Briefing Paper

Digital Assistive Technology: An essential tool to support people with disabilities and older people to live independently

October 2024

1: Introduction

The purpose of this briefing paper is to contextualise the current state of provision of digital AT supports and services nationally, and to identify some of the challenges which may be addressed through the implementation of the forthcoming National Disability Strategy.

FreedomTech is a partnership established between Enable Ireland and the Disability Federation of Ireland in 2016, when we published Assistive Technology for People with Disabilities and Older People: A Discussion Paper. We also founded CHAT: Community Hub for Assistive Technology. This is a Community of Practice that welcomes all stakeholders and meets 3 times/year, through a mix of in-person, online and hybrid events.

2: What is Digital Assistive Technology?

Digital Assistive Technology (AT) offers a powerful range of solutions to support people to live more independently and participate in daily life: at home, in education, at work and in their communities. Digital AT includes communication devices for people who are non-speaking, alternative computer/smart phone access methods such as screen readers, speech recognition and eye gaze technologies for people who might struggle with standard keyboards, mice and touchscreens and a vast and expanding array of smart home and environmental control solutions that enable people to open and close windows, curtains and doors, and turn on/off lights and heating systems in their homes. Smart speakers such as Amazon Alexa and Google Home enable people to use their voices to control all the aforementioned items, as well as offering easy access to phone calls, messaging and the vast array of social media that now play a significant role in many people's daily lives.

Reading supports are readily available through the use of software such as Grammarly and Artificial Intelligence apps such as CHAT GPT can create easy read versions of documents, supporting better understanding. An increasing array of free/low-cost solutions include mind mapping and task management apps can make a significant and positive impact on individuals' ability to learn, work and live with greater independence and autonomy.

There has been a significant cost reduction in digital assistive technologies in recent years, due mainly to the incorporation of universal design principles and associated in-built accessibility within mainstream products, and as a result, their ability to take the place of dedicated digital AT solutions. For example, the average cost of a digital AT solution across 77 recipients within the AT Passport project (see Section 5 below for further details) was €680 with a range of as low as €40 to the highest AT solution which cost just over €2,000. Participants were people with diverse needs due to lived experience of physical disability, intellectual disability, brain injury, stroke and Multiple Sclerosis.

Of particular interest is the fact that all mainstream operating systems (Microsoft, Apple and Google) now feature a diverse range of free, built-in accessibility features, blurring the lines in a positive way between accessible technologies and assistive technologies and reducing the cost for end users.

See end of paper for 3 use cases of digital AT in action.

3: Digital AT in Ireland

Despite evidence of their effectiveness and impact on quality of life, Digital AT services and supports in Ireland are limited, fragmented and challenging to navigate. Where they exist, services offer real and practical solutions to children and adults to enable them to

participate more meaningfully and successfully in their daily lives. It is often extremely difficult for individuals who require AT to:

- Find out about its existence
- Optimise their access to accessibility features in-built in the devices they already use (e.g.: Smart phones, tablets, laptops and gaming devices)
- Access reliable information and advice
- Secure an assessment
- Secure training and technical support
- Connect with an AT peer network, sharing valuable insights and tips on how to get the most out of technology solutions, and how to source cost-effective solutions

In particular, if reliable and high-quality information and advice were available, they would most likely increase the ability of prospective users to find solutions independently and reduce their reliance on stretched services. This is particularly important in the context of the increasing affordability of many digital AT solutions.

4: National Disability Strategy and Digital AT

We warmly welcome the impending publication of the National Disability Strategy by the Department of Children, Equality, Disability, Integration and Youth which identifies AT as a 'key enabler'.

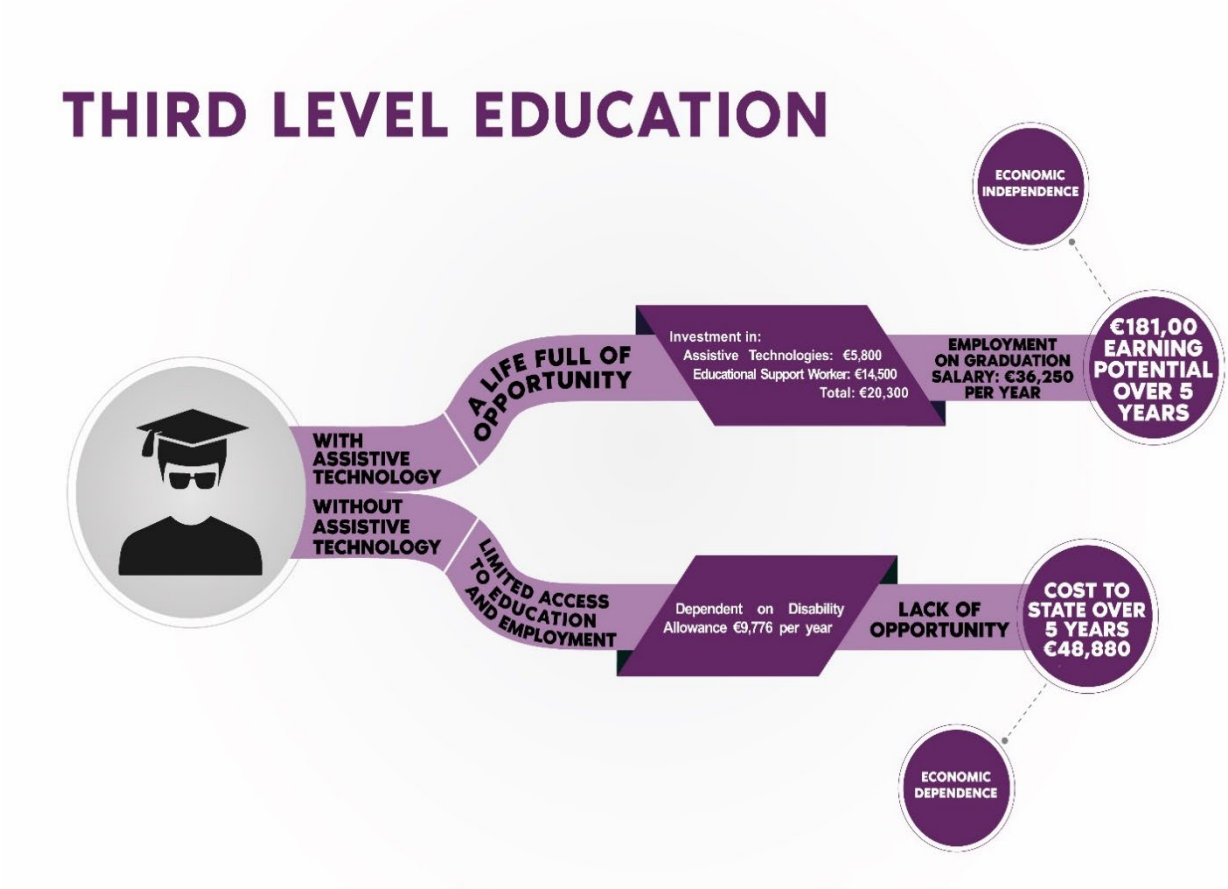
A series of recommendations to address the need for a national AT ecosystem were published in 2017 by FreedomTech, a partnership between Enable Ireland and the Disability Federation of Ireland: Assistive Technology for People with Disabilities and Older People: A discussion paper. These recommendations are, we believe, still relevant and have the potential to inform the development of an implementation plan for the forthcoming National Disability Strategy.

Currently AT services and supports are siloed within health, education, employment and local government. There is a lack of joined-up thinking, resulting in a duplication of effort across these domains. The Citizens Information Service's closure of AssistIreland, a dedicated assistive technology website in 2019 removed a key resource at a time when digital AT was becoming more affordable and accessible via mainstream vendors. Data collection is currently extremely limited, but we know that in employment, employers and employees have a low level of awareness of how digital AT can transform employment opportunities; in education, timely access to AT can prevent students from falling behind their peers and supports educational success and in health, the availability of informed professionals (including personal assistants and key workers) can accelerate participation in all spheres of life, enhancing economic independence and reducing reliance on the State.

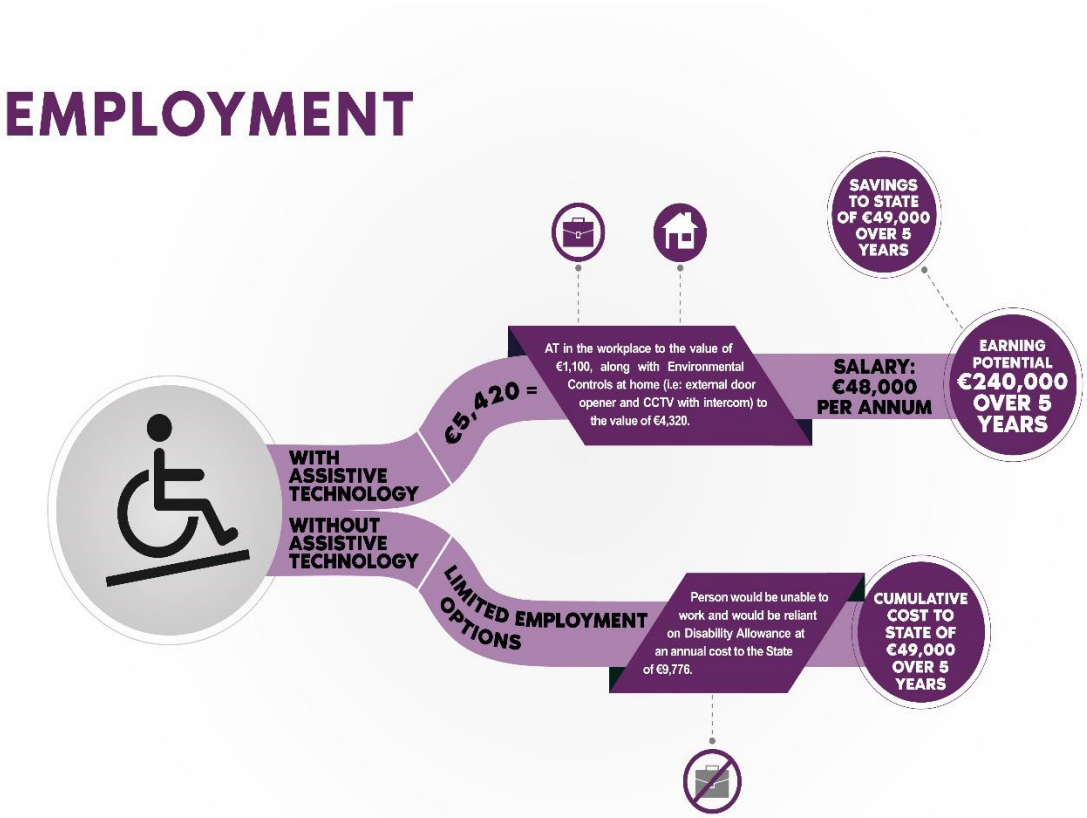
There are some positive initiatives (outlined in section 4.2 below) are pilot-based, with minimal if any cross-sectoral collaboration, and without any clear path to sustainable funding.

The next section illustrates the impact of timely and targeted AT support on the recipients' success in education, employment and independent living: published in Assistive Technology for People with Disabilities and Older People: A Discussion Paper, published jointly by the Disability Federation of Ireland and Enable Ireland in 2016.

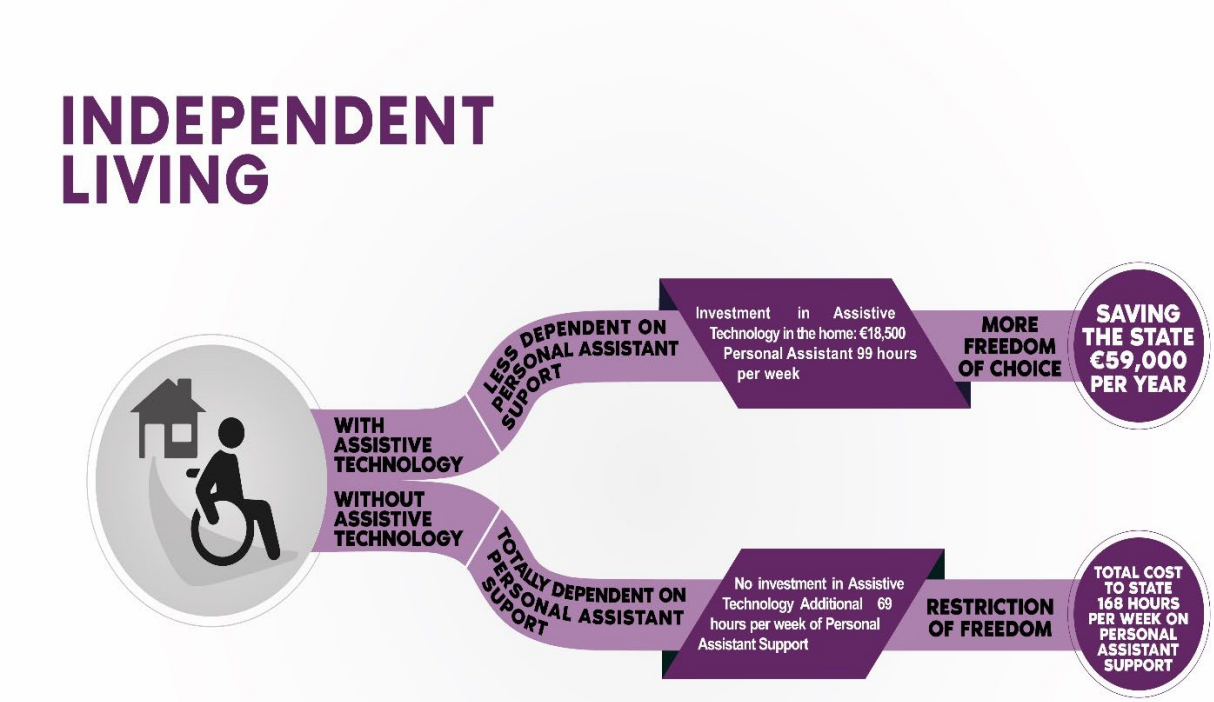
4.1 Cost/Benefit analysis of use of AT in three contexts: Education, Employment and Independent Living



A woman who is blind completed her arts degree, using Assistive Technologies to the value of €5,800. She was assisted by an Educational Support Worker at a cost of €14,500. The total cost of supports over her four-year degree course was €20,300. On graduating, she secured a graduate position in an IT firm at a starting salary of €36,250, with a projected income over 5 years of €181,000. Without her degree, she may not have found secure employment, and could have been dependent on Disability Allowance. The cost to the State (over a five-year period) would have been €49,000.



This employee who works in education and lives independently uses AT in the workplace to the value of €1,100. She also uses an external door opener and CCTV with intercom worth €4,320 in her home. The total cost of her AT equipment is €5,420. Her salary is €48,000 per annum, with projected earnings of €240,000 over 5 years. If this person was living on Disability Allowance (excluding supplementary welfare payments), the cost to the State would be €49,000 over a 5-year period.



A woman who is a wheelchair user, lives in her own apartment. She uses environmental controls to the value of €18,500. She also has 99 hours of Personal Assistant (PA) supports per week. Without her environmental controls, she would sacrifice significant independence, and would require 168 hours of PA supports weekly (i.e. 24/7 support), at a cost in excess of €59,000 per annum. The total cost of her AT was less than one third of the annual cost of round-the-clock Personal Assistant support.

4.3 Green shoots in AT:

Notwithstanding all of the challenges outlined previously, recent positive developments must also be acknowledged and welcomed. Individually, they indicate modest service enhancements, but none are connected systemically, and many are dependent for their survival on sustainable funding which is not in place.

- Commencement of ATA-C: AT Capacity Assessment process by WHO in partnership with the Irish Government. An initial meeting of the task group who will advise the research process, ensuring inclusion of all relevant stakeholders, took place on September 30th, 2024.
- HSE Create Grant: (Cooperative Real Engagement for Assistive Technology Enhancement), focusing on digital and assistive technology (DAT) users (or

potential users) of any age in any setting to meet their needs and in particular unmet needs.

- Memo issued in August 2023 by Bernard Gloster, HSE CEO mandating that no child should have to wait longer than 3 weeks for a decision on an aids and appliances grant application.
- Establishment of Digital and Assistive Technology Working Group by the HSE's National Clinical Programme for People with Disabilities (NCPPD) and publication of report in December 2020: Digital and Assistive Technology use in Disability Services during Covid-19: A Report on the Experiences of 120 service providers: 'Right to connect'.
- Department of Social Protection Work and Access Programme: a set of supports to help people with a disability get a job or stay in work. The supports aim to remove or reduce barriers in the workplace for people with a disability and include a doubling in value of the assistive technology grant from circa €6,000 to €12,000, and an expansion of eligibility to the not-for-profit sector. *A fundamental issue exists however regarding the accessibility of the application process which demands the completion of a hard copy form, inaccessible to many people who are vision impaired and/or have dexterity/handwriting issues.*
- Ireland's recent agreement with the World Health Organisation committing €12.5 million to Digital and Assistive Technology over the next five years
- Investment in AT and digital technologies research by academia through a wide range of initiatives including: Maynooth University's ALL Institute's links with the WHO GATE Community, SHAPES Project, AT2030 ADVANCE CRT, Doctrid and D-Real
- Increasing adoption of Universal Design in Education and in building design, accommodating the use of mainstream and accessible technologies alongside or instead of digital assistive technologies
- The EU Web Accessibility Directive: resulting in the creation of more accessible websites for all
- The rapid pivot to online work practices, and recognition of the importance of optimising accessibility for all
- Creation of online digital AT and digital accessibility tools including: AHEAD's ARK and DCU's Compass navigation tool for inclusive technologies.

5: AT Passport

For FreedomTech's part, we are working on the development of a digital AT Passport prototype, for delivery in Q1 2025. This person-centred record of digital AT needs aims to ease transitions across the life span (e.g.: education to work and to independent/supported living) and to reduce the duplication of services which currently

demand re-assessment, often for the same technology solutions, when a person moves from secondary to further or higher education or from education to work. During the pilot phase of this project, all participants reported a moderate to high levels of satisfaction with the digital AT and supports they acquired, as well as a moderate level of satisfaction with the AT Passport prototype itself.

The AT Passport also recognises the reality that many people now self-assess and source digital AT solutions through mainstream products, thanks to the built-in accessibility of all mainstream OS platforms: Windows, iOS and Android. It is in the State's interest to support this level of autonomous decision-making as it empowers the individual and reduces demand on already stretched services. Phase 2 of the AT Passport is currently underway.

6. What needs to happen now

The service delivery sectors have been innovative and resourceful in addressing the needs of diverse populations across disability and ageing communities. We share practical and evidence-based solutions through the online community of practice, CHAT (Community Hub for AT) which is an active stakeholder group consisting of frontline service providers, AT users, families and carers, educators, researchers, policy makers and AT industry professionals.

We are keen to support government in its implementation of the National Disability Strategy which is an opportunity to address some of the current pitfalls already outlined, moving us towards improved, coordinated AT services and supports that will positively impact people's access to affordable, tailored AT solutions.

We propose the following actions:

- Provide national leadership in digital AT. While cross government-departmental working is required to progress the AT agenda, there needs to be leadership with responsibility to drive AT forward resting with one government department, to ensure leadership, accountability and transparency. The National Disability Strategy can play a key role in ensuring this leadership. Ultimately the aim is to enable AT users to pursue clear and navigable pathways to ensuring they get access to proven AT solutions (including consideration of self-funding where appropriate) in a timely manner, reduce duplication of services, promote intelligent data collection and analysis, and support the optimisation of State resources.

- Engage with the WHO's ATA-C (National AT Capacity Assessment) process, ensuring all relevant governmental departments are involved and promote its work to all stakeholders to ensure their inclusion.

- Ensure AT features across all pillars of National Disability Strategy: to address the fragmentation and siloed approach which currently stymies AT users' ability to make the most of what AT has to offer across the lifespan and across all contexts from home to education, work and society.

- Allocate dedicated funding to the development of a replacement online information resource: a website to replace the now defunct AssistIreland website.

- Engage with FreedomTech/AT sector to devise a comprehensive implementation plan: harnessing the shared and supportive ethos already fostered by CHAT (Community Hub for AT) and ensuring that no stakeholders are excluded.

Use case 1

Orla is 12 years old and in sixth class. She has Cerebral Palsy and is a wheelchair user. She is nonspeaking. Orla is thriving in her local mainstream primary school, thanks to her use of The Grid, a voice output communication app which she has installed on a Tablet device mounted on her wheelchair. She also uses Grammarly, a software tool that assists her with the substance of her writing (spelling, grammar, etc). At home Orla uses her communication device to speak to Alexa. This allows her to control the TV, listen to her favourite music and keep in touch with friends. All in all, Orla's an ace user of her digital AT, and she knows it will be an essential part of her life in secondary school and later, at work and in her personal life.

Use case 2

Jack is a manager in the Customer Service department of a major bank. At the age of 16 he was diagnosed as dyslexic. Jack uses Dragon Naturally Speaking speech recognition software to write his e-mails and other documents. He also uses the Language Tool software and browser extension to enhance the substance and style of his writing. Over the years, he has found several apps and inbuilt accessibility features which help him to manage his personal life. These include the Spoken Content feature on his iPhone, to read text aloud; the Seeing AI app to scan and have hard copy documents read aloud,

and the Aida Reminder app to set alarms and reminders with a voice recording rather that a text label. Jack's line manager has been impressed by his use of his AT and is now proactive in offering support to new recruits, by providing a range of literacy software solutions through the bank's IT network. The bank was recently recognised for its supportive approach to its employees at a major banking industry awards event.

Use case 3

Jane is 83. She lives alone in her own home: a bungalow in the country. Jane has arthritis and macular degeneration, a progressive vision impairment. Her GP has queried whether she should consider moving to an assisted living facility. Jane uses a walking stick for stability. Jane's daughter has been gradually introducing her to some simple digital assistive technologies which have made a major impact on her life. These include: an Alexa Smart Speaker to create shopping lists, listen to music, call family and friends, control her home heating system and to get news and weather forecasts; Speak, the free built-in speech recognition tool in Microsoft Word, to support her leisure interest in creative writing; and a video door bell and simple door release linked to an app on her phone to enable her to see and speak with callers before deciding on whether to answer her front door. Jane feels so much more confident now that she has these low cost supports, and she plans on remaining in her home for the foreseeable future.

Use Case 4:

James is a 39-year-old man who has a spinal cord injury following a road traffic accident when he was 24. He lives in a rural setting. He worked as a car salesman prior to his accident. He is unemployed since his accident has been unable to access any AT supports in his local area, and as a result, he spends most of his day in bed. He has carers, funded by the HSE, supporting him for 30 minutes 3 times/day. James cannot access his laptop without assistance from carers. He does not have a smart phone, or any smart home technologies, and is dependent for all daily activities on his family and carers. If he had access to digital AT, he would be able to control his home environment (lights, curtains, windows, home heating, TV, personal entertainment, phone calls, etc) pursue employment opportunities and achieve a degree of economic independence. Digital AT solutions, if provided, would likely also reduce his daily carer requirement.

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