Hearing note - regulations pertaining to universal design of ICT solutions

1. Introduction

The Ministry of Government Administration, Reform and Church Affairs (MoA) is hereby forwarding a *proposal* for regulations pertaining to universal design of information and communication technology solutions (ICT solutions). The regulations are set out pursuant to sections 2, 11 and 16 of the Act pertaining to Prohibition of Discrimination based on Disability (the Discrimination and Accessibility Act), dated 20 June 2008, no. 42.

The regulations are a concretisation of the provisions of the act setting out an obligation for universal design of ICT-solutions on the basis of internationally recognized standards. The requirements of the Act for universal design are regarded to be met when it is possible to document that these, or corresponding standards have been applied.

The requirements of the regulations will apply to internet based solutions and self-service solutions (automatic devices) intended for use by the public. There are quite a few international standards for universal design available in this area of ICT, these solutions are most commonly used and thus affect the greatest number of people. Considerations have been made to ensure that the Act will not incur unreasonable economic costs for the enterprises.

In the case of internet based solutions, it is proposed to apply the Web Content Accessibility Guidelines, version 2.0 (WCAG 2.0) at level A and AA as a norm, with certain exceptions. In the case of self-service solutions, nine European and international standards are proposed. The selection of standards is the result of an extensive survey, and covers all main categories of disability, as well as main categories of functions incorporated in ICT-based automatic devices.

The Directorate of Administration and ICT (DiAI) is the supervising public authority pursuant to the regulations.

The regulations must be defined as technical rules, and will therefore be notified to the ESA (EFTA Surveillance Authority) in line with section 4 of the EEA Act pertaining to Hearings (dated 17 Dec. 2004, no. 1) in the EU/EEA countries for hearing in EU/EEA countries. The proposal for regulations will therefore be forwarded to the ESA at the start of the hearing. The purpose is to ensure that the regulations do not cause any technical obstructions to trade within the EU/EEA area.

The Ministry of Government Administration, Reform and Church Affairs (MoA) welcomes comments offered by the parties to the hearing, particularly with regard to the contents of the regulations, area of application and economic and administrative

consequences of the proposal. The parties to the hearing are asked to offer their opinion on the extent to which adherence to the proposed standards will represent significant costs, including whether standards ought to be changed, or whether some of the guidelines related to standards should not be part of the requirement for universal design. It is emphasized that the government at this stage has not made any decision regarding the final contents of the regulations. To some extent, the regulations represent the breaking of new ground, among other things because the public as well as the private sector are comprised by the Act pertaining to Discrimination and Accessibility.

2.The background for the proposal

2.1 Some brief comments regarding universal design

The strong growth of internet based services such as mediation of information, ordering of tickets and electronic applications imply increasing importance of easily accessible internet based solutions.

Universal design concerns how we design the environment we live in, in order to facilitate increased participation in society for all citizens. Universal design implies for products and our surroundings to be designed for use by everyone as far as possible, without any requirement for adaption to the needs of persons with disabilities. The objective is to facilitate equal participation in society for all, as well as increased efficiency through on the use of standardised solutions, which as far as possible, may be used irrespectively of the degree of disability.

The Centre for Universal Design at North Carolina State University is considered to be the originator of the expression "universal design." A multi-discipline group at the Centre has listed the following seven main principles:

1. Equitable use
2. Flexibility in use
3. Simple and intuitive use
4. Perceptible information
5. Tolerance for error
6. Low physical effort
7. Size and space for approach and use

The principles have been adapted to Norwegian conditions by the Deltasenteret, the Government's competency centre for participation and accessibility.

2.2 The Act

The Discrimination and Accessibility Act entered into force on 1 January 2009. The purpose of the Act is to promote equal opportunity and equality, ensure equal rights and opportunities for participation in society by all, irrespectively of disability, and to prevent discrimination based on disability. The Ministry for Children, Equality and Social Inclusion (MoCE) administers the Discrimination and Accessibility Act.

ICT-issues are regulated in several parts of the Act, as explained below.

The definition of universal design laid at the basis for the regulations follows from section 9, second subsection of the Discrimination and Accessibility Act:

"The term 'universal design' refers to the design or facilitation of the main solution for physical implementation, including information and communication technology (ICT), in order to make the ordinary functions of the enterprise accessible to as many people as possible."

This implies that private and public enterprises are obligated to ensure general facilitation of "the ordinary functions" of the enterprise. Section 9 of the Discrimination and Accessibility Act applies to all areas, including ICT. The obligation applies to the extent it does not imply an unreasonable burden on part of the enterprise.
Section 11 of the Discrimination and Accessibility Act sets out requirements for new ICT solutions supporting the ordinary functions of the enterprise, that are the main solutions intended for use by or made available to the general public, to be made subject to universal design within a stipulated closing date. Detailed provisions related to limitations of the area of application and the contents of obligations are to be set out in dedicated regulations.

The regulations will not apply to ICT solutions in cases where design is regulated by other legislation, such as within the building industry and education sector. With the exceptions of automatic devices, the regulations will not apply to the transport sector.

The basis in law for the stipulation of regulations pertaining to universal design has been delegated to the MoA.

The preparatory work for the Act emphasizes that the Act is not intended to set out obligations implying unreasonable economic consequences for the enterprises. This has been ensured in section 9 of the Act by limiting the obligation to apply universal design to the extent it does not imply an unreasonable burden for the enterprise.

According to section 11 of the Act, regulations must be prepared, containing detailed provisions related to limitation of the area of application and the contents of the obligation to apply universal design to ICT solutions. The purpose of section 11 of the Act and the regulations is to set out concrete standards related to the contents of the obligation to make ICT solutions subject to universal design. The preparatory work for the Act [1] refers to the fact that the committee believed that it would be necessary to prepare more detailed requirements to the functionality. The obligation to ensure

[1] Proposal no. 44 to the Odelsting (2007-2008) regarding an Act Prohibiting Discrimination due to Disability (the Discrimination and Accessibility Act) chapter 10.2.2.9

general facilitation/design is based on the application of discretion, and the regard to clarity and predictability implies a need to clarify the contents and area of application.

The selection of area of application and standards have among other things been made on the basis of considerations to and assessment of feasibility, presumed not to constitute an unreasonable burden, with reference made to section 9 of the Act and requirements for the obligation for use of universal design not to imply an unreasonable burden for the party subject to compliance with the Act. This means that attempts have been made to incorporate an assessment of reasonableness in the delimitation of the area of application set out in article 2 of the drafted proposal for regulations, in the requirements set out in article 5 through the indication of specific standards and deadlines for compliance with the requirements of section 11. There is also little experience with this type of regulation, particularly with regard to the private sector, in Norway as well as other countries, and it is not certain what the actual consequences of mandatory requirements to universal design of internet services will be. This may in particular concern small and medium-sized businesses as well as organizations working on an idealistic or voluntary basis, as their resources and competency with regard to following up such regulations may be of a limited nature. Even if it was made a basis in the preparatory work for the Act that this type of provision would not be proposed, there was little knowledge available regarding the size of the burden implied by the application of actual standards which later would be proposed in the regulations.

The Ministry is therefore in particular asking the parties to the hearing for their view as to whether the regulations ought to emphasize the fact that the obligation to apply universal design only will apply to the extent it does not imply an unreasonable burden on part of the enterprise. No decision is made with regard to the requirement for further limitation in relation to the issue of reasonableness until the ordinary hearing has been completed.

According to section 16 of the Act, the appointed administrative body (DiAI) may grant dispensation from the obligation to apply universal design to ICT solutions when there are particularly strong reasons to do so. The draft for a proposal takes into consideration issues such as protection of personal information, economy and security, although this list is not intended to be exhaustive. Problems related to adapting the development cycle for a procurement to comply with deadlines implied by the Act and regulations have been mentioned as another issue of relevance. It will be necessary to make concrete assessments related to individual enterprises in order to determine whether there is any evidence of particularly strong grounds implying a need for dispensation from the requirements. A large and economically robust enterprise may for example be made subject to more extensive obligations in comparison to a small enterprise with modest economic resources. It is stated in the preparatory work (chapter 10.5.6.4) that regards should be made to whether the solution for communication between customers, users and the enterprise/sector mainly relies on the use of ICT.

Reference is made to page 172 in chapter 10.5.6.5 of the preparatory work[2] where it is evident that the Ministry is not proposing a need for assessment of reasonableness as part of the requirements following from section 11, as suggested by some parties to the hearing. The Ministry refers to "the need for further assessment of the level of requirements in standardization work and for determining the level of requirements in regulations."

Regards to security and protection of personal information are mentioned in the preparatory work as examples of important issues that may constitute a basis for dispensation. Major ICT projects in progress, where parts of subsequent deliveries will be subject to new standards/guidelines, may constitute a basis for dispensation in cases where it would imply unreasonably high costs to take the new requirements into consideration. In areas where the use of ICT has become commonplace, such as services supplied by banks, major emphasis must be given to the requirements to the use of universal design.

With regard to the enterprise's economic situation and cases where costs related to fulfilling the requirements of the regulations will be significantly higher than presumed during the preparatory work for the Act, this fact may be considered "significant grounds". This will also apply if costs of fulfilling the requirements of the regulations will lead to loss or a requirement for downmanning. These examples are not exhaustive.

The DiAI will be the supervisory authority for the part of the Act pertaining to the design of ICT solutions, while the Equality and Anti-discrimination Ombud (EDOm) is responsible for supervision of the Act in other respects.

There is reason to discuss the relationship between sections 9 and 11 of the Discrimination Act. Section 9 of the Act sets out a general requirement for universal design, including ICT solutions. On the basis of a complaint, or at the Ombud's own initiative, the Equality and Anti-discrimination Ombud will be able to make statements as to whether an issue violates the prohibition against discrimination. In cases where requirements for universal design are regulated by other legislation and supervised by other public authorities, the Ombud's competency/authority will be limited. This will among other things apply to cases related to universal design of ICT solutions, because concrete requirements for universal design in this area are set out in the regulations pertaining to universal design of ICT solutions pursuant to section 11 of the Act.

The contents of concrete requirements which may be set out for universal design of ICT solutions is therefore exhaustively regulated in section 11 of the Discrimination and Accessibility Act with corresponding regulations. Section 16, second subsection of the Act, delegates the supervisory authority in this area to a dedicated body, DiAI. The

[2] Proposal no. 44 to the Odelsting (2007-2008) regarding an Act pertaining to Prohibition of Discrimination due to Disability (the Discrimination and Accessibility Act)

preparatory work[3] states that grounds for this are among other things the fact that special requirements for competency are required in order to be able to supervise this area. The role of the Ombud will therefore be limited to making statements about such cases, and forwarding them to the pertinent authorities.[4]

The duty to carry out activities as evident from section 3, with reference made to section 9 of the Discrimination and Accessibility Act, will also comprise ICT solutions, however, and imply that the enterprise is obligated to work actively and systematically for the promotion of universal design. The duty to perform activities will apply before the obligation to ensure universal design of ICT solutions pursuant to section 11 of the Act. The Equality and Anti-discrimination Ombud shall supervise compliance by enterprises with regard to fulfilling their obligations for performing activities as set out in section 9 of the Act, including work on ICT solutions.

Requirements for universal design or general facilitation is also embedded in other legislation, among other things in the Planning and Building Act (27 June 2008, no. 71), in certain parts of the transport legislation and in the Act pertaining to Electronic Communication (4 July 2003, no. 83). Section 6 of the Act pertaining to Public Procurement (16 July 1999, no. 69) sets out requirements for public principals to take universal design into account during the planning of individual acquisitions. The objective of the Act pertaining to Counsels for Persons with Disabilities (17 June 2005, no. 58) is to ensure the facilitation of "open, broad and accessible influence" by persons with disabilities in municipalities and county municipalities.

2.3 Other Norwegian policy related to this area

Through documents as action plans for universal design, Norway has been developing an overall policy for universal design over a number of years, based on regulatory as well as other measures. In the most recent version of the report ”Norge universelt utformet 2025 - Regjeringens handlingsplan for universell utforming og økt tilgjengelighet 2009-2013”, (A universally designed Norway 2025, the Governments action plan for universal design and increased accessibility 2009-2013), frameworks for measures within areas such as buildings, outdoor areas, ICT and communications, are set out, in addition to some multidisciplinary topics. The MoCE has the overall responsibility for the plan.

The Deltasenteret, the Government's centre for competency for participation and accessibility, is one of the most important bodies working with universal design in Norway. The centre has prepared several guidelines for increased accessibility and ICT. A program called "Design for everyone" managed by Norsk Designråd (The Norwegian Design Counsel) promotes universal design as part of work with design in Norwegian industry. With regard to research activities, the program ”IT Funk,” managed by

[3] Page 171 of Proposal no. 44 to the Odelsting (2007-2008) regarding the Act Pertaining to Prohibition of Discrimination due to Disability (the Discrimination and Accessibility act).

[4] Pages 147-148 of Proposal no. 44 to the Odelsting (2007-2008) regarding the Act Pertaining to Prohibition of Discrimination due to Disability (the Discrimination and Accessibility act).

Norges Forskningsråd (the Norwegian Design Counsel) provides, among other things, support for development projects intended to contribute to improved access to ICT for persons with disabilities, thus promoting equal and active participation in society.

A standardization body called Standard Norge has been assigned to participate in European and International standardization work. Standard Norge works with universal design, among other things, through the establishment of a national committee for activities performed by the European Standardization Committee (CEN) based on the so-called Mandat 376 regarding requirements for accessibility to ICT solutions in public procurements.

3. International framework terms for universal design and the status in other countries

3.1 International consortiums and standardization bodies

The standards and guidelines providing the norms for the requirements to ICT solutions in the regulations are issued by international consortiums and standardization bodies.

The World Wide Web Consortium (W3C) is an international association which develops guidelines intended to ensure long-term growth of the World Wide Web. One of the fundamental principles at the basis of the work is called "Web for all," where the Web Accessibility Initiative (WAI) is known for its work related to the development of guidelines for making web based solutions accessible to persons with disabilities. These guidelines are generally recognized as international standards. Through the consensus-based processes of the W3C, the industry, organizations promoting the interests of persons with disabilities, authorities, research organizations and other parties are working with the preparation of new and better guidelines.

A working group under WAI has prepared the standard which in the proposal for regulations pertaining to universal design of ICT solutions has been suggested for application to internet based services pursuant to the Web Content Accessibility Guidelines (WCAG – the most recent version 2.0). This standard constitutes a set of principles and criterions for success related to the design of accessible web pages, as well as verifiable checklists prepared at three different levels: A (the lowest level), AA or AAA (the highest level). Requirements at levels A and AA are proposed in the draft for regulations, with some exceptions.

Currently, other process-oriented standards are also being prepared. Examples of this are ATAG (Authoring Tool Accessibility Guidelines), which are guidelines for the use of publishing tools (software and services) which may be used in the process related to the development of web pages and web contents in compliance with WCAG (see above). Work is in progress with ATAG version 2.0.

The International Organization for Standardization (ISO) is currently the largest international standardization organization. This non-governmental network consists of national standardization organizations from a total of 162 countries, and Norway is represented by Standard Norge. The European Standardization Committee (CEN) is the only European body approved by the EU pursuant to Directive 98/34/EC, for the development of European standards on all areas except electro technology, which is covered by the organization CENELEC[5], and telecommunications, which are covered by ETSI[6]. The 31 national members of CEN are co-operating on the development of European Standards (ENs). CEN is the European equivalent of ISO as well as a co-operating partner. ISO and the European standardization bodies are engaged in the development of standards of relevance to universal design.

The national and international organizations are able to participate in standardization processes where various parties (such as representatives of enterprises, organizations and public authorities) on the basis of an open debate are working out decisions implying that certain specifications may be granted the status of so-called open standards. This type of standard is made subject to a supervisory regime for amendment and updating, and the technical details are available to all interested parties. In this manner, a common technological basis is formed, promoting better harmonization of functionality between products from different suppliers. Currently, open as well as proprietary standards are used side by side within the public sector.

3.2 International work with universal design and the status in other countries

Policies and regulations related to universal design are currently being developed in a number of countries. The rules are often limited to apply to the public sector, and in many cases restricted to web solutions. Developments may be viewed in light of the challenges facing the countries as a consequence of an increasingly larger proportion of elderly people and demands for equal participation in society by persons with permanent or temporary disabilities. Furthermore, work is being carried out in the EU and in a number of other countries with the implementation of the UN convention on the rights of persons with disabilities. On the basis of the Discrimination and Accessibility Act, Norway is among the countries that have introduced the most extensive legislation in this area, with rules addressing the public as well as the private sector.

Information regarding the legal situation and political directives related to the area of universal design are included in a pamphlet issued by Deltasenteret *Universell utforming og tilgjengelighet – politikk og lovgivning i inn- og utland* (Universal design and accessibility - policies and legislation at home and abroad - prepared by Rudolph Brynn, 2009). It is stated in the foreword that the pamphlet may be applied as a reference when

[5] Comité Européen de Normalisation Electrotechnique

[6] European Telecommunication Standards Institute

referring to the authorities' political and legal directives related to universal design[7]. The EU commission has also ordered the preparation of a study called *Web accessibility in European countries: level of compliance with latest international accessibility specification, notably WCAG 2.0, and approaches or plans to implement those specifications*[8]. In addition, there are fact sheets available, containing information about the current status of requirements to universal design and ICT in the various countries; *eInclusion Factsheet* [9].

The UN convention on the rights of persons with disabilities

The UN convention on the rights of persons with disabilities was sanctioned by the UN's General Assembly on 13 December 2006, and ratified by 81 countries, in addition to the EU, on 30 March 2007. By 1 December 2010, 95 of 147 countries had ratified the convention. Denmark, Sweden, Germany, France, Italy and Great Britain are among the countries that have ratified the convention[10].

It is still unclear when the Government will be able to introduce a proposition to the Storting for the ratification of the convention. This is related to the fact that ratification will require amendments to the Act pertaining to Guardianship. A new Guardianship Act has been sanctioned by the Storting, however, it is not clear when the new Act may enter into force. The Guardianship Act is managed by the Ministry of Justice and Public Security, where the intention is for a proposal for ratification to be submitted to the Storting fairly soon.

The UN convention comprises ICT (Article 2) and sets out accessibility as a general principle (Article 3). It furthermore sets out universal design (accessibility for all) as a fundamental principle for the development of standards and guidelines. The convention also comprises an obligation to promote research and development of universally designed products, including ICT and other new technologies (Article 4, the letters f and g). Another fundamental principle is the requirement for reasonable prices and costs of introduction and the use of ICT and new technologies. Article 9 sets out the right of persons with disabilities to accessible physical environments open to the public, including ICT solutions and systems.

EU policies

Several measures for improved accessibility of ICT solutions are on the EU's Digital Agenda for Europe. One of the measures concerns evaluation of whether public web pages and web services should comply with international standards such as Web Content Accessibility Guidelines 2.0 (WCAG 2.0), within 2015. These guidelines are defined as a norm in the submitted proposal for regulations pertaining to universal

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[7] http://www.bufetat.no/Documents/Bufetat.no/Deltasenteret/Publikasjoner/UU_og_tilgjengelighet_politikk_og_lovgivning_i_inn_og_utland.pdf

[8] http://ec.europa.eu/information_society/activities/einclusion/library/studies/docs/access_comply_annex2.pdf

[9] http://www.epractice.eu/en/factsheets

[10] http://www.un.org/disabilities/

design of ICT solutions. Other measures in the Digital Agenda include the implementation of the UN convention on rights for persons with disabilities, by:

- Including accessibility as a criterion for evaluation when revising relevant regulations, among other things in such areas as eTrade, eID and eSignature.
- Contribute to a common understanding within the EU of digital accessibility for persons with disabilities within the year 2012, in accordance with the above mentioned UN convention.

Other contexts where the EU is discussing the accessibility of ICT solutions, standardization and interoperability include how to meet challenges related to an ageing population and e-health. The EU's policy for a well-functioning internal market[11] includes ongoing work comprising standardization and requirements to accessibility of ICT solutions in the public sector.

The EU commission's revised strategy for persons with disabilities (2010-2020)[12] comprises several measures related to the follow-up of the UN convention pertaining to the rights of persons with disabilities and preparations for a European accessibility act. In this context, the use of standardization, public procurement and governmental subsidies may potentially be important measures. The measures would be intended to increase accessibility by promoting a European market for universally designed products, including ICT solutions.

Great Britain

In Great Britain, the area of universal design of ICT solutions is mainly regulated by the 2010 Equality Act[13]. Service providers shall make reasonable adjustments of services provided by them in order to make them accessible to persons with disabilities. Web sites are one of the types of service comprised by the regulations.

On the background of this legislation, the Central Office of Information (COI) has set out guidelines making it mandatory for public web sites to, as a minimum, meet the requirements for accessibility of WCAG 1.0 AA[14].

There is no direct regulation of requirements to universal design of private internet based services. However, it appears that commercial services were subject to the 1995 Disability Discrimination Act. This is currently included in the 2010 Equality Act. This implies that persons with disabilities may demand adaption pursuant to the rules if they feel discriminated against because a website is inaccessible. Articles 2.13 - 2.17 of the Code of Practice refer to an airline website as an example of a service subject to the

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[11] "Mandat 376: Accessibility requirements for public procurement of products and services in the ICT-domain".

[12] Brussels 15.11.2010 , COM(2010)636 final: European Disability Strategy 2010-2020: A Renewed Commitment to a Barrier-Free Europe

[13] http://www.legislation.gov.uk/ukpga/2010/15/contents

[14] http://www.coi.gov.uk/guidance.php?page=188

requirements: "An airline company provides a flight reservation and booking service to the public on its website. This is a provision of a service and is subject to the act."[15]

Germany

At the federal level, the 2002 Discrimination Act - Act pertaining to Equal Possibilities for Persons with Disabilities (BGG) and the Regulations pertaining to the establishment of accessible information technology pursuant to the discrimination act (BITV)- regulates universal design of ICT in Germany[16]. Section 11 of the BGG[17] makes it mandatory for federal authorities and subordinate bodies to ensure that websites are accessible, based on 52 measurement points developed on the background of WCAG 2.0[18].

Interest organizations for persons with disabilities may initiate legal action in order to secure the rights of persons with disabilities who feel they are being discriminated against by the federal administration on the basis of the BITV. Organizations working for the interests of persons with disabilities are also able to discuss the accessibility issue with the private sector or relevant umbrella organizations and initiate negotiations about agreements for regulation of technical measures executed by private companies for the implementation of the BITV.

Germany's federal structure implies that section 11 of the BGG does not automatically apply to the 16 regional authorities. It is noted, however, that the regional authorities have established legislation against discrimination which largely is in line with the federal legislation[19].

Italy

In Italy, the accessibility of ICT[20] is regulated by Act no. 4, dated 4 January 2004, pertaining to Measures for ensuring Accessibility to ICT for Persons with Disabilities, with corresponding regulations and guidelines.
The Act sets out a requirement for public institutions to make information and services accessible on its websites, and encourages private enterprises to do the same. Requirements set out to ensure that web pages are accessible must comply with the international development of standards in this area[21]. The act also describes a form of

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15 http://ec.europa.eu/information_society/activities/einclusion/library/studies/web_access_compliance/index_en.htm)

16 http://www.epractice.eu/en/document/5262255

17 http://www.bitvtest.eu/

18 http://www.bitvtest.eu/

19 http://ec.europa.eu/information_society/activities/einclusion/library/studies/docs/access_comply_annex2.pdf

20 http://www.epractice.eu/files/eInclusion%20Italy-April%202010-v%202.0.pdf

21 http://ec.europa.eu/information_society/activities/einclusion/library/studies/docs/access_comply_annex2.pdf

supervisory authority for the area. Currently, the DigitPA is responsible for supervision (Directorate of digital public administration, a body sorting under the Minister for Public Administration and Innovation[22]).

USA

The introduction of the 1990 Americans with Disabilities Act (ADA), most recently amended in 2008, ensured that the USA was among the first countries to introduce regulations prohibiting - subject to certain terms - discrimination based on disability. The act also provides protection on par with the 1964 Civil Rights Act, pertaining to such matters as discrimination based on race and gender, among other things. The ADA and amendments introduced in the 1998 Rehabilitation Act set out requirements to among other things accessibility of ICT solutions, including at the federal level. The rules do not apply to the private sector. A body called The Access Board, shall develop standards for accessibility of ICT solutions (including telecommunications), which will be part of regulations pertaining to public procurement.

4. Further details regarding the regulations pertaining to universal design of ICT solutions

4.1 Introductory remarks about the regulations

The regulations set out requirements to universal design of ICT solutions, limited to internet based services and automatic devices. The regulations indicate how requirements for universal design may be met by observing indicated international standards that are also recognized in the EEA area. When the standards are observed, the requirements are considered to be met within the area subject to the standards, with reference made to section 9, fifth subsection of the Act.

The regulations are intended to unite two different requirements. On the one hand, the Discrimination and Accessibility Act presupposes that there must be clear criterions and standards in order for the requirements of legislation to enter into force. It is important for the regulations to refer to concrete and executable requirements. On the other hand, standards must be based on functions, be neutral with regard to technology, and must not involve any form of directing influence in connection with the selection of specific technical solutions.

Other and corresponding national or European standards may exist in the international and European market, and these may be in compliance with the requirements of the Act as well. The regulations allow for this, implying that use of the indicated standards is not obligatory. If the use of any other standards for universal design providing as a minimum solutions at the same level as the standards indicated in the regulations, will constitute a fulfilment of the requirements.

The regulations take continuous development and potential expansion of concrete standards into account. The regulations are intended to contribute to predictability,

[22] http://www.epractice.eu/files/eInclusion%20Italy-April%202010-v%202.0.pdf

while at the same time ensuring the flexibility required for innovation and development of technology. The regulations will therefore be updated and developed further in step with the development of new and improved standards and guidelines at the international level.[23]

The regulations will initially apply to web solutions, including web pages, and automatic devices, constituting the main solutions intended for use by the general public. These areas are considered to be the most important with regard to participation in society by persons with disabilities, and these are areas in which internationally recognized standards for universal design exist.

The delimitation of the area of application is in line with the preparatory work for the Act. It is evident from the discussion about the area of application in chapter 10.5.4.3 of Proposition no. 44 to the Odelsting (2007-2008) that if ICT is included in the Act, virtual arenas of society will be included, such as internet based solutions intended for use by the general public. It is furthermore stated that "Other examples of ICT proposed for inclusion include cash dispensers and ticket machines. In the case of web solutions/web pages, it is difficult to envisage examples of cases where requirements for universal design will not apply to the ICT solution as such."

Technological developments in general, and international developments related to standardization in particular will be of decisive importance for the extent of application of the regulations. The Norwegian market is relatively small, and the development of international standards will be an element taken into account when assessing areas where it will make sense to set out requirements for universal design of ICT. Further details regarding the area of application will therefore emerge, based on the international development of guidelines and standards.

4.2 Particulars of regulation of universal design of ICT solutions

The Ministry of Government Administration, Reform and Church Affairs has looked into whether ICT solutions in the public sector are regulated by any other legislation, and has in connection with this evaluated the Regulations pertaining to the use of mandatory ICT standards in the Public Sector (the Standardization Regulations) as a potential arena for the regulation of universal ICT solutions.

The basis in legislation for the regulations pertaining to the mandatory use of IT standards in the public sector is section 15 a of the Administration Act, which sets out requirements to public institutions for the use of certain document standards in connection with the publication of documents on the Internet. Section 15 a, the letter d) of the Administration Act provides a legal basis for the stipulation of regulations setting out requirements to "products, services and standards" for use in connection with electronic communication between public administration and the general public, as well as for electronic executive work by public administration.

[23] Proposition no 44 to the Odelsting (2007-2008) chapter 10.5.6.3

The basis in law(for these regulations) concerns electronic communication, and not the design of ICT solutions. Even though it would be possible in principle to stipulate that requirements for standards set out in the regulations pertaining to mandatory ICT standards to cover requirements for universal design, the regulations would not cover the design of ICT solutions as such. Regards to the best possible overall regulation of the private and public sector, co-ordinated and well-organized regulations and regards to supervision and control, imply for the requirements for universal design of ICT solutions to be placed in a common set of regulations.

4.3 The geographical area of application

The regulations apply to the [Norwegian] realm , with reference made to section 2, second subsection of the Discrimination Act. The regulations do not apply to Svalbard and Jan Mayen, installations and vessels on the Norwegian Continental Shelf, or Norwegian ships and aircraft, irrespective of their location.

It is evident from the preparatory work to the Discrimination and Accessibility Act that Svalbard is not intended to be a life-course society, and that necessary services for persons with disabilities must be provided on the mainland. Self-service solutions on Svalbard thus cannot be said to address the general public. This will also apply to Jan Mayen and installations and vessels on the Shelf, along with Norwegian ships and aircrafts, which must be assumed to belong to the same category. It is conceivable, however, for internet based solutions - including a webpages addressing the general public - to be operated from the above mentioned locations. In such cases, the regulations will apply, with reference made to section 2, second subsection of the Discrimination and Accessibility Act. Correspondingly, network solutions belonging to Norwegian enterprises, including internet based solutions, operated from abroad, will also be comprised by the requirements of the regulations if they are addressing the general public in Norway, and constitute the enterprise's main solution.

Norwegian legislation may also apply to foreign internet based solutions addressing Norwegian users. The question of whether the internet based solution is addressing the general public in Norway must be made subject to concrete assessment in each case. Currently, this applies within a number of legal areas, but will depend on certain preconditions being met.

It is for example assumed that Norwegian legislation will apply to foreign gambling sites particularly addressing Norwegians. Recent decisions of case law made by EU courts may also indicate that Norwegian law will apply whenever Norwegians are able to access foreign Internet-based gambling sites. With regard to marketing on the Internet, alcohol marketing legislation is interpreted to the effect that adverts offered from foreign computers by parties domiciled abroad may constitute a violation of the prohibition of advertisements for alcoholic beverages, in cases where such advertisements may be claimed to address the Norwegian market, i.e. has the intended effect in Norway. A concrete overall assessment is made, emphasizing the issue of whether the advertisement may be regarded to directly address the Norwegian market.

In cases where the foreign web store is directly addressing Norwegian consumers, the consumer will be protected by the same rights in connection with trading on the web in general as if the goods were purchased in a Norwegian web store. VAT rules will also apply to foreign web pages addressing Norwegian users, i.e. internet based services specifically facilitating the requirements of Norwegian users. This is another case where a concrete assessment is required on a case-by-case basis. In addition, a lower limit has been stipulated, whereby transactions involving purchases below a certain amount are not comprised.

When assessing whether the regulations pertaining to universal design also apply to foreign internet based services addressing the general public in Norway, it will be natural to draw parallels to rules applying in other areas of law, including assessments and factors regarded to be of relevance. The point of departure will be for the regulations to apply to foreign internet based services accessible to the general public in Norway (i.e. an unlimited group of Norwegian consumers/customers/parties), specifically facilitating the requirements of Norwegian uses. If the internet service is written in Norwegian, this will probably be regarded as a case of specific facilitation, but other factors may also be of decisive importance for the assessment of individual cases. Since concrete assessment of individual internet based services will be required, it is difficult to predict to what extent foreign internet based services will be comprised by the regulations.

It may be prudent to ask whether requirements for universal design of foreign internet based services facilitating the needs of Norwegian consumers may contribute to obstruction of the free movement of goods and services across borders in violation of the EEA agreement. A specific Norwegian requirement for universal design will imply a higher threshold for the establishment of activities addressing the Norwegian market. On the other hand, this matter concerns all enterprises operating in the Norwegian market, including Norwegian enterprises. Furthermore, the basis consists of international standards for universal design. The requirement will therefore not imply distortion of competition to the advantage of Norwegian enterprises.

4.4 The relevant area of application

The regulations apply to the public as well as the private sector, with reference made to section 2 of the Discrimination and Accessibility Act, and apply to all enterprises irrespective of their size and turnover[24]. Enterprises with few employees and one-man firms may be major players on the Internet, and ICT is precisely the sort of tool that compensates for some of the disadvantages of being small. For this reason, no special adaption for small and medium-sized businesses is made, as occasionally required in other areas of law.

The general public encounters ICT solutions among other things in buildings and on public transport. According to section 11, second subsection, third sentence of the Discrimination and Accessibility Act, the requirement for universal design of ICT solutions does not apply to ICT solutions in areas where design is regulated by other

[24] Proposition no 44 to the Odelsting (2007-2008) chapter 10.2.4.5

legislation, such as within the building industry and education sector. Nor will the regulations apply to the transport sector, with the exception of automatic devices. In the preparatory work[25] it was initially assumed that ticket machines, validation machines and similar devices would be comprised by a dedicated set of regulations for the transport sector, however, this concept has been abandoned later[26]. In connection with the hearing of the regulations pertaining to universal design of rolling stock for railways, including tramways, subways and suburban railways, it was emphasized that ticket machines and similar equipment within the transport sector will be comprised by the regulations pertaining to universal design of ICT solutions set out pursuant to section 11 of the Discrimination and Accessibility Act.

With regard to schools and education, it was emphasized in the preparatory work[27] that ICT solutions within the education sector for purposes of tuition will not be comprised by the obligation to apply universal design pursuant to section 11, second subsection. The regulations pertaining to universal design of ICT solutions will therefore not apply to ICT used in schools and institutions of education.

Television media, including film and web TV are not regulated by the regulations[28]. In line with a new directive pertaining to audiovisual media services (the AMT directive), which is neutral with regard to technology, the necessary adjustments to the Broadcasting Act will be made, implying that the definition of broadcasting will comprise web-based TV etc. Therefore, our basis will be that universal design of broadcasted contents will be regulated by the broadcasting legislation, and the delimitation of audiovisual media services will be clarified there.

In principle, the Discrimination and Accessibility Act introduces an *obligation* to apply universal design to ICT intended for use by the general public, comprising all enterprises. The particulars of areas of application must be clarified by means of regulations. The preparatory work and wording of the Act imply that the regulations may be restricted to apply to, or be delimited towards certain types of ICT solutions addressing the general public, based on an assessment to the effect that the Act shall not imply unreasonably high burdens on part of enterprises. Correspondingly, major emphasis has been placed on the significance for participation in society and access to standards.

An assessment of proportionality, including balancing of regards referred to in the above, will therefore be the basis for delimitation of the area of application as set out in article 2 of the regulations.

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[25] Proposition no 44 to the Odelsting (2007-2008) p. 263

[26] Report no. 68 to the Odelsting (2007-2008) chapter 3.11

[27] Proposition no. 44 to the Odelsting (2007 - 2008), p. 263, also ref. report no. 68 to the O. (2007 - 2008),

[28] Proposition no. 44 to the Odeltsing (2007-2008) chapter 10.5.6.3

Enterprises which through the use of ICT-based solutions are addressing the general public will be the party responsible for complying with the requirements of regulations. The decisive issue is not whether the enterprise is the owner of the ICT solution. Enterprises buying or hiring ICT solutions for interaction with the general public must therefore set out requirements for universal design to be met by the manufacturer/supplier. Should the solution prove not to fulfil the requirements of the regulations, the matter must be solved by the manufacturer/supplier and the enterprise. Any supervisory orders will be directed towards the responsible enterprise.

The general public encounters ICT-based solutions in many different contexts:

- At home, through the use of computers, mobile phones, web tablets etc. when accessing Internet banking, web shops, markets and when purchasing tickets.
- In the public domain, for example in the form of cash dispensers, ticket machines, queue ticket dispensers and vending machines.
- In public and private institutions, i.e. cash dispensers, ticket automats, queue ticket systems and vending machines.

The interpretation of whether ICT is addressing the general public must be viewed in light of how important the software or internet based solution is for the equal participation in society for the relevant target groups. Because developments indicate increasing use of ICT in all areas of society, new technology must as a general rule meet requirements for universal design, irrespectively of whether alternative traditional solutions exist.

The regulations concern technical solutions with user functions (user interface) intended for use by the general public, and are restricted to technical solutions intended for use by individuals. Consumer devices such as mobile telephones, TV, PCs and similar offered for sale are in principle not intended for use by the general public, and thus not comprised by the regulations. If this type of equipment is installed in the public environment, intended for use by the general public, it will be comprised by the regulations, and must comply with requirements for universal design. In cases where this is not possible or suitable, there are requirements for such equipment to facilitate the connection of accessories providing adjustments or adaption of the above mentioned equipment to individuals, such as earphones, a reading (Braille) panel for the blind and standard digital voice-based information readers[29].

Electronic or digital art is not regulated by the regulations. However, if galleries make use of technology comprising solutions intended for use by the general public in order to provide information about the art, the regulations will apply.

The regulations do not apply to family life and other issues of a personal nature, with reference made section 2, first subsection of the Discrimination and Accessibility Act. Social media such as blogs, Facebook and Twitter are normally used in

[29] Propsition no. 44 to the Odelsting (2007-2008) chapter 10.5.6.3

private/personal contexts and are not comprised by the regulations, since this must be regarded to be personal communication. However, enterprises are increasingly making use of these types of media. When an enterprise is addressing the general public using social media as a main solution, the requirement for universal design of ICT solutions will apply. This means that it may only make use of social media fulfilling the requirements of the regulations. In cases where a blog is a separate, self-administered publishing activity of general interest, and not part of the enterprise's general web publishing activities, the blog will be regarded on par with any other form of web publishing, since the regulations do not distinguish between different ways of publishing contents.

ICT solutions

In the preparatory work for the Discrimination and Accessibility Act[30] the Ministry emphasizes that the definition of ICT should be set out without preparing an exhaustive list of concrete applications, due to the technological developments within the area. ICT is therefore defined in the following way in section 11, first subsection of the Discrimination and Accessibility Act: "The term *information and communication technology (ICT)* refers to technologies and technological systems used in order to express, create, transform, exchange, store, duplicate and publish information, or in other ways make information accessible".

Main solution

The regulations apply to the enterprise's main solutions. An enterprise may have several main solutions, all of which are required to be universally designed; as an example, cash dispensers, pay terminals and code chips for connection to an Internet bank will constitute the bank's independent main solutions. If an enterprise employs several ICT solutions within the same main solution, there is not necessarily a requirement for all of these to be universally designed. The preparatory work to the Act mentions for example in a case where a bank has a number of cash dispensers installed in the same location, it will suffice for one of these to be universally designed. When assessing whether a solution may be considered to constitute a main solution, the number of users will be a very important criterion. It is more likely for a solution used by many people to be considered a main solution, compared to a solution used by just a few.

New ICT solutions

The term is intended to cover new versions of solutions, i.e. the next version of a solution. The term "version of a solution" refers to extensive technological changes, for example changes to the user interface and the underlying software. In cases where the technology is completely replaced, for example the replacement of an older type of ticket machine or cash dispenser, the requirement for a new technical solution will be fulfilled. The new technological solution must in such cases be based on universal design. In the case of internet based solutions, it will be natural to tie the requirement for universal design to changes to the structure of pages/design and replacement of publishing tools.

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[30] Propsition no. 44 to the Odelsting (2007-2008) p. 166

In cases of partial replacement, an assessment must be made of whether the replacement is sufficient for the technological solution to be regarded as the next version of the technological solution. In cases where changes viewed in isolation are too minor to be considered the next version of the solution, there will be no requirement for the solution to be universally designed. When a number of changes are made over a period of time, there will eventually come a time where the accumulation of change is sufficient for the solution to be regarded as the next version of the solution. A minor change may thus potentially imply that the new technical solution must be made subject to universal design if it follows a number of previous minor changes. In this type of situation, the normal course of action is to release the next version, with reference made to the 'release version' relationship.

Standards

Three types of standards are of relevance to this area of application:

1. Technical standards describing design facilitating interaction between different systems.
2. Terminology standards ensuring that all relevant parties will be interpreting data and processes in the same manner.
3. Organizational and process-related standards implying among other things that the distribution of responsibility between interacting parties is clarified, and the sequence of steps of longer processes has been agreed on

Standards of type 1 and 3 are included in the basis for the regulations, selected from currently existing and suitable standards. The general principle is for standards and guidelines to be acknowledged internationally and/or in Europe, based on functions, neutral with regard to technology and to qualify as minimum standards.

Requirements to web solutions

The standard WCAH 2.0 has been selected for internet based solutions. WCAG is a well-established standard which has been made the basis of European and Norwegian work in the area for almost ten years. Version 2.0, released in December 2008 is the latest edition, and ensures that the standard among other things is more technology neutral, and does not pose any requirements to particular types of format or technological solutions which could be unfortunate from the viewpoint of competition policies. The standard is based on four main principles, supported by a total of 12 guidelines and 61 testable criterions for success.

The four WCAG 2.0 principles for accessible web contents emphasize how web pages may be designed with an interface which will make the web page accessible to as many people as possible, with or without special equipment. The principles are:

1. *Possible to perceive*. Information and components of the user interface must be presented to users in ways they are able to perceive. One example is guideline 1.1,

about adding text to images in a manner whereby, for example, information may also be mediated through web browsers,.

2. *Possible to operate.* It must be possible for the user to operate constituent elements of the user interface and functions related to navigation. One example of this concerns the number of links on a web page, and the fact that text used for links must be user friendly. A visually impaired person using a Braille panel will find a web page with 200 links all worded "click here to read" difficult to relate to in an efficient manner. Another example is simple navigation by keys or touch screen, not just a mouse.

3. *Comprehensible.* It must be possible to understand the information and how to operate the user interface. The language should in general terms be possible to convert using software, for example read out by a sufficiently loud voice or displayed as Braille text, or allowing the user to change the size of text displayed by the monitor.

4. *Robustness*. The contents must be sufficiently robust for reliable interpretation by software such as web browsers, media players etc., including compensating technology. One example is the design of tables, which must be recognizable by monitor reading equipment.

Three levels have been defined for compatibility with the standard: levels A, AA and AAA. The regulations do not recommend the use of level AAA, among other things because the requirements are not yet sufficiently supported by technology.

The examples show that fulfilment of the accessibility requirements of WCAG 2.0. AA will also to a large extent imply compliance with good, user-friendly design, as well as common, good web service practice. A little more than half of WCAG guidelines also constitute the basis for the criterions used by the DiAI in its work to improve the quality of public web pages.

It is proposed that the obligations set out in the regulations should not include the guidelines at level AA posing the most comprehensive requirements to multimedia contents on web pages. The background for this is that it is not possible to estimate the extent of use of multimedia today and in the coming years. It is considered to be likely, however, that this type of content will increase significantly in the years ahead. Unless easily accessible technology is developed, it is assumed that this will be far more expensive than the other cost-increasing elements related to WCAG. We therefore propose to omit the following guidelines of WCAG 2.0 from the obligation:

- 1.2.4 Texting (direct): Access to texting should be ensured for all directly broadcasted audio contents of synchronized media. (Level AA)
- 1.2.5 Visual interpretation (pre-recorded): Access to visual interpretation should be ensured for all pre-recorded video contents mediated by synchronized media (Level AA)

We are asking for comments as to whether guidelines 1.2.3 of WCAG 2.0, Visual interpretation or alternative media (pre-recorded), should be omitted.

Requirements to automatic devices

In the case of automatic devices, article 5, second subsection of the regulations proposes nine standards. The proposed standards for self-service solutions are first of all related to the practical use of ICT-based automatic devices by people. Six standards concern automatic devices requiring the use of plastic cards, for example bank cards for the identification of the user, and four standards of a more high level nature, concerning various aspects of the user dialogue between humans and automatic devices. The standards set out guidelines for:

- Location, design and selection of automatic devices and their constituent parts. Use from a car and safety aspects are also included. The standard provides guidelines and check lists, among other things. The standard also includes instructions, the use of sound, blinking and the use of receipts.
- How to best perform a dialogue between an automatic device and humans, including lists of symbols, icons and pictograms.
- A standard for how to design a cut-out in a plastic card in order to identify the direction.
- A standard for how keys on a keyboard should be arranged, including design for easy use, also by blind persons.
- An alternative way of designing dialogue/user interfaces where the preferences of the individual user are stored and remembered.
- Description of tactile symbols embossed on cards in order to identify different cards without seeing them clearly.

The three general ISO standards for automatic devices include:

- A general standard for developers, planners and purchasers related to how ICT may be made subject to universal design. The standard is a framework for more specific subordinated standards. The recommendations are intended to cover areas such as vision, hearing, speech, physical limitations and cognitive functionality.
- Two technological specifications related to the above mentioned standard, one concerning the context of the application and the users, and one concerning how to perform usability tests.
- One technical report intended for persons writing standards containing general knowledge related to the requirements of older persons and persons with disabilities, and how to make products and systems subject to universal design.

We will point out that the correct and extensive descriptions must be downloaded from the web page http://universellutforming.difi.no/Hovudside and the documents pertaining to the standards.

Requirement for universal design of ICT solutions

The provision sets out requirements for an ICT solution to fulfil minimum requirements pursuant to the indicated standards. This is a so-called functionality requirement, allowing enterprises to select among alternative solutions (to the extent they are in compliance with acknowledged standards) providing as good or better accessibility for persons with disabilities. There is thus no absolute requirement for the application of an indicated standard, but the enterprise may be sure that by adhering to the standard, the ICT solution will fulfil the requirements of the regulations for accessibility for all, irrespective of ability or disability.

Enforcement penalties

The basis in law for ordering the payment of enforcement penalties is evident from section 16 of the Discrimination and Accessibility Act. Rules pertaining to the size of enforcement penalties, period of payment etc. may be set out in regulations. According to section 16, the supervisory authority may make decisions regarding enforcement penalties in order to ensure execution of orders when the deadline for complying with an order has expired. It is implied by section 16, second subsection, last sentence of the Discrimination and Accessibility Act that the provisions of section 8, first to third subsection of the Act pertaining to an Anti-discrimination Ombud shall apply accordingly. Among other things it states that payment of enforcement penalties applies if a new deadline for compliance has expired, and will normally apply until the order has been complied with. It is also implied by this provision that a penalty may be reduced or cancelled when special grounds are in evidence in connection with the stipulation of the size of enforcement penalties.

In the preparatory work for the Discrimination and Accessibility Act it is emphasized that enforcement penalties shall apply continually, and may be applied until such time as the order has been complied with. Payment of enforcement penalties should in general only be ordered when it is considered necessary to ensure compliance with an order within a reasonable period of time.

Entry into force and rules applying during a period of transition

According to section 11 of the Discrimination and Accessibility Act, the obligation to apply universal design for the development of new ICT solutions will at the earliest apply 12 months after standards or guidelines become available. This implies that the obligation to apply universal design to new ICT solutions will only enter into force 12 months after the date on which these regulations enter into force.

The background for this is that the enterprise must be allowed a reasonable period of time to adapt to the requirements. This only applies to standards and guidelines for new areas, however. In chapter 18 of Proposition no. 44 to the Odelsting (2006 - 2008), it is stated in the comments to individual requirements that the transition period only applies to the sanction of original standards and guidelines. With regard to later amendments or new standards/ guidelines replacing old versions, the requirements may thus enter into force following a period of notice of less than 12 months. In cases of

major changes, it will probably be reasonable to allow enterprises some period of time to comply with the new requirements.

According to section 11 of the Discrimination and Accessibility Act, existing ICT solutions must be universally designed within 1 January 2021. Based on the current pace of replacement of ICT solutions, it is assumed that the majority of solutions will be universally designed by 2021, due to the market adapting to the requirements of regulations.

Access to dispensation

It is evident from article 12 of the draft of new regulations that dispensation from deadlines pertaining to the application of universal design of ICT solutions may be granted in cases where particularly weighty grounds are in evidence. The access to dispensation follows from section 11, third subsection of the Discrimination and Accessibility Act. In line with the preparatory work for the Act[31] the requirement to "weighty grounds" is defined in more detail in article 12 of the draft of new regulations. Weighty grounds may be issues such as protection of personal information, security or inability to adapt the development period for an acquisition to deadlines and the transition period in accordance with section 11, second subsection.

The list is not exhaustive. Other weighty grounds may exist. Should the stipulated deadlines imply unreasonable costs for an enterprise, this could be considered to constitute "weighty grounds." In connection with this, we refer to the Proposition[32] where the Ministry for Children, Equality and Social Inclusion states that "the Act is not intended to set out any obligations that will incur unreasonable economic consequences for the enterprises".

No deadlines must be set out for a dispensation which in effect exempts the enterprise from the obligation to apply universal design in the period until the next version of the solution is introduced. It may also be noted that dispensation may also be granted after 1 January 2021.

The provision related to dispensation must be practiced in a manner whereby it is ensured that regards to the Act's objective related to non-discrimination is emphasized, and that practice related to dispensation does not cause any distortion of competition in the market. Article 12 of the regulations sets out a basis for granting dispensation in specific cases where particularly weighty grounds are in evidence, but there is no basis for exempting an area or type of enterprise as such from the obligation to apply universal design pursuant to the regulations. If relevant, such delimitation must be set out in article 2 of the regulations, where the area of application is stipulated.

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[31] Proposition no 44 to the Odelsting (2007-2008) p. 172, 173 and 263

[32] Proposition no 44 to the Odelsting (2007-2008) chapter 10.5.6.3

5. Economic and administrative consequences

5.1 Introductory remarks regarding economic and administrative consequences

By among other things selecting standards and guidelines setting out concrete terms related to universal design, as well as provisions related to enforcement, the Ministry of Government Administration, Reform and Church Affairs is trying to enforce the objective of the Discrimination and Accessibility Act. The principle of universal design as a legal standard looking after the needs of as many people as possible is laid at the basis for the selection of standards and provisions related to the enforcement, although all preconditions related to users must be taken into consideration, emphasizing the feasible and suitable in terms of technology.

In line with the preparatory work for the Act, the Act and these regulations are not intended to set out an obligation which would incur unreasonable economic consequences on part of enterprises. Nor may the provisions for universal design be used as basis for demanding changes to the actual nature or function of the enterprise. During the selection of standards and requirements, considerations were made to the economic burdens bestowed on the parties subject to obligations set out by the regulations, in line with the intentions of the Act. The Act implies that when balancing the various regards, the importance of non-discrimination must be given considerable emphasis. With regard to enforcement of the provisions, only weighty grounds - including economy - may constitute a basis for postponement of deadlines (consult the discussion of dispensation in chapter 4).

Impact assessments have been prepared for the purpose of calculating costs and benefits of the introduction of requirements for universal design of ICT. Even though there is major uncertainty related to estimates presented in reports on consequences, there is no doubt that the benefits for users, service owners and society in general will be of a major nature. The benefits for society related to universal design of ICT was also considered to be positive when the Discrimination and Accessibility Act was submitted to the Storting in Proposition no. 44 to the Odelsting (2007-2008), although it also was pointed out that the estimates were somewhat uncertain.

Cost/utility analyses made in connection with the work with the regulations are also included in the basis for delimitation of the area of application of the regulations, and when setting out requirements for universal design in concrete terms, specified on the basis of the standards.

It is also emphasized that the analyses of consequences were based on figures collected in the context of experience gathered in Norway. It is reasonable to assume that the effects of the increasing number of elderly people, increased standardization and internationalization of the markets, innovation and new solutions will imply increased benefits and lower costs.

According to Statistics Norway, (SSB)[33] in 2010, 17 % of the population were affected by temporary or permanent disability. The share has risen somewhat during recent years. In 2010, this share amounts to 11 % of the age group 25-39 years, and 35 % of the age group 60-66. Population prognoses issued by Statistics Norway[34] show that in 2010, 21 % of the population belong to the age group above 60 years, and this figure will be 26 % in 2030. The increase is greatest for the age group 65-84 years.

5.2 Particulars of cost-utility assessments

In connection with the work with the regulations, existing guidelines and standards for universal design of internet based solutions and automatic devices have been examined with regard to suitability for the incorporation in regulations, also, reports have been prepared, examining consequences related to economy, administration and society in general for authorities, enterprises (service owners) and users (the general public) in connection with the introduction of requirements for universal design of web solutions and automatic devices. These reports are available at the website http://universellutforming.difi.no/

The results of surveying and evaluating the consequences related to suitable standards for automatic devices and self-service solutions are published in the reports:

- Standard Norge's (SN): "Kartlegging av aktuelle standarder for innføring av standarder for universell utforming av automater", (2009) - (Mapping of relevant standards for introduction of standards related to universal design of automatic devices).
- Human Factors Solutions (HFS): "Utredning om standarder for universell utforming av IKT- baserte automater " (2009) - (Report on standards for universal design of ICT-based automatic devices).
- HFS :"Vurdering av egnethet av standarder for universell utforming av automater og selvbetjeningsløsninger" (2010) - (Evaluation of the suitability of standards for universal design of automatic devices and self-service solutions).
- Vista Utredning AS: "Samfunnsøkonomisk analyse av krav til universell utforming av selvbetjeningsløsninger"(2010) - (Analysis of the requirements for universal design of self-service solutions in terms of economics).

In these reports, a total of around 55 relevant standards were evaluated. Following a detailed examination by the DiAI, the list was reduced to 16 standards. These standards and their suitability were further revised in the 2010 HFS report, among other things with a view to avoid any overlapping. The HFS report considers the proposed standards to provide a reasonably good and suitable basis for automatic devices/self-service solutions, but recommended further reduction of guidelines and standards to ten. The

[33] Statistics Norway's labour market survey (AKU) for 2010, Supplementary survey regarding persons with disabilities, 6.9.2010. The survey is based on interviews, involving assessment of the degree of disability by the persons in question. The survey does not differentiate measurements for the group 66 years or above.

[34] Statistics Norway's population prognoses, National and regional figures, 2010-2060. Development trends for medium national growth (alternative MMMM).

standards cover all main categories of disability as well as main categories of functions incorporated in ICT-based automatic devices.

Costs, benefits and uncertainty related to universal design of automatic devices are described in the report on evaluation of consequences "Samfunnsøkonomisk analyse av krav til universell utforming av selvbetjeningsløsninger" (Analysis of requirements for universal design of self-service solutions in terms of economics), prepared by Vista Utredning AS. In the report, total extra costs of universal design of automatic devices/self-service solutions (automatic devices for banking services, payment terminals, ticket machines, queue systems and vending machines) are estimated to amount to NOK 50-100 million in the period until 2021. The estimate is assumed to be lower when including the effects of innovation and new solutions. 10-20 % of costs are assumed to fall on public enterprises, including NSB (railways) and Ruter (other public transport), the rest will fall on the private sector. Additional costs of universal design will be relatively marginal, around 1/2 - 1 % of total acquisition costs of new solutions. There is, among other things, uncertainty related to technological development, the effects on prices in the market and the period of replacement.

The calculation of total benefits gained from the the introduction of the new standards is very complicated. The analysis contains estimates for specific areas, such as cash dispensers,. Net extra utility for society with regard to the around 2200 cash dispensers in service is estimated to amount to between NOK 6.4 and 15.4 million. Extra utility will increase with increasing speed of replacement of current machines with new equipment meeting the requirements to universal design. The benefits of introduction of the standards must be viewed in the perspective of utility for society in general. Increased accessibility may provide increased equal and active participation in society in many areas, where the use of self-service devices are just one aspect of a coherent use of buildings dedicated to the general public, public transport, outdoor areas, etc. Vista's report states that the introduction of requirements to universal design of automatic devices probably will be profitable when viewed in this perspective.

Results from surveys and evaluations of consequences of the introduction of guidelines and standards applying to web solutions are described in the following reports:

- NTNU[35]:"Konsekvensanalyse av tilgjengelighetskrav til IKT i forslag til ny diskriminerings- og tilgjengelighetslov" (2007). (Analysis of consequences of requirements to accessibility for ICT in the proposal for a new Discrimination and Accessibility Act).
- The Standardization Secretariat of the DiAI: "Konsekvensvurdering av universell utforming på offentlige virksomheters nettsider "(2009). (Evaluation of

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http://www.regjeringen.no/Upload/AID/publikasjoner/horing/2007/universell_ikt/konsekvensanaly se_universell_ikt.pdf

consequences of application of universal design to web pages provided by public enterprises).

- Standard Norge: ”Konsekvensvurderinger av økonomiske og administrative konsekvenser ved innføring av standarder for universell utforming av nettsider” (2010). (Evaluation of administrative and economic consequences related to the introduction of standards for universal design of web pages."
- DiAI-note: ”Konsekvensvurdering av økonomiske og administrative konsekvenser ved innføring av standarder for universell utforming av nettsider ”(2010). (Evaluation of the consequences of economic and administrative impacts related to the introduction of standards for universal design of web pages).

Costs, benefits and uncertainty related to universal design of web solutions are examined in the above mentioned reports. The DiAI note "Konsekvensvurdering av økonomiske og administrative konsekvenser ved innføring av standarder for universell utforming av nettsider" (Evaluation of the consequences of economic and administrative impacts related to the introduction of standards for universal design of web pages) provides an overall evaluation of the consequences reported on in the other reports on consequences related to internet based solutions. These assessments constitute the major basis for this hearing note.

The DiAI estimates that the extra costs of new acquisitions required due to the introduction of WCAG 2.0 level AA for all enterprises may amount to around NOK 460 million. Extra costs for the public sector amount to around NOK 60 million of this. This includes costs of acquisition of new publishing solutions, transfer of old content to the new solutions and training of personnel publishing material on the web. Major uncertainty related to the estimates is evident in this evaluation of consequences. This applies in particular to publishing of multimedia contents (audiovisual contents). It is therefore proposed to omit some guidelines related to multimedia contents in WCAG 2.0, as evident from item 5 of the paragraph related to standards.

In the report on consequences issued by Standard Norge, it is maintained that the benefits will exceed costs. To a large extent, the NTNU concludes in a similar manner in its report on consequences, and emphasizes that utility must not be underestimated while costs should not be overestimated in view of the major groups who will benefit from web pages becoming more accessible.

5.3 Supervisory body

Administrative consequences are in particular related to the establishment and operation of a supervisory body. According to section 16, second subsection of the Discrimination and Accessibility Act, the King will appoint a body assigned to supervise compliance with the requirements of section 11. It is presupposed in the preparatory work, with reference made to Proposition no. 44 to the Odelsting (2007-2008), page 171, and Report no. 68 to the Odelsting (2007-2008), that the supervisory body shall sort under the Directorate of Administration and ICT, with reference

made to article 7 of the draft for proposal to regulations.

Preliminary estimates of annual costs of supervision activities amount to somewhat more than NOK 10 million for the period 2012-2015. In addition, there will be costs of planning and establishment of the supervisory body. The proposed supervisory body is based on a minimal ambition level relative to assignments set out in law. The supervisory body's requirements for resources are estimated on the basis of targets related to efficiency in light of the purpose, where attempts are made to perform the supervisory function with the lowest possible effort. The supervisory body shall manage its activities through an overall risk-based assessment of how the regulations and the objective of the Discrimination and Accessibility Act can be enforced in the best possible manner.

Compared to the role of an ombudsman, the supervisory body is not obliged to process all reported cases. In order to achieve the purpose of the Act, the supervisory body will to a large extent emphasize work related to the provision of information and guidance. This is important because the regulations are new, and the target group must become familiar with them, but also because it is considered to be more efficient with regard to compliance with the regulations. The supervisory body will also perform activities in areas providing the most favourable results with regard to accessibility and participation in important arenas of society by larger groups of people, in addition to areas where there is little compliance with the regulations. Information and guidance are considered to be important elements for success and achieving the objectives.

Cost estimates pertaining to the supervisory body are higher compared to those laid at the basis when the Discrimination and Accessibility Act was proposed. This must, among other things, be viewed in light of uncertainty related to the fact that this is a new area, that the DiAI was established when evaluation of consequences was performed, and the fact that the Act was sanctioned medio 2008.

The requirement for resources is in particular related to the continual enforcement of the provisions of the Act, and the size of costs will depend on the scope of regulations and the number of cases. It is also expected that the regulations pertaining to universal design of ICT solutions will be updated at regular intervals, primarily by the addition of new standards and guidelines setting out the requirements of the regulations for universal design in concrete terms, but also through potential expansion of the area of application. Universal design of ICT is a rapidly developing area, where new and better international guidelines are being developed on a continual basis. Quicker standardization processeses and subsequent implementation processeses may lead to the requirements of frequent amendments to the regulations, which may cause costs related to the regulations to change.

Furthermore, tasks are also related to participation in national and international work with the development of standards and guidelines, work related to indicators and

other development work, in addition to information, guidance and development of competency by affected parties. Amendment of the regulations may also be expected to cause changes with regard to the cost of supervisory activities.

5.4 Instance of appeal

The Ministry of Government Administration, Reform and Church Affairs is the instance of appeal for decisions made pursuant to the regulations.

Costs will be incurred in connection with the processing of appeals of decisions made by the DiAI. Estimates of costs pertaining to the instance of appeal are uncertain. Costs will depend on the scope of obligations and the number of cases. This may lead to increased requirements for resources at the DiAI, which will be the body preparing any appeals, and in the Ministry which is the instance of appeal. Costs are as a minimum estimated to amount to NOK 1 million per year.

6. Draft for regulations pertaining to universal design of ICT solutions

Stipulated pursuant to sections 2, 11 and 16 of the Act dated 20 June 2008, no. 42, pertaining to the Prohibition of Discrimination on the Basis of Disability (the Discrimination and Accessibility Act) .

Article 1 *The purpose of the regulations*
The purpose of the regulations is to set out requirements for ICT solutions to be designed in a manner making them accessible to all, independently of any disability.

Article 2 *Area of application*
The regulations apply to ICT solutions intended for use by the general public in Norway.
The regulations apply in cases where the ICT solution supports the ordinary functions of an enterprise, and constitutes part of the enterprise's main solution. Application of the regulations is limited to internet-based solutions and automatic devices.
The regulations apply to all areas of society except for family life and other matters of a personal nature.
The regulations do not apply to adaption or facilitation of ICT solutions intended for use by individuals.
The regulations do not apply in cases where the design of ICT solutions is regulated by other legislation.
The regulations do not apply to the territories of Svalbard and Jan Mayen, to installations and vessels engaged in activities on the Norwegian Continental Shelf, or to Norwegian ships and aircrafts, irrespective of their area of operation.

Article 3 *Definitions*
In these regulations, the following definitions apply:
a. *Universal design*: refers to the design of products and environments in a manner whereby they may be used by all people, as far as possible, without any requirements for adaption or special design.
b. *ICT solutions*: refers to technology and systems of technologies used in order to express, create, transform, exchange, store, duplicate and publish information, or which in any other manner is used to make information useable.
c. *Automatic device*: refers to a machine or other device exclusively operated by the user in order to purchase a product or for the execution of a service.
d. *Internet-based service/internet-based solution*: refers to the mediation of information or a service made available through the use of a web browser or a corresponding utility, accessible by means of a URI (Uniform Resource Identifier), based on the use of the Hyper Text Transfer Protocol (http) or a corresponding utility in order to make contents available.
e. *Main solution*: refers to ICT solutions that are an integrated part of the manner in which the enterprise provides information and offers its services to the general public, and which is connected to the ordinary functions of the enterprise.
f. *New ICT solution*: complete replacement of a technical solution, version upgrade, replacement or major changes to source code and major changes to appearance or design. Gradual changes made over some period of time, accumulating to the point where it constitutes a change as mentioned under this letter of the provision, shall count as a new ICT solution.

g. *User interface*: refers to the interactive contact between man and machine, and to the part of the machine directly operated by the user, including physical hardware and logic components of software.
h. *Standard*: a normative document, including specifications, instructions and guidelines.

Article 4 *The area of application of the regulations*
The regulations shall apply to enterprises providing information and offering services to the general public through the use of ICT solutions comprised by these regulations.

Article 5 Requirements to the design of ICT solutions
Internet-based solutions must as a minimum be designed in compliance with standard Web Content Accessibility Guidelines 2.0 (WCAG 2.0)/ISO/IEC 40500:2012 at the A and AA level, with the exception of guidelines 1.2.4 and 1.2.5, or with corresponding standards.

Automatic devices must at least be designed in compliance with the following standards, or corresponding standards:

a. CEN/TS 15291:2006 - Identification Card Systems: - Man-machine interface: Technical Specification: Guidance on design of accessible card systems
b. NS-EN 1332-1:2009 - Identification card systems - Man-machine interface - Part 1: Design principles for the user interface.
c. EN 1332-2:1998 - Identification Card Systems: Man-machine interface - Part 2: Dimensions and location of a tactile identifier for ID-1 cards.
d. NS-EN 1332-3:2008 - Identification Card Systems: Man-machine interface - Part 3 Keypads.
e. NS-EN 1332-4:2007 - Identification Card Systems: Man-machine interface - Part 4 Coding of user requirements for people with special needs.
f. NS-EN 1332-5:2006 - Identification Card Systems: Man-machine interface - Part 5 Raised tactile symbols for differentiation of application on ID-1 cards
g. NS-EN-ISO 9241-20:2009 - Ergonomics of human-systems interaction - Part 20: Accessibility guidelines for information/communication technology (ICT) equipment and services.
h. ISO 20282-1:2006 - Ease of operation of everyday products - Part 1: Context of use and user characteristics ISO /TS 20282-2:2006 - Ease of operation of everyday products - Part 2: Test method
i. ISO/TR 22411:2008 - Ergonomics data and guidelines for the application of ISO/IEC Guide 71 to products and services to address the needs of older persons and persons with disabilities.

Article 6 *Supervisory body and requirements for internal control*
The Directorate of Administration and ICT shall perform supervisory functions pursuant to these regulations.
Enterprises that are responsible pursuant to the regulations must be able to document that requirements of articles 4 and 5 are met. The internal distribution of responsibilities within an enterprise and standards applied to the relevant technical solution must be documented.
The Directorate of Administration and ICT may request information and perform verification as necessary in order to meet its responsibilities, including demanding access to ICT-solutions regulated by the regulations.
The right to request documentation or access to premises and ICT solutions pursuant to the third subsection applies irrespective of rules pertaining to confidentiality.

Article 7 *Orders pertaining to introduction of measures*

The Directorate of Administration and ICT may order an enterprise to introduce measures as required in order to fulfil the requirements of the regulations pertaining to universal design of ICT solutions. The Directorate of Administration and ICT may set deadlines for compliance with such orders.

Article 8 *Enforcement penalties*

The Directorate of Administration and ICT may make decisions pertaining to enforcement penalties pursuant to section 16 of the Act dated 20 June 2008, no. 42, pertaining to the Prohibition of Discrimination on the Basis of Disability. Enforcement penalties will only be imposed when the deadline for complying with orders for introduction of measures has expired.

Enforcement penalties are imposed in the form of continual daily fines.

Enforcement penalty will be imposed in cases of failure to meet a new deadline for compliance with an order, and will normally remain in effect until the order has been complied with. An imposed fine may be reduced or cancelled in cases where special grounds exist.

Enforcement penalties shall only be imposed in cases where it is necessary in order to ensure that the order will be complied with within a reasonable period of time, and the size of a penalty should contribute to encourage compliance with the order.

Article 9 *Appeals*

Decisions made by the Directorate of Administration and ICT pursuant to these regulations may be appealed to the Ministry of Government Administration, Reform and Church Affairs. The appeal should be addressed to the Directorate of Administration and ICT.

Article 10 *Litigation*

Litigation pertaining to the validity of decisions made by the Ministry of Government Administration, Reform and Church Affairs must be initiated within three months after the reception of information about the decision.

Cases may not be filed before courts of law until the right to appeal has been exercised and a final decision made on the appeal.

Article 11 *Dispensation*

On the basis of applications received, the Directorate of Administration and ICT may grant dispensation pertaining to the date for compliance with the provisions of these regulations in cases where special grounds exist. The term "special grounds" may refer to such issues as protection of personal information, economy, security or cases where the development cycle of an acquisition cannot be adapted to deadlines and transitional arrangements pursuant to the second subsection of section 12.

Article 12 *Entry into force and provisions pertaining to a period of transition*

The regulations enter into force on xxxx

Enterprises subject to obligations pursuant to these regulations must ensure that new ICT solutions are made subject to universal design at the latest 12 months after these regulations enter into force. Existing ICT solutions must be made subject to universal design by 1 January 2021.