online. Consumers that buy cross-border from countries where accessibility requirements are in place would also benefit.</p> <p><b>The built environment</b></p> <p>The main impact is likely to refer to the availability of information on the level of accessibility for consumers.</p>	<p><b>Websites and the built environment</b></p> <p>The types of impacts will be similar to those described for PO2, but the scale of the impacts is likely to be larger than PO2 in line with the expected increased number of countries that would have the same requirements in place.</p>	<p><b>Websites</b></p> <p>The types of impacts will be similar to those described for PO2 and PO3, but the scale of the impacts is likely to be larger than both options.</p> <p><b>The built environment</b></p> <p><i>See PO3 (the impact would be the same, since the policy options would have the same coverage).</i></p>
<i>Environmental impacts</i>	No explicit requirements.	None of the policy options is likely to leave a major environmental footprint. Action in this area is expected to have a limited but positive impact on the take up of hospitality services across borders (which would result in environmental impacts due to increased travel e.g. by plane, bus, car or boat) or of Internet / computer uptake and use (which would result in environmental impacts due to changes in the consumption of electricity) but rather on the price of those services for consumers.		

# 14. Public Procurement

## 14.1. Base figures

Problem Assessment (2011) and Baseline Scenario (2020)	
Market turnover in 2011	2.406.980.000.000
CAGR	0,0%
Market turnover in 2020	2.406.980.000.000
Share of publicly procured goods that can be linked to accessibility	62,4%
Total turnover of publicly procured goods / services linked to accessibility	1.501.426.398.151
Current share of public authorities including accessibility/design-for-all requirements in the award criteria	6,4%
Share of costs of accessibility for businesses with regard to public tenders (development costs included)	1,0%
Share of ongoing costs	0%
Share of Cross-border trade	8,5%
Number of countries for which legislation could be identified	
In 2011 (Sample size: 9)	1
In 2020 (extrapolation to EU level)	27
Share of GDP for relevant countries	
In 2011	
1 Member State has legislation in place	13,8%
In 2020	

27 Member States have legislation in place	100%
Correction factor	100%
Share of Additional accessibility costs due to understanding different accessibility requirements across borders	1%

## 14.2. Effects of the problem on consumers

Public procurement is a business-to-business market. Hence, consumers are expected not to directly face barriers with regard to publicly procured goods and services. Indirect benefits for consumers can, however, be expected, for example, linked to more accessible public goods/services provided as a result of accessible public procurement such as the built environment (in relation to transport and government buildings), self-service terminals (in relation to transport) and websites (concerning public websites including those of public transport companies). Accessible goods and services are also essential for the employees of public administrations. Having accessibility built in the goods and services that public authorities purchase reduces the level of assistive solutions that need to be provided by public authorities leading to savings.

## 14.3. Assessment of the impacts per policy option

### 14.3.1. Policy Option 1: Baseline Scenario – Impact Assessment

*Table 68: Effectiveness and Efficiency of Policy Option 1 (Baseline Scenario, Public Procurement)*

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
To improve cross-border trade in the area of selected goods and services and in the area of public procurement	0	0	Over the next years, accessibility requirements covering public procurement can be expected to be adopted by all 27 EU Member States due to the obligations for the MS under the UNCRPD.  The revised Public Procurement Directives making accessibility compulsory are likely to be used as an inspiration by EU Member States adopting legislation containing accessibility requirements to be used in public procurement. Several Member States have already done so like Italy for example. Some divergences can be expected, thus hampering cross-border trade. Current efforts will potentially be fostered by currently on-going standardisation work at the EU level.
To increase competition among industry in the area of selected goods and services and in the area of	0	0	The expected variations between national technical accessibility requirements are likely to make it difficult for new market entrants, in particular, to engage in cross-border trade. Differences between legislation in the

Policy Objectives (Assessment criteria)	Rating		Explanation
	Effectiveness	Efficiency	
public procurement			countries are likely to have a negative impact on the industry.
Overall score	0	0	
Average score	0	0	

*Table 69: Impacts of Policy Option 1 (Baseline Scenario, Public Procurement)*

Assessment criteria	Rating	Explanation
Social Impacts (impacts on different groups)	0	<p><b>Disabled persons</b></p> <p>The increased number of countries that are expected to adopt accessibility requirements concerning public procurement is likely to have a positive impact on the level of accessibility of goods and services that are used by the public, e.g. built environment, Information kiosk, web sites, and public transport. This means that more disabled people are likely to be able to have access to build environment, ICT, and transportation. Disabled persons and elderly will be able to benefit of better choice.</p> <p><b>Elderly</b></p> <p>Elderly are expected to benefit from accessible public procurement in the same way as persons with disabilities do.</p> <p><b>General population</b></p> <p>The level of accessibility of public procurement is unlikely to have any major impacts on non-disabled persons.</p>
Environmental impacts	0	No major environmental impacts can be associated with the accessibility of public procurement.
Overall score	0	
Average score	0	

### 14.3.2. Policy Options 2, 3 and 4 – Impact Assessment

*Table 70: Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating (Public Procurement)*

Policy Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
To improve cross-border trade in the area of selected goods and	✓	✓	✓✓	✓✓	✓✓	✓✓

Policy Objectives (assessment criteria)	PO 2 Recommendation		PO 3 Directive (partial coverage)		PO 4 Directive (full coverage)	
	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
services and in the area of public procurement						
To increase competition among industry in the area of selected goods and services and in the area of public procurement	✓	✓	✓✓	✓✓	✓✓	✓✓
Overall score	2	2	4	4	4	4
Average score	1	1	2	2	2	2

*Table 71: Impacts of Policy Options 2, 3 and 4: Rating (Public Procurement)*

Assessment criteria	PO 2 Recommendation	PO 3 Directive (partial coverage)	PO 4 Directive (full coverage)
Social Impacts (impacts on different groups)	✓	✓✓✓	✓✓✓✓
Environmental impacts	0	0	0

Table 72: Assessment of Impacts of Policy Options 2, 3 and 4: Explanation of Ratings (Public Procurement)

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (in this case: full coverage)	PO 4 Directive (full coverage)
<b>Effectiveness and Efficiency of Policy Options 2, 3 and 4: Rating</b>				
<p><i>To improve cross-border trade in the area of selected goods and services and in the area of public procurement</i></p>	<p>Companies that are active on the EU market would have to ensure / provide the following:</p> <ul style="list-style-type: none"> <li>• Accessible information concerning the accessibility of the good / services</li> <li>• Accessible goods / services that are subject to the actual public procurement process</li> </ul>	<p>It is assumed that either 14 (half of the) EU Member States or 27 EU Member States that adopt technical accessibility requirements by 2020 will follow the Recommendation.</p> <p>Costs related to diverging national accessibility requirements are expected to decrease accordingly.</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>In the baseline scenario, cross-border trade has been fixed at 8.5%.</p>	<p>Under this policy option common accessibility requirements would also be applicable in all 27 EU Member States. This would result in a reduction of those costs for business that are due to variations between national accessibility requirements.</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>Similar to PO2, it is expected that the cross-border trade could increase.</p>	<p>Under this policy option common requirements would also have EU wide coverage. This would result in an elimination of costs for business that are due to variations between national accessibility requirements.</p> <p>This would in turn lead to a level playing field for companies, which is expected to have a positive impact on the possibilities for cross-border trade.</p> <p>The policy option is expected to have a positive impact on cross-border trade.</p>

Policy Objectives / Assessment criteria	Broad types of impacts expected to result from the technical requirements	PO 2 Recommendation	PO 3 Directive (in this case: full coverage)	PO 4 Directive (full coverage)
<i>To increase competition among industry in the area of selected goods and services and in the area of public procurement</i>		Positive impacts on competition are expected in those countries that are covered by the common accessibility requirements, i.e. 14 EU Member States. Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. The extent to which new market entry can be expected to spur competition is linked to amount of countries that follow the Recommendation, i.e. the more Member States adopt the technical requirements proposed in the Recommendation the more likely it is that new market entrants compete on the internal market.	Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. Their accessible goods and services can be offered to public authorities across borders without having to adapt requirements. Companies can concentrate in competing with their peers to sell to public authorities the most accessible goods and services. New market entry will increase competition due to lower costs and an effective increase of the market.	Given that cross-border trade is expected to increase and the costs for understanding different requirements across Member States has been removed, more companies may enter the market. Under this policy option the Internal Market is effectively based on common accessibility requirements and therefore not only is new market entry likely based on lower costs as in policy option 3 but also due to a larger market overall internal market for accessible public procurement.
<b>Impact of the Policy Options on social groups and the environment</b>				
<i>Social Impacts (impacts on different groups)</i>	Disabled consumers would be ensured (in line with the coverage of the policy option) accessible: <ul style="list-style-type: none"> <li>Information concerning the accessibility of the good / service;</li> <li>Accessible goods / services that are subject to the actual public procurement process</li> </ul>	It is assumed that 14 EU Member States will adopt legislation due efforts under the UNCRPD and the Public Procurement Directive. However, costs/benefits for consumers cannot be calculated due to the diverse nature of the public procurement and the variety of industries involved.	The types of impacts will be similar to those described for PO2 but the scale of the impact is expected to be higher as it is expected that 27 EU Member States adopt accessibility requirements. Impacts can, however, not be quantified.	The types of impacts will be similar to those described for PO3. The scale of the impact is expected to be similar.
<i>Environmental impacts</i>	<i>No explicit requirements.</i>	No major environmental impacts can be associated with the accessibility of public procurement.		

**ANNEX 8: PUBLIC PROCUREMENT INCLUDING PUBLIC AND TOTAL DEMAND BY PRODUCT IN 2005 (ALL PRODUCTS)**

The following list of goods and services provide an overview of the key relevant goods and services for accessibility<sup>13</sup>.

*Public and total demand by product in 2005 (all products)*

<b>Short Name of Product</b>	<b>Priority Products relevant for accessibility</b>
Products of agriculture	No
Products of forestry	No
Fish and other fishing products	No
Coal and lignite; peat	No
Crude petroleum/natural gas	No
Uranium and thorium ores	No
Metal ores	No
Other mining products	No
Food products and beverages	Yes – labelling
Tobacco products	No
Textiles	Yes – labelling
Wearing apparel; furs	No
Leather and leather products	No
Wood and products of wood	No
Pulp, paper and paper products	No
Printed matter/recorded media	Yes
Coke, refined petroleum prod	No
Chemicals/chemical products	Yes- labelling

<sup>13</sup> FINAL REPORT CROSS-BORDER PROCUREMENT ABOVE EU THRESHOLDS  
[http://ec.europa.eu/internal\\_market/publicprocurement/docs/modernising\\_rules/cross-border-procurement\\_en.pdf](http://ec.europa.eu/internal_market/publicprocurement/docs/modernising_rules/cross-border-procurement_en.pdf)

Rubber and plastic products	No
Other non-metallic min. prod	No
Basic metals	No
Fabricated metal products	No
Machinery and equipment n.e.c.	Yes
Office machinery/computers	Yes
Electrical machinery/apparatus	Yes
TV/communication equip.	Yes
Medical etc instruments	Yes
Motor vehicles/ trailers	Yes
Other transport equipment	Yes
Furniture/other manufact. Goods	Yes
Secondary raw materials	No
Electrical energy/gas/steam	No
Collected and purified water	No
Construction work	Yes
Trade/ maintenance/repair	Yes
Wholesale trade	No
Retail trade services	Yes
Hotel and restaurant services	Yes
Land transport	Yes
Water transport services	Yes
Air transport services	Yes
Auxiliary transport services	Yes
Post/Telecommunication	Yes
Financial intermediation	Yes

Insurance/pension funding	Yes
Auxiliary fin. intermediation	Yes
Real estate services	Yes
Renting services of machinery	Yes
Computer and related services	Yes
Research and development	Yes
Other business services	No
Public administration	Yes
Education services	Yes
Health and social work services	Yes
Sewage/refuse disposal serv.	No
Membership organisation serv.	No
Recreational, cultural services	Yes
Other services	-
Priv. households with empl. pers	Yes
<b>TOTAL</b>	59
<b>TOTAL - ACCESSIBILITY RELEVANT PRODUCTS</b>	33

### **The accessibility relevant goods and services in public procurement**

The relevance of public procured goods, as laid down in the proposed rules on public procurement, is the intention that the goods and the services would be used by persons.

Furthermore, not all goods and services which are intended for people are equally accessibility relevant. Guided by the common practices and using the possibility of exception in duly justified cases, the contracting authorities will naturally make their own selection criterion. All raw materials and other large and undefined categories of products were therefore in principle excluded from the list as they are not directly used by people, even if such categories may potentially include some accessibility relevant goods and services – ex. wood and products of wood, fabricated metal products. On the contrary, the list contains corresponding categories, which are more specific and have a more obvious accessibility relevance hence being identified as a priority. Such categories include furniture (relevant for wood products) or machineries (relevant for fabricated metal products). Two rather general

categories were nonetheless included in the list of accessibility relevant goods and services because of their specific nature. Chemical products were kept on the list because of the importance of labelling of those products for safety of persons who may use them. Textiles were also kept in the list.

Finally, it must be pointed out that the above selection is approximate and only identifies priorities. It was done for the purpose of this report and in particular to estimate the size and value of the relevant markets. The national contracting entities are not bound by the above list and they will evaluate the situation acting within the framework of the EU rules on public procurement and on case by case basis. Only 1/5 of total public expenditure on goods and services is covered by the EU Public Procurement Directives. Indeed, EU rules on public procurement<sup>14</sup> only concern transactions which value reach high thresholds (5 000 000 EUR for works contracts, 400 000 EUR for supplies contracts and from 200 000 to 130 000 EUR for certain services and design contracts<sup>15</sup>). The same thresholds are foreseen in the relevant provisions of the proposed Public Procurement Directives.

Consequently the fact that a category is not used for the counting cannot imply its exclusion from the obligation under the Directive.

While the table for public demand subject to public procurement includes in total 59 products, 33 of them are relevant for accessibility. Accessibility relevant products correspond therefore to about 52% of all procurement products and to 63% of all procurement products in terms of value of contracts.

Once more it is important to note that this concerns goods and services that are procured by contracting entities, for example some of the public procurement bids covered by the Utilities Directive concern the supply of water or gas- such supply contracts whose accessibility relevant is less than for other goods and services like for example transport, ICT, or constructions work<sup>16</sup>. However, other for contracts covered by the public procurement Directives accessibility is a priority hence accessibility shall be in principle taken into account by the contracting entities when drafting technical specifications.

In fact, as shown in the table, the priority accessibility relevant goods and services which are covered by the EU rules on public procurement would, similarly as all other goods and services, typically concern the areas which are most relevant for the socio-economic integration of persons with disabilities into societies, i.e. the areas of built environment, ICT and transport (without however being limited to those areas). Accordingly, typical accessible goods and services covered by the EU rules on public procurement will include for instance contracts for construction of public buildings and built environment in general, all transport relevant contracts including the means of transportation, the relevant built environment (train-stations) as well as accessible methods of purchasing tickets (websites and ticketing machines). In the area of ICT, the rules will cover public purchases of computers (software and hardware), other devices or services enabling accessible transfer of information, (services

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<sup>14</sup> Commission Regulation No 1251/2011 of 30 November 2011 amending Directives 2004/17/EC, 2004/18/EC and 2009/81/EC of the European Parliament and of the Council in respect of their application thresholds for the procedures for the awards of contract.

<sup>15</sup> [http://ec.europa.eu/internal\\_market/publicprocurement/rules/current/](http://ec.europa.eu/internal_market/publicprocurement/rules/current/)

<sup>16</sup> The proposed EU rules on public procurement specify that: "for all procurement the subject of which is intended for use by persons, whether general public or staff of the contracting authority, [the] technical specifications shall, except in duly justified cases, be drawn up so as to take into account accessibility criteria for people with disabilities or design for all users".

enabling contacts with public authorities emergency services and the relevant equipment, public on-line publications) as well as telephones or mobile phones.

**Entities concerned:**

Entities concerned: there are about **250 000 government departments**, agencies, public bodies and other public entities involved in the award and management of public contracts.

## ANNEX 9: IMPACT ON FUNDAMENTAL RIGHTS

The Charter of Fundamental Rights of the European Union ('the Charter') became legally binding following the entry into force of the Lisbon Treaty. All legislative proposals of the Commission are subject to a systematic check to ensure their compliance with the Charter. This annex evaluates in detail the impact of the Commission proposal suggested in this Impact Assessment on the relevant fundamental rights embodied in the Charter. They include: the freedom to conduct a business (article 16), the right to integration of persons with disabilities (article 26), and the freedom of movement and residence (article 45).

On the whole, the Commission proposal would have a positive impact on the rights provided for in the Charter particularly with regard to their access by persons with disabilities. However, the scale of the positive impact on fundamental rights may vary. While regarding some fundamental rights the impact of the proposal would only be positive, as far as other rights are concerned the impact would be mixed although in balance the proposal would not have an overall negative impact on any of the abovementioned rights.

### I – A Positive Impact

An initiative which would facilitate the functioning of the internal market concerning accessible goods and services would have a positive impact on several rights recognised for in the Charter. Regarding persons with functional limitations, including persons with disabilities, an EU initiative would have a beneficial impact and directly or indirectly facilitate the exercise of the following rights: the right to human dignity (article 1 of the Charter), the right to integrity of the person (article 3). Accessibility will have a positive impact on access to employment of persons with disabilities) the rights of the elderly (article 25), the right to integration of persons with disabilities (article 26), and the freedom of movement and of residence (article 45). The two latter articles are examined in detail.

#### — Article 26 Integration of persons with disabilities

Article 26 provides that: «The Union recognises and respects the right of persons with disabilities to benefit from measures designed to ensure their independence, social and occupational integration and participation in the life of the community. »

According to the «Explanations relating to the Charter of Fundamental Rights»<sup>17</sup>, the principle set out in this Article of the EU Charter is based on Article 15 of the European Social Charter of the Council of Europe and also draws on point 26 of the Community Charter of the Fundamental Social Rights of Workers. The latter provides that:

«All disabled persons, whatever the origin and nature of their disablement, must be entitled to additional concrete measures aimed at improving their social and professional integration. These measures must concern, in particular, according to the capacities of the beneficiaries, vocational training, ergonomics, **accessibility**, mobility, means of transport and housing.»

It is also noteworthy that Article 15(3) of the revised Social Charter of 1996 provides that:

«With a view to ensuring to persons with disabilities, irrespective of age and the nature and origin of their disabilities, the effective exercise of the right to independence, social integration and participation in the life of the community, the

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<sup>17</sup> OJ C 303 of 14/12/2007, p.17.

Parties undertake, in particular: (...) to promote their full social integration and participation in the life of the community in particular through **measures**, including technical aids, **aiming to overcome barriers to communication and mobility and enabling access to transport, housing, cultural activities and leisure.**»

It follows that the Commission proposal, in as much as it would result in the increase of accessibility of [the removal and prevention of barriers to the access to] goods and services available to persons with disabilities, would simultaneously also embody the right provided in Article 26 of the Charter, since it would facilitate the «independence», «social integration» and «participation in the life of the community» of persons with disabilities.

Furthermore given the strong correlation between disability and ageing it would positively contribute to the rights of elderly persons in particular the proposal will have a positive effect on their independence and participation in social and cultural rights in line with Article 25.

— *Article 45 on the freedom of movement and residence*

The objective of the suggested Commission proposal is not the freedom of movement of persons at such, but the facilitation of the free movement of accessible goods and services in the internal market. Therefore, its proposed legal basis is Article 114 TFEU. However, the Commission proposal would also have an indirect positive impact on the freedom of movement and residence of EU citizens and of the entitled nationals of third countries. The harmonisation of accessibility requirements of goods and services across all Member States will not only benefit economic operators. It will also benefit citizens as consumers in cross border situations and thus make easy their movement. For example, if a person with a visual impairment can have better access to a website to buy flight tickets for cross border trips, the practical possibilities for her or him to effectively exercise the freedom of movement in the European Union are increased to the same extent.

## **II - A Mixed Impact**

— *Article 16 on the freedom to conduct a business*

This Article recognises «[t]he freedom to conduct a business in accordance with Union law and national laws and practices (...)»

First and foremost, by increasing the potential of the internal market through the elimination of obstacles to trade, the initiative would facilitate the exercise of this right in cross borders situations.

However, in some cases an EU initiative which would facilitate the functioning of the internal market concerning accessible goods and services could also entail a limited restriction to the exercise of that freedom. In some Member States the initiative could result in the adoption of new rules, which would be added to those already existing at national level. However, the restrictions resulting from these new rules would be justified and proportional. Their main justification is the fact that they would result in an increase of the potential for intra-EU trade, which the economic operators themselves would benefit from. In addition, from a fundamental rights perspective, the new rules are also justified with a view to promoting other fundamental rights, such as those abovementioned.

In line with Article 52 of the Charter, in particular its paragraph 1, the new rules respect the principle of proportionality, since they are limited to what is necessary to meet the objective of facilitating the functioning of the internal market. The application of the new accessibility requirements is subject to the condition that they don't entail a disproportionate burden to the economic operators concerned. Moreover, these requirements would enter into force in a

progressive manner, which gives plenty of time for economic operators to adjust gradually to the investments necessary to benefit from an enlarged internal market.

Finally the Charter refers in article 53 on the "level of protection" to other international agreements to which the Union or all the Member States are party. In this context is important to mention that the EU and the majority of its Member States are already parties to the UN Convention on the Rights of Persons with disabilities. The purpose of the Convention is to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities. This proposal will facilitate the implementation of the obligations on accessibility in the UNCRPD facilitating a uniform level of protection across the EU and a common interpretation.

## **ANNEX 10: LIST OF ACCESSIBILITY RELEVANT EU ACTS**

The present list lays down accessibility relevant EU acts. Its objective is to show a global and complete picture of accessibility relevant acts adopted and proposed at the EU level<sup>18</sup>. The list shows the current legal context in the area of accessibility and indicates possible added value of the envisaged new EU initiative. Such initiative would not amend the existing EU rules in the area of accessibility (i.e. it would be without prejudice to the existing provisions). It may however complete some of them.

The EU acts are divided into two main sections. Section I encloses EU acts that refer to accessibility in general terms – i.e. without providing for technical accessibility requirements/specifications. Section II includes EU acts that require accessibility and provide for technical accessibility specifications. Such distinction is important.

Besides, the list indicates that many of the already adopted EU acts referring to accessibility concern the well-functioning of the internal market and are based on the internal market legal basis. These are in particular those EU acts that refer to accessibility of particular goods and services directly (ex. lifts, packaging of medicines, construction products, buses, certain universal services such as telecommunication services and networks, broadcasting services) or indirectly (ex.: public procurement).

### **I. EU acts referring to accessibility without providing for technical accessibility requirements**

This Section lists EU acts that refer to accessibility without laying down their own technical specifications. The list is divided into two subsections. The first presents acts that refer to goods and services indirectly (they are not specified and the list of the relevant goods and services is not closed). The second list includes all those acts that refer to accessibility of goods and services directly (they are specified).

#### **1. Accessibility as a characteristic not related to particular goods and services: EU rules on public procurement and European Structural Funds**

##### ***Public Procurement***

According to the currently binding rules: "whenever possible" technical specifications set out in the contract documentation should take into account "accessibility criteria for people with disabilities or design for all users". The Commission proposals to revise this legislation go a step further. The draft Directives provide that, when the subject of procurement is intended for use by persons, the technical specifications shall "be drawn up so as to take into account accessibility criteria for people with disabilities or design for all users." This would be the new general rule; exceptions would be possible only "in duly justified cases." Moreover, according to the new proposals, when contracting authorities decide to award contracts on the basis of the most economically advantageous tender, the latter shall be identified based upon criteria which include, inter alia, accessibility and design for all users.

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<sup>18</sup> Originally, the list was inspired by an Appendix to the Council decision 2010/48/EC of 26 November 2009 concerning the conclusion, by the European Community of the UN Convention on the Rights of Persons with Disabilities. The Appendix shows the EU competences in the area of disability, including accessibility. The present list is updated and lays down only those EU acts that refer to accessibility of certain goods and services directly (ex.: lifts) or indirectly (by referring to selection criteria ex. in public procurement). The list should be complete. Various accessibility relevant EU policies are nonetheless at constant development and thus this list should not be considered as final.

- Directive 2004/17/EC of the European Parliament and of the Council of 31 March 2004 on coordinating the procurement procedures of entities operating in the water, energy, transport and postal services sectors – the "Classical Directive"
- Directive 2004/18/EC of the European Parliament and of the Council of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts – the "Utilities Directive"
- Proposal for a Directive replacing Directive 2004/17 - Proposal for a Directive of the European Parliament and of the Council on procurement by entities operating in the water, energy, transport and postal services sectors (SEC(2011) 1585){SEC(2011) 1586
- Proposal for a Directive replacing "the Classical Directive" – Directive 2004/18- Proposal for a Directive of the European Parliament and of the Council on public procurement {SEC(2011) 1585 final}{SEC(2011) 1586 final}

### ***Structural Funds***

The currently binding EU Structural Funds refer to accessibility for disabled person as one of the criteria to be observed in defining operations co-financed by the Funds and to be taken into account during the various stages of implementation. It provides that "accessibility for disabled persons" shall be taken into account both in the selection of operations co-financed by the Funds and during the various stages of their implementation. In 2011, the Commission proposed to revise that Regulation, by requiring that accessibility shall be taken into account as regards the content of each operational programme, the activities of the monitoring committee, and the annual implementation reports to be submitted by Member States to the Commission. Annex IV of that proposal also establishes that, as general ex-ante conditionality, there must be a mechanism ensuring an effective implementation of the UN Convention on the rights of persons with disabilities.

- Council Regulation No 1083/2006 of 11 July 2006 laying down general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund and repealing Regulation (EC) No 1260/1999;
- Proposal for a Regulation of the European Parliament and of the Council laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund covered by the Common Strategic Framework and laying down general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund and repealing Regulation (EC) No 1083/2006 (COM/2011/0615 final - 2011/0276 (COD))

## **2. Provisions related to needs of persons with disabilities**

### ***Information and Communication Technologies***

The EU approaches accessibility in the area of telecommunication mostly from the perspective of a universal service. Most of the EU provisions in this area have an enabling character: i.e. they lay down obligations or guidelines on the national regulatory authorities enabling them to address the needs of persons with disabilities. Only the Universal Service Directive lays down concrete obligation on the Member States. It concerns the application of universal service and the emergency services such as "112 number" and "116 number".

- **Framework Directive** - Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic

communications networks and services (Framework Directive) (OJ L 108, 24.4.2002, p. 33), as amended by Directive 2009/140/EC of the European Parliament and of the Council of 25 November 2009 (OJ L 337, 18.12.2009, p. 37) and Regulation 544/2009 of the European Parliament and of the Council of 18 June 2009 (OJ L 167 29.6.2009, p.12)

The Framework Directive lays down obligations on the national regulatory authorities to address the needs of disabled users. It states that the national regulatory authorities shall promote competition in the provision of electronic communications networks, electronic communications services and associated facilities and services by inter alia: ensuring that users, including disabled users, elderly users, and users with special social needs derive maximum benefit in terms of choice, price, and quality.

- **Universal services Directive** - Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive) (OJ L 108, 24.4.2002, p.51) as amended by Directive 2009/136/EC of the European Parliament and of the Council of 25 November 2009 (OJ L 337, 18.12.2009, p. 11)

The Directive refers to accessibility and affordability of specified universal services to disabled end-users, such as publicly available electronic communication services, directory enquiry services and directories provided by undertakings designated with universal service obligations, as well as ensuring equivalence in access and choice for disabled end-users provided by any undertakings providing publicly available electronic communications services. Several its provisions have an enabling character. However, the provisions related to universal service and emergency services impose an obligation on the Member States that disabled end-users have the access to emergency services equivalent to that enjoyed by other end-users.

- **AVMS Directive** - Directive 2010/13/EU of the European Parliament and of the Council of 10 March 2010 on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the provision of audio-visual media services (Audio-visual Media Services Directive) (OJ L 95, 15.4.2010, p.1)

Audio-visual Media Services Directive states that Member States shall encourage media service providers under their jurisdiction to ensure that their services are gradually made accessible to people with a visual or hearing disability.

- Proposal for a Directive on Web-Accessibility – Proposal for a Directive of the European Parliament and of the Council on the accessibility of public sector bodies' websites COM (2012) 721 final

The proposal lays down accessibility requirements for a set of public sector bodies' websites offering essential services to citizens. The proposal establishes accessibility requirements for the websites concerned. The proposal includes a presumption of conformity clause with harmonised European standards, meaning that websites concerned that meet the respective standards are presumed to be in conformity with the accessibility requirements set out in the proposal. The requirements are in line with the Success Criteria and Compliance Requirements of the Web Content Accessibility Guidelines (WCAG) 2.0 Level AA.

### ***Passengers' rights***

The EU acts in the area of passenger's' rights regulate the protection of, and assistance to, disabled persons and persons with reduced mobility at the EU level while travelling by different modes of transportation. These acts do not relate to accessibility of goods and services.

- Regulation (EC) No 261/2004 of the European Parliament and of the Council of 11 February 2004 establishing common rules on compensation and assistance to passengers in the event of denied boarding and of cancellation or long delay of flights, and repealing Regulation (EEC) No 295/91 (OJ L 46, 17.2.2004, p. 1)
- Regulation (EC) No 1107/2006 of the European Parliament and of the Council of 5 July 2006 concerning the rights of disabled persons and persons with reduced mobility when travelling by air (OJ L 204, 26.7.2006, p. 1)
- Regulation (EC) No 1371/2007 of the European Parliament and of the Council of 23 October 2007 on rail passengers' rights and obligations (OJ L 315, 3.12.2007, p. 14)
- Regulation No 1177/2010 of 24 November 2010 of the European Parliament and of the Council concerning the rights of passengers when travelling by sea and inland waterway and amending Regulation (EC) No 2006/2004 (OJ L 334, 17.12.2010, p.1)
- Regulation No 181/2011 of the European Parliament and of the Council of 16 February 2011 concerning the rights of passengers in bus and coach transport and amending Regulation (EC) No 2006/2004 (OJ L 55, 28.2.2011, p. 1)

### ***Construction products***

- Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC (OJ L 88, 4.4.2011, p. 5).

The Regulation does not lay down an obligation to make products accessible. Annex to the Regulation refers to accessibility as one of basic requirements that may be taken into account when elaborating relevant standards.

### ***Radio equipment and telecommunications***

- RTD Directive - Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity (OJ L 91, 7.4.1999, p. 10)

The Directive enables the Commission to decide that certain apparatus shall be constructed that it supports certain features in order to facilitate its use by users with disabilities. The Commission has not made a use of this provision yet.

### ***Transport***

- Directive 2008/57/EC of 17 June 2008 on the interoperability of the rail system within the Community (Recast) (OJ L 191, 18.7.2008, p.1)

The Directive lays down general accessibility requirements related to the train infrastructure and the rolling stock.

- Proposal for a Regulation on Union guidelines for the development of the trans-European transport network {SEC(2011) 1212}{SEC(2011) 1213}

According to the Regulation, development of the infrastructure of the trans-European transport network shall pursue the objectives of accessibility for elderly people, persons with

reduced mobility and disabled passengers. In particular, the transport infrastructure shall allow seamless mobility and accessibility for all users.

## **II. EU acts requiring accessibility of certain goods and services and providing for their technical accessibility requirements/specifications**

This Section lists EU acts that refer to accessibility of particular products and lay down their technical specifications. These provisions are detailed enough to be directly applicable by economic operators. The new EU initiative would not be applicable to those acts.

### ***Packaging of medicines***

- Directive 2004/27/EC of the European Parliament and of the Council of 31 March 2004 amending Directive 2001/83/EC on the Community code relating to medicinal products for human use (OJ L 136, 30.4.2004, p. 34).

The Directive requires that the name of medicinal products is expressed in Braille format on the packaging. The marketing authorisation holder shall also ensure that the package information leaflet is made available on request from patient's organisations in formats appropriate for the blind and partially-sighted.

### ***Lifts***

- Directive 95/16/EC of the European Parliament and of the Council of 29 June 1995 on the approximation of the laws of the Member States relating to lifts (OJ L 213, 7.9.1995, p. 1), as amended by Directive 2006/42/EC of the European Parliament and of the Council on machinery, and amending Directive 95/16/EC (OJ L 157, 9.6.2006, p. 24)

The accessibility of lifts constitutes one of the essential health and safety requirements. Accessibility is also included in the relevant standard proving conformance with the Directive.

### ***Transport***

- Regulation (EC) No 661/2009 of the European Parliament and of the Council of 13 July 2009 concerning type-approval requirements for the general safety of motor vehicles, their trailers and systems, components and separate technical units intended therefor (OJ L 200, 31.7.2009, p. 1)

The Regulation requires accessibility for people with reduced mobility for certain classes of vehicles.

- Directive 2009/45/EC of 6 May 2009 on safety rules and standards for passenger ships (Recast) (OJ L 163, 25.6.2009, p. 1)

The Directive requires that Member States ensure safe access to persons with reduced mobility to passenger ships. Precise guidelines are laid down in the relevant annex.

- Commission Decision 2008/164/EC of 21 December 2007 concerning the technical specification of interoperability relating to 'persons with reduced mobility' in the trans-European conventional and high-speed rail system (OJ L 64, 7.3.2008, p. 72)

The Decision on the interoperability of the high-speed rail system lay down detailed technical specification related to accessibility of the relevant train infrastructure and of the rolling stock including train equipment.

## ANNEX 11: SMALL AND MEDIUM ENTERPRISES, INCLUDING MICRO-ENTERPRISES: CONSULTATIONS AND ANALYSIS OF IMPACTS (SMEs TEST)

### 1. Introduction

In order to minimise the regulatory burden on very small companies to the absolute minimum, the Commission outlined in November 2011 its new policy on "Minimizing regulatory burden for SMEs - Adapting EU regulation to the needs of micro-enterprises"<sup>19</sup>. The implementation of this policy on micro-enterprises is detailed in operational guidelines<sup>20</sup>. According to this new policy, the Commission's preparation of all future legislative proposals is based on the premise that in particular micro-enterprises<sup>21</sup> should *a priori* be excluded from the scope of the proposed legislation unless the necessity and proportionality of their being covered can be demonstrated. Where micro-enterprises must be covered by legislative proposals for public policy reasons recourse to adapted solutions and lighter regimes will be sought concerning all forms of regulatory burden including, in particular, regarding administrative requirements. The demonstration of the proportionality of covering micro-enterprises and the assessment of possible adapted solutions should be included in the Impact Assessment, thus adding a specific micro-enterprises dimension to the 'SME test'.

In line with this Commission policy, it has been decided to include micro-enterprises in the scope of application of the policy action under consideration. The analysis below focusses therefore on SMEs, including micro-enterprises.

Due to their size and scarce resources, micro, small and medium-sized enterprises (SMEs)<sup>22</sup> can be affected by the costs of regulations more than their bigger competitors. At the same time, the benefits of regulations tend to be more evenly distributed over companies of different sizes. SMEs may have limited scope for benefiting from economies of scale. SMEs in general find it more difficult to access capital and as a result the cost of capital for them is often higher than for larger businesses. SMEs play a key role in shaping Europe's economy, accounting for 99 % of enterprises, of which 92 % are micro-enterprises. They provide more than two thirds of private sector employment and play a key role in economic growth. Generally, on average, where a big company spends one euro per employee to comply with a regulatory duty a medium-sized enterprise might have to spend around four euros and a small business up to ten euros.<sup>23</sup> Depending on the relevance of the initiative for SMEs and in particular micro-enterprises, appropriate consultation to ensure input on the needs and interests of SMEs, in particular micro-enterprises alongside large enterprises, should be used.<sup>24</sup>

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<sup>19</sup> COM(2011)803

<sup>20</sup> Ref. Ares(2012)557005 - 07/05/2012

<sup>21</sup> Enterprises with less than 10 employees and a turnover or balance sheet total equal to or less than €2 million.

<sup>22</sup> The definition of an SME covers all enterprises with less than 250 employees and equal to or less than either €50 million turnover or €43 million balance sheet total. Micro-enterprises are the smallest category of SME, with less than ten employees and a turnover or balance sheet total equal to or less than €2 million.

<sup>23</sup> Report from the Expert Group on "Models to Reduce the Disproportionate Regulatory burden on SMEs", May 2007.

<sup>24</sup> Annex 8.4(1) of the Impact Assessment Guidelines contains specific suggestions on how to consult SME representatives.

## 2. Consultation of small and medium-sized enterprises

The SME Panel was conducted through Enterprise Europe Network between end of April and end of July 2012. 180 companies responded to this survey on accessibility, which focused on mainstream accessible goods and services used by most people, not the so-called assistive devices<sup>25</sup>. The aim of this survey was to gain a better understanding of the most important sectors and to identify problematic issues from the industry's perspective, which may arise as a result of current legal fragmentation concerning the regulation of accessibility of goods and services and market issues. Of particular importance is the market supply of goods and services for which accessibility is included in the design stage to take into account the needs of the widest variety of users (i.e. Design for All/Universal Design).

The summary of the analysis is presented along the following topics:

- General information about the companies;
- How accessibility is considered in the organisation;
- Obstacles to producing and providing accessible goods and services;
- Estimates of the costs and benefits derived from providing accessible goods and services; and
- Possible EU measures to encourage companies to provide more accessible goods and services.

### *General information about the companies*

The 180 companies which responded to the survey are established in 14 of the Member States. They operate in one or more of the Member States, covering them all, and some also trade beyond EU borders. 42% of the respondents are micro companies (1-9 employees), 29% are small companies (10-49 employees), 17% are medium companies (50-249 employees), 10% are large companies (more than 250 employees) and 2% did not specify their size.

The main economic sectors in which companies surveyed operate are "Manufacturing" and "Professional, scientific and technical activities". There is also a significant presence of companies falling under the sectors of "Information and communication", "Wholesale and retail trade; repair of motor vehicles and motorcycles", and "Construction".

More than half of the respondents sell goods or services to public authorities and four out of five of these companies have stated that accessibility requirements are sometimes or frequently included in tender specifications.

Approximately two in three companies surveyed declared they are familiar with the concept of accessibility as outlined in the introduction to the survey. There is some correlation between the size of the companies surveyed and their familiarity with the concept of accessibility, since that familiarity is higher in medium-sized or large companies than it is in small or micro ones. Medium-sized enterprises have a greater familiarity with the concept of accessibility than large ones, although the differences are not significant.

About half of the companies surveyed (88 of 180) provide customers accessible goods and services. There is also a clear correlation between the provision of accessible goods and services and familiarity with the concept of accessibility. The majority of the organisations

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<sup>25</sup> i.e. special devices used to replace, compensate for, or improve the functional abilities of people with disabilities like mobility and visual/hearing aids, orthotics/prosthetics, speech devices, medical supplies, environmental controls, and respiratory devices.

that provide accessible goods and services operate in the sectors of "built environment" or "information and communication", but also companies providing transportation of goods and services, legal advisory services, accessibility consultancy and training, consultancy and auditing services.

### ***How accessibility is considered in the organisation***

For the 88 respondents that provide accessible goods and services, the most important reason for doing so is corporate social responsibility / corporate image of the company. The importance of this reason has been evaluated with an average of 4.7 on a scale of 1 to 6, where 1 means that it is not an important reason to provide accessible goods and services and 6 is a very important reason. Other reasons deemed important are compliance with legislation, the fact that accessibility features are a good way of reaching more clients and that accessibility involves no significant additional costs (with mean values of 4.6, 4.0 and 3.6 respectively).

In general, companies surveyed give less importance to the profitability of providing accessible goods and services, and the fact that accessibility allows participation in additional public procurement tenders (mean values of 3.4 and 3.2).

Companies that do not provide accessible goods and services (or those that do not know if they do so) considered that the most important factor that could cause additional cost to them if they did provide accessible goods and services is the time spent to understand the requirements, standards and legislation about accessibility in their country. This factor has been rated with 4.2 on a scale of 1 to 6.

Other factors deemed important are the additional time and costs necessary to study the market and to estimate the necessary investments (rated to 3.8), the time spent understanding requirements, standards and legislation in other Members States when trading cross-borders and the additional cost of designing accessible goods or services (both rated to 3.7), additional manufacturing costs (3.6), training staff about accessibility (3.5) and costs relating to getting legal expertise on accessibility legislation when trading in other Member State (3.4). Additional costs related to distribution and training of staff on the diverse accessibility requirements in other Member States and those arising from marketing and advertising in the country of origin or third countries have a somewhat smaller, but still significant ranking (between 3.3 and 2.9 average rating on the 1 to 6 scale used).

Companies that do not provide accessible goods and services tend to give more weight to the factors that may cause costs in the provision of accessible goods and services than companies that provide this kind of goods and services. The only factor of cost that is seen less important by companies that do not provide accessible goods and services in comparison with those that do is training staff about accessibility.

### ***Obstacles to producing and providing accessible goods and services***

Three in four companies that provide accessible goods and services declared never having to deal with accessibility standards of other countries that were different from those applied in the country they are based, although it should be noted that many of them do not export goods and services to other Member States. Out of all the companies that provide accessible goods and services, 15% reported having to deal with it. Considering only exporting companies that provide accessible goods and services, the percentage of those who have had to deal often or very often with accessibility rules different from the ones in their main location rises to 30%.

Actual or potential obstacles to the provision of accessible goods and services to the surveyed companies seen as most important are lack of information and guidelines on accessibility (scored 3.8 on a scale of 1 to 6 where 1 means 'not important' 6 means 'very important'), lack of knowledge of accessibility, and complexity of the legislation (both scored 3.7). Also considered as major obstacles are the complexity of standards and the weak aggregate demand for goods and services accessible (both with a value of 3.6 on the scale proposed), complexity of information and guidelines and lack of knowledge about the size of investment required (both factors scored 3.5) and the unwillingness of customers to pay more for accessible goods and services (3.4).

With a score somewhat lower, but not negligible, are rated other factors such as the lack of standards and legislation, the established strong position of some competitors in the market and the differences in the accessibility requirements within countries and between EU Member States (all these factors scored 3.2), and uncertainties about short-term performance of the investments required (3.1).

### ***Estimates of the costs and benefits derived from providing accessible goods and services***

Respondent's perceptions on the effect that providing accessible goods and services has on the number of customers are mostly positive. While 25% consider that the effect was significant or very significant, and 28% that the effect was positive but slight, 21% noted that in general, accessibility has not impacted significantly on the number of customers, and 23% said, more categorical, not having experienced any increase in their clientele derived from improving the accessibility of its goods and services.

Perceptions of companies are somewhat less positive when referring to the effect that improvements in the accessibility of their goods and services have had on their financial benefits. The proportion of those who believe that these effects were significant or very significant is still 20%, and of those that consider the effects have been slight were 18%. On the contrary, those that believe that in general its benefits have not been impacted were 34%. Those who think that the improvement of accessibility has not had any effect at all on its results were 23%. As one would expect, an increase in customers correlated to a certain extent with an increase in financial benefit.

In conclusion, 55% of companies that provide accessible goods and services have increased their clientele as a result of improving the accessibility of their goods and services, and 39% have experienced increases in their financial benefits for this reason.

The proportion that represents accessible goods and services on the total of the supply of goods and services provided by the companies who responded to the survey varies greatly, and so is the proportion of total revenues related to accessible goods and services. Although there is a correlation, it is not possible to establish a direct link between the share of

accessible goods and services and their revenues. Overall the proportion of total revenues related to the provision of accessible goods and services is perceived as lower than the proportion that represents accessible goods and services on total offer of the company.

Providing accessible goods and services may pose specific costs. The main factors considered by the respondents that may cause costs when providing accessible goods and services are training staff about accessibility and the time spent understanding requirements, standards and legislation in their own Member State (both with an average rating of 3.7 on a 1 to 6 scale where 1 means 'not important' 6 means 'very important'). Also cited as relatively important were the additional design costs (3.5), the time spent understanding requirements/standards/legislation in other Member States when trading cross-border (3.3), the additional manufacturing costs (3.3), the training of staff about diverse accessibility requirements including legislation in other Member States (3.3), and the cost for getting legal expertise on accessibility legislation when trading in other Member States (3.0). Other factors such as additional costs for marketing and advertising or in the delivery of goods and services are considered less important.

The estimated extra production cost directly attributable to the provision of accessible goods and services compared to those who do not provide them also has a very wide range of variation, although almost half of surveyed companies that provide accessible goods and services consider these extra costs below 5% or non-existent.

For 77% of the companies that provide accessible goods and services (including the ones previously mentioned) the extra production costs attributable to the provision of goods and services that are accessible represents a maximum of 30% of their costs. The remaining 17% of companies have stated that their extra costs are equal to or greater than 31%, however, these costs are offset by the income received, as they all have experienced increases in the number of customers and profits resulting from the provision of goods and services accessible to over 31%. Compared to all the surveyed companies and to all companies that provide accessible goods and services, these companies facing high extra production costs are larger, sell more to public authorities and frequently found more accessibility requirements for goods and services included in the tender specifications.

Perceptions of the companies surveyed show some confidence in the market potential for accessible goods and services. Almost 50% agree with the statement "For my company, the group of persons with disabilities and older persons offer an interesting market potential". A very close degree of agreement was raised in the statement "It is profitable for my company to invest in accessible goods and services as there is a reasonable level of demand and customers are willing to pay". However, there is slight less optimism about the chances of selling more goods and services to people with disabilities and elderly people if these were more accessible for them (still 33% of the companies agree with the statement).

Confidence in the positive effect that would result from having common European standards related to accessibility requirements is also moderate. The statements "Common rules with regards to accessibility requirements make it easier for companies to sell to public authorities in other Member States" and "For my company having common rules in Europe on accessibility will make it easier to operate in another Member State" have obtained an agreement rate of 55% and 50%, respectively.

The level of agreement with statements about market potential of accessibility and effect from having common European standards on accessibility disaggregated by provision or not of accessible goods and services is the following: In general, companies that provide accessible goods and services are more optimistic about the market potential of these goods or services,

and have a greater confidence in the positive effects that would result from having common European standards on accessibility.

### ***Possible EU measures to encourage companies to provide more accessible goods and services***

Among the potential measures that the EU could take to encourage companies to produce more accessible goods and services, the respondents valued as most useful the financial support (subsidies, tax incentives and R&D grants), the EU funding of a training programme for the industry on how to implement and monitor accessibility requirements and the adoption of common standards setting out accessibility requirements (instead of letting each Member State have national rules on accessibility). The usefulness of these measures has been agreed by the companies, respectively, with 84%, 76% and 74%.

In addition, other measures considered useful by the majority of respondents include EU support to self-regulation by industry (67%), the adoption of EU legislation to make the purchasing of accessible goods and services compulsory in public procurement (65%) and the adoption of EU rules containing general obligations for manufacturers and service providers to provide accessible goods and services (65%).

## **3. Analysis of impacts on small and medium-sized enterprises (SME test)**

### **3.1. Impact of the options on SMEs**

The divergences in the national accessibility requirements in the current situation generate higher costs for all types of economic operators, but for SMEs they represent relatively heavier costs than for large economic operators. An SME will have smaller resources to obtain expertise in the applicable legislation or technical standards than a large economic operator as well as it will be less equipped to perform tests and conduct controls and risk analysis for its goods and services. If these divergences in national accessibility requirements will be eliminated it can be expected that they would produce positive effects on all types of economic operators, but with respect to SMEs, these effects may be more accentuated, *i.e.* have relatively higher positive benefits. A common clear set of accessibility requirements will become more easily accessible to a higher number of SMEs. The cost savings resulting from the enhanced legal clarity would make it possible for a number of SMEs to become able to follow and respect all accessibility requirements.

On the other hand, the costs for SMEs to comply with the applicable accessibility requirements, even if harmonised at EU level, may be more burdensome for SMEs, as they may have fewer financial and human resources to ensure compliance compared to big economic operators.

However, having common clear rules in Europe will facilitate the entering of SMEs in new markets in other Member States without the need of worrying about the compliance of their products and having to spend further resources on technical and legal advice.

Comparing potential benefits with potential costs, policy action in this area would result in a positive balance for both SMEs and other economic operators concerned.

### **3.2. Differentiated treatment of SMEs and other economic operators**

Applying a differentiated treatment for instance with respect to the level of compliance with accessibility requirements or with respect to reporting obligations in order to further reduce the relative imbalance which the applicable accessibility legislation has on the SMEs does not

appear to produce the desired outcomes for SMEs. The impacts of such option would be similar to the abolition of harmonised accessibility requirements, *i.e.* legal problems, internal market difficulties, discrimination issues, market distortions etc. Moreover, the differentiated treatment of SMEs and other economic operators would be – as far as accessibility requirements are concerned – inapplicable in practice because it would require Member States to differentiate in their enforcement between SMEs and other companies.

This differentiated treatment of SMEs would result in creation of two production and marketing chains: one for goods and services produced by ‘big’ companies and one for SMEs. This would bring a number of negative results for SMEs: consumers might at the end prefer fully accessible goods and services, therefore the competitiveness of SMEs would suffer in general. At the same time, it would negatively impact SMEs producing fully accessible goods and services, since goods and services made and sold by SMEs in general would get in the perception of consumers the label of being not fully accessible and it would be very difficult for SMEs producing high quality and fully accessible goods and services to convince the consumers about the opposite.

Last but not least, "an SME exemption or a lighter regime" from accessibility rules would paradoxically provide incentive for economic operators to ignore accessibility rules and to market goods and services which would not be accessible.

**3.3 Mitigating measures**

As part of the contribution to the creation of growth and jobs, the reduction of regulatory burden, in particular in relation to SMEs, is being continuously considered when reviewing and preparing new legislation.

In this particular case, the provision that fundamental alterations to the good and/or service do not need to be made, means that SMEs (and other economic operators) would not have to deviate from their product. Furthermore, the compliance with the requirements should only be made to the extent that it will not impose a disproportionate burden to the economic operator concerned. These provisions could be regarded as particular mitigating measures in order to alleviate burdens resulting from the EU harmonisation of accessibility requirements for micro, small and medium-sized enterprises. Costs of compliance will be further reduced in case of the development of European standards which would give presumption of conformity with the harmonised accessibility requirements as standards will provide detailed guidance regarding what to implement and even how. This could be also seen as a mitigating measure, since such standards would considerably reduce compliance costs, in particular for micro, small and medium-sized enterprises.

**4. SME test summary**

Consultation with SME representatives	SMEs were specifically consulted through the SME Panel during the months of April – July 2012.
Preliminary assessment of business likely to be affected	According to the findings of the consultation, SMEs are among the economic operators affected by the problems identified.
Measures of impact on SMEs	If the envisaged options are applied indistinctly to all economic operators irrespective of their size, it can be expected

	<p>that they would produce the same positive effects on all types of economic operators. With respect to SMEs, these effects may be more accentuated since the costs savings resulting from the enhanced legal clarity would make it possible for certain SMEs to become able to follow and respect all accessibility requirements.</p> <p>As regards the negative impacts, it did not appear in the impact assessment that the overall impact of this policy action would bring about significant costs increases to SMEs as well as to other economic operators.</p>
<p>Assessment of alternative options and mitigating measures</p>	<p>There was no indication of the need for SMEs specific measures in order to ensure compliance with the principle of proportionality. In particular due to the practical problems that would likely result from applying a differentiated treatment to SMEs and other economic operators as far as accessibility requirements are concerned. However, the application of certain measures, such as the application of the rules of “fundamental alteration” and of “disproportionate burden”, together with the use of European standards, could be regarded as mitigation measures.</p>