

**Report from the Danish Ministry of Science, Technology and Innovation on
Measures taken to implement the UNESCO Recommendation concerning
the Promotion and Use of Multilingualism and Universal Access to
Cyberspace**

Danish Ministry of Science, Technology and Innovation,
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1 Development of multilingual content and systems

1.1 Measures taken to eliminate language barriers

No specific measures taken due to the widespread usage of the Danish language.

1.2 Measures taken to formulate national policies on language survival

The Danish government presented a memorandum on government policies concerning the preservation and development of the Danish language to the Parliament in 2004. In the memorandum the government commits itself to a wide range of initiatives regarding the preservation of the Danish language, the main preoccupation being the loss of domain in some areas of the Danish society. The English language in the area of natural sciences for instance challenges the use of Danish. Presently, a proposal on the preparation of a law on the preservation of Danish language is under consideration in Parliament.

2. Facilitating access to networks and services

2.1 National efforts to recognize and support universal access

In Denmark, universal access has been attained through the implementation of Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive).

2.2 Mechanisms at local and national level to facilitate universal access

There is no longer regulation of end-user PTSN prices in Denmark – whether used for internet access or otherwise.

Prices for broadband access (ADSL, fibre, cable or wireless) have never been regulated, and the market is competitive.

Generally speaking, the prices for using ICT infrastructure are low in Denmark. Since 1999, there has been a real fall of more than 25 per cent in tariffs on fixed-network telephony, and 60 to 80 per cent on mobile telephony. Overall, Denmark has some of the lowest prices among the OECD countries, both with regard to mobile telephony and traditional fixed-network telephony. ADSL prices are still relatively high in Denmark compared to other OECD countries despite the fact that there has been a fall in tariffs of about 60 per cent since 2001.

It is a premise for Danish ICT policy that effective ICT markets are the foundation for a wide range of advanced ICT products and services. There should both be strong price competition, with goods and services being offered to the consumers at the best prices, and an early introduction of new products to ensure that the newest and most advanced technology will always be available.

2.3 Measures for encouraging development of information strategies

Since 1 January 2007, the National IT and Telecom Agency, in cooperation with the National Association of Municipalities, has been providing the citizens with a single digital entrance to the Danish Public Administration through the new citizens portal – “borger.dk”.

The Citizens Portal (“borger.dk”) – is a result of user-driven development with regard to both concept, design and organizing of content. It offers an overview of, and easy access to, public digital self-service solutions, e-services and other digital services, which provides the citizens with an improved opportunity to act and react according to his or her situation.

The Portal meets the citizens’ needs for public and governmental information in plain language. Hence, focus is on the citizen’s situation and needs.

In 2008 “borger.dk” will be introduced in a second version containing a “My Page” which will be the citizens’ personal digital entrance to the Danish Public Administration.

In addition, the Ministry of Science, Technology and Innovation is responsible for the annual competition “Best on the web” which assesses public websites. The purpose of the competition is to enforce the goal of ensuring accessible and user-friendly websites that support the citizens and public institutions in their use of public websites.

The competition has been running since 2000 and each year the competition assesses the public websites on various criteria: Usability (e.g. navigation), Digital self-service (e.g. report information via a web service), Openness (e.g. contact information on front page) and Technical accessibility (e.g. correct HTML).

2.4 Efforts to encourage concessionary rates for internet access

As mentioned above, it is a premise for Danish ICT policy that effective ICT markets provide the foundation for a wide range of advanced ICT products and services. There should both be strong price competition, with goods and services being offered to the consumers at the best prices, and an early introduction of new products to ensure that the newest and most advanced technology will always be available.

There is no regulation in Denmark that obliges internet service providers to give special rates to public service institutions. In general, competition in the market is sought in order to reduce access rates for all customers.

3. Development of public domain content

3.1 Legal and administrative measures

3.1.1 Aims for the knowledge society in relation to people with disabilities

It is a clear aim of Denmark, that as many people as possible should benefit from the full potential of the knowledge society. Technical development is seen, not as hindrance, but as an opportunity for even more people to access and benefit from new technologies, which can enable them to fully participate in the knowledge society.

An accessible knowledge society where disabled people do not experience technology as a hindrance demands action from the relevant public authorities, which is why the Danish Minister for Science, Technology and Innovation has ambitious strategic goals for the creation of an inclusive knowledge society.

One of the aims is to assure that eInclusion is an integrated part of every public sector ICT solution, especially the digital self-service solutions.

Among many other initiatives, it has been decided to secure the continuation of an eInclusion unit in the National IT and Telecom Agency.

3.1.2 Strategies for the knowledge society in relation to people with disabilities

In May 2005, after the ending of an action plan regarding inclusion it was clear, that if the above-mentioned aims should be fully achieved, the work done in Denmark could not be seen isolated from the work done at the European level. It was therefore decided not to make a new national action plan, but instead work along with the European Commission in fulfilling the aims presented in the communication on eAccessibility (COM (2005) 425 final).

The strategy for the work carried out in Denmark is to support the efforts of the European Commission, but also to identify issues related specifically to Denmark. In that relation, it should be noted, that speech technology is an area of high national priority.

This means that the focus areas for the work in Denmark are:

- Public procurement
- Certification
- Use of existing legislation
- Enhance the implementation of eAccessibility in different soft law and political agreements
- Development of Danish speech technology
- General guidance on how to make a digital solution accessible to all
- Active participation in the development of the knowledge society

3.2 Open access solutions and online accessibility of public domain information

3.2.1 Results in the accessibility field

The governmental work on eAccessibility is placed in the Ministry of Science, Technology and Innovation, in particular the Centre of Excellence IT for All in the National IT and Telecom Agency.

3.2.1.1 Public Procurement Toolkit

The Centre of Excellence IT for All has developed a public procurement toolkit to use when a public authority needs to purchase any ICT related goods or services.

The public procurement toolkit is an online guide, which helps to find the relevant accessibility standards, guidelines and requirements for public sector ICT procurements.

The toolkit is based on a database and the idea is that public authorities should use the toolkit when they are preparing the requirements specification for their procurement. The user has to go through the online guide and answer 8-12 specific questions on the functionalities of the system, that they are about to purchase. When these questions have been answered the toolkit will automatically generate a requirement specification, which the public authority can use in their procurement material.

The guidelines and specifications focus on functionality instead of certain techniques and solutions, so the developer must describe the technical solution that complies with the desired functionality. The requirements fall into 3 areas; software, websites and hardware, all with well-known and acknowledged international standards or guidelines and with a thorough description of the guidelines or standards' origin.

3.2.1.2 Translating the Web Accessibility Toolbar for Internet Explorer to Danish

The National IT and Telecom Agency has worked together with Microsoft Denmark in translating the Web Accessibility Toolbar for Internet Explorer into a Danish version.

The toolbar can be used to test existing web solutions for accessibility and is being used for instance by web developers in local public authorities to test their self-service solutions. The Centre of Excellence IT for All has also gathered and produced numerous articles suggesting how to solve a long range of concrete accessibility issues. Furthermore, the public authorities are welcomed to contact the Centre.

3.2.1.3 Competition for web developers

Acknowledging that even though public authorities set out with the very best of intentions as for how to purchase or develop accessible digital solutions, it can be hard to find suppliers, which have a specific knowledge on accessibility.

Therefore, the Centre of Excellence IT for All has launched a competition for web developers to create an accessible website. The competition is carried out along with the project titled "Best on the internet". This project evaluates the websites of nearly a 1000 public authorities according to various criteria e.g. accessibility.

3.2.1.4 Consultations, articles and books on accessibility issues

The Centre of Excellence IT for All offers a broad range of services to public authorities and their suppliers.

The Centre offers to answer specific questions regarding the development or implementation of new digital solutions. The public authority can contact the Centre and use the experts to facilitate the implementation of accessibility.

The Centre has also gathered and produced a long range of articles on accessibility, which are all available on the internet. They focus on giving concrete answers to problems, which often occur when working with accessibility.

In cooperation with different partners the Centre has also published four books on accessibility. The books deal with many different issues and have different target groups.

3.2.1.5 Targeted research funding of projects with a specific Danish angle

Since end of 2003 the Ministry of Science, Technology and Innovation and the National IT and Telecom Agency have funded different research projects which all have a Danish angle.

A) Speech recognition in Danish

This project has resulted in a speech recognition tool in Danish. It is a joined project between The Ministry of Science, Technology and Innovation, The Ministry of Culture and the Danish Public Service Broadcasters. The goal of the project has been to develop a Danish speech recognizer that can be used for automatically subtitling of TV programs as well as a consumer version, which anyone can buy and install on their computer and benefit from the possibilities of entering text into the computer via speech instead of keyboard and mouse. The speech recognition tool has been operative since the fall of 2006.

B) Indtal.dk – control the Internet via speech

The Ministry of Science, Technology and Innovation has also funded the development of a program that enables users to control Internet Explorer via speech. This program is especially developed for people with physical impairments, who often also have speech impairments. This means that the recognizer is based on commands rather than recognition of fluent speech. This project is already operative.

C) Other projects already in function

- Ordret.dk – advanced spelling and grammar help for people with dyslexia.
- A Danish version of Linux adapted for people who are blind or partially sighted.
- A program, that gives blind and partially sighted people full access to e.g. electronic dictionaries.

4. Reaffirming balance between the interests of rights holders and the public interest

4.1 Actions taken to update national copyright legislation

In 2002 Denmark implemented the so-called Copyright-directive (EC Directive on the harmonisation of certain aspects of copyright and related rights in the information society from May 2001), which serves to implement the obligations under the so-called internet treaties WCT and WPPT. Among other things the implementation made it clear, that rights holders have an exclusive right to publish their works in cyberspace.

The implementation also resulted in the protection of Technological Protection Measures and Digital Rights Management Information: It is not permitted to circumvent effective technological measures without the consent of the rights holder. However, The Copyright License Tribunal may under certain circumstances order a rights holder who has used effective technological measures to make such means available to a user, which are necessary for the latter to benefit from a list of limitations and

exceptions to Copyright and Related Rights (e.g. exceptions for the disabled and educational uses). The list does not include private copying.

No sooner than in the fall of 2007 the Danish Ministry of Culture and the Ministry of Science, Technology and Innovation will consider whether there is cause for changing the provisions on technological protection measures. In that context there shall be a specific focus on whether the market has developed interoperable solutions or if content is increasingly locked into particular hardware or the like, in a way that is disadvantaged for users of copyrighted works. At the same time there will be focus on whether users are placed in a weak position regarding online-buying of content with technical protection measures, than they traditionally have been put in regarding, for instance, the buying of a CD in a physical store.

4.2 Actions planned for development of technological innovations

The National Council for Technology and Innovation in Denmark is currently preparing an action plan for the implementation of the Danish innovation policy. The action plan is expected to be published primo 2007.

5 Final comments

5.1 Efforts to establish monitoring of implementation

It is the general view that Denmark already complies with the decisions taken at the two phases of the World Summit on the Information Society (WSIS). Each year the Danish Government presents an ICT Policy Report to the Parliament containing a status for the development of the Information Society in Denmark. This practise was introduced several years before the Summits in Geneva and Tunis.

5.2 Main issues and new challenges

Denmark continues to work towards the preservation and development of the Danish language according the above-mentioned governmental memorandum.

Moreover, Denmark will continue to have the inclusion of all citizens in the information society as a priority. This is an ongoing process that is continuously being evaluated in order to offer the citizens a high quality framework for actively taking part in the information society in relations to education, science, culture, health and communication.