EUROPEAN UNION OF THE DEAF

A European Non-Governmental Organisation in official liaison with
European Parliament, European Commission and the Council of Europe

EUD Position Paper
Accessibility of Information and Communication

For deaf persons as well as hard of hearing and deafblind persons, accessibility of information, communication and knowledge is crucial to enable their full and equal participation in society. This involves the accessibility of information and communication technologies and systems.

Article 9 of the United Nations Convention on the Rights of Persons with Disabilities (UN CRPD or the Convention) prescribes obligations for the State Parties to the Convention with regards to accessibility for persons with disabilities.[1] In addition, General Comment No. 2 on Article 9[2] interprets these obligations in greater depth and provides orientation for their practical implementation. General Comment No. 2 does mention many important elements with regards to accessibility that are particularly important for deaf persons. However, it does not address those in great detail, as it covers the right to accessibility for all disability groups.

The definition of accessibility and what it entails varies significantly, depending on the disability group in question. The European Union of the Deaf (EUD) is a deaf-led organisation advocating for the rights of deaf persons on the European level. Therefore, this position paper will focus on deepening the interpretation of Article 9 (1)(b) of the UN CRPD from the deaf perspective. It will address specifically the topic of improving accessibility of information, communication and knowledge for deaf persons by adding more detail to it and updating it in light of new technological advancements.

Therefore, this position paper does not pretend to encompass all aspects of accessibility from the deaf perspective but needs to be read in combination with Article 9 of the UN CRPD as well as General Comment No 2.

Finally, while this position paper focuses on accessibility from a deaf perspective, it needs to be highlighted that many of the aspects elaborated on below, apply as well to other groups, such as hard of hearing persons, deafblind persons, and persons with other disabilities.

At the same time, EUD highlights the strong connection and overlap between the articles of the UN CRPD and the SDGs. The full implementation of Article 9 of the UN CRPD in terms of access to information and communication is interlinked and supports the achievement of the

[1] To consult Article 9, see https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities/article-9-accessibility.html (Accessed on the 26 October 2018).
[2] The UN CRPD General Comment No. 2,
see https://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRPD/C/GC/2&Lang=en (Accessed on the 26 October 2018).

Sustainable Development Goals and the 2030 Agenda for Sustainable Development for the deaf community.

1.1. Full accessibility to information, communication and knowledge for deaf sign language users is ultimately achieved through sign language

Due to the specific cultural and linguistic identity of deaf sign language users,accessibility for this group specifically means access through sign language, which provides them with full barrier-free access to information, communication and knowledge. Indeed, access to sign language, from the earliest stages of life is fundamental to ensuring that deaf sign language users can seek, receive and provide information as well as communicate on an equal basis with others. Therefore, accessibility of information and communication through sign language for deaf sign language users must be guaranteed to the same extent as information and communication is ensured through spoken language for hearing persons. Availability of information in sign language as well as the option to communicate in that language, e.g. through the provision of sign language interpretation[3], is indispensable for enabling deaf sign language users to exercise their human rights. Indeed, sign language interpretation is necessary for deaf persons to participate equally in society in all areas of public and private life, as addressed in various articles of the UN CRPD.[4] For instance, all information and communication pertaining to core human rights such as access to health care should be accessible through the provision of quality sign language interpretation. Moreover, deaf sign language users cannot effectively bring their capacities to the labour market if all information pertaining to selection processes and communication at the workplace is not accessible through sign language.[5] Furthermore, if political debates, meetings and materials produced by political parties or individual candidates participating in elections are not available in sign language, deaf persons are deprived of their fundamental right to political participation.[6] These are just a few examples of how lack of access to information and communication in a national sign language can prevent deaf sign language users from equal participation. However, this applies to all areas of life.

The findings of World Federation of the Deaf (WFD) and the Swedish National Association of the Deaf indeed demonstrate that the 'most important human rights for the Deaf people are the recognition of the national sign languages and access to it, along with access to bilingual education and sign language interpreters, as well as general access to information and public services, including courts.'[7] Therefore, State Parties must ensure access to national sign language. This involves for example the provision of interpreters and/or coverage of sign language interpretation costs to enable deaf individuals to fully and meaningfully participate in all areas of life - private and public. It has to be highlighted that many factors must be considered when covering sign language interpretation costs, such as covering extra costs related to receiving interpretation services, like travel costs of the interpreter, administrative costs, etc. Deaf persons must be provided by public authorities with the number of hours of sign language interpretation that enables them to meaningfully participate in all areas of life. Importantly, sign language interpretation must also be of high quality, which is not a factual value, but is contextually determined.[8]

[3] Sign language interpreters are persons who are trained in interpreting between a spoken and a sign language or between two sign languages.
[4] De Clerck, G. & Paul, P. V. (2016).
[5] O'Reilly, A. (2007).
[6] Fundamental Rights Agency (2014). The right to political participation for persons with disabilities: human rights indicators. Available at: http://fra.europa.eu/en/publication/2014/right-political-participation-persons-disabilities-human-rights-indicators (Accessed on 26 October 2018).
[7] Wheatley M. & Pabsch A. (2012).
[8] Kopczynski A. (1994).

It is crucial that State Parties to the Convention take measures to improve the availability and quality of sign language interpreters. This includes the creation of quality sign language interpretation studies in tertiary education and the recognition of the profession at national and ideally European levels. It also involves creating measures that ensure adequate working conditions with regards to working hours and pay as well as the establishment of a publicly accessible national registry of sign language interpreters that lists the qualifications of the registered interpreters. Otherwise, sign language interpretation services cannot employ a sufficient number of qualified interpreters to meet the increasing demand for these services. It is also necessary to ensure that all interpreters can benefit from regular further education opportunities, enabling them to work in specialised settings, such as the courts, so that they can provide quality interpretation with regards to all areas of life. Finally, relay interpreters require additional training to prepare them for working online.

1.2 Accessibility of ICTs

As the role of technology is continuously increasing, ensuring accessibility of ICTs[9] for deaf persons is particularly important. Indeed, when accessible, ICTs have the potential to provide deaf persons with access to a wide range of services, transform existing services, and create greater access to information and knowledge. The UN CRPD is the first international human rights treaty to address the access to ICTs. In order to ensure that ICTs are accessible for deaf persons, EUD advocates for improving the access to ICTs, as highlighted below.

2.1 Application of universal design while developing accessible ICTs

EUD strongly believes that manufacturers should fully apply universal design to all new goods, products, facilities, technologies and services when designing accessible ICT products. This would ensure full, equal and unrestricted access for all potential consumers, including deaf persons.[10] Universal design means that the design of products, environments, programmes and services is usable by all to the greatest extent possible, without the need for adaptation or specialised design.[11] It is easier and more cost-efficient to design a product following universal design principles from the beginning and throughout the entire design and implementation process, rather than retroactively building in accessibility features for specific target groups later.[12] It has to be highlighted that the application of universal design to ICTs does not only benefit persons with disabilities. Indeed, every user of such products or services can find themselves in a situation where they need to access a product or service through accessible alternative features. Furthermore, ICT products and services offering such alternative features enable persons to choose their preferred method of interacting with the product or using the service. Therefore, companies producing ICT products or services following universal design principles can increase their turnover by marketing them to a wider public and making them more user-friendly to all.

[9] ICT is an umbrella term that includes any information and communication device or application (wide range of access technologies, such as television, mobile phones, computers, network hardware and software) and their content.

[10] Solvang, P. K. & Haualand, H., (2013).

[11] Petrie, H. (2016).

[12] World Federation of the Deaf (2014). Working Document on Adoption and Adaptation of Technologies and Accessibility. Prepared by the WFD Expert Group on Accessibility and Technology, Version date 25 October 2014. Available at: http://wfdeaf.org/wp-content/uploads/2016/10/Working-Document-on-Adoption-and-Adaptation-of-Technologies-and-Accessibility-October-2014.pdf (Accessed on 26 October 2018).

2.2 Involvement of deaf experts and/or experts in accessibility for deaf persons that are recommended by an organisation representing deaf persons in the development of accessible ICTs

Manufacturers and developers of ICTs that include features of importance for deaf users, such as customised vibrating and visual alerts, sign language, real time captioning, translation options, etc. should directly collaborate with deaf experts and/or experts in accessibility for deaf persons that are recommended by an organisation representing deaf persons. Indeed, hiring and collaborating with persons with disabilities, including deaf persons, as accessibility experts increases the level of expertise within a company to develop accessible and innovative products that can be marketed to a wider range of end-users, including 80 million persons with disabilities across the EU. Good practice examples of companies hiring accessibility experts with a disability exist around the world, but should become the norm, rather than an exception. It is essential for developers to involve deaf experts and/or experts in accessibility for deaf persons that are recommended by an organisation representing deaf persons from the very early stages and throughout the entire process of developing accessible ICTs.[13] This enables the company to recognise and avoid potential barriers from the beginning. Indeed, accessibility checks and tests involving users and experts with disabilities, including deaf persons, must be carried out at various time points in the entire development process. Moreover, it is critical that representative organisations of deaf persons are involved in working with government on policy development. This will support the creation of rules and practices that will encourage the consultation of these groups as well as their representative organisations, which in turn will lead to improving accessibility of ICTs for deaf users.

2.3 Accessibility standards for ICTs and inclusion of ICTs in the definition of accessibility in disability laws

In order to ensure that universal design is strictly applied, it is critical to develop new, and regularly update, existing accessibility standards[14] that contain broad functional accessibility requirements. Both the development and updating of such standards must take place in close consultation with deaf persons' representative organisations as well as ICT and standardisation experts who can provide expertise on how to improve ICT accessibility for deaf persons. Standards must define the relevant accessibility requirements and how quality implementation can be achieved. Legislation should ensure mandatory application of accessibility requirements and sanctions, including fines, for those who fail to apply them.

Disability laws must include ICTs in their definition of accessibility. Especially, disability rights laws dealing with equal access to various areas of life, such as employment and education, should include access to and use of ICTs. Finally, review or adoption of such laws should be carried out in close consultation with deaf persons and their representative organisations.

3. Accessibility of telephony and emergency services

EUD advocates for end-to-end accessibility of telephony and emergency services, which must be usable and reachable via voice communication, text, including Real-Time Text, and video communication, alone or in combination as Total Conversation services. Only if these

[13] Miesenberger, K., Cudd, P., Sik-Lányi, C., Hoogerwerf, E. (2015).

[14] Article 9, paragraph 2 of the UN CRPD, stipulates the measures States parties must take in order to develop, promulgate and monitor the implementation of minimum national standards for the accessibility of facilities and services open or provided to the public. Those standards must be in accordance with the standards of other States parties in order to ensure interoperability with regard to free movement within the framework of liberty of movement and nationality.

accessible services are available and interoperable across Europe, deaf persons as well as other persons will be able to communicate with anybody, including emergency services, on an equal basis. It also needs to be highlighted that accessible emergency services benefit all of society, as everyone can find himself/herself in a situation where he/she cannot communicate orally (e.g. due to losing their capacity to speak or hear in an accident) and requires alternative accessible methods of communication to ask for help. Furthermore, the availability of quality high speed internet access, both wired and wireless, as well as better mobile coverage, especially in rural areas are crucial to ensure fully accessible quality telephony and emergency services. This is especially important for deaf sign language users who communicate remotely through video, which requires more bandwidth than voice calls. Better mobile coverage is also crucial to ensure that information about natural disasters transmitted though telephony services, for example through text messages alerts, can reach persons both in urban and rural areas.

Moreover, EUD highlights the need for more and improved awareness-raising measures about 112, the European emergency phone number that is reachable everywhere in the EU, free of charge. Information about the accessibility features of the 112 in different EU countries (for example SMS, Real-Time-Text communication, sign language interpretation through video-relay services, etc.) must be provided in an accessible manner to travellers with and without disabilities, so that citizens are aware of how they can contact emergency services through 112 while being abroad.

Furthermore, with regards to telephony services, including mobile communication, users should have more options to choose between services and subscriptions according to their needs. For instance, this would allow deaf persons to choose plans that only contain data rather than minutes for voice communication that they do not require.

4. Accessibility of audio-visual content: accessible formats and languages

EUD advocates for full accessibility of audio-visual content and information that is provided by both public and private providers on TV, in the cinema, on the internet, including websites, social media, video on demand (VOD), including subscription models such as Netflix or Amazon, and TV on demand provided by broadcasters, for example BBC's iPlayer.

If sign language interpretation is provided during conferences or events that are being recorded for the audience to follow online or on TV, the interpreters should be filmed and displayed on screen appropriately while streaming the conference or event online or broadcasting it live on TV.

Fully accessible audio-visual content means that deaf users can choose to use accessible formats and/or sign language interpretation. For example, deaf users must be able to choose sign language interpretation, subtitling or captioning, or a combination of both in their preferred language.[15] All online and offline programmes, including archived materials, should include, among others, the aforementioned options. All playback devices/software for audio-visual content should offer options to display captions, if they exist in the media, and provide controls to enable the user to set the speed, colour and placement of captions or the placement of the window for the in-vision translator.[16]

[15] Díaz-Cintas J., Orero P., Remael, A. (2007).

[16] World Federation of the Deaf (2014). Working Document on Adoption and Adaptation of Technologies and Accessibility. Prepared by the WFD Expert Group on Accessibility and Technology, Version date 25 October 2014.

Videos embedded in websites should contain sign language interpretation and/or captioning. It is important for national sign languages to be among language options on websites to provide deaf sign language users with equal access and to ensure that national sign languages are on an equal footing with spoken/written languages. To enable this, web browsers should have built-in accessibility features to ensure that these accessible formats and languages can be displayed.

In order to increase awareness among users about accessible formats and languages included in audio-visual content, EUD advocates for the use of accessibility icons, which indicate the availability of sign language interpretation, subtitles and captions as well as other access services, to be displayed alone or in combination. This would also increase users' awareness about the availability of accessible content and allow them to choose programmes with the access services of their choice. EUD advocates for icons that are modern, easy to use and understand and that work internationally.

EUD emphasises that the access services used to render audio-visual content accessible must be of high quality to ensure meaningful accessibility for the user. This means that sign language presenters, reporters and interpreters must be appropriately qualified, either to use or interpret into and from sign language at native level, and to communicate effectively through television.[17] The window of the in-vision translator must be sufficiently big by occupying a space no smaller than one sixth of the picture, well placed and contrasted and must not cover important visual information on the main screen. To ensure that users can fully access sign language interpretation, users controls allowing them to set these features according to their own needs and preferences must be in place.
Equally, quality of captions, both open and closed, pre-recorded and live, must be ensured. Independent of how captions are created - whether they are produced by captioning professionals or through a combination of automatic speech recognition and human editing, for example - the following five elements must be ensured[18]:

1. Captions must be accurate, which means that the content must be rendered without errors.
2. Captions must be consistent with regards to style and presentation of all captioning features to ensure viewer understanding.
3. Captions must be clear and contain a complete textual representation of the audio, including speaker identification and non-speech information, to provide clarity for the viewer.
4. Captions must be readable, meaning that they are displayed with enough time to be read completely, are in synchronisation with the audio, and are not obscured by (nor do they obscure) the visual content.
5. Captions must ensure equal access, by completely preserving the meaning and intention of the material.

Furthermore, other entertainment, such as video games that contain audio-visual content must be made accessible for deaf users, for example by allowing users to receive audio signals visually or through haptic feedback.

Available at: http://wfdeaf.org/wp-content/uploads/2016/10/Working-Document-on-Adoption-and-Adaptation-of-Technologies-and-Accessibility-October-2014.pdf (Accessed on 23 October 2018).

[17] Ofcom (2017). Code on Television Access Services. Available at: https://www.ofcom.org.uk/__data/assets/pdf_file/0020/97040/Access-service-code-Jan-2017.pdf (Accessed on 26 October 2018).

[18] DCM Captioning Key, Available at http://www.captioningkey.org/quality_captioning.html#3%20For%20the%20footnote%20! (Accessed on the 26 October 2018).

EUD highlights that audio-visual content is available on various devices and is transmitted through a wide range of applications which can be available in different settings, such as public and private transport, public spaces, etc. Such content must be made accessible for deaf users to ensure that they have equal access to information in all areas of life[19].
Moreover, broadcasters should not only work on improving the accessibility of their own programmes and services for deaf users. They should also take an active role in contributing to raising awareness about accessibility for deaf persons and how it can be achieved, in consultation with their representative organisations. Indeed, it is essential that the general public be better informed about deaf culture and accessibility for deaf persons, including through programmes addressing these topics from a deaf perspective for both deaf and hearing audiences. This would raise the awareness of the general public and improve the inclusion and equal participation of deaf persons in society.

5. Accessibility of new technologies

EUD acknowledges that new technologies, including assistive technologies and technologies based on Artificial Intelligence (AI), play a major role in promoting the full and equal participation of deaf persons in society. EUD advocates for new investments in research, design, development, production and distribution of new technologies and systems to ensure that they become accessible at minimum cost.

However, in order to ensure that new technologies benefit deaf persons and do not create additional barriers, their quality - including their capacity to transmit information accurately and effectively - must be guaranteed. Therefore, deaf experts and/or experts in accessibility for deaf persons that are recommended by an organisation representing deaf persons need to be constantly involved in the creation and updating of standards as well as policy-making. Furthermore, they need to be strongly engaged with industry to ensure correct implementation of existing standards and policies and to support the development of accessible innovative practices. For instance, deaf experts and experts in accessibility for deaf persons that are recommended by an organisation representing deaf persons, should be involved in the development of software that converts audio into text in real-time, translates messages into sign language or computer-generated voice, captures spoken language on a smartphone and converts it into text, and tools/applications that indicate applause, laughter, sighs, knocks and music in captions, etc.[20]

However, EUD highlights that the increasing amount of speech-based technologies and virtual assistance based on voice recognition excludes deaf users. EUD advocates for such new technologies to provide accessible options for deaf users and promotes the development of new kinds of accessibility features that are visual or text-based. Moreover, new investments in research, design, development, production and distribution of sign-language recognition technologies, such as through avatars, are crucial. However, the constant and meaningful involvement of deaf experts and experts in accessibility for deaf persons that are recommended by an organisation representing deaf persons, in these processes is indispensable to ensure that such technologies are used appropriately. For instance, EUD considers the use of pre-recorded avatars to be possible in some broadcasts, especially those providing non-essential information with a limited vocabulary, such as weather forecasts. However, we believe that the use of sign language interpreters continues to be crucial in important broadcasts, such as live emergency communications or the news, to ensure that all elements of the information (such as sense of urgency, tone of voice, etc.) are properly

[19] See Sustainable Development Goal 11 "Sustainable Cities and Communities." Available at https://sustainabledevelopment.un.org/sdg11 (Accessed on 26 October 2018).
[20] Boucher P., (2018).

transmitted and understood. It is important to prevent deaf persons from being left behind as society relies more and more on communication through new technologies.

5.1. EUD encourages corporations and researchers to keep investing in developing assistive technologies based on AI that improve accessibility for the deaf users

EUD strongly believes that the development of accessible new technologies is an important opportunity for corporations to transform our society. Indeed, these technologies could fundamentally change the way deaf persons access information and communicate. More investment in developing AI-based technologies that improve accessibility for deaf users is crucial, but it must be ensured that such technologies leave no one behind.

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