DIGITAL INCLUSION

Model ICT accessibility POLICY REPORT

Report

G3ict

Telecommunication Development Sector

ITU

Model ICT accessibility policy report

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This International Telecommunication Union report was prepared in cooperation with the G3ict, the Global Initiative for Inclusive ICTs, under the supervision of the ITU Telecommunication Development Bureau (BDT) Special Initiatives Division.

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Foreword

ICT accessibility for persons with disabilities is a priority for ITU members. At the last ITU World Telecommunication Development Conference (WTDC) ITU members recognized the need to ensure that the one billion people living with some form of disability can use information and communication technology (ICT) for their empowerment. How do we make ICT accessibility a reality?

ICT accessibility means removing barriers so that persons with disabilities can use ICTs. The barriers faced depend on a person's disability. Our previous publications, *Making mobile phones and services accessible* and *Making television accessible* have documented the accessibility needs of persons with visual, hearing, mobility, dexterity, and cognitive disabilities.

One of the key steps to make ICT a reality is to establish an enabling environment for ICT accessibility, just as nations have established enabling environments to authorize competition in the provision of ICT services. A little over ten years ago, countries around the world created policy and regulatory frameworks that unleashed unprecedented growth in mobile and Internet use. These frameworks led to universal access and service levels beyond the imagination of policy-makers in earlier years: by the end of 2014, we expect nearly 7 billion mobile phone subscriptions and almost 3 billion Internet users.

Despite these advances, very few nations today have acted to ensure that persons with disabilities are part of this technology revolution. Persons with disabilities continue to face barriers in using ICTs. I believe that creating and implementing national ICT accessibility policy frameworks will lead to unprecedented growth in accessible ICTs and the empowerment of persons with disabilities. The impact of these policies will be enjoyed by many others, including immigrants, aging and illiterate populations, and will open doors to inclusive education, employment and health services.

This *Model ICT accessibility policy report* is designed as a tool for national policy-makers and regulators to create their own ICT accessibility policy frameworks. It includes six modules focusing on different aspects of ICT accessibility (amendments to the existing ICT legal framework, public ICT access, mobile communications, television/video programming and public procurement of accessible ICTs) so that countries can prioritize implementation. In all modules the approach is to develop national policies in consultation with persons with disabilities.

ITU members, in the Final Report of WTDC-14, requested ITU to assist them in formulating national and regional policy and regulatory frameworks on ICT accessibility. It is my hope that this report will serve as a valuable resource for ITU members and all stakeholders as they strive to implement successful ICT accessibility policies in their countries. My sincere appreciation goes to our colleagues at G3ict with whom we developed this report, along with the authors and all the stakeholders who provided invaluable comments on the report.

I am convinced that we can make ICT accessibility a reality. Let us now move from words to action and begin formulating, implementing, and monitoring ICT accessibility policies in close consultation with persons with disabilities.

Brahima Sanou
Director
Telecommunication Development Bureau

Publisher's note

This report represents the culmination of seven years of cooperation between the International Telecommunication Union and G3ict, the Global Initiative for Inclusive ICTs, in gathering good practices and facilitating exchanges among policy-makers, organizations of persons with disabilities representatives and industry leaders promoting the accessibility of information and communication technologies (ICTs) in compliance with the dispositions of the United Nations Convention on the Rights of Persons with Disabilities.

Translating those dispositions into policies, laws and regulations requires a carefully crafted ICT accessibility enabling framework. Different types of ICT equipment and services, ranging from public ICT access points, mobile devices and services, television and video programming and equipment, web sites as well as all ICTs purchased via public procurement require distinct accessibility solutions involving different groups of stakeholders. These solutions can be achieved through common approaches, leveraging technological innovation and the adoption of international standards that ensure economies of scale that offer considerable opportunities for persons with disabilities. Each module calls for a common approach of defining detailed implementation plans and execution of well-defined targets based upon ongoing consultations among industry, service providers, organizations of persons with disabilities, standards development organizations, and policy-makers and regulators.

Thus, the six modules of this report, while offering policy frameworks inspired by existing good practices and available technologies from around the world, all emphasize the critical importance of setting up processes involving relevant stakeholder in developing and monitoring ICT accessibility policies with persons with disabilities.

Within the UN System, the ITU leadership in promoting ICT accessibility plays an important role in realizing the promises of the Convention on the Rights of Persons with Disabilities. The development of this report would not have been possible without the strong commitment to ICT accessibility of the entire ITU executive team, the support and encouragements of Mr Brahima Sanou, Director of ITU Telecommunication Development Bureau (BDT) and the energy and dedication of Ms Susan Schorr, Head of ITU-D Special Initiatives Department who oversaw this project and ensured that its contents meet ITU membership needs.

The editing and review process of this report, after the successful completion of the joint ITU-G3ict e-Accessibility Policy Toolkit for Persons with Disabilities, demonstrate once more the benefits of multi-stakeholder participation. Our sincere appreciation goes to all contributors and module reviewers who have contributed their wisdom and experience to this report and to Ms Mandla Msimang, our lead author, who has applied her energy to completing this monumental task with an in-depth knowledge and understanding of regulatory and policy development processes.

It is our hope, that these model policies will facilitate faster, more effective ICT accessibility policy developments around the world, and set the stage for effective multi-stakeholder engagement in promoting accessible ICTs, an essential enabler of the Rights of Persons with Disabilities in our digital world.

Axel Leblois
President and Executive Director
G3ict

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Objectives of this report

The *Model ICT accessibility policy report* is developed for information and communication technology (ICT) policy-makers, regulators and other stakeholders active in ICT and/or disability issues, including non-governmental organizations (NGOs), organizations of persons with disabilities, and parliamentarians. This report addresses a range of facets of the ICT sector and is designed to assist in policy making in public ICT access, mobile communications, television/video programming [1], web accessibility and public procurement. It also provides a framework for countries to develop policies, through legislation, regulations, standards, and guidelines, to provide an institutional framework for ICT accessibility. It recognizes that in many instances, and in particular with reference to a disability policy framework, "soft law" or voluntary initiatives, negotiated roadmaps, codes of conduct, and compliance can also be effective in promoting equitable access to information and communications technologies for persons with disabilities in a fast changing technology environment; as such it provides guidance on both regulatory and voluntary approaches.

This report has been prepared pursuant to the United Nations Convention on the Rights of Persons with Disabilities (hereinafter the Convention) and in line with the International Telecommunication Union (ITU) and G3ict ICT Accessibility Policy Toolkit for persons with disabilities (www.e-accessibilitytoolkit.org). Successful achievement of the goals set out in the Convention relies on the adoption and early implementation of policies by a country. Each country has to decide on the respective policies and an implementation timetable in accordance with its unique circumstances. This report will assist countries to understand the generic steps and requirements necessary to promote accessibility by persons with disabilities and provides guidance in areas where they can be adapted to meet national circumstances.

The UN Convention on the Rights of Persons with Disabilities

The UN Convention on the Rights of Persons with Disabilities addresses the risks of exclusion of persons with disabilities from participating equally in society by defining ICT accessibility as integral to general accessibility rights and on a par with accessibility to the physical environment and transportation. It came into force in May 2008 and enshrines the principle that persons with disabilities must be able to enjoy human rights and fundamental freedoms on an equal basis with others. It is the first international human rights treaty requiring that information and communications technologies and systems be accessible as a necessary condition for persons with disabilities to fully enjoy these fundamental rights without discrimination. Its dispositions provide a human rights foundation for existing policies and programmes developed by countries, such as universal service and access policies for telephony, video programming and/or web accessibility, and set a clear roadmap for State Parties lacking such policies.

Article 9 of the Convention sets out general obligations for States Parties to ensure that persons with disabilities have access to information and communication technologies and systems. Articles 21, 29 and 30 expand on this and refer to media, communications and ICTs serving as platforms for furthering the rights of persons with disabilities to freedom of expression and opinion, access to information, participation in political and public life and participation in cultural life, recreation, leisure and sport. These Articles collectively call for all content, communication, information, hardware, software and interfaces to be accessible. They further call upon States Parties to encourage the private sector to deliver accessible products and services.

[1] The television/video programming accessibility policy framework module addresses all forms of video programming whether transmitted over traditional broadcasting, digital and IPTV, cable, satellite TV, HBB TV (hybrid broadcast broadband TV) or IBB (integrated broadcast-broadband system) networks. The approach is technology neutral and whatever the platform the aim of the policy is to ensure that persons with disabilities face no barriers in watching programmes or using electronic programming guides (EPGs), remote control devices or TV devices across all platforms.

Accessibility is identified in Article 3(f) of the Convention as one of its eight general principles, and accessibility, including access to ICTs, is established therein as a condition that will enable persons with disabilities to exercise their fundamental freedoms and human rights.

Article 2 defines "communication" in an inclusive manner to include all possible means of communication "languages, display of text, Braille, tactile communication, large print, accessible multimedia as well as written, audio, plain-language, human-reader and augmentative and alternative modes, means and formats of communication, including accessible information and communications technologies" that can eliminate barriers for persons with disabilities to enjoy their fundamental freedoms and human rights.

The vast majority of ITU Member States had ratified the Convention at the time of publication of this report.

Challenges for persons with disabilities

Information and communication technology (ICT) laws, policies and regulations generally support the principles of universal access to information and communication technology. They do this by focusing on providing a framework to facilitate the deployment of ICT networks, the promotion of affordable services and products, the protection of consumers, and the provision of reliable emergency services. Laws are meant to address the needs of *all* users. However, in practice, while these issues are relevant to users with disabilities, the needs of the disability community are different and require a deliberate additional focus on *accessibility* by legislators, policy-makers and regulators.

Some of the challenges faced by persons with disabilities, and included in the various modules of this report, require that:

- Accessible ICTs (i.e. access to end-user equipment, such as mobile handsets, televisions, tablets and computers), offer features to enable persons with disabilities to use ICTs effectively. There are often challenges with respect to the availability and affordability of this equipment that, when obtainable, may be at an additional cost to the end user. Even where there is no additional cost, and accessibility features are embedded (for example in mobile handsets), awareness, training and education of both users and service providers are often required in order to break the accessibility barrier.
- Access to assistive technologies are free or available at a low cost through subsidies or grants. Again there is a need for training of persons with disabilities and those who assist them on the use of technologies and features made available.
- Products and tariff plans are structured in a way that recognize the ways that persons with disabilities use services – for example, text-only mobile communications packages for deaf or hearing impaired users.
- Access to services and interfaces ensures that content on television, the Internet or in other electronic media is available in accessible formats – for example, through the use of closed captions for users who are deaf or hard of hearing and audio description for users who are blind or visually impaired. There also need to be awareness campaigns on the availability of accessible content.
- Access to customer services addresses the specific needs of persons with disabilities.

Addressing key issues in promoting ICT accessibility

Bearing in mind the challenges faced by persons with disabilities, this report sets out good practice for policy development and implementation across a range of ICT sub-sectors, namely public communications, mobile communications, television/video programming, the Internet and public procurement. In each module, the following good practice principles are advanced:

- **Mainstreaming ICT accessibility** through inclusive language, definitions and provisions in policies, laws and regulations; and through including persons with disabilities as beneficiaries of universal

service and access funds (USAFs) or any other funding mechanisms or programmes relating to the ICT sector[2] and extending the goals of universal service/access to include accessibility in addition to affordability and availability of ICT services.

- **Identifying key steps** that can be taken quickly to promote ICT accessibility, such as ensuring accessible devices (such as public and mobile phones and television sets) are available.
- **Awareness-raising among key stakeholders** by promoting ICT accessibility through public outreach programmes, working with industry to develop universally designed products and gathering and publishing reports on developments with respect to ICT accessibility.
- **Consensus building and inclusive policy-making** through encouraging national debate and discourse, by setting up specialized fora and committees, through inclusive regulation-making and public consultation processes and encouraging voluntary codes of conduct and charters.
- **Collaborative efforts** through the promotion of public-private-partnerships, encouraging the use of universal service fund subsidies and promoting other partnerships to stimulate research and development in the industry for example voice recognition and text-to-speech interfaces in local languages – to ensure local relevance and uptake
- **Promoting the setting of clear targets, and periodic reporting to monitor implementation** and by ensuring that there is clear delegation of responsibility, including identifying who is responsible for what aspects of the promotion of ICT accessibility.
- Encouraging training, capacity building and educational programmes on disability awareness.

Organization of this report

Since technologies and ICT environments are constantly evolving, the Convention has defined obligations in relation to desired outcomes by application areas, rather than in specific technical terms. In line with this, this *Model ICT accessibility policy report* recognizes that it is up to policy-makers, regulators, civil society and industry to identify and define solutions specifically tailored to their individual country's needs, while leveraging to the greatest possible extent international standards and global economies of scale to lower costs and to promote interoperability.

This report also recognizes that, depending on a country's legal and institutional framework, responsibilities for various aspects of ICT policy and regulation may rest with different bodies, hence the possible need for more than one policy in a country. It furthermore acknowledges that in order to have a comprehensive framework to address ICT accessibility, a range of tools may be required, including laws, policies, regulations, standards, self-regulatory/co-regulatory codes, and guidelines, where applicable. As such, this report is set out in six modules, each of which covers the basic tools that policy-makers and regulators need to consider in order to improve ICT accessibility:

- **Module 1: ICT accessibility legal, policy and regulatory framework** provides an overview of key provisions that should be included in primary ICT legislation in order to mainstream ICT accessibility in a national regulatory and policy framework.
- **Module 2: ICT accessibility framework on public access** includes model licence conditions, guidelines and a public access accessibility checklist.

[2] Other funds can be used to promote television/video programming accessibility, including, production or cultural industry promotion funds. Ideally such funds would only be used for accessibility content production. An example of this type of fund would be the Broadcasting Accessibility Fund established by the Canadian Radio-television and Telecommunications Commission Policy CRTC 2012-430. Other more general funds include the Media Development and Diversity Agency (MDDA) which fund the media and broadcasting industry in South Africa.

- **Module 3: Mobile communications accessibility policy framework** provides a model policy that is supported by a model code of conduct, and model provisions that intended to be included in regulations to be used depending on the legal framework of a country.
- **Module 4: Television/video programming accessibility policy framework** includes a model policy as well as an annex with references to television/video programming accessibility regulations from selected countries.
- **Module 5: Web accessibility policy framework** sets out a model policy and provides readers with resources for policy implementation, and technical references.
- **Module 6: Accessible ICT public procurement policy framework** includes a model policy, and sets out functional performance requirements as well as a product accessibility template, and training and resource materials.

These six modules are designed to assist in developing policy for public ICT access, mobile communications, television/video programming[3], web accessibility and public procurement. Some areas of ICT accessibility and assistive technologies such as those specific to education, employment, rehabilitation, local government, voting, financial services or transportation are not covered in the modules in this report. Consultations and coordination on ICT accessibility matters in relation to these areas is nevertheless very much encouraged in order to share resources, solutions and capacity building programmes.

There is a trend in regulation and policy making toward convergence and technological neutrality. However, because the accessibility needs and requirements of persons with disabilities vary by type of ICT (e.g. computers in public access centres, mobile telephony, TV, and websites), this report is organized to address these specific requirements.

Each module in this report can either be used to develop a stand-alone policy, or can be merged with other modules where a single ICT authority is responsible for telecommunications, electronic communications, television/video programming services, and/or web accessibility. However, even in such scenarios, it may be desirable to accessibly publish separate policies, depending on the development of the market and the level of overlap between the suppliers of such services. For example, it may be easier to enforce compliance if licensed service providers of video programming[4] and regulators only concern themselves with a television/video programming-specific accessibility policy (see the model television/video programming accessibility policy) and mobile communications service providers or ICT/telecommunication regulators with a mobile accessibility policy (see the model mobile communications accessibility policy). The decision is left to the implementing country. This report uses the term "ICT" to include telecommunications, electronic communications, the Internet and television/video programming.

Designed and drafted on the basis of a similar approach, each module:

- explains ICT accessibility goals to be achieved and the steps required to achieve those goals;
- provides national policy-makers and regulators with a generic approach that can be adopted, and model text that can be used and amended to meet the needs of a particular country;
- includes annotations to assist countries to understand the basis for some of the proposed clauses (e.g. obligations that originate from the Convention are noted in Module 1 and the model policies to assist signatories to ensure compliance with the Convention);

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[3] The television/video programming module addresses all forms of video programming whether transmitted over traditional broadcasting, digital and IPTV, cable, satellite TV,HBB TV (hybrid broadcast broadband TV) and IBB (integrated broadcast-broadband system) networks. The approach is technology neutral and whatever the platform the aim of the policy is to ensure that persons with disabilities face no barriers in watching programmes or using electronic programming guides (EPGs), remote control devices or TV devices.

[4] The Model television/video programming accessibility policy in Module 4 uses the term "licensed service provider" to refer to the entity responsible for delivering television/video programming according to each national legal and regulatory framework, including broadcasters, cable and satellite network operators and other licensed video programming services intended for reception by the public.

- provides annotations which highlight issues for countries to consider in adapting Module 1 and the model policies to meet their national requirements (e.g. specific considerations such as population, literacy, institutional framework, and adopted standards); and
- includes appendices with supporting tools, such as useful information for national policy-makers and regulators who are not familiar with ICT accessibility policy, guidelines, checklists, and examples of existing policies and model codes of conduct or model regulations, as applicable depending on the topic and jurisdiction.

This report therefore includes a comprehensive range of information to assist legislators, regulators and policy-makers to draft comprehensive and sound accessibility policies specific to their particular country needs and circumstances, taking into account technological developments. Because of the rapidly changing technological environment, countries are encouraged to put in place mechanisms and processes to conduct periodic reviews of their policies and legal instruments to ensure they best harness and address new technological opportunities to promote ICT accessibility.

Module 1: ICT accessibility legal, policy, and regulatory framework

This module can serve as a tool to assist policy-makers by identifying amendments to existing ICT sector legislation that will promote ICT accessibility. The rationale for this approach is based on the United Nations Convention on the Rights of Persons with Disabilities (hereinafter, the Convention), which in its Preamble states that mainstreaming disability issues in all frameworks is "an integral part of relevant strategies of sustainable development".

Information and communication technology (ICT) sector policy and legislation provides guidance to national regulatory authorities (NRAs) and other governmental bodies in their policy-making and regulation-making in relation to ICT. The policy and law set out the requirements of the relevant institutions, as well as the boundaries of their mandates. Ministries and NRAs often cannot make policies or regulations in the absence of the "enabling statutes" despite a will to do so.

This report therefore provides policy-makers and legislators with background information on the ICT accessibility aspects of key ICT legal, policy and regulatory measures as well as legal and policy recommendations and model clauses that can be included in existing legislation to ensure that the needs of persons with disabilities are an integral part of the ICT legal framework and flow into the policy and regulatory framework.

Many countries are in the process of amending their telecommunication, broadcasting or ICT legislation to address issues such as convergence and the introduction of broadband. This document can serve as a tool to ensure that, in that process, key amendments to promote accessibility are incorporated into new laws. Alternatively, policy-makers may wish to initiate amendment processes to their existing laws specifically to promote ICT accessibility.

In developing legislation, policies, regulations or implementing "light touch" strategies such as voluntary codes of conduct, the involvement of organizations of persons with disabilities is crucial. The Convention stipulates that:

> *In the development and implementation of legislation and policies to implement the present Convention, and in other decision-making processes concerning issues relating to persons with disabilities, State Parties shall closely consult with and actively involve persons with disabilities, including children with disabilities, through their representative organizations*[5].

As such, this module includes proposals relating to the inclusion of persons with disabilities in rule-making and ensuring that all documents issued by regulators and policy-makers are accessible.

The module begins with an overview of different regulatory approaches in use by countries around the world, ranging from "light touch" regulatory frameworks that include industry self- and co-regulation to more traditional regulatory approaches that require the promulgation of regulations. It then goes on to identify changes necessary in existing ICT legislation to promote ICT accessibility for persons with disabilities, including definitions, ways to ensure that persons with disabilities are included in consultative processes for the development of ICT accessibility frameworks, universal access and service frameworks, consumer protection, emergency communications, and reporting requirements. It also includes a section on changes necessary in disability legislation or disability rights laws.

The goals of the legal, policy and regulatory approaches identified in this module are to create a legal and regulatory framework that promotes ICT accessibility by taking the following steps:

- revising existing ICT policies, legislation and regulations to promote ICT accessibility;
- consulting with persons with disabilities on the development of such revised ICT policies, legislation and regulations, including by establishing a committee on ICT accessibility;

[5] See Convention on the Rights of Persons with Disabilities, Article 4 "General Obligations", paragraph 3.

- making persons with disabilities and organizations of persons with disabilities aware of revised ICT policies, legislation and regulations;
- adopting ICT accessibility technical and quality of service standards;
- adding and revising key ICT legislation definitions to promote ICT accessibility;
- amending the universal access/service legal and regulatory framework to include ICT *accessibility* as an explicit goal of universal access/service and the universal access/service fund;
- ensuring that quality of service requirements take into account the specific needs of persons with disabilities and set quality of service standards for accessible services;
- revising legal frameworks for emergency communications to ensure emergency services are accessible for persons with disabilities;
- establishing clear targets and report annually on their implementation; and
- amending disability legislation to refer to ICT accessibility.

Section 1 of this module – options for regulation - is provided for background, especially for ICT accessibility stakeholders who are not familiar with ICT regulatory options; it also explains the range of regulatory approaches that are used in modules 2 and 3. Recommendations are provided throughout and model legal texts can be found in Boxes 1, 3, 4, and 5.

1. Options for regulation

This report recognizes that different regulatory frameworks require different approaches to promote ICT accessibility. The report therefore provides model provisions that are flexible enough to be used in different kinds of regulatory frameworks. In some regulatory regimes, for example, ICT accessibility requirements will be included in licence conditions, while in others they may be included in general regulations. Where countries allow for self or co-regulation, ICT accessibility can be achieved through codes of conduct. It also explains which regulatory tools will be most effective to reach the desired results, depending of course on the country's legal framework and the structure of the industry.

Recognizing these differences, modules 2 and 3, on public ICT access and mobile communications respectively, provide model codes of conduct and model regulations that can be adopted depending on a country's legal and regulatory framework.

a. Background on the roles of the policy-maker and the regulator

The relevant ministry is generally responsible for making policy which governs the ICT sector. ICT accessibility policies therefore need to be made by the responsible ministry and included in the general policy framework. The policy sets out the government's intent and contains its broad vision and objectives, in this case, for ICT accessibility. Although policies are formally put in place by governments, different stakeholders, including the regulator, the private sector, civil society and organizations representing persons with disabilities, make inputs into the policy process and affect its outcomes. Policy needs to be turned into legislation, regulations, and/or licence conditions in order to make it enforceable.

The role of the regulator facilitating ICT accessibility according to EPRA (European Platform of Regulatory Authorities), ranges from implementing policy through drafting and enforcing regulations, setting targets and licence conditions, monitoring and enforcing obligations, drafting or approving of codes of practice and driving awareness campaigns and consultation. There should always be alignment between policy and the instruments used to implement it – although the instruments contain more detail.

The following background sections on ICT regulatory options for ICT accessibility stakeholders will lead to a better understand the regulatory options provided in modules 2 and 3 by those who are not familiar with ICT regulations.

b. Background on licence conditions/authorizations

In order to operate in the ICT sector, providers require licences which authorize them to provide specified services (which may also include multiple services, usually technology neutral) under conditions that are agreed between the issuing authority (usually the NRA) and the licensee. A "licence" or "authorization" is a general term applied to all the legal instruments (including concession agreements) used to facilitate entry to ICT markets for services (including content services) and networks[6]. These legal instruments set out the rights and obligations of the authorized party as well as of the government in the case of concession agreements. The authorization process is the means of introducing and encouraging competition in the sector.

The kind of licence or authorization used often depends on whether a country has adopted a more traditional regulatory approach, in which individual licences are issued especially for "major" services, or a more "light touch" regime which may use class licences. Some services may also be "licence exempt" in which case they may still be subject to general regulation applicable across the sector.

In some cases, provisions to ensure ICT accessibility may be included in licence conditions and effected as part of the enforcement of an entity's obligations. This works well in the case of public access requirements, where the provision of payphones or community ICT centres may be an operator-specific licence condition (for example, where the service was offered as part of a licensing process) and thus it makes sense to stipulate the conditions associated with the obligation in the operator's licence.

Licence conditions are not amended as frequently as some of the other regulatory instruments, such as regulations, and as such may not be generally appropriate for ICT accessibility requirements in a fast changing ICT sector where technological innovation and developments may improve methods of achieving ICT accessibility. In addition, since licence conditions may vary between players, there is a risk that there will not be a uniform approach. To the extent that compliance with regulations is a condition of licence, it opens the option to use regulations, thus, over time, ensuring a more transparent and level playing field for all operators.

c. Background on regulations

Many of the original service-specific and detailed licence conditions were issued in the early days of regulation; when there was a very limited body of regulation and therefore licence conditions were used as the primary regulatory instrument. Regulators have since promulgated and updated a substantial body of regulations, eliminating the need to issue particular, detailed and specific authorizations. Instead, regulators can simply refer to the relevant regulations where necessary[7].

This approach enables regulators to apply similar sets of requirements on similar types of players in the ICT sector. This is beneficial when it comes to ICT accessibility regulation as it enables the NRA to put in place rules that apply broadly across the sector, and thus enables the implementation of consistent standards and requirements and thus a coordinated approach. Regulations are made following a consultative process in which all relevant stakeholders have an opportunity to make input. They are more easily amended than licence conditions; however in order to ensure stability, regulations are not amended too frequently.

d. Voluntary industry measures

In some instances, voluntary industry measures are particularly effective in promoting equitable access to ICT in a fast changing technology environment. They are also valuable in an environment with a detailed value chain with many players over which the regulator does not have total control. For example, NRAs have little or no control over the manufacturers of devices, however, operators through their procurement decisions can influence the behaviour of manufacturers. As such, it may be more effective for them to put in place voluntary measures to promote ICT accessibility.

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6 www.ictregulationtoolkit.org/1.3.1 – ICT Regulation Toolkit.

7 Idem.

One of the key steps that policy-makers can take is to ensure that existing accessibility solutions available commercially in the global marketplace are available to persons with disabilities on a national level. For instance, mobile handset vendors offer a variety of handsets with accessible features that can be procured by mobile operators. Similarly, TV set vendors offer embedded solutions for closed captioning. Industry can develop codes of conduct committing to include such existing commercially available solutions in their offerings to consumers. Accessible ICT legislation can encourage the development of such codes of conduct which can be enforced through co-regulation.

Voluntary measures can be supported by regulation, i.e. co-regulatory mechanisms, which can include legislation that[8]:

- delegates the power to a government sponsored committee including industry and representatives of persons with disabilities to develop, monitor and enforce codes;
- enforces undertakings to comply with a code;
- does not require a code but has a reserve power to make a code mandatory;
- requires industry to develop a code negotiated with organizations of persons with disabilities and stipulates that, in its absence, government or the NRA will impose a code or regulation;
- prescribes a code that only applies to those who subscribe to it "prescribed voluntary codes"; or
- prescribes a code as a regulation applying to all industry members "prescribed mandatory codes".

Voluntary measures can include the adoption of guidelines, features, standards when available, negotiated roadmaps and industry codes of conduct and compliance. The model code of conduct in Module 3 (Annex A) is one such example.

Voluntary measures can, however, only be considered in countries that have a regulatory and legal framework that supports such an approach. In such countries, the legislation provides an added layer of assurance that the voluntary measures will achieve ICT accessibility. In many such countries, however, these voluntary measures do not currently provide for the recognition and involvement of organizations of persons with disabilities in public consultations regarding the adoption of standards or selection of commercially available solutions and their effective implementation.

Voluntary industry measures policy recommendation: Countries where the legal framework allows voluntary industry or co-regulation can amend their legal frameworks to recognize the role of organizations of persons with disabilities in the development of voluntary or co-regulation processes.

d. Traditional regulation for ICT accessibility

In many countries ICT legislation does not provide for self-regulatory or co-regulatory regimes which would be enforced through "Industry Codes" or "Codes of Conduct". The law furthermore does not provide for the recognition of industry associations or bodies including organizations of persons with disabilities.

Traditional regulation policy recommendation: As a long term approach, countries where ICT legislation does not provide for co- or self-regulatory approaches can revise their ICT legislation to authorize such "light touch" regulatory regimes and recognize the role of industry associations or bodies and organizations of persons with disabilities in co-regulatory processes. However, in the short term, more traditional regulation – setting out requirements through regulations or licence conditions – preceded by consultative processes is the best option available in such countries. To facilitate implementation of ICT accessibility measures in such countries, among others, a model public access guidelines (see Module 2) and a model mobile communications accessibility policy (see Module 3) are provided in this report.

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[8] Australian Communications and Media Authority, ***Optimal Conditions for Effective Self- and Co-regulatory Arrangements*** (2010), www.acma.gov.au/theACMA/About/The-ACMA-story/Connected-regulation/optimal-conditions-for-effective-self-and-coregulatory-arrangements

2. Technology and standards

Technical standards ensure interoperability, for example for TV closed captioning, hearing aid compatibility or web accessibility for screen readers. Technical standards are also important for normative purposes such as for defining accessible ICT equipment for public procurement, or for establishing metrics for measuring quality of service for television/video programming and telephony and captioning reliability and synchronization.

Technical standards policy recommendations

In light of the role of standards in ensuring accessibility and in line with Article 9.2(a) of the Convention, governments are required to establish accessibility standards. Article 4(g) states that they must "promote the availability and use of new technologies, including information and communications technologies, mobility aids, devices and assistive technologies, suitable for persons with disabilities, giving priority to technologies at an affordable cost." Thus governments should promote ICT accessibility standards, and adopt international standards to the greatest possible extent to achieve economies of scale to lower cost and ensure interoperability at the same time. Governments should also promote the mainstreaming of accessibility into standards development, including the use of the design guidance in ITU-T Recommendations F.790 and F.703[9].

National regulatory authorities, working with relevant standards bodies, can therefore adopt technical standards, including relevant international standards, to ensure interoperability for a range of ICT products and services such as TV closed captioning and audio description, hearing aid compatibility with mobile telephony, and website compatibility with screen readers. They can also establish quality of service standards for telephony, television/video programming and multimedia services. Likewise, regulators can establish quality of service standards in broadcasting and converged services for closed captioning and audio description accuracy and synchronization. Governments can further provide policy guidance to national standards organizations; or mandate them to set specific standards, adopt international standards, or to align with specifications from international standards organizations.

3. Review of definitions in existing ICTs[10]

Definitions play a fundamental role in legal discourse, they avoid ambiguity in interpretation and they warrant the application of a law to a specific case. Definitions in law can influence every premise of a regulation or code made in terms of that law:

- **Recommendations on review of existing ICT legislation definitions**: Definitions should take into account the objective of facilitating the equal treatment of persons with disabilities and this objective should be explicitly included in primary ICT legislation. NRAs should review existing key definitions and add or amend them as appropriate. In some cases the inclusion of definitions is recommended (only if they are used in the law), in others the definitions already exist and need to be reviewed and aligned. Recommendations on amendments to universal access/service definitions, for example, are provided in Box 4.
- **Recommendations on new ICT legislation definitions to promote ICT accessibility**: In addition to amending existing ICT law definitions, it is necessary to include additional definitions to promote accessibility. The definitions set out here should be included in the ICT law. They apply to all modules in the report. Additional definitions are provided in modules where relevant.

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[9] The international standard ITU-T in Recommendation F.790 contains guidance on writing accessible standards that can be used by all standards developers while ITU-T F.703 is the international standard for Total Communication, a concept that communication should use *all* possible communication means, depending on the specific needs of users. ITU-T F.790 is complemented by the *accessibility checklist* in Technical Paper ITU-T FSTP-TACL "Telecommunications Accessibility Checklist" (2006).

[10] Some countries use the term “information and communication technology (ICT)” while others use "electronic communications" or "telecommunications" and "broadcasting". The abbreviated form “ICT” or “ICTs” is used in this report.

Box 1: Definitions to be included in ICT legislation

The definitions set out in this box are not currently in most ICT laws, and would need to be included in order to support the new provisions of the law proposed in this and other modules. Legislators and policy-makers are encouraged to confirm whether and where these terms are used before including them in their laws.

"**Accessible communication**" as defined in Article 2 of the Convention on the Rights of Persons with Disabilities, includes any means and formats of communication, whether delivered aurally, visually or tactilely, including spoken and sign language, display of text, Braille, tactile communication, large print, accessible multimedia as well as written, audio, plain-language, human-reader and augmentative and alternative modes, means and formats of communication, including accessible information and communication technology.

"**Accessible publication formats**" means information available in formats such as Braille, audiotape, oral presentation, sign language (included in light of rich media being used in electronic publishing) or electronically for persons with reading impairments.

"**Accessible publishing**" means making information available in an accessible format, which may include, but is not limited to, alternate formats such as Braille, audiotape, oral presentation or electronically for individuals with reading impairments.

"**Assistive technology**" or "**AT**" is any information and communications technology, product, device, equipment and related service used to maintain, increase, or improve the functional capabilities of individuals with specific needs or disabilities.

"**Auxiliary aids and services**" means aids and services that assist persons with disabilities to perceive and understand communications[11]. Auxiliary aids and services can include:

(1) Qualified sign language interpreter services; note takers; computer aided transcription services; written materials or exchange of written notes; telephone amplifiers; assistive listening devices and systems; telephones compatible with hearing aids and cochlear implants; closed caption decoders; open and closed captioning; voice, text and video-based telecommunication products and systems, including videophones and captioned telephones, or equally effective telecommunication devices; videotext displays; accessible electronic and information technology; or other effective methods of making aurally delivered information available to individuals who are deaf or hard of hearing;

(2) Qualified readers; taped texts; audio recordings; Braille materials and displays; screen reader software; magnification software; optical readers; secondary auditory programmes (SAP); large print materials; accessible electronic and information technology; or other effective methods of making visually delivered materials available to individuals who are blind or have low vision;

(3) Acquisition or modification of equipment or devices; and

(4) Other similar services and actions.

"**Braille**" is a series of raised dots that can be read with the fingers by people who are blind or whose eyesight is not sufficient for reading printed material.

"**Committee on ICT accessibility**" means a committee established by the NRA to promote the interests of users, and to ensure the involvement of organizations of persons with disabilities alongside other relevant stakeholders such as representatives of ICT service providers, ICT vendors, and assistive technologies experts including hearing aid and rehabilitation professionals in the development of all policies, regulations or industry codes from the outset. Such committees may form sub-committees for specific areas such as technology and services (TV, mobile telephony, etc.). See Box 3.

"**Effective communication**" means any communication presented in a manner, or for which auxiliary aids are afforded, so that the information provided is equally accessible to individuals with disabilities, including those with visual, hearing, cognitive, learning, speech or motor disabilities. Persons with disabilities shall be consulted whenever possible to determine what type of auxiliary aid is needed to ensure effective communication.

"**ICT accessibility**" is a measure of the extent to which a product or service can be used by a person with a disability as effectively as it can be used by a person without that disability for purposes of accessing or using ICT related products, content or services. ICT accessibility should be achieved to the greatest possible extent by applying Universal Design principles and by ensuring compatibility with assistive technologies.

"**Language**" (Article 2, Convention on the Rights of Persons with Disabilities) includes spoken and signed languages and other forms of non-spoken languages.

"**Persons with disabilities**" (Article 1, Convention on the Rights of Persons with Disabilities) means individuals who have long-term physical, mental, intellectual or sensory impairments, which, in interaction with various barriers, may hinder their full and effective participation in society on an equal basis with others. Older persons with functional disabilities are also regarded as persons with disabilities. In some countries, such as the United States, disability policy does not distinguish between people with temporary or long term disabilities and a country will decide how it wishes to define persons with disabilities (see www.infinitec.org/live/citizenship/adadefine.htm).

"**Relay services**" are phone services operated by interpreters that enable people who are deaf or hard of hearing or who have a speech impairment, to communicate by phone through an interpreter with a person who can hear in a manner that is "functionally equivalent" to the ability of an individual without a disability[12].

"**Universal design**" means the design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. Universal design shall not exclude assistive devices for particular groups of persons with disabilities where this is needed[13].

4. Promoting participation by persons with disabilities in policy-making – Recommendations

Regulation and policy-making processes involve a number of stages prior to the publication of draft or final regulations and policies. As such, it is critical that legislation provides for participation of persons with disabilities and disability organizations and other relevant stakeholders[14] from the outset of all policy reviews, policy-making and/or rule making processes. This includes facilitating participation and consultation in both specific ICT accessibility policies and in policies that impact ICT accessibility such as tariff and licensing policies. Involving persons with disabilities in the consultation process can be done by taking three steps:

1. using effective communication and publishing all documents in accessible format (section 4);
2. ensuring that the public consultation stage includes persons with disabilities (section 4); and

[11] As defined by U.S. Department of Justice regulations implementing Title III of the Americans with Disabilities Act for Titles III, for places of public accommodation, 28 C.F.R. 36.303(b), available at: www.ada.gov/reg3a.html#Anchor-97857.

[12] Definition sourced and adapted from the National Association of the Deaf (United States); see www.nad.org/issues/telephone-and-relay-services/relay-services. See ITU-G3ict Making mobile phones and services accessible for persons with disabilities for additional information on relay services: www.itu.int/ITU-D/sis/PwDs/Documents/Mobile_Report.pdf. FCC Fact Sheet on relay services at www.fcc.gov/cgb/consumerfacts/trs.html discusses relay services including text-to-voice relay services, speech-to-speech relay services, captioned relay services, video relay services, and Internet protocol relay services.

[13] As defined in Article 2, Convention on the Rights of Persons with Disabilities.

[14] Other stakeholders may include operators, licensed service providers of video programming, ICT vendors, assistive technology professionals, NGOs and civil society, among others.

3. establishing a formal consultative process with persons with disabilities, for example by consulting with organizations representing persons with disabilities or establishing a committee on ICT accessibility (see Box 3).

As part of the third step, Ministries or regulators may also wish to set up an annual forum on ICT accessibility for persons with disabilities to raise awareness of ICT accessibility issues and to promote innovation and new accessibility solutions commercially available in the global ICT marketplace. Such annual forums could include exhibitions, innovation competitions, seminars, and other activities. Model provisions to provide for these steps are set out in the remainder of this section.

a. Accessible documents for public consultation processes – Recommendations

It is best practice for NRAs to follow a public consultation process before they promulgate any rules, regulations, or policies. Public consultation processes generally consist of publication of documentation for public comment, and the receipt of written and oral submissions at a public hearing. To ensure participation of persons with disabilities, all documents for consultation processes must be published in accessible formats[15].

Box 2: Publishing in an accessible format[16]

References about effective communication and accessible publication

The right to read is a fundamental right for all persons in the Information Age. The ability to seek, receive and impart information and ideas is vital to ensuring that all persons are able to participate productively in the cultural, scientific and economic life of the country. This includes the ability to have access to the policy- and regulation-making process, including processes to develop policies and regulations which may impact the disability community. However, there are several groups of persons who are unable to access materials in printed form due to a physical, sensory or cognitive disability (print impaired persons). These may be persons who are blind or have low vision, persons who are dyslexic, have a cognitive or learning disability or a physical or motor disability which prevents them from holding or turning the pages of a book or document. It is thus imperative that, in order to ensure consultative processes are inclusive, regulators, policy-makers and other stakeholders make sure that all publications are accessible to these individuals. Creators of electronic documents should make an effort to ensure that their documents are created, published, and disseminated in an accessible manner.

b. Invitation to comment on draft documents – Recommendations

The involvement of persons with disabilities in all regulation-making processes is paramount. NRAs should revise their current public consultation rules and regulations so they make specific reference to the inclusion of persons with disabilities and organizations representing persons with disabilities alongside other relevant stakeholders such as representatives of ICT service providers, ICT vendors and Assistive Technologies experts including hearing aid and rehabilitation professionals. They should ensure that organizations representing persons with disabilities are aware of opportunities to participate in public processes and can access any related documentation by using accessible publication formats and effective communications to broaden participation by all segments of society.

c. Representation and participation by persons with disabilities – Recommendations

Persons with disabilities must be represented and consulted in all policy and regulatory processes covering ICT accessibility or ICT services specifically impacting persons with disabilities. This can be done through public institutions such as the ministry and the NRA establishing relationships with bodies representing persons with disabilities and inviting them to participate in regulatory and policy-making processes.

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[15] See definitions of "accessible publishing" and "effective communication" in Box 1.

[16] Source: e-accessibility Toolkit: www.e-accessibilitytoolkit.org/toolkit/technology_areas/access_to_published_works

In order to mainstream ICT accessibility, the NRA may set up a committee on ICT accessibility to promote the interests of users and to ensure the involvement of organizations of persons with disabilities in the development of all policies, regulations or industry codes. Such a committee could provide guidance, not only on disability specific policy and regulations, but on all policy and regulations which may impact on persons with disabilities. This may range from tariff regulations (which should take into account special and/or discounted tariffs for certain categories of users, see Module 3, section 7) to licence conditions (for example, licence conditions on accessible public access, see Module 2, Annex A), to advising on accessibility standards[17]. Where a country does not establish such a committee, the same objective can be achieved through the regular review of existing regulations subject to public consultation that includes persons with disabilities.

The establishment of a committee to promote ICT accessibility is fully in line with the mandate of most NRAs, which includes:

- promoting the universal provision of ICT networks and services and connectivity for all;
- protecting consumers;
- promoting fair competition within the sector;
- encouraging investment and innovation in the sector;
- ensuring that users derive maximum benefit in terms of choice, price and quality;
- promoting standardization to ensure interoperability or to ensure that the means of access is predictable and similar across all platforms; and
- promoting international harmonization of standards.

The committee that is established may be a standing committee in countries where the legislation provides for this, or an advisory committee where there is no provision for the establishment of a formal standing committee. Regardless of its form, the committee, where established, should include representatives of disability organizations and representatives of service providers, ICT vendors, and assistive technologies professionals such as hearing aid and rehabilitation experts. Sub-committees may be established for each main area of ICTs in countries where the size and complexity of each sector requires greater focus and the involvement of specific stakeholders (licensed service providers of video programming, mobile service providers, etc.). Alternatively it can be prescribed by law and include representatives of national disability organizations, NGOs, operators and government departments with responsibility for monitoring the achievement of accessibility targets.

Box 3: Model text – Committee on ICT accessibility

Establishing a committee on ICT accessibility

(1) The [NRA/Ministry] must establish a [standing/ad hoc] advisory committee on ICT accessibility (hereinafter the Committee) that will advise the NRA on matters relating to the needs of persons with disabilities in the country.

(2) The constitution of the Committee must be as prescribed and include representatives of disability organizations, service providers, ICT vendors, assistive technologies professionals and other relevant accessibility experts such as hearing aid and rehabilitation professionals.

(3) The Committee must, among other things:

(a) provide comments on proposed policy revisions wherever proposed policy revisions affect ICT accessibility for persons with disabilities, this includes universal service obligations, licence conditions, and tariff regulations, amongst others;

[17] The establishment of a committee on ICT for persons with disabilities may be particularly useful in countries where the organizations representing persons with disabilities are not active in the ICT policy and regulatory space, and where they may not have the expertise or resources to respond to draft documents or participate in consultative processes.

(b) identify services and products provided by ICT service providers and manufacturers that are relevant to the needs of all users and assist the NRA in maintaining an on-going dialogue with those providers;

(c) ensure that internationally available accessible ICT products and international accessibility standards are promoted in the country;

(d) identify accessibility issues for persons with disabilities in relation to ICT products and services;

(e) promote good practice by ICT service providers in relation to the accessibility of customer service;

(f) promote the needs of users through a review of the effectiveness of existing ICT policy, legislation and regulations in meeting the needs of users and recommending improvements and/or new legal instruments; and

(g) promote the integration of persons with disabilities into decision- and policy-making processes affecting ICT accessibility.

(4) Sub-committees by key areas of ICT services may be formed to facilitate a greater focus on specific accessibility challenges and solutions (e.g. television/video programming, mobile telephony etc.).

(5) The [NRA/Ministry] must support the work of persons with disabilities who are members of the Committee, which includes covering the costs of meetings and travel logistics, providing compensation for expert advice when required and ensuring that members are adequately supported through the provision of auxiliary aids and information in accessible formats to fulfil their mandate.

5. Universal access and service (UAS) framework

Most countries include universal access and service as one of the main objectives of their ICT policy and legislation, and this is reflected in the mandate of the NRA. Universal service and access policy frameworks were generally built on two key principles – increasing penetration by expanding network deployment to underserved communities and promoting affordability. While these basic principles remain valid, they are not sufficient to ensure ICT accessibility because persons with disabilities need barrier-free ICT devices and services to access communications on an equal basis with other citizens. To ensure that the large numbers of persons with disabilities and elderly populations are included in universal service goals, a number of policy steps are required related to expanding goals, definitions and the kinds of subsidies to be provided or projects to be funded.

a. UAS definitions – Recommendations

In addition to new definitions being added to ICT legislation, existing definitions may need to be modified to be more inclusive and to consider ICT accessibility holistically. The terms "universal service" and "universal access" should be defined in the law and relevant regulations or licence conditions, and must be aligned with national legislation and powers given to the ministry, NRA, or fund, to not only focus on infrastructure access and affordability but also include provisions relating to ICT accessibility for end users, including persons with disabilities. Likewise, the definition of "underserved community" should be amended such that persons with disabilities are specifically included amongst the beneficiaries.

Box 4: Amending universal service definitions

Defining key universal service terms

"Underserved community" means the population groups identified by the [universal service and access fund/NRA/Ministry] from time to time, which may include persons with disabilities, the elderly, women and/or the poor.

"Universal access" means shared ICT usage and encompasses the near-ubiquitous availability, affordability and accessibility of ICT infrastructure, services and content to all communities and end-users through public access points in schools, libraries, clinics and the like.

"Universal icons" means language neutral signs and symbols usable by all people, to the greatest extent possible, without the need for adaptation or translation.

"Universal service" means individual or personal ICT access and usage and requires the near-ubiquitous provision of affordable, accessible ICT infrastructure, services and content to individuals, households and businesses, including those in underserved areas and forming part of underserved communities.

"Universal service obligation" means a requirement imposed on a licensee to provide ICT infrastructure, services and/or content, including accessible ICT products and services for persons with disabilities, to meet national universal service and universal access objectives.

"Users" means individuals who are consumers of ICT services, including persons with disabilities.

b. Scope and use of universal service and access funds - Recommendations

Many countries have established independent universal service agencies and universal service and access funds (USAFs) through legislation which was drafted mainly to promote network rollout in underserved areas and promote affordable ICT services. These laws must be modified to address the promotion of ICT accessibility for persons with disabilities. The following modifications are necessary to enable countries to use their universal service/access funds to promote ICT accessibility:

- If there is separate legislation establishing a universal service and access fund, it should include appropriate universal service and access-related definitions (see Box 4).
- It may be necessary to put in place a process to enrol[18] persons with disabilities for the purposes of managing any programmes, grants or funds that may be made available to eligible persons with disabilities.
- ICT accessibility should be included as a criterion to assess gaps in services in addition to the existing concepts of penetration/ network coverage and affordability[19].

Where a country has a converged universal and access fund responsible for both telecommunications and broadcasting, the law should be drafted broadly enough to allow for the fund to be used for broadcast related projects such as:

- providing accessible set top boxes to persons with disabilities to facilitate digital migration;
- formal help schemes to switch from analogue to digital television for older persons (who may have difficulties such as bending down to adjust televisions) and those with disabilities; and
- making television/video programming accessible that are not otherwise required in terms of the ICT law and/or policy to be made accessible, while respecting prevailing intellectual property laws.

In the case of USAFs with a telecommunications-specific mandate, the law should be drafted broadly enough or specifically provide that the fund may additionally be used for:

- subsidizing accessible handsets and/or monthly subscriptions;
- subsidizing the provision of relay services;
- subsidizing the purchase of accessible and assistive technology tools by service providers including telecentres and other public access providers, disability organizations or end-users with disabilities:

[18] Certain countries allow individuals to apply directly for grants and subsidies, thus making it easier to "enrol" them as beneficiaries and to provide these individual end users with grants and subsidies. This requires additional institutional and administrative strength on the part of the USAF to be able to address individual applications for subsidies.

[19] http://trace.wisc.edu/docs/framework/framewrk.htm

- funding the customization of basic assistive technologies tools, for example in local languages including text-to-speech, voice recognition, captioning applications and screen readers[20];
- providing incentives for research and development of assistive solutions, such as development of speech-to-text engines in the official languages;
- facilitating the awareness and promotion of universally designed mobile goods;
- facilitating the training of persons with disabilities in using accessible ICTs and the training of professionals supporting persons with disabilities in adopting and using ICT[21], including experts from organizations of persons with disabilities or working with persons with disabilities, such as teachers, health workers and vocational counsellors; and
- facilitating the development of curricula and training of information technology professionals on mobile ICT accessibility.

The use of the USAF for extending public ICT access is explored in more detail in Module 2: ICT accessibility framework on public access and the use of the USAF for extending mobile services is explored in more detail in the Module 3: Mobile communications accessibility policy framework. Funding for television/video programming accessibility, including through USAFs, is explored in more detail in Module 4: Television/video programming accessibility framework.

c. Licence terms and conditions or USAF service level agreements (SLAs) – Recommendations

Non-discrimination is an important principle in ICT accessibility policy and regulation. Equal levels of access and quality of service must be provided to persons with disabilities. In countries where USO's are part of a licence obligation required by the regulator, this non-discrimination principle should be stipulated in the licence terms and conditions. The requirement can also be captured in service level agreements or funding agreements between the USAF and its beneficiaries.

6. Quality of service for ICT accessibility – Recommendations

Quality of Service (QoS) regulations are aimed at making sure that services and devices provided to the public meet specified safety and service standards. As a rule service providers must ensure that services are accessible to all sectors of the public and that certain minimum service standards are maintained. Persons with disabilities may have specific quality of service requirements and the following should be considered in developing or amending such QoS standards and regulations such as:

- Persons with disabilities may have a greater reliance on a particular communications service and QoS regulations should recognize the impact of, for example, the non-delivery of text messages for deaf and hard of hearing users who communicate exclusively via text or poor quality relay services for the deaf.
- The impact of bad quality may be more significant for some users than others (for example, the impact of 'snowy' TV screens on partially sighted users or the impact of poor network quality on persons with hearing loss).

To address potential quality of service concerns, quality of service regulations should be required to take into account the specific needs of persons with disabilities, establishing standards to measure quality of service provided to persons with disabilities, including for accessible services such as relay services,

[20] This may be done in coordination with Ministry of Education – an explicit requirement can be included where the Ministry or NRA has powers to include other ministries in this.

[21] This is required by the UN Convention on the Rights of Persons with Disabilities, General Obligations: Article. 4.1(i).

captioning and audio description. These regulations must be made available to and reviewed by the committee on ICT accessibility[22] where established, or through the periodic review of consumer protection regulations. Any such reviews must, include public consultations involving persons with disabilities.

7. Emergency services – Recommendations

Legislators, policy-makers and ICT regulatory authorities should review their emergency services legislation, policies and regulations to ensure that the needs of persons with disabilities are taken into account. This applies to reviewing the needs for ICT services, including the ITU international public telecommunication numbering plan (E164)[23] numbers used for voice services, short codes and any other applicable numbers. This applies to both broadcasting and telecommunications as set out in this section.

With respect to telecommunications, provisions in law and regulation should require that:

- Persons with disabilities should be able to use their everyday communication means (e.g. terminal equipment and services) for reaching emergency services, and should be able to contact emergency services free of charge, whatever the technology or device they use[24].
- It should be mandatory that all public awareness campaigns specifically provide information on how persons with disabilities can contact and use such services. It is the responsibility of the NRA, service providers, emergency call centres, and public bodies with responsibility for emergency services to create awareness about the availability and accessibility of emergency services by persons with disabilities.
- Emergency information made available to the public should also be provided in alternative accessible formats such as text messages on mobile phones.
- Persons with disabilities using ICTs should be able to contact emergency services via ordinary emergency numbers. As emergency numbers may vary across countries as well as across disabilities, the use of the number "112" and/or "911" as the common emergency number is generally encouraged[25].
- Emergency call centres should be able to receive and respond to SMS text messages as well as calls from relay services to permit emergency calling by people with hearing or speech disabilities.

With respect to broadcasting, provisions in law and regulation should require that:

- Public awareness specifically on how persons with disabilities can use emergency services is mandatory and that any public service announcements required to be aired should include such information. It is the responsibility of the NRA, licensed service providers of video programming and public bodies with responsibility for emergency services to create awareness about the availability and accessibility of emergency services by persons with disabilities.
- Emergency information made available to the public should also be provided in formats accessible to persons with disabilities such as sign language and subtitles for the deaf and hard of hearing and audio messages on television/video programming for those with visual disabilities.

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[22] See Box 1 and 3 and section 4 of this module. Where a country does not establish such a committee, the same objective can be achieved through the regular review of existing regulations subject to public consultation that includes persons with disabilities.

[23] See ITU Recommendation E.164: www.itu.int/rec/T-REC-E.164/en

[24] It is noted that currently in most countries the NRA recognizes that emergency services used over VoIP services, for example Skype, are not reliable and thus are not offered. Where it is not technically feasible for emergency services to be provided generally, then no requirement will be required for addressing the needs of persons with disabilities.

[25] See ITU Recommendation E.161.1: Overall Network Operation, Telephone Service, Service Operation and Human Factors International Operation – www.itu.int/rec/T-REC-E.161.1

- Public communications and announcements that are broadcast in natural disaster situations must be made accessible to persons with disabilities in appropriate forms of communication, thus leveraging mainstream communication channels. Licensed service providers of video programming must ensure that such announcements and alerts are broadcast in relevant formats accessible to all persons with disabilities.

Box 5: Model text – accessible emergency services

Sample text to be included in ICT legislation to ensure that the needs of persons with disabilities are considered when emergency services are addressed is as follows: *

"Service providers must –

(1) in the case of electronic communications services/ telecommunications, unless it is technically infeasible,

(a) make automatic number identity, such as caller line identity and automatic location identity available to emergency centres;

(b) carry communications to emergency centres; and

(c) Make communications available in accessible formats.

(2) in the case of licensed service providers of video programming, make emergency announcements publicly available on all networks and video programmes in accessible formats.

And:

"The NRA must make regulations to ensure access to emergency services via electronic communications, broadcasting networks and the web, where applicable, by the public, including persons with disabilities". **

Notes:

* Both (1) and (2) may be set out in converged legislation. In countries where legislation is not converged (1) applies to the telecommunication law, and (2) applies to the broadcasting law.

** Sample regulations are provided in the mobile accessibility module and an implementation framework is provided in the television/video programming accessibility module.

8. Targets and reporting requirements

NRAs should establish, in consultation with persons with disabilities in line with section 4 above, annual measurable targets to be implemented by all relevant stakeholders[26], issue an annual public report on implementation, and take necessary enforcement action when appropriate.

Sample targets for ICTs include:

- mainstreaming ICT accessibility into standards;
- existing ICT definitions amended and new definitions added to ICT legislation to promote ICT accessibility;
- committee on ICT accessibility established which provides for the participation of persons with disabilities, disability organizations and other relevant stakeholders in policy-making;
- universal access and service framework includes ICT accessibility as a goal;
- quality of service and other regulations take into account the specific needs of persons with disabilities;
- emergency services legal and regulatory framework takes into account the needs of persons with disabilities; and

[26] Including operators, licensed service providers of video programming, ICT vendors, assistive technology professionals, and emergency response services.

- disability legislation updated with the inclusion of ICTs in the definition of accessibility.

In addition, milestones should be set to measure progress in implementing legal, regulatory or codes of conduct, capacity to implement policy (e.g. establishing necessary budgets and training programmes) and progress in availability of accessible ICTs for persons with disabilities), including access to, availability, and affordability of ICTs based on type of disability per technology (public access, mobile telephony, websites, television/video programming).

Access to information about ICT accessibility for the disability community is critical to ensuring that future reviews of accessibility policy measures are effective and that policy interventions are evidence-based. To achieve this, the NRA should determine reporting requirements for notifying the disability community about the accessibility requirements contained in adopted laws and regulations pursuant to such policies. A thorough review should be conducted by NRAs of *all* reporting requirements to ensure that the correct data is collected with respect to accessibility for persons with disabilities, at the right level of detail and at reasonable intervals[27].

9. Changes to disability/disability rights legislation – Recommendations

One of the challenges to including ICT accessibility in the disability discourse, in addition to changes needed in ICT policies, legislation and regulations, is that disability legislation covering accessibility does not always make specific reference to ICT, mobile communication, electronic communications, broadcasting and video programming services or Internet accessibility[28].

Many countries have general application disability rights legislation that is concerned with non-discriminatory access and opportunity throughout society in areas such as procurement, employment and education. However, in many instances disability access legislation does not address many of the ICT related goods and services that are central to modern society given that ICTs have infiltrated nearly all aspects of the way people live, work and play.

Disability access legislation needs to be reviewed and updated to recognize that an increasing proportion of business is conducted online or telephonically and not in "facilities" or "premises". The definitions of terms such as "premises," "facilities", "places of public accommodation" and "commercial facility" should be revised to include goods and services offered through ICTs that may not be "physically" located. Incorporating a definition on accessibility reflecting the language of Article 9 of the Convention will address this.

ICT policy-makers and regulators could recommend these changes to disability access legislation to ensure that other electronic services, such as automated teller machines, electronic transaction and payment devices, public computer terminals and electronic kiosks, including those used for transportation, also become accessible for persons with disabilities.

10. Periodic review

Due to the fast-moving technological developments and market conditions, this policy shall be reviewed at least every two years.

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[27] Reporting requirements may need to be changed in regulations, depending on whether the ICT law has a specific section on reporting

[28] There is progress in this regard, as indicated in the *2013 UN Convention on the Rights of Persons with Disabilities ICT Accessibility Progress Report*, which indicated that while in 2012 only 31 per cent of ratifying countries had a definition of accessibility including ICTs in their legislation, this rose to 52 per cent in 2013. See also the G3ict report, *Convention on the Rights of Persons with Disabilities 2013 Accessibility Progress Report*, a survey conducted in cooperation with Disabled People's International (DPI): http://g3ict.org/resource_center/CRPD_2013_ICT_Accessibility_Progress.

Module 2: ICT accessibility framework on public access

The purpose of this module is to provide guidance for policy-makers, regulators, operators and entrepreneurs that provide public access services to assist them to ensure that public access communications services and facilities are accessible for persons with disabilities. The Model ICT accessibility framework on public access therefore includes model licence terms, and guidelines and a checklist for providers of public access services. The rationale for this approach is based on the United Nations Convention on the Rights of Persons with Disabilities (hereinafter the Convention), which in its Preamble, states that mainstreaming disability issues in all frameworks is "an integral part of relevant strategies of sustainable development".

The Convention furthermore recognizes the potential of ICTs to enable access and participation by persons with disabilities in all aspects of society. ICTs are used increasingly as the preferred medium of communication and service delivery across all sectors including employment, education, governance and banking.

While individual telephony and Internet subscriptions are on the rise, these communications services are also provided through public phones, 'phone shops' and shared Internet access points equipped with computers, laptops and tablets. Many Internet users in developing countries rely on public access to surf the web. In addition, commercial and public e-services are increasingly being accessed through the Internet by all categories of citizens for a variety of essential services.

Public access is of particular importance in developing countries, especially the least connected countries, where, according to the ITU report Measuring the Information Society 2013[29], voice, Internet and broadband penetration rates trail those in developed countries.

In light of the role of public access in providing services to the general public and specifically to any person who does not have individual access to ICT services, providers of public telephones and public community Internet access points should be encouraged to ensure that phones and computers and the facilities that house them are accessible and available on an equal basis to persons with disabilities, and that they are responsive to their needs.

The Model public access ICT accessibility guidelines apply to all public access to ICTs, both fixed and wireless, provided by service providers and operators. It applies to public access provided on a stand-alone basis (i.e. public payphones) as well as through public access devices placed in kiosks, phone shops, telecentres, multi-purpose community centres and similar ICT facilities. It is important to note that in some countries:

- regulators have jurisdiction over public access to ICTs provided by operators and service providers as a universal service obligation or other licence condition;
- cyberlabs and Internet cafés are still required to be licensed - although trends are to move away from this – and in such cases, regulators have legal authority to impose regulations, guidelines or other measures on public access[30];and
- in instances where cyberlabs, Internet cafés, telecentres, multipurpose community centres and other forms of public access are established using public funding, for example from the universal service and access fund (USAF), the guidelines can be imposed as part of the service level agreement or contract between the fund and the public access provider.

It is noted that in cases where public access is provided by unlicensed entrepreneurs and small business owners, the regulator cannot enforce any obligations on the public access provider. However the national regulatory authority is encouraged to publish accessibility guidelines that will act as recommendations for commercially-operated public access centres.

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29 www.itu.int/en/ITU-D/Statistics/Documents/publications/mis2013/MIS2013_without_Annex_4.pdf.

30 See Annex A of this module.

The model public access guidelines may be published as guidance for those involved in the provision of public access communication services. If required, regulatory authorities may make these guidelines part of their licence conditions or regulations as appropriate.

This module also includes a set of model licence conditions and sets out model provisions to be included either in licence obligations or regulations on ICT accessibility for persons with disabilities that can be used in cases where public access is provided for in a licence condition or as a universal service obligation. The model licence conditions/universal service obligations on public ICT accessibility for persons with disabilities in Annex A can be adapted for use by the USAF where it funds public access.

Finally, Annex B presents a checklist on accessible public access that can be used as a reporting tool for licensees; alternatively, it can be used by all providers of public access communications services, whether they are regulated or not, to assist them in ensuring that their facilities are accessible.

Model public access ICT accessibility guidelines[31]

[The public access ICT accessibility guidelines apply to all public access to ICT, provided by service providers and operators. "Public access" or "public access communications services" refers to ICT services provided to the public, including persons with disabilities, on a stand-alone basis through public payphones or on a shared basis through devices placed in public spaces such as cyberlabs, Internet cafés, telecentres, multipurpose community centres, kiosks, public community Internet access points and phone shops. Specifically, these guidelines address:

- *operators and service providers that provide public access as a universal service obligation or other licence condition;*
- *providers of public access communication services that receive funding from the USAF or other public funding body to provide public access communications services; and*
- *licensed Internet cafés and cyber labs (in exceptional cases, in countries where licensing is still required).]*

1. National mandate

1.1 [Country] is a signatory to the United Nations Convention on the Rights of Persons with Disabilities ("the Convention" or "CRPD"), which came into force in May 2008. The Convention recognizes accessibility as a condition for persons with disabilities to exercise their rights and fundamental freedoms and requires signatories to adopt appropriate measures for ensuring that persons with disabilities have access to information and communication technology, emergency services and Internet services on an equal basis with others.

1.2 [Country] constitution supports the right to equality before the law. This includes the full and equal enjoyment of all human rights and freedoms by all people. To promote the achievement of equality, legislative and other measures designed to protect or advance persons or categories of persons who historically have been disadvantaged by unfair discrimination on the basis of their disability are required to redress such disadvantage.

1.3 At a national level, a number of policy and legislative instruments contain key provisions that support the stated goal of this policy, i.e. to make ICT accessible for persons with disabilities. These include:

- [Persons with disabilities policy/legislation, citation, brief description]
- [Anti-discrimination policy/legislation, citation, brief description]
- [Procurement policy/legislation, citation, brief description]
- [Access to Information policy/legislation, citation, brief description]
- [Universal Service and Access policy, citation, brief description]
- [Consumer Protection policy/legislation, citation, brief description]
- [Other policy/legislation, citation, brief description]

2. Objectives

2.1 The objective of these Guidelines is to provide an enabling framework to support the development of a culture and practice of ICT accessibility, in particular accessible public access, through:

[31] If required, [*the NRA*] may make such guidelines into licence conditions or regulations as appropriate. See Module 1, section 1 - Options for regulation - for more information. In particular, this may be the case where public access forms part of a licensee universal service obligations. Model licence conditions are provided in Annex A. These Guidelines may also be made into contract terms for persons providing USAF funded public access. The model licence conditions provided in Annex A can be used as a basis for developing such terms and conditions.

- setting out the general principles applicable to ICT accessibility;
- putting in place measures to ensure that persons with disabilities have access, on an equal basis with others, to public ICT devices, services, applications and content in urban, suburban, and rural areas;
- promoting, at an early stage of design and implementation, the accessibility of public ICT services in order to lower costs of providing accessible public ICT services ;
- promoting affordability of public ICT services through subsidies and incentives, where possible; and
- identifying and mitigating the barriers to fully accessible public ICT access services.

2.2 Recognizing the importance of accessibility to the physical, social, economic and cultural environment, to health and education and to information and communication, in enabling persons with disabilities to fully enjoy all human rights and fundamental freedoms, the following principles, must be adhered to and underpin these Guidelines:

- awareness;
- non-discrimination;
- full and effective participation and inclusion in society;
- equality of opportunity;
- accessibility; and
- affordability.

2.3 The steps to achieve these objectives include:

- setting out general principles of ICT accessibility in key policy and legislative provisions related to the provision of public ICT facilities;
- consulting with persons with disabilities in the policy-making process;
- making persons with disabilities and organizations of persons with disabilities aware of accessible public ICT access policies, facilities and services;
- adhering to accessible public procurement procedures, highlighted in Module 6: Accessible ICT public procurement policy framework, to ensure that ICT equipment and services procured for public access facilities are accessible including:
    - upgrading existing ICTs in public facilities, such as public payphones, kiosks and telecentres, to ensure that a reasonable percentage of ICT devices and services are accessible to persons with different kinds of disabilities;
    - ensuring that all new ICT devices and services procured for public facilities, such as public payphones, kiosks and telecentres, and the facilities in which they are housed are accessible for persons with different kinds of disabilities;
- using universal service and access funds to fund the procurement of assistive technologies and to train staff on its use;
- promoting awareness of accessible public access facilities among persons with disabilities, including use of appropriate signage advertising accessible public access facilities;
- training staff how to serve customers with disabilities, including on available accessible ICTs
- ensuring that emergency communications provided in public access facilities are accessible for persons with disabilities; and

- setting measurable targets, reporting annually on their implementation and ensuring enforcement of accessibility provisions as appropriate.

3. Awareness

3.1 Promoting awareness of these Guidelines and the rights of persons with disabilities in the ICT sector is the responsibility of the [NRA/Ministry].

3.2 Public awareness on how persons with disabilities can use public access facilities is the responsibility of the [NRA/Ministry] and the relevant operators and service providers. The information that is made available to the public should be provided in accessible formats with the input and involvement of persons with disabilities and their organizational representatives.

3.3 Providers of public access communications services should:

3.3.1 Ensure that appropriate signage, including the use of universal icons as appropriate, is provided in the immediate vicinity of installed payphones, payphone kiosks or community Internet access points communicating that they are accessible.

3.3.2 Train staff how to serve customers with disabilities and to be knowledgeable on all available accessible ICT features for people with different kinds of disabilities including physical setup and use with assistive technologies

4. Provision of public access communications services

4.1 Non discrimination

4.1.1 Providers of public access communications services have a duty to avoid discriminating, even inadvertently, against persons with disabilities due to a lack of accessibility of their facilities, products and services. This can be achieved by applying universal design principles to their organization, by running accessible outreach programmes and advertisements about available services and equipment options for persons with disabilities and by ensuring that accessibility is systematically ensured in public access locations, services and product offerings from inception.

4.2 Availability of accessible premises, equipment and software

4.2.2 Stand-alone public access devices should be accessible to people with various types of blindness and visual impairments, those who are deaf or hard-of-hearing and those with mobility disabilities.

4.2.2 Public access phones whether stand-alone or in a public space, must be accessible. Accessible public access communication service devices shall include:

(a) hearing aid compatibility;

(b) volume control;

(c) tactile keys for phones with keypads

(d) gesture-based screen readers for touchscreen devices;

(e) wheelchair accessibility[32]; and

(f) use of relay services such as video relay, text relay and speech-to-speech relay when remote interaction with an operator is required.

4.2.3 Public access computers and other devices that have screen access should:

[32] Providers of public access should put in place a reasonable percentage of public phone counters that must be lowered to be accessible to people using wheel chairs. A reasonable starting point is [10% achieved within a period of 2 years].

(a) make use of universal icons;

(b) be equipped with have screen reading software for blind users, where applicable;

(c) be equipped with an audio jack or audio device and be located in a private area if the information accessed needs to be confidential, such as in financial and voting transactions;

(d) be equipped with software that allows for visually impaired users to be able to increase font size and icon sizes;

(e) be equipped with voice synthesizing functionality to convert text to voice where such technology is available in the national or local language;

(f) allow for the use of alternative accessible input/output devices such as joysticks, switches or eye tracking using an integrated or attached camera;

(g) be accessible by wheelchair[33]; and

(h) have Braille readers and Braille printers attached to [a reasonable percentage] of computers in line with demand.

4.2.4 Many of the goals in 2.1 and 2.2 above can be achieved by adherence to the accessible public procurement procedures (highlighted in Module 6: Accessible ICT public procurement policy framework, of this report), which recognize the principle that all ICT procurement funded by government resources should include accessibility requirements.

4.2.5 Subject to the rules governing the [USAF], the [USAF] may be used to fund:

(a) the purchase and installation of separate computers upgraded with assistive technology software for persons with disabilities;

(b) the purchase and installation of assistive hardware and software such as screen magnifiers, joystick mice, and equipment to have eye movements replicate mouse actions;

(c) the training of public access provider staff on disability devices, software and customer care; and

(d) compliance by public access providers with provisions of goals set out in 2.1, 2.2 and 2.3 above.

4.2.6 Where additional features are required to make an existing public phone, publicly accessible computer, community access point or the facility in which it is housed accessible, the service provider should install accessible phones and/or computers in all communities at a ratio of [one accessible pay phone or computer for every five generic pay phones and/or computers], or at least [one accessible pay phone or computer where fewer than five phones and computers are present][34]. All new public phones, publicly accessible computers, community access points and facilities in which they are housed should be accessible.

5. Physical environment accessibility

5.1 All buildings providing public access communication services, including public phone services, community Internet access kiosks and other publicly available ICT services and devices should be accessible. Where feasible, access ramps must be built to enable access to existing buildings hosting such services and elevators should be in place where facilities are not located on ground level:

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[33] Idem.

[34] This ratio should be adjusted to reflect, at a minimum, twice the ratio of persons with disabilities in the country, i.e. 10 per cent of persons with disabilities would be one for every five.

(a) all new buildings should comply with these recommendations with immediate effect;

(b) existing buildings should be modified to meet these requirements, to the extent practicable, within [*three*] years.

5.2 The height and reach of accessible devices installed should take into consideration the height of wheelchairs or similar assistive mobility technologies[35] used by persons with physical disabilities.

5.3 Accessible devices should be located in places that provide privacy for customers who use services that require communication to be read out loud, and/or provide an audio jack outlet.

6. Emergency services[36]

6.1 ICT service providers providing traditional wired or wireless public access must provide accessible emergency services.

6.2 Persons with disabilities should be able to use their everyday communication means (e.g. terminal equipment and services) for accessing emergency services, and must be able to contact emergency services free of charge regardless of the technology or device they use[37].

6.3 Public awareness specifically highlighting how persons with disabilities can use emergency services is mandatory and is the responsibility of service providers, emergency call centres and public bodies with responsibility for emergency services[38]. The information that is made available to the public should be provided in accessible publication formats.

6.4 The emergency services provisions set out in section 7 of Module 1: ICT accessibility legal, policy and regulatory framework, which are generally applicable to operators and service providers, are also applicable to public access facilities.

7. Training

7.1 Providers of public access should ensure that employees and volunteers that deal with customers and the public receive sensitivity training at least once every [*two*] years. Such training should include information about the culture, languages, and societal norms of persons with disabilities as well as accessibility principles, solutions and sources of information.

8. Targets and reporting requirements

8.1 NRAs should establish, in consultation with persons with disabilities (in line with section 4 of Module 1), annual measurable targets to be implemented by public ICT access providers, issue an annual public report on implementation and take necessary enforcement action when appropriate. Measureable targets could be aligned with the targets identified in section 6, Annex A of this module.

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[35] Assistive technologies are not limited to ICT and can also be used to refer to assistive mobility technologies such as wheelchairs. This Model ICT accessibility policy report has defined assistive technologies only in respect to ICT.

[36] In countries where there is a great deal of movement of people across borders to neighbouring countries, this requirement is particularly important and it should be coupled with efforts to harmonize short codes and numbers used to access emergency services across borders. This will ensure that users in the region with disabilities are aware of emergency numbers and short codes without having to make additional effort.

[37] This provision can also be given legal strength through inclusion in the ICT Act, under the emergency services section.

[38] Where applicable and where under the jurisdiction of the NRA or Ministry, or else parallel regulations will need to be made by the responsible authority to ensure that it can be enforced.

8.2 In addition, milestones should be set to measure progress in implementing guidelines and licence conditions, capacity to implement guidelines and licence conditions (e.g. establishing necessary budgets and training programmes) and progress in availability of accessible public ICT access for persons with disabilities.

8.3 Access to information about ICT accessibility for the disability community is critical to ensuring that future reviews of accessibility policy measures are effective and that policy interventions are evidence-based. To achieve this, the NRA should determine reporting requirements for notifying the disability community about the accessibility requirements contained in adopted guidelines and licence conditions pursuant to such policies. A thorough review should be conducted by NRAs of all reporting requirements to ensure that the correct data is collected with respect to accessibility for persons with disabilities, at the right level of detail and at reasonable intervals[39].

8.4 [*The NRA/USAF*] is also encouraged to assess and enforce [*licensees/beneficiaries*] adherence to these Guidelines by actively monitoring the accessibility of public communications services and devices for persons with disabilities through spot checks, trials, and visits to public access facilities and take necessary enforcement action where appropriate.

9. Periodic review

9.1 Due to the fast-moving technological developments and market conditions, this policy shall be reviewed at least every two years.

[39] Reporting requirements may need to be changed in regulations, depending on whether the ICT law has a specific section on reporting.

Annex A: Model licence conditions/universal service obligations on public ICT accessibility for persons with disabilities[40]

[This annex sets out model provisions to be included either in licence obligations or regulations on ICT accessibility for persons with disabilities. The provisions may be included in licences where public access is a requirement, e.g. as a universal service obligation]

1. Definitions

- "Public access" or "Public access communications services" means licensed ICT services provided to the public, including persons with disabilities, on a shared or stand-alone basis and includes services provided through public payphones, or through end-user devices placed in cyberlabs, Internet cafés, telecentres, multipurpose community centres, kiosks and public community Internet access points.

2. Consultation

2.1 The input of organizations representing persons with disabilities must be taken into account in the deployment of these public access service obligations and such organizations must be consulted in implementing these[41].

2.2 [*Licensee*] must consult disability groups about the manner in which it will meet its obligations under this licence, and must meet with such groups on at least an annual basis to advise them on progress regarding implementation of the licence conditions, and relevant services, products and campaigns introduced.

2.3 [*Licensee*] may conduct the consultative processes jointly, including via industry trade associations that represent it, to the extent that no competitive issues or issues prohibited in terms of Competition Law or any other law are discussed in the meetings.

3. Public access devices (shared and stand alone)

3.1 [*Licensee*] must be guided by the Model public access ICT accessibility guidelines in the implementation of its obligations.

3.2 [*Licensee*] must:

(a) Ensure that [*at least 20%]* of their public access devices enable use by persons using hearing aids or cochlear implants, in a manner that does not cause interference with the hearing aids;

(b) Provide [*100%*] of phones with amplification;

(c) Ensure that the operable parts or features of [*10%*] of public access devices are at a height to ensure an accessible reach range for people who use wheelchairs and people of small stature. At every location with more than one public access device, at least one must be accessible for these persons with disabilities;

(d) Ensure that [*20%*] of the public access devices provided at any location, and at least one at any location, are accessible to persons with sensory impairments;

(e) Where necessary, provide an access ramp to facilitate wheelchair access;

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[40] The specific national context will have to be taken into account. These model licence conditions will be applicable where a licensee is required to provide public access as part of their licence agreement. Where a licensee is required to provide public access in compliance with a funding condition, these model licence conditions can be amended to read as model agreement terms and conditions, and the word "licensee" can be replaced by "beneficiary".

[41] If a country has established a committee on ICT accessibility for persons with disabilities, as recommended in Module 1: ICT accessibility legal, policy and regulatory framework (section 4), then this committee should be explicitly mentioned.

(f) If mobile technology is used, provide for data services including, at a minimum, short messaging services (text);

(g) Provide for proper visible and braille signage; and

(h) Make the public aware of the availability of accessible public access, products and emergency services.

4. Training

4.1 Each licensee shall ensure that all its employees that deal with customers and the public receive sensitivity training on a regular basis, at least once every [*two*] years. Such training should include information about the culture, languages, as relevant and societal norms of persons with disabilities as well as accessibility principles, solutions and sources of information.

5. Emergency services

5.1 The emergency services provisions, which are generally applicable for communications services, must be complied within the provision of public access communications services as provided in the Model public access ICT accessibility guidelines (section 7 of Module 1).

6. Targets

Requirement	Timeframe (Licensee with already existing public access)	Timeframe (New Licensee)
AVAILABILITY OF ACCESSIBLE DEVICES		
Alignment of procurement policies	Within 12 months	Immediate
Accessible public access devices installed and available for use by persons with disabilities in line with section 3, Annex A of this module	Within 12 months	Immediate
AWARENESS		
Public awareness of accessible ICT products and accessible emergency services	Within 6 months	Immediate
Staff trained	Within 12 months	Immediate
EMERGENCY SERVICES		
Accessible emergency services available	Within 6 months	Immediate
Emergency services include ability to send texts and/or video in line with Module 3: Mobile communications accessibility policy framework, section 8	As soon as practically possible	As soon as practically possible

7. Reporting

7.1 In order to ensure compliance with these terms and conditions, [Licensee] must provide an annual report to the NRA which includes, at a minimum:

(a) Information on [Licensee] compliance with these licence conditions; and

(b) A completed checklist, as provided in Annex B of this module, for each of [Licensee] facilities.

Annex B: Checklist on accessible public access facilities[42]

[This annex presents a checklist that can be used as a reporting tool for licensees. It can also be used by all providers of public access communications services, whether regulated or not, to assist them in ensuring that their facilities are accessible.

Compliance with some of the requirements set out in the checklist may be funded by the USAF, provided that the requirement falls within the mandate of a country's USAF. For example, some elements of training and some types of hardware may be eligible for user or operator subsidies[43]. USAF funding is generally not available in the areas that are blocked out in grey in the table below. If funding has been received from a USAF, the level of funding should be indicated.]

Requirement/Recommendation[44]	**USAF Funding Received**[45]	**Comments**
STRATEGY, PLANNING, POLICIES, AND EVALUATION		
Are people with disabilities included in planning and evaluating public access facility products and services?		
Do you require that accessibility be considered in the procurement process for computer hardware and software? Refer to Module 6 on Public Procurement.		
Do you have a procedure to ensure a timely response to requests for disability-related accommodations?		
PHYSICAL ENVIRONMENTS AND AWARENESS		
Is it easy for public access facility visitors with disabilities to know what accessible ICT and assistive hardware and software are available in the public access facility?		
Are parking areas, pathways, and entrances to the building wheelchair-accessible and clearly marked?		
Are there high-contrast, large-print signs to and throughout the public access facility and braille signage in the public access facility?		
Is at least part of a service counter or desk at a height accessible from a seated position/ accessible to persons in wheelchairs?		
Is an adjustable-height table available for some of the workstations in the public access facility? Can the height be adjusted from a seated position?		
Are aisles wide and clear of obstructions for wheelchair users as well as people with mobility or visual impairments?		
Is equipment accessible by people with sensory impairments, including the deaf and hard-of-hearing and the blind and people with low vision?		
PUBLIC ACCESS FACILITY STAFF TRAINING		

[42] Adapted from University of Washington Computer Lab checklist, see www.washington.edu/doit/Brochures/Academics/comp_lab_check.html

[43] Each country should adapt this checklist to meet its needs and it should be modified to reflect requirements that can be funded by the USAF. Where funding can be applied for, the block should be "white" and where it is not available it should be blocked off in "grey"." Countries without a USAF should delete the column.

[44] In countries where the requirement is set out in a licence condition or in regulations it should be called a "requirement". Where the checklist is being used by providers of public access as a guideline on a voluntary basis, it is a "recommendation".

[45] Boxes not shaded in are eligible for USAF or other public funding. Indicate whether you have received USAF or other public funding.

Requirement/Recommendation[44]	USAF Funding Received[45]	Comments
Are staff members familiar with the availability and use of accessible ICT features, assistive technology and alternate document formats?		
Have staff members received sensitivity training and training on use of ICTs by persons with disabilities?		
HARDWARE		
Is at least one large monitor available so that a larger amount of screen can be viewed while magnified?		
Is equipment marked with large-print and/or Braille labels?		
Can controls on computers, printers, scanners, and other information technology be reached from a seated position?		
Are adequate work areas available for both right- and left-handed users and is hardware easily useable by both users?		
Do you provide alternate hardware to replace the mouse and/or keyboard (e.g., a trackball, joystick, mini-keyboard, one-handed keyboard)?		
SOFTWARE		
Do you provide special software that is beneficial to persons with disabilities (e.g. screen readers)?		
Do electronic resources, including the public access provider's webpages, adhere to accessibility guidelines or standards in line with Module 5: Model web accessibility policy?		

Module 3: Mobile communications accessibility policy framework

The mobile communications accessibility policy framework module has been developed for policy-makers, regulators and other stakeholders active in information and communication technologies (ICT) and disability issues, including non-governmental organizations (NGOs), organizations of persons with disabilities, and parliamentarians depending on country specifics.

This module provides a framework for countries to put in place a policy that promotes mobile communications accessibility and includes a supporting mobile communications industry code of conduct and regulations, either of which can be used depending on the institutional framework of a given country as explained in Module 1: ICT accessibility legal, policy, and regulatory framework (see section 1, Options for regulation).

This module also provides a Model code of conduct on mobile communications accessibility for persons with disabilities in Annex A and its use is encouraged in countries with a legal framework that supports voluntary industry initiatives or codes of conduct. Where no such regime exists, the model regulations provided in Annex B of this module may be used by the national regulatory authority (NRA)[46].

The Model mobile communications accessibility policy has been prepared pursuant to the United Nations Convention on the Rights of Persons with Disabilities (hereinafter the Convention), and in line with the International Telecommunication Union (ITU) and G3ict ICT Accessibility Policy Toolkit for persons with disabilities (www.e-accessibilitytoolkit.org).

The Convention provides that signatories are responsible for ensuring ICT accessibility; and this model policy and code of conduct are designed to assist signatory countries develop a framework to achieve this. Countries can adopt or adapt these policy and regulatory provisions even if they are not signatories to the Convention.

Success with respect to achieving the goals set out in the Convention relies on the adoption and early implementation of ICT accessibility policies by a country. Each country has to decide on the respective policies and the timing for their implementation in accordance with its unique circumstances.

The Model mobile communications accessibility policy in this module will assist countries to understand the generic steps and requirements and provides guidance on areas where they can be amended to meet national circumstances. The goals of the policy, soft law and regulatory approaches identified in this module are to create a policy, soft law and regulatory framework which promotes ICT accessibility for persons with disabilities by taking the following steps:

- Adoption of a mobile communications accessibility policy, either as a stand-alone document or integrated into an existing policy.
- Consulting with persons with disabilities on the development of a mobile communications accessibility policy.
- The government promoting awareness of the policy and the mobile industry promoting awareness of accessible mobile communications among persons with disabilities and organizations of persons with disabilities, including through use of accessible formats.
- The government conducting a gap analysis on the in-country availability of assistive technology (AT) that can be used with mobile communications, identifying areas for government action to close the AT gap, and implementing appropriate measures such as developing incentive schemes and funding research and development.
- Using universal service and access funds (USAFs) to subsidize the costs of accessible mobile communications and AT for persons with disabilities as well as for teachers, special educators and vocational trainers providing services to persons with disabilities.

[46] See also Module 1: ICT accessibility legal, policy, and regulatory framework, section 1 - options for regulation.

- Mobile operators and retailers ensuring in their sales outlets widespread availability of accessible handsets and other mobile devices embedded with accessibility features for persons with different kinds of disabilities, including by amending their procurement policies to procure for their sale to customers a range of accessible handsets and other mobile devices embedded with accessibility features for persons with different kinds of disabilities.
- Mobile operators and retailers ensuring their sales outlets are accessible for persons with disabilities.
- The mobile industry training its sales staff to serve customers with disabilities and to make customers with disabilities aware of accessible features and product support information.
- The mobile industry providing dedicated customer care facilities, in-store support or staff at call centres who are trained to assist customers with disabilities.
- The mobile industry promoting the development and availability of accessible applications ('apps') for persons with disabilities and accessible 'app stores'.
- Mobile operators ensuring special or discounted rates for persons with disabilities such as text-only plans for the deaf and hard-of-hearing.
- The mobile industry ensuring that emergency mobile communications are accessible for persons with disabilities, including provision of real-time text and video-relay, and making persons with disabilities and organizations of persons with disabilities aware of these accessible emergency mobile communications.
- The government setting measurable targets, reporting annually on their implementation and ensuring enforcement of accessibility provisions as appropriate.

Because of the rapid advances in technological developments, countries are encouraged to adopt processes to conduct periodic reviews of the policy and code or regulations, once passed, to best harness these technological opportunities.

Model mobile communications accessibility policy

1. Definitions

1.1 The following definitions are for use in the framework of a mobile communications accessibility policy.

- **"Accessible formats"** means information available in formats such as, but not limited to, Braille, text-to-speech, oral presentation, electronic files compatible with screen readers for persons with reading impairments, captioned or signed video for persons with hearing impairments or icons and animations for persons with cognitive disabilities.
- **"Assistive technology" or "AT"** is any information and communications technology, product, device, equipment and related service used to maintain, increase or improve the functional capabilities of individuals with special needs or disabilities.
- **"Braille"** is a series of raised dots that can be read with the fingers by people who are blind or whose eyesight is not sufficient for reading printed material.
- **"Device" or "Mobile device"** means a handset, smartphone, tablet or any type of customer equipment wirelessly connected via a SIM card issued by a licensed network operator.
- **"ICT accessibility"** is a measure of the extent to which a product or service can be used by a person with a disability as effectively as it can be used by a person without that disability for purposes of accessing or using ICT related products, content or services. ICT accessibility should be achieved to the greatest possible extent by applying universal design principles and by ensuring compatibility with assistive technologies.
- **"Internet service provider" or "ISP"** means a company that offers access to the Internet and to e-mail.
- **"Mobile industry"** includes network operators, service providers, mobile device distributors and retailers[47].
- "**Relay services"**[48] are phone services operated by interpreters that enable people who are deaf or hard of hearing or who have a speech impairment, to communicate by phone through an interpreter with a person who can hear in a manner that is "functionally equivalent" to the ability of an individual without a disability[49].
- **"Text only packages"** means mobile packages which exclude voice services but include data services such as text messaging, instant messaging, picture messaging and web browsing.

[47] Handset manufacturers and mobile operating system vendors can be included in the definition of mobile industry if the country has handset manufacturers or operating system vendors established in the country.

[48] Making mobile phones and services accessible for persons with disabilities, ITU and G3ict, 2012 (www.itu.int/ITU-D/sis/PwDs/Documents/Mobile_Report.pdf) for more information on relay services. FCC Fact Sheet on relay services at www.fcc.gov/cgb/consumerfacts/trs.html that discusses types of relay services including text-to-voice relay services, speech-to-speech relay services, captioned relay services, video relay services and Internet protocol relay services.

[49] Definition sourced and adapted from the National Association of the Deaf (United States); see www.nad.org/issues/telephone-and-relay-services/relay-services. Including video relay services, text relay services (TTY), speech-to-speech relay services, captioned speech relay services, and instant messaging relay. For more information see Making mobile phones and services accessible for persons with disabilities report: www.itu.int/ITU-D/sis/PwDs/Documents/Mobile_Report.pdf

- **"Universal design"** means the design of products, environments, programmes and services to be usable by all people to the greatest extent possible, without the need for adaptation or specialized design. Universal design shall not exclude assistive devices for particular groups of persons with disabilities where this is needed[50].
- **"Wireless applications service provider" or "WASP"** means a third party service provider who manages applications and creates and distributes mobile content to mobile users via a licensed mobile operator's network and infrastructure.

2. Effective date and application

2.1 This policy may be cited as the mobile communications accessibility policy and shall come into effect upon publication in the [official government publication[51]].

2.2 The mobile communications accessibility policy applies to the mobile industry and covers:

(a) Mobile services (voice, data, broadband), including emergency and directory services;

(b) Mobile industry customer support services including call centres, customer support centres, web sites, and points of sale; and

(c) End-user devices, including basic phones, feature phones, smartphones, tablets, and assistive applications and services.

2.3 [Insert relevant provision of legislation] provides that [the Ministry[52]] is the body responsible for making national policy to promote universal service and universal access in the ICT sector, including access by persons with disabilities to mobile services, applications and devices.

3. National mandate

3.1 [Country] is a signatory to the United Nations Convention on the Rights of Persons with Disabilities ("the CRPD" or "the Convention"), which came into force in May 2008[53]. The Convention recognizes accessibility as a condition for persons with disabilities to fully enjoy all human rights and fundamental freedoms[54] and requires signatories to adopt appropriate measures for access by

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50 As defined in Article 2, UN Convention on the Rights of Persons with Disabilities.

51 Insert relevant publication name.

52 The accessibility policy should be developed by the ministry responsible for communications (or in countries without a ministry by the entity responsible for communications), often with significant input or even responsibility for drafting by the regulator. As discussed at www.ictregulationtoolkit.org/en/Section3259.html, the ministry might of course be constituted in one of several ways:

- telecommunications;
- electronic communications (including broadcasting and other media);
- information and communication technology (or communication and information technology);
- infrastructure, including transportation;
- combined with industry or science and technology; or
- combined with another sector such as economic affairs.

53 This section to be included only if applicable to the country; i.e. if the country is a signatory to the UN Convention on the Rights of Persons with Disabilities.

54 UN Convention on the Rights of Persons with Disabilities, Preamble, Section (v)

persons with disabilities on an equal basis with others to information and communication technology, emergency services and Internet services[55].

3.2 [Country] constitution supports the right to equality before the law. This includes the full and equal enjoyment of all rights and freedoms. To promote the achievement of equality, legislative and other measures are designed to protect or advance persons or categories of persons, disadvantaged by unfair discrimination. Removing barriers to access to essential services such as mobile communications services is a necessary condition for persons with disabilities to fully enjoy their fundamental rights and freedoms and participate in society on an equal basis with others.

3.3 At a national level, a number of policy and legislative instruments contain key provisions that support the stated goal of this policy: of making ICT accessible for persons with disabilities. These include:

(a) [Persons with disabilities policy/legislation, citation, brief description];

(b) [Anti-discrimination policy/ legislation, citation, brief description];

(c) [Procurement policy/legislation, citation, brief description];

(d) [Access to Information policy/legislation, citation, brief description];

(e) [Universal Service and Access policy, citation, brief description];

(f) [Consumer Protection policy/legislation, citation, brief description];

(g) [Homeland security and national emergency policy/legislation, citation, brief description]; and

(h) [Other policy/legislation, citation, brief description];

3.4 The objective of this policy is to provide an enabling framework to support the development of a culture and practice of ICT accessibility, in particular mobile communications accessibility, through:

(a) Defining the general principles by which mobile communications accessibility is to be treated;

(b) Identifying and mitigating the identified leading barriers to fully accessible mobile communications;

(c) Promoting awareness of accessible mobile communications among persons with disabilities and organizations of persons with disabilities;

(d) Identifying relevant standards, including international standards, and global economies of scale to lower costs and promote interoperability;

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[55] Outcomes intended by Article 9 of the UN Convention on the Rights of Persons with Disabilities include but are not exclusive to the following:

- The obligation for States Parties to ensure that persons with disabilities have access to information and communication technologies;
- The obligation to ensure that all content, communication, hardware, software and interfaces are to be accessible;
- The promotion of assistive technologies and information in alternative formats to persons with disabilities to ensure their access to information;
- The provision of general information to the public in accessible formats and technologies for persons with disabilities at no extra cost and in a timely fashion;
- The need for private entities offering any kind of facilities and services for the general public to consider the different accessibility needs of persons with disabilities
- The obligation to include emergency services as part of the obligation to provide accessible information and communication services;
- The promotion of the accessibility and usage of mobile communication and services among persons with disabilities, including the Internet, especially in developing countries, considering that ICT services are being accessed through mobile phones, tablets, and other emerging technologies and platforms.

(e) Promoting widespread commercial availability of handsets and other mobile devices with embedded accessibility features[56];

(f) Putting in place measures to ensure that persons with disabilities have equivalent access as those without disabilities to mobile networks, devices, services, applications and content provided to the public in urban, suburban and rural areas;

(g) Promoting the accessible design, development, production and distribution of accessible mobile devices and services, at an early stage of development, so that mobile devices and services are available with accessibility features at a low cost and in a timely manner;

(h) Promoting affordability of accessible mobile devices and services through requirements for non-discrimination, subsidies and incentives, where possible; and

(i) Defining an institutional framework to ensure transparent oversight, and impartial dispute resolution that will strengthen the promotion of mobile communications accessibility.

3.5 Recognizing the importance of accessibility to the physical, social, economic and cultural environment, to health and education and to information and communication, in enabling persons with disabilities to fully enjoy all human rights and fundamental freedoms, the following principles, must be adhered to and underpin this policy:

(a) Non-discrimination;

(b) Full and effective participation and inclusion in society;

(c) Equality of opportunity;

(d) Accessibility;

(e) Affordability; and

(f) Awareness.

3.6 Recognizing that the mobile communications industry has in depth knowledge of its own products, services and strategies, this mobile communications accessibility policy therefore encourages the industry to take measures to promote mobile accessibility. The mobile industry is thus encouraged to develop a [self or co-regulatory] code of conduct on mobile communications accessibility for persons with disabilities. Where no such code of conduct is developed, the [National Regulatory Authority] will make regulations to give effect to this policy[57].

4. Sales, retail outlets, customer care and public awareness

4.1 Awareness of this policy and of the availability of accessible mobile products and services for persons with disabilities is critical to promoting ICT accessibility. The [NRA, universal service and access fund (USAF), and the mobile communications industry] are responsible for spreading awareness of the available accessible mobile products and services for persons with disabilities and the benefits of assistive technologies for persons with disabilities and the rest of society. The information that is made available to the public should be provided in accessible formats upon request and promoted through appropriate channels using effective communications (including captioning, sign language or audio description in video, as needed) to reach persons with disabilities.

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[56] Although accessible features are embedded in some handsets which are commercially available in the global marketplace, some operators may opt to make available for sale only cheaper handsets with no embedded accessible features due to customer affordability concerns. This policy would not prevent operators from continuing to offer such cheaper, non-accessible handsets, but would ensure that accessible handsets that are commercially available in the global marketplace are part of the operator's sales offering.

[57] See Annex A for guidelines on the code of conduct on mobile communications accessibility for persons with disabilities. The code of conduct may also be drafted as regulations by the NRA – see Annex B for model regulations on mobile communications accessibility. See also Module 1, section 1 on options for regulation.

4.2 Operators should ensure that organizations of persons with disabilities are aware of available accessible mobile products and services by compiling a database of disability organizations representing persons with different disabilities, and sending them information periodically about the accessible mobile services and products offered.

4.3 Awareness of this policy and its related [code of conduct or] [regulations] is the responsibility of the Ministry and NRA respectively. In addition, an annual survey will be conducted by the [Ministry responsible for ICT or NRA depending on country requirements] to assess the levels of national awareness of accessible mobile products, services, devices and initiatives.

4.4 Public awareness on how persons with disabilities can use emergency services provided through mobile phones is the responsibility of public authorities, service providers, emergency call centres[58] and public bodies with the responsibility for emergency services[59]. The parties must cooperate in order to ensure that there is awareness. The information that is made available to the public should be provided in accessible formats with the input and involvement of persons with disabilities and their organizational representatives. The information should be promoted through appropriate channels reaching persons with disabilities.

4.5 Where a person with a disability advises a mobile operator, service provider or manufacturer of his or her disability, the operator, service provider or manufacturer must, at no charge to the consumer and in an appropriate format, make the consumer aware of accessible mobile services, products and features that are available, as well as product support information, in order to assist the consumer in finding, acquiring and using an accessible mobile service, product or feature.

4.6 Mobile operators and service providers must also ensure that customers with disabilities are made aware of and are enabled to purchase services, devices and accessories at company owned or controlled retail shops, call centres, the Internet, and through direct sales by phone. Operators must also make persons with disabilities aware of accessible mobile products and services including through targeted marketing to persons with disabilities using appropriate alternative modes of communication as necessary.

4.7 Mobile operators and service providers must provide dedicated customer care with trained personnel to customers with disabilities including at call centres and designated stores, as well as provide all customer communications in accessible formats.

5. Products, services and devices

5.1 Mobile operators and service providers are required to provide a choice of a range of accessible mobile products, services and devices with varying features, functions and prices meeting the requirements of various types of disabilities.

5.2 [The NRA and the policy-maker] have little influence in terms of the procurement policies of the mobile industry. It is therefore the responsibility of mobile operators, service providers and manufacturers to seek to ensure that the principles of universal design are adhered to in terms of all of the goods and services that they manufacture, procure and provide to the public.

5.3 [The NRA] will conduct and publish an annual national survey on the availability of accessible mobile devices and services for persons with different kinds of disabilities provided by mobile operators and retailers. The annual survey will also address the availability of assistive technologies for use with

[58] Where applicable and where under the jurisdiction of the NRA or Ministry, or else parallel regulations will need to be made by the responsible authority to ensure that it can be enforced.

[59] Where applicable and where under the jurisdiction of the NRA or Ministry, or else parallel regulations will need to be made by the responsible authority to ensure that it can be enforced.

mobile communications in line with section 9 below, as well as awareness by persons with disabilities of this policy and its related [code of conduct or] [regulations] and of available accessible and assistive mobile communications.

5.4 [The NRA] may type approve[60] all devices and equipment that are made available for use by the public. Type approval processes may take into account measures to promote accessibility. Mobile operators, service providers and manufacturers shall not modify type approved goods and services.

5.5 [The NRA] may issue minimum accessibility performance standards[61] for specific categories of goods and services which should be made available in its jurisdiction to users with specific types of disabilities. Such performance standards will specify accessibility requirements to meet the needs of users with physical, cognitive, intellectual or sensory impairments and take into account the market availability of such features, including by referencing databases of accessible mobile devices such as the Mobile Manufacturers Forum (MMF)[62].

5.5.1 Such minimum performance standards should be prescribed by the NRA within [12 months] of the publication of this policy.

5.5.2 Adherence to this list will become mandatory [18 months] from the effective date of the publication of the minimum performance standards.

5.5.3 [The NRA] should review the list periodically in consultation with representatives of the mobile communications industry and organizations of persons with disabilities.

5.6 Training of personnel, in particular those that deal with customers, is an important aspect of the delivery of accessible services. The mobile industry must use trained personnel to promote and support available accessibility options to persons with disabilities and must provide information and customer support to such individuals in the official languages.

6. Applications

6.1 With the growth in the penetration of broadband and the use of smartphones, it is important to promote the accessibility of mobile applications for persons with disabilities[63].

6.2 Mainstream applications developed or preloaded on end-user devices by mobile service providers must be accessible for persons with disabilities.

6.3 Pre-installed assistive technology applications designed to improve access for a specific disability may not need to be accessible to all users with different types of disabilities.

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[60] Type approval is granted to a product that meets a minimum set of regulatory technical and safety requirements. Generally, type approval is required before a product is allowed to be sold in a particular country, so the requirements for a given product will vary around the world. Compliance to type-approval requirements is often denoted by a marking on the back of the product.

[61] See an example at www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-section-508-standards/section-508-standards

[62] The MMF GARI database can be consulted at: www.mobileaccessibility.info/. It is currently made available through the web sites of industry associations, operators and telecom regulators including in the United States and Australia.

[63] [Country] realizes that content and applications are often provided by third parties and that [the NRA] does not regulate the developers or sellers of applications. Therefore, this policy does not seek to set out accessibility obligations for the mobile operators and service providers with respect to the sale and support of applications, including assistive technology software, that operate on devices sold by the mobile operators and service providers, so long as such applications are sold by third parties. This is the case as long as they are outside the control of mobile operators and service providers, and are not pre-installed by such operators and service providers or directed to be installed for the purpose of either enabling the operation of the providers' service or achieving accessibility by persons with disabilities.

6.4 Mobile operators should, to the extent practicable, ensure that wireless applications service providers and Internet service providers that use their networks, have put in place measures to encourage the development of accessible applications, ensure the accessibility of their "app stores" as well as create awareness of the availability of accessible applications[64].

6.5 Mobile service providers must ensure that their own application stores are accessible.

7. Special and/or discounted rates and plans

7.1 In addition to the accessibility and availability of communications products, services and devices, affordability of accessible mobile products and services can also pose a key challenge for persons with disabilities. This includes paying for a full suite of services which they may not be able to use. For example, operators may not offer text only packages that are suitable for deaf users who rely on data and not voice; or mobile operators may levy additional charges for relay services, thus disadvantaging their users.

7.2 To ensure affordability, and to take into consideration the differences in the manner that certain mobile communications services are used by persons with disabilities, mobile operators and service providers should offer special and/or discounted rates and plans, as appropriate, for users with disabilities[65]. These rates and plans must be notified by the operator to the NRA every year and organizations of persons with disabilities and/or the committee on ICT accessibility[66] should be consulted in their design and development[67].

7.3 Mobile operators and service providers must inform the public of their special and/or discounted rate plans and services in all platforms, including outlets, websites, etc., where information with regard to general rates and plans is provided.

7.4 Mobile operators must make the qualification criteria for such special and/or discounted rate plans publically available.

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[64] In some countries, wireless application service providers and Internet service providers belong to industry associations which have agreements with mobile operators, sometimes as a condition of their commercial agreements with mobile operators, with respect to taking down objectionable or illegal content on notification. These agreements can be expanded to include the need for the wireless application service providers and Internet service providers to address accessibility, and as such can be used as a tool to advance the accessibility of websites and applications made available on mobile phones and networks. This can be reviewed periodically in line with policy, market and technological developments in the mobile applications space.

[65] For example, text-only plans for deaf/hard of hearing, requirements that people using relay services pay no more for their calls than calls made without relay.

[66] In order to mainstream ICT accessibility, the NRA may set up a committee on ICT accessibility in furtherance of its statutory objectives to promote the interests of users, and to ensure the involvement of persons with disabilities, organizations of persons with disabilities, industry and other stakeholders in the development of all policies, regulations or industry codes from the outset. The committee on ICT accessibility will provide guidance, not only on disability policy and regulations, but on all policy and regulations which may impact persons with disabilities. This may range from tariff regulations (which should take into account special and/or discounted tariffs for certain categories of users) to licence conditions (for example licence conditions on accessible public access), to advising on accessibility standards. This is discussed in greater detail in Section 4 of Module 1: ICT accessibility legal, policy, and regulatory framework. Where a country does not establish such a committee, the same objective can be achieved through the regular review of existing regulations subject to public consultation that includes persons with disabilities.

[67] The requirement is for notification to the regulator for information and NOT for approval. Each country must consider its price regulation regime and adapt the requirement appropriately.

8. Emergency services[68]

8.1 Mobile operators and service providers must provide accessible emergency services for persons with disabilities equivalent to those available to persons without disabilities.

8.2 Persons with disabilities should be able to use their everyday communication means, e.g. terminal equipment, mode of communication and services for accessing emergency services, and must be able to contact emergency services free of charge whatever the mobile technology or device they use.

8.3 Within [two years] of the publication of this policy, mobile operators will make available a service that allows deaf or hearing impaired individuals to text with acknowledgment of receipt, via real time text[69] or send video emergency notifications through video relay[70] services to the responsible authority emergency service hotline number in real time, where possible, to enable a speedy response.

8.4 Within [two years] of the publication of this policy, mobile operators should provide emergency agencies with callers' geo-location information[71] and indicate, where geo-location information is available, if the caller is a subscriber who is enrolled as having a disability[72], [73].

8.5 Within [one year] [the NRA] will coordinate with national disaster and emergency preparedness agencies in developing and overseeing emergency communications requirements and with mobile operators to ensure that emergency and public safety alerts are provided in accessible formats to persons with disabilities (e.g. visual alerts for the deaf and vibration alerts for the blind).

8.6 In order for emergency services to be effective, it is critical that persons with disabilities are aware of the emergency services that are available and accessible. Public awareness specifically on how persons with disabilities can use emergency services is mandatory and is the responsibility of the NRA, mobile operators, service providers, emergency call centres[74] and public bodies with responsibility for emergency services[75]. The information that is made available to the public should be provided in accessible formats and also in the official languages, upon request.

8.7 [The NRA] should ensure that these minimum requirements, and any other reasonable requirements to promote accessibility in an emergency situation are included in [Consumer Protection Regulations] or a mobile industry initiated code of conduct within [one year (12 months)].

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[68] In countries where there is a great deal of movement of people across borders to neighbouring countries, this requirement is particularly important. It should be coupled with efforts to harmonize short codes and numbers used to access emergency services. This will ensure that users with disabilities in the region are aware of emergency numbers and short codes without having to make additional effort.

[69] See Real Time Text Task Force at www.realtimetext.org/ and Reach 112 project at www.reach112.eu/view/en/index.html

[70] See definition of relay services in Box 1, Module 1: ICT accessibility legal, policy and regulatory framework.

[71] Geo-location information can be collected, for example, via handset radio signal or Global Positioning System (GPS) functionalities.

[72] The obligation set out in this paragraph can only apply in countries where it would not contravene privacy laws.

[73] See implementation of emergency geo-information in Poland: https://itunews.itu.int/en/3830-Polands-system-for-locating-emergency-calls-and-facilitating-number-portability.note.aspx

[74] Where applicable and where under the jurisdiction of the NRA or Ministry, or else parallel regulations will need to be made by the responsible authority to ensure that it can be enforced.

[75] Where applicable and where under the jurisdiction of the NRA or Ministry; otherwise parallel regulations will need to be made by the responsible authority to ensure that it can be enforced.

8.8 [The NRA] should ensure proper coordination with national disaster and emergency preparedness agencies in developing and overseeing the implementation of the above dispositions. Such coordination should include, but may not be limited to, integrating mobile networks in multi-modal national or regional alerts systems and making available free accessible applications allowing public safety alerts to override users' handset's visual signals and ringing settings to ensure that alerts are perceived and understood to the greatest possible extent by all mobile users and persons with disabilities in particular.

9. Assistive technologies

9.1 Assistive technology (AT) is an umbrella term that includes assistive, adaptive, and rehabilitative devices for persons with disabilities and also includes the process used in selecting and using them. AT is important in that it promotes greater independence by enabling people to perform tasks that they would otherwise be unable to accomplish, or would have accomplished with great difficulty, by providing enhancements to, or changing methods of interacting with, the technology needed to accomplish such tasks. For the purposes of this policy, assistive technology, as defined, refers only to ICT assistive technologies[76]. [Country] believes that the [NRA and USAF] should ensure that assistive technologies for use with mobile handsets or services are made available on the open market by putting in place incentive schemes to improve economies of scale in purchase, production, distribution and support of these technologies.

9.2 To the extent that a large portion of assistive technologies are purchased or funded by public funds for special education, rehabilitation services, workplace accommodation or care for elderly citizens, the NRA will initiate, if not already in place, cooperation with other government agencies to optimize purchasing, training and users' support on a national basis.

9.3 The NRA, in cooperation with other government agencies, will develop a gap analysis of the availability of assistive technologies for persons with disabilities in order to identify areas for which government action may be taken, such as public procurement of office software with embedded accessibility features, free downloadable ATs or subsidized purchases of ATs[77].

9.4 When text to speech technology or voice recognition is not available in the official languages of the country, the [NRA] shall work with [the universal service fund], service providers, technology providers as well as academic institutions to call for proposals in order to develop, maintain and service such solutions.

10. Funding and incentives (universal service and access fund)

10.1 Universal service and access funds (USAFs) have ICT accessibility for persons with disabilities as a key objective. Module 1: ICT accessibility legal, policy and regulatory framework provides key provisions that will provide a sound universal service and access framework, including definitions, scope, and use of USAFs.

10.2 Recognizing the contribution that mobile operators have made to the fund, the universal service and access fund should be used to support this policy and the attainment of mobile communications accessibility targets. In particular this policy supports the notion that:

[76] AT also includes, for example, mobility aids such as wheelchairs.

[77] See Federal Communications Commission (FCC) programme for the distribution of equipment to deaf-blind users in the United States. www.fcc.gov/guides/national-deaf-blind-equipment-distribution-program

(a) all persons with disabilities in [Country] may be eligible for financial assistance from the Fund[78];

(b) mobile operators, service providers, software and device manufacturers, teachers, special educators and vocational trainers providing services to persons with disabilities and disability organizations may be beneficiaries of the Fund for purposes of ensuring mobile communications accessibility for persons with disabilities;

(c) the Fund may be used for spreading awareness of the available mobile services and benefits of mobile devices and assistive technologies, including new technologies, as well as other forms of assistance, support services and facilities for persons with disabilities and the rest of society[79]; and

(d) The [NRA/USAF] should collaborate with persons with disabilities, organizations of persons with disabilities, the committee on ICT accessibility[80], the mobile industry, advocates for persons with disabilities, and government organizations, amongst others, at the local, national and international level to increase the availability and utilization of accessible mobile devices and services.

10.3 Where any eligible member of the mobile communications industry can demonstrate that compliance with this mobile communications accessibility policy creates a disproportionate or undue financial burden, it may apply to the USAF for subsidization to enable compliance.

10.4 The [USAF Manager/ NRA] must, further to public consultation[81], publish guidelines defining underserved communities, which should include persons with disabilities and should provide guidance on the processes and the criteria for eligible persons to receive subsidies from the fund.

10.5 In using the USAF in line with the mandate set out in the ICT law, [the USAF Manager/ NRA] should consider using the USAF to promote mobile communications accessibility including through[82]:

(a) Subsidizing accessible handsets and/or monthly subscriptions, or a specified number of minutes per month for users qualifying as persons with disabilities;

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[78] Each country will need to have a means of identifying persons with disabilities, i.e. recipients of disability grants, notified to operators (bearing in mind privacy provisions in law), or beneficiaries of any other schemes for persons with disabilities. If no such scheme exists, then this clause should not be included in the policy and funding should be provided only through disability groups and/or operators and suppliers to reduce the administrative burden on the USAF.

[79] As defined in the UN Convention on the Rights of Persons with Disabilities, General Obligations: 4.1(h).

[80] In order to mainstream ICT accessibility, the NRA may set up a committee on ICT accessibility in furtherance of its statutory objectives to promote the interests of users and to ensure the involvement of persons with disabilities, organizations of persons with disabilities, industry and other stakeholders in the development and implementation of all policies, regulations or industry codes from the outset. The committee on ICT accessibility will provide guidance, not only on disability policy and regulations, but on all policy and regulations which may impact on persons with disabilities – this may also include tariff regulations which should take into account special and/or discounted tariffs for certain categories of users as discussed in section 7 of this module. The committee on ICT accessibility is discussed in section 4 of Module 1: ICT accessibility legal, policy, and regulatory framework. Where a country does not establish such a committee, the same objective can be achieved through the regular review of existing regulations subject to public consultation that includes persons with disabilities.

[81] See also Module 1: ICT accessibility legal, policy, and regulatory framework, section 4.

[82] Primary legislation in a country must support the objectives set out in policy. Countries should ensure that the provisions below are included in the USAF mandate in their national ICT Law and/or USAF regulations.

(b) Subsidizing the purchase of assistive technology tools by service providers, disability organizations or end-users with disabilities[83]:

(c) Funding the customization of basic assistive technology tools in local languages including text-to-speech, voice recognition, captioning applications and screen readers for the mobile environment[84];

(d) Providing incentives for research and development on localization of assistive solutions, such as development of speech-to-text engines in the official languages for the mobile environment;

(e) Facilitating awareness and promotion of universally designed mobile devices and services;

(f) Facilitating the training of professionals supporting persons with disabilities in adopting and using ICT,[85] including experts from organizations of persons with disabilities or working with persons with disabilities, such as teachers, health workers and vocational counsellors; and

(g) Facilitating the development of curricula and training of information technology professionals on mobile ICT accessibility.

10.6 The [NRA/Fund Manager] will put in place safeguards to protect against the improper use of the fund, to prevent fraud, waste and abuse so that the monies in the fund can be used for their intended purpose of ensuring universal service and access by all to ICT.

11. Targets and reporting requirements[86]

11.1 NRAs should establish, in consultation with persons with disabilities (in line with section 4 of Module 1: ICT accessibility legal, policy and regulatory framework), annual measurable targets to be implemented by the mobile industry, issue an annual public report on implementation and take necessary enforcement action where appropriate. Sample mobile accessibility policy targets are provided below.

[83] Certain countries allow individuals to apply directly for grants and subsidies, thus making it easier to "enrol" them as beneficiaries and to provide these individual end users with grants and subsidies. This requires additional institutional and administrative strength on the part of the USAF to be able to address individual applications for subsidies.

[84] This may be done in coordination with Ministry of Education – an explicit requirement can be included where the Ministry or NRA has powers to include other ministries.

[85] See Convention on the Rights of Persons with Disabilities, General Obligations: Art. 4.1 (i).

[86] Policy-makers will have to consider the number of languages spoken in each country, areas in which disabled persons are concentrated in each country and also consider information and technology that already exists in each country whose main purpose is to provide electronic/mobile accessibility to disabled persons.

Mobile accessibility policy targets	
Availability of accessible mobile products, services, and devices	
Mobile operators' and retailers' procurement policies amended	Within 12 months
A range of accessible handsets and services for different types of disabilities on offer by mobile operators and retailers	Within 18 months
Sales, retail outlets, customer care and public awareness	
Points of sale made accessible including use of internationally recognized disability and braille signage	Within 12 months
Mobile industry staff trained on key accessible products and serving users with disabilities	Within 12 months
Dedicated customer care facilities, in store support or staff at call centres trained to assist customers with disabilities	Within 12 months
Customer communications including bills, contracts with customers and publicly available terms and conditions and information about products and services made available in accessible formats	Within 12 months
Annual review of implementation of mobile communications accessibility policy/regulations	Within 12 months
Annual national survey on accessibility of mobile devices and services, including mobile assistive technology and awareness by persons with disabilities of this policy and its related [Code of conduct or] [regulations] and available accessible and assistive mobile communications (by NRA)	Within 12 months
Promotion and advertising by mobile industry of accessible mobile products and services, including accessible emergency services	Within 6 months after staff training
Funding and Incentives	
Special and/or discounted mobile rate plans for persons with disabilities available and publicly promoted	Within 18 months
Mobile code of conduct or regulations in place	Within 12 months Reviewed every 2 years
Emergency services	
Accessible mobile emergency services available	Within 12 months
Accessible mobile emergency services include ability to send texts and/or video and provide emergency agencies with callers' geo-location information which indicates that the caller is enrolled as a subscriber with a disability so that persons with disabilities are able to use their everyday mobile handsets for emergency communications	As soon as practically possible
Include accessible emergency communications requirements in [industry code of conduct or][regulations]	Within 12 months
[NRA] coordinates with national disaster and emergency preparedness agencies in developing and overseeing emergency communications requirements and with mobile operators to ensure that emergency and public safety alerts are provided in accessible formats to persons with disabilities (e.g., visual alerts for the deaf and vibration alerts for the blind).	As soon as practically possible

11.2 In addition, milestones should be set to measure progress in implementing policy, codes of conduct or regulations, capacity to implement policy, codes of conduct or regulations (e.g. establishing necessary budgets and training programmes) and progress in availability of accessible mobile communications for persons with disabilities), including access to, availability, and affordability of mobile communications based on type of disability.

11.3 Access to information about mobile communications accessibility for the disability community is critical to ensuring that future reviews of accessibility policy measures are effective and that policy interventions are evidence-based. To achieve this, the NRA should determine reporting requirements for notifying the disability community about the accessibility requirements contained in adopted policies, codes of conduct and regulations. A thorough review should be conducted by NRAs of *all* reporting requirements to ensure that the correct data is collected with respect to accessibility for persons with disabilities, at the right level of detail and at reasonable intervals[87].

12. Periodic review

12.1 Due to the fast-moving technological developments and market conditions, this policy shall be reviewed at least every two years.

[87] Reporting requirements may need to be changed in regulations, depending on whether the ICT law has a specific section on reporting

Annex A: Model code of conduct on mobile communications accessibility for persons with disabilities[88]

[The Model mobile communications accessibility policy sets out the vision and key principles for the country with respect to access by persons with disabilities to mobile services, products and devices. A policy is not binding and must, in order to have force in law, be supported by either legislation, regulations or, in countries with legal frameworks that support 'soft law', codes of conduct. See Module 1: ICT accessibility legal, policy and regulatory framework, section 3 - Options for regulation.

This annex supports the mobile communications accessibility policy, which would be made by the policy-maker, i.e. the Ministry, and sets out model provisions that enable the model policy to be implemented. The model provisions set out herein are intended to be included in industry concluded codes of conduct on enabling mobile accessibility for persons with disabilities. The language in which it is currently drafted is suitable for a code of conduct and is drafted from the perspective of an industry player or signatory to the code of conduct. The code of conduct should be compliant with national legislation and should be lodged with and/or approved by the NRA as provided for in the law.]

1. Purpose of code of conduct[89]

This document sets out a code of conduct on ICT accessibility for persons with disabilities with regard to the provision of mobile communication services and products. It is [aligned with the mobile ICT accessibility policy and] designed to advise and assist the mobile industry, which includes network operators, service providers and retailers on measures to be put in place to make available to persons with disabilities accessible products and services, recognizing the widespread commercial availability of handsets and other mobile devices with embedded accessibility features[90].

2. Definitions

In this code any word or expression to which a meaning has been assigned in the mobile communications accessibility policy has the meaning so assigned, unless the context indicates otherwise.

3. Consultation

(a) The input of organizations representing persons with disabilities should be taken into account and they will be consulted in the development and monitoring of the implementation of this Code[91].

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[88] The specific national context will have to be taken into account. Ideally, the commitments set out in this model code should be made by the mobile industry on a voluntary basis further to the finalization of the accessibility policy. The effectiveness of such an approach is dependent on the history and culture of self-regulation in the country and the presence of a strong industry association to foresee implementation. Where there is no institutional framework supporting self-regulation or co-regulation (in which case the final Code should be lodged with the regulator) then the code can be modified for publication as regulations and a model regulation is provided in Appendix B.

[89] This document may be known as the "Model code of conduct on mobile communications accessibility for persons with disabilities". If it is to be published as regulations or guidelines by the NRA, the model regulations in Annex B of Module 3 should be referred to.

[90] Although accessible features are embedded in some handsets which are commercially available in the global marketplace, some operators may opt to make available for sale only cheaper handsets with no embedded accessible features due to customer affordability concerns. This code of conduct would not prevent operators from continuing to offer such cheaper, non-accessible handsets, but would ensure that accessible handsets that are commercially available in the global marketplace are part of the operator's sales offering.

[91] If a country has established a committee on ICT accessibility for persons with disabilities, as recommended in section 4 of Module 1 (see also Box 3), then this committee should be explicitly mentioned.

(b) Mobile operators will consult disability groups about the manner in which they intend to meet their obligations under this code of conduct, and will meet with such groups on at least an annual basis to advise them of the progress on the implementation of the Code, relevant services, products and awareness-raising campaigns.

(c) Mobile operators may conduct the consultative processes jointly, including through organizations that represent persons with disabilities, to the extent that no competitive issues or issues prohibited in terms of Competition Law or any other law are discussed in the meetings.

(d) The [NRA/USAF] may be called upon by mobile operators or organizations of persons with disabilities to serve as the host and facilitator for such consultative process.

4. Functional requirements

(a) Mobile operators will strive to ensure that their products and services are accessible, usable and available to persons with disabilities.

(b) Through their own or third party distribution channels, mobile service providers will make available and promote to their customer base a selection of handsets with embedded or pre-loaded accessibility features and applications supporting users with various types of disability and which are generally available among leading handset manufacturers[92].

(c) In addition, mobile operators will make customers with disabilities aware of accessible features and applications relevant to their disabilities as well as provide other information and services such as special and/or discounted tariff plans, billing options and accessible websites.

(d) Options for making services more accessible may include the following[93]:

4.1 Deaf and hard of hearing users

Mobile operators will strive to provide on a commercial basis[94]:

- Specialized service plans such as text-only plans or text and data plans, to ensure that they pay only for the services that they are able to use, and to ensure that they benefit from discounts on such services;
- Systems to ensure that the deaf and hard-of hearing are able to access the operator's automated customer services as an alternative to those that require users to listen to several automated options and then select a channel of service using the keypad;
- Phone support services available through alternative modes such as relay service or peer to peer video communications for sign language communication with trained personnel;
- Emergency services that also provide the geo-location information of the caller, including that the subscriber is enrolled as having a disability and providing emergency alerts and public safety announcements with visual alerts.

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[92] This has been well documented by the mobile accessibility database of the Mobile Manufacturers Forum. To view the mobile accessibility database of the Mobile Manufacturers see www.mobileaccessibility.info/index.cfm?lang=eng

[93] Mobile operators should provide options in each of the below-mentioned categories as they pertain to accessible products, service and devices available in the global market place.

[94] Where countries provide subsidies through Universal Service Access Funds (USAFs) to mobile operators for providing accessible mobile devices and services, this may be subsidized by the USAF.

- Mobile devices that are hearing-aid compatible and do not interfere with use of hearing aids[95];
- Broadband enabled devices that can offer interactive video conferencing and face-to-face calling as an alternative to texting; and
- Smart phones and tablets which support playback of video and movies with closed captioning, open captioning, audio description and subtitles[96].

Mobile operators will advise deaf and hard of hearing users of the availability of the above[97].

4.2 Blind users and users with reduced vision

Mobile operators will strive to provide on a commercial basis[98] mobile devices which have the following features[99]:

- Ability to assist the user in navigating the mobile handset (e.g. phones that support tactile markers, those that are compatible with third party keyboards and those that have full screen reader support built in);
- Audible or tactile feedback for keyboards and setting features and voice synthesizer feedback for touch screens to allow interactive description and use of icons and applications;
- The option of adjustable font size, the ability to adjust brightness and contrast controls for display, the changeable size of the main display, backlit display, basic text-to-speech functionality, screen magnification and screen readers in the official languages, which are built-in or compatible with mobile devices;
- Embedded web browsers compatible with screen reading functionalities;
- Features on phones such as audible, vibratory and or tactile cues for important notifications such as low battery, call waiting, and incoming call etc., the ability to adjust brightness and contrast controls for display, the changeable size of the main display, backlit display, basic text-to-speech functionality and screen magnifiers.

Mobile operators will advise blind users and users with reduced vision of the availability of the above. In addition mobile operators will strive to provide and blind users and users with reduced vision should be advised of:

- The mobile operator's accessible website including accessible account information;
- The option to receive bills in either large fonts or Braille or in accessible electronic formats;

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95 See www.fcc.gov/guides/hearing-aid-compatibility-wireless-telephones

96 Countries must consider whether they will specify the language of captioning and the percentage to be provided in a relevant or local language.

97 A full range of accessibility options for deaf and hard of hearing users is available in the ITU and G3ICT *Making mobile phones and services accessible for persons with disabilities report* 2012, www.itu.int/ITU-D/sis/PwDs/Documents/Mobile_Report.pdf.

98 Where countries provide subsidies through Universal Service Access Funds (USAFs) to mobile operators for providing accessible mobile devices and services, this may be subsidized by the USAF.

99 A full range of accessibility options for the blind and users with reduced vision is available in the ITU and G3ICT *Making mobile phones and services accessible for persons with disabilities report* 2012, www.itu.int/ITU-D/sis/PwDs/Documents/Mobile_Report.pdf.

4.3 Users with reduced dexterity or limited mobility

Mobile operators will strive to provide on a commercial basis[100] mobile devices which have the following features[101] :

- The option for voice recognition for basic functions including dialling numbers, writing text messages, opening and closing applications, making calendar entries, setting reminders, playing music, and surfing the web;
- Auto text or predictive text keyboards;
- Compatibility with third party switch devices; and
- Compatibility with styli or mouth-sticks

Mobile operators will advise people with reduced dexterity or limited mobility of the availability of the above.

4.4 Users with limited cognition

Mobile operators will strive to provide on a commercial basis [102] mobile devices with the following features[103].

- Predictive text capability;
- Speech recognition facilities;
- Text-to-speech applications or functions;
- Built-in calendar and schedule reminders with audio, visual and vibrating alerts;
- Larger display screens and formatting options for text that allow for more space between words;
- Customizable or highly pictorial visual display;
- How to organize icons to simplify the user interface to their needs;
- Use of universal icons that are clearly understood by all users; and
- Simple clear and consistent user interfaces

Mobile operators will advise people with limited cognition of the availability of the above. In addition, mobile operators will strive to provide and people with limited cognition should be given information about how to organize icons to simplify the user interface to their needs.

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[100] Where countries provide subsidies through Universal Service Access Funds (USAFs) to mobile operators for providing accessible mobile devices and services, this may be subsidized by the USAF.

[101] A full range of accessibility options for users with reduced dexterity or limited mobility is available in the ITU and G3ICT – Making Mobile Phones and Services Accessible for Persons with Disabilities Report 2012 [www.itu.int/ITU-D/sis/PwDs/Documents/Mobile_Report.pdf or http://g3ict.org/resource_center/publications_and_reports/p/productCategory_books/subCat_1/id_191]

[102] Where countries provide subsidies through Universal Service Access Funds (USAFs) to mobile operators for providing accessible mobile devices and services, this may be subsidized by the USAF.

[103] A full range of accessibility options for users with limited cognition is available in the ITU and G3ICT – "Making Mobile Phones and Services Accessible for Persons with Disabilities Report 2012", [www.itu.int/ITU-D/sis/PwDs/Documents/Mobile_Report.pdf or http://g3ict.org/resource_center/publications_and_reports/p/productCategory_books/subCat_1/id_191]

5. Devices

(a) Mobile operators will offer customers a choice of handsets with accessible features for different kinds of disabilities in line with section 4 above, whether they sell such handsets with a pre-paid or post-paid subscription.

(b) As part of their procurement policy, mobile operators will encourage terminal and device manufacturers to[104]:

i. Develop products and services that are usable by and accessible to persons with disabilities, as part of their new product development;

ii. Develop a procurement strategy to make accessible devices available to users with all forms of disability;

iii. Encourage manufacturers to provide instructions which are in accessible formats and are easy to follow and use for persons with disabilities;

iv. Include accessibility requirements for mobile handset manufacturers and encourage distributors to offer a choice of handsets with accessible features for different kinds of disabilities.

6. Applications

(a) Mobile operators and service providers will make any applications they develop or preload on the devices they sell to customers accessible to persons with disabilities and ensure that their own app store is accessible.

(b) Mobile operators and services providers will encourage business partners and others to develop accessible applications ('apps') and accessible 'app stores' for persons with disabilities.

7. Retail outlets

(a) Service providers should make existing points of sale such as showrooms and kiosks accessible to the greatest possible extent by following universal design principles.

(b) Wherever possible, service providers will use internationally recognized disability signage as well as braille signage. Examples of internationally recognized disability signage are the eye symbol to indicate aids are available for blind and partially sighted people, ear symbol with a "T" to show that an audio induction loop is installed in a retail shop and a wheelchair symbol to indicate that ramped or level access is available at a retail store.

(c) Internationally recognized disability signage should also be used on packaging and in publicity material where products are designed, customised or are otherwise suitable for customers with disabilities to use.

(d) Mobile operators and service providers will:

i. Train staff on how to serve customers with disabilities and to be knowledgeable on all available accessible features for people with different kinds of disabilities or be able to access and share resources that provide this information.

ii. Strive to ensure that customers with disabilities are able to purchase services, devices and accessories at company owned, operated or controlled locations, using a range of alternative channels – for example, retail shops, call centres, the Internet, and direct sales via phone.

[104] As equipment manufacturers are not regulated, the most effective approach would be to mandate mobile operators to require them to develop accessible products.

iii. Ensure that selected points of sale across the country offer a complete range of accessibility services including accessible facilities, the means to respond to requests to receive information in alternative modes such as Braille documentation, and have qualified personnel trained to address the specific needs of users with a wide range of disabilities. Such selected points of sale should be advertised so that persons with disabilities are aware of their location.

iv. Offer a range of payment mechanisms to enable disabled or elderly customers to top-up pre-paid mobiles or pay for their phone services automatically (for example, by direct debit or credit card at the end of a billing period); and

v. Offer a means to ensure customers with disabilities have real time access to information regarding usage, fees and other information required to control costs including but not limited to flat rate and other special tariff plans.

8. Emergency services

(a) Emergency services via text should be available from all phones that support texting within *[one year]*, and via relay services[105]. Persons with disabilities requiring assistance from emergency services must be able to communicate via short messaging service (SMS or text) and/or relay services with those providing emergency services at no charge and, if out of range from their service provider's network, via any compatible network available.

(b) When SMS and text messaging is used:

i. Emergency services should provide acknowledgement of receipt accessible to the sender to say that the emergency contact has been received, the emergency is being handled and when emergency services will arrive on site.

ii. If the SMS or text call is unable to be completed, carriers of the text message shall whenever possible return a 'bounce-back' message to the sender that indicates that the emergency services centre was unable to receive the call.

(c) Service providers will provide emergency call centres with callers' geo-location information which also indicates that the caller is enrolled as a subscriber with a disability where this information is available to the operator and can be shared with the emergency call centre without violation of privacy laws.

(d) Public safety and emergency alerts will be made accessible, including visual alerts for the deaf and vibrating alerts for the blind.

(e) Public awareness specifically on how persons with disabilities can contact and use emergency services is mandatory and is the responsibility of the mobile operators, service providers, emergency call centres, and public bodies with responsibility for emergency services. Persons with disabilities shall be represented in forums to coordinate, plan and assess awareness efforts. Information made available to the public should also be provided in accessible formats in the official languages.

(f) Persons with disabilities shall have equal access to emergency services. This will be facilitated via voice, video, text, captions and relay, as applicable, on all mobile platforms[106].

9. Customer care

(a) Mobile operators will, where practicable, provide operator assistance and other services by setting up dedicated customer care facilities to assist customers with disabilities or by training

[105] See definition of relay services in Box 1, Module 1: ICT accessibility legal, policy and regulatory framework.

[106] The regime for emergency services via the web must be carefully considered. In some countries, web-based services such as Voice over IP service are required to explicitly state that they do not provide emergency services due to technological limitations; where this is the case, such notification must be provided in an accessible format.

dedicated staff at all call centres to assist customers with disabilities These dedicated customer care centres/staff should offer to assist customers with disabilities with support and information in sign language, via relay and through other such accessible mediums. Training of Licensee personnel should include disability awareness, etiquette when addressing persons with disabilities, understanding barriers to accessing devices and services and expertise in solutions offered by Licensee.

(b) Mobile operators will provide assistance and other services at their call centres, including assistance to individuals applying for a mobile telephone service, responses to queries on the use of equipment or customer accounts, and explanations of contract terms and conditions. Such assistance must be made available in the format requested by the customer including verbally or in an e-mail format and within a response time comparable to that available to customers without disabilities.

(c) Telephone bills, contracts with customers, including publicly available terms and conditions and information about the services provided to comply with the licence conditions, should be made available in accessible formats, which may include verbal, written (including in Braille), electronically (e.g. via e-mail), and in the official language understood by the customer, upon request.

(d) Where a mobile operator provides directory services, it shall ensure that all end users of its services, including persons with disabilities, can access, free of charge, directory information and directory enquiry facilities in a form which is appropriate to meet their needs. If a charge is incurred for these services, people with disabilities should not incur a greater cost than others.

(e) Where a licensee provides a relay service, it shall provide the service free of charge to individuals with disabilities who cannot effectively use handsets to complete calls.

10. Public awareness and advertising

(a) [Mobile operators may use a seal indicating that they are compliant with this code of conduct on their products and services, or in their retail spaces[107]].

(b) Advertisements and promotions for products and services specifically designed for persons with disabilities should be made available in accessible formats to relevant organizations of and for persons with disabilities in every region, at least upon the launch of the product, when there are significant upgrades or at further occasions upon request.

(c) Service providers should advertise their products and services in specialised and mainstream publications.

(d) Service providers should:

i. inform customers on the range of specialized products and services suitable for use by persons with disabilities;

ii. upon request, provide information about their products and services in accessible formats, for example Braille, large print, electronic or audio formats and also in the official languages;

iii. upon request, provide terms and conditions in accessible formats for visually impaired people before, during, or very soon after, a customer has entered into a legal contract with the service provider once notified of their disability;

[107] The mobile industry may wish to design a seal/logo to demonstrate compliance with this code of conduct as a means of promoting awareness and incentivizing participation by the industry. If such seal is designed, it should be published as an appendix to this code of conduct.

iv. record[108] customer's preferred contact method and preferred format for communication and use the customer's preferred formats for all communications, in particular for directed communications related to accessibility by persons with disabilities; and

v. provide a flexible return policy for a set period of time where a product is deemed unusable by a customer due to lack of accessibility features not identified in the sales process.

11. General requirements

(a) A mobile operator or service provider may not refuse to serve a person with a disability due to the operator's inability to provide relevant products or services.

(b) Each licensee shall ensure that all its employees that deal with customers and the public receive sensitivity training on a regular basis (at least once every [two] years). Such training should include information about the culture, languages, as relevant and societal norms of persons with disabilities.

(c) All mobile operators should make information available about products and services offered in a choice of accessible formats such as braille, audio or large print without additional charge.

(d) All mobile operators shall provide product or service information in a timely fashion and in simple understandable language, to persons with disabilities either verbally through a call centre, via relay services or in an electronic format such as e-mail.

(e) Licensee websites must be designed to be accessible and are required to be compliant with the standards set out in Module 5: Web accessibility policy framework.

(f) Customers may reasonably be encouraged to inform their service provider of their individual requirements, and service providers may not record such requirements for marketing and customer service purposes, unless authorized by the customer to do so.

(g) Where such information is provided by a person with a disability, it is good practice to keep records of the customer's requirements, provided that the information is stored with the customer's permission in accordance with data protection and privacy obligations and may include the format in which the customer would like to receive billing information or targeted marketing material.

12. Implementation roadmap

(a) Mobile operators will ensure that the actions required in terms of this code of conduct are met within the timeframes set out hereunder:

MOBILE OPERATORS CODE OF CONDUCT ON MOBILE COMMUNICATIONS ACCESSIBILITY IMPLEMENTATION ROADMAP	
Requirement as set out in the code of conduct	Compliance Date[109]
AVAILABILITY OF ACCESSIBLE MOBILE PRODUCTS, SERVICES AND DEVICES	
Mobile operators' and retailers' procurement policies amended	Within 12 months
A range of accessible handsets and services for different types of disabilities on offer by mobile operators and retailers	Within 18 months

[108] This information can be recorded on service providers' customer service management systems with the customer's agreement and when feasible and permissible.

[109] The timeframes are proposals to be agreed by the parties in drafting the final document, subject to appropriate consultation

SALES, RETAIL OUTLETS, CUSTOMER CARE AND PUBLIC AWARENESS	
Points of sale made accessible including use of internationally recognized disability signage and braille signage	Within 12 months
Mobile industry staff trained on key accessible products and serving users with disabilities	Within 12 months
Dedicated customer care facilities, in store support or staff at call centres trained to assist customers with disabilities	Within 12 months
Customer communications including bills, contracts with customers and publicly available terms and conditions and information about products and services made available in accessible formats	Within 12 months
Provide required information as part of the annual review of implementation of mobile communications accessibility policy/regulations conducted by the NRA	Within 12 months
Provide required information for the annual national survey conducted by the NRA on accessibility of mobile devices and services, including mobile assistive technology and awareness by persons with disabilities of this policy and its related code of conduct and available accessible and assistive mobile communications	Within 12 months
Promotion and advertising by mobile industry of accessible mobile products and services, including accessible emergency services	Within 6 months after staff training
FUNDING AND INCENTIVES	
Special and/or discounted mobile rate plans for persons with disabilities available and publicly promoted	Within 18 months
Mobile code of conduct in place	Within 12 months Reviewed every 2 years
EMERGENCY SERVICES	
Accessible emergency communications requirements included in industry code of conduct	Within 12 months
Accessible mobile emergency services available	Within 12 months
Accessible mobile emergency services include ability to send texts and/or video relay and emergency call centres provided with callers' geo-location information which indicates that the caller is enrolled as a subscriber with a disability so that persons with disabilities are able to use their everyday mobile handsets for emergency communications	As soon as practically possible
Emergency and public safety alerts are provided in accessible formats to persons with disabilities (e.g., visual alerts for the deaf and vibration alerts for the blind).	As soon as practically possible

13. Review of code of conduct

(a) Mobile operators shall report to the NRA on an annual basis on the progress of implementation of this code of conduct.

(b) This code of conduct should be reviewed by the mobile industry at least every two years; any review should follow the consultation process described in section 3 of this code of conduct.

Annex B: Regulations in terms of section [X] of the [ICT law] for mobile communications accessibility for persons with disabilities

[The Model mobile communications accessibility policy sets out the vision and key principles for the country with respect to access by persons with disabilities to mobile services, products and devices. A policy is not binding and must, in order to have force in law, be supported by either legislation or regulations. In countries with legal frameworks that support 'soft law' or self-regulatory regimes, policy should be supported by codes of conduct, see Module 1, section 3 - Options for regulation.

This annex supports the Model mobile communications accessibility policy, which would be made by the policy-maker, i.e. the Ministry, and sets out model regulatory provisions that enable the model policy to be implemented for countries that do not use codes of conduct. The model provisions set out herein are intended to be included in regulations made by enabling mobile accessibility for persons with disabilities. The language in which it is currently drafted is suitable for regulations and is drafted from the perspective of the NRA. The NRA may take into account the level of compliance of licensees at the time of the renewal of their licences and include specific language referencing this regulation when offering licences to new operators.]

1. Purpose

1.1 The Model mobile communications accessibility policy sets out the vision and key principles for the country with respect to access by persons with disabilities to mobile services, products and devices. These regulations support the Model mobile communications accessibility policy.

These regulations on mobile communications accessibility for persons with disabilities apply to the provision of services and products by licensed mobile operators.

2. Definitions

2.1 In these regulations any word or expression to which a meaning has been assigned in the law, policy and regulatory framework and the Model mobile communications accessibility policy has the meaning so assigned, unless the context otherwise indicates.

- **"Licensees"** means licensed mobile operators and includes their service providers[110].
- **"Retail outlet"** means a physical area where mobile products and services are made available for sale, lease or rental. This includes shops, stalls and kiosks.

3. Consultation

3.1 Licensees must consult with disability groups about the manner in which they should meet their obligations under these regulations, and must meet with such groups on an [annual] basis to advise them on the progress with respect to the implementation of the regulations, relevant services, products and campaigns.

3.2 Licensees may conduct the consultative processes set out in regulation 3(1) jointly, including through organizations that represent persons with disabilities, to the extent that no competitive issues or issues prohibited in terms of Competition Law or any other law are discussed in the meetings. The NRA should convene such meetings, where feasible.

[110] The term licensees may be defined differently depending on jurisdiction. In some jurisdictions where converged licensing frameworks are in place, mobile operators may hold two or more licences. Typically they will hold network licences (for the infrastructure) and service licences (for the services). These regulations apply mainly to the service licences, and to the mobile operators' retail or customer facing business. The provisions relating to emergency services relate both to the mobile network and services.

4. Basic services and functional requirements

4.1 Licensees must ensure that their products and services are accessible and available to persons with disabilities.

4.2 Licensees shall make available and promote to their customer base a selection of handsets with embedded or pre-loaded accessibility features and applications supporting users with various types of disability and which are generally available among leading handset manufacturers, through their own or third party distribution channels[111].

4.3 In addition, licensees are required to make customers with disabilities aware of accessible features, as well as provide other information and services such as special tariff plans, billing options and accessible websites.

4.4 Licensees must ensure that the needs of people who are deaf or hard of hearing are addressed and that they are advised of and provided the following services and devices, amongst others[112]:

4.4.1 Specialized service plans, such as text only plans or text and data plans, to ensure that they pay only for the services that they are able to use, and to ensure that individuals with specific communications needs are not disproportionately charged for the facilitation of equivalent functionality[113].

4.4.2 Alternate means or systems to ensure that the deaf and hard-of hearing are able to access automated customer services that require users to listen to several automated options and then select a channel of service using the keypad.

4.4.3 Telephone support services available through alternative accessible modes such as relay service, accessible real time on-line support, or peer-to-peer video communications for sign language with trained personnel;

4.4.4 Emergency services via text, which services should be available from all phones that enable texting within *[*one year*]* and via video relay services;

4.4.5 Emergency and public safety alerts in accessible formats to persons with disabilities (e.g. visual alerts for the deaf and vibration alerts for the blind).

4.4.6 Devices that are hearing-aid compatible and do not cause user or bystander interference[114];

4.4.7 Information displayed on product packaging and in product manuals, which provide detailed information on hearing aid compatibility of the products.

4.4.8 A means for consumers to test hearing aid-compatible handsets in licensee owned or operated retail stores.

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[111] Although accessible features are embedded in some handsets which are commercially available in the global marketplace, some operators may opt to make available for sale only cheaper handsets with no embedded accessible features due to customer affordability concerns. These regulations would not prevent operators from continuing to offer such cheaper, non-accessible handsets, but would ensure that accessible handsets that are commercially available in the global marketplace are part of the operator's sales offering. The availability of accessible handsets has been well documented by the mobile accessibility database of the Mobile Manufacturers Forum. To view the mobile accessibility database of the mobile manufacturers see www.mobileaccessibility.info/index.cfm?lang=eng

[112] A full range of accessibility options for deaf and hard of hearing users is available in the ITU and G3ICT *Making mobile phones and services accessible for persons with disabilities report* 2012.

[113] For example, it may be appropriate to provide specialized rate plans for data for people who are deaf, if providing video is the functional equivalent for those who use sign language as basic voice services is to those who can communicate by voice.

[114] See www.fcc.gov/guides/hearing-aid-compatibility-wireless-telephones

4.4.9 Broadband enabled mobile devices that can offer interactive video conferencing and face-to-face calling as an alternative to texting; and

4.4.10 Smart phones and tablets which support playback of video and movies with closed captioning, open captioning, and subtitles[115].

4.5 Licensees must ensure that the needs of blind users and users with reduced vision are addressed and that they are advised of and provided the following services and devices, amongst others[116]:

4.5.1 Information and services via an accessible website, including accessible account information;

4.5.2 An option to receive billing in either large fonts or braille, or accessible electronic formats;

4.5.3 The availability of mobile devices that have tactile markers on the keypads or overlays that assist in device navigation; where these are not available they should offer mobile devices compatible with third party keyboards;

4.5.4 Mobile devices with audible or tactile feedback for keyboards and setting features and voice synthesizer feedback for touch screens to allow interactive description of icons and applications through voice output and compatibility with Braille devices where feasible;

4.5.5 Mobile devices which have the option of an adjustable font size, the ability to adjust brightness and contrasts controls for display, changeable size of the main display, backlit display, basic text-to speech functionality, screen magnifications;

4.5.6 Screen readers in official languages, built-in and/or compatible with mobile devices or software provided and installed with assistance if needed;

4.5.7 Embedded web browsers compatible with screen reading functionalities; and

4.5.8 Features on phones such as audible, vibratory or tactile cues for important notifications such as low battery, call waiting, and incoming call etc., the ability to adjust brightness and contrast controls for display, changeable size of the main display, backlit display, basic text-to-speech functionality and screen magnification through the display.

4.6 Licensees must ensure that the needs of people with reduced dexterity or limited mobility are addressed and that they are advised of and provided mobile devices which have, amongst others:

4.6.1 The option for voice recognition for basic functions including dialling numbers, writing text messages, opening and closing applications, making calendar entries, setting reminders, playing music, and surfing the web[117]; and

4.6.2 Predictive text capability;

4.6.3 The ability to be operated by an external switch connected to the device either with an embedded interface or through a readily available, free downloadable application.

4.7 Licensees must ensure that the needs of people with limited cognition are catered for and that they are advised of and provided mobile devices with[118]:

4.7.1 Predictive text capability;

4.7.2 Speech recognition;

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[115] Countries must consider whether they will specify the language of captioning and the percentage to be provided in a relevant or local language.

[116] A full range of accessibility options for example for blind users and users with reduced vision, users with reduced dexterity or limited mobility, and for users with limited cognition is available in the ITU and G3ICT *Making mobile phones and services accessible for persons with disabilities report* 2012: www.itu.int/ITU-D/sis/PwDs/Documents/Mobile_Report.pdf

[117] Idem.

[118] Idem.

4.7.3 Text-to-speech applications or functions;

4.7.4 Built-in calendar and schedule reminder with audio, visual and vibrating alerts.

4.7.5 Larger display screens and formatting options for text that allow for more space between words;

4.7.6 Highly pictorial or customizable visual display;

4.7.7 Use of universal icons that are clearly understood by all users; and

4.7.8 Simple clear and consistent user interfaces.

5. Procurement of devices

5.1 In implementing the obligations set out in section 4 of these regulations, licensees, whether they provide handsets with pre-paid or post-paid subscriptions, shall require from handset manufacturers and their distributors to procure the latest available accessibility features available on the global market place[119].

5.1 As part of their procurement policy, licensees shall strive to encourage terminal and device manufactures to[120]:

(a) develop products and services that are usable by and accessible to persons with disabilities, as part of their new product development;

(b) provide instructions which are in accessible formats and are easy to follow and use for persons with disabilities;

(c) offer them a choice of handsets with accessible features for different kinds of disabilities; and

(d) to retain commonly used modes of accessible communication and not remove them as devices and services are further developed

6. Retail outlets

6.1 Within [12 months] of promulgating these regulations, licensees must ensure that their retail outlets and points of sale are accessible to the greatest possible extent by following universal design principles.

6.2 Wherever possible, licensees must ensure that service providers should use internationally recognized disability signage[121] and braille signage.

6.3 Internationally recognized disability signage should be used on packaging and in publicity material where products are designed, customised or are otherwise suitable for customers with disabilities to use, in collaboration with organizations of persons with disabilities, the Committee on ICT Accessibility[122] and the mobile industry.

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[119] The latest available accessible features are well documented by the mobile accessibility database of the Mobile Manufacturers Forum. See www.mobileaccessibility.info/index.cfm?lang=eng

[120] As equipment manufacturers are not regulated, the most effective approach would be to mandate mobile operators to require them to develop accessible products.

[121] Examples are the eye symbol to indicate aids are available for blind and partially sighted people, ear symbol with a T to show that an audio induction loop is installed in a retail shop and a wheelchair symbol to indicate that ramped or level access is available at a retail store.

[122] In order to mainstream e-accessibility, the NRA may set up a committee on ICT accessibility in furtherance of its statutory objectives to promote the interests of users, and to ensure the involvement of organizations of persons with disabilities in

6.4 Within [12 months], licensees must:

(a) Train staff on how to serve customers with disabilities and to be knowledgeable or be able to retrieve resources and information on all available accessible features for people with different kinds of disabilities.

(b) Ensure that customers with disabilities are able to purchase services, devices and accessories using a range of alternative accessible channels. For example, retail outlets, call centres, the Internet, and direct sales via the phone.

(c) Ensure that selected retail outlets across the country offer a complete range of accessibility services including accessible facilities, alternative modes of communications such as Braille documentation or sign language interpreting in a timely manner, upon request. Such outlets should employ qualified personnel trained to address the specific needs of users with a wide range of disabilities and the locations of these centres should be advertised.

(d) Offer a range of payment mechanisms to enable disabled or elderly customers to top-up pre-paid mobiles, or pay for their phone services automatically, for example by direct debit or credit card at the end of a billing period, at no additional charge.

(e) Offer a means to ensure that customers with disabilities have real time access to information regarding usage, fees and other information required to control costs.

7. Emergency services

7.1 Licensees must ensure that citizens with disabilities requiring assistance from emergency services should be able to make a mobile phone call or communicate via SMS and relay at no charge and, if out of range from their service provider's network, via any compatible network available.

7.2 Within [24 months], licensees must provide an accessible emergency service that allows deaf or hearing impaired individuals to send an SMS or text in case of emergency and must provide:

(a) An acknowledgment of receipt, via real time text, to the sender; and

(b) A 'bounce back' message indicating that the emergency services centre was unable to receive the call, if the SMS or text call is unable to be completed.

7.3 Where available and practicable, licensee must provide emergency call centres with callers' geo-location information which also indicates that the caller is enrolled as a subscriber with a disability where this information is available to the operator and can be shared with the emergency call centre without violation of privacy laws.

7.4 Within one year licensees must provide emergency and public safety alerts in accessible formats to persons with disabilities (e.g., visual alerts for the deaf and vibration alerts for the blind).

7.5 Licensees are required to ensure public awareness is provided specifically on how persons with disabilities can contact and use emergency services. Information made available to the public should also be provided in alternative formats, upon request.

8. Customer care

8.1 Licensees must provide operator assistance and other services by setting up dedicated customer care centres to assist customers with disabilities or by training[123] dedicated staff at all call centres. They should offer dedicated voice-based and online channels of communication that offer support and

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the development of all policies, regulations or industry codes from the outset. The committee on ICT accessibility will provide guidance, not only on disability policy and regulations, but on all policy and regulations which may impact persons with disabilities – this may range from tariff regulations (which should take into account special and/or discounted tariffs for certain categories of users as discussed in section 7 of the model mobile communications accessibility policy in this module.) The committee on ICT accessibility is discussed in section 4 of Module 1 of this report.

[123] In particular, for smaller operators.

information in sign language, via relay and through other such accessible mediums. Training of Licensee personnel should include disability awareness, etiquette when addressing persons with disabilities, understanding barriers to accessing devices and services and expertise in solutions offered by Licensee.

8.2 Licensees must provide assistance and other services at their call centres, retail outlets and support centres, including assistance to individuals applying for a mobile telephone service, responses to queries on the use of equipment or customer accounts, and explanations of contract terms and conditions. Such assistance must be made available in the format requested by the customer including verbally or in an e-mail format within a response time comparable to that available to customers without disabilities.

8.3 Bills and contracts with customers, including publicly available terms and conditions and information about the services provided, must be made available in accessible formats upon request and at no additional cost to the consumer. This may include verbally, in writing, including in braille, and in simple a language.

8.4 Where a licensee provides directory services, it shall ensure that all end users of its services, including persons with disabilities, can access, free of charge, directory information and directory enquiry facilities in a form which is appropriate to meet their needs[124].

8.5 Where a licensee provides a relay service, this service should be provided free of charge to individuals with disabilities who cannot effectively use handsets to complete calls.

9. Public awareness and advertising

9.1 Advertisements and promotions for products and services specifically designed for persons with disabilities must be made available in accessible formats to relevant organizations of and for persons with disabilities in every region at least upon the launch of the product, on the occasion of significant upgrades or at further occasions upon request.

9.2 Licensees must:

(a) Advertise their products and services in specialized and mainstream publications;

(b) Inform customers of the range of specialized products and services suitable for use by persons with disabilities;

(c) Provide information about their products and services in accessible formats, for example Braille, large print, electronic or audio formats, upon request and in a timely manner; and also in official languages;

(d) Provide terms and conditions in accessible formats for visually impaired people before, during, or very soon after, a customer has entered into a legal contract with the service provider, once the licensee has been notified of their disability;

(e) Subject to customer agreement and privacy protections, use preferred formats for direct marketing information sent to customers who have identified themselves to the service providers as having difficulty using a product or service because of a disability.

(f) Where a product is deemed unusable by a customer due to lack of accessibility features not identified in the sales process, provide a flexible return policy for a set period of time.

10. Universal service and access fund subsidies

10.1 Licensees may apply to the [USAF] for support to meet any of the requirements set out in these regulations where they can demonstrate a disproportionate or undue financial burden.

[124] This clause may be included in a mobile operator's licence in regimes where the licensee is required to provide directory services in terms of its licence.

11. General requirements

11.1 A licensee may not refuse to serve a person with a disability due to the licensee inability to provide relevant products or services.

11.2 Each licensee shall ensure that all its employees that deal with customers and the public receive sensitivity training on a regular basis, at least once every [two] years. Such training should include information about the culture, languages, as relevant and societal norms of persons with disabilities.

11.3 All licensees must make information available about products and services offered in a choice of accessible formats such as braille, audio or large print, upon request and without additional charge.

11.4 All licensees shall provide product or service information in simple, understandable language and in a timely fashion to persons with disabilities either verbally through a call centre, via relay services or in an electronic format such as e-mail.

11.5 Licensee websites should be designed to be accessible and are required to be compliant with the standards set out in Module 5: Web accessibility policy framework.

11.6 Licensees may encourage their customers to inform them of their individual requirements, and, where authorized, the licensee may record such requirements for appropriate targeted marketing and customer service purposes. Where such information is provided by a person with a disability, the information must be stored with the customer's permission in accordance with data protection and privacy obligations.

11.7 Licensees should report [every six months] to the [NRA] on the progress of implementation of these regulations.

12. Contraventions and penalties

12.1 In terms of [relevant section of ICT Law], the NRA may impose sanctions for non- compliance with these regulations[125].

13. Review of regulations and compliance standards

13.1 These regulations should be reviewed at least [every two years], and in conducting the review the NRA should:

13.1.1 Take into consideration the reported outcomes of the licensee driven consultative processes set out in sections 3.1 and 3.2 of these regulations during the period under review; and

13.1.2 Consult with disability groups about their requirements and the manner in which the licensees should meet their obligations under these regulations.

[125] The sanctions must be as provided for in the country's ICT law. This may include fines and penalties. The NRA may wish to include a generic provision as proposed, or may wish to provide more detail. If more detail is required, the NRA should set out the applicable sanctions for non-compliance with these regulations (which will differ across jurisdictions) in this part of the regulations.

Module 4: Television/video programming accessibility policy framework[126]

The television/video programming accessibility policy framework module [127] has been developed for policy-makers, regulators and other stakeholders active in broadcasting and/or disability issues, including non-governmental organizations (NGOs), organizations of persons with disabilities and parliamentarians, depending on country specifics. This module provides a framework for countries to put in place a policy which promotes television/video programming accessibility. The focus includes not only the content itself, but also the information and devices needed by people to enjoy television.

This Model television/video programming accessibility policy recognizes that some countries have not yet migrated to digital television and may have legal and regulatory frameworks that refer only to "television" and/or "broadcasting." Nevertheless, television is rapidly going digital, using a variety of platforms. Therefore this policy also uses the term "video programming," which means all types of transmitted programming provided or distributed by licensed service providers, in order to allow for broader application of the policy in countries that have already migrated to digital platforms or are about to do so. Countries can use the term which best applies to their own environment.

This policy can be used in an analogue environment, but the emphasis of the model policy is on making digital television accessible. Television on the Internet can also be addressed using this module, read with the web accessibility module in this report, and this is highlighted in the relevant areas in the module, which provides guidance in areas where policy proposals can be amended to meet national circumstances.

The Model television/video programming accessibility policy has been prepared pursuant to the United Nations Convention on the Rights of persons with disabilities (the Convention), and in line with the International Telecommunication Union (ITU) and G3ict ICT Accessibility Policy Toolkit for persons with disabilities (www.e-accessibilitytoolkit.org). The Convention provides that signatories are responsible for ensuring ICT accessibility; and this model policy is designed to assist signatory countries develop a policy framework to achieve this. Countries can adopt these policy and regulatory provisions even if they are not signatories to the Convention.

Successful implementation of the goals set out in the Convention relies on the adoption and early implementation of television/video programming accessibility policies by a country. Each country has to decide on the respective policies and the timing for their implementation in accordance with its unique circumstances.

The goal of this model policy is to assist countries to create a policy framework which promotes television/video programming accessibility for persons with disabilities by taking the following steps:

- Adopting a television/video programming accessibility policy, either as a stand-alone document or integrated into an existing policy;

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[126] The model television/video programming accessibility policy framework module addresses all forms of video programming whether transmitted over traditional broadcasting, digital, Internet Protocol television (IPTV), cable, satellite TV, hybrid broadcasting broadband television (HBB TV) or integrated broadcast broadband system (IBB) networks. The approach is technology neutral and the aim of the policy is to ensure that whatever the platform persons with disabilities face no barriers in watching programmes or using electronic programming guides (EPGs), remote control devices or TV devices. Depending on each national legal and regulatory framework, they may wish to adapt the title and terminology to refer to the "television," "video programming", "audiovisual" or "broadcasting" accessibility policy.

[127] For the purposes of this policy, and bearing in mind the jurisdiction of ICT Ministries and NRAs, the scope of the television/video programming accessibility policy framework module addresses traditional broadcasting, digital and IPTV, cable, satellite TV as well as hybrid broadcasting broadband television (HBB TV) and integrated broadcast broadband system (IBB) – all of which are regulated services. Definitions should be amended to ensure they comply with definitions for video programming applicable in the individual country. The approach of this module is technology neutral. The aim of the policy is to ensure that persons with disabilities face no barriers in watching programmes or using electronic programming guides (EPGs), remote control devices or TV devices, regardless of the platform used.

- Consulting with persons with disabilities on the development of a television/video programming accessibility policy;
- Making persons with disabilities and organizations of persons with disabilities aware of this policy and television/video programming access services[128];
- Licensed service providers delivering access services such as audio description, audio subtitles, closed captions and signing;
- Ensuring that electronic programming guides (EPGs) indicate, using internationally recognized access service icons such as "CC" for closed captions and "AD" for audio description, video programmes that offer access services;
- Establishing targets and reporting requirements for delivery of access services by licensed service providers, giving priority to certain types of programmes such as news programmes;
- Licensed service providers encouraging content creators to deliver programmes with access services;
- Licensed service providers ensuring that emergency information and public safety announcements are transmitted using access services;
- Adopting technical standards for interoperable television/video programming services to enable users to receive, decode and display access services;
- Adopting quality of service standards for access services;
- Training customer service staff on how to serve customers with disabilities, including explaining how they can find information about access services on EPGs as well as how to use and customize available access services, and by designating a single point of contact for information and complaints about access services;
- Providing adequate funding to public broadcasters to enable them to provide accessible television/video programming; and
- Promoting fair and equitable representation of persons with disabilities in video programmes.

Because of the rapid advances in technological developments, countries are encouraged to adopt processes to conduct periodic reviews of the policy and any related code or regulations, to best harness these technological opportunities.

[128] See definition of "access services" in Definitions below.

Model television/video programming accessibility policy

1. Definitions

- **"Access service"** means a service such as audio description, closed captioning and signing that improves the accessibility of a video programme for persons with disabilities.
- **"Audio description"** is a feature of a broadcasting that inserts audio narrated descriptions of key visual elements at the natural pauses between the programme's dialogues, typically after production of the video content is complete. The feature, which describes information which is not provided from the audio track, allows the video content to be accessible to those with visual disabilities. It is sometimes also referred to as "video description" or "described video".
- **"Audio subtitles"** is a feature of broadcasting developed for foreign language television programmes or films that include captions or subtitles in the broadcasting country's national language to make them accessible to viewers with vision or reading impairments (e.g. where an Italian television show is broadcast in France with French subtitles). The audio subtitles read aloud subtitles in the national language. Audio subtitles are also referred to as "audio captioning" or "spoken subtitles[129]" and are primarily used in subtitling countries that broadcast foreign audio-visual content.
- **"Closed captioning"** is the means by which both the audio dialogue and sound representations of a video programme are made visible on demand by the user via on-screen text that is synchronized with the audio content. Closed captions allow content to be accessible to those who cannot hear the audio. Some jurisdictions use the term sub-titling for the deaf and hard of hearing (SDH). This Model television/video programming accessibility policy uses the term "closed captioning" to refer also to SDH.
- **"Consumer protection policy"** consists of laws, frameworks and organizations designed to protect the rights of consumers as well as fair trade competition and the free flow of truthful information in the marketplace.
- **"Electronic programme guide" (EPG)** is an application to list current and scheduled programmes that are or will be available on each channel, a short summary or commentary for each programme and programme information[130]. EPG is the electronic equivalent of a printed television programme guide.
- **"Licenced service provider"** refers to the entity responsible for delivering television/video programming according to each country's national legal and regulatory framework, including broadcasters, cable and satellite network operators and other licensed video programming services intended for reception by the public.
- **"Open Captioning"** is captioning whereby the user does not have to do anything in order to see captions or subtitles for the deaf and hard of hearing , as they are an integral part of the picture and cannot be turned off.

[129] For countries in which a considerable proportion of programmes are in foreign languages and are available with subtitles in a national language, audio subtitles can be required in order to increase the overall availability of content access services for persons with visual or reading impairments.

[130] Electronic Programming Guides are available in countries with cable or satellite TV, and who have migrated to digital terrestrial television. The definition and section on EPG will only be applicable in countries with digital, cable or satellite television.

- **"Programme Information"** means an indication of which video programmes are accompanied by internationally recognized access service icons such as the following upper-case letters – closed captioning (CC), subtitling for the deaf and hard of hearing (SDH), signing (SL) and audio description (AD).
- **"Television broadcasting" or "Television"**[131] means the transmission whether analogue or digital, by wire or over the air in un-encoded or encoded form of video programming and electronic programme guides or both intended for reception by the public][132];
- **"Video programming"** means all types of transmitted programming provided or distributed by a licensed service provider, including broadcasters, cable, satellite, and the retransmission of their video programming on the Internet[133], intended for reception by the public.

2. Effective date and application

2.1 This policy may be cited as the "[television or] [video programming] accessibility policy", and shall come into effect upon publication in the [official government publication] and in other fora in an accessible format.

2.2 [Insert relevant provision of legislation] provides that [the Ministry and the NRA[134]] are the bodies responsible for making national policy to promote universal service and universal access in the broadcasting sector, including access by persons with disabilities to television.

2.3 This policy applies to the provision of video programming, regardless of platform including traditional broadcasting, digital and Internet Protocol television (IPTV), cable, satellite TV as well as hybrid broadcasting broadband television (HBB TV) and integrated broadcast broadband system (IBB) networks, and including on-line programming (on the Internet) such as video-on-demand and catch-up services, electronic programming guides, programme information services, related end-user equipment and emergency communications services[135].

2.4 The focus of this policy is not only on the content itself, but also on the information and devices needed by people to enjoy television. Where television is provided over equipment such as a personal computer or handheld device (e.g. smartphone) running a software application or accessing a website, this policy should be read in conjunction with the model mobile communications accessibility policy (Module 3) and the model web accessibility policy (Module 5).

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[131] The definition of "television broadcasting" or "television" may differ from country to country depending on a particular country's circumstances and policy objectives. For example, according to the ITU, **"broadcasting"** refers to a form of unidirectional telecommunication intended for a large number of users having appropriate receiving facilities, and carried out by means of radio or by cable networks. **"Broadcasting Service"** refers to radiocommunications in which transmissions are intended for direct reception by the general public. These may include sound transmissions, television transmissions and other types of transmission. However, other countries include satellite services in their definition. In addition more advanced services like video on demand (VOD) are also regulated in some countries. The definition of "TV broadcasting" that is already adopted in a country must be applied in drafting or revised as necessary.

[132] Adapted from S.I. No. 313/1999 – European Communities (Television Broadcasting) Regulations, 1999.

[133] This term encompasses all forms of video programming. For countries whose legal and regulatory framework uses the term "television" and "television programming", this definition can be adapted accordingly.

[134] The Accessibility Policy should be developed by the ministry/NRA responsible for broadcasting, video programming content or communications (or in countries without a ministry by the entity responsible for communication), often with significant input or even responsibility for drafting by the regulator. As discussed at www.ictregulationtoolkit.org/en/Section3259.html, the Ministry might of course be constituted in one of several ways: Broadcasting, Electronic Communications (including broadcasting and other media); or Information and Communication Technology (or communication and information technology).

[135] This clause must be adapted to reflect individual country legislative frameworks and definitions of broadcasting/content services.

2.5 At a national level, a number of policy and legislative instruments contain key provisions that support the stated goal of this policy, i.e. making television accessible for persons with disabilities. These include:

2.5.1 [Consumer Protection policy/legislation, citation, brief description]

2.5.2 [Anti-discrimination policy/ legislation, citation, brief description]

2.5.3 [Procurement policy/legislation, citation, brief description]

2.5.4 [Access to Information policy/legislation, citation, brief description]

2.5.5 [Persons with Disabilities policy/legislation, citation, brief description]

2.5.6 [Universal Service and Access policy/legislation, citation, brief description]

2.5.7 [Other policy/legislation, including that relating to an Ombudsman, citation, brief description]

3. National mandate

3.1 [Country] is a signatory to the United Nations Convention on the Rights of Persons with Disabilities ("the CRPD" or "the Convention"), which came into force in May 2008. This convention recognizes accessibility as a human right and requires signatories to adopt appropriate measures to ensure access by persons with disabilities to information and communication technology, emergency services and Internet services on an equal basis with others. Audio-visual works such as television are covered by Article 9 of the Convention which states that persons with disabilities must have equal access to others to "to information and communications, including information and communications technologies and systems..."

3.2 Television broadcasting is mentioned explicitly in article 30(1)(b) of the Convention which states that "parties recognize the right of persons with disabilities to take part on an equal basis with others in cultural life, and shall take all appropriate measures to ensure that persons with disabilities: a) enjoy access to cultural materials in accessible formats; and b) enjoy access to television programmes, films, theatre and other cultural activities, in accessible formats."

3.3 The implication of Article 30 is that metrics for television/video programming accessibility need to cover not only *awareness* of access service provision, but also *use* and *benefit*. Finally, article 9(2)(b) stipulates that State Parties to the Convention must "ensure that private entities that offer facilities and services which are open to or provided to the public take into account all aspects of accessibility for persons with disabilities". This covers private sector television broadcasters, other content providers and producers of television content.

3.4 Further to the provisions of the Convention, the [Country] constitution supports the right to equality before the law. This includes the full and equal enjoyment of all rights and freedoms. To promote the achievement of equality, legislative and other measures are designed to protect or advance persons or categories of persons disadvantaged by unfair discrimination.

3.5 Accordingly, no person may unfairly discriminate directly or indirectly against anyone on one or more grounds, including race, gender, ethnic or social origin, sexual orientation, age, disability, religion, conscience, belief, culture, language and birth[136].

3.6 Particularly important disabilities relevant for television programming include[137]:

3.6.1 Hearing disabilities;

3.6.2 Visual disabilities;

[136] In the event that a country has an existing constitution prescribing rights to equality, the policy-maker must use the country's constitution.

[137] www.itu.int/dms_pub/itu-r/opb/rep/R-REP-BT.2207-1-2011-PDF-E.pdf

3.6.3 Cognitive disabilities; and

3.6.4 Physical disabilities.

4. Objectives

4.1 Recognizing the importance of accessibility to the physical, social, economic and cultural environment, to health and education and to freedom of expression, information and communication, and the role that television services play in enabling persons with disabilities to fully enjoy all human rights and fundamental freedoms[138], the following principles must be adhered to and underpin this policy:

4.1.1 Non-discrimination;

4.1.2 Full and effective participation and inclusion in society;

4.1.3 Accessibility;

4.1.4 Availability;

4.1.5 Advocacy; and

4.1.6 Affordability.

4.2 The objective of this policy is to provide an enabling framework to support the development of a culture and practice of television/video programming accessibility through:

4.2.1 Defining the general principles by which the accessibility of video programming for persons with disabilities is to be realized, including how such services should be funded;

4.2.2 Identifying and mitigating the identified leading barriers to fully accessible television/video programming by determining relevant rules, requirements, standards and funding mechanisms to address such barriers;

4.2.3 Putting in place measures to ensure that persons with disabilities have access, on an equal basis with others, to television/video programming content, services, devices, systems and applications provided to the public, irrespective of the distribution or delivery mechanism, platform or technology on which it is provided;

4.2.4 Defining an institutional framework to ensure transparent oversight and impartial dispute resolution that will strengthen the promotion of e-Accessibility.

5. Awareness and customer service

5.1 [The NRA] must take steps to ensure that the public is aware of television/video programming accessibility requirements, the measures that have been put in place to promote accessibility and their rights in terms of the relevant legislation and regulations. The [NRA] should, in promoting awareness, work with organizations representing persons with disabilities and/or the Committee on ICT Accessibility[139].

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[138] This includes freedom of expression and access to information, media plurality, the promotion of cultural diversity, the protection of personal data and the protection of consumers.

[139] In order to mainstream television/video programming accessibility, the NRA may set up a committee on ICT or television/ video programming accessibility in furtherance of its statutory objectives to promote the interests of users, and to ensure the involvement of organizations of persons with disabilities in the development of all policies, regulations or industry codes from the outset. The committee will provide guidance, not only on disability policy and regulations, but on all policy and regulations which may impact persons with disabilities. This is discussed in greater detail in Module 1. Where a country does not establish such a committee, the same objective can be achieved through the regular review of existing regulations subject

5.2 Licensed service providers are encouraged to take effective steps to publicize and create awareness of the accessibility of their television services including through periodic announcements on their own and other services, advertising accessible programmes on electronic programme guides, printed programme guides and providing information in publications aimed at persons likely to benefit from accessible television/video programming services. They must submit annual reports to [the NRA] demonstrating their compliance with this requirement.

5.3 Licensed service providers should ensure that persons with disabilities can have access to services by compiling a database of disability organizations, including organizations for different kinds of disabilities, and sending them information periodically about the services and products offered[140].

5.4 Licensed service providers should train their customer service staff how to serve customers with disabilities, including explaining how they can find information about access services on electronic programming guides (EPGs) as well as how to use and customize available access services.

5.5 Licensed service providers and NRA's should designate a single point-of-contact for information and complaints about accessibility issues. This designated point of contact should be publicized by the broadcaster, and publicity about such point of contact must be made accessible to persons with disabilities. Each complaint must be submitted to the NRA by the licensed service provider within seven days of receipt with an indication of what actions have been taken to resolve it.

5.6 Electronic programming guides (EPGs) are required to work with licensed service providers and disability groups to publicize the information and facilities available on EPGs to assist people with disabilities. This should include information targeted at mainstream publications, as well as publications used by persons with disabilities. Such information should furthermore be regularly featured prominently on EPGs.

5.7 It is critical that everyone is able to understand the internationally recognized access service icons that are used for programme information and the messages that are conveyed. Standardized or generally known and accepted language and symbols should be adopted to notify the public of channels and programmes that are accessible. Where applicable, public information on television accessibility services should use the following symbols to denote accessibility – closed captioning (CC), subtitling for the deaf and hard of hearing (SDH), signing (SL) and audio description (AD)[141]. Where relevant and feasible, information on EPGs should also be provided in audio to ensure access by people with visual disabilities. Any symbols used should be widely disseminated in public communications and should be explained in an appropriate part of the EPG[142].

6. Television/video programming access

6.1 Television/video programming, regardless of the platform on which it is delivered, is a medium which informs, educates and entertains. In light of its social and cultural role and impact on a country, it

to public consultation that includes persons with disabilities alongside other stakeholders such as licensed service providers, video programming vendors and ICT industry representatives.

[140] In countries where the institutional framework and budget supports it, a centralized, state funded, non-profit entity could coordinate awareness initiatives on behalf of the Ministry; the entity would furthermore act as a hub for initiatives such as building a research panel of relevant individuals who would benefit from accessible video programming.

[141] This common language/code is indicative (additional codes such as DV (descriptive video), may be used in some jurisdictions). The symbols may also vary from country to country and the text of this paragraph should be amended accordingly. Symbols to indicate accessibility should furthermore be able to be easily differentiated from other symbols that are used for classification of movies and publications such as S (sex), L (language), V (violence). The chosen symbols should be easily understood by all, and well communicated.

[142] Each country should ensure that this clause is aligned with the codes/symbols used in the respective country and in the definitions section, in particular the definition of programming Information.

must be accessible to as many people as possible. Therefore, licensed service providers are required to deliver closed captioning [143], sign language [144], and audio description [145] across specified programmes in order to ensure access by persons with disabilities[146].

6.2 The NRA can mandate the above accessibility measures through regulations, licence conditions, accessibility targets and codes of good practice, and other relevant measures[147].

6.3 The NRA will define, in regulations, licence conditions, accessibility targets or codes of good practice or other relevant measures, an implementation roadmap together with licensed service providers and organizations of persons with disabilities identifying milestones for progressive implementation of access services. Such roadmap should prioritize the implementation of access services for different types of programmes, including news, live, emergency communications and pre-recorded programmes. The targets set might differ for different categories of licensed service providers. For example, public service broadcasters may have greater responsibilities than commercial service providers, especially where they receive public funds for content development. Such targets can establish short, medium and long-term goals.

6.4 Content creators and owners are responsible for creating the content for these services and delivering that content to the licensed service provider. This policy recognizes the complexity of the video programming value chain and therefore encourages licensed service providers to promote, through their content acquisition, programming and editorial policies, the delivery of access services as part of content producers' packages.

6.5 This policy recognizes that the migration from analogue to digital television and to Internet Protocol television facilitates the provision of access services for persons with disabilities. For this reason, this policy requires licensed service providers to plan for access services as part of their migration strategy.

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[143] See Section 7 below. There are two options for providing captions, either in "closed" or "open" format. Because open captions cannot be turned off by viewers but are always on, closed captions, which can be turned on or off, are preferred and are required where it is technically feasible. Language considerations should also be taken into consideration in establishing national policies. For example countries must consider the technical capabilities of set top boxes to support national languages. It may, initially, be necessary to allow exemptions or delay the provision of captioning in languages that are not currently supported by commercially-available set top boxes (e.g. Swahili or Urdu), while also supporting research and development of set top boxes that do support national languages. In addition, in countries with multiple languages, the NRA should organize a public consultation, including persons with disabilities and other relevant stakeholders, to agree the choice of language(s) for closed captions and signing.

[144] See Section 8 below. Countries must consider the literacy levels of deaf and hard of hearing people in establishing required access services. For example, illiterate deaf viewers will require sign language access services while literate hard of hearing viewers may prefer captions.

[145] See Section 9 below. The NRA may consider exempting audio description of music and news programmes and services, where there is little space within the dialogue/sound track to provide audio description, and less need. See, e.g. Ofcom's Code on Television Access Services, Section 21(a) at http://stakeholders.ofcom.org.uk/broadcasting/broadcast-codes/tv-access-services/code-tv-access-services-2013/ Policy makers and regulators must also ensure that set-top boxes and television devices support audio descriptions. This can be achieved through the adoption of relevant standards as provided in Section 6.6 below.

[146] Countries will identify the programmes required to provide specific access services by defining an implementation framework in line with Section 6.3 below.

[147] See Module 1, section 3 - Options for regulation.

6.6 [The NRA] must adopt standards, including international standards[148] where available, to ensure the interoperability of television services and equipment enabling users to receive, decode and display access services for persons with disabilities, and to mandate the use of such standards [149] Organisations representing persons with disabilities, licensed service providers and equipment manufacturers/distributors should be consulted in determining any equipment standards.

7. Captioning

7.1 Licensed service providers are required to deliver closed captions where technically feasible because they allow viewers to choose when to use them. The use of closed captions is facilitated by digital television platforms. "Open" captions may be used until the migration from analogue to digital television.

7.2 [Open or] closed captions must be provided in at least one official language. Captioning must be in the language of the audio portion of the programme and carry sound representations[150] [151].

7.3 The [NRA] should determine through consultation with all stakeholders, including organizations representing persons with disabilities, the minimum levels of quality or maximum error rates for such captioning to assure comprehensibility and synchronization with the video portion of a programme in line with section 10 below[152].

[148] Policy-makers, legislators and regulators need to have an understanding of the family of television standards that has been adopted in their region or country (DVB in Europe and most of Africa, ATSC in North America and in South Korea, ISDB in Japan and much of South America, and CMMB in the People's Republic of China). Digital television standards usually have provisions for captioning and audio description. For this reason, it makes economic sense to start with the features that already are present in digital television receivers rather than risking national and regional market fragmentation leading to higher production and receiver costs.

[149] Noting the need for such standards since currently commercially-available set-top boxes do not support certain languages. The European Platform of Regulatory Authorities (EPRA) has identified seven European countries that have adopted technical standards to ensure set-top boxes support access services and cited a formal EU Convergence Green Paper process that contemplates the adoption of an additional standard forming part of the European Standard covering all audiovisual issues related to accessibility.

See http://epra3-production.s3.amazonaws.com/attachments/files/2202/original/accessibility_WG3_final_revised.pdf?1373379195

[150] Sound representations indicate the non-dialogue portion of the sound track (e.g. doorbell rings). Subtitles without sound representations are used to provide translations into foreign languages and are not related to accessibility for persons with disabilities.

[151] Where channels are dedicated to a particular language, captioning should be provided in the language of the channel.

[152] Choices related to the provision of captions and signing should be informed by literacy levels of deaf and hard of hearing populations in a country since captions can only be used by people who are literate.

8. Signing

8.1 The [NRA] should develop specific requirements for licensed service providers to deliver signing in consultation with all stakeholders, including organizations representing people who are deaf[153] recognizing that sign language requirements are important to provide access to deaf populations, especially to people who were born deaf and for whom sign language is their first or only language. This has serious implications for news and emergency communications[154].

8.2 Where signing is provided, licensed service providers should be encouraged to provide it in a manner that the viewer can see not only the hands but also, where applicable, the facial expressions of the signer.

8.3 Licensed service providers should monitor the effectiveness of the service through regular contact with organizations representing people who are deaf.

9. Audio description and audio subtitles

9.1 Licensed service providers are required to make video programming accessible for viewers who are blind or have low vision through the provision of audio description in the official language(s) of the country because blind and low visions users of television/video programmes rely on audio description to understand the visual content of the programme.

9.2 The language of the audio description should be the same as the programme audio.

9.3 Foreign language television programmes, in countries that use subtitling in national languages[155], should be made accessible through the provision of audio subtitles[156] for viewers who are blind or have low vision, as well as for individuals with cognitive impairments or those who have a low reading speed[157]. Viewers who are blind or have low vision will require both audio description and audio subtitles to access foreign language television programmes subtitled in national languages.

9.4 Licensed service providers who create video programming are responsible for ensuring that producers, editors and presenters are trained in techniques to describe the significance of images for the benefit of the blind and partially-sighted audience and to provide to [the NRA] an annual statement of the training they are providing[158].

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[153] In bi- or multilingual countries, the choice of signing language and its implementation are particularly important and should be a topic of public consultation.

[154] Countries may consider 'open' or 'closed' signing and revise this Section to specify which one is required, Examples of closed signing solutions include the provision of a separate virtual sign language channel (Denmark), delivery of a TV programme with sign language via the Internet (and then displayed on the TV set) or the use of an integrated broadcast broadband receiver (e.g. Hbb TV in Europe; Hybridcast in Japan) to offer the viewer a television service where the signal is delivered via broadband to the TV set). For additional information see update from e-Access+ on open and closed signing at http://hub.eaccessplus.eu/wiki/Accessible_Digital_Television_for_the_Hearing_Impaired.

[155] This section does not apply to countries that dub in national languages.

[156] This section applies only to subtitling countries. Audio subtitles are delivered using the same mechanisms as audio description. Because audio subtitles are also used by people with reading difficulties, including the aged, people who are dyslexic and immigrants, the country should also consider literacy levels in a national language before confirming the approach to be taken.

[157] This service was introduced in the Netherlands in 2002, and is found today in Belgium, Denmark, Finland, Norway and Sweden. It is relatively inexpensive to set up and has negligible running costs.

[158] See Ofcom's Code on Television Access at http://stakeholders.ofcom.org.uk/broadcasting/broadcast-codes/tv-access-services/code-tv-access-services-2013/

10. Quality of service

10.1 Persons with disabilities have specific quality of service requirements for television/video programming accessibility.

10.2 The [NRA] should determine through consultation with stakeholders, including organizations of persons with disabilities, specific minimum quality requirements for audio description, [audio subtitles where relevant], closed captions and signing, as well as metrics to measure the level of performance.

10.3 Quality of service standards may include as a minimum the following requirements:

10.3.1 Standards to ensure that captions are readable, accurate and comprehensible so that they are meaningful to audiences. This will include specifications on font type, font size, contrast and use of colours to facilitate access by persons with low vision, and requirements on ensuring viewer control over these.

10.3.2 Quality of service standards establishing maximum error rates and standards to ensure synchronization between closed captions and dialogue;

10.3.3 Quality of service standards relating to placement and clarity of audio descriptions;

11. Equipment

11.1 This policy recognises that the equipment a person uses to watch television depends on the transmission medium. For cable, satellite or terrestrial television, the equipment consists of a television, sometimes a separate receiver in the form of a 'set-top box', and a remote control. For Internet or mobile television, the equipment is a PC or handheld device running a software application or accessing a website. Regardless of how a person accesses television, they must use a mix of hardware (screens, buttons, cables, remote controls etc.) and software (menus, programme guides, pause/rewind/record functions etc.).

11.2 End-user television equipment must support access services[159]. Policy-makers should find ways to encourage retailers of television remote controls to ensure that all such equipment and software that is sold to the public is compliant with applicable universal design standards and considers the needs of persons with disabilities[160]. While retailers and manufacturers of television equipment are not regulated, policy-makers should require that such considerations are taken into account when setting standards for equipment in line with section 6.6 above or require the [NRA] to take into account television accessibility standards should they be responsible for type approval of any television related equipment.

11.3 End-user television equipment can also sometimes be very difficult to use for people with sensory and physical disabilities, as such:

11.3.1 Policy-makers should ensure that these considerations are taken into account in adopting standards (see section 6.6) or if any subsidies or other assistance is provided for equipment[161].

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[159] This requirement can be achieved by the NRA adopting technical standards for interoperable television services and equipment to enable users to receive, decode and display access services for persons with disabilities and by mandating the use of such standards as provided in section 6.6 of this model.

[160] Television broadcasting requires the user to use a mix of hardware (screens, buttons, cables etc.) as well as software (menus, program guides, pause/rewind/record functions, etc.). People with sensory and physical disabilities may find it difficult to use this equipment. The difficulties range from an inability to see labels on remote controls, to reading on-screen text for example. Accordingly, remote controls with larger and coloured buttons or the ability to increase the size of on-screen text, change its colour, or have it spoken out in a synthetic voice may be required. See ITU-G3ict e-Accessibility Toolkit at www.e-accessibilitytoolkit.org/.

[161] Some countries have, for example, provided subsidies for defined categories of people to purchase set-top boxes or to cover the costs of their installation to promote the migration from analogue to digital terrestrial television.

11.3.2 Licensed service providers and manufacturers of consumer television equipment must ensure that viewers who are deaf or hard-of-hearing who use hearing aids, will be able to hear the programme aided by the use of *wireless connections* between the television receiver and the hearing aid itself, or, wired connections between the TV receiver and an assistive listening device of the viewer's choice.

12. Electronic programme guides

12.1 This section applies to electronic program guides (EPGs), digital video recorder options and video on demand options.

12.2 The [NRA] should incorporate into any code of good practice for electronic programming guides or relevant regulations or licence conditions, requirements that EPG providers indicate which programmes are accompanied by access services using internationally recognized access service icons; provide user information to persons with disabilities; and ensure that EPGs are accessible to users with sensory impairments, including the blind and visually-impaired[162]. This includes the following requirements:

12.2.1 Where applicable, licensed service providers should ensure that the programme synopsis in the EPG indicates which programmes are accompanied by access services, using the following internationally recognized access service icons – closed captioning (CC), subtitling for the deaf and hard of hearing (SDH), signing (SL) and audio description (AD)[163]. Where practicable, these abbreviations should be explained in an appropriate part of the EPG. If non-standard terms are used in any part of the EPG, and removal or replacement by the standard abbreviations would require software or hardware updates, this should be done at the next reasonable opportunity.

12.2.2 Licensed service providers should ensure they provide accurate and timely information to EPG and other TV programme listing providers about television access services. Licensed service providers should include in programme synopses provided to such providers information about which programmes include access services[164].

12.2.3 Licensed service providers should ensure EPGs provide information about assistance in relation to programmes (e.g. how to navigate programme listings, and how to operate television access services such as closed captioning, signing and audio description), as well as facilities for making use of that assistance[165].

12.2.4 Licensed service providers should provide on an easily accessible part of the EPG (where practicable) or alternatively in other accessible ways (e.g. on websites or interactive services) information[166] for persons with disabilities on:

12.2.4.1 How to use the EPG;

12.2.4.2 How to use the access services accompanying the programmes;

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[162] The European Platform of Regulatory Authorities (EPRA) identified a voluntary collaborative initiative between a private company (Goodman) and the Royal National Institute of the Blind (RNIB) to develop the Smart Talk set top box which enables programme information from the EPG to be spoken aloud.

See http://epra3-production.s3.amazonaws.com/attachments/files/2202/original/accessibility_WG3_final_revised.pdf?1373379195.

[163] The symbols should be amended to reflect those used in a particular country. See section 5 of this module.

[164] Some NRA's may be empowered by law to develop codes for EPG providers. Where so mandated, NRAs should set similar requirements for such providers in the relevant code.

[165] This information may be made available via their websites in countries with significant Internet penetration.

[166] Licensed service providers are also required to train their customer staff to assist persons with disabilities. See Section 5.4 of this module.

12.2.4.3 What options exist for customizing the appearance of the EPG to make it easier to use; and

12.2.4.4 What additional sources of help and information are available in other places (e.g. on websites, or from telephone / text phone helplines), whether from the EPG provider, or Licensed service provider.

13. Emergency services

13.1 Public awareness about the availability of accessible emergency services for persons with disabilities is mandatory. It is the responsibility of the NRA, licensed service providers and public bodies with responsibility for emergency services to create awareness about the availability and accessibility of emergency services by persons with disabilities.

13.2 Emergency information made available to the public should also be provided in formats accessible to persons with disabilities such as sign language and subtitles for the deaf and hard of hearing and audio messages for those with visual disabilities on television/video programming.

13.3 Public communications and announcements in natural disaster situations must be made accessible to persons with disabilities in appropriate forms of communication to leverage mainstream communication channels. Licensed service providers must ensure that such announcements and alerts are broadcast in relevant formats accessible to all persons with disabilities.

14. Funding

14.1 Government must ensure that public television broadcasters have adequate funding to provide a high quality service to meet the needs of persons with disabilities.

14.2 Funding and education, offered via the universal service and access fund[167], public broadcasters' budgets or any other funding mechanism or scheme[168], may be necessary to provide assistance for:

14.2.1 Formal help schemes to switch from analogue to digital television for the elderly, who may have difficulties such as bending down to adjust televisions, and persons with disabilities, which may include the provision of assistance in installing equipment, re-scanning [169], providing advice and practical tips where needed in using equipment, including the functioning of remote control devices and captioning functions;

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[167] Only applicable in countries where the fund is converged and can thus be used to subsidize video programming, services and equipment. See Module 1, section 5.

[168] Other funds that can be used to promote accessible programming include production or cultural industry promotion funds. Ideally such funds would only be used for accessible content production. An example of this type of fund would be the Broadcasting Accessibility Fund established in Canada by the Canadian Radio-television and Telecommunications Commission Broadcasting Regulatory Policy (CRTC 2012-430). This fund is expected to:

- act as an independent and impartial funding body to support and fund innovative projects that provide platform-neutral solutions to promote accessibility of all broadcasting content in Canada;
- fund projects which provide practical solutions that tangibly increase accessibility in broadcasting as quickly as possible and which, whenever possible, make use of inclusive design principles to promote accessibility at the earliest stages and in the most cost-effective manner for new technologies and applications in Canada;
- retain an independent funding officer who shall be responsible for the day-to-day operations of the Corporation subject to the overriding authority of the board of directors of the Corporation.

[169] Scanning searches for and "remembers" the available digital broadcast channels. A procedure, sometimes called "double rescanning" can clear the memory of saved channels on a digital converter box because earlier scans may have saved channel information that is incorrect.

14.2.2 Making video programmes accessible that are not otherwise required in terms of this policy to be made accessible;

14.2.3 Providing accessible set top boxes to persons with disabilities to facilitate digital migration; and

14.2.4 Any other matter that will improve the affordability of access for persons with disabilities.

15. Exemptions

15.1 Licensed service providers achieving an average audience share of all households over a 12 month period of less than [1%] are excluded from providing the accessible services set out in this policy. [NRA] would expect such licensed service providers to use the policy as guidance and comply on a voluntary basis and will review exemptions annually[170].

15.2 [NRA] will prepare regulations setting out the criteria for targets and exemptions[171].

15.3 [NRA] will elaborate commitments regarding provision of accessibility services and features on broadcaster on-line programming (on the Internet) such as video-on-demand and catch-up services.

16. Representation and portrayal of persons with disabilities[172]

16.1 [The NRA] should if necessary determine guidelines or otherwise promote and advance that co- or self-regulatory editorial ethics/standards include standards promoting fair and equitable representation and portrayal of people with disabilities by licensed service providers and other content providers in their programming.

16.2 Such editorial codes should further explicitly specify that any clauses dealing with protecting audiences from discrimination or harmful or offensive content should explicitly include protection of persons with disabilities. Licensed service providers should be encouraged to expand on such policies in their own codes and guidelines for producers and content providers.

16.3 Such codes/editorial standards should be developed in consultation with a wide range of stakeholders, including organizations of persons with disabilities. [The NRA] should, in any requirements it sets on development of such a Code, ensure that such consultation is mandatory.

16.4 Licensed service providers should further be required to create awareness of the Code and its provisions by regularly including information on the Code in all their publicity material. Such publicity

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[170] Countries may wish to have a minimum compliance threshold, or may decide not to have any exemptions at all. Where there is provision made for exemptions, the threshold percentage that is set will depend on the country's population and audience size. This provision seeks to exclude stations with small audience which may have to incur relatively high expenses to comply with the requirements. In some instances, those exempted may be required to contribute funding to an agency set up to promote television access services. For example, in the UK low audience channels are not required to include sign language in programming, but are required to contribute funds to a trust established to commission programming that includes accessibility features.

[171] The criteria used by Ofcom and the FCC for example takes technology, market and programing factors into account including; the nature of the services (public broadcasting services (PBS) versus private); market share; platform (digital versus analogue); programme format/ genre; technical capacity; and impact on the operations of the service provider.

[172] Inclusion of this clause will depend on the broad legislative and policy framework in place in individual countries. In some countries (such as the US) the NRA does not get involved at all in editorial content guidelines or standards due to constitutional protections. In many others, however, the NRA has some oversight of co-regulatory or self-regulatory editorial standards or codes (such as in Canada where the CRTC approves of codes developed and enforced by industry bodies). In still others (such as South Africa), the NRA is required to develop such an editorial code and related regulatory policies which then apply to any licensees that do not subscribe to a self-regulatory body.

material should be accessible to people with a range of different disabilities to ensure widespread awareness of its provisions. Publicity material should include regular public service announcements about the Code as well as information on how to complain about alleged breaches of provisions.

16.5 Licensed service providers should be required to provide annual reports to the [NRA] on all complaints received about the Code and how these had been resolved.

16.6 The NRA, or other body responsible for research, should conduct regular research on representation and portrayal of people with disabilities in video programming.

17. Targets and reporting requirements

17.1 NRAs should establish, in consultation with persons with disabilities, licensed service providers of video programming and other relevant stakeholders (in line with Module 1, sections 6 and 8), annual measurable targets to be implemented by licensed service providers, issue an annual public report on implementation and compliance with this policy[173] and take necessary enforcement action when appropriate.

17.2 Sample measurable targets include:

- Percentage of video programming, by type of programme, that offers different access services, including closed captioning, signing and audio description;
- Licensed service providers take effective steps to publicize and create awareness of the accessibility of their television/video programming services;
- EPGs use internationally recognized icons to indicate type of access service provided;
- Emergency broadcasts are all in accessible formats;
- Quality of service standards for accuracy and synchronization of closed captioning and audio description established.

17.3 In addition, milestones should be set to measure progress in implementing the policy and any related codes of conduct, regulations and licence conditions, capacity to implement the policy, codes of conduct, regulations and licence conditions (e.g. establishing necessary budgets and training programmes) and progress in availability of accessible television/video programming for persons with disabilities.

17.4 Access to information about television/video programming accessibility for the disability community is critical to ensuring that future reviews of accessibility policy measures are effective and that policy interventions are evidence-based. To achieve this, the NRA should determine reporting requirements for notifying the disability community about the accessibility requirements contained in the policy and related codes of conduct, regulations and licence conditions. A thorough review should be conducted by NRAs of *all* reporting requirements to ensure that the correct data is collected with respect to accessibility for persons with disabilities, at the right level of detail and at reasonable intervals[174].

18. Periodic review

18.1 Due to the fast-moving technological developments and market conditions, this policy shall be reviewed at least every two years.

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[173] Where a committee on ICT or television/video programming has been established, the annual report will be reviewed by the committee. See Section 5.1 of this model.

[174] Reporting requirements may need to be changed in regulations, depending on whether the ICT law has a specific section on reporting.

Annex: Sample regulations[175]

U.S. Federal Communications Commission: Video Description Orders, Public Notices, Notices, Press Releases and Factsheet

Summary: Fact sheets, reports and regulations from a 2000 FCC rulemaking, reversed in 2002, requiring U.S. broadcasters to describe 4 hours of programming per week.

Reference: www.fcc.gov/cgb/dro/video-description.html

House of Representatives (USA): H.R.6320 21st Century Communications and Video Accessibility Act 2008

Summary: Proposed U.S. legislation mandating accessible IPTV and Internet content (captions, descriptions), and accessible menu guides and user interfaces. Reinstates overturned TV description requirements.

Reference: www.coataccess.org/node/32

Canadian-Radio Television and Telecommunications Commission (CRTC): Broadcasting Public Notice: CRTC 2007-101

Summary: Canadian requirements for television programme distributors (broadcast, cable, satellite) to carry video description in their signals and ensure pass through to the consumer.

Reference: www.crtc.gc.ca/eng/archive/2007/pb2007-54.htm

Canadian Radio and Television Commission (CRTC): Access to TV for persons with visual impairments

Summary: Synopsis of what description is, who uses it, Canadian description providers and links to regulations.

Reference: www.crtc.gc.ca/ENG/INFO_SHT/b322.htm

Office of Communications (OFCOM): Code on Television Access Services

Summary: The Code sets out requirements on subtitling, sign language and audio description that apply to television services. It includes increasing targets over a ten year period.

Reference: http://stakeholders.ofcom.org.uk/broadcasting/broadcast-codes/tv-access-services/code-tv-access-services-2013/

Australian Communications and Media Authority (ACMA): Broadcasting Services (Television Captioning) Standard 2013

Summary: The Standard sets out mandatory standards related to captioning on television services. It sets standards to ensure readability of captions (positioning, font, colour etc.), accurate, and comprehensible (for example, clearly identify different speakers including off screen voices).

Reference:
www.acma.gov.au/~/media/Broadcasting%20Investigations/Issue%20for%20comment/pdf/Broadcasting%20Services%20Television%20Captioning%20Standard%202013.pdf

[175] Source E-Accessibility Toolkit, see www.e-accessibilitytoolkit.org/toolkit/technology_areas/television#regulations

Module 5: Web accessibility policy framework

The Model web accessibility policy has been developed for policy-makers, regulators, other government entities active in development of government web and e-governance policies and/or in promoting accessibility of government services and other stakeholders, including non-governmental organizations (NGOs), organizations of persons with disabilities and parliamentarians depending on country specifics.

It provides a framework for countries to put in place a policy to ensure all online government information and services (including, for example, webpages, website applications and websites) are accessible to persons with disabilities. This includes external (public-facing or private) and internal (closed community) sites.

The Model web accessibility policy has been prepared pursuant to the United Nations Convention on the Rights of persons with disabilities (the Convention), and in line with the International Telecommunication Union (ITU) and G3ict ICT Accessibility Policy Toolkit for persons with disabilities (www.e-accessibilitytoolkit.org). The Convention provides that signatories are responsible for ensuring ICT accessibility; and this model policy is designed to assist signatory countries develop a policy framework to achieve this. Countries can adopt these policy and regulatory provisions even if they are not signatories to the Convention.

Successful achievement of the goals set out in the Convention relies on the adoption and early implementation of web accessibility policies by a country. Each country has to decide on the respective policies and the timing for their implementation in accordance with its unique circumstances. This Model web accessibility policy will assist countries to understand the generic steps and requirements and provides guidance in areas where existing policies can be amended or new policies developed to meet national circumstances.

The goal of any web accessibility policy is to remove barriers persons with disabilities face in using websites. For example, people who are blind or with low vision require websites that are compatible with screen readers that read text aloud; provide text alternatives for images which describe images; allow for resizing of text, images and page layouts and provide alternative web navigation aids. People who are deaf or hard of hearing will require captions for any content that is spoken, including videos, media players and web applications (apps). People with mobility disabilities may require additional time to complete tasks on a website and streamlined and keyboard-only compatible navigation mechanisms and page functions allowing use of alternative input devices[176].

Web policies can be implemented by one coordinating governmental body, such as ministries of communication and information technology[177], as part of e-governance measures. Alternatively, sector-specific ministries may adopt web accessibility policies for all websites under their responsibility. For example, ministries of education may implement web accessibility policies for national universities and ministries of finance for all customs and tax-related websites. Further, countries may decide to adopt stand-alone web accessibility policies or incorporate such policies into general government website guidelines. This Model web accessibility policy is designed to be sufficiently flexible to be used by a range of government stakeholders and institutional frameworks.

The goal of this model policy is to assist countries to create a policy framework which promotes government web accessibility for persons with disabilities by taking the following steps:

- Adopting a web accessibility policy, either as a stand-alone document or integrated into an existing policy;
- Consulting with persons with disabilities on the development of a web accessibility policy;

[176] See www.w3.org/WAI/intro/people-use-web/diversity.html for more information on the accessibility needs of different kinds of web users.

[177] India is an example of a country whose web accessibility policy is incorporated into national guidelines for websites as part of India's e-governance measures under the responsibility of the Department of Information Technology of the Ministry of Communications and Information Technology.

- Making persons with disabilities and organizations of persons with disabilities aware of this policy and accessible government websites;
- Identification of the responsible authority who will monitor and ensure implementation of this web accessibility policy;
- Ensuring government websites comply with international web accessibility standards;
- Identifying all government websites and assessing all websites covered by the policy;
- Government agencies updating their procurement policies to ensure all website development service contracts require accessible websites;
- Providing training to web developers on web accessibility;
- Providing guidance on accessibility testing tools and procedures;
- Making government websites accessible for persons with different kinds of disabilities;
- Monitoring and publishing reports on progress achieved in government website accessibility
- Encouraging private entities that offer website services, applications, and content to the public to take into account on a voluntary basis all aspects of accessibility for persons with disabilities; and
- Providing guidance and incentives for education institutions and professional societies to develop courses for computer science students and information technology professionals about web accessibility.

Because of the rapid advances in technological developments, countries are encouraged to adopt processes to conduct periodic reviews of the policy once passed, to best harness these technological opportunities.

National web accessibility policies: Institutional and legislative frameworks

Countries need to decide where a web accessibility policy would be situated in their institutional, policy and legislative framework.

Where legislation on web accessibility has been put in place, there is considerable variation in the sectorial context and type of legislative instrument utilized in different countries.

Options for countries include:

(a) Making reference to web accessibility in the framework of specific legislation, e.g. in one or more of the following: ICT, e-Government, public procurement, health, education and/or other sector-specific legislation;

(b) Addressing web accessibility, explicitly or implicitly, in the framework of anti-discrimination and equality legislation that is directed towards equitable access to goods and services by persons with disabilities in more general terms. This approach can provide persons with disabilities, individually or collectively, with the right to seek redress if a public service provided over the Internet is not accessible to them.

National web accessibility policies: National standards vs. international standards

The approach taken by this model policy is to apply current versions of the most authoritative international standards to avoid "regulatory lag" as well as potential problems for industry and consumers if any particular country were to put in place distinctive, non-harmonized requirements for web accessibility. This is because development of specific regulatory standards for web access might first require amendment of the country's Disability Discrimination Act or its ICT Act to widen its scope and provide the authority to establish "disability standards." Should the ICT Act be amended, for example, the time required for other standards development processes under the ICT Act and the institutional framework which generally

involves a national bureau of standards designed to address equipment type approval, would present challenges for regulating the Internet – a fast changing area.

Regarding international standards, the present policy refers to WCAG 2.0 and to its equivalent ISO/IEC 40500:2012. From a practical standpoint, while the ISO reference is essential to align international and national standards, referencing WCAG 2.0 will allow government agencies to integrate the latest developments occurring in the field of web accessibility in a fast changing technology environment.

Model web accessibility policy

1. Definitions

- **"Electronic document"** refers to downloadable files which may be consulted, printed or filled off-line or on-line by users.
- **"Level A"** refers to the minimum level of conformance that a website must satisfy in terms of the WCAG guidelines, or a Level A conforming alternate version is provided.
- **"Level AA"** refers to the intermediate level of conformance that a website must satisfy having met all of the Level A and Level AA success criteria in terms of the WCAG guidelines, or a Level AA conforming alternate version is provided.
- **"Level AAA"** refers to the highest level of conformance that a website may satisfy having met all of the Level A, Level AA and Level AAA success criteria in terms of the WCAG guidelines, or a Level AAA conforming alternate version is provided[178].
- **"Public sector"** refers to ministries, national government departments, local government and other government or public agencies that provide e-government services and communication to the public as well as public education resources via websites, email, SMS and other means of electronic communications[179].
- **"Website"** refers to the entire collection of electronic files that are accessible through a domain name. It includes all website home pages and pages (including web applications and services, and dynamically-generated content) referenced from website home pages, and web applications accessible from such webpages.
- **"Web Content Accessibility Guidelines 2.0" or "WCAG 2.0"** refers to the web standard developed by the World Wide Web Consortium (W3C) Web Accessibility Initiative (WAI)[180].

2. Preamble

2.1 Web accessibility is critical for all members of society, including persons with disabilities. Accessibility issues related to the Internet and web content and services affect a wide range of persons with disabilities, including people with auditory, cognitive, dexterity, hearing, speech and visual impairments.

2.2 Accessing and making use of the web can be achieved for persons with disabilities through the application of accessible web standards, applied from the earliest stage of design, through the development of websites and continuing as webpages are maintained and enhanced.

2.3 The objective of this policy is to enable persons with disabilities to navigate and interact with the web. This is an important imperative of national universal service and access policies which seek to increase usage and uptake of ICTs, and of broadband in particular, regardless of device (desktop, mobile, tablet, etc.) and to ensure digital inclusion of all population groups.

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[178] Note: ISO/IEC 40500:2012 does not recommended that Level AAA conformance be required as a general policy for an entire site because it is not possible to satisfy all Level AAA success criteria for some content.

[179] The regulatory authority should list all government organizations to which this is applicable or use a reference in legislation if there is applicable public services legislation.

[180] This standard is available at www.w3.org/TR/WCAG20/ and introduced at www.w3.org/WAI/intro/wcag. This standard is also referenced as ISO/IEC 40500:2012 Web Content Accessibility Guidelines 2.0, available at: www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=58625.

2.4 This policy is underpinned by the four principles of ICT accessibility for persons with disabilities reflected in W3C/WAI Web Content Accessibility Guidelines 2.0 (also ISO/IEC 40500:2012):

(a) **Perceivable** – *Information and user interface components must be presented to users in ways they can perceive*. This means that the information and interface must enable users to perceive the information being presented (it can't be invisible to all of their senses);

(b) **Operable** – *User interface components and navigation must be operable.* This means that all the components of the interface can be operated by the user (the interface cannot require interaction that a user cannot perform);

(c) **Understandable** – *Information and the operation of the user interface must be understandable*. This means that the interface is presented in a way which allows the user to understand the information as well as the operation of the user interface (the content or operation cannot be beyond their understanding); and

(d) **Robust** – *Content must be robust enough that it can be interpreted reliably by a wide variety of users, including assistive technologies*. This means that users must be able to access the content as technologies advance (as technologies and user agents evolve, the content should remain accessible).

2.5 WCAG 2.0 (ISO/IEC 40500:2012) has twelve guidelines that are organized under these four principles. For each guideline, there are testable success criteria, which are at three levels: A, AA, and AAA. Levels A & AA are applicable to all websites, but many level AAA success criteria are not applicable or suitable for a large number of websites, including many that are provided by the government. These success criteria are the basis for determining conformance to WCAG 2.0 (ISO/IEC 40500:2012). The success criteria apply broadly to different web technologies (e. g., HTML, CSS, JavaScript, etc.) and there are multiple ways for websites to conform to WCAG 2.0. However, the public sector must ensure that each webpage of their websites meets WCAG 2.0 (ISO/IEC 40500:2012) conformance requirements[181].

3. Effective date and application

3.1 This policy may be cited as the "information and communications technology web accessibility policy" or "web accessibility policy", and shall come into effect upon publication in the [official government publication].

3.2 The web accessibility policy applies to public services information and communications technologies (ICTs) and in so doing applies to public sector websites[182] and electronic documents made available to the public by public sector websites[183].

3.3 This policy therefore is applicable to all webpages, web site applications, and websites containing or providing access to online government information and services under the authority of [the responsible authority][184]. Conformance is required on all government websites under the authority

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[181] Australia Web Accessibility Transition Strategy: www.finance.gov.au/publications/wcag-2-implementation/index.html

[182] This could be adapted for sector-specific web accessibility policies by replacing "public sector" with "[health] [education] [or other sectors] as appropriate.

[183] WCAG 2.0 is not applicable to electronic documents – See section 11 for a definition of document accessibility.

[184] In line with the goal of ensuring that this Policy can be adapted by a range of entities depending on a country's legal and regulatory framework, as explained in the Introduction, the name of the "responsible authority" appears in square brackets to be identified as appropriate. Likewise a range of options are provided to identify the entity responsible for operating websites. Note that WCAG 2.0 is applicable to mobile web browsing: see www.w3.org/WAI/mobile/. While the accessibility of mobile applications residing on mobile devices is not covered by a specific standard the same principles used in WCAG 2.0

of [the responsible authority] [or operated by [government]/sector ministry], [local government], or [public entities]] as well as those operated on behalf of [government/sector ministry] by non-governmental entities under any domain. This includes external (public-facing or private) and internal (closed community) sites. That is, conformance is required for all Internet, intranet and extranet sites.

3.4 This policy also requires the [responsible authority] to promote among associated agencies and private sector entities the adoption on a voluntary basis of WCAG 2.0 (ISO/IEC 40500:2012) via awareness raising and training programmes in cooperation with professional associations, standard organizations and business organizations. Such voluntary programmes should promote conformance similar to that covered in this policy among private sector web sites.

3.5 [Insert relevant provision of legislation] provides that the [responsible authority[185]] is the body responsible to monitor and promote the effective use of Information Technology (IT) and specifically to support the delivery of e-Government services to citizens, including access by persons with disabilities to web content[186].

3.6 [The responsible authority] may review, update and/or amend this policy regularly based on the lessons learned from its initial implementation, the evolution of standards, the availability of new technology and web accessibility solutions and the development of accessibility skills among IT professionals. At a minimum, this policy will be reviewed every five years and updated as needed.

4. National mandate for web accessibility

4.1 [Country] is a signatory to The United Nations Convention on the Rights of Persons with Disabilities ("UNCRPD" or "the Convention"), which came into force in May 2008[187]. This convention recognizes accessibility as a condition for persons with disabilities to fully enjoy all human rights and

and listed in paragraph. 2.4 should be applied to downloadable mobile applications made available by government to the public: users with disabilities should be able to perceive, understand and act upon the information whether it is retrieved by the mobile app via the Internet from a government server or using data generated by the device; and the mobile app should be robust. This can be best achieved by fully leveraging the embedded accessibility features of leading mobile operating systems.

[185] The "responsible authority" will depend on the country's legal and institutional framework. There are a number of options including that the Web accessibility policy be developed by the ministry responsible for communications, for e-government and/or the ministry responsible for public service and administration (or in countries without such ministries by the entity responsible for communications), with significant input or even responsibility by an implementing agency such as a state IT agency or other agency where all national IT matters are dealt with or an agency with responsibilities for accessibility such as the agency responsible for disability or anti-discrimination laws. Centralization makes it easier for the country to coordinate with international standards organizations including W3C and ISO and to avoid legislative or regulatory inconsistencies – for instance how access to archives is treated. Alternatively, each sector ministry may be responsible for the accessibility of websites under its responsibility, such as health ministries and education ministries. In this case, a country may have several Web accessibility policies in place (and not a national policy), each overseen by a specific ministry. The "responsible authority" will impact the manner in which the Web accessibility policy is published, its legal standing and its enforceability.

[186] This provision must be modified to fit each country's legal and institutional framework. The ideal approach is the centralization of the function and for countries to have a lead Ministry/agency leading the process and supporting all government agencies. The governments of Australia and South Korea have put in place an effective approach to web accessibility for e-government across all agencies, led by a single coordination team. However, where a sector ministry is the "responsible authority", the provision could be modified to read: "[Insert relevant provision of legislation] provides that the [responsible authority] is the body responsible to monitor and promote the effective use of government-provided [e-Education] [e-Health] [other] services to all citizens, including access by persons with disabilities to web content.

[187] Where the country is not a CRPD signatory the country can use its Constitution or consumer protection, anti-discrimination, procurement, access to information, universal service and access or other relevant legislation (or a combination thereof) as the basis for the mandate as provided in the following sections.

fundamental freedoms and requires signatories to adopt appropriate measures for access by persons with disabilities to information and communication technology, emergency services and Internet services on an equal basis with others[188]. Thus the obligation exists to ensure that all public websites are fully accessible to all citizens. This includes:

4.1.1 "Providing information intended for the general public to persons with disabilities in accessible formats and technologies appropriate to different kinds of disabilities in a timely manner and without additional cost" as set out in Article 21 (a);

4.1.2 "Accepting and facilitating the use of sign language, Braille, augmentative and alternative communication, and all other accessible means, modes and formats of communication of their choice by persons with disabilities in official interactions" as stipulated in Article 21 (b);

4.1.3 "Promot(ing) access for persons with disabilities to new information and communications technologies and systems, including the Internet" as stipulated in Article 9.2 (g);

4.1.4 "Promot(ing) the design, development, production and distribution of accessible information and communications technologies and systems at an early stage, so that these technologies and systems become accessible at minimum cost" as stipulated in Article 9.2 (h); and

4.1.5 "Ensur(ing) that private entities that offer facilities and services which are open or provided to the public take into account all aspects of accessibility for persons with disabilities" as stipulated in Article 9.2 (b).

4.2 This Policy is designed to achieve a progressive implementation of the above dispositions of the Convention on the Rights of Persons with Disabilities as per paragraph 2 of Article 4 on General Obligations.

4.3 The [Country] Constitution supports the right to equality before the law. This includes the full and equal enjoyment of all rights and freedoms. To promote the achievement of equality, legislative, and other measures designed to protect or advance persons or categories of persons disadvantaged by unfair discrimination may be taken[189].

4.4 A number of policy and legislative instruments contain key provisions that support the stated goal of this policy which is making websites accessible for persons with disabilities. These include[190]:

- [Consumer Protection policy/legislation, citation, brief description]
- [Anti-discrimination policy/ legislation, citation, brief description]
- [Procurement policy/legislation, citation, brief description]
- [Access to Information policy/legislation, citation, brief description]
- [Persons with Disabilities policy/legislation, citation, brief description]
- [Other policy/legislation, including sector specific policy/legislation], citation, brief description]

5. Objectives of the web accessibility policy

5.1 The intent of this policy is to provide effective communication via the web to ensure persons with disabilities have access to information on an equal basis with others, through:

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[188] As defined in Article 9, CRPD

[189] This clause relating to the Constitution is only to be included if applicable.

[190] Insert / include as applicable.

5.1.1 Putting in place mandatory measures to ensure that persons with disabilities have access, on an equal basis with others, to public sector websites, services, applications and content;

5.1.2 Encouraging private entities that offer website services, applications, and content to the public to take into account on a voluntary basis all aspects of accessibility for persons with disabilities[191];

5.1.3 Defining an institutional and administrative framework to ensure effective coordination with international standard development organizations to promote web accessibility standards among all relevant stakeholders;

5.1.4 Providing guidance and incentives for education institutions and professional societies[192] to develop courses for computer science students and information technology professionals about web accessibility.

6. Awareness

6.1 Awareness of this policy and the rights of persons with disabilities in the ICT sector is the responsibility of the [responsible authority], which must, amongst others, include a review and report on its achievements in terms of this policy annually, including in review meetings with persons with disabilities[193].

6.2 The [responsible authority] is responsible for spreading awareness of web accessibility tools available for Persons with Disabilities and the benefits of accessible ICTs for persons with disabilities and the rest of society in cooperation with relevant stakeholders from the private sector, academia and organizations of persons with disabilities. The information that is made available to the public should be provided in accessible formats (see Module 1, Box 2).

7. Compliance of public sector websites with web accessibility standards

7.1 The standard to be applied for this policy shall be WCAG 2.0 (ISO/IEC 40500:2012) and any of it subsequent revisions[194].

7.2 The [responsible authority] shall provide training and support to public sector organizations[195] to ensure implementation of the requirements for web accessibility.

7.3 [The responsible authority] should support the appointment or hiring of persons with disabilities as part of the implementation of this policy[196].

7.4 The [responsible authority] shall provide guidance regarding the availability of web accessibility development, and editing and testing tools in support of compliance with this policy within [three

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[191] Convention on the Rights of Persons with Disabilities

[192] See, for example the International Association of Accessibility Professionals, www.accessibilityassociation.org

[193] Where this policy is implemented by the Ministry of ICT or an NRA, the annual review can be included in an annual forum on ICTs for persons with disabilities. See Module 1, section 4 for more information about the annual forum.

[194] See section 1.2 explaining why this model web accessibility policy favours international standards.

[195] Each policy should identify the relevant public sector organizations to be trained. For example, this would include all public sector organizations in the case of a national e-governance policy under the responsibility of the Ministry of ICT or all public hospitals, clinics and pharmacies in the case of a health sector policy.

[196] In general, hiring of persons with disabilities is encouraged at all level of implementation since it significantly increases the probability of adequate follow-up and success – not only technically but also as internal advocates.

months]. Such guidance shall be updated in accordance with web technology developments and available editing and testing tools in the marketplace[197].

7.5 Acknowledging the fact that the testing and elimination of accessibility errors of most web sites is a complex task requiring progressive implementation, the [responsible authority] shall promote and provide guidance for testing, prioritizing and resolving accessibility errors in a reasonable manner.

7.6 Where websites are outsourced by a government department or public agency, or awarded through grants provided by a department or agency, the government department or agency must ensure that the service providers are bound by these ICT Accessibility requirements[198].

8. Assessment of existing public sector websites and accessibility transition plans

8.1 In order to facilitate implementation of this policy, [Country] has done an assessment of existing e-government and public sector websites and found that the number of websites providing e-government services and information to the public at the time of publishing this web accessibility policy is [insert number of sites], and the number of public sector websites not available to the public is [insert number of sites]. A complete list of these websites and responsible agencies and the status of website accessibility of each is inserted in Annex A: List of public sector websites and responsible agencies or organizations covered by the web accessibility policy as of its publication, and shall be updated by the [responsible authority] annually[199].

8.2 Upon publication of this policy, each agency operating a website listed in Annex A shall appoint a web accessibility expert responsible to oversee the implementation of this policy in coordination with the [responsible agency].

8.3 Within [three months] of the publication of this policy, agencies and organizations operating websites listed in Annex A should update their procurement policies[200] to ensure that all purchases of products, software, technology or services related to the development, design, production, outsourcing or maintenance of their websites include accessibility criteria consistent with and facilitating their compliance with WCAG 2.0 (ISO/IEC 40500:2012) to the greatest possible extent. The [responsible agency] will offer guidance for such procurement policy update.

8.4 Within [three months] of publication of this policy, the [responsible authority] shall determine testing methodologies and metrics to assess the accessibility of public sector websites based upon WCAG 2.0 (ISO/IEC 40500:2012) levels of conformance. Such metrics should allow for consistent comparisons across areas of government and over time to measure progress.

8.5 Within [six months] of publication of this policy, departments, agencies and organizations operating websites listed in Annex A should complete a systematic assessment of their websites and website infrastructure and of their staff's skills and knowledge in readiness to apply WCAG 2.0 (ISO/IEC 40500:2012). A compliance report summarizing the results of this assessment must be submitted to the [responsible authority] including conformance test results following methodologies and metrics defined by the [responsible authority].

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[197] There are a number of web editing and testing tools that can be identified and included as a link on the responsible authority's website to enable ease of compliance by government, and spread awareness. Examples of tools can be found on the web site of the Web Accessibility Initiative of the Worldwide Web Consortium at: www.w3.org/WAI/RC/tools/complete.

[198] See also Module 6: Accessible ICT public procurement policy framework.

[199] The requirement to assess the accessibility of websites should not delay adoption of this policy. The clause can be adapted, for example, to stipulate that such an assessment should be completed within [three months] of adoption of the policy. It is intended to at the very least provide clarity to which government departments and public institutions the policy applies. It can further be used to monitor progressive implementation of the policy. As such it should be adapted if necessary taking into account the particular country context.

[200] See Module 6: Accessible ICT public procurement policy framework.

8.6 Within [nine months] of publication of this policy, the [responsible authority] will consolidate the reports submitted as per paragraph 8.5 in order to provide a national web accessibility gap analysis with an assessment of the size and complexity of the tasks required to achieve compliance with WCAG 2.0 (ISO/IEC 40500:2012), and to develop transition plans, technical training, solutions and materials to assist agencies with their transition towards compliance with WCAG 2.0 (ISO/IEC 40500:2012).

8.7 Within [12 months] of the publication of this policy, departments, agencies and organizations operating websites listed in Annex A should finalize individual transition plans towards required conformance levels, including milestones with conformance metrics. Those plans will be consolidated by the [responsible authority] and shared with all organizations involved in implementing this policy.

9. Conformance levels for public websites

9.1 [responsible authority], based on the individual transition plans, shall approve the levels of conformance and timelines proposed by departments, agencies and organizations with the A or AA, conformance level for WCAG 2.0 (ISO/IEC 40500:2012).

9.2 Such conformance requirements and timelines will take into account the criticality of all the content and services provided to the public, the level of complexity to retrofit legacy web content and website architectures as well as the capacity of the individual agencies to implement their transition plans.

9.3 Notwithstanding the above dispositions in 9.1 and 9.2:

(a) All public sector web sites and webpages created later than [12 months] after the date of publication of this policy should meet ISO/IEC 40500:2012 Level A compliance;

(b) The timeline for level A compliance for all public sector web sites shall not exceed [two years] from the publication of this policy;

(c) The timeline for level AA compliance shall not exceed [four years] from the publication of this policy.

(d) Attainment of Level AAA is not mandatory; however, it is a conformance level that all website managers may consider. Level AAA conformance cannot be required for entire sites because it is often not possible to satisfy all Level AAA success criteria for some content.

9.4 Conformance should be according to the normative success criteria from WCAG 2.0, not on informative supporting documents such as techniques.

(a) The [responsible authority] will publish once a year [or other frequency as appropriate] a status report of the level of compliance with ISO/IEC 40500:2012 of all public websites, and recommend actions as necessary to achieve the goals of this policy.

10. Retroactive application and existing content of public websites

10.1 Public sector organizations must identify all current information on their existing websites and should archive obsolete information where appropriate. To improve the transparency of government information, agencies are encouraged to archive information online as citizens expect to retain access to electronic information.

10.2 When archived, a webpage should remain available to the public on a public sector website, but must be clearly identified as being archived. This disposition applies to the content of decommissioned websites unless such content are made available through a new or another public sector website.

10.3 Websites and web content created before the publication of this policy that are archived or decommissioned prior to [one year] after the publication of this policy are not required to meet WCAG 2.0 (ISO/IEC 40500:2012).

10.4 Public sector organizations remain liable for compliance of all web content that is not accessible, regardless of the fact that elements of it may be archived, and must take remedial action as needed. Archived content, however, may be made accessible as necessary and on a case by case basis.

11. Electronic documents available on public websites

11.1 Ensuring that electronic documents available on public sector websites are accessible is critical to ensuring that persons with disabilities can access on an equal basis with others. This includes all public information available in electronic documents or any fill-in form required to complete administrative processes.

11.2 All public departments and agencies managing websites listed in Annex A should ensure that all personnel creating documents are aware, trained and proficient in creating accessible documents and using accessibility checks embedded in mainstream office productivity software including word processors, spreadsheets, presentation and other commonly used document creation tools.

11.3 All new documents created with commonly used office productivity tools described in paragraph 11.2 above should be accessible at least [12 months] following the publication of this policy.

11.4 Each public department or agency must in its transition plan define a process to check the accessibility of current electronic documents used by the public in the normal course of their interaction with their websites and re-edit them in an accessible format as needed no later than [24 months] after the publication of this policy. Documents marked as archived documents are exempt from this disposition.

12. Dispositions for the private sector and civil society

12.1 [The responsible authority] should encourage the private sector and civil society to implement web accessibility and to adhere to the standards provided in this Model web accessibility policy by:

(a) Promoting in cooperation with industry associations and civil society entities, including disability organizations, the benefits for private sector and civil society organizations of adopting WCAG 2.0 (ISO/IEC 40500:2012).

(b) Coordinating and providing support for web accessibility awareness-raising and training programmes organized by professional societies, civil society, private training companies and academia.

(b) Facilitating the sharing of know-how, experience and methodologies of achieving conformance with WCAG 2.0 (ISO/IEC 40500:2012) among public and private sector and civil society entities.

(d) Encouraging public sector website personnel to join professional societies or other civil society organizations promoting web accessibility.

12.2 [The responsible authority] should seek to encourage industry professional associations to issue voluntary codes of conduct reflecting conformance objectives and timelines similar to those stipulated in this policy for public sector websites.

12.3 [The responsible authority] should support capacity building and training programmes for civil society organizations involved in promoting accessibility and the rights of persons with disabilities and involve those organizations to the greatest possible extent in all aspects of the implementation of this policy, including regular consultative activities and annual reviews of progress accomplished.

13. Responsibilities for the implementation of the policy

13.1 The [responsible authority] is responsible for:

(a) Leading by example and maintaining at least minimum technical requirements for web accessibility;

(b) Consolidating transition plans of all public sector websites identified in Annex A in order to guide the implementation of this policy across all agencies;

(c) Providing training and guidance on the interpretation of this policy;

(d) Evaluating and promoting across all government departments and agencies, technical solutions and web templates that are most effective and efficient at ensuring the accessibility of websites;

(e) Providing guidance on accessibility testing tools and testing procedures so that all parties use tools compatible with approved testing guidelines in order to produce uniform results and metrics;

(f) Establishing measurable targets in consultation with persons with disabilities, government web masters and other relevant stakeholders (in line with Module 1, sections 6 and 8), monitoring and publishing the progress made by public sector websites as measured by accessibility tests; and recommending actions as necessary to achieve the goals of this policy;

(g) Promoting the training and employment of persons with disabilities for web accessibility related projects and activities; and

(h) Organizing an [annual] review meeting on web accessibility for all stakeholders involved in the implementation of this policy in order to share progress accomplished, good practices and solutions.

13.2 Information systems department and webmasters of agencies listed in Annex A are responsible for:

(a) Ensuring compliance with this policy;

(b) Preparing accessibility transition plans;

(c) Choosing and implementing solutions to resolve issues of website design or inadequacies of content management systems;

(d) Ensuring availability of web authoring tools that support the production of accessible web content;

(e) Automating to the greatest possible extent real-time accessibility checking for editors;

(f) Training users and staff internally on web accessibility;

(g) Organizing the on-going testing of the accessibility of their websites; and

(h) Remedying identified accessibility issues for the web content they manage.

13.3 Departments and other entities contributing web content and electronic documents for inclusion on public websites are responsible for:

(a) Ensuring that their editing personnel are trained to produce accessible webpages and documents, where possible using software that supports the production of accessible content with approaches described in the Authoring Tool Accessibility Guidelines (ATAG) 2.0;

(b) Ensuring that the content they submit for posting is compliant with this policy;

(c) Remedying accessibility issues for the web content they author or produce; and

(d) Seeking internal or external assistance for authoring and/or testing content.

14. Targets and reporting requirements

14.1 In addition to the monitoring and evaluation conducted by [the responsible authority] in line with section 13.1 above, milestones should be set to measure capacity to implement the web accessibility policy (e.g. establishing necessary budgets and training programmes).

14.2 Access to information about ICT accessibility for the disability community is critical to ensuring that future reviews of accessibility policy measures are effective and that policy interventions are evidence-based. To achieve this, the NRA should determine reporting requirements for notifying the disability community about the accessibility requirements contained in the policy. A thorough review should be conducted by [the responsible authority] of *all* reporting requirements to ensure that the correct data is collected with respect to accessibility for persons with disabilities, at the right level of detail and at reasonable intervals.

15. Periodic review

15.3 Due to the fast-moving technological developments and market conditions, this policy shall be reviewed at least every two years.

Annex A: List of public sector web sites and responsible agencies or organizations covered by the web accessibility policy as of its publication

[Insert list here]

Agency	Website	URL	Date of Creation	Contact Information	

Annex B: Resources for policy implementation and technical references[201]

Introduction to web accessibility

Summary: Introduction to web accessibility
Reference: www.w3.org/WAI/intro/accessibility
Keywords: Web accessibility
Target Audience: Web developers; accessibility policy-makers; everyone

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Summary: How people with disabilities use the web
Reference: www.w3.org/WAI/intro/people-use-web
Keywords: disability; web access; assistive technology
Target Audience: Everyone

Summary: Overview of Web Accessibility for Policy-makers
Reference: www.e-accessibilitytoolkit.org/toolkit/technology_areas/websites
Keywords: web accessibility, policy making
Target Audience: Policy-makers

Summary: Business case for accessibility
Reference: www.w3.org/WAI/bcase/
Keywords: W3C; accessibility; business case
Target Audience: Web developers; IT executives; activists

Standards and Guidelines

Summary: Web Content Accessibility Guidelines (WCAG) 2.0 (standard)
Reference: www.w3.org/TR/WCAG/
Keywords: Web accessibility, WCAG
Target Audience: Web developers; accessibility policy-makers; everyone

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Summary: How to Meet WCAG 2.0: A customizable quick reference for Web Developers
Reference: www.w3.org/WAI/WCAG20/quickref/
Keywords: Web accessibility, WCAG
Target Audience: Web developers; accessibility policy-makers; everyone

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Summary: Web Content Accessibility Guidelines Overview
Reference: www.w3.org/WAI/intro/wcag
Keywords: W3C; WCAG; WAI; accessibility guidelines
Target Audience: Web developers; accessibility policy-makers

Summary: W3C-WAI resources for web accessibility implementation:
References:
Designing for Inclusion www.w3.org/WAI/users/
Implementation Plan for Web Accessibility www.w3.org/WAI/impl/
Involving Users in Web Projects for Better, Easier Accessibility www.w3.org/WAI/users/involving

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[201] Adapted from the ITU-G3ict Policy Toolkit for Persons with Disabilities www.e-accessibilitytoolkit.org

Evaluating web accessibility www.w3.org/WAI/eval/
Before and After Demonstration (BAD) www.w3.org/WAI/demos/bad/
Keywords: Web accessibility, WCAG, web accessibility tools, web accessibility methods
Target Audience: Web developers; accessibility policy-makers; everyone

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Summary: Web Accessibility in Mind – trainings, articles and material
Reference: www.webaim.org/
Keywords: Web accessibility; training; articles
Target Audience: Web developers

Summary: W3C resources on mobile accessibility, including applications of WCAG 2.0 to mobile content and applications, and application of the User Agent Accessibility Guidelines (UAAG) 2.0 to mobile application user interfaces.
Reference: www.w3.org/WAI/mobile/
Keywords: Mobile; accessibility; disability
Target Audience: Web developers

Summary: W3C web accessibility training material
Reference: www.w3.org/WAI/training/
Keywords: web accessibility training
Target Audience: Web accessibility trainers; web developers

Summary: International survey of web accessibility policies
Reference: http://g3ict.org/resource_center/publications_and_reports/p/productCategory_whitepapers/subCat_7/id_150
Keywords: Accessibility policy survey; regulation
Target Audience: Policy-makers

Developments and Trends

Summary: Mobile Web Best Practices (MWBP)
Reference: www.w3.org/TR/mobile-bp/ ; www.w3.org/TR/mwbp-wcag/#contents
Keywords: Mobile web; accessibility; best practices
Target Audience: Web developers

Summary: Accessible rich Internet applications guidelines overview
Reference: www.w3.org/WAI/intro/aria
Keywords: W3C; WAI; ARIA; rich media
Target Audience: Web developers

Annex C: Web Content Accessibility Guidelines 2.0

The Web Content Accessibility Guidelines (WCAG 2.0)[202] – (ISO/IEC 40500:2012) define how to make web content more accessible to persons with a wide range of disabilities as well as to older persons with changing abilities due to ageing. They often help improve usability for all users. Although these guidelines cover a large number of issues, they are not able to address the needs of persons with all types, degrees and combinations of disability.

WCAG 2.0 has 12 guidelines that are organized under four principles (perceivable, operable, understandable, and robust.) The table below indicates how the 12 guidelines may improve accessibility for users with various types of disabilities. For more precise information on how the specific provisions of WCAG 2.0 (the "Success Criteria") help people with different types of disabilities, look for "Specific Benefits of Success Criterion" followed by a Success Criterion number in "Understanding WCAG 2.0"[203].

Examples of Impairment or Disability addressed by the Four Principles and 12 Guidelines of WCAG 2.0	**Sight**	**Physical**	**Hearing**	**Cognitive**	**Speech**	**Neurological**	**Language**	**Learning**
Perceivable								
Provide text alternatives for non-text content.	X		X	X			X	X
Provide captions and audio descriptions for videos and other alternatives for multimedia.	X		X	X		X	X	X
Create content that can be presented in different ways, including by assistive technologies, without losing meaning.	X		X	X		X	X	X
Make it easier for users to see and hear content including separating foreground from background.	X		X			X		X
Operable								
Make all functionality available from a keyboard.	X	X			X	X	X	X
Provide users enough time to read and use content.	X	X	X	X	X	X	X	X
Do not design content in a way that causes seizures.				X		X		
Help users navigate and find content.	X	X	X	X		X		X
Understandable								
Make text content readable and understandable.	X			X	X		X	X
Make webpages appear and operate in predictable ways.	X	X		X			X	X
Help users avoid and correct mistakes.				X		X	X	X
Robust								
Maximize compatibility with current and future user tools, including assistive technologies.	X	X	X	X	X	X	X	X

[202] www.w3.org/TR/WCAG/

[203] www.w3.org/TR/UNDERSTANDING-WCAG20/

Module 6: Accessible ICT public procurement policy framework

This model policy is intended to guide all government bodies in the public procurement of accessible information and communication technology (ICT) equipment and services. Public procurement policies that require government agencies to procure accessible ICT equipment and services serve two key goals. Firstly, by procuring the most accessible ICT equipment and services, government bodies can provide an accessible work environment for its employees and accessible public services for its citizens. Secondly, the public procurement of accessible ICTs creates a market for accessible ICTs. Manufacturers and service providers are incentivized to produce accessible ICTs and suppliers to stock accessible ICTs. This generates greater competition, drives down costs and promotes a greater availability of accessible ICT products and services in the marketplace. Accessible ICT procurement is highly relevant given that fifteen per cent of the world's population lives with some form of disability and many nations have increasing elderly populations that live with age-related disabilities. Moreover, accessible ICT public procurement is in line with the United Nations Convention on the Rights of Persons with Disabilities.

Obligations of States Parties to the Convention on the Rights of Persons with Disabilities in matters of procurement

The UN Convention on the Rights of Persons with Disabilities (hereinafter the Convention) recognizes the accessibility of information communication technologies (ICTs) both as a human right (Article 9) and as an enabler of other human rights as prescribed in other articles of the Convention.

Articles 4(a) to 4(d) under "General obligations" further require that signatories adopt appropriate legislative, administrative and other measures to ensure these rights are met and to refrain from any act or practice that is inconsistent with the Convention. Public authorities and institutions are in particular required to act in conformity with the Convention. The procurement of ICTs for use by the public that are not usable and accessible by persons with disabilities may be deemed to be in contravention of the Convention.

In order to facilitate and monitor the implementation of the Convention, it is provided that State Parties should report on:

- legislative and other measures taken to ensure access by persons with disabilities, on an equal basis with others, to the physical environment, to transportation and to information and communications;
- technical standards and guidelines for accessibility put in place to achieve the goal above, as well as provisions on the auditing of their fulfilment and sanctions for noncompliance and what resources are applied to encourage accessibility actions;
- the use of public procurement provisions and other measures that establish compulsory accessibility requirements;
- the identification and elimination of obstacles and barriers to accessibility from within both the public and the private sector, and
- national accessibility plans established with clear targets and deadlines.

Some countries, furthermore, have legislation mandating that government agencies employ a certain quota of persons with disabilities. Having accessible ICTs is a necessary condition to make the workplace accessible and creates major benefits for government agencies and employees alike.

It is within this context that the accessible ICT public procurement policy framework module has been developed.

Elements of an accessible ICT public procurement policy

This module recognises that addressing the ICT accessibility needs of persons with disabilities can be achieved more cost effectively by considering them in the earliest stage of the procurement and development process. This is in line with Article 9(h) of the Convention which requires countries to

"promote the design, development, production and distribution of accessible information and communications technologies and systems at an early stage, so that these technologies and systems become accessible at minimum cost".

In order to fulfil their obligation to purchase accessible ICT products and services, public procurement agencies must implement the following steps:

- include clear statements of user accessibility needs in all calls for tender, based on internationally recognised standards;
- apply systematic and commonly used conformity assessment processes to confirm that the ICT products and services to be procured reach the stated level of accessibility conformance.

In practice, the first step may be achieved through citing in the Call for Tender a set of "functional performance statements" that reflect users' needs referenced from international accessibility standards. Two such standards, Section 508 of the U.S. Rehabilitation Act (Section 508) and European Standard EN 301 549[204]; "Accessibility requirements for public procurement of ICT products and services in Europe (EN 301549), contain an almost identical set of functional performance statements.[205]

Functional performance statements are designed to be used as a relatively easy to read description of the functional performance of ICTs required to enable users with disabilities to locate, identify, and operate ICT functions, and to access the information provided, regardless of physical, cognitive or sensory abilities. They may be used as either mandatory requirements or award criteria.[206]

While specific language and definitions differ between section 508 and EN 301 549, these two standards follow the same user-centric logic to determine whether a product or service can be operated by a person with disability to the same extent as by a person without a disability. It is important to note that both the United States Access Board and the European Commission have cooperated informally over time on aligning their approach to the development of standards for public procurement of accessible ICTs and that the revisions to Section 508, underway at the time of publication of this report, is expected to align with EN 301549 in 2015. Such cooperation reflects the general understanding among all stakeholders that the use of global standards helps achieve economies of scale, lowers costs and ensures interoperability. For these reasons, this model policy proposes that all public bodies procuring accessible ICTs should adopt a set of generally accepted functional performance statements, preferably by referencing one of these two standards[207].

This model policy provides for several methods to assess the accessibility of the proposed ICT solution depending upon the nature and complexity of the product or service purchased including off the shelf products, custom built products, integrated systems, system development, content development or

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[204] References for these two standards are provided in Annex A: Standards. The U.S. Access Board Section 508 Standards for Electronic and Information Technology is currently under revision. The more recent EN 301 549 was produced by the ETSI Technical Committee Human Factors (HF), and the eAccessibility Joint Working Group (JWG) of CEN/CENELEC/ETSI. The European Committee for Standardization/ The European Committee for Electrotechnical Standardization/ The European Telecommunications Standards Institute. European Standards use the abbreviation "EN".

[205] Both standards also contain a large number of detailed technical accessibility requirements. Technical accessibility requirements are objective and measurable outcomes that an ICT product or service can meet or fail to meet. Both standards also provide a mapping that shows which of the requirements support each of the functional performance statements.

[206] Procurers may require suppliers to confirm in their responses that the proposed ICT solution conforms to these high level statements. One way to achieve this is to require suppliers to provide details that the proposed solution meets all relevant technical accessibility requirements.

[207] Should an international standard be developed for public procurement of accessible ICTs, e.g. an ISO international standard, public procurement agencies could apply such a standard.

services. In all cases, the adoption of a clear and systematic method of conformity assessment is an essential feature for an accessible ICT accessibility public procurement policy.

One commonly used method of conformity assessment is to request in the calls for tender that suppliers provide in their responses a detailed declaration on how their product conforms to the stated accessibility standard. This "self declaration of conformity" comprises of a template filled out by the supplier. A voluntary initiative led by the Information Technology Industry Council (ITI) in cooperation with the U.S. Access Board has developed "Voluntary Product Accessibility Templates – VPATs[208]", the purpose of which is to simplify the evaluation by public procurement agents of the level of compliance of individual products with U.S. Section 508[209].

This model policy recommends the use of templates as a cornerstone in the assessment of the conformity of ICT products and services with the relevant accessibility standard. For example VPATs provide a publicly available description of the conformance of many commonly available ICT products with Section 508. See Annex C for a sample template that may be used in the Call for Tenders. Countries at the initial stages of developing and implementing an accessible ICT public procurement policy and process may choose to recognize the evaluation of off-the-shelf ICT products conducted by countries with longer experience in this domain.

Annexes A and B refer to suitable standards when formulating accessibility requirements for the purposes of achieving conformance with functional performance statements, and Annex D contains a number of resources that may be used in the development of training programmes and capacity building exercises.

[208] See ITI web site at: www.itic.org/public-policy/accessibility. In the United States, the Information Technology Industry Council – ITI – houses the Voluntary Product Accessibility Template®, or VPAT®, a tool used to document a product's conformance with accessibility standards. The VPAT assists federal contracting officials and other buyers in making preliminary assessments regarding the availability of commercial "Electronic and Information Technology" products and services with features that support accessibility.

[209] Such VPATs may evolve over time to encompass additional standards such as EN 301 549 and the ISO standard on web accessibility. ISO/IEC 40500 (2012): "Information technology – W3C Web Content Accessibility Guidelines (WCAG) 2.0. See also Module 5: Web accessibility policy framework.

Model accessible ICT public procurement policy

1. Definitions[210]

- **"Accessibility"**[211] refers to the extent to which products, systems, services, environments and facilities can be used by people from a population with the widest range of characteristics[212] and capabilities, to achieve a specified goal in a specified context of use.[213]
- "**Accessibility requirements"** means a precise and testable description of each feature of the ICT solution to be procured.[214]
- **"Assistive technology"** means hardware or software added to, connected to, or incorporated within, a system that increases accessibility for an individual.[215]
- "**Functional performance statements:** a series of statements that describe routine human sensory, physical and cognitive capabilities. In the context of this policy, the Functional Performance Statements contained in the standards in Annex A, and quoted in Annex B, describe both the capabilities that enable persons with disabilities to interact with an ICT product or service, and the features the ICT needs to provide when a physical, cognitive or sensory capability is not available or cannot be used.

  NOTE 1: Functional Performance Statements are intended for use by the procuring authority to describe, at a high level, the needs of end users with disabilities in relation to the ICT solution to be procured.

  NOTE 2: Procuring authorities may more precisely describe the exact *accessibility requirements* of the ICT solution to be procured through referencing relevant and appropriate standards.
- **"Information and communication technologies (ICT)"** encompass a wide range of hardware and software, devices and computers, formats and systems that enable communication through electronic means. This includes devices and systems used for the storage, processing and retrieval of electronic information to the array of devices and software used to retrieve this information, as well as those used to communicate, in real-time, with other people.[216]

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[210] Government procurement officials are not necessarily instructed by the national ICT policy and legislative framework. For this reason the definitions and references used in this module may vary from those in Module 1 to 4 which were designed for national ICT policy-makers and regulators. Nevertheless, countries developing public procurement policies may wish to incorporate some of the definitions used in the earlier modules of this report as relevant, such as those found in Module 1, Box 1.

[211] Accessibility is also defined within the context of usability in a number of standards including ISO/TR 9241-20: 2008 and ISO/IEC 26513:2009.Usability of a product, service, environment or facility by individuals with the widest range of capabilities."

[212] The range of characteristics and capabilities and individuals with the widest range of capabilities is generally considered to cover the capabilities of a wide range of users, including persons with a disability and persons experiencing some form of temporary difficulty.

[213] "Context of use includes direct use or use supported by assistive technologies." (from ISO 26800:2011 [i.16], ISO/TR 9241-100:2010, ISO/TR 22411:2008). Context of use is defined as "users, tasks, equipment (hardware, software and materials), and the physical and social environments in which a product is used" (from ISO 9241-110 [i.14].

[214] Accessibility requirements should be carefully chosen from relevant international standards developed specifically for use in the procurement of accessible ICTs. Annex A contains a list of standards recommended by this policy for use in the procurement of accessible ICTs.

[215] From ISO 9241-171 [i.15]

[216] Article 2 of the United Nations Convention on the Rights of Persons with Disabilities defines "communications" to include: "Languages, display of text, Braille, tactile communication, large print, accessible multimedia as well as written, audio, plain-

- "**Persons with disabilities**" means individuals who have long-term [217] physical, mental, intellectual or sensory impairments, which, in interaction with various barriers, may hinder their full and effective participation in society on an equal basis with others. Older persons with functional disabilities are also regarded as persons with disabilities.[218]
- **"User"** means a person who interacts with the product, service or environment.[219]

2. Introduction to accessible ICT public procurement policy

2.1 This policy may be cited as the "Accessible ICT public procurement policy", and shall come into effect upon publication in the [official government publication]. This policy must also be published in a range of other fora in an accessible format to ensure widespread awareness of the requirements set out herein.

2.2 [Country] is committed to ensuring persons with disabilities have access on an equal basis with all other citizens to all government programmes, services and information. Essential to meeting this objective is that all Information and Communication Technologies (ICTs) provided by public authorities and/or used by public authority staff is accessible to and usable by persons with disabilities. This policy endeavours to put in place key elements of an accessible ICT public procurement system such that all stakeholders, including public sector staff, persons with disabilities and industry benefit from clearly defined public procurement procedures.

2.3 [Country] is a signatory to/ has ratified] the United Nations Convention on the Rights of Persons with Disabilities ("the CRPD" or "the Convention"), which came into force in May 2008. The Convention requires signatories to adopt appropriate measures to ensure access by persons with disabilities to information and communication technology, emergency services and Internet services on an equal basis with others.[220]

2.4 ICTs are specifically covered by the Convention, which states in Article 9 that: '"To enable persons with disabilities to live independently and participate fully in all aspects of life, State Parties shall take appropriate measures to ensure persons with disabilities have access, on an equal basis with others,

language, human-reader and augmentative and alternative modes, means and formats of communication, including accessible information and communication technology." See Section 3.4 for examples of mainstream ICTs commonly procured by public authorities.

[217] As defined in Article 1, UN Convention on the Rights of Persons with Disabilities

[218] In some countries, such as the United States, disability policy does not distinguish between people who have temporary or long term disabilities and each country will decide how it wishes to define persons with disabilities.

[219] Adapted from ISO 9241-11:1998. (from ISO/IEC Guide 71:2001, 3.6; CEN/CENELEC Guide 6:2002, 3.6)

[220] As per the CRPD, Article 9. The following obligation, among others, are included in the CRPD:

- The obligation for States Parties to ensure that persons with disabilities have access to information and communication technologies
- All content, communication, hardware, software and interfaces to be accessible
- Promotion of assistive technologies and information in alternative formats to persons with disabilities to ensure their access to information
- General information for the public must be made available in accessible formats and technologies for persons with disabilities at no extra cost
- Accessibility of mobile communication and services, including the internet is to be promoted especially in developing countries. Services are being accessed through computers, mobile phones and other emerging technologies and platforms

to the physical environment, to transportation, to information and communications, including information and communications technologies and systems..."

2.5 Article 32 (a) of the CRPD on "International Cooperation" requires that international development programmes are inclusive of and accessible to persons with disabilities. In support of this aim, this policy may be used for procurement utilizing both monies received from international aid programmes and monies from domestic revenues.

2.6 The [Relevant Ministry and Central Procurement Authority] are the bodies responsible for national, regional and local public procurement so as to provide public bodies with products and services that enable them to carry out their tasks to the benefit of citizens and businesses, including accessibility for persons with disabilities. The [Relevant Ministry and Central Procurement Authority] are the lead authorities in charge of promoting, implementing and enforcing, the Accessible ICT public procurement policy. A detailed listing of roles and responsibilities under the current policy are set out in section 3.[221]

2.7 This policy:

2.7.1 Identifies roles and responsibilities;

2.7.2 Defines and incorporates accessibility as an attribute in the procurement of ICTs, including as a criterion in the Call for Tender or Request for Proposals;

2.7.3 Promotes the identification and use of appropriate standards; and

2.7.4 Provides guidance on how to verify that accessibility requirements are specified in the procurement process – from the original Call for Tender to contract management.

2.8 This policy may also be adopted and used at regional or other administrative levels to enhance accessible public procurement policy and practices throughout the public sector.

2.9 At a national level, a number of policy and legislative instruments contain key provisions that support the stated goal of this policy, namely to ensure that accessibility is included as a criterion in the public procurement of ICTs. These include:

2.9.1 [National procurement policy/legislation, [citation], [brief description];

2.9.2 [Programmes for achieving public sector efficiencies and/or socially responsible behaviour];[222]

2.9.3 [E-government policy/legislation], [citation], [brief description];

2.9.4 [Access to public information policy/legislation], [citation], [brief description];

2.9.5 [Anti-discrimination/equality policy/ legislation], [citation], [brief description];

2.9.6 [Persons with disabilities policy/legislation], [citation], [brief description];

2.9.7 [Employment of staff by public authorities], [brief description, including any targets for employing persons with disabilities]; and

2.9.8 [Other policy/legislation], [citation], [brief description].

2.10 Many countries are currently undergoing a process of public sector reform. By including accessibility as a consideration at the earliest stages of the development and procurement of an ICT product or service, public authorities will realize significant cost savings through avoiding

[221] The responsible entities will depend on a particular country's procurement framework and this section should be adapted in line with this.

[222] Organizations around the world, and their stakeholders, are becoming increasingly aware of the need for and benefits of socially responsible behaviour. The objective of social responsibility is to contribute to sustainable development. Likewise, public procurers are becoming increasingly aware of the potential benefits of socially responsible public procurement, i.e. procurement operations that take into account one or more social considerations, of which accessibility can be one. Public authorities that wish to achieve social objectives and have established a strategy for implementing socially responsible public procurement should consider incorporating accessible procurement in that strategy.

costly retrofitting of ICT products and services post-procurement, enabling citizens to access government programmes, services and information and helping to enable public sector staff with disabilities to productively work in an inclusive work environment.

2.11 Other actions and conditions that may contribute to the effective adoption and use of the Accessible ICT public procurement policy include:

2.11.1 A strong political commitment at the highest level to implement the current policy;

2.11.2 Where a national policy for implementation of the CRPD exists, the Accessible ICT public procurement policy should be referenced and supported by that policy; and

2.11.3 Public procurement systems can legitimately and objectively recognize accessible procurement alongside those of transparency, non-discrimination and fair competition.

2.12 It is not sufficient that public authorities integrate accessibility solely in the procurement process. Public authorities need to incorporate accessibility requirements equally into all their ICT related policies and procedures, including the use of “freeware”, “free services”, and on-going maintenance of ICT systems.

3. Objectives

3.1 Recognizing that public procurement can be used to assist in realizing social goals, this policy aims to contribute to:

3.1.1 Improving the lives of persons with disabilities through ensuring public bodies utilize accessible ICTs in the delivery of public services;

3.1.2 Providing ICT systems and services to the public that are usable and accessible by the widest range of people possible;

3.1.3 Creating an accessible employment environment within the public sector;

3.1.4 Increasing market demand for accessibility features in ICT products and services by leveraging on the purchasing power of the government;

3.1.5 Encouraging industry competition to design, develop and provide more accessible mainstream ICT solutions and, thus, increase the market supply for accessible solutions; and

3.1.6 Affecting the market to yield more accessible ICT at lower cost by shifting both the market supply and demand as mentioned above.

3.2 Recognizing the importance of accessibility to the physical, social, economic and cultural environment, to health and education and to information and communication in enabling persons with disabilities to fully enjoy all human rights and fundamental freedoms, the following principles must be adhered to and underpin this policy:

3.2.1 Non-discrimination;

3.2.2 Inclusion;

3.2.3 Accessibility;

3.2.4 Transparency;

3.2.5 Affordability; and

3.2.6 Value for money.

3.3 The objective of this policy is to provide an enabling framework to support the public procurement of accessible ICTs through:

3.3.1 Defining the general principles by which public procurement practices may incorporate accessibility;

3.3.2 Defining a high-level set of user needs, called "Functional Performance Statements" that clearly define the needs of end users who benefit from accessible ICT;

3.3.3 Identifying the critical stages and activities of the procurement process during which accessibility should be considered. These include;

a. The preparatory study including needs analysis;

b. Writing the "Call for Tender" or "Request for Proposals";

c. The "Mandatory Requirements" within the "Call for Tender"

d. Criteria within the Call for Tender such as those used to select a tenderer capable of performing the proposed contract; and those used to assess the most economically advantageous tender.

e. Verification of compliance;

f. Accessibility in contract clauses; and

g. Accessibility in contract management.

3.3.4 Defining the scope of ICTs for which accessibility shall be considered for public procurement.[223]

3.4 This policy is applicable to the procurement and use of all ICTs within the public sector, including, but not limited to:

3.4.1 Desktop personal computers, laptops, computer and laptop peripherals such as screens, keyboards, mice;

3.4.2 Mobile devices and applications such as smart phones, tablets and related mobile applications;

3.4.3 Hardware such as servers, printers, switchboards, private automatic branch exchanges (PABX);

3.4.4 Self-service terminals, ticket machines and other stand-alone hardware used to provide public access to a service;

3.4.5 Software such as office productivity applications including word processors, spreadsheets and databases;

3.4.6 Telecommunication services such as landline, mobile, and Voice over IP;

3.4.7 Audio visual and video services

3.4.8 Web and intranet development services;

3.4.9 Cloud computing services;

3.4.10 Software development and maintenance services;

3.4.11 Emergency telephone, broadcasting and ICT-based public awareness services; and

3.4.12 Social media services.

3.5 Public authorities should ensure that persons with disabilities have access to public services via ICT by, in the first instance, adopting and implementing this Accessible ICT public procurement policy for the public procurement of all ICTs.

[223]This policy supports the inclusion of accessibility in all stages of the procurement process. However not all of the stages may be relevant for all procurement exercises. For example, a Call for Tender may not specify "Mandatory Requirements", or there may be no contract management for each procurement, procuring authorities may decide which of the stages above should include accessibility as a criterion or factor, thereby providing different 'paths' to an accessible procurement exercise.

4. Roles and responsibilities

4.1 At the national level the [relevant ministry and regulatory authority] shall identify the most relevant public sector personnel and assign clear responsibilities for ensuring the adoption, awareness training and use of this policy. This may include public sector roles and responsibilities such as:

4.1.1 [relevant ministry and regulatory authority], including the senior official with overall responsibility for public procurement;

4.1.2 [Government Chief Information Officer];

4.1.3 [The most relevant cross-departmental committees/councils with responsibilities for procurement strategy, ICT strategy and deployment];

4.1.4 [Senior official in each government department/agency with responsibility for public procurement];

4.1.5 [Head of IT/Chief Information Officer in each government department/agency].

4.2 Key roles to be assigned to relevant senior officials and/or councils/committees include:

4.2.1 Training, capacity building and awareness raising of this policy, ICT accessibility, procurement and management of accessible ICTs for use by the public and public sector staff;

4.2.2 Definition of harmonized standards, Functional Performance Statements and accessibility requirements to be used in all stages of the public procurement process;

4.2.3 Development of training and awareness programmes for staff to ensure a consistent level of awareness and capacity in implementing the policy across all public authorities; and

4.2.4 Development of a library of practical resources and best practice examples for use by staff in conducting accessible ICT procurement exercises. These resources may include examples of templates, such as the one provided in Annex C and sample text for use in Call for Tenders based on the approach outlined in section 8 below.

4.3 The [relevant ministry and regulatory authority] shall set up or assign responsibility to an appropriate existing cross-departmental monitoring committee responsible for monitoring, surveying and reporting to the [relevant ministry and regulatory authority] compliance by all public authorities with the "Accessible ICT public procurement policy". This committee or council shall:

4.3.1 Set a date by which all public authorities shall adopt this policy;

4.3.2 Require all public authorities to periodically report on their progress towards implementing this policy; and

4.3.3 Carry out other monitoring activities as required under section 16 on "Monitoring and Evaluation" of the current policy.

4.4 Most enterprise-level ICT requires design, implementation, and maintenance by the public authority to deliver and uphold an accessible experience for the end users.[224]

[224] For example, in cases where staff is permitted to contribute content to a website though a Content Management System (CMS), the accessibility of the website is dependent on both the capacity of the CMS to publish accessible content, and on the capacity of staff to ensure their content is accessible.

5. Training, capacity building and awareness raising

5.1 The [relevant ministry and regulatory authority] shall take steps to ensure that all public authorities are aware of the intent and provisions of this policy for Accessible ICT Public Procurement and that relevant staff are trained in its use.

5.2 The [relevant ministry and regulatory authority] shall ensure that public authorities receive appropriate training and capacity building in including accessibility as a criterion in the procurement of ICTs. Learning outcomes from this training may include:

5.2.1 What is meant by accessibility;

5.2.2 How persons with disabilities use ICT;

5.2.3 The case for accessible ICT: social and business;

5.2.4 How to specify and evaluate accessibility in a procurement process;

5.2.5 How to request and evaluate evidence that a proposed solution is accessible; and

5.2.6 Relevant standards, guidelines, legislation and policy related to the public procurement of accessible ICTs

5.3 The [relevant ministry and regulatory authority] may develop training materials and practical toolkits to assist both their own staff and relevant staff in public authorities in learning about accessible ICT procurement and achieving the learning objectives defined in section 5.2 above.[225]

5.4 The [relevant ministry and regulatory authority] and all public authorities shall make efforts to ensure that persons with disabilities and their representative bodies are made aware of the availability of new and existing means of access to public services delivered via accessible ICT. This should include gathering feedback on the experiences to date of persons with disabilities in using those public services delivered via accessible ICT.

5.5 The [relevant ministry and regulatory authority] should provide a contact point within the authority that actively seeks and receives feedback from industry on the clarity and effectiveness with which accessibility criteria are specified in public requests for tenders.

5.6 All best practices examples, practical resources, toolkits, training materials and other relevant materials shall be made available to all public sector staff via a central website or intranet, or by other means, as appropriate. This content shall be maintained and updated by an appropriate public authority such as the [relevant ministry and regulatory authority], [Central Procurement Authority] or the [Central Authority with responsibility for public sector staff development and training].[226]

6. Defining accessibility as an attribute in the procurement of ICT

6.1 Recognizing the need for procuring authorities to precisely define accessibility as an attribute in the procurement of ICTs, it is recommended that applicable functional performance statements, such as those specified in EN301549 clause 5 to 13, are quoted or clearly referenced in any Call for Tenders to describe the needs of persons with disabilities in accessing the full functionality and documentation of the ICT product or service.

[225] Annex D contains a number of resources that may be used in the development of such training programmes and capacity building exercises.

[226] Only one entity should be given responsibility in the final policy. This should be determined by the particular country context.

6.2 Procuring authorities may quote or provide a reference to commonly accepted and used standards as described in Annex A.[227]

7. Accessibility in the preparatory study

7.1 Where a procuring authority conducts a preparatory study prior to initiating a public procurement exercise, it shall include accessibility as a consideration in the study. This preparatory study shall lay the basis for a successful procurement exercise. The procuring authority may do this by considering:

7.1.1 The business needs the procurement is intended to fulfil;

7.1.2 The needs of all potential end users, in particular end users with disabilities; and

7.1.3 The market and its potential capacity to provide ICT services or solutions that meet the business and end users' needs identified above.

7.1.4 The procuring authority may in some cases engage in certain degree of system design as part of the project specification during preparatory stage. Note that decisions made at this stage may have significant impact on the eventual level of accessibility for the system. Achieving high level of accessibility starts in the planning stage prior to procurement.

7.2 Business needs:

7.2.1 Accessibility shall, where necessary, be considered in the analysis of business needs conducted as part of the preparatory study. System features that make products more usable for persons with disabilities can also make them more convenient and easier to use by others. Accessible features are particularly helpful when people have temporary difficulties or when environmental conditions are unfavourable, such as dim lighting, loud background noise, or busy activity among people nearby.

7.2.2 Where the needs of persons with disabilities are taken into account from the outset, the necessity for subsequent costly adaptations and individual solutions is reduced.

7.2.3 Other reasons for considering accessibility in the analysis of business needs are:

a. Accessible and usable products increase productivity;

b. Accessible and usable tools enable users to achieve their goals efficiently;

c. Accessible and usable products and services reduce usage costs since they reduce training time and errors;

d. Good accessibility and usability reduce the need for training and reduce the time in supporting users to solve problems and carry out tasks; and

e. Good accessibility and usability lead to increased work satisfaction, less stress and reduced absence due to illness.

7.3 User needs:

7.3.1 User needs should, where practical, be identified in order to establish a basis for the user requirements to be stated in the Mandatory Requirements and/or in Award Criteria. [228]

[227] The European Commission and the United States have established accessibility standards for use in the public procurement of ICT products and services. These are referred to as EN 301 549, "Accessibility requirements for public procurement of ICT products and services in Europe" and Section 508, U.S. Rehabilitation Act of 1973, respectively. Annex B contains the relevant text from EN 301 549 and Section 508.

[228] Where a sub-set of the accessibility requirements from the standards in Annex B are to be included as Mandatory Requirements, the procuring authority should confirm the market's capacity to deliver solutions that meet these Mandatory Requirements during the preparatory study.

Standards such as EN 301549 or Section 508 have been developed to identify for the procurer a diverse set of user needs.

7.3.2 Where ICT is to be purchased for a specific individual that ICT may only need to provide support for the particular needs of that individual.

7.4 Market capacity

7.4.1 The market's potential capacity to deliver accessible solutions should be investigated by the procuring authority. This can be achieved by including accessibility as a consideration in investigations, enquiries and interviews with potential suppliers.

7.4.2 Examples of strategies to assess the preparedness of the market to develop and supply accessible solutions include:

a. Asking potential suppliers about their current and future product development and establishing if accessibility will increasingly be built into the mainstream product and services offered, or if it will be an add-on feature.

b. Establishing which actors in the development and supply chain of the end solution (e.g. manufacturers, retailers) should be proficient in accessibility.[229]

c. Looking at various business models since accessibility requirements may depend on whether products and services are sold separately, bundled into packages, or whether products are sold as services.

d. In enquiries and interviews, including questions about whether and how accessibility is incorporated in the supplier's organization, policies, quality management system etc.

8. Requesting information in the Call for Tender on a supplier's accessibility capability

8.1 Where relevant, suppliers may be required to demonstrate their capability to deliver accessible ICT products or services. For example, a supplier's technical and/or professional capability in ICT accessibility is relevant where the subject matter of the procurement is a service such as web design, software development, outsourcing of operations of ICT infrastructure, call centre services etc.[230]

8.2 The [relevant ministry and regulatory authority] may define a specification of what constitutes a supplier with good ICT accessibility capabilities, taking into account that there are different kinds of suppliers in the ICT domain, e.g. manufacturers of hardware and software, service providers, system integrators, retailers and consultants. Procuring bodies shall require suppliers to provide evidence of their ICT accessibility capability. Examples of evidence that may be requested in the Call for Tender include:

8.2.1 A brief description of the suppliers' track record in the ICT accessibility domain;

8.2.2 A description of organization, staff, policy etc. concerning accessibility issues, signed by an authorized representative of the supplier; and

8.2.3 A third party attestation that the supplier complies with the specification referred to in section 8.1.

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[229] For example, in the procurement of a Content Management System for use in managing websites, it may be desirable to gain an initial assessment of the accessibility capability of both the CMS manufacturers and the developer who will customize and install the CMS.

[230] Assessing the technical and/or professional capability of the supplier is less meaningful for procurement of standard off-the-shelf products.

9. Use of standards for formulating accessibility requirements

9.1 Procuring authorities shall use appropriate and internationally recognized ICT accessibility standards that are appropriate for use in the procurement of accessible ICT[231].

9.2 In the specification of Mandatory Requirements and Award Criteria, procuring authorities shall, to the greatest extent, refer to a relevant standard listed in Annex A.

9.3 The [relevant ministry and regulatory authority] shall monitor standardization developments and update this list according as relevant standards are finalized or updated.[232]

10. Including accessibility as a criterion in the Call for Tender for 'off the shelf' products[233]

10.1 Where relevant, procuring bodies may, in the Call for Tender, include an appropriate sub-set of the accessibility criteria contained in the standards set out in Annex A in the specification of Mandatory Requirements for the procurement, thereby ensuring that the delivered ICT meets the most important accessibility aspects[234].

10.2 In particular, accessibility requirements shall be included in the "Mandatory Requirements" description of the Call for Tender where the subject matter of the procurement is intended for use by either members of the public or by public sector employees, except possibly in duly justified cases. (See section 15 on "Exemptions").

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[231] The systematic adoption and use of commonly accepted and used technical standards for procurement of accessible ICT is critical to the success of the procurement of accessible ICTs for several reasons:

- Significant economies of scale can be realized by both industry and government through the development and procurement of ICTs that follow common standards;
- Fragmentation between standards can occur when the use of locally developed standards is prioritized over adopting or contributing to the development of international standards; and
- There is a growing global trend towards the internationalization of accessible ICT standards which are currently in use or being adopted for use in regions such as Europe or North America, and in countries such as Australia, Korea, or Brazil.

In support of this, the Convention contains specific dispositions on the development, promulgation and use of commonly accepted standards and sharing of technical knowledge. Article 9 2(a) of the Convention promotes the development, promulgation, monitoring and implementation of "minimum standards and guidelines for the accessibility of facilities and services open or provided to the public." Likewise, Article 32 (b) and (c) respectively promote the exchange of information and cooperation in research and access to technical knowledge among State Parties.

[232] Efforts have been made to harmonize the Functional Performance Statement and criteria and the accessibility requirements in both the standards cited in Annex A (Draft EN 301 549 and Section 508). However to avoid confusion and to make the Call for Tender as clear as possible for potential suppliers, procuring authorities are encouraged to select one of these standards and to use and reference that standard consistently in the Call for Tender.

[233] 'Off the shelf' products are not subject to significant customization or development prior to delivery. Examples may include laptops, PCs, telephones, printers and cameras.

[234] A Product Accessibility Template can be attached to the Call for Tender for completion by a supplier. To the greatest extent possible the format of any such template should be based on a similar template used in other regions for use with the standards cited in Annex A.

The Call for Tender should include, at a minimum:

- A clear reference to the procurement competition for which it is to be used;
- A clear reference to the subject matter of the procurement;
- A clear reference to the standard from which the accessibility requirements are taken; and
- The entire list of relevant accessibility requirements which are relevant for this procurement taken from the standards included in Annex B which are relevant for this procurement.

A good guide on drafting a Call for Tender that includes accessibility, called W*riting a Request for Tender (RFT)* from the Centre of Excellence in Universal Design, can be found at:
http://universaldesign.ie/useandapply/ict/itprocurementtoolkit/stagesofprocurement/rft

10.3 Where the tender is intended customized or bespoke ICT solution, fulfilment and verification of the mandatory requirements upon delivery of the solution must be specified in the agreement.

10.4 Where on-going maintenance of ICT system is part of the tender, responsibility of maintaining, monitoring, and remediation of the ICT system accessibility performance must be specified in the agreement.

10.5 The procuring authority shall ensure that the accessibility requirements included as Mandatory Requirements are proportional and practical.

10.6 Where accessibility requirements are included they shall to the greatest extent possible be functional, i.e. specify functions and outcomes rather than technical solutions and be based on the accessibility requirements recommended by section 9 on use of standards.

10.7 Where tenders are to be evaluated on the basis of the Most Economically Advantageous Tender (MEAT), procuring authorities should include accessibility criteria in the specification of criteria for awarding of the contract, commonly called Award Criteria, thereby encouraging suppliers to adopt accessibility as a competition factor. Examples of criteria to be considered are:

10.7.1 The extent to which the relevant criteria based on the standards in Annex A are met;

10.7.2 Increased level of accessibility by referencing selected functional criteria beyond the set of requirements specified in the "Mandatory Requirements";

11. Including accessibility requirements in procurement for the development of products and services

11.1 For contracts on the development of a product or a service which is intended for use by persons, whether general public or staff of the procuring body, accessibility requirements shall be included in the specification of functions and performance of the product or service to be developed. This specification is part of both the "Call for Tender" and the Contract.

11.2 In procurement involving customized or bespoke products and services, particular attention shall be given to the inclusion of careful testing and compliance verification in the development process.

12. Verification of compliance with accessibility criteria in the Call for Tender

12.1 The procuring authority shall ensure that all claims of compliance by suppliers with the accessibility criteria specified in the Call for Tender are verified. Non-compliance may have severe consequences for users with disabilities.[235]

12.2 Depending on the type of product or service to be procured, and where accessibility comes about in the value chain of the technology components of a project, verification may take place pre-award or post-award:

12.2.1 Where the subject matter of the procurement is an 'off the shelf' product as described in section 10, verification of compliance shall be carried out during the evaluation of tenders in the pre-award phase of the procurement process.

12.2.2 Where the subject matter of the procurement is a customized or bespoke product or service as described in section 11, verification of compliance shall be carried out post-award, once the developed product is delivered and/or as part of the on-going delivery of the service.

[235] Inaccessible public service may hinder persons with disabilities from exerting their civic rights and obligations. Inaccessible ICT in the workplace may hinder disabled employees from performing their work in an effective manner. It must however be taken into account that accessibility can come about in different stages of the value chain.

12.3 Where the suppliers have access to attestations of compliance to an accessibility standard or the possibility to obtain them within the relevant time limit, the procuring body may request an attestation as proof of compliance.

12.4 Examples of relevant attestations that may be requested are:

12.4.1 A supplier's self-declaration of conformity;

12.4.2 A supplier's self-declaration of conformity, with supporting information on how the conformity assessment was carried out; [236]

12.4.3 A supplier's self-declaration of conformity, with supporting information on acceptance of results produced by bodies in other countries undertaking similar conformity assessments for off-the-shelf products and/or

12.4.4 A certificate, issued by an independent third party, as compliance verification (Third Party Certification).[237]

12.5 Procuring bodies may decide on a case-by-case basis which type of attestation to request. This decision must be based on a number of factors, including the degree of impartiality of the attestation required, impact on the user in the case of non-compliance, cost and time required to complete the conformity assessment by the supplier and appropriateness with respect to the development and manufacturing process of the subject matter of the procurement.

12.6 In most cases, a self-declaration of conformity may be sufficient, proportional and practical. A third party certification may be requested in cases where non-compliance could result in, for example, significant breaches of a user's privacy or in a risk to a user's health and safety.

12.7 Where the procuring body chooses to carry out the compliance verification in-house, and where the requirements are based on standards, the test methods (if any) specified in the standard shall be used. Other forms of testing that may be used include user testing, automated testing using specialised testing tools and validators and tools that simulate various sensory difficulties.[238] A suitably briefed and qualified team shall carry out the evaluation process.

12.8 In cases where a procuring authority in one country carries out a conformity assessment exercise on a particular ICT product or service and publishes the results, a procuring authority in another country may choose to recognise this assessment as evidence of conformity as part of their own procurement process.

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[236] A self-declaration of conformity is a statement issued by a supplier or manufacturer, based on a decision following review, that fulfilment of specific requirements has been demonstrated. The decision and the review are made by the supplier or manufacturer. The supplier may refer to assessments, if any, made by other first, second or third parties, but the supplier is entirely responsible for the attestation.

[237] For more on the different conformity assessment types see CEN/CLC/ETSI TR 101 552 "Guidance for the application of conformity assessment to accessibility requirements for public procurement of ICT products and services in Europe". www.etsi.org/deliver/etsi_tr/101500_101599/101552/01.00.00_60/tr_101552v010000p.pdf

EN ISO/IEC 17000:2004 defines third party conformity assessment activity "as performed by a person or body that is independent of the person or organization that provides the object and of user interests in that object". The key word in this definition is "independent". Third party assessment is sometimes used by a manufacturer or supplier to support a first party declaration. Applicable standards include EN 45011 (see Annex A.7) for certification and EN ISO/IEC 17020 (see Annex A.5) for inspection.

[238] More on user testing may be found here: www.universaldesign.ie/useandapply/ict/universaldesignforict/usertesting. An extensive list of web accessibility validation tools is maintained by the W3C: www.w3.org/WAI/RC/tools/complete. One popular web accessibility validation and texting tool that incorporates simulation tests is the Web accessibility toolbar: www.paciellogroup.com/resources/wat/ie.

13. Accessibility in contract clauses

13.1 The procuring body shall ensure that the Contract sufficiently enables the procuring body to verify that the delivered product or service fulfils specified accessibility requirements during the course of the Contract. This means that the accessibility requirements and the verification process should be specified in the contract. The specification should include:

- Accessibility requirements and criteria specified in the Call for Tender, met by the offered product/service according to the tender,
- Where applicable, requirements agreed in negotiation,
- Statutory requirements.

14. Accessibility in contract management

14.1 Where the procuring body has established a set of procedures for the follow-up of a supplier's performance during the lifetime of the contract (also known as contract management)[239], these procedures shall include procedures for maintenance that agreed accessibility requirements continue to be met.

14.2 The procedure for follow-up of accessibility shall pay particular attention to the fact that accessibility issues during the lifetime of the contracted system are often related to how the ICT system is used, maintenance procedures and the continuous development of interoperability between added or modified system components, accessibility features of the system and assistive devices delivered by third party suppliers. User tests should therefore be included in the maintenance process.

15. Exemptions

15.1 Recognizing that the use or design of certain types of ICTs used for military, national security or intelligence purposes may need to be classified, the [Ministry for Finance and the national public procurement agency or other authority with responsibility for implementing and monitoring this policy] may define a set of conditions whereby such types of ICT are exempt from the application of this policy.

15.2 All other exemptions to the inclusion of accessibility as a requirement in the public procurement of an ICT product or service not covered by section 15.1 may be made through an application in writing to the [Ministry for Finance and the national public procurement agency or other authority with responsibility for implementing and monitoring this policy] outlining:

15.2.1 A description of the ICT to be procured;

15.2.2 The rationale for the exclusion of accessibility as a criterion in the procurement of these ICTs;

15.2.3 Accommodations to be in place so that members of the public with a disability shall be able to access on an equitable basis, the equivalent public information or services; and

15.2.4 Accommodations to be in place so that public sector staff with a disability shall be able to access on an equitable basis, the equivalent work-related information or services.

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239 Other considerations for contract management include:
- monitoring of the delivery plan and accomplishment of the acceptance test,
- managing the supplier's performance against pre-determined quality criteria set out in the contract,
- managing changes and variations of the customers' needs, and
- the application of the contracted procedures to tackle changes.

16. Monitoring and evaluation

16.1 The [Ministry for Finance and the national public procurement agency or other authority with responsibility for implementing and monitoring this policy] shall ensure that all the measures outlined in the current policy are adopted by all public authorities procuring ICTs for use by the public or by employees of the public sector.

16.2 Monitoring may include checking the content of calls for tender published by public authorities for the inclusion of accessibility as a meaningful and measurable criterion in the procurement of ICT products and services and that the deployment of the ICT system achieve the level of accessibility as planned.

16.3 This policy shall be reviewed within at least two years. During the review process views will be sought from persons with disabilities, the Committee on ICT Accessibility[240], organizations representing persons with disabilities, public authorities implementing the policy and industry.

17 Periodic review

17.1 Due to the fast-moving technological developments and market conditions, this policy shall be reviewed at least every two years.

[240] See Module 1. Where a country does not establish such a committee, the same objective can be achieved through the regular review of existing regulations subject to public consultation that includes persons with disabilities.

Annex A: Standards

The following standards are deemed as suitable for use in formulating accessibility requirements for the purposes of achieving conformance with the functional performance statements:

- U.S. Access Board: "Information and Communication Technology (ICT) Standards and Guidelines" for Section 508 of the Rehabilitation Act and Section 255 of the Telecommunications Act of 1996[241]
- European Standard EN[242] 301 549; "Accessibility requirements for public procurement of ICT products and services in Europe"[243]

In addition, ISO/IEC 40500 (2012): "Information technology -- W3C Web Content Accessibility Guidelines (WCAG) 2.0"[244] may be referenced for procuring web technology, web development or web contents and services.

They may be used in:

- Defining accessibility requirements for the mandatory requirements in the Call for Tender
- Defining sub-criteria for the award criteria in the Call for Tender
- Defining accessibility requirements for use in the specification of functions and performance of the product or service to be developed to be included in the contract and the Call for Tender

[241] Compliance with these standards, Available at www.access-board.gov/attachments/article/490/draft-rule.pdf, is mandatory for federal agencies in the US pursuant to Section 508 of the Rehabilitation Act of 1973. This standard is currently in the process of being updated.

[242] European Standards use the abbreviation "EN".

[243] EN 301 549 available at www.etsi.org/deliver/etsi_en/301500_301599/301549/01.01.01_60/en_301549v010101p.pdf This new European Standard released in January 2014 is complemented by a series of three Technical Reports (TR 101 550, TR 101 551 and TR 101 552). Together, these documents set out accessibility requirements that can be applied to a wide range of products and services related to ICT, including computers, smartphones and other digital devices, ticketing machines, websites and emails. The aim is to ensure that ICT products and services are accessible either directly or through compatibility with assistive technologies such as text-to-speech, so that everyone can access information and use services that are delivered electronically.

[244] Available at: www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=58625. These are also referenced as: W3C: Web Content Accessibility Guidelines (WCAG) 2.0, W3C Recommendation, 11 December 2008 and are available at www.w3.org/TR/WCAG/. See Module 5 for more guidance on promoting web accessibility.

Annex B: Functional performance statements

The following two standards, EN 301 549, "Accessibility requirements for public procurement of ICT products and services in Europe" and Section 508, U.S. Rehabilitation Act of 1973, provide a framework which may be used to define ICT accessibility for procurement purposes. Although similar in scope and content, it is recommended not to alter the text of these statements or to mix and match them. The purpose and definition of functional performance statements are explained in the Model accessible ICT procurement policy in this module.

Box B1: Functional performance statements from EN 301 549 "Accessibility requirements for public procurement of ICT products and services in Europe"

1. Meeting functional performance statements

- The statements set out in this box are intended to describe the functional performance of ICT enabling people to locate, identify, and operate ICT functions, and to access the information provided, regardless of physical, cognitive or sensory abilities. Any ability impairments may be permanent, temporary or situational.
- ICT meeting the applicable requirements of clauses 5 to13 is deemed to have met a level of accessibility conformant with the present document and consistent with the user accessibility needs identified in clause 4.2 (Functional performance statements).
- *NOTE 1: The relationship between the requirements from clauses 5 to 13 and the accessibility-related user needs is set out in Annex B.EN 301 549 V1.1.1 (2014-02)*
- *NOTE 2: The intent of clause 4.2 is to describe the users' accessibility needs in accessing the full functionality and documentation of the product or the service with or without the use of assistive technologies.*
- *NOTE 3: The methods of meeting the accessibility needs of users with multiple impairments will depend on the specific combination of impairments. Meeting these user accessibility needs may be addressed by considering multiple clauses in 4.2.*
- *NOTE 4: Several users' accessibility needs rely on ICT providing specific modes of operation. If a user is to activate, engage or switch to the mode that complies with his or her user accessibility needs, the method for activating, engaging or switching to that mode is also expected to comply with the same user accessibility needs.*

2. Functional performance statements

2.1 Usage without vision

- Where ICT provides visual modes of operation, some users need ICT to provide at least one mode of operation that does not require vision.
- *NOTE: Audio and tactile user interfaces may contribute towards meeting this clause.*

2.2 Usage with limited vision

- Where ICT provides visual modes of operation, some users will need the ICT to provide features that enable users to make better use of their limited vision.
- *NOTE 1: Magnification, reduction of required field of vision and control of contrast, brightness and intensity can contribute towards meeting this clause.*
- *NOTE 2: Where significant features of the user interface are dependent on depth perception, the provision of additional methods of distinguishing between the features may contribute towards meeting this clause.*
- *NOTE 3: Users with limited vision may also benefit from non-visual access (see clause 2.1).*

2.3 Usage without perception of colour

- Where ICT provides visual modes of operation, some users will need the ICT to provide a visual mode of operation that does not require user perception of colour.
- *NOTE: Where significant features of the user interface are colour-coded, the provision of additional methods of distinguishing between the features may contribute towards meeting this clause.*

2.4 Usage without hearing

- Where ICT provides auditory modes of operation, some users need ICT to provide at least one mode of operation that does not require hearing.
- *NOTE: Visual and tactile user interfaces may contribute towards meeting this clause.*

2.5 Usage with limited hearing

- Where ICT provides auditory modes of operation, some users will need the ICT to provide enhanced audio features.
- NOTE 1: Enhancement of the audio clarity, reduction of background noise, increased range of volume and greater volume in the higher frequency range can contribute towards meeting this clause.
- NOTE 2: Users with limited hearing may also benefit from non-hearing access (see clause 2.4).EN 301 549 V1.1.1 (2014-02)

2.6 Usage without vocal capability

- Where ICT requires vocal input from users, some users will need the ICT to provide at least one mode of operation that does not require them to generate vocal output.
- *NOTE 1: This clause covers the alternatives to the use of orally-generated sounds, including speech, whistles, clicks, etc.*
- *NOTE 2: Keyboard, pen or touch user interfaces may contribute towards meeting this clause.*

2.7 Usage with limited manipulation or strength

- Where ICT requires manual actions, some users will need the ICT to provide features that enable users to make use of the ICT through alternative actions not requiring manipulation or hand strength.
- *NOTE 1: Examples of operations that users may not be able to perform include those that require fine motor control, path dependant gestures, pinching, twisting of the wrist, tight grasping, or simultaneous manual actions.*
- *NOTE 2: One-handed operation, sequential key entry and speech user interfaces may contribute towards meeting this clause.*
- *NOTE 3: Some users have limited hand strength and may not be able to achieve the level of strength to perform an operation. Alternative user interface solutions that do not require hand strength may contribute towards meeting this clause.*

2.8 Usage with limited reach

- Where ICT products are free-standing or installed, the operational elements will need to be within reach of all users.
- *NOTE: Considering the needs of wheelchair users and the range of user statures in the placing of operational elements of the user interface may contribute towards meeting this clause.*

2.9 Minimize photosensitive seizure triggers

- Where ICT provides visual modes of operation, some users need ICT to provide at least one mode of operation that minimizes the potential for triggering photosensitive seizures.
- *NOTE: Limiting the area and number of flashes per second may contribute towards meeting this clause.*

2.10 Usage with limited cognition

- Some users will need the ICT to provide features that make it simpler and easier to use.
- *NOTE 1: This clause is intended to include the needs of persons with limited cognitive, language and learning abilities.*
- *NOTE 2: Adjustable timings, error indication and suggestion, and a logical focus order are examples of design features that may contribute towards meeting this clause.*

2.11 Privacy

- Where ICT provides features that are provided for accessibility, some users will need their privacy to be maintained when using those ICT features that are provided for accessibility.
- *NOTE: Enabling the connection of personal headsets for private listening, not providing a spoken version of characters being masked and enabling user control of legal, financial and personal data are examples of design features that may contribute towards meeting this clause.*

Box B2: U.S. Rehabilitation Act of 1973. Section 508 Standards for Electronic and Information Technology - Subpart C — Functional Performance Criteria [245]

§ 1194.31 Functional performance criteria.

(a) At least one mode of operation and information retrieval that does not require user vision shall be provided, or support for assistive technology used by people who are blind or visually impaired shall be provided.

(b) At least one mode of operation and information retrieval that does not require visual acuity greater than 20/70 shall be provided in audio and enlarged print output working together or independently, or support for assistive technology used by people who are visually impaired shall be provided.

(c) At least one mode of operation and information retrieval that does not require user hearing shall be provided, or support for assistive technology used by people who are deaf or hard of hearing shall be provided.

(d) Where audio information is important for the use of a product, at least one mode of operation and information retrieval shall be provided in an enhanced auditory fashion, or support for assistive hearing devices shall be provided.

(e) At least one mode of operation and information retrieval that does not require user speech shall be provided, or support for assistive technology used by people with disabilities shall be provided.

(f) At least one mode of operation and information retrieval that does not require fine motor control or simultaneous actions and that is operable with limited reach and strength shall be provided.

Annex C: Example of product accessibility template

The following example product accessibility template may be attached to the Call for Tender for completion by the supplier.[246] To the greatest extent possible the format of any such template should be based on a similar template used in other regions for use with the standards cited in Annex B. The following example is based on the "Government Product Accessibility Template" provided by the Buy Accessible Wizard at http://buyaccessible.gov

The template should include, at a minimum,

- A clear reference to the procurement competition for which it is to be used
- A clear reference to the subject matter of the procurement
- A clear reference to the standard from which the accessibility requirements are taken
- The entire list of relevant accessibility requirements taken from the standards included in Annex B which are relevant for this procurement.

←--- Example template starts here ----→

Product accessibility for [*name of competition and ICT to be procured*]

Summary table: This table provides a summary of all the relevant sections from the standard [name of standard in Annex B from which provisions are taken]

- Column one includes all the sections of the standard that may apply to any deliverable. The total number of provisions within each Section of the Standard is shown in parentheses.
- Column two identifies the total number of provisions that typically apply to a deliverable of this type. Some of these may not be features of the supplier's deliverable. Conversely, others not noted may be features of the supplier's deliverable. If the deliverable includes additional features, the accessibility of these features must also be considered.
- Column three is for general notes about the sections of the standard. Some apply to all deliverables and some are specific to the deliverable.
- Column four is a summary of the vendor's response to applicable provisions and additional deliverable features from the sections of the standard.
- Column five is where the vendor can note explanations for any of the preceding columns, e.g. there are differences between expected applicable provisions and actual product features.

[246] It is based on similar templates provided by the Buyaccessible.gov wizard based on the US Section 508 procurement rules (cited in Annex B). A similar approach is encouraged by the European Mandate 376 technical reports. The European Mandate 376 process led to the development of the EN 301 549 standard referenced in this module.

[e.g. *Section 508, EN 301 549*] Standard Sections	**Total Number of Applicable Provisions**	**Notes**	**Total Number of Supported Provisions**			**Please explain**
			Fully	**Partial**	**Not**	
Section [*XX.xx*] [Name of section] ([*Number of*] provisions)	[*Number*]					
Section [*XX.xx*] [Name of section] ([*Number of*] provisions)	[*Number*]					
etc	etc					

Subpart B -- Technical Standards

Note: If there is a possibility that the provision applies, the default value is “Yes”.

Provision Text	**Applicable**	**Notes**	**How does the EIT meet this requirement?**	**Please explain**
[*Accessibility requirement taken from standard cited in Annex B – to be filled in by the supplier*]	[Yes/No – to be filled in by procuring authority]		__Fully __Partially __No [to be filled in by supplier]	[to be filled in by supplier]
[*Accessibility requirement taken from standard cited in Annex B*]	[*Yes/No*]		__Fully __Partially __No	
[*Accessibility requirement taken from standard cited in Annex B*]	[*Yes/No*]		__Fully __Partially __No	

Annex D: Training materials and resources for use in awareness raising, capacity building and training in public procurement of accessible ICT

Training resources

ITU, 2009. "Public Procurement of Accessible ICTs - Training Workshop Presentation". Available at: www.itu.int/en/ITU-D/Digital-Inclusion/Persons-with-Disabilities/Pages/Resources.aspx

National Disability Authority of Ireland, 2012. "Disability Equality Training for Public Service Staff". Online training module available at http://elearning.nda.ie

CEN, CENELEC, ETSI, 2013. "European Accessibility Requirements for Public Procurement of Products and Services in the ICT Domain, (European Commission Standardization Mandate M 376, Phase 2)". A range of reports on developing an accessible ICT procurement Toolkit. Available at www.mandate376. Reports of most relevance are:

- D5: Draft "Online Procurement Toolkit for accessible ICT products and services").
- D6: Draft "Additional guidance and support material for the procurement of accessible ICT products and services").

Available at: www.mandate376.eu/pc.htm#pc1

CEN Workshop Agreement (CWA) 16266 "Curriculum for training ICT Professionals in Universal Design". Available at ftp://ftp.cen.eu/CEN/Sectors/TCandWorkshops/Workshops/CWA16266.pdf

Accessible ICT Procurement Toolkits:

Universal Design in Public Procurement (Norway)

Name: Universal Design in Public Procurement - Toolbox for buyers in the public sector.

Organization: Joint project between Bergen County, Bergen and pilot municipalities Time / Klepp.

Country: Norway

Year of publication (estimate): Autumn 2008

URL: www.universelleanskaffelser.no/

The toolbox for call-for-tenders (Denmark)

Name: Udbudsværktøjskassen (the toolbox for call-for-tenders)

Organization: IT- og Telestyrelsen (National IT and Telecom Agency)

Country: Denmark

Year of publication: 2004, updated December 2009

URL: http://vkassen.itst.dk/

IT Procurement Toolkit (Ireland)

Organization: Centre for Excellence in Universal Design at the National Disability Authority (NDA)

Year of publication : February 2007

URL: www.universaldesign.ie/useandsupply/ict/itprocurementtoolkit

BuyAccessible Wizard (USA)

Name: BuyAccessible Wizard

Organization: General Services Administration (GSA)

Country:USA

Year of publication (estimate): 2004 (Updates ongoing)

URL: https://app.buyaccessible.gov/baw/

Accessible Procurement Toolkit (Canada)

Name: Accessible Procurement Toolkit

Organization: Industry Canada (ic.gc.ca)

Country: Canada

Year of publication (estimate):

URL: www.apt.gc.ca/

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