

# **Structural Reforms and Disability: Increasing Economic Participation Through Access to Assistive Technology Project Report**

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**APEC Economic Committee**

**September 2026**



**Asia-Pacific  
Economic Cooperation**





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**September 2026**

APEC Project: EC 02 2025S

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- Ms Charlotte McClain-Nhlapo, Global Lead on Disability, World Bank, United States
- Mr Damian Griffis, Chief Executive Officer, First Peoples Disability Network, Australia
- Mr Pascal Bijleved, Chief Executive Officer AT-Scale Global Partnership
- Mr Graham Mott, Disability Inclusion Lead, UNCTAD

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### Disclaimer

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## **Terminology**

In the context of this report, authors have used the term “people with disability” to reflect the report’s focus on the systemic barriers and experiences affecting people with disability, and “disability” as a term acknowledging the social construct of disability, describing the interaction between impairment and barriers, while acknowledging that people can have various and multiple forms of disability. “Persons with disabilities” has also been used in reference to the United Nations Convention on the Rights of Persons with Disabilities (UNCPRD).

## Table of Contents

|                                                                                        |           |
|----------------------------------------------------------------------------------------|-----------|
| <b><i>Acknowledgements</i></b> .....                                                   | <b>3</b>  |
| <b><i>Terminology</i></b> .....                                                        | <b>4</b>  |
| <b><i>Acronyms</i></b> .....                                                           | <b>7</b>  |
| <b><i>Executive Summary</i></b> .....                                                  | <b>8</b>  |
| <b><i>Introduction</i></b> .....                                                       | <b>10</b> |
| APEC Policy Context.....                                                               | 10        |
| <b><i>Project Methodology</i></b> .....                                                | <b>11</b> |
| <b><i>Overview</i></b> .....                                                           | <b>13</b> |
| Demographic Population and Prevalence .....                                            | 13        |
| Understanding Assistive Technology .....                                               | 14        |
| Assistive Technology and the Preconditions for Access for All .....                    | 15        |
| <b><i>Economic Impacts of Limited Access to Assistive Technology</i></b> .....         | <b>17</b> |
| Costs of Exclusion .....                                                               | 17        |
| Costs to Education.....                                                                | 18        |
| Costs to Employment.....                                                               | 18        |
| Implications for the Care Economy.....                                                 | 19        |
| Impact on Poverty .....                                                                | 19        |
| <b><i>Economic Benefits of Access to Assistive Technology</i></b> .....                | <b>21</b> |
| A Significant Market.....                                                              | 21        |
| An Innovative Market .....                                                             | 22        |
| A Talented Market .....                                                                | 22        |
| Low and Middle-Income Economy Markets.....                                             | 23        |
| <b><i>APEC Economy Initiatives</i></b> .....                                           | <b>24</b> |
| Economy Priorities.....                                                                | 27        |
| <b><i>Recommended Structural Reforms</i></b> .....                                     | <b>29</b> |
| 1. Organisations of People with Disabilities as Leaders in Policy and Innovation ..... | 29        |
| 2. Economy-wide Whole of Government Policy .....                                       | 31        |
| 3. Target Catalytic Sectors.....                                                       | 32        |
| 4. Deepen Private Sector Engagement.....                                               | 35        |
| 5. Harmonised Quality Standards, Market Shaping and Trade.....                         | 37        |
| <b><i>Future Directions</i></b> .....                                                  | <b>41</b> |
| <b><i>ANNEX 1: INFORMAL REFERENCE GROUP TERMS OF REFERENCE</i></b> ...                 | <b>42</b> |
| <b><i>ANNEX 2: POLICY DIALOGUE WORKSHOP AGENDA</i></b> .....                           | <b>43</b> |
| <b><i>ANNEX 3: POLICY DIALOGUE WORKSHOP PRESENTERS</i></b> .....                       | <b>46</b> |

|                                                                        |           |
|------------------------------------------------------------------------|-----------|
| <b>ANNEX 4: LIST OF PARTICIPATING ECONOMIES AND ORGANISATIONS.....</b> | <b>51</b> |
| <b>REFERENCES .....</b>                                                | <b>52</b> |



## Acronyms

|         |                                                                      |
|---------|----------------------------------------------------------------------|
| APEC    | Asia-Pacific Economic Cooperation                                    |
| APL     | World Health Organization's Assistive Products List                  |
| ASEAN   | Association of Southeast Asian Nations                               |
| AT      | Assistive Technology                                                 |
| ATscale | ATscale Global Partnership for Assistive Technology                  |
| CRPD    | United Nations Convention on the Rights of Persons with Disabilities |
| EAASR   | Enhanced APEC Agenda for Structural Reform                           |
| GDP     | Gross Domestic Product                                               |
| HRDWG   | APEC Human Resources Development Working Group                       |
| HS      | World Customs Organization's Harmonised System (HS) codes            |
| ILO     | International Labour Organization                                    |
| IFC     | International Finance Corporation                                    |
| IRG     | Informal Reference Group                                             |
| ISO     | International Organization for Standardization                       |
| LMIC    | Low- and Middle-Income Economies                                     |
| NDIS    | Australia's National Disability Insurance Scheme                     |
| OECD    | Organisation for Economic Co-operation and Development               |
| OPD     | Organisation of People with Disabilities                             |
| PPWE    | APEC Policy Partnership on Women and the Economy                     |
| SEAASR  | Strengthen and Enhanced APEC Agenda for Structural Reform            |
| UNICEF  | United Nations Children's Fund                                       |
| UNCTAD  | United Nations Conference on Trade and Development                   |
| WHO     | World Health Organization                                            |

## Executive Summary

This report on Structural Reforms and Disability to increase economic participation through access to assistive technology provides recommendations on structural reforms for APEC and member economy consideration. This report and its recommendations are the result of the inaugural project and policy dialogue on this topic overseen by APEC's Economic Committee, funded by the Government of Australia.

Assistive technology is essential to the social and economic participation of people with disability and people with impairments (such as people who gain function from assistive technology and therefore do not experience disability). It is the umbrella term for products and services that helps users with daily activities, and can range from eyeglasses, wheelchairs, prosthetic limbs, hearing aids to voice activated automation. Most people will need access to one or more forms of assistive technology as they age. Access to assistive technology is one of the central preconditions for the economic participation of all, alongside factors such as non-discrimination, universal design, and access to health and social services.

The size of the total assistive products markets for people who are aging and people with disability was estimated at USD 29.91 billion in 2024 and is projected to reach around USD 51.94 billion by 2034, growing at an average rate of 5.67%. The greatest unmet need for assistive technology is in low-and-middle-income economies, and addressing this would provide a significant return on investment, a ratio of 9:1. Limited access to assistive technology significantly affects human capital, as children with disability and impairments are 49% more likely to have never attended school. Access to assistive technology enables effective economic participation, addressing the disability employment gap, increasing the pool of talent available for employment, supporting business innovation, development and growth, and promoting economic growth for all.

The following five emerging areas for structural reforms for APEC and member economy consideration have been identified, including for further consideration by relevant APEC fora and sub-fora:

1. Integrate the engagement of Organisations of People with Disabilities as leaders and decision-makers in assistive technology innovation, policy and services;
2. Implement coordinated economy-wide whole-of-government policy, services and financing approaches to support access to assistive technology;
3. Target catalytic sectors such as education, health and financial services for tailored initiatives;
4. Deepen private sector engagement with employer partnerships, innovation, voluntary technology transfer on mutually agreed terms, investment and production incentives; and
5. Create mechanisms for assistive technology market shaping and trade diversification, including pooled procurements and standards setting, and extend reach into high-demand low and middle income economy markets and explore regional economic cooperation and capacity building.

These emerging areas for structural reforms can have significant demographic and economic benefits. Currently 2.5 billion people worldwide need one or more assistive

products, and with aging population demographics, this is projected to increase to 3.5 billion people by 2050. This cohort currently includes 1.3 billion people with a disability, 16% of the global population. The market for assistive technology has been identified as the largest emerging market in the world, greater than any single economy. Increased access to assistive technology has positive benefits for individuals, for society and the economy, including the care economy. The economic impacts of limited access can represent a cost of up to 7% of an economy's GDP.

There are further opportunities for APEC to deepen this policy exchange within the Economic Committee, and in partnership with other APEC fora such as Committee for Trade and Investment, Human Resources Development Working Group, the Policy Partnership for Women and the Economy and the Sub-Committee on Standards and Conformance. Potential topics identified by the authors and workshop participants in the policy dialogue and as part of the research and project include the following:

- Participation of people with disability in assistive technology structural reforms, innovation, business, trade, and regulatory formation;
- Economic empowerment for all, the care economy and access to assistive technology;
- APEC market growth opportunities mapping of innovation, manufacturing and procurement incentives and enablers;
- Public-private sector dialogues on access and innovation in assistive technology, entrepreneurship and employment;
- Mainstreaming assistive technology and universal design in physical and digital Infrastructure;
- Digital innovations and affordable assistive technology;
- Market shaping, comparative procurement models and growth through exports to LMIC markets;
- Assistive technology, trade facilitation, reducing tariff and non-tariff barriers to increase access to be considered by other relevant APEC fora; and
- Voluntary principles to increase access and harmonise assistive technology standards to be considered by other relevant APEC fora.

These could usefully connect with international efforts, linking APEC policy dialogues with global initiatives.

This report includes an introduction to the concept of assistive technology, and sets out key demographic trends, in the Asia-Pacific and globally, with respect to increasing needs of people with disability and ageing populations to access assistive technology. The report provides an introduction to the economic impacts and benefits of assistive technology access for individuals, for growth in APEC economies and for broader international social and economic dividends, drawing on international research evidence and innovation. The report highlights existing policies and initiatives that address barriers identified by selected APEC economies. As the emerging structural reforms for APEC economy consideration are outlined, the report identifies potential future opportunities for further cross-fora APEC collaboration to address this issue as a critical constraint to APEC economy growth.

# Introduction

## APEC Policy Context

The APEC Putrajaya Vision 2040 for strong, balanced, secure, sustainable and inclusive growth as one of three major economic drivers in the Asia Pacific region established a foundation for APEC to deepen policy dialogue and commitments to advance the economic benefits and opportunities available to APEC economies:

To ensure that the Asia-Pacific region is resilient to shocks, crises, pandemics and other emergencies, we will foster quality growth that brings palpable benefits and greater health and wellbeing to all, including MSMEs, women and others with untapped economic potential. We will intensify inclusive human resource development as well as economic and technical cooperation to better equip our people with the skills and knowledge for the future.<sup>1</sup>

APEC's Aotearoa Plan of Action, in its framework for individual and collective action, and evaluation of progress, identified specific opportunities for APEC to take forward to promote the economic participation of all:

Building on APEC's work on supporting MSMEs' and women's economic empowerment and cooperate to further develop APEC's work on other groups with untapped economic potential, such as indigenous peoples as appropriate, people with disabilities, and those from remote and rural communities<sup>2</sup>.

APEC's Economic Committee's Strengthened and Enhanced APEC Agenda for Structural Reform (SEAASR) underscores APEC's longstanding commitment to structural reforms and serves as the Economic Committee's plans to take forward the APEC Putrajaya Vision 2040 and Aotearoa Plan of Action. The SEAASR established four pillars for action, and the aim of pillar four is "Empowering All to Achieve their Economic Potential for Sustainable Economic Growth."<sup>3</sup> This creates a specific opportunity to address the opportunities available for APEC and APEC economies to identify and build capacity in the implementation of structural reforms that promote economic growth that promotes the participation of all. The 2023 mid-term review<sup>4</sup> of the previous plan, the Enhanced APEC Agenda for Structural Reform (EAASR), identified that there were specific opportunities for APEC economies in increasing access to technologies and services for older people, to enable increased economic participation. This is an issue of particular interest to a number of APEC economies given aging demographics and economic interests in enabling human capital in current workforces in the future.

The APEC Human Resources Development Working Group (HRDWG) has developed a specific focus on identifying specific opportunities for human capital development that promotes the economic participation of all.

In 2025, Korea's APEC host year themes of connect, innovate and prosper included particular attention to the imperative, challenges and benefits for APEC economies in addressing aging demographics. This included a focus on increasing access to the

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<sup>1</sup> APEC 2020. [APEC Putrajaya Vision 2040](#)

<sup>2</sup> APEC. 2021. [Aotearoa Plan of Action](#)

<sup>3</sup> APEC. 2025. [Strengthened and Enhanced APEC Agenda for Structural Reform](#)

<sup>4</sup> APEC. 2023. [Enhanced APEC Agenda for Structural Reform Mid-Term Review](#)

technologies and infrastructure that enables continuing workforce participation. In this policy context, in 2025 APEC's Economic Committee endorsed Australia's self-funded project on Structural Reforms and Disability: Increasing access to assistive technology to promote economic participation. This project is the first project within the Economic Committee wholly focused on the structural reforms that facilitate the economic opportunities that enable people with disability and impairments (such as people who gain function from assistive technology and therefore do not experience disability) to contribute to economic growth. The project identifies the social and economic benefit for both individuals and APEC member economies in accessing the assistive products and services that enable economic participation. In this focus and approach, it both aligns with and contributes to the core elements of APEC's policy commitments to economic growth, the Putrajaya Vision 2040, the Aoteaora Plan of Action, the EEASR and APEC's Collaborative Framework for Demographic Changes which was agreed by Leaders in 2025.<sup>5</sup>

## Project Methodology

This project commenced with the formation of an Informal Reference Group (IRG) of leaders with lived experience of disability from APEC economies and global experts. The IRG role has been to provide strategic guidance on all elements of this project, focus areas identified, networks and outreach, background research and analysis, policy dialogue priorities and the recommendations of both structural reforms and the opportunities for further work within APEC fora and member economies. The IRG's advice and guidance has meant that leaders with lived experience have been central to the project, reflecting and responding to the call for action from disability movements, "nothing about us without us".

A background paper provided a high-level overview of economic costs and benefits of access to assistive technology for individuals who can benefit from it, including people with impairments and people with disability. This paper provided definitions for assistive technology, products and services, placing assistive technology in context of the pre-conditions to promote access for all, such as universal design physical and digital infrastructure. The policy dialogue workshop featured roundtables focused on the following four major themes:

- Access to assistive technology as a precondition to promote access for all, alongside broader elements such as domestic legislation, as well as digital and physical infrastructure with universal design;
- Understanding the challenges, barriers and opportunities for individuals and economies in access to assistive technology that promotes productivity and human capital, including in education, employment and elder care;
- Identifying new innovations in procurement, markets, public-private partnerships, service delivery, physical and digital goods and services that enable increased access to assistive technology;
- Identifying effective strategies to work with the private sector, increasing investment from venture capital, co-design and engaging with people with disability as experts and entrepreneurs.

The workshop attracted more than 65 attendees in person and online from 16 APEC member economies as expert panelists and participants. Speakers included global experts from ATscale, the Global Partnership for Assistive Technology, UNICEF, the

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<sup>5</sup> APEC. 2025. [Collaborative Framework for Demographic Changes](#).

World Bank, leaders of regional and global Organisations of People with Disabilities, leaders with lived experience as assistive technology users, representatives from the private sector, and officials from APEC economies. Case studies from APEC economies highlighted in the workshop were from Australia; Canada; People's Republic of China; Republic of Korea; New Zealand; Papua New Guinea; and The Republic of the Philippines. All participants identified the workshop topic as highly relevant to their economies. 94% of participants identified the workshop was beneficial in increasing their awareness of structural reforms needed to improve access to and investment in assistive technology.

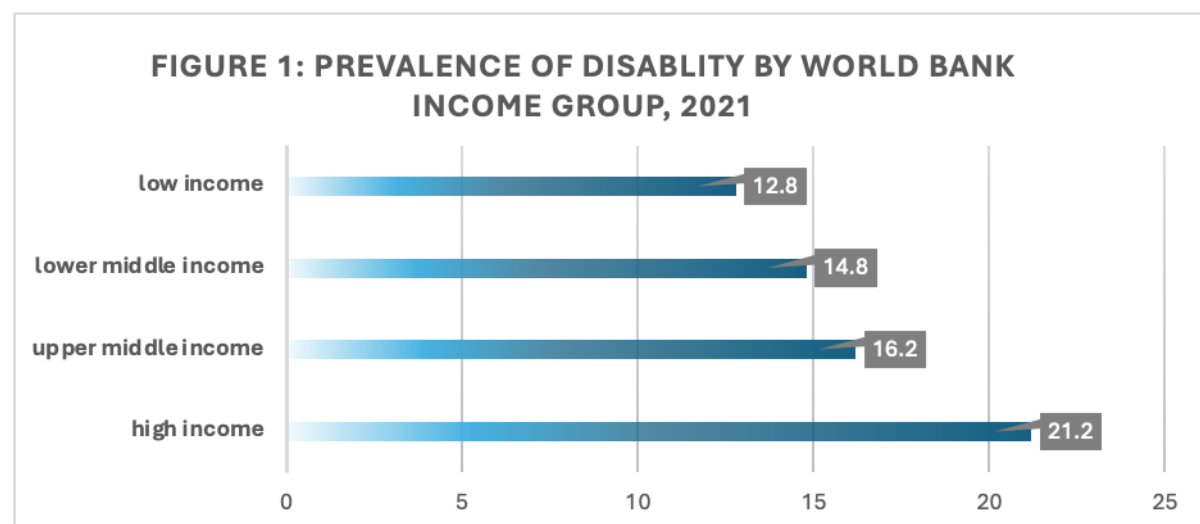
This final project report reflects the significance of the demand and opportunities for APEC economies in increasing access to assistive technology for the growth of individual member economies, for intra-APEC collaboration, and to contribute to global growth especially in underserved LMIC markets. The report highlights the breadth of APEC economy initiatives on increasing access to assistive technology. Drawing on the evidence identified in the background paper, the outcomes of the policy dialogue and the advice of the IRG, this report provides emerging recommendations for APEC economies to consider, and outlines future areas for collaboration to increase access to assistive technology and promote economic growth within APEC economies and internationally.

## Overview

### Demographic Population and Prevalence

Disability is the interaction between an individual's impairment and barriers in the environment that creates disability which hinders their full and active participation in the economy and society on an equal basis with others, according to the United Nations Convention on the Rights of Persons with Disability (CPRD).<sup>6</sup> Any individual, through injury, illness or unforeseen events can find themselves in a situation of permanent or temporary disability. This reflects the social model of disability which recognises that attitudes, access, practices and structures can act as barriers, which together and/or separately prevent people from fulfilling their potential in the community over their lifetime.<sup>7</sup>

The number of people who need assistive technology due to impairments is larger than the recognised population of people with disability. Globally more than 2.5 billion people need one or more assistive products, such as eyeglasses. With an ageing global population and a rise in noncommunicable diseases, an estimated 3.5 billion people will need assistive technology by 2050.<sup>8</sup> Approximately 16% of the world's population have some form of disability, an estimated 1.3 billion people. This is a significant policy issue in APEC economies. UNESCAP (2023) estimates that there are 750 million people with disabilities in Asia- Pacific economies alone.<sup>9</sup>



Source: Global burden of disease data, 2021, cited in WHO, 2022, Global report on health equity for people with disabilities, page 24

The prevalence of disability and the need to access assistive technology in society changes throughout the life course. Globally, the prevalence of disability and impairments increases with age. The prevalence estimates are 5.8% in children and

<sup>6</sup> United Nations. 2006. Convention on the Rights of Persons with Disabilities and Optional Protocol <https://www.un.org/disabilities/documents/convention/convoptprot-e.pdf> accessed 17 November 2025.

<sup>7</sup> Department of Foreign Affairs and Trade. 2024. [Australia's International Disability Equity and Rights Strategy](#). Commonwealth of Australia, Canberra.

<sup>8</sup> World Health Organization (WHO) and United Nations Children's Fund (UNICEF). 2022. [Global report on assistive technology](#). WHO and UNICEF, Geneva.

<sup>9</sup> United Nations Economic and Social Commission for the Asia Pacific. 2023. [Disability at a Glance: Catalysts of Change: Disability Inclusion in Business in the Asia-Pacific](#). United Nations, Bangkok: iv.



adolescents aged 0-14 years of age<sup>10</sup>, which increases to 46% of adults over 60, a figure which includes both the number of people who develop disabilities as a result of ageing, and people who acquire their disability, or whose disability age of onset is later in life<sup>11</sup>. Ageing is the largest driver of disability and impairments world-wide. These global prevalence estimates underline the scale, the economic and social relevance of disability and impairments. Demographic changes with an aging population profile mean the prevalence of people with disability and impairments, and therefore people needing access to assistive technologies, will grow.<sup>12</sup>

Ageing and disability will become an increasingly important policy focus, as the number of people aged 65 years and older is expected to more than double globally by 2050 – and around half of this population will be people with disability. While the total number of older adults with disabilities varies by economy, almost all economies will experience significant increases in the number of older adults with disabilities in the coming decades.<sup>13</sup>

Disabilities and impairments are diverse. There are many different types of disability that are long term, including visible and invisible, physical, sensory and intellectual disability. People can experience more than one type of disability. Individual life experiences, identities and variances in socio-economic context can affect the intensity and types of barriers, costs, and inequalities. An intersectional approach enables greater understanding of how age, geographic location, socio-economic status, and other factors can affect the experience of access and barriers in society. Intersectional experiences means a diversity of approaches are required to enable effective economic growth for people with disability at different stages in their lives.

## Understanding Assistive Technology

A critical component to the effective participation of people with disability is access to assistive technology. Assistive technology is an umbrella term for assistive products and their related services. Assistive technology can help individuals get assistance with daily activities. Assistive devices or products range from physical products such as wheelchairs, eyeglasses, prosthetic limbs, white canes and hearing aids to digital solutions such as speech recognition or captioning, electronic reading devices and braille displays.<sup>14</sup> Assistive technology, products and services support people's independence, and enhances their ability to engage with the economy, their community and family.

Most people will need assistive technology at some point in their lives, especially as they age. Depending on the individual, people may use more than one type of assistive product or service and may need additional or new devices during their lifetime. There are many who can benefit from assistive technology. These include people with chronic health conditions or physical impairments, temporary injuries and diseases, older people and people with disability. While some may require assistive technology temporarily, such as after an accident or illness, others may require it for

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<sup>10</sup> WHO and UNICEF. 2022:25

<sup>11</sup> Cote, Alexandre and Banks, Lena Morgan. 2025. [Global Disability Inclusion Report: Accelerating disability inclusion in a diverse and changing world](#): Conference Edition: 31

<sup>12</sup> WHO and UNICEF. 2022:28

<sup>13</sup> Cote and Banks. 2025: 31

<sup>14</sup> ATscale: Global Partnership for Access to Assistive Technology. 2023. The Case for Investing in Assistive Technology. ATscale, Geneva.



a longer period or throughout their life. Assistive technology is most needed by older people, children and adults with disability, and people with long term health conditions such as diabetes, stroke and dementia.<sup>15</sup>

Access to safe, high quality and affordable assistive technology for people with disability or those who can benefit enables them to contribute to social and economic life. For example:

- For children, early provision of hearing aids or eyeglasses supports their education, limiting the potential of negative impacts on their employment,
- Access to appropriate wheelchairs facilitates mobility, improving access to education and employment for individuals,
- Timely provision of and access to assistive technology for older people can improve their independence and safety, enabling them to participate for longer in the workforce and live at home.<sup>16</sup>

Another way of understanding assistive technology is to see it as a system, which includes health and social service personnel, support or personal care services, devices, supply chains, policies, financing and awareness. While individuals may have multiple needs during their lifetimes, this system is frequently disconnected, segmented by professional discipline such as optometry or audiology. Strengthening access to assistive technology best practice is person-focused, with the individual consumer centered in a multi-disciplinary system, to ensure the right products are available at the right time.

Assistive technology is a space of rapid change and innovation, where digital technology and artificial intelligence are leading changes in the assistive technology eco-system. Some innovations, now becoming integrated into mainstream technology, such as eye-gaze technology, voice-inputs and robotics, emerged in part from research looking for new solutions to overcome functional barriers with people with disability. The growth of e-health and m-health has reduced barriers for those with transport difficulties to access health care. The use of 3-D printing is enabling low-cost prosthetic production. Electronic health information systems and medical records are promoting greater integration of care, on the condition that these electronic systems are interoperable.<sup>17</sup>

## Assistive Technology and the Preconditions for Access for All

The United Nations Special Rapporteur of the Human Rights Council on the Rights of Persons with Disabilities made the concept of preconditions for the full and effective participation of people with disability or impairments prominent in 2016. The concept underlined three elements in policy that act as pre-requisite:<sup>18</sup> a non-discrimination framework on the grounds of disability; accessibility, or universal design, that integrates access for all into the physical and digital environment; and access to

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<sup>15</sup> World Health Organization. 2 January 2024. Assistive Technology: Key Facts.

<https://www.who.int/news-room/fact-sheets/detail/assistive-technology#:~:text=Globally%2C> accessed 7 July 2025

<sup>16</sup> World Health Organization. 2 January 2024.

<sup>17</sup> Cote and Banks. 2025: 101

<sup>18</sup> Vereti, Laisa. 2024. Preconditions for Inclusion in the Pacific.

<https://mspgh.unimelb.edu.au/centres-institutes/nossal-institute-for-global-health/Disability-Equity-and-Rights/preconditions-for-inclusion-in-the-pacific> accessed 7 July 2025.

assistive technology, both products and support services that support the autonomy and participation of people with disability in economies on an equal basis with others.

In the absence of these preconditions, social, economic and physical barriers hinder the full and effective participation of people with disability or impairments. These barriers can include negative social attitudes, stigma and negative assumptions about disability or impairments, inaccessible physical environments and communication technologies, health, education, transport and other systems. Barriers can also include insufficient access to supports such as assistive devices, reasonable accommodations and personal assistance.

The concept of preconditions for participation has evolved over time. The United Nations Partnership for the Rights of Persons with Disabilities defined the preconditions as foundational aspects that are indispensable in addressing the requirements and views of people with disability, which should be considered in public policy making and programming across all sectors.<sup>19</sup> This approach identified broader set of preconditions, such as equality, accountability to people with disability and representation in governance, budgeting and financial management, service delivery and accessibility, accessible environments, and access to assistive technology products and services. Other organisations, such as the Pacific Disability Forum, have developed their own approaches to preconditions that reflect the specific priorities and context of their region, and also include social protection and community-based development.<sup>20</sup>

Differences in everyday functioning between people with disability and people without disability can be attributed to elements such as barriers to transport, leisure activities, social contact, accessibility, and participation in employment. Additionally, factors such as cost, stigma and design issues affect individuals differently.<sup>21</sup> The surrounding environment impacts the levels of functioning of people with disabilities and impairments. For example, factors such as inaccessible social and economic infrastructure and inaccessible transportation hinder how people with disability can take part in community activities, connect with social supports and access assistive products and services, which can negatively impact their ability to function in society.<sup>22</sup> On its own, access to assistive technology does not guarantee participation, but it is central to the effective participation of all in economic and social life.

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<sup>19</sup> Global Disability Fund. 2025. CPRD Implementation. <https://globaldisabilityfund.org/crpd-implementation/> accessed 7 July 2025.

<sup>20</sup> Tawake, Sainimili and Magelen, Kobi. 2025. Preconditions needed to meet new global target on disability inclusion. DevPolicy Blog, ANU Development Policy Centre. <https://devpolicy.org/preconditions-needed-to-meet-new-global-target-on-disability-inclusion-20250429/>

<sup>21</sup> Danemayer, Jamie, Bloomberg, Mikaela, Mills, Adam, Holloway, Cathy, Hussein, Shereen. “Demographic, socioeconomic, and social barriers to use of mobility assistive products: a multistate analysis of the English Longitudinal Study of Ageing”. *The Lancet*. Volume 10, Issue 1: 20-28.

<sup>22</sup> World Health Organization. 2022. [Global report on health equity for persons with disabilities](#). WHO, Geneva: 16

# Economic Impacts of Limited Access to Assistive Technology

## Costs of Exclusion

The cost of exclusion of people with disability can represent up to 7% of GDP in some economies.<sup>23</sup> This is a significant cost to both current and future economic growth and reflects significant lost productivity. The exclusion can be a result of many factors, such as stigma, lack of universal design, social and health services, access to education and economic opportunities. Lack of access to affordable, quality and appropriate assistive technology is a contributing factor to social and economic exclusion.

### *Case Study: Vision*

The economic impacts of unaddressed vision impairments and blindness are significant globally. Eyeglasses are one of the most readily recognised assistive technologies. Vision impairments can be addressed through access to assistive technology ranging from eyeglasses, medical treatments to screen readers. Access benefits individuals' participation in education, employment and the economy. Addressing vision impairments and preventable blindness can provide significant economic benefits at domestic and international levels.

The global productivity benefits of addressing preventable blindness and vision impairments by 2050 have been projected to be USD 19 trillion.<sup>24</sup> The geographic region that would derive the greatest benefit is East Asia, given the region's aging demographics and economic growth. Recent estimates<sup>25</sup> of the global population affected by blindness in 2050, if current restricted availability of treatment for preventable conditions continues, is over 114 million people. Estimates of the global population affected by moderate to severe vision loss in 2050 if current restricted treatment continues is over 435 million people. In contrast, if the currently known effective treatments were adopted for preventable blindness, this global population could reduce to around 58 million by 2050, with USD 984 billion in global productivity gains. If currently known effective interventions to reduce the prevalence of moderate and severe vision impairment, the affected global population could be reduced to around 147 million. This reduction is estimated to translate to USD 17 trillion in global productivity gains by 2050.

### *Case Study: Hearing*

The economic impacts of unaddressed hearing loss are also significant globally. More than 1.5 billion people worldwide experience a decline in their hearing ability during their life, and at least 430 million of these people will require care and assistance.<sup>26</sup> By 2050, one in four people are projected to have some form of hearing loss, with one in 14, or 7% of the global population, projected to have a level of hearing loss that requires care. Loss of hearing affects education, language development, quality of life and social and economic participation. The overall prevalence is affected by preventable causes of hearing loss include infections,

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<sup>23</sup> World Economic Forum. 2020. Closing the Disability Inclusion Gap.

<https://www.weforum.org/projects/closing-the-disability-inclusion-gap/> accessed 10 July 2025

<sup>24</sup> Bastawrous, Andrew and Suni, Antti-Ville. 2020. [Thirty Year Projected Magnitude \(to 2050\) of Near and Distance Vision Impairment and the Economic Impact if Existing Solutions are Implemented Globally](https://pubmed.ncbi.nlm.nih.gov/31810404/). *Ophthalmic Epidemiology*. Apr;27(2):115-120. <https://pubmed.ncbi.nlm.nih.gov/31810404/> accessed 15 July 2025; page 115

<sup>25</sup> Bastawrous and Suni. 2020: page 115

<sup>26</sup> World Health Organization. 2021. [World Report on Hearing](#). WHO, Geneva: page 1

exposure to noise and chemicals and vaccine-preventable diseases. The prevalence of hearing loss increases with age, over 42% of the population with any degree of hearing loss are over 60 years of age.<sup>27</sup> For a range of reasons, including stigma, adults often wait as long as ten years before seeking hearing care.<sup>28</sup>

The global cost of unaddressed hearing loss is more than USD 980 billion per annum.<sup>29</sup> Alongside ear and hearing care services, a wide range of assistive technologies are available, such as hearing aids, cochlear implants, sign language, braille and captioning, yet there are significant issues with access. Cost is a critical factor in access to assistive technology for hearing. Alongside the cost associated with a device, there can be additional costs for batteries, fitting and maintenance. This cost is exacerbated by the small number of manufacturers, who produce 98% of the devices sold globally and focus distribution on high income economy markets.<sup>30</sup> The World Health Organization's economic modelling identified global productivity gains from increased ear and hearing care to reach 90% of the population that will benefit as USD 2.4 trillion, benefiting 1.46 billion people, and providing a return for every dollar invested of 16:1.<sup>31</sup>

## Costs to Education

Access to assistive technology for people with disability and impairments is a factor in education outcomes, in particular the access to and participation in primary, secondary, tertiary and technical and vocational education. It is a factor that emerges in the earliest years of education. UNICEF has identified that one in three children with disability globally are not attending school and participating in education.<sup>32</sup> This is a significant difference from the overall global average of one in seven children not attending school. More detailed data highlights that children with disability and impairments are 49% more likely to have never attended school, 47% more likely to not attend primary school, 25% less likely to attend early childhood education; 16% less likely to read or be read to at home. This has a significant impact on lifelong literacy and numeracy, and the ability to gain skills that support economic participation and the ability to earn an independent income.<sup>33</sup> Children with access to assistive technology are more likely to complete their education than those who don't have access.<sup>34</sup>

## Costs to Employment

Limited access to assistive technology affects employment and opportunities to earn incomes. People with disability and impairments face frequent difficulties in the labour market and are less likely to participate.<sup>35</sup> This is a result of challenges such as negative social norms and stigma. It can also be a result of access to education opportunities, skills and networks and transport. A clear and consistent element that is present is challenges in access to the assistive technology and employment

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<sup>27</sup> World Health Organization. 2021: page 28

<sup>28</sup> World Health Organization, 2021: page 90

<sup>29</sup> World Health Organization. 2021: page 1

<sup>30</sup> World Health Organization. 2021: page 180

<sup>31</sup> World Health Organization. 2021: page 213

<sup>32</sup> World Health Organization and UNICEF. 2022: page 76

<sup>33</sup> World Health Organization and UNICEF. 2022: page 76

<sup>34</sup> ATscale. 2021: page 21

<sup>35</sup> Ananian, Sevana., Dellaferrera, Guila. 2024. [A study on the employment and wage outcomes of people with disabilities](#), ILO Working Paper 124. ILO, Geneva: page 13

conditions that enable participation. The gap between employment rate and population has been termed the ‘disability employment gap’. OECD economy analysis identified that the employment rate for people with disability was 27 percentage points lower, and people with disability were 2.3 times more likely to be unemployed than people without disability.<sup>36</sup> In all geographic regions, men with disability were more likely to be employed than women with disability. The regions with the lowest rates of employment for women with disability were North Africa and Western Asia, where women with disability were five times less likely to be employed than men without disability<sup>37</sup>.

Another dimension in the relationship between employment and assistive technology is the quality of the employment role and employment conditions. The types of employment that people with disability and impairments access are frequently characterised by low wages and poor working conditions, occupations and roles in the informal sector, and are overrepresented at the base of global value chains.<sup>38</sup> Assistive technology and enabling employment conditions can support people with disability and impairments to move into formal sector employment, and into economic sectors and occupations that have greater stability and earning potential.

## Implications for the Care Economy

Some individuals who need assistive technology also require regular personal support with tasks in their day to day lives. This could include mobility support in home and in community, self-care, accessing water, preparing and eating food, and depending on the disability, non-physical support including making decisions and community. Access to assistive technology provides a significant benefit for independent living completing these tasks. Assistive technology investment, access and use have beneficial impacts on the costs, time and resources of care provision.<sup>39</sup> In low- and middle-income economies, these services are limited, and support is provided by family members, particularly women, and is unpaid. When individuals who are assistive technology users have access to products and services, as their independence and agency is increased, it also enables family supporters to pursue new opportunities in education, social and economic activity.

Meeting the unmet need for Assistive Technology can enable family supporters to increase their time spent at work, resulting in nearly USD 2 trillion of additional income for families over the users’ lifetimes.<sup>40</sup>

## Impact on Poverty

There is a correlation between disability and poverty present in many economies. In some economies, the proportion of people with disability living under the domestic or international poverty line is double that of people without disability and impairments. Further, people with disability or impairments are more likely to carry additional costs, such as those that relate to access to assistive products and personal services,

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<sup>36</sup> Touzet, 2023: page 12

<sup>37</sup> World Health Organization and UNICEF. 2022: page 76

<sup>38</sup> Fontana, Marzia. 2023. [How to promote a Disability-Inclusive Trade Agenda. Policy Brief](#) June 2023. Ministry of Foreign Affairs Finland, Helsinki: page 4

<sup>39</sup> Albala, Sarah Averi, Kasteng, Frida, Eide, Arne Henning and Kattel, Rainer. 2021. [Scoping review of economic evaluations of assistive technology globally](#), *Assistive Technology*, 33:sup1: page 50

<sup>40</sup> ATscale. 2021: page 25

health, housing and transport. Recognising that the type and level of additional costs of having a disability or impairment varies, it can be as high as more than 40% of an average income for those with a significant disability.<sup>41</sup> While the poverty dynamics vary in different economies, the pathways that lead to and entrench poverty are exclusion. These factors can include education, skills, employment, social welfare and health services.<sup>42</sup> Interrelationships occur between each of these factors. For example, exclusion from access and full participation in education – including through limited access to assistive technology – impacts employment and future income earning opportunities. Exclusion from work or employment for people with impairments and disability, through access to assistive technology, has both an immediate and direct impact on household income levels because of unemployment or underemployment, but also can reflect exclusion (real or intended) from business development schemes.

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<sup>41</sup> World Health Organization and UNICEF. 2022: page 74

<sup>42</sup> Banks, L.M. and Polack, S. [\*The Economic Costs of Exclusion and Gains of Inclusion of People with Disabilities: Evidence from Low and Middle Income Countries\*](#). ICED Research Report 2014: page X



# Economic Benefits of Access to Assistive Technology

## A Significant Market

People with disability and impairments who benefit from assistive technology have been identified as the largest emerging market in the world.<sup>43</sup> Given the significance of increasing aging demographics and the population cohort with disability, the size of the total assistive products markets for people who are aging and people with disability was estimated at USD 29.91 billion in 2024 and is projected to reach around USD 51.94 billion by 2034, growing at an average rate of 5.67% over that time.<sup>44</sup> In terms of geography, the North America market has the largest market share with 40%, followed by Europe at 28%, Asia-Pacific at 22%, Latin America at 7% and the Middle East and Africa at 3%. The fastest growing market is predicted to be the Asia-Pacific.<sup>45</sup>

As consumers, people with disability and impairments are often overlooked, despite the size of this population group as a market. The intersection between aging demographics and people with disability is significant, with 46% percent of people aged 60 and above experiencing some form of disability. The “silver economy” is estimated to be worth USD 4.56 trillion in Asia alone.<sup>46</sup> Access to assistive technology, as a core element within effective participation for all in business, employment and the economy, presents a business growth opportunity. The World Economic Forum identified that only 4% of businesses are making offerings for people with disability, yet there is potential for up to 30% greater profit margins.<sup>47</sup> This reflects both the potential market of people with disability and accessing assistive technology as consumers, and the benefits to recruitment, talent identification and retention by ensuring that employees and applicants are not treated differently, separated, or singled out based on immutable characteristics or bias, rather than treated equally and objectively based on their merit in hiring, promotion, pay and employment practices.

There is increasing interest in the business case for greater economic participation of people with disability, as demonstrated by the World Economic Forum’s Valuable 500 Initiative of major businesses. When the population that directly benefits from access to assistive technology is extended to include family members and carers, disability and access to assistive technology touches 63% of the global population.<sup>48</sup> The 2024 Global Economics of Disability Report estimated the cohort of people with disability has a disposable income of over USD 2.6 trillion.<sup>49</sup> This is an underestimate as it only reflects the disposable income of people with disability aged 25-64 in Canada, the European Union, the United Kingdom and the United States. It has been estimated that people with disability, their friends and families, reflect global consumers

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<sup>43</sup> Return on Disability Group. 2024. [The Global Economics of Disability Report: 2024](#). Return on Disability Group, Canada: page 2

<sup>44</sup> Pandey, D. and Shivakar, A. 2025. Elderly and Disabled Assistive Devices Market Size, Share and Trends 2025 to 2034. Precedence Research, <https://www.precedenceresearch.com/elderly-and-disabled-assistive-devices-market> accessed 14 October 2025

<sup>45</sup> Pandey, D. and Shivakar, A. 2025.

<sup>46</sup> United Nations Economic and Social Commission for the Asia Pacific. 2023: page iv

<sup>47</sup> World Economic Forum. 2020. Closing the Disability Inclusion Gap. <https://www.weforum.org/projects/closing-the-disability-inclusion-gap/> accessed 10 July 2025

<sup>48</sup> Return on Disability Group. 2024: page 3

<sup>49</sup> Return on Disability Group. 2024: page 2

controlling USD 13 trillion in annual disposable income.<sup>50</sup> The factors driving this growth include increasing worldwide demand for assistive products, increased initiatives by government and others to develop and distribute devices and services to users, an increasing aging population, increased accessibility and affordability of devices, increased manufacturers, increased regulatory approval of devices and technological advances.<sup>51</sup>

## An Innovative Market

Significant innovations and responsiveness to market demand is occurring in the digital assistive technology sector. There are innovations available within artificial intelligence to improve ease of use for consumers, both those with and without disability. This includes increased access to functions such as captioning, use of alt-text for accessibility and enabling customised accessibility solutions. OECD analysis<sup>52</sup> identified the significant potential for artificial intelligence powered innovations to increase the social and economic participation of people with disability and impairments. The OECD identified 142 examples of new assistive technology products, processes and services that could support people in the labour market, and over 75% would not exist without artificial intelligence.

Artificial intelligence, if risks related to bias safety and privacy are addressed, has the potential to make assistive technology solutions more personalised, to learn from real-time feedback and adapt to different scenarios and types of disability and impairments, and to integrate with other technology platforms.<sup>53</sup> Some of these developments blur the difference between assistive technologies and mainstream products, which highlights the broader benefits and economic opportunity in innovation to respond to specific needs for people with disability and impairments. For example, voice and speech recognition technology, initially designed to assist people who have difficulty using keyboards, are now the foundation of virtual assistants such as Siri and Google, included in smart homes. The global market for voice and speech recognition was valued at USD14.8 billion in 2024 and is expected to grow to USD 61.3 billion by 2033.<sup>54</sup>

## A Talented Market

Access to assistive technology for individuals, and as part of employment conditions, can open doors to additional talent in potential and current employees. It supports the retention of talented employees, reducing the costs of employee recruitment and turnover, and can support the ongoing participation of older employees in the workforce. The lived experience lens that people with disability and impairments can bring to business operations and business leadership can create opportunities for innovation and profit, bringing valuable new perspectives. This includes being able to assess business functions such as sourcing, design, marketing, sales and services

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<sup>50</sup> Donovan, Rich. 2020. [Design Delight from Disability. The Global Economics of Disability Report: 2020](#). Return on Disability Group, page 12

<sup>51</sup> Pandey, D. and Shivakar, A. 2025

<sup>52</sup> Return on Disability Group. 2024: page 17

<sup>53</sup> Touzet, Chloe. 2023. [Using AI to Support People with Disability in the Labour Market- Opportunities and Challenges](#). OECD Artificial Intelligence Series No. 7 November 2023. OECD, Paris: page 8

<sup>54</sup> Straits Research. 2024. Voice and Recognition Market Size, Share and Forecast to 2033. <https://straitsresearch.com/report/voice-and-speech-recognition-market> accessed 13 July 2025



with a disability-lens throughout the value-chain.<sup>55</sup> This lens can also provide valuable perspectives, skills and problem-solving abilities, to contribute to business sustainability and innovation.<sup>56</sup> Businesses that invest in increased employment of people with disability and impairments have identified broader benefits, including improved workplace morale and culture, improved services for consumers, low levels of absenteeism and improvements to business practices.<sup>57</sup> Enabling access to assistive technology is part of improving the efficiency and productivity of the labour market, supporting the valuing and use of diverse population skills and talents.<sup>58</sup>

## Low and Middle-Income Economy Markets

The greatest number of unmet needs for assistive technology is in low- and middle-income economies (LMICs). The current global estimates are that nearly one billion people living in LMICs require one or more assistive products – eyeglasses, hearing aids, mobility devices and prosthetics – and less than 15% of this population have access. For example, only 3% of the demand in LMICs for hearing aids is being met, and only 5% of people who require a wheelchair have access to one, in comparison to 90% of those in high income economies.<sup>59</sup> The total economic gains from meeting the unmet need for these four assistive products – eyeglasses, hearing aids, prostheses and wheelchairs – in LMICs amounts to over USD 10 trillion in real terms over a lifetime. The 9:1 return on investment ratio in LMICs reflects the population levels and level of unmet demand in these economies, and the lifetime benefits across both child and adult cohorts.<sup>60</sup>

These economic benefits are for individuals and economies with increased human capital from participating in and benefiting from education, and through employment and other economic activity. The reduced care burden with access to assistive technology also has economic benefits for family and care givers, increasing their economic activity.<sup>61</sup> Access to assistive technology helps users to increase their income over a longer period, generating over USD 8 trillion in additional earnings for these individuals.<sup>62</sup> The benefits for children are even greater, given the longer lifetime and benefits of education. With access to assistive technology – products and services – children who need this support can travel to school and engage more effectively and independently in learning opportunities and are better able to deal with bullying and discouragement.

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<sup>55</sup> United Nations Economic and Social Commission for the Asia Pacific. 2023: page ix

<sup>56</sup> Fundación ONCE and the ILO Global Business and Disability Network. 2023. [Making the green transition inclusive for persons with disabilities](#). ILO, Geneva: page 7

<sup>57</sup> International Labour Organization. [2014. Business as unusual: Making workplaces inclusive of people with disabilities. International Labour Office](#), Bureau for Employers' Activities (ACT/EMP), Conditions of Work and Equality Department, Geneva: page 12

<sup>58</sup> Touzet. 2023: 13

<sup>59</sup> ATscale. 2021. [The Case for Investing in Assistive Technology. ATscale Global Partnership for Assistive Technology](#), Geneva: 12

<sup>60</sup> ATscale. 2021: page 41

<sup>61</sup> ATscale. 2021: page 19

<sup>62</sup> ATscale. 2021: page 24

## APEC Economy Initiatives

Assistive technology initiatives across nine APEC economies were highlighted in expert presentations as part of the project Policy Dialogue Workshop. These presentations were from Australia; Canada; People's Republic of China; Indonesia; Republic of Korea; New Zealand; the Republic of the Philippines; and Singapore. This highlighted that there is extensive engagement in access to assistive technology within these nine APEC economies as a measure that enables economic growth. Within some APEC economies, there are a range of approaches to addressing barriers to access of assistive technology access. It also emerged that there are a number of common themes and shared challenges in policy innovation and service delivery. The common themes that emerged across these nine economies include:

- Social and economic participation as the central rationale underpinning access to assistive technology;
- Addressing fragmented and inequity in access, whether geographic, age or occupation cohort, or through health, education or social welfare systems;
- Reforms to procurement approaches;
- Addressing opportunities for digital technology innovation;
- Leadership by people with lived experience in product development, policy and service provision;
- Legislative and policy frameworks that draw on the United Nations Convention on the Rights of Persons with Disabilities.

Some APEC economies are identifying access to assistive technology as essential for economic growth and labour force participation. Project stakeholders reported on a range of APEC economy initiatives, highlighting opportunities, benefits and ongoing challenges. New Zealand's economic analysis demonstrates NZD 1.45 billion in potential economic benefits from higher employment rates. The Canadian Council on Rehabilitation and Work explicitly frames AT as critical to strengthening labour force participation and increasing productivity while decreasing health and social services costs. Korea's employment services through the Korea Employment Agency for people with Disability provides tailored workplace AT, while Singapore's job redesign grants support both employers and employees with up to 90% funding for workplace modifications. Australia's Employment Assistance Fund supports access to assistive technology to enable employment. This economic framing positions AT not as welfare expenditure but as productive investment.

Despite policy advances, significant system fragmentation can be seen in some APEC economies, where multiple, siloed programs can create access barriers. Canada's diverse assistive technology access landscapes vary by province, age group, employment status, and disability type. This diversity of approaches and services and eligibility criteria to provide access to assistive technology creates accessibility barriers and inefficiencies for individuals in navigating multiple systems. Indonesia faces regional disparities with assistive technology distribution concentrated on Java, leaving more rural and remote areas underserved. The cost of assistive technology devices and services remains a universal barrier. Singapore's separate schemes for elderly and people with disability, while comprehensive, demonstrate the complexity that individuals address across life stages. Australia's National Disability Insurance Scheme's reach to 700,000 participants experiences challenges in access for remote and Indigenous communities. Calls for centralised access hubs, information systems, and funding models that follow individuals across life stages reflect opportunities for structural reforms that reduce bureaucratic complexity.

### **Box: Assistive Technology Initiatives in APEC Economies**

**Integrated Service Models:** China's barrier-free facilities combining AT services with healthcare, disability assistance, education, and elder care demonstrate effectiveness of comprehensive approaches. Singapore's Tech Able initiative combines assessment centres, loan libraries, smart showcases, and digital platforms.

**Whole-of-Government Coordination:** New Zealand's dedicated Ministry of Disabled People: Whaikaha and its twin-track approach combine targeted support with mainstream disability inclusion integration. Korea's KEAD operates through collaboration across Health, Education and Employment Ministries. The Philippines institutionalises market engagement before procurement.

**Lifecycle and Circular Economy Approaches:** Australia's pilot addresses the 700 million annual National Disability Insurance Scheme's Assistive Technology spend efficiency through rental, refurbishment, and subscription models allowing flexibility for changing needs, particularly for children.

**Digital Platform Innovation:** The Philippines' PhilGEPS platform with mandatory livestreaming, video documentation, and supplier matching enables procurement data analysis for policy planning. Digital platforms support both service delivery and transparency. Australia and Korea have adopted guidelines for digital technology that enables assistive technology.

**Investment in Innovation and Enterprise:** Korea's DLG D-TECH venture capital investment innovation initiative has awarded KRW 217 million since 2018, attracting 368 applicants and nurturing entrepreneurs developing disability-related technologies evaluated on innovation, business potential, and inclusion.

**Skills Development:** Rehabilitation International Korea's Global IT Challenge demonstrates that digital literacy training creates employment opportunities with measurable economic returns while challenging stigma and promoting social inclusion.

High costs and inconsistent funding models create persistent access gaps. A 2023 survey in New Zealand found 28% (212,000 people) had unmet assistive technology needs, primarily due to affordability.<sup>63</sup> Indonesia faces particular challenges where poorest households with members with complex support needs spend up to 20% more on essential needs, yet 60% of those with moderate to complex support needs due to disability use no assistive products. Import reliance significantly increases costs through duties and logistics. While subsidy schemes exist across Singapore (90% subsidy, SGD40,000 lifetime cap), they often fail to address total cost of ownership including maintenance, repairs, and replacements. Concentration of services in urban centres leaves rural and remote populations underserved. China deployed 55 offline service rental points in one regional pilot, providing 31,343 fitting services, demonstrating intensive infrastructure requirements for adequate coverage. Korea's network of 20+ regional AT Centres provides integrated service hubs. Australia's circular economy and rental pilot in Tasmania specifically aims to test the effectiveness of flexible access models. Indonesia's concentration of services on Java exemplifies concerns about geographic variability of access.

Some APEC economies are experimenting with alternatives to traditional procurement as part of measures to increase access to high quality, safe, affordable

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<sup>63</sup> Household Survey 2023, Statistics New Zealand

assistive products. The Philippines' RA 12009 regulation represents transformative reform through competitive dialogue for complex needs, direct procurement for emerging technologies, framework agreements for recurring needs, and full digitalization via an online platform, PhilGEPS, which emphasises functional outcomes for users over brand specifications. This is accompanied by an emphasis on Total Cost of Ownership planning considering installation, training, maintenance, and disposal—recognizing that lifecycle costing ensures solutions remain functional over time, especially in rural or underserved areas. Australia's National Disability Insurance Scheme (NDIS) is currently undertaking a circular economy pilot to test the benefits of rental pools, refurbishment, subscription models, and trial-to-buy options co-designed with people with disability. China's long-term care insurance pilot now reaches 145 million people across 49 cities. These innovations address the inadequacy of lowest-cost procurement models that fail to deliver high quality, safe, fit for purpose and sustainable assistive technology.

The issue of inconsistent standards for assistive technology products was identified by some APEC economies as an issue affecting the quality, safety and appropriateness of imported assistive devices, especially as the majority of APEC economies are dependent on imports and have limited local production and manufacturing capacity. In Indonesia, this issue has been identified as a serious concern with the presence of low quality devices, as a result of the lack of international standards, especially as some are unsuitable for users in their local physical environments. To invest in increased local production capacity, China is establishing comprehensive rehabilitation AT standards systems covering foundational standards, specific product categories and service institutions.

Some APEC economies are also identifying digital technology as a shift that presents both opportunities and barriers for assistive technology access and economic participation and growth. Some APEC economies, including Canada, have identified a growing digital divide impacting workers with disability, and concerns about accessible digital infrastructure persist across Indonesia and other economies. To address the risk of digital divide for young people with disability and future employment, Rehabilitation International Korea's ICT training programs have engaged 5,000 young people from 40 economies since 2011. China's innovative "Internet Plus Elderly Care" access to assistive technology approach in Datian County achieved 100% improvement in ease of fitting service rates through digital platforms. Korea's 2022 Digital Inclusion Master Plan and Digital Accessibility Enhancement Plan require standardised internet and mobile application accessibility, reducing barriers to information and access to services.

Meaningful participation of people with disability in design and implementation emerges as critical success factor. Australia's AT pilot is explicitly guided by co-design principles. The Philippines mandates involvement of people with disability, caregivers, and non-government organisations in developing AT specifications with observer rights in procurement. New Zealand's Whaikaha engagement with Tangata Whaikaha enabled co-creation of Te Reo Maori text-to-speech technology. Korea's D-Tech contest is co-hosted with organisations of people with disability. This participatory approach ensures solutions are user-centric, culturally appropriate, and functionally effective.

There is also a shift towards legislative and policy frameworks and approaches. The principles of the near universal United Nations Convention on the Rights of Persons with Disabilities underpins much contemporary assistive technology legislation and policy. Indonesia's evolution from Law No. 19/2011 to Law No. 8/2016 exemplifies this transformation, moving from viewing people with disabilities as "objects" to

"subjects" of development. Korea's Anti-Discrimination Act and the Philippines' incorporation of meaningful stakeholder engagement in procurement processes reflect similar commitments to the UN Convention on the Rights of Persons with Disabilities. New Zealand's establishment of The Ministry of Disabled People: Whaikahae represents the most structural manifestation of this approach, treating disability as a distinct social policy priority rather than a subset of health or welfare. The establishment of the NDIS in Australia, enshrining individual agency and choice over supports and providers, is a similar structural cohesive approach, designed to provide economy-wide principles for those who access assistive technology through its services.

## Economy Priorities

Within some APEC member economies, promising structural reforms and practices highlighted the value of policy dialogue and exchange within APEC on access to assistive technology as an enabler of economic participation and growth. Emerging priorities in some APEC economies to advance assistive technology access reflect the interest in economies with established schemes to continue to refine these in response to domestic demand. This includes specific interest in increasing the active involvement of people with lived experience of disability in the design of policy, programs, products and services. It reflects the interest in cross-sector collaboration, and framing whole of economy initiatives that draw on economic and social data of needs and benefits. It reflects the interest in learning from global initiatives in standards, quality, innovation, public-private partnerships and pooled procurement. It also reflects the interest in working with the private sector more deeply, as employers and investors, and promoting standards and innovation in procurement. A snapshot of topics raised as emerging priorities by some APEC economies included the following:

- Institutionalising co-design and lived experience leadership throughout policy development, procurement specification, service delivery and evaluation;
- Building cross-sector collaboration engaging government, civil society, disability organisations, private sector, and international partners in sustained partnerships;
- Centralising information and simplifying access pathways for individuals through integrated hubs reducing navigation complexity across siloed systems, drawing on consultation with those with lived experience;
- Framing assistive technology access in economic policy using evidence of productivity gains, reduced health costs, and labour force participation benefits to secure investment and priority;
- Developing whole of economy integrated, person-centred funding models that follow individuals across life stages, eliminating transitions between age-based or sector-based schemes;
- Expanding circular economy and flexible access models including rental, refurbishment, and subscription options co-designed with users to address changing needs while reducing waste and costs;
- Addressing the digital divide strategically through skills training, accessible design standards, and recognition of digital access as fundamental to economic and social participation;
- Digitalising procurement and service delivery with transparent platforms enabling data-driven policy while ensuring digital accessibility doesn't create new exclusions;

- Adopting total cost of ownership approaches in procurement considering installation, training, maintenance and disposal rather than initial acquisition costs alone;
- Strengthening local production ecosystems through harmonised technical standards, investment capital and procurement policies favouring functional outcomes to reduce import dependence and costs.

These nine APEC member economy experiences and case studies highlight that significant policy progress is in train, however there are continuing challenges in implementation gaps, system fragmentation, and persistent barriers to affordability and quality. Success requires sustained commitment to inclusive approaches, meaningful participation of people with disability, innovation in financing and delivery models, and recognition of assistive technology access as essential infrastructure for economic and social development for all.

**Box: Global Initiatives: ATscale – the Global Partnership for Assistive Technology**

ATscale is the Global Partnership for Assistive Technology, hosted by UNOPS, working to transform people's lives through increased access to assistive technology (AT). Established as a global, multi-stakeholder initiative, ATscale brings together governments, OPDs, multilateral agencies, civil society and the private sector to accelerate political will, investment, and innovation in AT. The Partnership's goal is to ensure that, by 2030, an additional 500 million people in low- and middle-income economies gain access to the life-changing assistive products and services they need. ATscale supports economies to develop enabling policies and financing mechanisms, strengthens the global evidence base, and advocates for assistive technology as an essential element of inclusive and sustainable development. ATscale's work on market shaping and system strengthening addresses the structural barriers that keep assistive technology out of reach for many. The Partnership collaborates with governments and industry to increase market transparency, lower costs, diversify supply, and stimulate local production and innovation. ATscale is developing research and evidence on AT markets for global public use, for example, the Assistive Products Market Reports from 2024 and 2025 provide a one-stop-shop for quality assistive products, suppliers, prices, and specifications as well as the pioneering study on estimating demand for AT.<sup>64</sup> Similarly, an upcoming study on taxes and tariffs on assistive products show how end-user costs can rise up to six times of ex-factory costs. Moving from evidence to action, ATscale has supported investments in strengthening AT regional hubs and local production and assembly of AT. Looking at innovation, ATscale along with Google and the Global Disability Innovation Hub, conducted a study that demonstrated that smartphones, combined with digital skills and internet access, can serve as a powerful tool for inclusion, independence and dignity and is driving policy changes in this direction.<sup>65</sup> ATscale aims to continue to identify and implement latest innovations in products and service delivery that can accelerate access to assistive technology in low- and middle-income economies and contribute to equitable, affordable, and sustainable access for all.

<sup>64</sup> ATscale. 2025. [Assistive Products Market Report 2025](#). ATscale, Geneva.

<sup>65</sup> Global Disability Innovation Hub. 2025. [Enhancing Mobile Accessibility for Persons with Hearing and Visual Impairments: Case for Mobile as AT](#). Global Disability Innovation Hub, University College, London.

## Recommended Structural Reforms

Structural reforms that increase access to assistive technology for people with disability and impairments can benefit economic growth in APEC economies. The analysis and policy dialogue identified five topics where APEC economies could consider structural reforms, and future directions where some APEC economies identified there was interest in further APEC policy dialogue and engagement. These recommended structural reforms are relevant for APEC as member economies address aging demographic changes, given the increased prevalence of disabilities and impairments with that age cohort. The recommended structural reforms are also relevant for APEC economies promoting economic growth with increased participation of people with disability in the economy.

These recommended structural reforms reflect the literature on economic costs, benefits and opportunities, the established policies and initiatives in APEC economies and global innovations. These structural reforms are presented as options for APEC member economies to consider, either as individual reform initiatives, or as a connected suite of structural reforms. Each of the recommended structural reforms can be adapted to reflect the specific social, economic and legal context of each APEC member economy.

### 1. Organisations of People with Disabilities as Leaders in Policy and Innovation

*Integrate Organisations of People with Disabilities as leaders, decision-makers and co-creators for effective structural reforms that increase access to assistive technology related to innovation, policy and services*

Structural reforms that increase access to assistive technology and economic participation will be most effective when they are co-designed, implemented, monitored and evaluated by people with lived experience, assistive technology users and Organisations of People with Disabilities. This requires a fundamental shift in how people with disability are positioned within assistive technology systems—from passive service recipients to active partners throughout the entire process. The WHO and UNICEF Global Report on Assistive Technology<sup>66</sup> explicitly recommends that users and their families be involved from service delivery design through monitoring and evaluation, recognising that assistive technology services must be organised around the person and their environment rather than around their impairments. This partnership approach extends beyond initial consultation to include training users and caregivers in repair, maintenance, and adaptations, as well as encouraging peer-to-peer support networks that leverage the lived expertise of assistive technology users themselves. Integrating engagement of Organisations of People with Disabilities as leaders in policy and innovation in assistive technology structural reforms should lead to more effective reforms in multiple sectors, not only in the development and provision of assistive technology products and services themselves, but also in broader social and economic policies.<sup>67</sup>

The involvement of people with lived experience, assistive technology users and people with disability enables effective assistive technology solutions, as they alone

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<sup>66</sup> World Health Organization and UNICEF. 2022: page 15

<sup>67</sup> Fontana, Maria and Mitra, Sophie. 2023. [Inclusive Trade and Persons with Disabilities](#). Ministry of Foreign Affairs Finland, Helsinki: page 35-36

can identify the practical barriers and innovative solutions that technical experts might overlook. When included in user-centred design processes, people with disability have generated transformative ideas in financial services such as text messaging alternatives to call centres for deaf customers, cardless ATM access for those with mobility impairments, and enhanced audio inputs for individuals with vision impairments.<sup>68</sup> However, despite increased recognition of consultation requirements under the United Nations Convention on the Rights of Persons with Disabilities, significant problems persist. Laws, policies and programs are still frequently developed without consulting organisations representing people with disability, and their needs continue to be determined by researchers and officials without lived experience, perpetuating a cycle of exclusion from the very decision-making processes that affect their lives and greater participation in society and the economy.<sup>69</sup>

The constant evolution of new products and technologies in broader society creates particular challenges for people with disability, who can require more time to learn and adapt to new systems, making the involvement of assistive technology users in broader structural reform processes even more critical.<sup>70</sup> When products evolve without consultation or advance notice to consumers, previously functional access methods can become unusable, exacerbating existing barriers. Effective structural reforms should therefore incorporate person-centred design principles through sustained engagement with assistive technology users and Organisations for Persons with Disabilities, ensuring accessibility not just during initial implementation but throughout ongoing technological adaptations.<sup>71</sup> This continuous engagement can prevent the technological turnover that disproportionately disadvantages people with disability.

### *Combatting Stigma Through Design and Awareness*

Structural reforms, to be effective, should also actively address the stigma that surrounds assistive technology use, which requires both design innovation and broad public education efforts. Access to assistive technology is established in the United Nations Convention on Rights of Persons with Disabilities which sets out its purpose to “promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities, and to promote respect for their inherent dignity.” The importance of addressing stigma is a reflection of the social model of disability, which sees ‘disability’ as a result of the interaction between people living with impairments and an environment with physical, attitudinal, communication and social barriers. Alongside this, economies can provide education to ensure that all key stakeholders, including policymakers, duty bearers (especially health, education, and social care service providers), media, and the public at large, are well-informed about the need for and benefits of assistive technology, including its return on investment. This comprehensive awareness-raising approach requires support to develop the assistive technology sector, transforming assistive technology from a stigmatised necessity into a recognised component of society.<sup>72</sup> Stigma and discrimination can be addressed by the active integration of universal design in physical and digital infrastructure, and in the assistive technology sector through

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<sup>68</sup> Puli, Louise, Layton, Natasha, Bell, Diane and Shahriar, Abu Zafar. 2024. ‘[Financial inclusion for people with disability: a scoping review](#)’ *Global Health Action*. Vol. 17, 2342634: page 7

<sup>69</sup> Makarem, Amer. May 2003. [Involvement and Participation of Organisations with Disabilities Position Paper](#). Youth Association of the Blind, Beirut: page 2

<sup>70</sup> Puli et al. 2024: page 7

<sup>71</sup> Puli et al. 2024: page 7

<sup>72</sup> World Health Organization and UNICEF. 2022: page 15



better product design with accessibility features, making them easier for the user and in the community.

## 2. Economy-wide Whole of Government Policy

*Implement coordinated economy-wide whole of government policy, services and financing approaches to support equity in access to assistive technology for greater economic participation*

Economy-wide whole of government policy for assistive technology is a critical structural reform for increased access. A broader economy-wide approach to assistive technology products and services access can benefit by promoting coherence and equity in the approach to access across sectors (such as health, education, aged care), geographic regions (urban centres or rural and remote areas) and cohorts in the population. An economy-wide whole of government approach to assistive technology can also create efficiency dividends for APEC economies and individuals by removing duplication and disparities between differences in schemes that operate in different geographic areas, in sectors that relate to either different cohorts, such as veterans, children or older people, or for specific health conditions. This recommendation for a whole of economy and whole of government approach reflects the ecosystem approach identified as international best practice by the World Health Organization's (WHO), referred to as WHO's 5P Model, and identifies five interlinked areas: people-centred, policy, products, personnel, and provision<sup>73</sup>.

In WHO's model for whole of government reforms, policy refers simultaneously to legislation, financing, information systems and governance architecture that supports the establishment and ongoing operations of systems within health and social services that enable access to assistive technology to those who need it. Products refers to the range, quality, affordability and supply of assistive products. The ability to repair, refurbish and reuse assistive products can be more cost-effective and faster than the purchase of new products. When assistive product standards are harmonised, it can help safety, longevity and support more efficient procurement and supply chains. Global best practice recommended tools are available, which reflect quality and safety, with the World Health Organization's Priority Assistive Products List<sup>74</sup> and Assistive Product Specifications<sup>75</sup>.

Provision refers to the delivery of services and assistive products. Ideally, this would be as close as possible to where users live. Ideally, services are provided in response to the specific needs of each individual, include early identification and intervention when appropriate, respond to the type and nature of the individual's impairment, and support prevention of further injuries or disability. The range, quantity and quality of assistive products and services should respond to the diversity of disability and impairments in the community. Straightforward information and referral pathways for assistive technology can be integrated into health care and social services. Personnel refers to the appropriately trained, skilled and experienced

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<sup>73</sup> World Health Organization. 2020. Policy Brief: Access to Assistive Technology. World Health Organization, Geneva. <https://www.who.int/publications/i/item/978-92-4-000504-4> accessed 7 July 2025

<sup>74</sup> World Health Organization. 2016. [Priority Assistive Products List](#). World Health Organization, Geneva.

<sup>75</sup> World Health Organization. 2021. [Assistive Product Specifications and How to Use Them](#). World Health Organization, Geneva.

specialist and allied health workforce required to identify, assess, provide, review and maintain assistive technology products and services for individual users, their family and carers. Practices that enable professional networks, adaptive staffing models and retention strategies, alongside training of community level workers are required.<sup>76</sup>

A foundational element in WHO's 5P model for reform is the people-centred approach, the involvement of people with lived experience, to inform all elements of the assistive technology provision system in leadership and decision-making. Promoting better access to assistive technology to enable greater economic participation requires that people with disability have voice, agency and representation and reducing barriers to earning opportunities. Additionally, structural reforms must address stigma through public awareness campaigns, universal design principles, and support for developing the assistive technology sector. This systemic integration—with people with disability as central participants rather than subjects—enables reforms to achieve the universal coverage and meaningful impact required.

### 3. Target Catalytic Sectors

*Target catalytic sectors such as education, financial services and transport that can play a critical role in enabling increased social and economic participation with increased access to assistive technology.*

#### *Education*

Structural reforms to increase access to assistive technology in education are essential to address the challenges and risks of exclusion of children and adults with disability from mainstream educational opportunities. This is relevant to early-childhood education, primary, secondary, tertiary and vocational education systems. Effective structural reforms that remove barriers and provide reasonable accommodation and support services can ensure that learners with disability and impairments can participate fully in education systems. Education is a catalytic sector for structural reforms that increase access to assistive technology. This is significant given the role of education in human capital formation, and its contribution to long term individual well-being and economic participation. When children with disabilities are excluded from educational opportunities, the social and economic costs are substantial, as adults with disability tend to experience higher rates of poverty. However, education significantly weakens this association, highlighting that educational reform is an economic benefit.<sup>77</sup>

Access to assistive technology through structural reforms can address the multiple barriers that currently prevent children with disability from attending and succeeding in school. These barriers include rigid curricula, inappropriate teaching methods, poor physical infrastructure, and lack of alternative formats for learning materials—such as Braille, sign language, and accessible digital resources—which place children with disability at heightened risk of exclusion<sup>78</sup>. By implementing Universal Design for Learning principles and ensuring that assistive devices, connectivity, and appropriate technologies are available, schools can create adaptable learning environments that

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<sup>76</sup> World Health Organization and UNICEF 2022: page x-xi

<sup>77</sup> World Health Organization. 2011. [World Report on Disability](#). World Health Organization, Geneva.

<sup>78</sup> World Bank. 2019. [Every Learner Matters: Unpacking the Learning Crisis for Children with Disabilities](#). World Bank, Washington: page 11

accommodate diverse learning needs.<sup>79</sup> Physical infrastructure and transport, alongside efforts to reduce stigma through access to assistive technology and learning materials, teacher training programs, and curriculum and assessments can enable education systems to address diverse needs.<sup>80</sup> Structural reforms in the education sector can enable learning to be made accessible, with assistive technology for students, and mentoring of teachers on best practice pedagogy.<sup>81</sup> These technological supports, combined with mentoring teachers and support personnel on pedagogy, and resources for differentiated instruction<sup>82</sup>, enable students to access learning materials in formats that suit their individual requirements<sup>83</sup>.

The importance of structural reforms in education to increase access to assistive technology is underscored by global statistics which show that the majority of children with disability never attend school.<sup>84</sup> This data also shows that among those children with disability who do attend school, the rates remain alarmingly high for poor attendance and completion rates. UNICEF estimates children with disability are the largest group excluded or disadvantaged at all levels of education.<sup>85</sup> Structural reforms that prioritise assistive technology alongside teacher training, flexible curriculum development, and accessible infrastructure can reverse these trends. This is particularly critical in rural areas where educational services are limited, in geographic rural and remote areas, where schools may lack electricity and connectivity, and classrooms are overcrowded with approaches not designed for diverse learning needs.<sup>86</sup>

#### *Financial services*

Structural reforms in financial services are essential to addressing the significant barriers that prevent people with disability from fully participating in the economy. Currently, the lack of assistive technology in banking environments – such as induction loop systems at service counters, screen reader-compatible software, and accessible authentication methods – severely limit financial access and opportunity. In some instances, banking software inadvertently blocks assistive technology applications, making internet banking completely inaccessible.<sup>87</sup> By implementing structural reforms that mandate accessibility features like audio assistance, AI-powered tools, and universally designed mobile banking mechanisms, financial institutions can bridge these disability-related barriers. Such reforms would not only ensure compliance with principles but also unlock significant economic opportunities. Older people with impairments and people with disability represent a large, underserved market with substantial purchasing power, which is even greater when it is considered that this could extend to their families, friends, and broader networks.

The economic cost of financial exclusion for people with disability is substantial, affecting not only individuals and their families but also business performance and economic growth. Structural reforms that prioritise accessibility can transform this landscape by requiring banks to invest in both physical and digital infrastructure,

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<sup>79</sup> World Bank. 2019: page 11

<sup>80</sup> World Bank. 2019: page 44

<sup>81</sup> World Health Organization. 2011.

<sup>82</sup> World Bank. 2019: page 78

<sup>83</sup> World Bank. 2019: page 11

<sup>84</sup> United Nations Children's Fund. 2021. [Seen, Counted, Included](#): Using data to shed light on the well-being of children with disabilities, UNICEF, New York: page 79

<sup>85</sup> World Bank. 2019: page 10

<sup>86</sup> World Bank. 2019: page 19-20

<sup>87</sup> Puli et al. 2024: page 6

such as step-free branch access, voice-guided ATMs, and digital platforms compatible with assistive technologies.<sup>88</sup> These reforms would also address the attitudinal barriers that currently discourage financial institutions from viewing people with disability as valuable clients<sup>89</sup>, often due to misplaced assumptions about risk and the perception that this demographic is too small to warrant investment<sup>90</sup>. By establishing clear standards and accountability measures, reforms can shift institutional culture and demonstrate the business rationale for promoting the economic participation of all, including access to talent, improved innovation, enhanced reputation, and increased customer loyalty<sup>91</sup>.

Furthermore, structural reforms that embed responsive design principles that consider all people in the economy into financial services create a multiplier effect that benefits all users while specifically enabling people with disability to participate more fully in the economy.<sup>92</sup> This will be most effective when grounded in robust consultation with assistive technology users and people with disability when planning and designing financial services.<sup>93</sup> When accessibility features are treated as a minimum benchmark rather than optional accommodations, the overall quality of financial services improves for everyone through streamlined processes, intuitive interfaces and multiple access channels<sup>94</sup>. Reforms should also mandate comprehensive staff training to address the current lack of personnel equipped to communicate effectively with people with disability, as well as require meaningful consultation with people with lived experience in the design of financial products and services.<sup>95</sup> By addressing both the technological infrastructure and the human dimensions of financial exclusion, structural reforms can facilitate greater access to credit for self-employed individuals and entrepreneurs with disability, expand the SME lending market<sup>96</sup>, and ensure that assistive technology becomes an integral component of a financial ecosystem that promotes economic growth.

### *Transport*

Structural reforms in the transport sector can break down employment barriers faced by assistive technology users and people with disability, with transport issues affecting 26 percent of disabled jobseekers compared to only 16 percent of those without disabilities.<sup>97</sup> Accessible transport serves as a fundamental enabler of economic participation, and functions as a collective good that benefits society broadly rather than serving merely as an accommodation.<sup>98</sup> When governments and

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<sup>88</sup> International Finance Corporation. 2022. [Inclusive Banking: Emerging Practices to Advance the Economic Inclusion of Persons with Disabilities](#). International Finance Corporation, Washington: Page 19

<sup>89</sup> Puli et al. 2024: page 1

<sup>90</sup> International Finance Corporation. 2022: page 8

<sup>91</sup> International Finance Corporation. 2022: page 8

<sup>92</sup> International Finance Corporation. 2022: page 8

<sup>93</sup> Puli et al. 2024: page 5

<sup>94</sup> Puli et al. 2024: page 8

<sup>95</sup> International Finance Corporation. 2022: page 11

<sup>96</sup> International Finance Corporation. 2022: page 10

<sup>97</sup> Alex, Dockery, Mike, Duncan, Alan, Sanchez Arenas, Valentina, Sotirakopoulos, Panagiotis, Twomey, Chris and Loan Vu, Lili. March 2024. [Employment and Disability in Australia: Improving employment outcomes for people with disability](#). Focus on the states Series, No. 10/24. Bankwest Curtin Economics Centre, Perth: page 15

<sup>98</sup> APEC 2024. [Improving the Accessibility and Inclusivity of Public Transport through New and Emerging Transport Technologies: Best Practice Guidance for Policy Makers](#). The Centre for Technology Infusion, La Trobe University for the APEC Transportation Working Group, APEC Singapore: 16-17.

transport authorities prioritise accessibility in infrastructure development from the outset, the financial burden is minimal, adding only 0.5 to 1 percent to design and development costs.<sup>99</sup> This proactive approach contrasts sharply with retrofitting existing transport systems, which can increase construction costs by five percent or more.<sup>100</sup> By integrating accessibility considerations into initial planning phases, transport reforms create future-proof infrastructure that accommodates diverse mobility needs while remaining economically efficient.

The economic and social returns from accessible transport reforms extend far beyond the disability community, generating substantial benefits for the broader population and economy. Improved transport accessibility directly enhances employment outcomes for people with disability, reducing poverty while simultaneously increasing their independence in accessing education, healthcare, shopping and community activities. These reforms produce measurable quality of life improvements through reduced social isolation, greater autonomy and enhanced mobility. Furthermore, accessible public transport generates broader economic advantages as more people gain the ability to participate in the workforce and travel for business and employment, while simultaneously delivering environmental benefits by reducing reliance on private vehicles, thereby decreasing air pollution and traffic congestion.<sup>101</sup> This demonstrates that investing in transport accessibility represents a win-win scenario where targeted reforms create cascading positive effects with broad economic, social and environmental dimensions and benefits.

#### 4. Deepen Private Sector Engagement

*Deepen private sector engagement with employer partnerships, innovation, technology transfer, investment and production incentives to increase access to assistive technology and economic participation*

##### *Employer partnerships*

Structural reforms that facilitate employer partnerships to enable assistive technology represent a significant economic opportunity for increasing workforce participation among people with disability and older workers. For example, recent research demonstrates that even modest improvements in employment rates could yield substantial economic returns, with research showing that a 10 per cent increase in employment of people with disability could add AUD 16 billion annually to Australia's economic output.<sup>102</sup> However, realising this potential requires addressing systemic barriers that have limited progress, including inadequate access to assistive technology services and supports for employers, alongside support for individuals. The unavailability of assistive devices and technologies, combined with gaps in service delivery and inaccessible physical environments, continues to prevent full participation in society and economic growth. By reforming structures to better connect employers with assistive technology resources, governments and advocacy organisations can help dismantle these barriers and unlock the economic contributions of workers with disability and older people who rely on assistive technology.

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<sup>99</sup> International Finance Corporation. 2021. [Investing for Inclusion: Exploring a Disability Lens](#): A Guide for Investors. IFC, Washington: page 9

<sup>100</sup> International Finance Corporation. 2021: page 9

<sup>101</sup> APEC 2024: 16-17.

<sup>102</sup> Buckland et al 2023, page 13.

Strategic engagement with small to medium enterprises (SMEs) presents a particularly promising avenue for structural reform in assistive technology access. While SMEs generate the majority of employment worldwide, there is scope to better equip SMEs to expand employment opportunities for people with disability and benefit from the growth, talent and innovation these workers bring. The inherent agility of SMEs – with more streamlined contracting processes and capacity for personalised approaches to provide opportunities to all in the workplace – makes them ideal partners for assistive technology initiatives.<sup>103</sup> Structural reforms that simplify access to assistive technology, provide technical guidance, and demonstrate the business case for accessibility can enable SMEs to rapidly implement workplace adjustments and create employment opportunities more responsively than larger organisations. This represents significant potential for expanding economic participation through targeted employer partnerships.

The timing and approach of structural reforms are critical to their effectiveness in increasing economic participation. International research emphasises that employment-oriented interventions often come too late, after individuals have already been marginalised from the labour force, highlighting the importance of early intervention strategies that support transitions to employment for young people with disability.<sup>104</sup> Structural reforms must therefore establish partnerships with employers that emphasise proactive assistive technology provision rather than reactive accommodation. This shift from medical model thinking requires reforms that embed assistive technology access into standard employment practices, address prejudice and stigma, and create sustainable support systems for both employers and workers.<sup>105</sup> By reforming structures to facilitate ongoing employer partnerships around assistive technology, rather than one-off interventions, governments can create lasting pathways to economic participation that benefit people with disability and older workers throughout their careers while generating significant economic returns.

#### *Investment incentives*

Structural reforms that leverage blended finance mechanisms can significantly increase investment in assistive technology by reducing risk and improving returns for private investors. Blended finance programs use concessional capital – including grants, below-market-rate debt, flexible financing terms, and equity with asymmetrical returns – to catalyse donor funds into high-impact investments benefiting people with disability and older adults.<sup>106</sup> This flexible structuring approach can be applied through co-investment arrangements, performance-based incentives, credit enhancements and technical assistance facilities. Grant capital plays a particularly crucial role in the early stages of innovation, serving as a catalyst for new ideas, while patient equity helps viable business models scale to reach hard-to-reach segments such as low-income individuals with disability.<sup>107</sup> With the global assistive technology market valued at USD 26 billion and projected to reach USD 32.5 billion by 2026<sup>108</sup>, these structural financing reforms create the conditions for substantial private sector engagement in a rapidly growing market.

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<sup>103</sup> International Labor Organization. 2023. [Disability Inclusion in Small and Medium Enterprises](#). ILO Global Business and Disability Network, Geneva: page 1

<sup>104</sup> Buckland et al. 2023. Page 15

<sup>105</sup> Buckland et al. 2023: page 27

<sup>106</sup> International Finance Corporation. 2021: page 29

<sup>107</sup> International Finance Corporation. 2021: page 29

<sup>108</sup> International Finance Corporation. 2021: page 9



There is also scope to further investigate the impact of mainstreaming disability considerations into investment frameworks to incentivise assistive technology investment, as well as sector directed investments that specifically target innovations designed to benefit people with disability, including assistive technologies, accessible products, and educational tools and investor support for organisations that nurture these innovations, such as accelerators, incubators, and dedicated investment funds.<sup>109</sup>

For some economies, reforming entrepreneurship support structures to prioritise deal sourcing and procurement processes can create powerful incentives for assistive technology investment. People with disability pursue self-employment at nearly twice the rate of people without disability – approximately 700,000 in the US alone, and can benefit from investment and access to business accelerator programs.<sup>110</sup> Structural reforms could include engaging with communities and networks of entrepreneurs with disability to understand their financing needs, commissioning gap analyses and needs assessments, and ensuring deal sourcing processes are fully accessible.<sup>111</sup> Investors can broaden their networks to include OPDs and establish clear indicators for disability-lens investing, such as founding teams that include people with disability in active roles, direct ownership percentages and investments in assistive technology.<sup>112</sup> By making procurement processes accessible and removing barriers to capital access, these reforms can build a more accessible ecosystem that unlocks both social impact and economic returns in the expanding assistive technology market.

## 5. Harmonised Quality Standards, Market Shaping and Trade

*Create mechanisms for assistive technology market shaping and diversification such as pooled procurement, exporting to high-demand low- and middle-income economy markets, explore APEC economic cooperation and capacity building with harmonised quality standards and regulation.*

### *Harmonised standards*

While beyond the scope of this report, there is opportunity for APEC's Sub-Committee on Standards and Conformance to consider structural reforms centred on harmonising assistive technology quality and safety standards, which represent a catalytic opportunity to expand both access and economic participation for people with disability and impairments. By adopting internationally aligned quality standards – such as those set by the World Health Organization and International Organization for Standardization (ISO) – economies can position their assistive technology sectors for export growth to international markets while simultaneously guaranteeing that products are fit for purpose for people with disability. Evidence demonstrates that harmonised standards can stimulate domestic industry development, particularly when combined with the removal of non-tariff barriers such as Local Content Requirements<sup>113</sup>, which have been shown to negatively impact local assistive technology industries and impede commercial trade relationships.<sup>114</sup> The introduction of economy-wide quality standards that align with international frameworks

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<sup>111</sup> International Finance Corporation. 2021: page 23

<sup>112</sup> International Finance Corporation. 2021: page 15

<sup>113</sup> IA-CEPA Katalis 2024: page 61

<sup>114</sup> IA-CEPA Katalis 2024: page 49

addresses a major barrier to global competitiveness while ensuring devices are safe and meet user needs<sup>115</sup>.

The complexity of achieving harmonised standards extends beyond product quality to encompass classification and terminology systems that underpin international trade.<sup>116</sup> The World Customs Organization's Harmonised System (HS) codes serve as the foundation for preferential origin rules, tariff quotas, and trade statistics, yet determining correct classifications remains challenging and requires expert training.<sup>117</sup> Inconsistencies between economy-specific standards and major international standards – most notably the ISO 9999 and the WHO Assistive Products List – can lead to ambiguity in communication among stakeholders that complicates manufacturing, procurement, and trade processes.<sup>118</sup> Challenges also arise due to incomplete information as neither abovementioned list provides clear descriptions of the included products.<sup>119</sup> This lack of clarity and incomplete product descriptions within existing frameworks underscores the critical need for unified international terminologies and standards to enable systematic evidence generation regarding products' safety and efficacy profiles.

The evolution of assistive technology itself demands adaptable, future-proof standards that can accommodate both traditional assistive products and emerging innovations. The rapid advancement of digital technology has blurred traditional boundaries, with mainstream consumer devices like smartphones now integrating assistive functions previously confined to specialised equipment.<sup>120</sup> Categories such as video communication devices have become outdated as their functions merge into general electronics used across populations, expanding the concept of assistive technology beyond disability-specific applications.<sup>121</sup> This diversification highlights that effective structural reforms must establish flexible frameworks capable of evolving alongside technological progress, ensuring that harmonised standards remain relevant while continuing to facilitate both market access for quality products and meaningful economic participation for people with disability.

Harmonising assistive technology quality standards can also support local manufacturing, greater access to international markets and better ensure safety, efficacy and quality of assistive technology.<sup>122</sup> The digital economic transformation will also create new opportunities for assistive technology innovations<sup>123</sup>, and for

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<sup>115</sup> IA-CEPA ECP Katalis 2024: Inclusion is the Future: Opportunities for Enhanced Bilateral Trade and Investment between Indonesia and Australia in Medical Devices and Assistive Technology. IA-CEPA ECP Katalis, Jakarta. <https://iacepa-katalis.org/en/publications/inclusion-is-the-future-opportunities-for-enhanced-bilateral-trade-and-investment-between-indonesia-and-australia-in-medical-devices-and-assistive-technology> accessed 7 October 2024: page 3

<sup>116</sup> Grainger, A. 2024. '[Customs Tariff Classification and the Use of Assistive Technologies](#)'. World Customs Journal, 18(1), page 3

<sup>117</sup> Grainger, A. 2024: page 3-4

<sup>118</sup> Zhang W and Borg J. 2025. '[Global availability of guidelines related to assistive technology: a scoping review](#)'. Frontiers in Rehabilitation Science. Vol. 6:1581104. doi: 10.3389/fresc.2025.1581104 page 14

<sup>119</sup> Zhang W and Borg J. 2025: page 14

<sup>120</sup> Zhang W and Borg J. 2025: page 14

<sup>121</sup> Zhang W and Borg J. 2025: page 14

<sup>122</sup> World Trade Organization. 2024. WTO, UNCTAD, ILO, ITC call for inclusion of more persons with disabilities in trade. World Trade Organization. [https://www.wto.org/english/news\\_e/news24\\_e/igo\\_23sep24\\_e.htm](https://www.wto.org/english/news_e/news24_e/igo_23sep24_e.htm) accessed 14 July 2025.

<sup>123</sup> Fontana and Mitra. 2023: page 35-36



entrepreneurs with disability and impairments to reach new markets and grow their businesses<sup>124</sup>.

### *Market shaping*

Structural reforms that reshape procurement systems represent a critical pathway to increase access to assistive technology for people with disability and older people with impairments. By reducing transaction costs through simplified and rationalised purchase orders in fragmented markets, these reforms can lower structural barriers that prevent efficient market participation. Building and strengthening procurement mechanisms that facilitate coordinated ordering and value-based negotiations can fundamentally transform how assistive products reach end users. Pooled procurement approaches, in particular, can allow buyers to leverage collective purchasing power to negotiate better prices and terms, directly addressing the affordability challenges that currently exclude the majority of potential users – as evidenced by Indonesia, where high prices mean 60% of people with moderate to high disability support needs requiring assistive technology are not using any devices.<sup>125</sup>

Increasing competition and reducing geographic market concentrations are strategies for breaking down barriers to assistive technology access. Market shaping interventions that can bring lower-cost, high-quality manufacturers into global markets can help counteract the monopolistic conditions that drive prices beyond the reach of most households in low- and middle-income economies.<sup>126</sup> By establishing standardised specifications across markets and developing quality assessment mechanisms with transparent dissemination of results, these reforms can reduce information asymmetries that currently favour established suppliers and limit market entry.<sup>127</sup> The development of market intelligence reports and demand forecasts can further enhance information sharing between buyers and suppliers, creating conditions for more competitive pricing and innovation that better serves the needs of people with disabilities and older adults with impairments.<sup>128</sup>

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<sup>124</sup> Ellard, Angela. 2024. Hybrid Event on Disability Inclusive Trade: Remarks by Deputy Director General Angela Ellard 3 December 2024. World Trade Organization. [https://www.wto.org/english/news\\_e/news24\\_e/ddgae\\_09dec24\\_e.htm](https://www.wto.org/english/news_e/news24_e/ddgae_09dec24_e.htm) accessed 14 July 2025

<sup>125</sup> IA- CEPA ECP Katalis. 2024: page 3

<sup>126</sup> Savage, Margaret, Albala, Sarah, Seghers, Frederic, Kattel, Rainer, Liao, Cynthia, Chaudron, Mathilde and Afdhila, Novia. 2021. '[Applying market shaping approaches to increase access to assistive technology in low and middle income countries](#)'. Assistive Technology. Vol. 31, No 51: page 5124

<sup>127</sup> Savage et al. 2021: page 5125-6

<sup>128</sup> Savage et al. 2021: page 5125-6

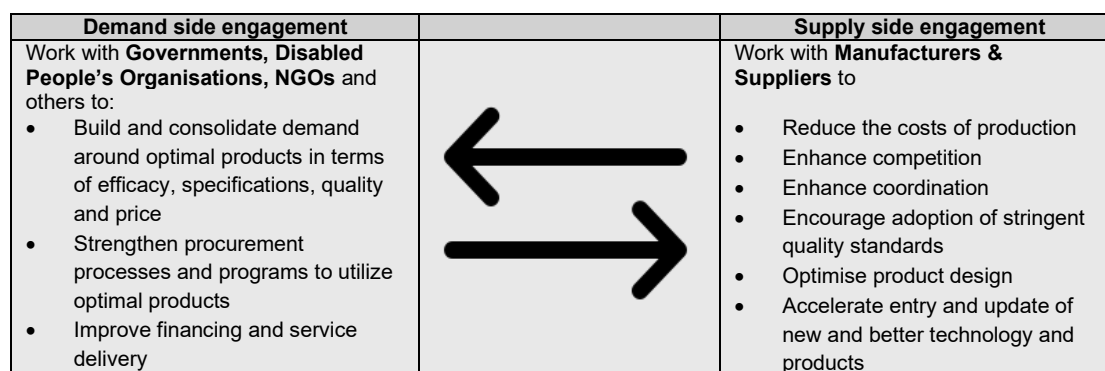


Figure 1: Engaging both demand and supply side for market shaping<sup>129</sup>

These structural reforms can directly enable greater economic participation for people with disability by making assistive technology more affordable and available. When procurement mechanisms incorporate differential pricing agreements and volume guarantees that balance supplier and buyer risks, they can create sustainable market conditions that support both supply-side investment and demand-side access. However, the impact of these market-shaping interventions extends beyond individual product access. This is particularly if they are accompanied by enabling environments that include service delivery infrastructure for maintenance and replacement, awareness-building campaigns to reduce stigma, and accessible design approaches for public spaces.<sup>130</sup> Successfully implemented, coordinated reforms can transform the assistive technology market from one that serves only the wealthiest citizens to one that enables participation across the population in the economy.

### *Global Market Opportunities*

While beyond the scope of this report, there is opportunity for APEC's Committee for Trade and Investment to consider the potential impact of trade reforms relating to assistive technologies to expand economic participation. For example, while 27 per cent of trade agreements globally currently contain disability-related provisions, there may be opportunities to promote greater uptake of accessibility measures.<sup>131</sup> There is also scope for economies to consider tariff classification and duty challenges facing assistive devices and other market access provisions.<sup>132</sup> Further examination of the impact of non-tariff barriers on assistive technologies could also unlock greater commercial opportunities.

<sup>129</sup> Savage et al. 2021: page 5126

<sup>130</sup> Savage et al. 2021: page 5125-6

<sup>131</sup> Bahri, Amrita. 2024. Trade Agreements and Disability Inclusion: Demystifying the Disconnect Between Barriers and Policy Solutions. United Kingdom Foreign, Commonwealth and Development Office and Trade and Investment Facility (TAF2+), London: page 2

<sup>132</sup> Bahri, Amrita. 2022: page 8

## Future Directions

APEC has the opportunity to deepen this inaugural policy exchange on access to assistive technology with APEC member economies, global experts and institutions with future dedicated projects and dialogues. It is an issue relevant to the Economic Committee's Enhanced APEC Agenda for Structural Reform (SEAASR). It is also a topic of interest to APEC member economies, particularly given the increasing prevalence of aging demographics and populations with disability in all APEC economies. Further APEC engagement can contribute to future Economic Committee discussions on structural reforms that enable economic growth. The breadth of the connections into enabling economic growth means further APEC engagement would also be relevant to other APEC fora, including CTI, and CTI and SCE subfora.

Alongside the recommendations for structural reforms, participating APEC member economy representatives and global experts identified a series of topics for further consideration in APEC across relevant fora and subfora.

- Effective approaches for the participation of people with disability in assistive technology structural reforms, innovation, business, trade, and regulatory formation;
- Economic empowerment for all, the care economy and access to assistive technology;
- APEC assistive technology market growth opportunities, mapping innovation, manufacturing and procurement incentives and enablers, including for pooled procurement;
- Public-private sector dialogues on access and innovation in assistive technology, entrepreneurship and employment;
- Mainstreaming Assistive Technology and Universal Design in Physical and Digital Infrastructure;
- Incentives for digital innovations that create more affordable assistive technology;
- Market shaping, comparative procurement models and growth, including through exports to LMIC markets;
- Facilitating greater global market access to assistive technology products;
- Approaches to harmonise assistive technology standards.

The international policy dialogue on access to assistive technology is increasing, given the significance of this as a critical issue for social and economic participation globally. APEC policy dialogues and initiatives can be further enriched through engagement with international efforts and global initiatives.

The Economic Committee is well placed to collaborate with other fora on future work to increase access to safe, quality, affordable and fit for purpose assistive technology as an enabler of economic growth for all in the APEC region and around the world.

## ANNEX 1: INFORMAL REFERENCE GROUP TERMS OF REFERENCE



### STRUCTURAL REFORMS AND DISABILITY: INCREASING ECONOMIC PARTICIPATION THROUGH ACCESS TO ASSISTIVE TECHNOLOGY PROJECT INFORMAL REFERENCE GROUP

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#### TERMS OF REFERENCE

In 2025, Australia will undertake a project with Asia-Pacific Economic Cooperation (APEC) forum, Structural Reforms and Disability: Increasing Economic Participation through Access to Assistive Technology.

The purpose of the project is to build the capacity of APEC economies to implement economic structural reforms, with a specific focus on access to assistive technology as a precondition for inclusion. It will be the first project under the auspices of APEC's Economic Committee on disability and structural reform and access to assistive technology.

The project will include the establishment of an Informal Reference Group (IRG) to provide strategic guidance and input to support project implementation.

IRG members strategic guidance will involve providing advice on the following:

- Strategic context and emerging issues in disability equity and rights and access to assistive technology in APEC economies and internationally
- Economic and social structural reforms that increase access to assistive technology, promote disability equity and rights
- OPD leadership and stakeholder engagement
- Inclusive and accessible consultations.

The IRG will be gender-balanced and diverse, including representatives from organisations of people with disabilities in APEC economies and global experts. It will include people with various types of disabilities and leaders of disability rights movement organisations, alongside experts from global and or regional organisations leading access to assistive technology and disability inclusion.

Members will serve in a voluntary and personal capacity. Meetings will be virtual. The IRG will meet up to three times from June to September 2025. IRG members may be invited to attend a project workshop alongside APEC Senior Officials Meeting in Korea in August 2025 (attendance virtual or in person).

The work of the IRG will be supported by DFAT's nominee, Strategic Development Group, including developing meeting agendas, collating and distributing meeting papers, and tracking agreed actions and inputs.

IRG members are invited to attend all meetings. Proxies can occur where agreed prior with Strategic Development Group.

Observers may include staff from Australia's Department of Foreign Affairs and Trade and Department of Social Services.

## ANNEX 2: POLICY DIALOGUE WORKSHOP AGENDA



### WORKSHOP AGENDA

#### APEC Structural Reform and Disability: Increasing Economic Participation Through Access to Assistive Technology

|                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>FORMAL OPENING</b><br/>9:00 - 9:30<br/>30 mins</p>         | <p>Opening Remarks</p> <ul style="list-style-type: none"> <li>- Ms Katherine Vouzas, Department of Foreign Affairs and Trade, Australia</li> </ul> <p>Overview</p> <ul style="list-style-type: none"> <li>- Moderator, Ms Sarah Goulding, Strategic Development Group</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <p><b>Policy Dialogue 1</b><br/>9:30 - 10:45<br/>1hr 15 mins</p> | <p>Assistive Technology – A Precondition for Inclusion<br/>Dialogue Question: How does access to assistive technology connect with broader social and economic structural reforms that promote disability inclusion? Assistive technology in context - what are the structural reforms that economies can do/are doing to promote broader disability inclusion and how does that support access to AT?</p> <p>Speaker Introductions- Moderator - 5 minutes</p> <p>Keynote Panel- 15 mins</p> <ul style="list-style-type: none"> <li>- Ms Miyeon Kim, Chair UN Committee on the Rights of Persons with Disabilities</li> <li>- Mr Puay Tiak Lim, Chair ASEAN Disability Forum</li> </ul> <p>Expert Panel – 30 mins</p> <ul style="list-style-type: none"> <li>- Dr Yanan Luo, Assistant Dean APEC Health Science Academy China<br/>Unmet Needs for Assistive Technology for People of Determination and Efforts to Bridge this Gap in China</li> <li>- Ms Sreerupa Mitra, Regional Lead Disability Inclusion, UNICEF</li> <li>- Rapunzel De Leon, Senior Policy Officer APEC, MFAT and Ministry of Disabled People: Whaikaha</li> </ul> <p>Response</p> <ul style="list-style-type: none"> <li>- Keynote panellists – 5 mins</li> </ul> <p>Open Q&amp;A – 20 mins<br/>Summary key messages – Moderator</p> |
| <p><b>MORNING TEA</b><br/>10:45 - 11:15</p>                      | <p>Networking</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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| <p>Policy Dialogue 2<br/>11:15 - 12:30<br/>1 hour 15 mins</p> | <p>Assistive Technology- Understanding Challenges in Access<br/>Dialogue Question: What are the barriers and enablers in accessing high quality, safe, innovative and affordable assistive technology? What are the structural reforms economies have done/ can do increase access?</p> <p>Speaker Introductions- Moderator - 5 minutes</p> <p>Keynote Panel – 15 mins</p> <ul style="list-style-type: none"> <li>- Dr Dante Rigmalia, Chair National Commission on Disabilities, Indonesia</li> <li>- Mr Damian Griffis, CEO First Peoples Disability Network, Australia</li> </ul> <p>Expert Panel</p> <ul style="list-style-type: none"> <li>- Mr. Bobby C. Siagian, Assistant Deputy Minister for Regional Economic Cooperation, Indonesia – 10 mins</li> <li>- Ms Maureen Haan, President and CEO Canadian Council on Rehabilitation and Work, Canada – 10 mins</li> <li>- Mr Alvin Tan, Assistant Director, Accessibility and Assistive Technology, SG Enable, Singapore – 10 mins</li> </ul> <p>Response</p> <ul style="list-style-type: none"> <li>- Keynote panellists – 5 mins</li> </ul> <p>Open Q&amp;A- 20 mins<br/>Summary key messages - Moderator</p>                                                                                                                                                               |
| <p>LUNCH<br/>12:30 - 1:30<br/>1 hour</p>                      | <p>Networking</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <p>Policy Dialogue 3<br/>1:30 - 2:45<br/>1 hour 15 mins</p>   | <p>Assistive Technology- Innovations in a Digital Era<br/>Dialogue Question: What are the ways innovation can improve access to assistive technology? Highlight new procurement approaches, approaches to identifying and responding to demand and markets, new products and services and new production technologies. What are the structural reforms economies have done/ can do increase access?</p> <p>Speaker Introductions- Moderator- 5 minutes</p> <p>Keynote Presentation– 15 mins</p> <ul style="list-style-type: none"> <li>- Mr Pascal Bijleveld, CEO ATscale– 15 mins</li> </ul> <p>Expert Panel</p> <ul style="list-style-type: none"> <li>- Mr Dandy Victa, OIC-Deputy Executive Director III and Chief of the Technical Cooperation Division of the National Council on Disability Affairs (NCDA) of the Philippines – 10 mins</li> <li>- Mr Alexander Abel, Assistant Secretary Assistive Technology Branch, Department of Social Services, Australia – 10 mins</li> <li>- Ms Reena Lee, Director General International Relations, Rehabilitation International Korea, Deputy Secretary General, Asia and Pacific Disability Forum – 10 mins</li> </ul> <p>Response</p> <ul style="list-style-type: none"> <li>- ATscale CEO – 5 mins</li> </ul> <p>Open Q&amp;A- 20 mins<br/>Summary key messages – Moderator</p> |

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|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AFTERNOON TEA<br>2:45 - 3:15<br>30 mins         | Networking                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Policy Dialogue 4<br>3:15 - 4:30<br>1hr 15 mins | <p>Assistive Technology- Addressing Barriers and Opportunities for Investment<br/>Dialogue Question: What is important for working well with the private sector? What are effective incentives for business/ industry investment into AT goods and services as a sector of the economy? What are the structural reforms economies have done/ can do increase access?</p> <p>Speaker Introductions- Moderator - 5 minutes</p> <p>Keynote Presentation</p> <ul style="list-style-type: none"> <li>- Charlotte McLain Nhlapo, Global Lead on Disability, World Bank– 15 mins</li> </ul> <p>Expert Panel</p> <ul style="list-style-type: none"> <li>- Mr Won Cho, DLG CEO - 10 mins</li> <li>- Mr. Young Suk Lee, Chair Disabled Peoples International Asia-Pacific, President Disabled Peoples International, Korea – 10 mins</li> </ul> <p>Fireside Discussion</p> <ul style="list-style-type: none"> <li>- 10 mins</li> </ul> <p>Open Q&amp;A- 20 mins</p> <p>Summary key messages- Moderator</p> |
| CLOSING<br>4:30 - 5:00<br>30 mins               | <p>Monitoring and Evaluation, Next Steps</p> <ul style="list-style-type: none"> <li>- Moderator</li> </ul> <p>Closing Remarks</p> <ul style="list-style-type: none"> <li>- Mr. Yun Junhyuk, Deputy Director, Policy Coordination Division, Preparatory Office for APEC 2025, Ministry of Foreign Affairs, Korea</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

## ANNEX 3: POLICY DIALOGUE WORKSHOP PRESENTERS



### SPEAKER BIOGRAPHIES

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#### **APEC Structural Reform and Disability: Increasing Economic Participation Through Access to Assistive Technology**

**Ms. Miyeon Kim** is an international law expert and long-standing advocate for the rights of persons with disabilities and women. She currently serves as the Chair of the UN Committee on the Rights of Persons with Disabilities (CRPD). With over 30 years of experience, Ms Kim has worked in the areas of disability, gender and intersectional human rights. She played a key role in the drafting of Article 6 of the CRPD, which addresses the rights of women and girls with disabilities. Her work has focused on improving the rights and visibility of marginalised groups facing multiple and intersecting forms of discrimination, including older persons, migrants, and refugees with disabilities. Ms. Kim is an active member of the CRPD Working Group on General Comment No.11, which addresses the rights of persons with disabilities in situations of risk and humanitarian emergencies, particularly in the context of disasters and climate crisis. She is also deeply involved in current global discussions on artificial intelligence and disability rights and has delivered multiple speeches on the implications of AI for persons with disabilities and continues to advise on the application of the CRPD to digital transformation and emerging technologies. In Korea, Ms. Kim serves as an Advisory Member of the Supreme Court's Sentencing Commission and its Audit Committee. She is also an International Expert Advisor to the National Human Rights Commission of Korea and a disability advisor to the Korea International Cooperation Agency (KOICA). In February 2021, she was selected as a Gold Star of the US Department of State's International Visitor Leadership Program (IVLP) and delivered a series of lectures across the United States and internationally on disability rights.

**Mr. Lim Puay Tiak (PT)** is a founding member of the ASEAN Disability Forum (ADF) which was established in 2011 as a regional network covering 10 ASEAN economies, to advocate for disability inclusive policy formulation and implementation. Since 2017, Mr Lim has served as the ADF Chair and during this period Mr Lim was actively involved in drafting the ASEAN Enabling Masterplan 2025 (adopted in 2018) which serves as a blueprint for a more disability inclusive ASEAN Community. Mr Lim is also a Board member of the International Disability Alliance (IDA) which was established in 1999 as a network of global and regional Organisation of People with Disabilities (OPDs). In addition, Mr Lim has served on the Executive Board of the Asia Pacific Disability Forum (APDF). As a wheelchair user, Mr Lim aims to make a difference in the lives of people with disabilities and empower them to be contributing members of the community.

**Dr Yanan Lu** is the Assistant Dean APEC Health Science Academy China, Department of Global Health, School of Public Health, Peking University China. Her research focuses on disability prevention and control, and the life course approaches to healthy aging and cognitive decline prevention. In the past five years, she has led over 10 projects funded by the National Natural Science Foundation of China and the



National Social Science Fund of China, etc. She has published over 70 articles in Chinese and English as first author/corresponding author. She also serves as Deputy Secretary-General/Member of the Disability Prevention and Control Committee of the Chinese Preventive Medicine Association, a member of the Mental Health Professional Committee of the Chinese Medical Women's Association, an Editorial Board Member of BMC Medicine, and an Associate Editor for BMJ Mental Health.

**Ms Sreerupa Mitra** is the UNICEF Regional Disability Specialist for UNICEF East Asia and the Pacific Region. She leads UNICEF's regional advocacy and engagements around disability inclusion and supports UNICEF efforts in the Region around the implementation of the Convention on the Rights of Persons with Disabilities. Previously, as part of the Office of the UNICEF Executive Director, she supported global efforts on the implementation of UNICEF's Disability Inclusion Policy and Strategy. During her career, Sreerupa has been involved in supporting the development and scaling up of disability inclusive programs and policies and embedding the principles of accessibility and universal design in policies, programs and services in multiple economies in Asia, Africa, Arab States, Europe and Central Asia. Her work has involved building partnerships among UN agencies, governments, and organisations of persons with disabilities. Sreerupa is from India and holds an MSc in Development Management from the London School of Economics, UK and an MA in Social Work from the Tata Institute of Social Sciences, India.

**Ms Rapunzel De Leon** is the Senior Policy Officer APEC Section in the Ministry of Foreign Affairs and Trade (MFAT) in New Zealand.

**Dr Dante Rigmalia** is the Chair of the National Commission on Disabilities of the Republic of Indonesia. She is a person with hard of hearing and dyslexia. Ms Rigmalia currently lives in Jakarta. She completed a PhD on Guidance and Counselling from Universitas Pendidikan Indonesia. She has been actively participating in the promotion, respect, and fulfilment of the rights of persons with disabilities since 2002. She contributed to developing the manual toolkit for inclusive education for UNESCO and IDP Norway, and a toolkit for the teaching guidance on HIV/AIDS Prevention for UNESCO Indonesia-Philippines and Thailand. She wrote a book titled "Bimbingan Kelompok melalui Permainan untuk Meningkatkan Keterampilan Sosial Siswa Sekolah Dasar" (Group Guidance through Games to Improve Elementary School Students' Social Skills). She received an award as an outstanding teacher. She is committed to leading her institution well and effectively contributing to disability equity locally, within Indonesia, regionally, and internationally.

**Mr. Damian Griffis** is the CEO First Peoples Disability Network in Australia, the peak organisation representing First Nations people with disabilities in Australia. He is a leading advocate for the rights of First Nations people with disabilities and winner of the 2014 Australian Human Rights Tony Fitzgerald Memorial Award, which is awarded to those with a track record in promoting and advancing human rights in the Australian community on a not-for-profit basis.

**Mr. Bobby C. Siagian** is currently serving as the Assistant Deputy Minister for Regional Economic Cooperation at the Coordinating Ministry for Economic Affairs of the Republic of Indonesia. He has extensive experience in regional and international economic cooperation, having previously served as Assistant Deputy Minister for Asia Economic Cooperation for twelve years and as Acting Economic Cooperation Director for Europe, Africa, and the Middle East Area in 2018. Throughout his career, he has supported high-level bilateral engagements involving the President of

Indonesia and foreign leaders, and led the Indonesian delegation in the Trilateral Cooperation Meeting between Indonesia, Timor-Leste, and Australia from 2016 to 2019.

**Ms Maureen Haan** has served as the President and CEO of the Canadian Council on Rehabilitation and Work (CCRW) since 2012. Established in 1976, CCRW is Canada's only organisation solely dedicated to the vision of equitable and meaningful employment for people with disabilities. Under Maureen's leadership, CCRW continues to champion employer engagement and inclusive hiring practices through innovative programs, research and proven results that remove systemic barriers to employment. Maureen is a recognised leader in the cross-disability sector. She serves as Canada's civil society lead on Article 27 (Work and Employment) of the United Nations Convention on the Rights of Persons with Disabilities (CRPD), where she continues to advance global dialogue on inclusive employment. In October 2024, Maureen joined Canada's G7 delegation in Italy, presenting on disability and employment. She emphasised measurable goals for inclusive employment, contributing to the Solfagnano Charter and thereby shaping international disability policy and collaboration. Maureen also contributed to international disability employment discussions through her involvement with APEC. In 2025, she was selected to present CCRW's work on inclusive employment as an Innovative Practice at the prestigious Zero Project Conference in Vienna, Austria. Maureen's leadership has included co-leading the Disability and Work in Canada initiative, including shaping the Pan-Canadian Strategy on Disability and Work, as well as serving as a Board member of Accessibility Standards Canada and the Canadian Association of Supported Employment (CASE). She was also appointed to the Minister's Disability Advisory Group (MDAG) at the onset of the COVID-19 pandemic, offering guidance on pandemic response and long-term policy solutions. In recognition of her dedication to disability rights and gender equity, Maureen was the recipient of the inaugural Hummingbird Award from DAWN Canada. Maureen began her career in the Deaf community and is fluent in American Sign Language (ASL).

**Mr Alvin Tan** is the Assistant Director, Accessibility and Assistive Technology, SG Enable, Singapore, an agency dedicated to enabling persons with disabilities in Singapore. Mr. Tan brings his skills and knowledge in technology foresight to the assistive technology domain and seeks to infuse a fresh perspective on the acceptance and use of AT in Singapore. He strongly believes in the potential of technology for social good, and through technology, he seeks to empower persons with disabilities, enhance their capabilities, and help them be more engaged with the society.

**Mr Pascal Bijleveld** joined ATscale as its first CEO in November 2021. Pascal brings to this partnership 20 years of leadership experience in global public health at economy, regional and global levels. He has straddled the private and public sectors, embracing market-shaping strategies linked to deep systems transformations. Most recently, Pascal was the Director of Program Support at Gavi, the Vaccine Alliance. He led Gavi's largest team, responsible for investments to drive greater coverage and equity in access to vaccines. In 2020/2021, Pascal also directed the Covid-19 vaccine delivery efforts across all Gavi-eligible economies under the auspices of the Covax Facility. From 2013 to 2017, he led the Reproductive, Maternal, Newborn and Child Health Strategy and Coordination Team, a multi-agency team hosted by UNICEF in New York. This team successfully managed a USD 250 million trust fund used to support economies accelerate progress in reducing maternal and child mortality by making life-saving commodities more accessible through innovative market-shaping approaches. In this role, Pascal also co-led with the World Bank, the business development team that established the Global Financing Facility. Before

moving to New York, Pascal spent several years in Africa with the Clinton Health Access Initiative as Director in Rwanda; Regional Director for West & Central Africa based out of Ghana; and as Executive Vice-President for health systems strengthening work, focusing in particular on health financing, based out of Kenya. From 2003 to 2007, he worked for the World Health Organization in Geneva as advisor to the Assistant Director General for General Management and acting Director General. As a management consultant with McKinsey & Co., from 2000 to 2003, Pascal spent a year helping launch the Global Fund to Fight AIDS, TB and Malaria. Pascal holds a Master's degree in International Relations from the London School of Economics and Political Science.

**Mr Dandy C. Victa** currently serves as the OIC-Deputy Executive Director III and Chief of the Technical Cooperation Division of the National Council on Disability Affairs (NCDA) of the Philippines. With nearly three decades of dedicated government service, he leads initiatives advancing disability rights, accessible education, inclusive employment, and international cooperation. He has twice served as OIC-Executive Director, steering the Council's strategic direction, operations, and stakeholder coordination during leadership transitions. Mr Victa is the designated National Disability Focal Point for the Asian and Pacific Decade of Persons with Disabilities (2023–2032) and served as the National Expert for the Philippines in the Asian Productivity Organization's research on Enhancing Disability-Inclusive Employment Policies in Asia. His published works include "A Case Study of the Philippines" in *Enhancing Disability-Inclusive Employment Policies in Asia* (APO, 2025), "Coping With Job Insecurity: Examining Anxiety, Financial Security, and Social Support Among Contract Workers in the Philippine Government" (*Ignatian International Journal for Multidisciplinary Research*, 2024), and "Seeing Through Their Vision: Library Needs, Expectations and Experiences of Learners With Visual Impairment" (2019). He also authored *Work-At-Home Entrepreneurship: A Practical Guide for Filipinos with Disabilities* (2014). Mr Victa holds a Master's degree in Entrepreneurship and Innovation from Swinburne University of Technology in Australia and is currently pursuing a Master's degree in Clinical Psychology at the Polytechnic University of the Philippines. He is a licensed, professional teacher, career service executive, and an advocate for empowering persons with disabilities through evidence-based policy, inclusive governance and accessible livelihood programs.

**Mr Alexander Abel** is the Assistant Secretary Assistive Technology, Department of Social Services Australia.

**Ms Reena Lee** is the Director General International Relations, Rehabilitation International Korea, Deputy Secretary General, Asia and Pacific Disability Forum. She is a Former Secretary General, Korean Disability Forum. As a disability professional and social worker with hands on experience in the local authority environment in the United Kingdom for five years, she obtained in-depth practical knowledge on policies and procedures, along with methods for anti-oppressive practices, capacities for building partnerships with Government departments and NGOs and a deep understanding and preparation of official and legal affairs. She has contributed to international partnership work of the Korean disability community to promote CRPD and SDGs through strengthening partnership with UN ESCAP and international and regional disability communities. Recent major activities include hosting 'Global IT Challenge for Youth with Disabilities' as a side event of the APEC Summit 2025 in October in Korea, hosting a Fire-side Chat on Digital Equity with ILO and CRPD members at the Global Disability Summit, Berlin 2025 amongst other various domestic and international cooperation on Disability-inclusive development and SDGs, incl. North-East Asia SDG Forum, UNESCAP Working Group. Majoring

Social Work (MA) with specialty in disability in the University of Hull, in the U.K. from 2000 to 2003. She received an Award from the Ministry of Health and Welfare for her outstanding contribution to promoting the adoption of the Decade in December 2012.

**Ms Charlotte McClain-Nhalpo** is the Global Lead on Disability at the World Bank. In this position she provides high level support to operational teams across the institution to ensure that Bank policies, programs and projects take people with disabilities into consideration. Before joining the World Bank, she served as USAID's coordinator for disability and inclusive development, appointed by U.S. President Barack Obama in 2011 to lead the government's efforts in disability inclusive development, from developing policies and strategies to technical assistance for program implementation. Prior to that, she worked as a Senior Operations Officer at the Bank to integrate disability inclusive development into operations in the East Asia Pacific and Africa regions. Earlier in her career, she was appointed by President Nelson Mandela to the South African Human Rights Commission focusing on social and economic rights, disability rights, and child rights. From 1996 to 1998, she also served as a project officer on child protection for UNICEF. Ms. McClain-Nhalpo holds a Master's Degree in international law and administration from the University of Warsaw, Poland, and an LLM from Cornell Law School.

**Mr Won Cho** is the CEO of DLG and an Attorney at Law. He created and leads the D-TECH initiative, which supports assistive technology startups through a competition aimed at discovering early-stage innovators transforming the lives of persons with disabilities.

**Mr. Young Suk Lee** is Chairperson of Disabled Peoples International Asia Pacific and president of Disabled Peoples International Korea, where he has led domestic and international advocacy efforts to promote the rights of persons with disabilities. With over 20 years of experience in disability rights, Mr. Lee has served as a member of the National Committee on Disability Policy Coordination, a high-level advisory and decision-making body under the Prime Minister's Office, contributing to domestic strategies for disability inclusion and rights protection. His work focuses on inclusive policy development, CRPD implementation monitoring, and cross-border cooperation among OPDs (Organisations of Persons with Disabilities).

## **ANNEX 4: LIST OF PARTICIPATING ECONOMIES AND ORGANISATIONS**

Australia  
Brunei Darussalam  
Canada  
People's Republic of China  
Indonesia  
Japan  
Republic of Korea  
Malaysia  
New Zealand  
Papua New Guinea  
The Republic of the Philippines  
Singapore  
Chinese Taipei  
Thailand  
United States  
Viet Nam

Asia and Pacific Disability Forum  
ASEAN Disability Forum  
ATscale Global Partnership for Assistive Technology  
Canadian Council for Rehabilitation and Work  
Chair of the UN Committee on the Rights of Persons with Disabilities  
Disabled Peoples International Asia Pacific  
Disabled People's Korea  
Department of Spinal Cord Injury Rehabilitation at the National Rehabilitation Centre  
DLG Law Corporation  
First People's Disability Network, Australia  
Incheon Differently Abled Federation (IDAF)  
Korean Employment Agency for Persons with Disabilities  
Korean Blind Union  
Rehabilitation International Korea  
UNICEF  
World Bank

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