



**Asia-Pacific  
Economic Cooperation**

**Advancing** Free Trade  
for Asia-Pacific **Prosperity**

# **Policies, Legislation, and Initiatives to Promote Access to ICTs for People with Hearing and/or Speech Impairment**

**APEC Telecommunications and Information Working Group**

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## Acronyms and abbreviations

APEC	Asia-Pacific Economic Cooperation
APEC TEL	APEC Telecommunications and Information Working Group
AT	Assistive Technology
CVAA	Century Communications and Video Accessibility Act (United States)
DAC	Disability Advisory Committee (United States)
FCC	Federal Communications Commission (United States)
ICT	Information Communication Technology
NRS	National Relay Service (Australia)
TTY	Teletypewriter
TRS	Telecommunications Relay Service (United States)
TSO	Telecommunications Service Obligation (New Zealand)
TXT	Text message

## Chapter 1: Introduction

An estimated one billion people, 15 per cent of the global population, have some form of disability and this is increasing due to population ageing and increases in chronic health conditions.<sup>1</sup> People with disabilities still face issues in accessing and using Information and Communication Technologies (ICTs), which creates barriers to their access to public services and their participation in the economy. Making ICTs more accessible to people with disabilities will enhance global social equity and economic participation.

The 53rd Meeting of the APEC Telecommunications and Information Working Group (TEL) in Tacna, Peru in June 2016 provided a forum for participating economies to share experiences and ideas for improving accessibility for Persons with Disabilities through ICTs. The Seminar included presentations that address issues related to access for people with visual, speech and hearing, and physical impairment. A key outcome of the Seminar was the agreement amongst participating Economies that accessibility issues for Persons with Disabilities was a challenge for regulators, policy makers and the private sector.

To build on the outcomes of the Seminar, Australia proposed to survey APEC Economies to gather information about their policies, legislation and initiatives to promote access to ICTs for people with hearing and/or speech impairments. This project presents the opportunity to identify and share best practices and strategies amongst participating APEC Economies, which will inform domestic considerations and address APEC TEL strategic priorities.

The findings of this project are detailed in Chapter 2: Policies, Legislation and initiatives in APEC member economies which catalogues how APEC Economies provide assistance to the hearing and/or speech impaired, the legislation in place to provide this support and the initiatives that encourage industry to consider accessibility in the development of ICT. Chapter 3: Trends in Policies, Legislation and Initiatives provides a summary of trends in consideration of these findings. Annex 1 provides details on where further information can be found.

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<sup>1</sup> World Health Organisation, 2016, Disability and Health, [www.who.int/mediacentre/factsheets/fs352/en/](http://www.who.int/mediacentre/factsheets/fs352/en/)

## Chapter 2: Policies, Legislation and Initiatives in APEC Member Economies

### 2.1 Subsidies and funding in APEC Economies to provide assistance to people with hearing and/or speech impairments to access ICTs

#### Australia

##### Relay Service

The National Relay Service (NRS) is a phone solution for people who are deaf or have a hearing and/or speech impairment, which enables communication between these groups and the wider community. NRS users can make and receive personal or business calls independently via a range of service options including: Internet relay, Captioned relay, text message relay, Video relay, Type and Read, Type and Listen, Speak and Read, and Speak and Listen. Users can also access some of these relay services through the NRS app for smartphones and tablets, allowing NRS users to communicate using the same technology as the rest of the community. The NRS is available Australia-wide, 24 hours a day, seven days a week—with the exception of the video relay option.

All NRS users can make an emergency service call to access police, fire and ambulance services and these calls are given prioritised access. NRS users can contact emergency services via the TTY text service (106) or by calling 000 (known as triple zero) which is the standard number across Australia for emergency services.

The NRS is an Australian Government initiative funded by a levy on eligible telecommunications carriers. The Government delivers the NRS through contractual arrangements.<sup>2</sup>

##### Captioning

Free-to-air broadcasters are required to caption 100 per cent of non-exempt programming between 6am and midnight, and news and current affairs programs broadcast at any time, on their primary channel. However, broadcasters are only required to provide captions on their multichannels for programs that have previously been broadcast with captions by the broadcaster.

Subscription television licensees are subject to captioning targets over a 24 hour period that differ according to specified categories determined by the dominant genre or type of programming. For example in 2017–18, 60 to 90 per cent of total programming for movie services is required to be captioned, 40 to 70 per cent of programming for general entertainment services and 30 per cent for news services and sports services. These targets will gradually increase until they reach 100 per cent of programming between 1 July 2019 and 1 July 2033 for each category of service.

##### National Disability Insurance Scheme

Australia has established a National Disability Agreement between the Commonwealth, state and territory governments to set a domestic framework to fund, monitor and support services for people with disability.

In 2013, Australia launched a National Disability Insurance Scheme, to be delivered by the National Disability Insurance Agency. This scheme provides Australians born with or acquiring a permanent and significant disability before age 65 with support to live a better and more inclusive life. Communication

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<sup>2</sup> For more information on the National Relay Service, please visit <http://relayservice.gov.au/>

devices may be available to participants in the scheme to provide support in meeting their goals, including education, employment and health and wellbeing.<sup>3</sup>

## Hong Kong, China

The Government of Hong Kong, China, has provided funding support for non-profit social service organisations to develop mobile apps that address the needs of various target groups, including persons with hearing impairment. A total of four mobile apps have been developed to cater for the specific needs of persons with hearing impairment, including children with hearing impairment. These mobile apps are available from app market places for free download by the public. The details of the four mobile apps are listed as follows:

- SignChat—Maintains a library of sign languages to enable persons with hearing impairment to communicate in sign language when using instant messaging applications.
- Silence Sign Language Interpretation—Provides instant sign language interpretation service for persons with hearing impairment through video communication.
- Articulation Screening and Training Tool—Assesses and trains phonological abilities of persons with hearing impairment.
- Auditory and Speech Training—Provides Cantonese speech recognition training for children with a hearing impairment.

## New Zealand

### Relay service

Marketed under “New Zealand Relay”, a range of subsidised services and equipment are available to support the deaf, hearing-impaired and speech-impaired communities. Relay Services currently available include:

- Teletypewriter to Voice (TTY)—A TTY user types their conversation to a relay assistant who then reads the typed message to a standard phone user (hearing person). The relay assistant relays the hearing person's spoken words by typing them back to the TTY user. This service is available 24/7.
- Voice Carry Over—A deaf or hearing impaired user, who prefers to use their own voice, speaks directly to the party they are calling. The relay assistant types the voice responses back to the user who reads the typed message on a TTY screen. This service is available 24/7.
- Hearing Carry Over—Users who are speech impaired use their hearing abilities to listen directly to the other party. The relay assistant voices the typed responses from the user to the hearing person, who then speaks directly to the user without relay assistant interaction. This service is available 24/7.
- Mobile Text Relay Service—A deaf or hearing impaired user makes a relay call using a mobile text application called ‘TexMee’ on their smartphone or tablet to communicate with hearing people. The user types a message into the mobile application, which is read by a relay assistant to a standard phone user. The standard phone user then responds, and the relay assistant types the message back to the user. This service is available 24/7.
- Internet Relay—Allows users to place relay calls using a web browser via a computer, laptop or tablet with an internet connection. This service is available 24/7.
- CapTel or WebCapTel—A deaf or hearing impaired user speaks directly with a hearing person through a CapTel telephone, or through a computer, laptop, tablet or via the web-browser on a smartphone. The hearing person's speech is transcribed by a specially trained operator, and the text is relayed via the internet to a screen on the user's CapTel phone in near real time. This service is available 7:00am to 10:00pm, seven days per week.

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<sup>3</sup> For more information on the National Disability Insurance Scheme, see <https://www.ndis.gov.au/about-us/what-ndis.html>



- **Video Interpreting Service**—Links any deaf or hearing impaired person who uses New Zealand Sign Language with a video interpreter and a hearing person. The hearing person may be in the same room as the user, or in another location (including overseas). The user and video interpreter sign to each other on a video screen. The video interpreter talks with the hearing person on the telephone, or through video if they are in the same location as the user, and relays the conversation between the two parties. This service is available 8:00am to 8:00pm, Monday to Friday.
- **Speech to Speech and Video-Assisted Speech to Speech**—Enables a person with speech impairment to communicate over the telephone using their own voice or a voice synthesizer. Specially trained relay assistants act as the speech-impaired user's voice. The relay assistant listens and repeats the speech-impaired user's message to the other party as necessary. Video-Assisted Speech to Speech also connects the user via Skype, enabling the relay assistant to also see visual cues during the conversation that improve the quality of the call. This service is available 7:30am to 9:00pm, Monday to Friday, and 9:00am to 5:00pm Saturday.

Public consultation is currently underway to determine the future of the New Zealand Telecommunications Relay Service beyond June 2019. This is to understand what services and equipment are required to meet the needs of users, and how these may need to change in light of technological developments.

### **Captioning**

No legislation in New Zealand requires broadcasters or video on demand providers to deliver captioning, however, the provision of captioning for a limited number of channels is subsidized by the government.

### **111 TXT**

111 TXT is an emergency TXT service enabling people with hearing and/or speech difficulties to register for the service and to contact Fire, Ambulance or Police in an emergency.

## **Peru**

### **Captioning**

TV Peru, the television channel owned by the Peruvian Government, includes sign language on its informative and news programming.

## **Republic of Korea**

### **Relay service**

The Government of Korea, through its National Information Society Agency, provides telecommunication relay service including text relay service, video relay service, and speech to speech relay service through a relay call centre.

## **Chinese Taipei**

### **Telecommunications services**

The Government of Chinese Taipei actively encourages telecommunications operators to provide special services for people with disabilities, such as special phone rental and sale services, as well as telecommunication relay services. Specific fax numbers for access to telecommunication services are also available for people with visual and hearing impairments. The government continues to encourage the industry to strengthen the disclosure of the existing preferential services and programs for disadvantaged groups.

Representatives of physically and mentally challenged groups and telecommunication operators are periodically invited for discussions to encourage telecommunications operators to offer special tariffs

for people with disabilities. By offering favourable tariffs, thresholds can be lowered and accessibility for people with disabilities can significantly improve.

### Broadcasting services

The Government of Chinese Taipei encourages television broadcasters to promote an accessible communications environment. In addition, subtitles are available for all TV programs except for live broadcasts. The government also encourages radio and television broadcasters to add subtitles to the headlines of their news reports. If the subtitle is not available in time, the broadcasters shall add assisting texts for people with impaired hearing.

'Barrier-free' media is a condition for the license renewal of terrestrial television carriers and is also a condition for the establishment of satellite broadcasting channels. Moreover, the government, through administrative instructions, encourages operators to provide optimized sign language translations and subtitles for their broadcast content.

### Internet access

To facilitate access to domestic and international websites, the government established the Accessible Web Development Guidelines to promote the accessible website. In order to adhere to accessibility standards of international websites and develop guidelines for accessibility of domestic websites, the government referred to the Web Content Accessibility Guidelines 2.0 drafted by the Web Accessibility Initiative and formulated the domestic standard of "General guide for Information and Communications Accessibility Technology" with the ultimate objective of facilitating the development of information and communications technologies.<sup>4</sup>

### ICT equipment

The Government of Chinese Taipei provides subsidies for people with disabilities to purchase assistive devices for communications and information, such as mobile phones and video phones. It also provides funding for ICT development projects for people with disabilities, and, by means of these projects, encourages the development of assistive communicating devices in seeing, hearing, reading and writing.

## Thailand

The Office of the National Digital Economy and Society Commission of Thailand's Ministry of Digital Economy and Society provides access to and information regarding the use of ICTs and Assistive Technology (AT) for people with disabilities, including the hearing and speech impaired. This initiative includes the provision of ICT and AT equipment such as mobile phone and screen readers as well as training courses to educate people with disabilities on how to use ICT and AT equipment.

## United States

### Relay services

The FCC oversees Telecommunications Relay Services (TRS). TRS providers are compensated for the costs of providing the service from either a state or federal fund, at no cost to the TRS user.<sup>5</sup>

In June 2014, in light of the increasing popularity of Video Relay Services<sup>6</sup>, the FCC launched a first-of-its-kind American Sign Language: Consumer Support Line, which allows individuals to use direct video calling<sup>7</sup> to contact the FCC. Subsequently, the FCC sought to extend this benefit to other government

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<sup>4</sup> Guide available at:

[https://www.ncc.gov.tw/english/law\\_detail.aspx?site\\_content\\_sn=3628&law\\_sn=2617&sn\\_f=2617&is\\_history=0](https://www.ncc.gov.tw/english/law_detail.aspx?site_content_sn=3628&law_sn=2617&sn_f=2617&is_history=0)

<sup>5</sup> For more information on the various types of TRS, as well as the FCC's mandatory minimum service standards for TRS providers, see [www.fcc.gov/general/telecommunications-relay-services-trs](http://www.fcc.gov/general/telecommunications-relay-services-trs).

<sup>6</sup> For more information on Video Relay Services, see [www.fcc.gov/consumers/guides/video-relay-services](http://www.fcc.gov/consumers/guides/video-relay-services).

<sup>7</sup> For more information on direct video calling, see [www.fcc.gov/dvc](http://www.fcc.gov/dvc).

agencies and businesses. The FCC brought together TRS and Video Relay Service users, software developers, engineers, technologists, and the Deaf community to develop ACE Direct<sup>8</sup>, an open source software prototype that facilitates direct video calling.

The FCC is also currently working on facilitating the transition from teletypewriter technology to real-time text over wireless Internet Protocol enabled networks.<sup>9</sup>

### Closed captioning

FCC rules generally require closed captions for English, Spanish, and bilingual television programming, with some exceptions. The FCC's quality standards require that captions be (1) accurate, (2) synchronous, (3) complete, and (4) properly placed. The FCC has also identified best practices for video programmers and captioning vendors.<sup>10</sup>

Pursuant to the *Twenty-First Century Communications and Video Accessibility Act* (detailed in response to Question #2 below), the FCC has expanded its traditional closed captioning rules. The FCC has given consumers access to closed captions through other types of video devices, not just televisions.<sup>11</sup> Moreover, the FCC now requires that captioned programs shown on television must also be captioned when re-shown on the Internet.<sup>12</sup>

### The National Deaf-Blind Equipment Distribution Program

In April 2011, the FCC established the National Deaf-Blind Equipment Distribution Program, also known as "iCanConnect." The FCC launched a pilot program in July 2012, and in August 2016, the FCC adopted rules to convert this into a permanent program as of July 2017. Under the program, the FCC may provide up to \$10 million annually to support local programs that distribute equipment to eligible low-income individuals who are deaf-blind, so that these individuals can access telecommunications services, Internet access service, and advanced communications services.<sup>13</sup>

### Lifeline Program

The FCC's Lifeline program, part of the Universal Service Fund, helps make communications services more affordable for low-income consumers, including low-income consumers who may have a hearing or speech impairment. (Lifeline is not targeted towards or limited to individuals with disabilities; however, in the United States, more than 30% of adults with disabilities live below the poverty line.) Lifeline provides a \$9.25/month subsidy for wireline/wireless voice and/or broadband services for eligible low-income subscribers.<sup>14</sup>

### Access to emergency information and services

FCC rules require broadcasters and cable operators to make local televised emergency information accessible to persons who are deaf or hard of hearing. Emergency information contained in the audio portion of television programming must be provided by closed captioning or some other method of visual presentation (e.g., screen crawls, screen scrolls).<sup>15</sup>

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<sup>8</sup> For more information on ACE direct, see [www.fcc.gov/ace/direct](http://www.fcc.gov/ace/direct).

<sup>9</sup> For more information on real-time text, see [www.fcc.gov/real-time-text](http://www.fcc.gov/real-time-text).

<sup>10</sup> For the full text of FCC rules for closed captioning of televised video programming, see [47 C.F.R. § 79.1](http://www.fcc.gov/consumers/guides/closed-captioning-television). For additional information, see [www.fcc.gov/consumers/guides/closed-captioning-television](http://www.fcc.gov/consumers/guides/closed-captioning-television).

<sup>11</sup> For information, see [www.fcc.gov/consumers/guides/closed-captioning-display-requirements-equipment](http://www.fcc.gov/consumers/guides/closed-captioning-display-requirements-equipment).

<sup>12</sup> For additional information, see [www.fcc.gov/consumers/guides/captioning-internet-video-programming](http://www.fcc.gov/consumers/guides/captioning-internet-video-programming).

<sup>13</sup> For more information on the National Deaf-Blind Equipment Distribution program, see [www.fcc.gov/general/national-deaf-blind-equipment-distribution-program](http://www.fcc.gov/general/national-deaf-blind-equipment-distribution-program).

<sup>14</sup> For information on the Lifeline Program, see [www.fcc.gov/general/lifeline-program-low-income-consumers](http://www.fcc.gov/general/lifeline-program-low-income-consumers).

<sup>15</sup> For information, see [www.fcc.gov/consumers/guides/accessibility-emergency-information-television](http://www.fcc.gov/consumers/guides/accessibility-emergency-information-television).

Text-to-911 is now available in certain markets in the United States, allowing persons who are deaf, hard of hearing, or speech-disabled to more easily communicate with emergency services. Although the FCC does not have the authority to regulate 911 call centres (and thus to mandate text-to-911 service), it has taken steps to facilitate the availability of text-to-911. According to FCC rules, all wireless carriers and other providers of interconnected text messaging applications must deliver emergency texts to 911 call centers that request them. Furthermore, if a call center requests text-to-911 service, text messaging providers must deploy the service in that area within six months. The FCC has also adopted a “bounce-back” rule: if you attempt to text 911 in an area where the service is not yet available, the FCC requires all participating wireless carriers and other text messaging providers to send an automatic reply that advises you to contact emergency services in another way.<sup>16</sup>

## 2.2 Legislative regimes to support people with disability that cover access to communications

### Australia

The *Telecommunications (Consumer Protection and Service Standards) Act 1999* establishes a universal service regime that ensures premises in Australia have reasonable access to a standard telephone service.<sup>17</sup> Australia’s *Disability Discrimination Act 1992* requires that people with disability have the same fundamental rights to access information and services as others in the community.<sup>18</sup> Under the Act, disability discrimination is unlawful and it aims to promote equal opportunity and access for people with disability across electronic media and communications. The universal service regime makes specific reference to the requirements of the *Disability Discrimination Act 1992* to clearly link the two arrangements so that basic communication services supports the needs of people with a disability.

Building on this basic framework, there are further arrangements to support affordable access for Australians with a disability. These include access to the National Relay Service (NRS), access to equipment required to use the NRS such as teletypewriters (TTY), and information and training initiatives to assist users to enjoy the benefits of telecommunications.

Australia is current developing a new Universal Service Guarantee to provide access to both voice and broadband services in the long term. This work will consider the needs of people with a disability.

Australia has also developed, in conjunction with state and local governments, a ten-year National Disability Strategy that is consistent with the principles and obligations of the UN Convention on the Rights of Persons with Disabilities and the *Disability Discrimination Act 1992*, and operates alongside the National Disability Insurance Scheme and the National Disability Agreement.

### Hong Kong, China

The Hong Kong Bill of Rights<sup>19</sup> guarantees the right to freedom of expression, which includes freedom to seek and receive information, and a right of access to information held by public bodies.

The Disability Discrimination Ordinance<sup>20</sup> has been enacted to protect people with a disability against discrimination, harassment and vilification on the ground of their disability. Under this law, people with a disability are protected, among others, in the provision of goods, services and facilities, which includes access to telecommunication services and information and communication services supplied by service-providers.

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<sup>16</sup> For additional information on text-to-911, see [www.fcc.gov/consumers/guides/text-911-quick-facts-faqs](http://www.fcc.gov/consumers/guides/text-911-quick-facts-faqs).

<sup>17</sup> For full text of the law, see <https://www.comlaw.gov.au/Series/C2004A00441>

<sup>18</sup> For full text of the law, see <https://www.legislation.gov.au/Details/C2018C00125>

<sup>19</sup> For full text of the law, see <https://www.elegislation.gov.hk/hk/cap383>.

<sup>20</sup> For full text of the law, see <https://www.elegislation.gov.hk/hk/cap487>.

## New Zealand

The Telecommunications Service Obligation (TSO) established under *The Telecommunications Act 2001* enables telecommunications services for deaf, hearing-impaired, and speech-impaired communities to be available and affordable. A TSO has been established through an agreement under *The Telecommunications Act* between the Crown and a TSO provider for the New Zealand Relay Service. Costs for subsidizing telecommunications services supplied under TSOs are funded through the Telecommunications Development Levy collected from the telecommunications industry.

*The Human Rights Act 1993* and the *New Zealand Bill of Rights Act 1990* promote and protect human rights including the right to be free from discrimination on the grounds of disability. The *Human Rights Act* sets out the functions of the Human Rights Commission. One of the Commission's primary objectives is to promote and protect the full and equal enjoyment of human rights by persons with disabilities.

## Papua New Guinea

The PNG *National Policy on Disability (2008)* identifies accessibility and communication as one of the eleven targeted priority areas for action.

## Peru

The General Law of Persons with Disabilities, Law No. 29973, provides for the implementation of different policies aimed at promoting accessibility in communications and access to information for people with disability. It includes the obligation for television programs to use subtitles or signs language, especially for informative, cultural and educational programs. Also, promotes the accessibility for Web sites to facilitate the navigation of people with disabilities.

Likewise, Peru has issued Ministerial Resolution No. 126-2009-PCM that approves the guidelines for accessibility to websites and applications for mobile telephone for public institutions.

## Republic of Korea

Act on the prohibition of discrimination against disabled persons, remedy against infringement of their rights, etcetera.

This Act covers access to electronic information, telecommunications networks and devices, access to National Library material, and relay services to be offered by key telecommunications providers to people with disability. It also covers obligations for public institutions, broadcasting entities and businesses issuing publications, films and videos to make their events and content accessible to persons with a disability through sign language, closed captions, vocal interpreters or other necessary means.

### Enforcement Decree of the *Anti-Discrimination Against and Remedies for Persons with Disabilities Act*

This Act provides that certain services be provided for Persons with Disabilities such as sign language interpreters, closed captioning and descriptive video services under prescribed circumstances.

### *Framework Act on National Informatization*

This Act directs National agencies and local governments to enable all members of society access to information including providing information or services through the Internet under prescribed circumstances.

## Chinese Taipei

### *People with Disabilities Rights Protection Act*<sup>21</sup>

This Act aims to protect the legal rights and interests of people with disabilities, secure their equal opportunity to participate in social, political, economic, and cultural activities fairly, while contributing to their independence and development.

### Act to Implement the Convention on the Rights of Persons with Disabilities<sup>22</sup>

This Act has been established to implement the Convention on the Rights of Persons with Disabilities adopted by the United Nations in 2006 to protect the rights of all persons with disabilities, safeguard their full and equal participation in society, politics, the economy and culture, and promote their individual independence and development. The Act came into effect on 3 December 2014.

### *Fundamental Communications Act*<sup>23</sup>

This Act was established in January 2004 to with view to achieving goals in the course of digital convergence. Currently, the *Telecommunications Act*, the *Radio and Television Act*, the *Cable Radio and Television Act*, and the *Satellite Broadcasting Act* respectively draw lines between respective transmission platforms. The National Communications Commission has been exercising its exclusive power granted by the *Fundamental Communication Act* to reform the regulatory framework by converging all of the above platform regulations in a single legislation.

## Thailand

Thailand's Department of Empowerment of Persons with Disabilities, under the Ministry of Social Development and Human Security, issued the *Promotion and Development of the Quality of Life of Persons with Disabilities Act*. This Act protects the disabled from discrimination and provides a service obligation for access to communication.

## United States

Throughout the 1980s and 1990s, the United States government adopted a string of federal communications accessibility laws, primarily designed to ensure access to traditional telephone and television services. For example:

The *Hearing Aid Compatibility Act of 1988*<sup>24</sup> requires access to telephones by hearing aid and cochlear implant users.

The *Americans with Disabilities Act of 1990*<sup>25</sup>, a landmark United States civil rights law, requires (among many other provisions) nationwide telecommunications relay services, as well as access to telephone emergency services.

The *Television Decoder Circuitry Act of 1990*<sup>26</sup> required closed captioning capability for televisions with screens larger than 13 inches. (This law was superseded by the *Twenty-First Century Communications and Video Accessibility Act*, described further below.)

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<sup>21</sup> For full text of the law, see <http://law.moj.gov.tw/Eng/LawClass/LawContent.aspx?PCODE=D0050046>.

<sup>22</sup> For full text of the law, see <http://www.sfaa.gov.tw/SFAA/Pages/Detail.aspx?nodeid=637&pid=4128>.

<sup>23</sup> For full text of the law, see <http://law.moj.gov.tw/Eng/LawClass/LawAll.aspx?PCode=P0010005>.

<sup>24</sup> *Hearing Aid Compatibility Act 1988*, [www.transition.fcc.gov/Bureaus/OSEC/library/legislative\\_histories/1337.pdf](http://www.transition.fcc.gov/Bureaus/OSEC/library/legislative_histories/1337.pdf).

<sup>25</sup> *Americans with Disabilities Act 1990*, [www.ada.gov/pubs/ada.htm](http://www.ada.gov/pubs/ada.htm).

<sup>26</sup> *Television Decoder Circuitry Act of 1990*<sup>26</sup>, [https://transition.fcc.gov/Bureaus/OSEC/library/legislative\\_histories/1395.pdf](https://transition.fcc.gov/Bureaus/OSEC/library/legislative_histories/1395.pdf).

The *Telecommunications Act of 1996* includes two sections dedicated entirely to access by persons with disabilities.<sup>27</sup>

In 2010, Congress passed the *Twenty-First Century Communications and Video Accessibility Act (CVAA)*, which updates federal communications law to increase the access of persons with disabilities to modern communications. The CVAA aims to help ensure that individuals with disabilities are able to fully utilize communications services and equipment and better access video programming.<sup>28</sup>

The CVAA is divided into two parts. Title I addresses communications access to make products and services using broadband fully accessible to people with disabilities, while Title II makes it easier for people with disabilities to view video programming on television and the Internet. Both titles include provisions to ensure that people with disabilities have access to emergency information.<sup>29</sup>

Since the enactment of the CVAA, the FCC has adopted several sets of rules to implement the law. The FCC continues to work with consumer, industry, and government stakeholders to ensure the effective and timely implementation of the CVAA.<sup>30</sup>

## 2.3 Government initiatives to encourage industry to consider accessibility in the development of ICT

### Australia

Australia's National Disability Insurance Agency works with the Commonwealth, state and territory governments to support and improve the social and economic participation of people with disability. One of the strategic priorities of his agency is to stimulate innovation and solution development within industry. This is achieved by developing the assistive technology market and increase investment into the technologies, including accessible mainstream technologies, which will most benefit people with disability.

In addition, the *Disability Discrimination Act 1992* prohibits discrimination on the grounds of a person's disability in many areas of public life including employment, education, access to premises and access to goods, services and facilities.

### Hong Kong, China

The Government of Hong Kong, China has launched a Web/Mobile App Accessibility Campaign since 2011. In the past few years, this has included actively facilitating different sectors in Hong Kong to adopt accessibility design for their websites and mobile apps, so as to facilitate persons with disabilities or the elderly to easily access online information and services.

All Government of Hong Kong, China websites must achieve a Level AA standard of the Web Content Accessibility Guidelines (Version 2.0) promoted by the World Wide Web Consortium effective from 1 January 2013.

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<sup>27</sup> For more information on the *Telecommunications Act of 1996*, see <https://www.fcc.gov/general/telecommunications-act-1996-and-people-disabilities>.

<sup>28</sup> For more information on the *Video Accessibility Act*, as well as the full text of the law, see <https://www.fcc.gov/general/twenty-first-century-communications-and-video-accessibility-act>.

<sup>29</sup> For more information on the CVAA, see <https://www.fcc.gov/consumers/guides/21st-century-communications-and-video-accessibility-act-cvaa>.

<sup>30</sup> For the most recent overview of the FCC's efforts to date, see generally *Biennial Report to Congress As Required by the Twenty-First Century Communications and Video Accessibility Act*, 31 FCC Rcd 11065 (2016), available at [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-16-1161A1\\_Rcd.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-16-1161A1_Rcd.pdf).



The Government of Hong Kong, China also promotes best practices for website and mobile app development for the private and public sectors, such as guides for preparation of procurement specifications for accessible websites and mobile apps. Since 2013, four rounds of Web Accessibility Recognition Scheme were organised to encourage local enterprises and organisations to adopt accessibility design in their websites and mobile apps. This included providing participating organisations with free assessment and advisory services to help them understand and meet relevant technical requirements, in addition to the recognition and commendation of participating organisations for attaining accessibility standards to encourage participation.

The Government of Hong Kong, China also established a thematic portal on web/mobile app accessibility<sup>31</sup> to provide guidelines, technical references, best practices, service provider list and other practical resources to facilitate industry and organisations to implement web/mobile app accessibility.

## New Zealand

The Government's Disability Strategy 2016–2026 aims for New Zealand to be 'a non-disabling society—a place where disabled people have an equal opportunity to achieve their goals and aspirations, and all of New Zealand works together to make this happen.' It sets out that the term 'non-disabling' is about removing the barriers in society that disable people with impairments. It is stronger and more meaningful than 'enabling', which will only help disabled people get around barriers rather than remove them completely.

One of the eight outcomes under the New Zealand Disability Strategy is accessibility—to access all places, services and information with ease and dignity. One of the actions under the Strategy is to investigate opportunities for technology to increase disabled people's participation in work, community and political life, including through both assistive and access to mainstream technology.

New Zealand's Disability Action Plan (2014–2018) is the primary vehicle for implementing the Government's Disability Strategy and focuses on promoting access in the community, including accessible information and communications—recognising obligations in the UN Convention on the Rights of Persons with Disabilities. The current four year Disability Action Plan is set to be reviewed and updated in 2018.

To complement this overarching vision for New Zealand to be a 'non-disabling society' and in anticipation of contracts for the provision of relay services expiring on 30 June 2019, the Government of New Zealand is consulting with the wider public, including with the New Zealand Relay Advisory Group, to ensure the relay service meets the needs of the deaf, hearing impaired, deafblind and speech impaired. The New Zealand Relay Advisory Group consists of consumer and industry representatives to provide advice and feedback on the telecommunications relay service, as set out in Group's Charter.

## Papua New Guinea

The government of Papua New Guinea is focused on expanding the geographic coverage of basic ICT services (voice & text messaging) to ensure affordability for all citizens.

## Peru

Peru has established less taxes for the importation of prostheses used by people with disabilities. Likewise, tax benefits have been established for companies that hire people with disabilities. Fines have also been established for public and private institutions that violate the obligations set out in the

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<sup>31</sup> For more information, see [https://www.ogcio.gov.hk/en/our\\_work/community/web\\_mobileapp\\_accessibility/index.html](https://www.ogcio.gov.hk/en/our_work/community/web_mobileapp_accessibility/index.html).



standards for persons with disabilities. However Peru has not explicitly established initiatives to encourage industry to promote the accessibility of ICTs for people with disabilities.

### Chinese Taipei

The Government of Chinese Taipei published a report of Implementation of Convention on the Rights of Persons with Disabilities in 2016. It illustrated the situation of ICT accessibility for people with disabilities, including accessible websites, special telecom services, and subtitles on broadcast media. This report deepened understanding in what areas of the current measures were less effective so as to determine the direction of future measures of improvement and encourage industries to progress.

The Government of Chinese Taipei also drafted the Accessible Communications Environment Action Plan to build a sound and accessible environment to facilitate the access right of people with disabilities. The Action Plan focuses on telecommunications, broadcasting, information, and administrative and coordinating measures to allow the physically challenged to access new information and communications technology systems. The Action Plan allows integrating new technology solutions such as the internet and mobile phones under digital convergence environment to build a more accessible, barrier-free environment.

### Thailand

Thailand's Assistive Technology Center under the Ministry of Science and Technology is responsible for researching new technologies and new equipment to support people with disabilities. This includes reducing dependence on imported ICT and Assistive Technology equipment which can be cost prohibitive and difficult to use for native Thai speakers.

### United States

Many of the Federal Communication Commission's (FCC) relevant regulations seek to foster accessibility while promoting industry-driven innovation and investment. For example, the FCC encourages developers of new technologies to consider and plan for hearing aid compatibility at the earliest stages of the product design process.<sup>32</sup> In November 2015, the FCC adopted new hearing aid compatibility rules.<sup>33</sup> The regulations require that future technologies comply with current and future hearing aid compatibility rules, encouraging manufacturers to consider hearing aid compatibility from the beginning of the product design process, ensuring that consumers with hearing loss are not always trying to catch up to technology and providing industry with regulatory certainty.

In December 2014, the FCC established the Disability Advisory Committee (DAC), which brings together interested stakeholders, including industry players, to provide advice and recommendations on a wide array of disability issues within the FCC's jurisdiction. In December 2016, the FCC reauthorized the DAC for a second two-year term from 2017 to 2019.<sup>34</sup> The DAC has emphasized the FCC's role in furthering

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<sup>32</sup> *Amendment of the Comm'n's Rules Governing Hearing Aid-Compatible Mobile Handsets*, Policy Statement and Second Report and Order and Further Notice of Proposed Rulemaking, 25 FCC Rcd 11167, 11174, para. 18 (2010), available at [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-15-155A1\\_Rcd.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-155A1_Rcd.pdf) ("...given that consideration of accessibility from the outset is more efficient than identifying and applying solutions retroactively, we intend for developers of new technologies to consider and plan for hearing aid compatibility at the earliest stages of the product design process").

<sup>33</sup> *See generally Improvements to Benchmarks and Related Requirements Governing Hearing Aid-Compatible Mobile Handsets*, Fourth Report and Order and Notice of Proposed Rulemaking, 30 FCC Rcd 13845 (2015), available at [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-15-155A1\\_Rcd.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-155A1_Rcd.pdf).

<sup>34</sup> For additional information, see <https://www.fcc.gov/general/disability-advisory-committee>.

awareness and encouraging efforts to design and develop new and emerging technologies to be accessible.<sup>35</sup>

The FCC also encourages industry innovation through the Chairman's Awards for Advancements in Accessibility, which recognize products, services, standards, and other developments that improve the experience of people with disabilities in telecommunications and technology.<sup>36</sup>

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<sup>35</sup> Disability Advisory Committee (DAC), Recommendation of the FCC Disability Advisory Committee (8 October 2015), [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-335868A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-335868A1.pdf).

<sup>36</sup> For additional information, see <https://www.fcc.gov/general/chairmans-awards-advancements-accessibility>.

## Chapter 3: Trends in policies, legislation and initiatives

This chapter provides a summary of key trends based on the responses received from the APEC TEL Economies that participated in the survey, including:

- Australia
- Chinese Taipei
- Hong Kong, China
- New Zealand
- Papua New Guinea
- Peru
- Republic of Korea
- Thailand
- United States (US).

From the responses received, it is evident that governments can provide support for people with hearing and/or speech impairments to access ICTs in a number of different ways. This section highlights where governments have taken action in response to the accessibility needs for people with hearing/and or speech impairment.

### Government subsidies for ICT equipment

In Australia, New Zealand, Chinese Taipei, and the US, the Government subsidises ICT equipment, such as screen readers, mobile phones and other communication devices, for people with a hearing and/or speech impairment.

In Australia, the National Disability Insurance Scheme provides communication devices to participants to help them meet their education, employment and health and wellbeing needs, including text to speech computer software, voice generator and voice amplifier services and customised computer tablets. Australia's universal service regime, which ensures all Australians have reasonable access to a standard telephone service, includes the provision of specialised telecommunications equipment for people with a disability charged at the same annual rental fee as a standard rental telephone. Australia's current universal service provider, Telstra, has a Disability Equipment Program.<sup>37</sup>

In the US, the Federal Communications Commission (FCC) distributes ICT equipment to eligible people who are deaf or blind as part of the National Deaf-Blind Distribution Program. Under this program, the FCC provides up to \$10 million annually to support local programs that distribute equipment to eligible low-income individuals who are deaf-blind, so that these individuals can access telecommunications services, Internet access service, and advanced communications services.

In Chinese Taipei, the Government provides subsidies for people with disability to purchase assistive ICT devices, such as mobile phones and video phones.

### Government subsidies for access to ICT services

In Australia, New Zealand, the US and the Republic of Korea, the Government supports access to ICT services to improve accessibility for people with hearing and/or speech impairments. In Hong Kong, China, the Government has provided funding support for a social service organisation to develop mobile apps that address the needs of persons with a hearing impairment. In Chinese Taipei, the Government encourages telecommunications operators to provide and promote specific services for people with

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<sup>37</sup> For additional information, see [www.telstra.com.au/content/dam/tcom/about-us/community-environment/pdf/disability-equipment-program-d036-1214.pdf](http://www.telstra.com.au/content/dam/tcom/about-us/community-environment/pdf/disability-equipment-program-d036-1214.pdf).

disabilities, including phone rental and sale services as well special tariffs for access to their services. The Government of Chinese Taipei also gathers the representatives of physically and mentally challenged groups with telecommunication operators for discussions on improving accessibility. In the US, the Government subsidises access to communication services which targets low-income earning members of society through the FCC's Lifeline program. Considering that in the US 30% of adults with disabilities live below the poverty line, many of the consumers affected by the subsidies are persons with a disability.

## Relay services

The Republic of Korea, New Zealand, Australia and the US support accessibility for people with a hearing or speech impairment through telecommunications relay services. Relay services allow people who have a hearing and/or speech impairment to communicate via a keyboard or other assistive devices while making calls. There are many types of relay services to suit different needs, including internet relay, captioned relay, text message relay and video relay.

In Australia, relay services can work in several ways. Hearing and/or speech impaired people can communicate their side of the conversation by typing, speaking or using sign language and can read, listen to or watch the responses. Relay officers are employed to facilitate relay conversations by acting as a link between the caller and the call recipient. The way they do this depends on the type of relay, but may involve typing spoken words out for hearing impaired people, interpreting sign language, re-speaking a section of the conversation or reading a typed message aloud.

The US' relay service also takes a number of forms and depends on the equipment available. The FCC oversees Telecommunications Relay Service (TRS) whereby TRS providers are compensated for the costs of providing the service from a state or federal fund. Using the Text-To-Voice teletypewriter-based TRS, users can call a TRS relay centre, who will then connect them to the person they want to call. The user can type their telephone conversations on a keyboard and the communication assistance will relay the message back to the other person. The United States, Australia and New Zealand Relay includes an Internet Relay Service whereby the user can place relay calls over the Internet via their computer or laptop. Different types of relay service suit the needs of different users, so it is standard practice to provide a variety of types of relay services.

## Closed captioning

Closed captions provide a text version of the audio part of a television program, movie or computer presentation. This is used to help deaf and hearing impaired people access audio content. Governments of Australia, Peru, Chinese Taipei, and the US require closed captioning for television programming. Australia has captioning obligations that apply to commercial and national television broadcasters, and a captioning quality standard. In the US, the FCC has closed captioning quality standards and identify best practice for captioning of video programmes and captioning vendors. The US' closed captioning rules apply to English, Spanish and bilingual television programs, with some exceptions. In Chinese Taipei, all television programs, except for live broadcasts, have captioning available. The government also encourages radio and television broadcasters to add captioning to the headlines of their news reports. In Peru, the state-owned television channel, TV Peru, includes sign language on its informative and news programming. No legislation in New Zealand requires broadcasters or video on demand providers to deliver captioning, however, the provision of captioning for a limited number of channels is subsidized by the government.

## Access to emergency services

Measures to improve emergency access vary in form, but all aim to make it easier for hearing and/or speech impaired people to report emergencies or hear emergency warnings.

Australia ensures that National Relay Service (NRS) users have easier access and prioritised access to emergency services. New Zealand and the US have emergency TXT measures designed to help hearing and/or speech impaired people report emergencies.

Australia and the US also have measures to ensure that broadcasters make televised emergency information available to the hearing impaired. In Australia, this is achieved through the use of closed captions.

## Legislation

In Australia, Peru, Thailand, the US, the Republic of Korea and Chinese Taipei there is legislation in place that addresses discrimination against people with disability that includes access to ICTs. In Australia, the *Disability Discrimination Act 1992* requires that people with disability have the same fundamental rights to access information and services as others in the community. In Peru, the General Law of Persons with Disabilities includes an obligation for television programs to use subtitles and encourages websites to facilitate the navigation of people with disabilities. Thailand's Act on the Promotion and Development of the Quality of life of Persons with Disabilities includes service obligations on access to communications for people with disability. The Republic of Korea's Act on the Prohibition Against Disabled Person, Remedy Against Infringement of their Rights covers access to electronic information, telecommunications networks and devices, access to National Library material, and relay services to be offered by key telecommunications providers to people with disability. It also covers obligations for public institutions, broadcasting entities and businesses issuing publications, films and videos to make their events and content accessible to persons with a disability through sign language, closed captions, vocal interpreters or other necessary means.

Some participating APEC Economies also have legislation specific to improving access to communications and covers people with disability. For example, the US adopted a number of federal communications accessibility laws throughout the 1980s and 1990s that covered, amongst others, access to telephones by hearing aid users, a nationwide relay service and closed captioning for televisions. In 2010 the United States passed the *Twenty First Century Communications and Video Accessibility Act*, which aims to assist persons with disabilities to be able to fully utilize communication services and equipment. This includes access to broadband and video programming on television and the Internet. Similarly, in New Zealand, *The Human Rights Act 1993* and the *New Zealand Bill of Rights Act 1990* promote and protect human rights including the right to be free from discrimination on the grounds of disability.

## Service obligations

Australia, New Zealand, the Republic of Korea, Thailand and the US have telecommunication services obligations that ensures a basic service is available to everyone regardless of where they live or what their communications need are. In Australia, the *Telecommunications (Consumer Protection and Service Standards) Act 1999* establishes a universal service regime that ensures all Australians have reasonable access to a standard telephone service. New Zealand's Telecommunications Service Obligation (TSO), established under the *Telecommunications Act 2001*, enables telecommunications services for deaf, hearing-impaired, and speech-impaired communities to be available and affordable. Korea's *Framework Act on National Informatization* guarantees access to, and use of, information by persons with disabilities.

## Industry engagement

Participating APEC Economies also engage industry in their initiatives to promote accessibility. Governments encourage industry, through various strategies, to consider the accessibility of people with a hearing/speech impairment when developing ICTs.

Australia has the National Disability Insurance Agency (NDIA), which works with state and federal levels of government to improve the economic and social participation of people with disability. One of its priorities is to stimulate development solutions in industry. The NDIA is working with industry to develop the assistive technology market.

In the US, the FCC plays a role in encouraging efforts to design and develop accessible emerging technologies. The FCC established the Disability Advisory Committee, which brings stakeholders, including industry, together in discussion and information sharing on a wide array of issues relating to accessibility issues for people with disability. The US' Chairman's Awards for the Advancement in Accessibility also recognises industry participation in improving accessibility. The Awards recognises developments in ICT products, services and standards that improve the experience of people with disability.

In New Zealand a relay advisory group that consists of consumer and industry representatives provides advice and feedback on the telecommunications relay service.

Governments can also engage industry on specific accessibility issues. These issues may include gaps in available technologies, poor designs or lack of affordable options.

Hong Kong, China has a web and mobile app accessibility campaign that is facilitating accessible designs and promoting best practice. It has been encouraging organisations and enterprises to make their websites and apps accessible for people with disability, offering assessment and advisory services to facilitate understanding of the relevant technologies. Similarly, Thailand is researching new ICTs and assistive equipment to encourage the local manufacture of disability friendly ICTs. Current options are often costly and incompatible with the Thai language.

## Annex 1: Further References

### 2.1 Subsidies and funding in APEC Economies to provide assistance to people with hearing and/or speech impairments to access ICTs

#### Australia

- [National Relay Service](#)
- [Telstra Disability Equipment Program](#)
- [National Disability Insurance Scheme](#)

#### United States—subsidies

- [Government subsidies for citizens to access ICT equipment \(e.g. mobile phones, screen readers\)](#)
- [Government subsidies for citizens to access ICT services \(e.g. internet services, telephone or mobile services\)](#)
- [Government funded ICT accessibility service](#)
- [Video Relay Services](#)
- [direct video calling](#)
- [ACE Direct](#)
- [Real-Time Text](#)

#### United States—closed captions

- [Electronic code of federal regulations](#)
- [Closed Captioning on Television](#)
- [Closed Captioning Display Requirements for Equipment](#)
- [Captioning of Internet Video Programming](#)

#### United States—access to emergency information and services

- [Accessibility to Emergency Information on Television](#)
- [Text-to-911: Quick Facts & FAQs](#)

### 2.2 Legislative regimes to support people with disability that cover access to communications

#### Hong Kong, China

- [Disability Discrimination Ordinance](#)

#### Chinese Taipei

- [People with Disabilities Rights Protection Act](#)
- [Act to Implement the Convention on the Rights of Persons with Disabilities](#)
- [Fundamental Communications Act](#)

#### United States

- [Hearing Aid Compatibility Act of 1988](#)
- [Americans with Disabilities Act of 1990](#)
- [Television Decoder Circuitry Act of 1990](#)
- [The Telecommunications Act of 1996 and People With Disabilities](#)
- [Twenty-First Century Communications and Video Accessibility Act](#)

- *21st Century Communications and Video Accessibility Act (CVAA)*
- *Biennial Report to Congress as Required by the Twenty-First Century Communications and Video Accessibility Act of 2010*

## 2.3 Government initiatives to encourage industry to consider accessibility in ICT development

### United States

- Disability Advisory Committee
- Chairman's Awards for Advancements in Accessibility
- Amendment to rules governing hearing aid compatible mobile handsets
- Improvements to benchmarks governing hearing aid compatible mobile handsets
- A recommendation of the disability advisory committee