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Vodafone response to BEREC's public consultation on ensuring equivalence in access and choice for disabled end-users

Vodafone welcomes comments or questions on the views expressed in this submission. They should be directed to Giulio Maselli at giulio.maselli @ vodafone.com

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Vodafone welcomes BEREC's public consultation on ensuring equivalence in access and choice for disabled end-users. A wide consultation on this topic is essential to define the best regulatory approach and to make sure that the technological improvements in electronic communications services are also fully enjoyed by this category of users.

The 2009 electronic communications directives provide national regulators with a range of new competences and powers for the definition of regulatory measures in favour of disabled users. The transposition into national law of the new rules will offer the opportunity to regulators to review their current approach to the issue.

One of the major changes brought by the 2009 framework in this area is the possibility for disabled users to have a choice of providers. The idea of the European legislator was to allow disabled users to get the benefits of competition. However, taking into account that disabled users represent a very small proportion of total users, this requirement will reduce even further the economies of scale related to serving this category of customers thus increasing total costs. For many of the initiatives/requirements it is more efficient and effective to focus on just one provider.

The needs of disabled users, the issues that they face and also the solutions to those problems have radically changed over the past few years. In particular, attention has moved from actual services and network infrastructure to terminal equipment and software/applications as new communications and content access technologies, such as mobile and the internet, have been embraced by disabled users.

However, the powers given to NRAs are limited to regulatory measures in relation to electronic communications services (i.e. equivalence of access and choice for disabled users). They do not extend to terminal equipment, software and on-line applications that at the moment generate most of the accessibility issues and that might provide many of the solutions[1].

In addition, initiatives in favour of disabled users are likely to be more effective if taken at European level rather than national to reach the necessary economies of scale.

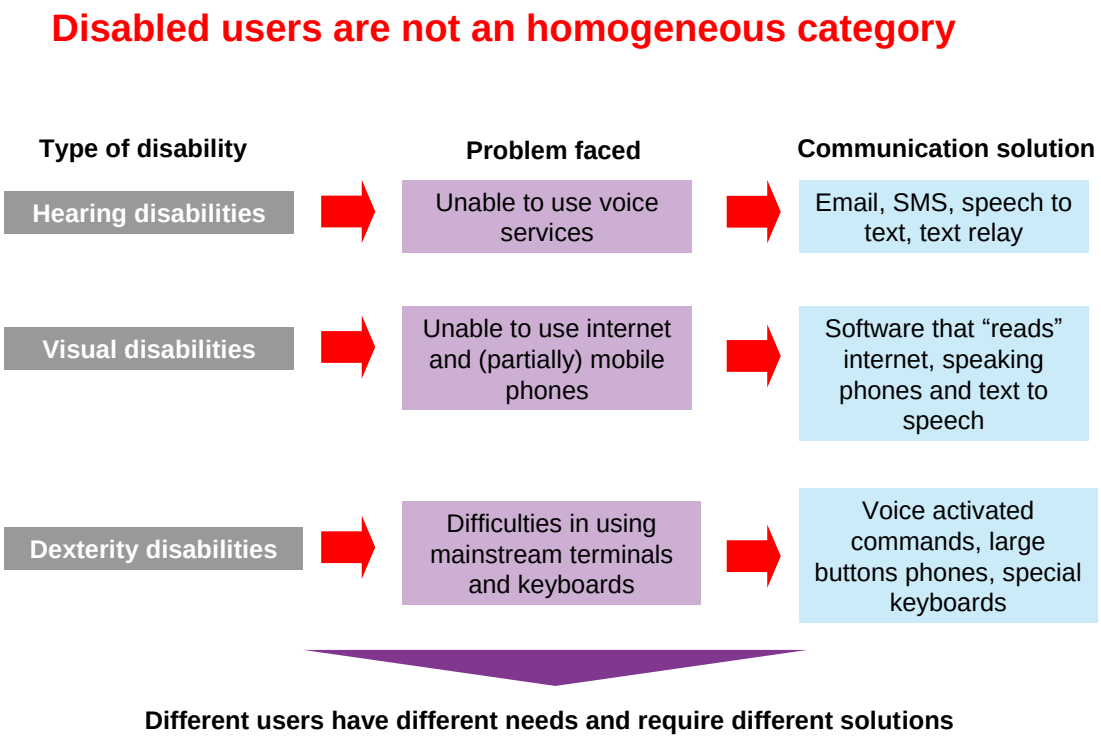
[1] Art. 23a (2) of the revised Universal Service Directive provides the following: *"Members States shall encourage the availability of terminal equipment offering the necessary services and functions*". However, it is unclear how national Governments or NRAs could have any influence taking into account that the Directive text is weak and that the terminal industry is now global.

1. Understanding disabled users' needs in a changing technological environment

Disabled users are not a homogeneous category and the issues that they are facing can be very different. Various kinds and levels of disability will generate different problems in the use of communications services and they will need different approaches to their issues. For example:

- Deaf people cannot use voice services and therefore they need to communicate via text (email or SMS) or to use some means that transform voice into text (and vice-versa) or into visual images.
- Blind people cannot use internet services or any text communication (email or SMS). They can communicate only via voice based services and they need some means that transform text and visual images into voice
- People with dexterity disabilities have difficulties in using mainstream terminals and keyboards. They need special terminals (fixed or mobile) that have larger than standard buttons or that can be voice activated

A graphical representation of this is shown in the following picture.



In the pre-Internet and pre-mobile world the main category of disabled users with communications problems were deaf people that could not use the fixed voice

phone. Text relay was the main technological solution provided. Text relay is a service where the disabled user communicates with another user through an operator who translates text into voice and vice-versa. The user needs a special text-phone terminal to use the service.

Mainstream technological development in the electronic communications sector has had two effects:

- On one side, it has generated more needs and social exclusion problems for some categories of users. For example, the advent of mobile telephony and the internet has created problems to blind people who cannot easily use complex mobile terminals menus or use video screens. Before, the only available service, fixed voice telephony, was easily accessible for them
- On the other side, it has provided new practical, effective and low cost solutions to traditional communications problems of disabled users. For example, SMS is not only a great communication service for the mass market, but it has also allowed deaf people to easily communicate with the rest of world with a mainstream, easy to use service

2. Understanding what services, terminals, software, and applications are available on the market

Some of the greatest communications innovations for disabled users have not come from specifically designed services, but from services and products designed for the mass-market that also have potential for innovative use by disabled users.

The first wave of innovation was brought about by mobile communications and the internet. They have allowed deaf people to communicate (via SMS and email) and find information (via the internet) using mainstream means. Some other features now common in almost all mobile phones (for example voice dialling and hands-free speakerphones) have helped users with dexterity problems to access easily communications services.

A second wave of innovation is being provided by mobile smartphones and the development of a multitude of applications both specifically dedicated to solve disabled users issues and for the mainstream market that have a potential use by disabled customers. The main advantages are the following:

- No special terminals are required as normal smartphones with compatible operating systems are needed.

- The applications can usually be downloaded on the terminal without any charge or at minimal cost to the user.
- The operating software of smartphones and the large high-quality touchscreen provide a high degree of flexibility to application developers to design new software at low cost.
- The on-line application "stores"[2] also provide an efficient and effective distribution network, particularly suitable for applications/functionalities that are useful to a small number of people, but available throughout the world.

This new approach is still at the infancy, but has the potential to revolutionise the way that disabled users will access communications services.

These are some examples of applications or functionalities recently launched on the market for smartphones:

- Apple iPhone VoiceOver: screen reader software for visually impaired users that helps them navigate within the phone menu and use all the related functions. The functionality is a standard feature of the phone and there are no additional costs[3]. Most recent Android-based smartphones have a similar built-in screen reader and text-to-speech software
- Location Orienter (Android): an application that uses text-to-speech software and the Android location services to determine the user's current location and speaks the approximate address. It is currently being expanded to provide other navigational information, such as walking directions.
- Apple iPad/IPhone application Proloquo2Go: an augmentative and alternative communication solution for people who have difficulty speaking, including autistic children with difficulties in verbal expression. It provides text-to-speech voices and high resolution up-to-date symbols[4]
- Digit-Eyes enables people who are blind or sight-impaired to read barcode labels of products by using the iPhone to scan UPC/EAN barcodes and hear the names and relevant information of over 7.5 million products.[5] A similar application is also being developed for Android smartphones
- Interface for One Bus Away (Android): the application uses GPS to determine the bus stop closest to the user and provide updated information the next buses to arrive (this is easier and more effective than reading the stop number off the posted schedule for a blind user).

[2] Some examples of application stores are Apple Itunes, Nokia OVI, Vodafone 360, Android Market, etc.
[3] See for more details: http://www.apple.com/accessibility/iphone/vision.html
[4] The cost of the software is about 100 GBP. See for more details: http://www.proloquo2go.com/
[5] The cost of the equipment and software is about 30 USD . See for more details: http://itunes.apple.com/us/app/digit-eyes-audio-scanner-labeler/id376424490?mt=8#

- Free voice-to-text mailbox services launched by Google in the US (within its VoIP service)
- General VoIP services (i.e. Skype and others) normally include video that allows the use of sign language and that are supported by an underlying instant messaging service (i.e. the user can speak, use sign language and send instant written messages all within the same conversation). This use of a VoIP services is possible via both smartphones and broadband connected PCs

An issue that is at the moment limiting a more widespread availability of such services is the current cost of smartphones. The most common smartphones now cost between 350-600 Euro[6]. However, a new generation of low-cost smartphones will shortly come to the market. Vodafone itself will start to sell in the coming months smartphones with a cost from less than 100 Euro. This will greatly reduce the cost barrier to access smartphones and the relevant disabled-friendly applications.

In addition to recent developments in the terminal/applications market, Vodafone Group and some other mobile operators have been addressing disabled users' needs by developing specific products and services for a considerable period of time.

Initiatives undertaken by Vodafone include:

- Text-to-speech services (Talking phone software) for blind and visually impaired customers (8 markets)
- Mobile devices compatible with hearing aids (Spain)
- Real-time text messages for deaf and hearing impaired customers (two markets)
- Reduced rates accessibility pricing plans (7 countries):
    - SMS-only price plans for those unable to use voice minutes
    - Low cost video call services for deaf customers
    - Special sms and mobile internet tariffs for deaf customers
- Bills in Braille, large text and synthetic audio for its visually impaired customers (8 markets)
- Accessible customer care and corporate website

Many of these initiatives are undertaken on a voluntary, corporate responsibility basis; they are not commercially driven.

[6] In many countries, mobile operators subsides for contract customers may substantially reduce the initial cost of the terminals.

The examples provided show that there are already a number of initiatives available in the market. This trend will continue as smartphones become more widespread and new services and applications useful for disabled customers enter the market.

3. What role for regulators?

At the moment, most regulatory measures are focused on the following:

- Provision of specialist equipment
- Text relay services
- Accessible bills
- Accessible information
- Special directory enquiry services
- Adapted public payphones
- Accessible emergency services

Some of those measures have only limited effectiveness as they are gradually being superseded by other "non-specialised" services and applications.

For example the main service that is available at the moment on a mandatory basis, usually within USO, is text-relay. This service has been used for more than 30 years to allow deaf users to use a voice telephony service. The obligation to offer text relay has usually been applied to the incumbent (in UK to all fixed and mobile operators). The service is relatively expensive and requires the use of special text-phone terminals that are normally subsidised by Governments. Data from the UK show that the number of users and usage has been constantly decreasing, because users have switched to non-intermediated forms of communication, such as SMS, email and mobile instant messenger (IM) as their main means of communications[7]

As described above, most of the developments in the area of services to disabled users are market-driven and relate to terminals, software, applications and on-line services that are outside the scope of regulation of most EU regulators.

[7] In its Access and Inclusion report published in March 2009, Ofcom estimates the number of users of text relay is about 11,000 (down from 18,000 in 2004) and the number of calls per month is about 33,000 (decreasing by about 0.7% per month). The great majority access the service via a fixed connection. The report with additional details can be found at the following address:
http://www.ofcom.org.uk/consult/condocs/access/access_inc.pdf

Therefore, any additional regulatory measure oriented to the mandatory provision of services by operators should therefore be carefully defined and evaluated in a cost-benefit analysis to avoid wasting resources.

Vodafone believes that there is an important role to be played by regulators and, more in general, governments:

- Help educate disabled users in the use of new technologies: the innovation trend based on smartphones and broadband-based services requires a sufficient level of digital literacy clearly demonstrate that most of the initiatives will require minimum level of digital literacy and, possibly for some users, specific training. Governments should make sure that this kind of support is available through disabled users associations and charitable organisations. This will require some limited financing. Evidence shows that once the first "technological" barrier is broken, users will learn new functionalities with limited external support
- Provide financing to software and application development: the market segment is small and further innovation in software and application development might require some public financing at national or, more effectively, at EU level. A first example is the ÆGIS project, partially financed by the 7th R&D Framework Programme, that involves industry and user associations with the aim of looking at access techniques that will provide a more accessible approach in mainstream ICT (desktop, rich Internet and mobile applications)[8]
- Facilitate the diffusion of smartphones among disabled users: while smartphones have the potential to greatly improve the quality of life disabled users, their cost may represent a barrier to many of them. The great value added that smartphones can bring clearly justify the case for Governments to subsidise terminal equipment and correlated software to low-income disabled users (this could take the form of vouchers, tax rebates, subsidised free rental via mobile operators or similar initiatives)
- Maintain some of the regulatory measures in place on operators: while many of current regulatory measures are becoming less important, some should be kept in place. For example:
    - Text relay services: the number of users is decreasing, but for some it is still the main communication mean and should continue to be available for some time[9]. Further developments of the service that might require large funding should be avoided. The same resources should be provided to alternative uses

[8] For more information on the activities and results achieved by the ÆGIS project, see the website at the following address: http://www.aegis-project.eu/

[9] However, any industry-wide obligation to provide the service should be eliminated in favour of the provision by a single operator. This will lead to a more efficient use of the resources thanks to better economies of scale

    - Accessible emergency services (e.g. via sms or other means):
    - Accessible bills
- Impose accessibility requirements to main public services, government services and utilities: All public services (e.g. utilities, banks, transport services, pension institutions, insurances companies, etc.) and government departments should have customer relations facilities that can be contacted via text based communications (SMS, email or instant messaging)
- Continue to support the development of mobile and fixed broadband: high-speed internet access (not necessarily NGA) is the essential enabler of all smartphone applications and videocall services described above. Any measure that will favour broadband development will also have a positive effect on disabled users

Taking into account the rapid development of the market, Vodafone believes that regulators should refrain from mandating further dedicated services for disabled users that require specialised equipment and network infrastructure. They are mostly based on old technologies that will quickly become obsolete.

4. What role for operators and other market participants?

The key role of operators and other market participants (e.g.: terminal manufactures and Internet providers) is to make sure that innovation continues.

In addition to that, there are a number of "non-commercial" or corporate responsibility initiatives that could further foster such innovation:

- Undertake further analysis to understands the needs and issues faced by disabled users
- Work on single or industry-wide initiatives to provide incentives to the development of new applications and software. One approach could be to set up innovation contests with prizes for the best innovative applications. Another scheme could be to finance specific projects aimed at providing new applications or functionalities for the various categories of disable users
- Continue to provide some of the existing measures such as text-relay as provided by national regulation
- Facilitate access to information on services/functionalities for disabled users. An example would be to provide easy-to-access and detailed information about any service or functionality that might be useful for disabled users within a single point in the company website. It could include useful links to external websites

- Develop specific sections of the smartphone application stores dedicated to disabled users apps

5. Conclusions

Internet broadband, mobile telephony and new smartphones applications have improved the quality of life of disabled users. There is great potential for further innovation in this sector and it is important that benefits are shared by all disabled users as quickly as possible.