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ICT accessibility overview: Assessment for the Africa region

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Acknowledgements

This ICT accessibility overview and assessment for the Africa region was developed by Ms Monica Duhem, an internationally recognized expert in ICT accessibility with over 15 years of experience who is certified by the International Association of Accessibility Professionals under the guidance of the ITU Telecommunication Development Bureau's (BDT) Digital Society Division.

The report, which was prepared under the overall coordination of the ITU Regional Office for Africa, is designed to support ITU members and stakeholders in achieving Target 2.9 of the ITU Connect 2030 Agenda. This target calls for the establishment of enabling and accessible environments for persons with disabilities in all countries by 2023, through the implementation of information and communication technology (ICT) accessibility as a catalytic driver to ensure the digital inclusion of all persons regardless of gender, age, ability or location, thereby allowing accessible and inclusive digital communities to be built in the Africa region.

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1 Background

The world is living through a fourth revolution, one that is technological in nature. Individuals are exposed to digitalization across all sectors, including communications, transactions and exchanges of information and services, which are now offered using technology. In this interconnected world, a variety of information and communication technology (ICT) products and services are available across the global market and have become enablers in every aspects of individuals' lives. To be successful, however, technology should be human-centred; the digitalization of processes, products and services must therefore be carefully planned and implemented to ensure that they address the needs of all persons, regardless of age, gender, ability or location. Only where technology is designed and developed in a manner that respects requirements and standards for ICT and digital accessibility, in accordance with the principle of universal design in technology, will all persons be able to enjoy its benefits. If technology cannot be accessed, understood and utilized by all its intended users, it will instead broaden the digital divide and reduce opportunities, instead of leading to empowerment, providing benefits and enhancing social and economic development for all.

This ICT accessibility overview and assessment report for the Africa region comes at a very important time, as digital transformation has been accelerated in response to the coronavirus disease (COVID-19) pandemic, during which technology became one of the only means of accessing vital information, products and services and communicating with family members. Furthermore, access to and use of technology also became critical for education and remote working. More than ever before, the importance of ICT accessibility was placed at the top of policy-makers' agendas worldwide. Ensuring the use and appropriation of technology by all has become part of the COVID-19 recovery agenda as a compulsory requirement of the new reality, and the Africa region is no exception. In the context of digital transformation, since the degree and pace of digitalization vary according to the level of infrastructure and the availability of ICTs in each country, the overarching goal of full digital inclusion can be achieved only by strengthening partnerships among all stakeholders with a view to jointly building user-friendly and accessible digital environments, thus ensuring that no one is left behind in Africa.

African countries are seizing the "opportunity" presented by the COVID-19 pandemic

Source: World Bank Group

"Evidence shows that at the height of the lockdown, 25 per cent of the firms in sub-Saharan Africa accelerated the use of digital technologies and increased investments in digital solutions in response to COVID-19. Governments have partnered with the private sector to deliver online services, such as public health information and e-learning, and ease the use of digital payments. From the onset of the health crisis, governments and mobile operators have focused on reducing the prices of devices and services, avoiding disconnections for lack of payment, and increasing bandwidth."[1]

[1] World Bank Group, "Africa's pulse: An analysis of issues shaping Africa's economic future – Charting the road to recovery", October 2020, vol. 22, available at https://documents1.worldbank.org/curated/en/692551602223646754/pdf/Main-Report.pdf.

The aim of this report is to support ITU members and stakeholders from the Africa region in their efforts to achieve inclusive digital communities by assessing ICT accessibility as a key driver in achieving digital inclusion within the digital transformation process. The report provides an overview of the current situation of ICT accessibility implementation in the Africa region. In this document, Member States will also find:

- information on challenges and opportunities related to digital inclusion;
- descriptions and definitions of the pillars of digital inclusion within the digital transformation process;
- information and knowledge about the critical importance of ICT accessibility in ensuring the digital inclusion of all persons regardless of gender, age, ability or location;
- guidance on the requirements for implementing ICT accessibility, such as ICT accessibility policies and strategies, accessible ICT products and services, appropriation and digital skills.

With the world's youngest population, Africa has more room to grow in relation to ICTs than any other region. This report examines existing opportunities to achieve digital inclusion and to build enabling and inclusive technological environments. It highlights the fundamental elements required to ensure that the digital development of the region is inclusive, so that all persons are able to benefit from the positive impact of the digital revolution. Finally, the report also presents a set of specific recommendations and best practices to help countries and ITU members build inclusive global digital communities.

1.1 Global and regional commitments

Exclusion from the digital economy is a violation of a person's human rights. If products and services are only available online and are inaccessible to a person or a group of individuals, that individual or group is being excluded and discriminated against. Countries are working together around the globe to establish the conditions required to ensure equal opportunities for all persons.

In 2006, the United Nations adopted the Convention on the Rights of Persons with Disabilities. As at June 2021, the Convention has been ratified by more than 94 per cent of all countries, including 39 of the 44 ITU Member States in the Africa region.

CRPD
CONVENTION ON THE RIGHTS OF PERSONS WITH DISABILITIES

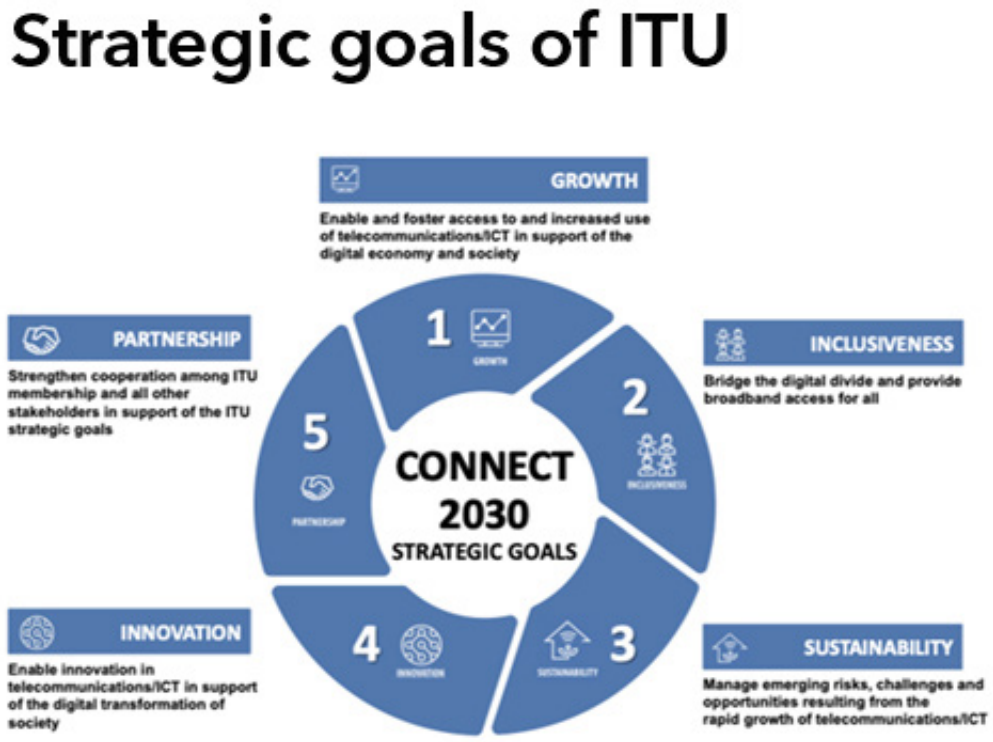
This Convention recognizes specifically the right of all persons, including persons with disabilities, to access ICTs. Signatory countries are obliged to take the necessary steps to ensure conditions of equality in that regard. As will be explained in this report, ICT accessibility is required in order to comply with this international commitment.

Source: United Nations

The 2030 Agenda for Sustainable Development, approved in September 2015 by the United Nations General Assembly, establishes a transformative vision for achieving economic, social and environmental sustainability in the 193 United Nations member States, including all African countries that adopted the agenda. At the agenda's heart lie the 17 Sustainable Development Goals (SDGs), which present an urgent call for action by all countries – both developed and developing – in the form of a global partnership. These countries recognize that ending poverty and other deprivations must go hand in hand with strategies that improve health and education, reduce inequality and spur economic growth. Member States also recognized that the spread of ICTs and global interconnectedness has great potential to help accelerate human progress, bridge the digital divide and develop knowledge societies.

ICTs are vital in driving progress towards achieving each of the 17 SDGs. Billions of individuals around the world are already being empowered by ICTs, which provide them with access to education resources and health care, as well as digital services such as mobile banking, e-government and social media. Nevertheless, this progress will not be inclusive of all persons nor will it reduce inequality if these technologies, which serve as enablers, are not accessible to all.

In that connection, at the ITU Plenipotentiary Conference (Dubai, 2018), all ITU Member States endorsed the Connect 2030 Agenda and defined "inclusiveness" as one of the five strategic goals of ITU. They further committed to implementing an ambitious target of ensuring that, by 2023, enabling environments that ensured accessible telecommunications/ICTs for persons with disabilities were established in all countries.



Source: ITU

Taking into consideration the importance of technology in empowering individuals, and in line with the Convention on the Rights of Persons with Disabilities and the United Nations Disability Inclusion Strategy, ITU has incorporated digital inclusion and accessibility as one of the top priorities in its strategic plan for 2020-2023.[2]

1.2 Disability demographics in Africa

By 2050, more than 300 million individuals in Africa will be at risk of being excluded from digital transformation if digital accessibility – a catalytic requirement for ensuring digital inclusion – is not considered.

According to United Nations statistics, one billion individuals worldwide live with disabilities, 80 per cent of whom live in developing countries, with an estimated 80 million living in Africa. The vast majority of persons with disabilities in Africa are excluded from schools and work opportunities, virtually guaranteeing that they will live as the poorest of the poor. School enrolment among persons with disabilities is estimated at no more than 10 per cent, and as many as 80 per cent of persons with disabilities of working age are unemployed. The social stigma associated with disability results in marginalization and isolation, often leading to begging as the only means of survival.

[2] The plan is available at https://www.itu.int/en/council/planning/Documents/ITU_Strategic_plan_2020-2023.pdf.

Source: World Bank Group

Several countries, including Ethiopia and Mozambique, have created national action plans to address the needs of persons with disabilities. In addition, South Africa and Zambia have launched official efforts to combat mental health problems, while many other African countries have incorporated the provision of better assistance for persons with disabilities into their economic and social development plans.

The United Nations Toolkit on Disability for Africa[3] sets out concrete strategies to battle stigma and discrimination. These include action within communities, as well as law and policy reforms. Furthermore, the toolkit calls for improved data collection, more cooperation between neighbouring countries experiencing the same problems and wider south-south exchange of information.

According to the World Health Organization, worldwide disability rates are increasing, partly as a result of ageing populations and increases in chronic health conditions. As data gaps persist, however, the true burden of disability in developing countries remains unclear.

By 2050, the number of older adults in Africa is expected to have more than tripled to 235.1 million.[4] Seven out of ten adults aged 60-64 years, and almost half of those aged 65 and older, in sub-Saharan Africa remain in the labour force, a higher proportion than in any other world region. Furthermore, older African women have reportedly higher rates of disability and functional limitations than older African men. They are also more likely to report experiencing a greater level of difficulty when performing daily activities.

Ensuring digital inclusion and accessible ICTs will mitigate the cost of ageing in the region and facilitate the participation of older adults still in the workforce who have age-related disabilities. ICT accessibility is the right path for smart, digitally inclusive communities.

[3] The toolkit is available at https://www.un.org/development/desa/dspd/2016/11/toolkit-on-disability-for-africa-2/.

[4] Wan He, Dzifa Adjaye-Gbewonyo and Isabella Aboderin, "Africa Aging: 2020", United States Census Bureau and African Population and Health Research Center, available at https://www.census.gov/content/dam/Census/library/publications/2020/demo/p95_20-1.pdf.

In its report issued for the High-Level Meeting on Disability and Development in 2013, the United Nations Department of Economic and Social Affairs ranked the importance of various forms of ICT in ensuring the inclusion of persons with disabilities in a number of areas, as shown in Table 1.[5]

Table 1: Ranks of most important ICT for the inclusion of persons with disabilities

	Websites	Mobiles	TV	Radio	Other
Health care	3.3	3.1	2.9	2.5	2.7
Primary education	3.0	2.6	2.8	2.3	2.9
Secondary education	3.4	3.0	2.7	2.3	2.8
Lifelong education	3.7	3.4	2.9	2.4	2.8
Employment	3.7	3.3	2.5	2.2	2.7
Independent living	3.4	4.6	2.8	2.4	2.8
Government services	3.5	3.0	3.0	2.3	2.6
Participation in political and public life	3.3	3.1	2.7	2.5	2.6

Note: 5 = most important; 1 = least important.

While ICTs (both applications and services) can raise insurmountable barriers if they are not designed to be accessible, new ICT solutions and technologies can also provide unprecedented supportive solutions for persons with disabilities. Screen readers, Global Positioning System (GPS) technology, image recognition, machine learning and artificial intelligence are just some of the accessible and assistive technologies that support multiple innovations to facilitate independent living. These technologies, which were designed initially for persons with disabilities, have been proven to be of benefit to a wide range of persons, including migrants, persons who are illiterate, older persons and persons without disabilities who need to use accessible technologies in certain contexts and environments.

[5] The report can be found at https://www.un.org/development/desa/disabilities/resources/high-level-meeting-of-the-general-assembly-on-disability-and-development-23-september-2013.html.

2 Digital transformation, digital inclusion and the Convention on the Rights of Persons with Disabilities

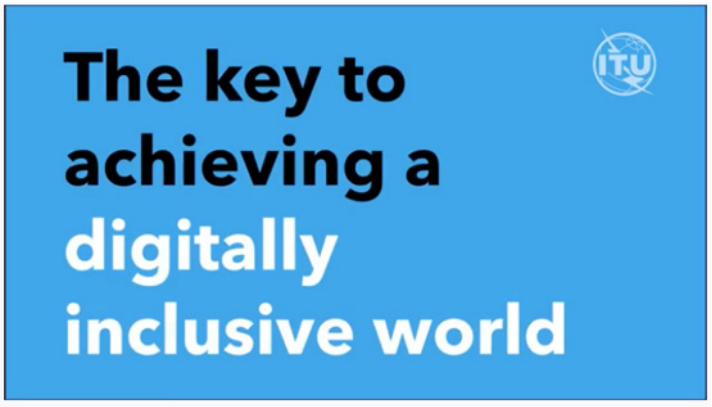
The Digital Transformation Strategy for Africa (2020-2030), published by the African Union in August 2020, presents a regional framework for harnessing digital technologies and innovation. The goal of the strategy is to transform African societies and economies with a view to promoting integration, generating inclusive economic growth, stimulating job creation, closing the digital divide and eradicating poverty for the benefit of the continent's socio-economic development and to ensure Africa's ownership of modern tools for digital management.

The foundation pillars of digital transformation presented in the strategy are based on the following:

- **Enabling environments, policies and regulations**: To build enabling environments, it is important to develop an inclusive regulatory framework.
- **Digital infrastructure**: Inaccessible digital infrastructure creates barriers for persons with disabilities in the work environment, business sector, education, health care, political participation, etc.
- **Digital skills and human capacity**: All persons need digital skills to participate in the digital economy. Persons with disabilities are no exception. With universally designed technologies (accessible ICTs) and with the additional support provided by assistive technologies, all persons can participate in and contribute to the economic and social development triggered by the use of ICTs.

Nevertheless, if inclusion requirements for technology are not taken into account, the Digital Transformation Strategy for Africa risks widening the digital divide and leaving vulnerable groups behind. A clear understanding of digital inclusion is therefore crucial to achieve digitally inclusive communities.

2.1 ICT accessibility: The key to achieving digital inclusion



Source: ITU, "ICT/digital accessibility: The key to achieving a digitally inclusive world", video, available at https://www.youtube.com/watch?v=SZJ_DZOPXCU&t=7s.

Digital inclusion is the ability of individuals and groups to access and use information and communication technologies regardless of gender, age or location. The pyramid of digital inclusion contains three "As": access, affordability and accessibility. Under the pillar of accessibility, another three "As" – namely adoption of policies and standards, accessible ICTs and appropriation of ICTs – are to be implemented to achieve the goal of digital inclusion for all persons regardless of gender, age, ability or location.

Source: ITU

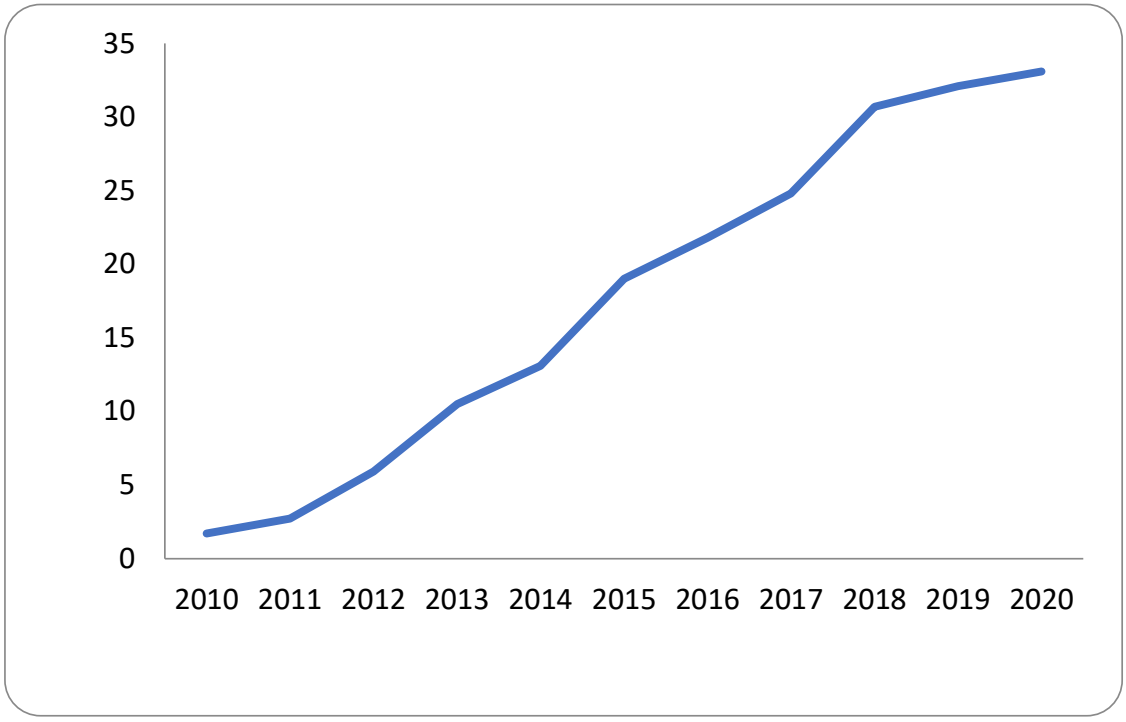
Digital inclusion has two vital elements, namely infrastructure and ICT accessibility. Affordability is also an important requirement that needs to be met with regard to both infrastructure (through affordable Internet) and accessibility (through affordable devices).

2.1.1 Infrastructure

Digital infrastructure comprises the physical resources that are necessary to enable the use of data, computerized devices, methods, systems and processes. Internet connectivity refers to the means of connecting people and machines. It usually requires core and access network infrastructure, services and user equipment.

The Africa region has been reporting clear connectivity improvements with regard to infrastructure, with the number of active mobile broadband subscribers increasing by 1 847 per cent over the past 10 years.

Figure 1: Number of mobile broadband subscriptions per 100 habitants in Africa, 2010-2020

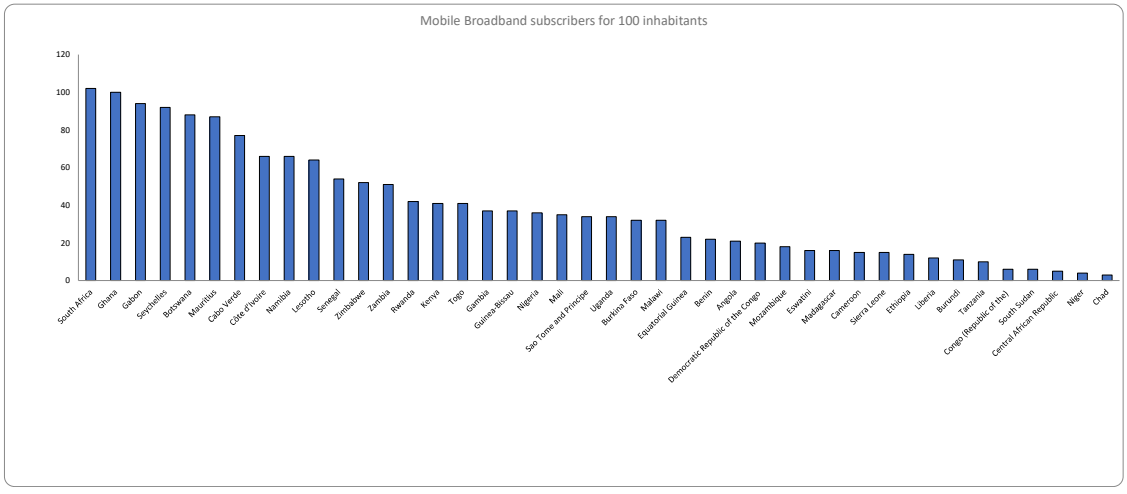


Source: Statista, "Number of active mobile-broadband subscriptions per 100 inhabitants worldwide from 2010 to 2020, by region", available at https://www.statista.com/statistics/249837/mobile-broadband-subscriptions-per-100-inhabitants-by-region/.

This improvement is a result of increasing investment in broadband deployment.

While, in 2020, the global average number of mobile broadband subscriptions was 75 per 100 inhabitants, and the average global mobile network coverage was estimated at 96.7 per cent, in the Africa region in 2019 the estimated number of mobile broadband subscribers was 33.1 per 100 inhabitants, and 77 per cent of the population is estimated to be within range of a 3G network.

Figure 2: Number of mobile broadband subscribers per 100 inhabitants, selected African countries, 2019



Data drawn from the ITU World Telecommunication/ICT Indicators Database

According to Internet World Stats, between 2000 and 2021, the population in Africa with access to the Internet increased by 43 per cent.[6] Given that this trend is set to continue, it is therefore the right time to ensure the availability of accessible ICTs, as connectivity must be guaranteed in both urban and rural areas.

2.1.2 Affordability

Affordability means that the price of telecommunication devices and Internet services must be low enough so that they can be purchased by everyone. If this is not currently the case, programmes and policies should be developed to ensure access to devices and the Internet, such as through the creation of telecentres or connecting schools. A lack of affordability is regularly cited as one of the major barriers to Internet access and usage.[7]

> *"In large parts of Africa, we are witnessing a lack of progress in extending access and network coverage. Affordability is also declining in many nations. Promoting greater digital inclusion is going to require more effective and innovative collaboration. We need to leverage our strengths and expertise. Governments can help with policies enabling new technologies, new business models and investment. The right policies will, in turn, provide the private sector with the incentives to build out infrastructure and explore new technologies and applications that will drive demand."*
>
> Doreen Bogdan-Martin, Executive Director of the Broadband Commission for Sustainable Development and Director of the ITU Telecommunication Development Bureau (BDT)
>
> *"Affordability remains one of the main challenges in addressing the global digital divide. The relatively high costs of getting online also include the costs of purchasing a mobile device. Sub-Saharan Africa faces the greatest challenge in terms of the affordability of an entry-level mobile device. The combination of expensive entry-level mobile data plans and entry-level devices keep the majority of people in the region offline."*
>
> Broadband Commission for Sustainable Development, 2019, "Connecting Africa through broadband: A strategy for doubling connectivity by 2021 and reaching universal access by 2030".

Affordability plays a major role in ICT accessibility. Strategies and policies must be put in place to guarantee the availability of broadband and devices at affordable prices.

In 2018, the Alliance for Affordable Internet reported that many countries in sub-Saharan Africa had made progress on affordability issues in some policy areas, including Benin, Tanzania,

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6 Internet World Stats, "Internet user statistics for Africa", available at https://www.internetworldstats.com/stats.htm.

7 ITU, "Affordability", available at https://www.itu.int/en/mediacentre/backgrounders/Pages/affordability.aspx.

Uganda and Zambia.[8] Policies that have an impact on affordability will increase Internet penetration.

2.1.3 ICT accessibility

ICT accessibility means that products, services and content are developed in accordance with accessibility standards and requirements. This concept also applies to legislation, policies and regulations that ensure the development and availability of accessible and affordable ICTs, in addition to their appropriation and adoption by all persons.

The reference resource for addressing ICT accessibility is the 2021 publication entitled "Towards building inclusive digital societies: ITU toolkit and self-assessment for ICT accessibility implementation".[9] This resource is not only a valuable guide for all stakeholders seeking to address digital accessibility implementation but also it also supports monitoring of the implementation process, while providing tailored guidelines and relevant good practices at every step of the implementation process. The document is presented in more detail in Chapter 3.

2.1.4 Adoption of policies and strategies

Policies and regulations must be revised and developed in line with the evolving use of accessible technologies. If we consider, for example, the increase in the use of ICTs to offer a range of services such as e-health, e-education and e-government, it is important to ensure that these accessible technologies can be used by all persons. Policies and regulations on the use of technology as an enabler must therefore incorporate inclusivity requirements.

The ITU model ICT accessibility policy report,[10] available in English and French on the ITU website, addresses a range of subjects in the ICT sector and is designed to assist in policy-making on public ICT access, mobile communications, television/video programming, web accessibility and public procurement. It also provides a framework for countries to develop policies, legislation, regulations, standards and guidelines to provide an institutional framework for ICT accessibility.

2.1.5 Accessible ICT

Accessible ICT means that products and services have embedded accessibility features from the design/fabrication stage, meaning that the ICT can be used by all users regardless of their capabilities, needs or circumstances.

To be considered accessible, the service or equipment must comply with accessibility requirements and must be accessible, understandable and usable by all persons from across the widest range of abilities, taking into account their varying needs and circumstances. Accessible ICTs are compatible with assistive technologies.

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8 Alliance for Affordable Internet, "2018 Affordability Report", available at http://a4ai.org/wp-content/uploads/2018/10/A4AI-2018-Affordability-Report.pdf.

9 The publication is available at https://www.itu.int/pub/D-PHCB-TOOLKIT.01-2021.

10 The report is available at https://www.itu.int/en/ITU-D/Digital-Inclusion/Persons-with-Disabilities/Documents/ICT%20Accessibility%20Policy%20Report.pdf.

Table 2: Examples of accessible ICTs

Accessible ICTs	Description
 	Smartphones that have software accessibility features embedded in their fabrication, such as zooming, a screen reader and voice-activated command. Such functionalities make these devices compliant with the concept of universal design because they can be used by people with a wide range of abilities. The same functionalities can be found in tablets. The Mobile and Wireless Forum has developed the Global Accessibility Reporting Initiative to help consumers learn more about the accessibility features of mobile devices and identify devices with the features suited to their particular needs.
 	Smart televisions have embedded accessibility features, such as on-screen text enlargement, colour inversion to facilitate the reading of subtitles, audio description services and multi-output audio to allow Bluetooth-enabled headphones or hearing devices to be connected.

Table 2: Examples of accessible ICTs (continued)

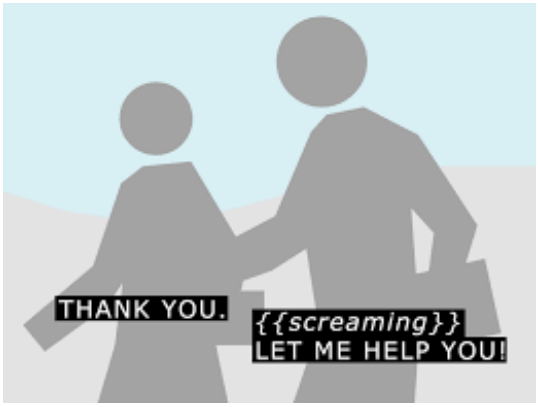
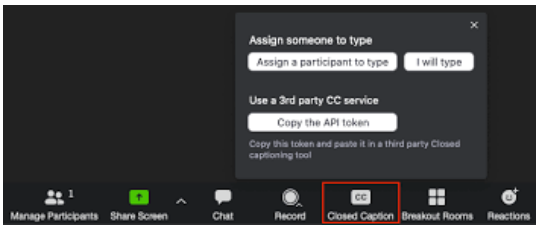
Accessible ICTs	Description
	Video programming with subtitles and audio description that allows individuals with a hearing or visual disability – or anyone wanting to consume content in a noisy environment – to do so on an equal basis.
	Live closed captioning on video conference platforms allows persons with a hearing disability – or anyone wanting to consume content in a noisy environment – to do so on an equal basis.
	Alternative texts for images, subtitles and transcripts for video content on social media platforms.
	Websites designed and developed in line with the Web Content Accessibility Guidelines.

Table 2: Examples of accessible ICTs (continued)

Accessible ICTs	Description
	Universally designed electronic kiosks.
	Accessible keyboards, on which a tactile marker is placed on the letters "f" and "j" as an indicator for users with visual disabilities.

2.1.6 Adoption of technology and digital skills

Lastly, digital transformation is impossible if citizens do not know how to use technology, or do not have the minimum digital skills and capacities required to be able to understand the information presented and to interact with technology. Digital skills underpin nearly every aspect of work and life. From filling in a government form to communicating for work, it is difficult to find a job or any kind of task in life that does not require a basic level of digital competency.

Policy-makers should therefore design and implement appropriate policies, strategies and programmes to provide citizens with the tools required to interact in this interconnected digital world. The Digital Skills Toolkit developed by ITU provides stakeholders with guidance on developing a digital skills strategy.[11]

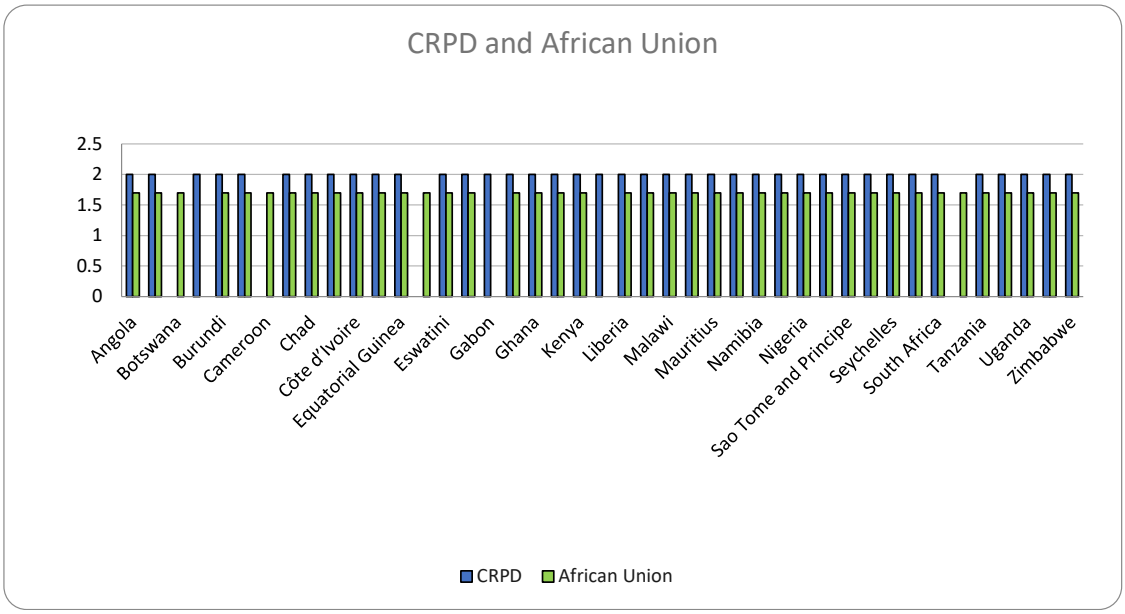
[11] The toolkit is available at https://www.itu.int/en/ITU-D/Digital-Inclusion/Youth-and-Children/Pages/Digital-Skills-Toolkit.aspx.

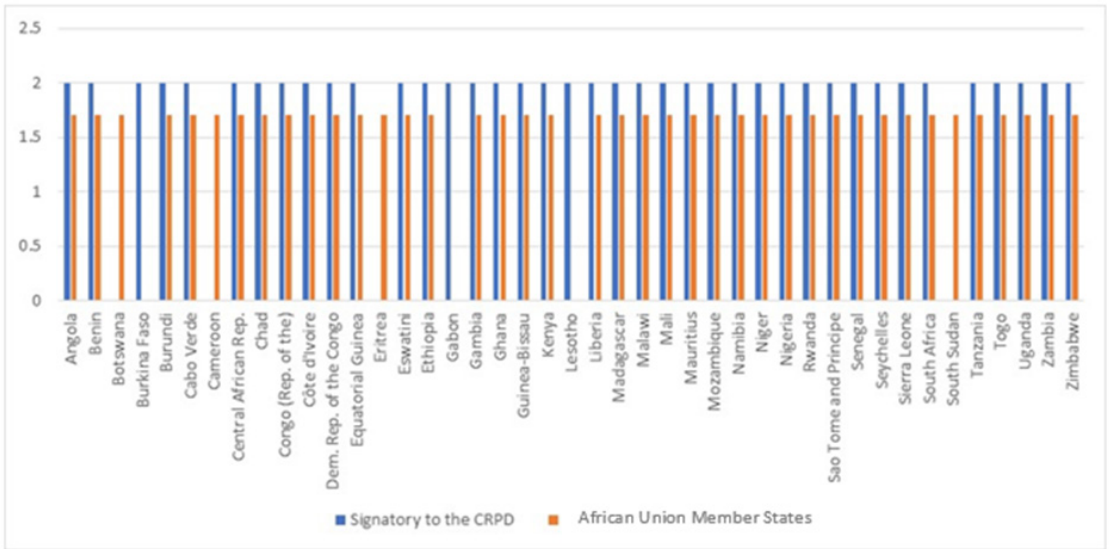
2.2 The use of technology and the Convention on the Rights of Persons with Disabilities

As previously described, if digital transformation fails to be inclusive, vulnerable groups will be excluded from economic and social participation, which is a violation of their human rights. To guarantee inclusive digital transformation that generates economic growth and closes the digital divide, ICT accessibility must be part of the strategy.

As shown in Figure 3, by 2020, 90 per cent of ITU Member States from the Africa region had signed the Convention on the Rights of Persons with Disabilities, while 93 per cent had endorsed the Digital Transformation Strategy for Africa. The commitments set out in those two instruments include a requirement to improve the inclusiveness of ICTs.

Figure 3: African countries that are signatories to the Convention on the Rights of Persons with Disabilities and Member States of the African Union, 2020





ICTs have been recognized as the catalyst for development; building digital economies and fostering innovation are therefore common objectives in the Africa region. Accessibility is crucial to reap the full benefits of the digital economy while addressing emerging policy and regulatory challenges. As digital economies grow, ICT-based innovations, which have demonstrated their potential to contribute to countries' socio-economic development, are also growing; if they are not accessible, however, they will only widen the digital divide.

To build trust and security in the use of telecommunications/ICT, policies, strategies and standards must be developed, including accessibility and usability criteria to encourage use and trust.

Countries in the Africa region are in dire need of human and institutional capacity-building interventions to help them transform their societies in preparation for the emerging digital socio-economic environment. Training must include capacity building on ICT accessibility.

Taking into consideration the challenges and opportunities that lie ahead for the region, this report is a valuable tool for helping decrease the digital divide, guarantee inclusive digital societies and make progress towards regional targets.

Special attention should be given to women, persons living in remote areas, persons with disabilities and disadvantaged and marginalized communities through the establishment of a platform for dialogue and social cohesion which involves these target groups. The promotion of online cultural diversity must be supported to ensure that every person is able to participate fully in society.

Many of the rights described in the Convention on the Rights of Persons with Disabilities are guaranteed through the use of technology. For example, article 9 of the Convention covers the rights to access to media and the Internet, as well as to emergency communications, on an equal basis with others. All these services are delivered using technologies and so must be accessible. The same applies to other articles, such as article 24 on education, article 27 on work and employment and article 30 on participation in cultural life, recreation, leisure and sport.

As the Convention is one of the most highly ratified of the United Nations human rights conventions (95 per cent of United Nations member States have ratified the Convention as at 2021) and as signatory States are obliged to report to the United Nations on their implementation of the Convention, ITU has, in its toolkit and self-assessment for ICT accessibility implementation, included guidance on the revision of accessibility requirements within legal framework in relation to the use of technology in areas pertinent to different articles of the Convention. In this way, the toolkit can be used not only for monitoring ICT accessibility implementation, but also for following a State's progress in respect to its reporting obligations under the Convention.

3 ICT accessibility overview report for the Africa region: Results

In support of the efforts of ITU Member States to advance the development of inclusive digital societies, ITU-D delivered five interactive online knowledge development workshops in English and French between 12 and 15 April 2021 for Member States and stakeholders from the Africa region. The workshops, which were delivered in an interactive format, were designed to strengthen the capacities of 175 regional focal points from 42 African countries regarding the role of ICT/digital accessibility as a catalytic driver of digital inclusion and to ensure that all persons, regardless of age, gender, ability or location, are included in the digital society and economy.

The participants learned how to self-assess and monitor national implementation in that regard using the ITU toolkit and self-assessment for ICT accessibility implementation.

These workshops were in line with ITU Strategic Goal No. 2 and Target 2.9, which calls for the establishment of enabling accessible environments, including for persons with disabilities, in all countries by 2023. Following the training course, over 72 per cent of the African countries that participated made an effort to develop and deliver their first self-assessment, which was shared with ITU for the purpose of this report and will serve as a baseline for further monitoring and evaluation in the ICT accessibility implementation process.

Table 3: Workshops and participating countries

Workshop	Participants
Workshop 1: East Africa (English)	Ethiopia, Eritrea, Kenya, South Sudan, Tanzania and Uganda
Workshop 2: West Africa (French)	Benin, Burkina Faso, Cabo Verde, Côte d'Ivoire, Guinea-Bissau, Guinea, Mali, Niger, Senegal and Togo
Workshop 3: West Africa (English)	Gambia, Ghana, Liberia, Nigeria and Sierra Leone
Workshop 4: Central Africa (French)	Burundi, Cameroon, Central African Republic, Chad, Republic of the Congo, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Madagascar, Rwanda and Sao Tome and Principe
Workshop 5: Southern Africa (English)	Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Eswatini, Zambia and Zimbabwe

The toolkit presents a series of questions on commitment to ICT accessibility and implementation capacity, covering the various layers of ICT accessibility. The toolkit not only facilitates the assessment and monitoring work to achieve digital inclusion but also creates capabilities among stakeholders, such as governments, industry, academia and organizations for persons with disabilities.

During the workshops, the participants received an editable version of the toolkit. More than 72 per cent of participating Member States reviewed the situation in their country and submitted their results.

The toolkit uses a scale of 1 to 5 to evaluate the status of a country or organization regarding each category of ICT accessibility, where 1 indicates the absence of a plan or action for the item and 5 indicates that the action has already been fully implemented. On the basis of the answers to each question, the implementation level is computed and presented for each category, according to the following criteria:

Phase 1 – Planning: Evaluation of the framework to implement ICT accessibility (such as regulation, policies, programmes, strategies, budget, timelines and monitoring).

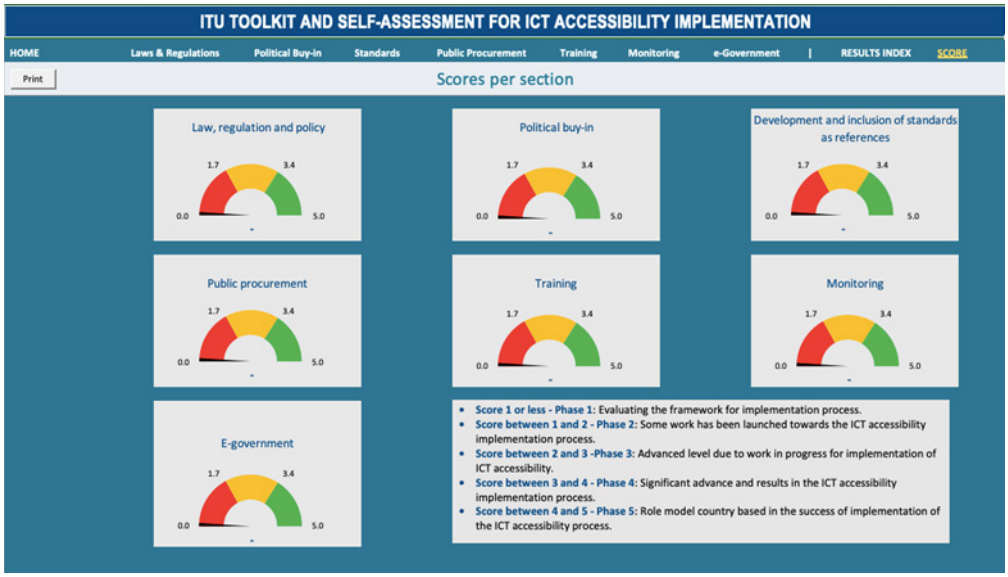
Phase 2 – Launching: Initial work in progress.

Phase 3 – Implementation in progress: Significant work in progress.

Phase 4 – Advanced implementation: Advanced work and visible/measurable results.

Phase 5 – Role model: Best practices that can be replicated in ICT accessibility (in areas such as regulation, policies, programmes, strategies, budget, timelines and monitoring).

The results are presented in a chart format:



Source: ITU

Table 4 presents the results of the exercise for Member States in the Africa region.

Table 4: Results of self-assessment of ICT accessibility implementation, Africa region, 2021

Category	Average score	Highest score
Law, regulation and policy	3.02	5
Political buy-in	2.53	5
Development and inclusion of standards as a reference	2.55	4.2
Public procurement	2.05	5
Training	2.06	4.71
Monitoring	1.71	3.5
E-government	2.4	4.64

Law, regulation and policy

Most countries in Africa have been making important progress in establishing the necessary legal and regulatory frameworks to further ensure the right to access information. Generally, clear steps are being made towards aligning laws and regulations with the Convention on the Rights of Persons with Disabilities.

Some more work needs to be done to implement a holistic approach to accessible ICT and accessibility requirements with a view to fostering inclusive digital transformation.

Political buy-in

Political buy-in ranks third in the list of achievements, which explains why actions have been taken in all areas. African leaders and policy-makers are encouraged to continue and increase their commitment in this area in order to positively influence the implementation process.

Development and inclusion of standards as a reference

According to the self-assessments, the development of standards – a fundamental element for implementation – is, in many cases, already at an advanced stage. It is important for countries in the region to work together to ensure the harmonization of standards and leverage their purchasing power.

Public procurement

Countries like Angola and Mali are beginning to develop procurement regulations related to ICT accessibility and could work with countries and relevant regional organizations to replicate those efforts. This joint effort is important in order to develop a market of accessible ICTs in the region. Furthermore, by creating a market and national ICT products and services, manufacturers will be able to offer their goods in other inclusive markets.

Training

Training is the cornerstone for achieving inclusive digital environments. Partnerships with universities are a good way to develop training in native languages. Kenya has some experience in that regard, which could be shared with other countries in the region in order to leverage good practices.

Monitoring

Even if monitoring is conducted at the end of the implementation process to assess the results and development of a given project, clear goals and reporting mechanisms must be established to ensure implementation. The ITU toolkit could serve as a mechanism for assessing the implementation process.

E-government

While implementation of e-governance appears to be in the early stages, the efforts launched in most countries should be acknowledged. Sharing challenges and best practices among countries in the Africa region is important to help them – and the wider region – make progress in the implementation process.

4 Key findings and good practices from the Africa region

As observed in the results, the ITU toolkit and self-assessment for ICT accessibility implementation is a unique tool that not only provides stakeholders with clear definitions of the most important elements that need to be considered, but also offers a methodology for assessing the level of implementation, in addition to guidelines to support implementation.

Source: ITU, "ITU toolkit and self-assessment for ICT accessibility implementation", video, available at https://www.youtube.com/watch?v=O5WoLcZygNM.

The toolkit also provides a framework to assist policy-makers in overcoming the challenges of achieving and promoting smart and inclusive communities. If smart cities, villages and communities do not consider digital accessibility for every person in the community in question, technological advancements will exclude – rather than empower – persons whose abilities and needs are not met. The toolkit also describes and explains the critical elements needed to create environments that will foster digital inclusion in its broadest sense.

The self-assessment contained in the toolkit is based on the requirements and provisions related to technology as set out in the Convention on the Rights of Persons with Disabilities.

Figure 4: Relevant articles of the Convention on the Rights of Persons with Disabilities

Art. 5: Equality and non-discrimination
Art. 9: Accessibility, including of the media and Internet (§ 9.1), emergency services (§ 9.1(b)), e-government (§ 9.2(a)) and private sector services (§ 9.2(b)).
Art. 21: Freedom of expression and opinion, and access to information
Art. 24: Education
Art. 27: Work and employment
Art. 29: Participation in political and public life
Art. 30: Participation in cultural life, recreation, leisure and sport, specifically the accessibility of television, among other things (§ 30.1(b)), and participation in culture and leisure (§ 30.5)

As presented in the results, the elements to be considered for an inclusive ICT accessibility strategy are divided into two categories, as shown in Figure 5.

Figure 5: Elements to consider for ICT implementation

➢ **Commitment to ICT accessibility**

1) Law, regulation, and policy

2) Political buy-in

3) Development and inclusion of standards as references

➢ **Implementation capacity**

4) Public procurement

5) Training

6) Monitoring

7) E-government.

Drawing on the self-assessments presented by 32 countries in the region, some good practices and opportunities were identified.

4.1 Commitment to ICT accessibility

4.1.1 Law, regulation and policy

Laws, regulations and policies that refer to technology must include conditions of universality. Countries need to revise their existing legal frameworks to incorporate accessibility as a human right. Furthermore, the transformation that the world is currently experiencing calls for new laws, regulations and policies that cover the use of technology; this provides a unique opportunity to create the foundation upon which digital transformation can achieve its full potential without leaving anyone behind.

Two important steps must be taken. The first step is to revise the existing laws, regulations and policies and consider whether technology is mentioned as an enabler of digital transformation. Where technology use is covered by the legal framework, it is important to ensure that ICT accessibility is stipulated as a condition and is defined within the framework. The second step is to make sure that all new laws, regulations and policies that recognize ICT as an enabler include a clear definition of accessibility. As part of the first step, it is recommended to refer to the Convention on the Rights of Persons with Disabilities when defining the scope of the legal framework to be revised.

Articles 9, 21 and 30 of the Convention ensure equal access for persons with disabilities to ICTs.

Article 9 lays out requirements and standards of accessibility to be upheld by State Parties, which includes States and State entities. These requirements and standards are general obligations and apply to all relevant provisions in the Convention. In accordance with article 9, States are required to take appropriate measures to ensure that persons with disabilities have access, on an equal basis with others, to information and communications, including ICTs and systems, including:

- to promote access for persons with disabilities to new ICTs and systems, including the Internet (§ 9.2(g));

- to promote the design, development, production and distribution of accessible ICTs and systems at an early stage, so that these technologies and systems become accessible at a minimum cost (§ 9.2(h)).

Member States are also required to ensure that persons with disabilities have access, on an equal basis with others, to services which are open or provided to the public, both in urban and in rural areas, including:

- to develop, promulgate and monitor the implementation of minimum standards and guidelines for the accessibility of facilities and services which are open or provided to the public (§ 9.2(a));
- to provide training for stakeholders on accessibility issues facing persons with disabilities (§ 9.2(c));
- to promote appropriate forms of assistance and support to persons with disabilities to ensure their access to information (§ 9.2(f)).

The scope of article 9 is not only legally binding on State Parties, but also implicates private actors by requiring State Parties to ensure that private entities that offer facilities and services which are open or provided to the public take into account all aspects of accessibility for persons with disabilities (§ 9.2(b)). In other words, although the Convention on the Rights of Persons with Disabilities is not directly legally binding on private actors (as only States can be bound by international treaties), signatory States are obligated to ensure that private actors that are open to the general public and over whom they have control act in a manner consistent with the goals and obligations of article 9. The duty to observe accessibility standards applies equally to the public and private sectors.

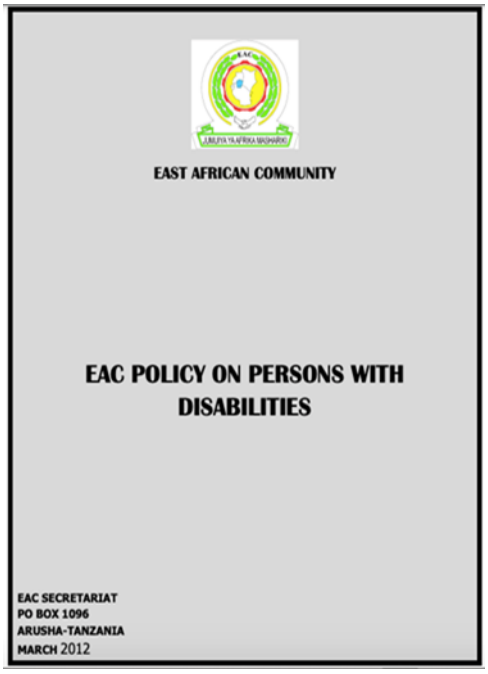
The European region is a good example of a region that is working to ensure that the private sector also implements inclusivity requirements. The European Union Web Accessibility Directive (Directive (EU) 2016/2102) has been in force since 22 December 2016. In accordance with the directive, websites and applications belonging to public sector bodies must meet specific technical accessibility standards. The directive complements the European Accessibility Act (Directive (EU) 2019/882), which covers a wide range of products and services in the private sector. Further European legislation supports persons with disabilities in other areas, including electronic communications, audiovisual media services, e-books, e-commerce and ICT equipment.

In relation to ICT accessibility, it is important to emphasize that accessibility and reasonable accommodation are two distinct concepts within equality law and policy. Accessibility duties relate to groups and must be implemented gradually but unconditionally. Reasonable accommodation duties, on the other hand, are individualized, apply immediately to all rights and may be limited by disproportionality. As realizing the accessibility of information and communication services may take time, reasonable accommodation may be used as a means of providing access to an individual in the meantime, as it is an immediate duty.

Articles 9 of the Convention intersects with article 21 on freedom of expression and opinion and on access to information. Where article 9 imposes a duty on State Parties to ensure that persons with disabilities are able to access services open or provided to the public on an equal basis with others, article 21 provides that States Parties "shall take all appropriate measures to ensure that persons with disabilities can exercise the right to freedom of expression and opinion, including the freedom to seek, receive and impart information and ideas on an equal basis with others and through all forms of communication of their choice".

Article 21 describes in detail how the accessibility of information and communication can be ensured in practice. It sets out a number of measures for States Parties to take to ensure that persons with disabilities can exercise the right to freedom of expression and opinion on an equal basis with others and through all forms of communication.

Regarding policy framework, the Digital Transformation Strategy for Africa emphasizes the importance of "support[ing] the development and implementation of national, regional and continental digital transformation strategies to stimulate demand, supply and enable scaling up of digital initiatives to address developmental challenges affecting African continent", wherein signatory countries are invited to:



Source: East African Community

- develop and implement national and sectorial digital strategies;
- develop and implement regional and continental digital strategies;
- establish a capacity development programme to support African policy-makers, regulators and other public sector representatives;
- design policies using a human-centred and holistic approach that takes into account the local context and cross-cutting issues relevant to all stages of policy design and implementation;
- give special attention to women, persons living in remote areas, persons with disabilities and disadvantaged and marginalized communities through the establishment of a platform for dialogue and social cohesion and through dialogue involving these groups targets, as the promotion of online cultural diversity must be supported to ensure that every person can participate fully in society.

Various countries in the region have published digital transformation strategies, in many of which accessibility is not expressed as a requirement, thereby running the risk of widening the digital divide. A good example of an inclusive strategy is the Kenyan National ICT Policy.

Kenya: The National ICT Policy, published in 2016, includes a number of inclusive strategies, including the adoption of appropriate measures to:

- ensure that ICT services and emergency communications made available to the public are provided in alternative accessible formats for persons with disabilities;
- review existing legislation and regulations to promote ICT accessibility for persons with disabilities in consultation with organizations that represent persons with disabilities, among others;
- promote the design, production and distribution of accessible ICT at an early stage;
- ensure that persons with disabilities can exercise the right to access to information and freedom of expression and opinion;
- engage women, youth and children, communities in underserved areas and other disadvantaged groups, including persons with disabilities, through e-inclusion and e-accessibility activities and programmes.

Including accessibility requirements is a first good step. The next step should involve the implementation process.

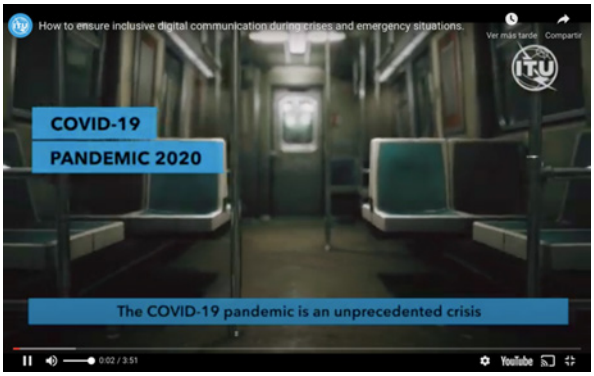
Governments need to work together to develop consistent, harmonized and straightforward digital strategies that serve all persons. As ICTs are present in every sector of the economy, it is important that the leading ministry or regulatory authority guides the effort to update laws and regulations to include ICT accessibility wherever technology is expected to serve as an enabler. The African Union, the African Telecommunications Union, the East African Communications Organisation and the West Africa Telecommunications Regulators Assembly, among others, are critical regional bodies with mandates to promote inclusive, affordable, accessible and sustainable ICT for persons with disabilities.

Clear definitions are needed to guarantee the accessibility of ICTs and, as a result, the elimination of the digital divide. The ITU toolkit and self-assessment for ICT accessibility implementation includes definitions that can be used by Member States to define accessible ICTs.

Legal and policy improvement can be observed in Africa in a number of countries:

Nigeria: Signed in 2019, the Discrimination Against Persons with Disabilities (Prohibition) Act 2018 requires the Government to ensure that persons with disabilities are given special consideration, including in the provision of emergency communications.

Resource: ITU has developed a free, self-paced online training course on how to ensure inclusive digital communication during crises and emergency situations.[12]



Source: ITU, "How to ensure inclusive digital communication during crises and emergency situations", video, available at https://www.youtube.com/watch?v=ubRpza_r6bg&t=12s.

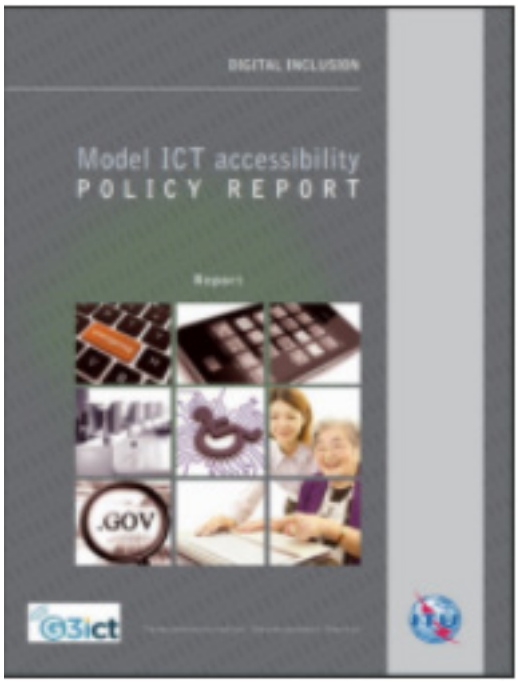
Kenya: Signed in 2003, the Persons with Disabilities Act emphasizes the right of persons with disabilities to access information and communications. Moreover, the National ICT Policy outlines strategies for achieving an accessible ICT environment in the country to enable persons with disabilities to take full advantage of ICTs.

Nigeria: The 2007 Consumer Code of Practice Regulations requires telecommunication companies to ensure that the interests of consumers with disabilities are taken into account when developing and providing services.

[12] See Annex 3 for a full list of relevant online courses provided by ITU.

South Africa: The Code on Persons with Disabilities was issued by the Independent Communications Authority of South Africa in 2007 and reviewed in 2019. Proposals received during the review included incorporating subtitling for all TV programmes; obliging operators to issue billing statements in large print and Braille; ensuring the availability of affordable handsets that comply with universal design principles; lowering the price of hearing aids; and printing airtime vouchers in Braille.

Resource: Model ICT accessibility policy report



Source: ITU

The model ICT accessibility policy report was developed by ITU and the Global Initiative for Inclusive Information and Communication Technologies (G3ict) to help Member States create a national ICT accessibility policy framework in consultation with persons with disabilities. The report includes six modules that focus on different aspects: amendments to existing ICT legal frameworks, public ICT access, mobile communications, television/video programming, web accessibility and public procurement of accessible ICTs.

The report is available in all six official languages of ITU.

Resource: The ICT accessibility policy developed by the G20 Global Smart Cities Alliance

The G20 Global Smart Cities Alliance unites municipal, regional and national governments, private sector partners and city residents around a shared set of principles for the responsible and ethical use of smart city technologies. The Alliance establishes and advances global policy norms to help accelerate best practices, mitigate potential risks and foster greater openness and public trust. The World Economic Forum, which is the international organization for public-private cooperation, serves as secretariat for the Alliance.

Through the Alliance, global experts from governments, private sector partners and civil society compile and analyse policies from around the world to identify model policies for successful, ethical smart cities.

Each model policy has been developed by a select task force of experts, who consult widely with stakeholders. As all cities are different, however, the model policies should not be adopted without accounting for such differences. Nonetheless, the roadmap provides a baseline for cities to use during policy development and serves as a means of identifying gaps in existing city policies.

The model policy on accessible ICT public procurement offers a framework for developing a national procurement policy that guarantees that no one is left behind.

4.1.2 Political buy-in

Political buy-in and promotion of the topic by leaders is critical. The use of technology for economic and social development is present in every sector of the economy. To guarantee that all citizens are included in these new processes, it is important to develop common knowledge on digital rights, digital skills and accessible ICTs. Typically, the ministry or regulatory body in charge of the digital transformation strategy and/or ICT policies should lead the information and political buy-in campaigns on this topic.

Regional and national events, at which information on the implementation and impact of digital inclusion and on best practices can be shared, should be part of any strategy on digital inclusion. At such events, it is important to ensure that all stakeholders understand the key components of digital inclusion and their impact on economic and social development.

When policy-makers prioritize digital inclusion for all within their political agenda and workplans with the aim of building digitally inclusive societies, stakeholders are more responsive and more likely to contribute to achieving national goals in that area. This became particularly apparent during the COVID-19 pandemic, when governments acknowledged the importance of ICT accessibility as a key requirement for ensuring that all citizens, without discrimination, could access and understand vital digital information products and services.

The combination of a top-down and a bottom-up approach provides the most successful results in the digital inclusion implementation process.

Source: ITU

Countries that have achieved results in the implementation of ICT accessibility should lead by example and share best practices at a regional level.

ITU has developed resources to support the strengthening of national and regional capabilities regarding ICT accessibility. The ITU-D National Programme in Web Accessibility entitled "Internet for @ll" is a good resource to support the creation of web accessibility capabilities and encourage political buy-in among government officials and members of academia and industry.

Source: ITU, "ITU-D 'National Programme in Web Accessibility: Internet for @ll'", video, available at https://www.youtube.com/watch?time_continue=16&v=8QIbHUOk4jE&feature=emb_logo.

Creating awareness about, and disseminating information on, ICT accessibility is critical to guarantee the inclusion of vulnerable groups in the fourth technological revolution. Some countries have organized events for this purpose; it is important that such events be held periodically.

Positive examples from the region:

Economic Community of West Africa States: ITU and the Economic Community of West African States (ECOWAS) organized a series of workshops in 2017 to build capabilities among Member States in the African region in using the ITU model ICT accessibility policy report. The aim of these workshops was to ensure that officials within regulatory agencies and communications ministries understood the recommendations for developing policies and regulations to ensure

ICT accessibility. As a result of the workshops, ECOWAS organized a meeting in Abuja, Nigeria, in 2019 to validate the policy on telecommunication/ICT accessibility for persons with disabilities in West Africa. The objective of the policy is to ensure that telecommunication/ICT products and services are accessible for use by persons with disabilities. It comprises the following sections:

- general and legal policy;
- difficulties faced by persons with disabilities;
- priority areas of application:
  - systematically integrating accessibility when making amendments to policies and laws related to telecommunications/ICT;
  - ensuring the accessibility of telephony products and services;
  - promoting web accessibility;
  - ensuring accessibility of television broadcasting;
  - integrating accessibility into public procurement mechanisms;
  - guaranteeing public access;
  - funding telecommunication/ICT accessibility;
  - introducing monitoring and evaluation mechanisms.

Côte d'Ivoire: Awareness-raising activities and events have been implemented, such as the E-HANDICAP Forum, organized in partnership with *Association E-Handicap*, the telecommunication/ICT ministry and the *Bureau National d'Études Techniques et de Développement* (National Bureau for Technical and Development Studies). The E-HANDICAP Forum was recognized as a platform for presenting the ways in which accessible ICTs could ensure the social inclusion of persons with disabilities and for raising awareness among stakeholders.

4.1.3 Development and inclusion of standards as references

When defining standards for ICT accessibility, governments can either develop their own harmonized standards or employ international standards, such as the Web Content Accessibility Guidelines, which are used worldwide to ensure the accessibility of Internet content, and European Standard EN 301 549 on accessibility requirements for ICT products and services, which is also used as a reference in countries outside the European Union. Procurement standards for accessible ICTs play a major role in implementation because they have the potential to create a market of inclusive technology.

Significant economies of scale can be achieved by both industry and governments through the development and procurement of ICTs that follow common standards. Regionally, African States could secure the availability of accessible ICTs by working together and by evaluating the standards used in other regions. A good example of regional efforts of this kind is the European Standard EN 301 549, which is homogenous to other ICT procurement standards such as Section 508 of the United States Rehabilitation Act.

Fragmentation normally occurs when the use of locally developed standards is prioritized over adopting or contributing to the development of international standards.

There is a growing global trend towards the acceptance and adoption of the same core set of accessible ICT standards by countries worldwide. These standards provide:

- high level yet reasonably understandable descriptions of accessibility features and functions required by individuals with certain functional limitations or disabilities;
- a set of detailed accessibility requirements for each of these features and functions;
- a series of tests to ensure and demonstrate that the requirements are met.

Some good examples from the region include the following:

South Africa: The South African Government has introduced the Five Pillars of Procurement to stimulate and grow small, medium and micro enterprises. All State departments must include these pillars in their procurement policy, and all bid evaluation committees must follow and apply the pillars.

The five pillars are:

1) Value for money

In short, this means that it is not necessarily the tender with the lowest price that should win the bid. If the lowest price means an inferior product, then the evaluation committee should seek a better product, ensuring that the products procured represent good value for money.

2) Open and effective competition

Government departments must ensure that all persons have a reasonable chance to compete for tenders, that their procurement process is transparent and fully understandable and that there is no favouritism shown towards any bidder.

3) Ethics and fair dealing

Government officials must conduct themselves properly without compromising their integrity. When conducting tender evaluations, they must not accept bribes or gifts from potential suppliers. In fact, they must not accept items or services of any kind from any person.

4) Accountability and reporting

This is a two-way street: potential suppliers must be able to account for their actions and plans and must ensure that they have good reporting methods built into their bids. Government departments, meanwhile, must report to their superiors and must be held accountable for their procurement actions.

5) Equity

The purpose of the fifth pillar is to promote business with "previously disadvantaged individuals". Small, medium and micro enterprises, together with such individuals, must player a bigger part in the development of the larger South African economy. Any good procurement policy must address equity as a main feature of the procurement process.

Uganda: The National Information Technology Authority - Uganda has published guidelines on the development and management of government websites. All government officials are expected to read and understand these guidelines and implement them in all their web-based initiatives. The guidelines are mandatory and ensure compliance with the Web Content Accessibility Guidelines (level A).

Annex 2 of this report presents some commonly used international standards for web accessibility and for procurement of accessible ICTs.

4.2 Implementation capacity

4.2.1 Public procurement

Government spending is a substantial part of the global economy and accounts for a significant proportion of the global ICT market. The World Trade Organization estimates that, on average, public procurement accounts for 10-15 per cent of a country's gross domestic product. In addition, governments are typically large consumers of technology. When state-level and local governments are included, the public sector share of IT purchases is even higher.

Governments can use this enormous spending power to drive the development and deployment of accessible ICT and support the digital inclusion of persons with disabilities worldwide. Procurement standards must be enforced to ensure the implementation of ICT accessibility strategies. While clear improvements in legislation have been seen in a number of countries, the implementation and monitoring of these laws and regulations remains weak.

Public procurement of accessible ICT is a key enabler for achieving inclusive digital communities.

Resources: ITU-D has created an online training course on public procurement of accessible ICT products and services, which is made available through ITU Academy. This course aims to provide learners with the knowledge, understanding and skills required to understand the relevant international standards on accessible ICTs and to address and guarantee accessibility during all stages of the public procurement process.

South Africa: In 2013, the National Treasury appointed a chief procurement officer with the overarching regulatory responsibility to monitor and evaluate public procurement performance in government and to modernize public procurement systems to achieve greater efficiency and transparency. In addition, the Chief Directorate was created to design and implement systems to improve the efficiency and effectiveness of government ICT procurement practices. These objectives are expected be achieved through the modernization of supply chain management technology by:

- developing and enhancing ICT systems, solutions and tools (including the integrated financial management system procurement module) for State procurement;
- establishing ICT capabilities for State procurement;
- establishing a national ICT solution for public procurement.

This centralized office is responsible for leading the implementation of a policy on public procurement of accessible ICTs.

4.2.2 Training

Training is fundamental for the implementation of any ICT accessibility strategy. Only by understanding all the dimensions of digital inclusion will investments – including through universal service funds – produce the desired outcomes. Government officials from areas related to both technology and procurement need to understand what the key elements of digital inclusion are, including in relation to accessible ICT. Professionals should be trained in the

design and development of products and services in accordance with the principles of universal design and the relevant standards.

Organizations representing persons with disabilities must also receive training on the inclusive characteristics of products and services to equip them with the knowledge required to denounce violations of the right of access to ICTs and other fundamental rights.

Consequently, training courses and awareness programmes with different objectives and expected levels of understanding are needed.

In 2017, ECOWAS and ITU held two workshops (one in French and the other in English) on the development of ICT accessibility policies in the West Africa sub-region. The course was based on the model ICT accessibility policy report. In both workshops, participants examined recommendations related to:

- the legal, policy and regulatory framework for ICT accessibility
- the regulatory framework for the accessibility of mobile communications
- the web accessibility framework
- the television/video programming framework
- the policy framework for public procurement of accessible ICT.

In 2021, ITU held five workshops for representatives from Member States in the Africa region on how to use the ITU toolkit and self-assessment for ICT accessibility implementation.

Training courses must be conducted periodically to guarantee an inclusive digital transformation strategy. ITU has developed many free online training courses that serve as a good starting point.

ITU training resources:

- ICT accessibility: The key to inclusive communication (self-paced online course, available in Arabic, English, French and Spanish)
- Web accessibility: The cornerstone of an inclusive digital society (self-paced online course, available in English)
- Public procurement of accessible ICT products and services (online course, available in English)

4.2.3 Monitoring

Monitoring is a critical element of successful implementation. From ensuring the periodicity and implementation of certifications and training courses to guaranteeing the fulfilment of digital inclusivity targets (for websites, mobile applications, smartphones, broadcasting, electronic documents etc.), monitoring processes must be defined to measure progress.

It is recommended to specify in the policy the chosen mechanism for reporting and the agency or committee responsible.

For example, EU member States must verify that websites and mobile applications comply with the accessibility requirements set out in Commission Implementing Decision (EU) 2018/1524, which establishes a methodology for monitoring the conformity of websites and mobile

applications of public sector bodies with the accessibility requirements laid down in article 4 of Directive (EU) 2016/2102. The monitoring methodology covers:

- the periodicity of monitoring and sampling arrangements for websites and mobile applications subject to monitoring;
- at website level, the sampling of webpages and of webpage and mobile application content;
- at mobile application level, the content to be tested, taking into account the moment of the initial release of the application and subsequent functionality updates;
- how to determine compliance or non-compliance with the accessibility requirements;
- a mechanism to help public sector bodies correct any deficiencies identified;
- arrangements for automatic, manual and usability tests, in combination with the sampling settings, in a manner compatible with the periodicity of monitoring and reporting.

EU member States must report to the European Commission in accordance with Decision (EU) 2018/1524, which also establishes the arrangements for reporting on monitoring outcomes, including measurement data.

4.2.4 E-government

Electronic government (or e-government) is the application of ICTs to government functions and procedures, with the purpose of increasing efficiency, transparency and citizen participation. Strategies for the digitalization of government are present in every sector. Inclusion is imperative to ensure that all citizens can exercise their right to political participation and can receive government services under equal circumstances.

As every major digital transformation strategy influences e-government, the technological requirements must be clearly defined.

Digitalization services must be accessible to avoid the exclusion of persons with disabilities. Some positive examples of digitalization strategies are set out below.

Rwanda: Rwanda has been moving to transform itself into a digital hub, having developed several notable initiatives, including Irembo, an e-portal for government-to-citizen services.

South Africa: The National Department of Health, the South African Medical Research Council and the National Health Information Systems Committee of South Africa have developed the e-Health Strategy for South Africa. This strategy is aligned with the World Health Organization's definitions and targets for e-health, which promote the use of ICTs to treat patients, pursue research, educate students, track diseases and monitor public health. The strategy covers the following:

- electronic health records
- electronic health management information
- computerized registrations of births and deaths
- electronic access to health care
- knowledge available to patients and professionals
- telemedicine
- virtual health care
- health research.

Ghana: The Centre for E-Governance is a voluntary body. Its mission is to promote:

- the use of ICTs for greater mobilization of public opinion to support national development objectives, in particular poverty reduction, regional integration and income-generating activities;
- distance learning;
- use of ICTs in the services offered to citizens and businesses;
- efficiency in the public and private sectors, so that they can play a proactive role in socio-economic development at all levels.

The Centre is investing in activities, such as conducting research and studies (in particular on e-governance), contributing to and participating in the formulation of regional and national policies and providing training.

4.2.5 Funding mechanisms

Governments need to secure funding to ensure digitally inclusive societies. The underlying concept of universal service is to ensure that telecommunication services are accessible to the widest number of people (and communities) at affordable prices. The concept of universal service is underpinned by the following three principles:

- **Availability**: The level of service is the same for all users in their place of work or residence, at all times and without geographical discrimination.
- **Affordability**: For all users, the price of the service should not limit access to the service.
- **Accessibility**: All users should be treated in a non-discriminatory manner with respect to the price and quality of the service, in all places, without distinction on the grounds of race, sex, religion, etc.

Today, not only telephone subscribers, but all ICT users should be included in digital transformation. The concept of universal service must therefore include ICT services and products. Funding projects should cover training, ICT appropriation and connectivity.

Common funding mechanisms for accessible and supportive ICTs include the following:

- The ministry or department responsible for the implementation of the national disability policy should itself have a budget from which it can disburse funds to persons with disabilities or their organizations for various activities, such as the purchase of assistive technologies, education programmes, rehabilitation, accessible content creation, training or research.
- A budget should be allocated to each ministry or department for carrying out accessibility initiatives, such as making their websites accessible, including training their web developers, and for conducting an accessibility project connected with the responsibility of that particular ministry or department. (For example, a ministry of education could use the funds to convert text books into accessible formats.)
- Universal access and service funds exist in almost every country to fulfil universal service obligations. For many years, such funds – which are usually very large – have focused on promoting connectivity in rural and unconnected populations. In recent years, an increasing number of countries have expanded their definition of universal service to explicitly cover accessibility for persons with disabilities to ICTs through telecommunications and broadband. Several countries have made strides in this area, having either incorporated this into the policy mandate itself or having made use of universal access and services funds to directly fund projects, such as for the purpose of purchasing assistive technologies, connecting schools, setting up resource centres in educational institutions, subsidizing

the cost of broadband and fixed telephony for families of persons with disabilities and providing library services to blind persons.

- Corporate social responsibility initiatives are also a good source of funding for ICT accessibility. They can also help raise awareness and build capacity in the private sector with a view to incorporating accessibility within private sector organizations and workplaces.

While many creative opportunities to fund accessibility exist, resource mobilization, when not directly related to a specific programme, can backfire. It is not uncommon for a percentage of national funds earmarked for disability services within a ministry, department or dedicated fund to go unused for many years. It is therefore essential to ensure that resource mobilization is conducted in line with specific objectives and resource allocation processes.

Some good practices in the use of funds are presented below:

- A dedicated national fund to support workplace accommodation could be established, financed by taxes paid by employers who do not meet minimum employment quotas of persons with disabilities. France, for instance, has a 6 per cent minimum quota, and its national disability fund has grown substantially over the years.
- Spain has a national lottery, the profits from which are allocated to the *Fundación ONCE*, which funds organizations for persons with disabilities and accessibility programmes.
- Independent donor agencies are among the leading supporters of initiatives related to accessibility and disability. The United Nations Voluntary Fund on Disability supports the activities conducted by organizations for persons with disabilities in developing countries. Bilateral aid agencies that have funds earmarked for programmes in support of disability needs, such as the United States Agency for International Development, can also cover accessibility projects.

5 General recommendations to support ICT accessibility implementation

Finally, before examining some general recommendations, it is important to bear in mind that all parties must play a part in the digital inclusion process. From governments to organizations for persons with disabilities, it is important that all stakeholders have a solid understanding of ICT accessibility in order to contribute to achieving digitally inclusive communities.

5.1 Stakeholder roles

Different stakeholders have important and complementary roles to play in achieving ICT accessibility.

Government

Governments need to lead the way in promoting inclusivity by developing and updating the relevant policies and regulations. By involving organizations for persons with disabilities in this process, governments can lead by example by highlighting the importance of inclusive processes. Moreover, in procuring accessible ICTs, governments can leverage their purchasing power to create a market without discrimination.

Once an inclusive digital environment has been created, governments will be in the position to give work to persons with disabilities and provide inclusive education.

All these actions will translate into social and economic development for persons with disabilities.

Industry

Demand for inclusive products and services represents a business opportunity for industry stakeholders. The purchasing power of persons with disabilities and their immediate families is estimated to be some USD 8 billion. This market share can be tapped into by all industry players willing to innovate by promoting inclusivity.

Furthermore, more clients are likely to adopt inclusive practices if a particular product or service is recognized as being socially responsible and inclusive.

Lastly, by promoting technological innovation, industry can support the independent living of persons with disabilities and the healthy ageing of older adults.

Academia

The creation of inclusive ecosystems requires the creation of capabilities. In this sense, academia plays a crucial role, not only in educating professionals on inclusion, but also in conducting research and development.

Programmes should be revised or developed to ensure that the educational curriculums used in various professions include universal design principles.

Lastly, by promoting inclusive digital environments, more people will be able to access education, which will contribute to national growth and development.

Organizations for persons with disabilities

Access to accessible ICTs is a human right. Organizations for persons with disabilities need to raise awareness about digital inclusion and work with governments to ensure that the solutions developed truly respond to the needs of persons with disabilities, such as in web accessibility. These organizations also need to work to guarantee that the needs and rights of persons with disabilities regarding access to digital societies are taken into consideration, thereby allowing persons with disabilities to participate in and be part of the digital economy.

5.2 General recommendations

Drawing on the results of the regional self-assessments, several recommendations can be provided for each category with a view to supporting further advances in ICT accessibility implementation.

Laws and regulations

- **Revision of existing legislation**. This will ensure the inclusion of the right to ICT access. In this process, it is important to recognize that technology is present in every sector of the economy. When reviewing existing legislation, legislatures should look to the Convention on the Rights of Persons with Disabilities to guarantee access to ICTs for all persons.
- **New policies**. New policies and legislation should be drawn up to ensure ICT accessibility.
- **Consultations with organizations for persons with disabilities**. It is crucial that legislators engage with persons with disabilities, disability organizations and other relevant stakeholders from the outset in all policy reviews, policy-making and rule-making processes. This includes facilitating participation in and consultation on both specific ICT accessibility policies and policies that have an impact on ICT accessibility, such as tariff and licensing policies.
- **Targeting and reporting**. New or revised laws and policies should establish annual, measurable targets to be implemented by all relevant stakeholders. An annual public progress report should be issued, and necessary enforcement actions should be taken where appropriate.
- **Periodic reviews**. Owing to the fast-moving nature of technological developments and market conditions, digital accessibility policies should be reviewed at least every two years.
- **Awareness**. Government should advocate the rights of persons with disabilities in the ICT sector (access to digital information, access to accessible ICT, etc.) and should promote awareness of relevant laws and policies.
- **Revise and/or include definitions**. Every stakeholder needs to understand what is expected from accessible ICT. The ITU toolkit on ICT accessibility implementation provides definitions and key principles related to ICT accessibility that are based on international standards and best practices.

Political buy-in

- **Organization of national and regional events**. National and regional events should be held to offer presentations on accessibility to ICTs to relevant actors, including ministers

of ICT, education and health, telecommunication operators, university deans, civil society organizations, representatives of persons with disabilities and industry members. Such events should take place periodically.

- **Best practices**. Best practices and experiences in holding national and regional events should be collected and shared with all stakeholders with a view to achieving digitally inclusive communities.

Development of standards

There is a growing global trend towards the acceptance and adoption of the same core set of accessible ICT standards worldwide. These standards cover:

- an extensive yet reasonably understandable description of accessibility features and functions required by individuals with certain functional limitations or disabilities;
- a set of detailed accessibility requirements for each of these features and functions;
- a series of tests to ensure and demonstrate that the requirements are met.

The standards also provide government officials and industry representatives with information on the generic requirements of ICT accessibility, ICTs with two-way voice communication, ICTs with video capabilities, hardware, software, web, non-web documents, documentation and support services, and ICTs that provide relay or emergency service access**.**

If standards are already included in a country's legal framework, it is important that they are revised and updated in line with the latest version of the internationally used set of standards, such as version 2.1 of the Web Content Accessibility Guidelines, published in 2019.

Public procurement

The systematic adoption and use of commonly accepted technical standards are critical to creating a successful market of accessible ICT. When purchasing accessible ICTs, government and public authorities should:

- develop a set of national harmonized standards that define ICT accessibility. Significant economies of scale can be achieved by both industry and government. There is a growing global trend towards the acceptance and adoption of the same core set of accessible ICT standards worldwide. Another option is to make reference to international standards in national procurement policies and regulations.
- create an accessible employment environment in the public sector.
- deliver better value for money to citizens.
- make accessible ICTs affordable by reducing the cost. Given that public procurement represents between 10 and 17 per cent of the gross domestic product of an average country, governments can develop a prosperous digital market by adopting an accessible ICT public procurement policy.
- promote awareness of the national procurement law among stakeholders.

Training

It is important for all stakeholders to understand ICT accessibility in order to ensure the development of an inclusive ecosystem. Governments should lead the way by ensuring that officials receive training on ICT accessibility.

Accessible ICTs are necessary to ensure that all citizens have access to public information and communication and to public services (health, e-government, emergency services, etc.).

When purchasing accessible ICTs, governments and public authorities should take care to:

- create an accessible employment environment in the public sector;
- deliver better value for money to citizens;
- make accessible ICTs affordable by reducing the cost.

By regulating and promoting ICT accessibility, governments can:

- reduce inequalities;
- create an inclusive society in their country;
- ensure that all citizens are able to participate in the country's development;
- increase the country's economic growth.

Persons with disabilities should participate in the training to ensure that trainees understand the needs of end users.

Governments should work with academics to ensure the availability of training on creating accessible digital content. Such training should consider the following:

- Public information in audio and visual formats delivered through electronic displays in public spaces can reach people who may not have access to personal ICT devices. Where possible, graphics and images should be displayed in addition to text. Sound alarms and/or sirens used during emergency situations must be accompanied by flashing lights to denote the nature and level of the threat.
- Radios can include attachments or special features to enable their use by people who are deaf or hard of hearing. An example of these are devices that can transmit broadcasts as vibrations, flashing lights or simple texts. In addition, live online radio broadcasts and podcasts should include a transcript of the content.
- Closed captioning or subtitling in local languages must be provided for television broadcasting. In addition, sign language interpreters should be used when televising vital information, such as in emergencies, crises or pandemics.
- If information is sent out only in the form of an SMS, people who need non-visual inputs and do not have access to high-end devices that can convert text to other formats, such as audio, will be excluded.
- The latest versions of the most popular social media networks are increasingly accessible. Facebook, Instagram, Twitter and YouTube all offer accessibility features.
- Digital documents (spreadsheets, presentations, text documents, etc.) may be unusable by persons using screen readers if they are in formats that cannot be read aloud, such as JPEG files or image-based PDFs (e.g. scanned images). For example, all documents should always include alternative text for all images, review colour contrasts and use adequate document structure and styles to ensure their accessibility.

Anyone who develops digital content in fields such as marketing, government, advertising and education should be given relevant accessibility training to guarantee inclusion and social and economic development. Academia should work hand in hand with professionals to guarantee the availability of accessible web development training.

Lastly, appropriation is a large part of digital inclusion. End users also need the digital skills required to interact with accessible ICTs. Academia should work hand in hand with the government to guarantee the availability of digital skills training for persons with disabilities and for other vulnerable groups.

E-government

As technology becomes an important tool for interaction between peoples and their governments, an increasing level of data is being collected, thereby ensuring better and more efficient services and public policies. Persons with disabilities need to take part in developing statistical and e-government data strategies to guarantee their rights and ensure efficient public services.

Policies and strategies regarding the collection of information from citizens, including persons with disabilities, need to be determined. Engagement strategies should also be put in place to ensure the use of e-government platforms by citizens with disabilities.

Annex 1: Terms and definitions

It is essential that all stakeholders understand and use appropriate terms, definitions and principles related to ICT and digital accessibility in the context of the global digital ecosystem. The following terms and definitions are provided to facilitate a better understand of the terminology used in this report.

Accessibility: Accessibility is the extent to which products, systems, services, environments and facilities can be used by people from a population with the widest range of characteristics and capabilities, to achieve a specified goal in a specified context of use.

Accessible communication: Communication is defined in article 2 of the Convention on the Rights of Persons with Disabilities as including 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".

Accessibility content: Content delivered through an audiovisual media solution, such as captions, subtitles, audio description or audio subtitles. This differs from the accessibility of the device's interface for persons with disabilities or specific needs. Access services are a primary means of delivering accessibility content.

Accessibility feature: An additional content component that is intended to assist people hindered in their ability to perceive an aspect of the main content.

Accessible ICTs: Equipment and services that comply with accessibility standards and requirements and are designed to meet the needs and abilities of as many individuals as possible, including persons with disabilities. As a result, accessible ICTs can be accessed, understood and used by all persons with the widest range of abilities, taking into account their different needs and circumstances. Accessible ICTs are compatible with assistive technologies.

Accessible publication formats: Information made available in formats such as Braille, audiotape, oral presentation, sign language (including in rich media used in electronic publishing) or electronically for persons with reading impairments.

Affordability: The state of being cheap enough for individuals to be able to purchase the product or service. Affordability should be considered as a key element to ensure access to ICTs.

Assistive technology: Assistive technology is separate hardware or software added to equipment or services to enable persons with more severe disabilities to overcome the barriers faced in accessing information and communications. Assistive technologies enable the use of equipment or services by users with functional, motor, sensory or intellectual limitations or compensate for such limitations.

Digital communication: Digital communication includes all types of information and communication made available via the Internet, broadband, online radio, digital television, mobile phones or tablets that are readable and manipulable by computers.

Digital skills: Digital skills exist on a spectrum, from basic to advanced, and encompass a combination of behaviours, expertise, know-how, work habits, character traits, dispositions and critical understandings.

Digital transformation: Digital transformation is the process of using digital technologies to create new – or modify existing – business processes, cultures and customer experiences to meet changing business and market requirements. This reimagining of business in the digital age is known as digital transformation.

Disability: An evolving concept, which refers to the interaction between persons with impairments on the one hand, and attitudinal and environmental barriers that hinder their full and effective participation in society on an equal basis with others on the other hand.

Electronic document: An electronic document is any electronic media content (other than computer programs or system files) that is intended to be used in either electronic form or as printed output.

ICT accessibility: This is a key element to ensure the digital inclusion of all individuals regardless of gender, age, ability or location. ICT accessibility includes legislation, policies and regulations that ensure the development, appropriation and adoption of accessible ICTs, including through digital skills and knowledge. It also encompasses products, services and content developed in accordance with accessibility standards and requirements. (See Chapter 2.1.)

Information and communication technologies (ICTs): ICTs encompass a wide range of hardware, software, devices, 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, in addition to those used to communicate, in real time, with other persons.

Mobile application: A mobile application, also referred to as a mobile app or simply an app, is a computer program or software application designed to run on a mobile device.

Person with age-related disabilities: A person with cognitive or physical disabilities caused by the ageing process, such as impaired eyesight, deafness to some degree or reduced mobility or cognitive abilities.

Persons with disabilities: Article 1 of the Convention on the Rights of Persons with Disabilities defines persons with disabilities as individuals who have long-term physical, mental, intellectual or sensory disabilities, which, in interaction with various barriers, may hinder their full and effective participation in society on an equal basis with others.

Persons with specific needs: This includes persons with disabilities, persons who are not literate, persons with learning difficulties, children, indigenous persons, older persons with age-related disabilities and persons with temporary disabilities.

Public access communications services: Also known simply as public access, this refers to electronic communication 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 telephone shops.

Relay service: A telephone service that enables a person who is deaf or hard of hearing, whose speech is not clearly understood or who prefers to use sign language to place and receive telephone calls in real time.

Remote participation: Participation in a meeting from a separate geographical location using communication technologies.

Screen magnification software: A software application used by visually impaired persons to magnify a portion of the text or graphics displayed on a video screen to facilitate reading and comprehension.

Screen reader software: A software application used by blind persons or by persons who cannot read print to render the content of text and image alternative text displayed on the screen of a computer, mobile phone or tablet as speech or Braille output.

Sign language/signed language/visual signing: A natural language that, instead of relying on acoustically conveyed sound patterns, uses signs made by moving the hands, combined with facial expressions and postures of the body, to convey meaning. It should be noted that, just like spoken languages, sign language varies from country to country and has many dialects.

Speech-to-text interpretation: A simultaneous form of text interpretation conveying spoken content.

Subtitles: On-screen text translation of dialogue in any audiovisual content.

Universal design: The design of products, environments, programmes and services to be made usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. Universal design does not exclude the use of assistive devices for specific groups or persons with disabilities where needed.

Universal service fund: A funding mechanism designed as an incentive to ensure that telecommunication services are made accessible to the widest number of individuals (and communities) at affordable prices.

User experience: Perceptions and responses resulting from the use or anticipated use of a product, system or service, including the navigation of a physical or virtual environment. User experience includes all the user's emotions, beliefs, preferences, perceptions, physical and psychological responses, behaviours and accomplishments that occur before, during and after use. User experience is a consequence of brand image, presentation, functionality, system performance, interactive behaviour and assistive capabilities of the interactive system, the user's internal and physical state resulting from previous experiences, the user's attitudes, skills and personality, and the context of use. Usability, when interpreted from the perspective of the user's personal goals, can include the kind of perceptual and emotional aspects typically associated with user experience. Usability criteria can be used to assess aspects of user experience.

Annex 2: International standards

Standards provide government officials and industry representatives with information on generic requirements for accessibility for a wide range of products and services, such as technologies with two-way voice communication, video capabilities, hardware, software, web, non-web documents, documentation and support services and relay or emergency service access.

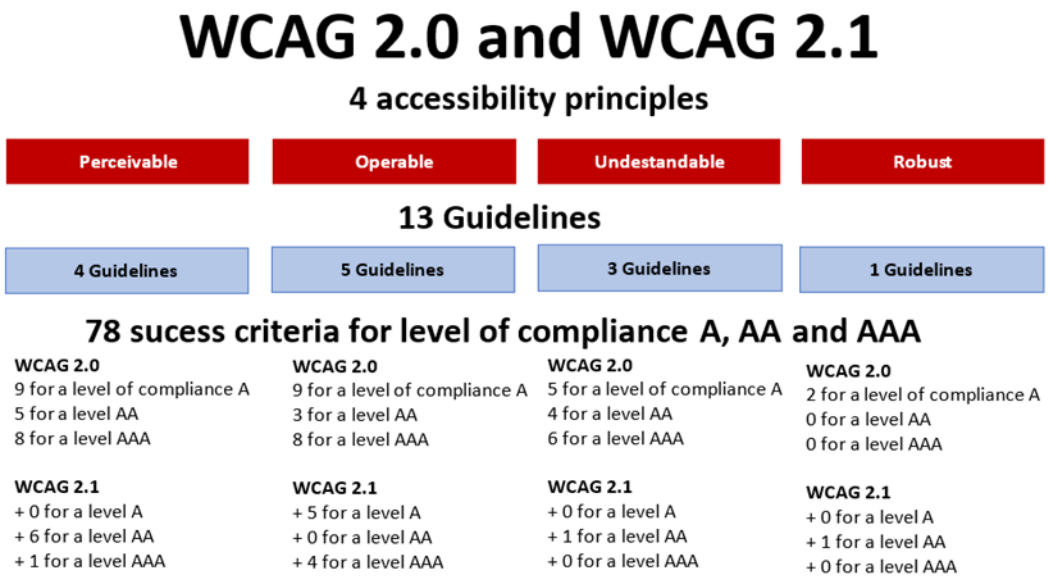
At international level, there are two kinds of standards which help foster a market of accessible ICTs: the set of standards on web content accessibility developed by the World Wide Web Consortium (W3C); and various regional and nationwide standards on ICT accessibility requirements for public procurement, which are harmonized to encourage international trade. Furthermore, these procurement standards refer to the same web content standards when describing accessibility requirements for the web.

1 The web content accessibility standard

The Web Content Accessibility Guidelines (also referred to as WCAG) were developed through the W3C process in cooperation with individuals and organizations around the world, with the goal of providing a single shared standard for web content accessibility that meets the needs of individuals, organizations and governments. The guidelines explain how to make web content more accessible to persons with disabilities. "Web content" generally refers to the information on a web page or in a web application, including:

- natural information, such as text, images and sounds;
- code or markup that defines structure, presentation, etc.

Version 2.0 of the guidelines was published on 11 December 2008, version 2.1 was published on 5 June 2018 and version 2.2 is scheduled to be published in 2021. All requirements ("success criteria") from version 2.0 are included in version 2.1. The success criteria in version 2.0 use exactly the same wording as those in version 2.1.



The guidelines are the most popular standards for website accessibility worldwide.

2 The European Web Accessibility Directive

European Directive (EU) 2016/2102 on the accessibility of the websites and mobile applications of public sector bodies stipulates that EU member States must ensure that the websites and the mobile applications of public sector bodies meet the stipulated accessibility requirements, independently of the device used to access them. The aim of the directive is to make public sector websites and mobile applications more accessible and to harmonize varying standards within the EU, thereby reducing barriers for developers of accessibility-related products and services.

EU member States must ensure that websites and mobile applications of public sector bodies are "more accessible", in particular for persons with disabilities, by making them "perceivable, operable, understandable and robust". European Standard EN 301 549 V2.1.2 (2018-08) provides a presumption of conformity with the accessibility requirements of the directive.

Public sector bodies must regularly provide a detailed, comprehensive and clear accessibility statement on how their websites and mobile applications comply with the accessibility requirements, including:

- an explanation for any inaccessible elements, and information on accessible alternatives;
- a description of how a user may report any failure to comply with the directive and request information that is excluded from the scope of the directive;
- a link to a complaint mechanism if the response is inadequate.

EU member States must also:

- facilitate the application of the accessibility requirements to other type of websites and mobile applications covered by existing national laws;
- facilitate training programmes on the accessibility of websites and mobile applications;
- raise awareness of the accessibility requirements;
- share best practices, facilitated by the European Commission;
- ensure the availability of an adequate and effective enforcement procedure.

This directive is a good example of regional practice to guarantee website and mobile applications accessibility.

3 The European ICT accessibility procurement standard

Governments fund and buy a huge array of ICT goods and services. Many countries have developed procurement policies and systems for accessible ICT. One of the most important aspects of a procurement exercise is the use of clear, unambiguous descriptions of what the required product or service must be able to do. Since its publication in 2014, European Standard EN 301 549 on accessibility requirements for ICT products and services has been adopted and implemented across all 27 EU member States. Several countries outside the European Union, such as Australia, Mexico, Macedonia and Switzerland, have also taken steps to adopt this standard as a national standard.

The standard offers a list of high-level functional performance statements that describe the needs of the widest range of users when using ICT products, services or documentation. These contain a description of the test procedures and evaluation methodology for each accessibility requirement.

The standard is suitable for the procurement of hardware, software and websites, including:

- computers;
- telecommunication equipment;
- multifunction office machines, such as copiers that also function as printers;
- software, such as office applications;
- websites, including e-learning and e-commerce platforms;
- information kiosks and transaction machines;
- electronic documents.

4 Section 508 of the United States Rehabilitation Act

Section 508 of the United States Rehabilitation Act of 1973 requires federal and federally funded agencies to ensure that persons with disabilities can access and use information services provided through ICTs. It is directly applicable to the technologies procured by US federal departments. Section 508 provides both buyers and suppliers of ICTs with a shared language and common understanding of what is considered "accessible". Section 508 was originally

published in 2001. An updated version was published in 2017. This updated version contains two important features: it incorporates the Web Content Accessibility Guidelines and it is harmonized with the European Standard EN 301 549.

A Voluntary Product Accessibility Template (VPAT)[13] is a document that explains how ICT products such as software, hardware, electronic content and support documentation meet (or conform to) the revised Section 508 standards for IT accessibility. VPATs help federal agency contracting officials and government buyers to assess ICT for accessibility when doing market research and evaluating proposals. Government solicitations which include ICT must include accessibility requirements that indicate what provisions must be made to ensure that the deliverable is accessible. A VPAT is a good way to address the accessibility requirements defined in the solicitation. Many organizations use VPATs in their procurement processes.

[13] More information on VPATs is available at https://www.section508.gov/sell/vpat.

Annex 3: ITU resources to foster implementation of ICT accessibility

The ITU Telecommunication Development Bureau (BDT) supports the advancement of the global disability-inclusive agenda and the development of inclusive digital communities by raising awareness about ICT accessibility, building capacity and providing policy and strategy advice to ITU members. BDT also facilitates joint working platforms such as study groups and regional knowledge development forums on ICT accessibility, at which stakeholders can share good practices and engage in national and regional digital accessibility implementation. ITU Member States seek to guarantee that all their citizens can benefit from digital information, products and services equally and equitably. BDT therefore supports members' efforts to mainstream digital accessibility to ensure the full and effective participation of all persons in the digital economy, including by developing and making freely available the resources indicated below.

1 Guidelines, toolkits and reports

- "Towards building inclusive digital communities: ITU toolkit and self-assessment for ICT accessibility implementation"(available in English) (2021)
- Final report of Study Group Question 7/1 on access to telecommunication/ICT services by persons with disabilities and other persons with specific needs (available in English) (study period 2018-2021)
- ICT accessibility assessment for the Europe region (available in English) (2021)
- ITU guidelines on how to ensure that digital information, services and products are accessible by all people, including persons with disabilities, during the COVID-19 pandemic (available in the six official languages of the United Nations, as well as in 22 other languages) (2020)
- Toolkit and global standard for safe listening devices and systems (available in Arabic, Chinese, English, French, Russian and Spanish) (2019)
- "Accessible Europe 2019 background paper: Artificial intelligence and information communication technology accessibility" (available in English) (2019)
- "Accessible Europe 2019 backgrounder: Standards in the procurement of accessible ICT products and services" (available in English) (2019)
- "Accessible Europe 2019 background paper: Future of accessible audiovisual media services, TV and video programming"(available in English) (2019)
- Final report of Study Group Question 7/1 on access to telecommunication/ICT services by persons with disabilities and with specific needs (available in Arabic, Chinese, English, French, Russian and Spanish) (study period 2014-2017)
- Model ICT accessibility policy report (available in Arabic, Chinese, English, French, Russian and Spanish) (2014)
- "Universal service fund and digital inclusion for all"(available in English) (2013)
- "Making mobile phones and services accessible for persons with disabilities" (available in Arabic, Chinese, English, French, Russian and Spanish) (2012)
- "Making television accessible" (available in Arabic, Chinese, English, French, Russian and Spanish) (2011)

2 Training and knowledge development programmes

Online self-paced training courses

- "How to ensure inclusive digital communication during crises and emergency situations" (available in English, French and Spanish)
- "ICT accessibility: The key to inclusive communication" (available in Arabic, English, French and Spanish)
- "Web accessibility: The cornerstone of an inclusive digital society" (available in English)
- "Public procurement of accessible ICT products and services" (available in English)

Knowledge development programmes

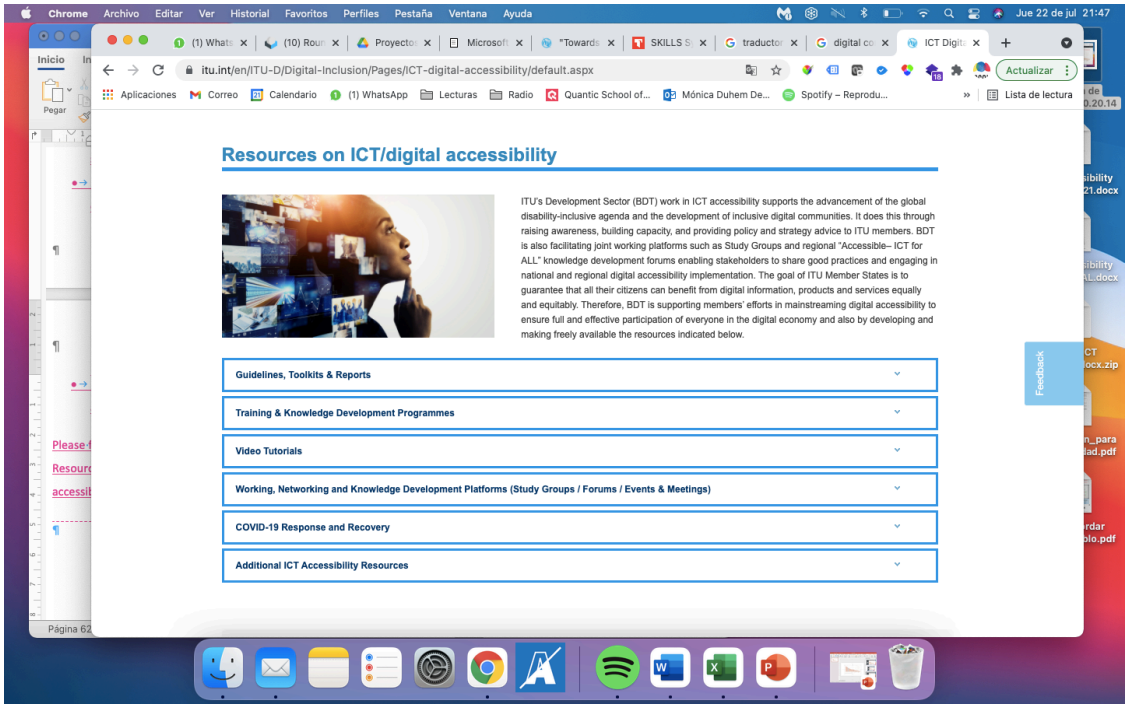
- ITU-D National Programme on web accessibility, entitled "Internet for @ll" (available in Arabic, English, French and Spanish)

3 Video tutorials

- "ITU toolkit and self-assessment for ICT accessibility implementation" (available in Arabic, Chinese, English, French, Russian and Spanish)
- "How to ensure inclusive digital communication during crises and emergency situations" (available in English, French and Spanish)
- Multiple video tutorials on the creation and remediation of accessible digital content (available in English, French and Spanish)

For more information and updates on these resources, please follow the link or scan the QR code below: https://www.itu.int/en/ITU-D/Digital-Inclusion/Pages/ICT-digital-accessibility/default.aspx.

For additional resources, visit: https://www.itu.int/en/ITU-D/Digital-Inclusion/Pages/resources-on-ICT-accessibility/default.aspx.



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