



Digitalisation and digital transformation in Ireland

Implications for persons with disabilities

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1 Executive summary

Ireland is proactive in addressing digitisation and digital transformation namely through the creation of a new National Digital Strategy (NDS) that will shortly replace the NDS of 2013. The National Broadband Plan has been significant in updating our digital infrastructure to ensure fixed connection internet access for all homes and businesses throughout Ireland. In 2019, 91 % of households in Ireland had an internet connection – 84 % had fixed broadband compared with 47 % using mobile broadband. This data is not disaggregated by disability, although we do know that urban and rural coverage remain unequal and inequities between disadvantaged and more affluent households persist.¹

Project Ireland 2040 provides the overarching framework for the way in which national and regional strategic priorities will be achieved and funded. The National Development Plan 2018-2027 (NDP) and the National Planning Framework (NPF) reference public capital investment that will support economic and societal growth, specifically support for disability services to provide housing, or refurbish and upgrade current residential settings for persons with disabilities, however they do not refer to digital transformation. They are supported by complimentary strategies and reports that highlight specific areas of digitalisation including the National Skills Strategy 2025; Digital Strategy for Schools 2020-2025; Future Jobs Ireland Initiative; Ireland's eHealth Strategy; National Remote Work Strategy: Making Remote Work; Enabling Digital Ireland, as examples.

Generic government strategies such as the National Digital Strategy (2013) are disability inclusive insofar as they address the need for accessibility and universal design principles to be incorporated. However, such strategies lack the specific connection between digitisation, digital literacy and assistive technology that are, arguably, as important as accessibility and universal design for people with disabilities. It would be the hope that the new strategy will move beyond just accessibility to further address an expanded understanding of digital inclusion within the everyday lives of people with disabilities.

Sector specific strategies such as those within the education sector address a broader understanding of digital inclusion with evidence of disability inclusion from early childcare education (AIM) through to higher education and lifelong learning as evident in the Digital Strategy for Schools 2015-2020. These sector specific strategies are more individually responsive with support targeted towards digital literacy, information and training for professionals and individuals, with access to assistive technology, equipment or devices.

Within specific sectors, such as transport, employment, health and education, strategies are proactive in addressing the potential of digitalisation and moving to try to overcome the challenges that remain. The education sector is focused on providing digital literacy and access to digital technology that will benefit the user. The Digital Strategy for Schools 2015-2020 operates in tandem with the Future Jobs Initiative, the National Skills Strategy, the National Disability Inclusion Strategy and the Comprehensive Employment Strategy, all of which focus on mitigating the challenges

¹ Central Statistics Office, 2019. Information Society Statistics – Households 2019 Available at: <https://www.cso.ie/en/releasesandpublications/ep/p-iss/hh/information societystatistics-households2019/householdinternetconnectivity/>.

posed by digitalisation and digital transformation. For example, the Comprehensive Employment Strategy (CES) highlights the challenges faced by people with disabilities in transitioning from education to employment. The actions within both the employment and education sector aim to ensure that the individual is provided with a bridge of support as that transition occurs i.e. education sector provides the digital literacy necessary so that the individual is employable and the CES supports both the employer and employee in ensuring that digital training, awareness and support is provided.

Significant upgrades have been cited in relation to Ireland's national transport system, particularly in relation to physical accessibility measures such as mobile ramps at train stations. However, transport services are ensuring that audio and visual 'next stop' announcements are accessible on all modes of public transport, along with specialised technology, such as a smartphone accessibility app for Irish Rail. Challenges remain for local transport routes where infrastructure is absent or infrequent, and where old models of vehicles have yet to be upgraded or where demand exceeds capacity.

While much of the evidence in this report highlights the proactive nature by which Ireland is addressing the digital divide, first person experiences of people with disabilities, positive or negative, were difficult to find. On the negative side, we know that households that are disadvantaged or very disadvantaged are less likely to have fixed broadband connection and we know that although people with disabilities accessed digital technology communication platforms within day care services, for example, such platforms were not always accessible with questions remaining around privacy issues. We know that people with disabilities that require assistive technologies have expressed their recommendations as to what they consider remains to be done in this area. On the positive side, greater levels of accessibility are being provided within the education system for people with disabilities, that public sector web accessibility protocol was evident during COVID-19, and that training and awareness of inclusion is becoming more prevalent within the workplace.

Good practices

1. The Department of Communications, Climate Action and Environment oversaw the 'Getting Citizens Online Programme' which was part of the National Digital Strategy. To empower, encourage and educate citizens many semi-state, NGO and not-for-profit organisations ran free courses (10 Hour). The courses were targeting people with no experience of online use and who were apprehensive about taking the first step including older people and persons with disabilities.
2. The Accessibility and Inclusion Model for Early Childcare Education has the potential to include and nurture children with disabilities in similar environments to their peers. It enables supports to be identified for children with disabilities at an early stage of education providing the opportunity for the continuity of that support throughout the child's education journey, or for that support to shift as the child progresses. The model facilitates the support of specialised equipment, appliances or a grant towards minor alterations that will enable a pre-school provider to accommodate the support required for young children with disabilities in the preschool setting.
3. While new platforms for assessing health have come on board due to COVID-19, the National Clinical Programme for persons with disabilities undertook a survey

of technology use by service providers. While many respondents indicated the potential to expand upon their services using technology platforms, they also highlight the need for staff training and upskilling. Most importantly, people with disabilities have yet to be heard, and their input in overseeing the expansion of their services to include more online or digital formats should be paramount. However, the Health Service Executive is bound by the web accessibility guidelines in relation to digital health information and services.

Recommendations

While generic strategies have been developed to address digitisation and digital transformation across multiple sectors such as education, transport and employment, the inclusion of people with disabilities within these strategies primarily relates to accessibility including web accessibility and universal design principles. There is a need to consider the extent to which digitisation, digital technology, smart technology and assistive technology provide opportunities for inclusion within the daily lives of persons with disabilities. For instance, greater reference to infrastructure and connectivity, continuity of training and upskilling for service users and service providers on digital platforms and smart technology, and availability of assistive technology devices and funds.

At the same time, generic disability strategies need to provide greater details on the way in which persons with disabilities can be included, and on solutions aimed at narrowing the digital poverty and digital divide that is evident from research.

2 Are government strategies and plans on digitalisation and digital transformation disability-inclusive?

2.1 Disability inclusion in generic strategies on digitalisation and digital transformation

Digitisation and digital transformation are significantly linked to the infrastructural upgrade required in Ireland to enable optimum use and accessibility by businesses and citizens alike. In the move to a digital economy and society, the focus is on the economic implications of increased processes of manufacturing and production by digital methods or technology on employment opportunity and employment stability. In response to that move, Ireland is attempting to address any envisaged shortfall in knowledge of digital processes and technology via increased significance of digital learning and research within the education system, from primary through to higher education and lifelong learning. The COVID-19 pandemic saw increased pressure on public sector systems to provide services virtually using digital technologies. It also highlighted the importance of universal design for the creation and delivery of virtual / online services equitably. To this end the COVID-19 crisis has highlighted digital exclusion and how many lack the infrastructure and digital literacy to access services online.

According to the Central Statistics Office (CSO) data,² in 2019 91 % of households have an internet connection with fixed broadband being the most common type of internet access in the household (84 %). In 2019, almost all households with dependent children have internet access in comparison to just 77 % of households comprised of one adult with no dependent children. There is variation in connection between Dublin (92 %) and more rural areas such as the Border and Midland region (71 % and 69 % respectively). There is also variation among household type with affluent households (95 %) having fixed broadband connection compared with households that are very disadvantaged (80 %) or disadvantaged (75 %) having less access to a fixed connection. Mobile broadband internet connection is most common in households with internet access in the lower deprivation quintiles. Of the 9 % of households with no internet access, 52 % reported that the reason for no access was that they *Do not need internet*. Just over four in every ten (42 %) reported *Lack of Skills* as a reason for not having household internet access. *Access costs too high* and *Equipment costs too high* were cited by 10 % and 9 % of households respectively with 7 % reporting *Broadband internet not available in the area*.

To address digital transformation Ireland published Phase 1 of a *Doing more with digital - National Digital Strategy (NDS)*,³ which focused on supporting citizens and small businesses to get online (Digital Engagement). The NDS is underpinned by the *National Broadband Plan*, *National Payments Plan*, *Action Plan for Jobs*, *eGovernment Strategy* and *eHealth*, through which funding is distributed. Broadly, the NDS commits to implementing measures within these areas: cross-Government measures; trading online and entrepreneurship; citizen engagement; and education and learning. Within the NDS persons with disabilities are referenced specifically in relation to web accessibility and usability, with the strategy highlighting the importance of universal

² Central Statistics Office, 2019. Information Society Statistics – Households 2019 Available at: <https://www.cso.ie/en/releasesandpublications/ep/p-iss/h/information societystatistics-households2019/householdinternetconnectivity/>.

³ <https://assets.gov.ie/27518/7081cec170e34c39b75cbec799401b82.pdf>.

design principles to ensure equal access to online services now addressed by the EU Directive and EAA.

In 2018, the government initiated a public consultation process with the view to developing a new National Digital Strategy, which is due to be published shortly. It is envisaged that the new strategy will address thematic areas including digital infrastructure and security, trust and well-being, effective use of digital by citizens, communities, enterprise and government, and the digital economy's impact on the labour market. It will emphasise issues such as connectivity, cybersecurity, greater use of open data, proactive regulation, public trust in digital, improved online public services, greater understanding of digital well-being, digital skills, and the digital intensity of SME's.⁴

Furthermore, *Project Ireland 2040* was launched by the Department of Public Expenditure and Reform in 2018.⁵ This initiative includes the *National Development Plan 2018-2027* (NDP)⁶ which sets out the infrastructural investment priorities that will underpin the implementation of the *National Planning Framework* (NPF),⁷ through a total investment of approximately EUR 116 billion up to 2027. National strategic objectives and priorities within the NDP that focus on digitalisation include strengthened rural economies and communities (EUR 8.8 billion); sustainable mobility (EUR 8.6 billion); a strong economy supported by enterprise, innovation and skills (EUR 9.4 billion); enhanced amenity and heritage (EUR 1.4 billion); and high-quality international connectivity (EUR 4.8 billion). That NPF highlights the national policy objective no. 28 (NPO 28) for a more diverse and socially inclusive society. It targets equality of opportunity and a better quality of life for all citizens, through improved integration and greater accessibility in the delivery of sustainable communities and the provision of associated services. It also recognises an ageing population in NPO 30, and their need for inclusion within local planning, housing, transport/accessibility and leisure policies within city and county development plans.

2.2 Disability inclusion in focused or sector-specific strategies on digitalisation and digital transformation

Education

Preschool:

AIM Early Childcare inclusion model⁸ for children with disabilities provides the opportunity for children with more complex disabilities to be included and supported within the preschool setting. National training programmes in relation to Diversity, Equality and Inclusion guidelines have been made available to all City and County Childcare Committees, with providers and practitioners able to apply for places on training programmes. Within the support levels offered is the opportunity for specialised equipment, appliances or a grant towards minor alterations. Knowledge of assistive technology or digital technology provides the opportunity for early childhood

⁴ Houses of the Oireachtas (2019) Parliamentary Questions 8-10 Available at: <https://www.oireachtas.ie/en/debates/question/2019-05-21/8/>.

⁵ <https://www.gov.ie/en/campaigns/09022006-project-ireland-2040/>.

⁶ <https://www.gov.ie/en/policy-information/07e507-national-development-plan-2018-2027/>.

⁷ Government of Ireland (2019). Project Ireland 2040. Available at: [https://www.gov.ie/pdf/?file=https://assets.gov.ie/166/310818095340-Project-Ireland-2040-NPF.pdf#page 84](https://www.gov.ie/pdf/?file=https://assets.gov.ie/166/310818095340-Project-Ireland-2040-NPF.pdf#page%2084).

⁸ <https://aim.gov.ie/>.

settings to increase the diversity of methods in which early preschool education is traditionally taught and for such support to be continuous (if necessary) throughout the child's education.

Primary / Secondary:

Ireland's *National Skills Strategy 2025* affirms the government's vision for Ireland in relation to technological advancement that will benefit every citizen, business and community.⁹ The National Skills Strategy 2025 had a high-level Steering Group with representatives of stakeholders from education to enterprise. A detailed consultation paper was published online in November 2015. Over 120 submissions were received from individuals and groups representing the full range of employers and self-employed in Ireland; worker representative groups; representatives of the unemployed; educators; parents; other interested members of the public; Government Departments and State agencies in the areas of enterprise, education, social protection and health.

The *Digital Strategy for Schools: 2015-2020*¹⁰ focuses on integrating ICT into teaching, learning and assessment practices in schools. *The Future Jobs Ireland Initiative*¹¹ emphasises a philosophy of lifelong learning – a high level working group will undertake a training gap analysis of future needs. This will be coupled with a programme of investment in educational institutions to host the training interventions identified. The *National Strategy for Higher Education to 2030*¹² sets out the high-level system objectives. While digital transformation is not foregrounded in the strategy, it is implicit in the delivery of some objectives and noted in related strategies. The *International Education Strategy for Ireland: 2016-2020*,¹³ for example, signals that the internationalisation of curricula across Irish HEI's "will be enabled by the enhancement of digital capacity of the sector, including the development of staff capacity for delivering technology-enhanced learning".

The Digital Strategy for schools 2015-2020 sets out the government's policy on the use of digital technologies in teaching, learning and assessment. This strategy promotes the embedding of digital technologies in all classroom and school activity. The implementation of the strategy in schools is supported by a Digital Learning Framework (DLF) and comprehensive digital learning planning guidelines and extensive CPD, resources and supports for teachers and school leaders.

The current strategy is underpinned by a total investment of EUR 210 million by way of an infrastructure grant for schools, which has been delivered in full since 2016. The funding issues in the form of a lump sum per school, and a per capita amount based on the school enrolment. DEIS schools receive a 10 % increase on the per capita. Under Project Ireland 2040, through the NDP the Digital Strategy for Schools will be supported through a further investment of EUR 200 million up to 2027. The strategy ensured that all new and revised curricular specifications include clear statements that focus on the development of digital learning skills and the use of digital technologies as a resource in achieving specific outcomes across the curriculum. Digital literacy and

⁹ https://www.education.ie/en/Publications/Policy-Reports/pub_national_skills_strategy_2025.pdf.

¹⁰ <https://www.education.ie/en/Schools-Colleges/Information/Information-Communications-Technology-ICT-in-Schools/Digital-Strategy-for-Schools/>.

¹¹ <https://www.gov.ie/en/campaigns/33b78d-future-jobs-ireland-preparing-now-for-tomorrows-economy/>.

¹² <https://www.education.ie/en/Publications/Policy-Reports/National-Strategy-for-Higher-Education-2030.pdf>.

¹³ <https://www.education.ie/en/The-Education-System/International/Strategy-2016-2020.html>.

skills are promoted and feature strongly throughout the primary and post-primary cycles. Computer Science has been introduced as a Leaving Certificate subject and is now offered in 92 schools across the country. All schools are supported to develop a Digital Learning Plan and have flexibility in how best to embed that within the teaching and learning of the school. Digital Skills is now one of the seven core elements within Initial Teacher Education. The Professional Development Service for Teachers (PDST) continues to provide professional learning opportunities to teachers and school leaders via CPD programmes and remains an integral part of all Department funded CPD programmes and supports. Under the Schools Broadband Programme the Department directly funds the provision of broadband connectivity to schools at an annual cost of EUR 13 million and some 98 % of schools avail of this programme. Broadband capacity varies across geographical location and is dependent on local infrastructure which can impact the services provided in individual schools.

Special education schools:

Ireland operates a mainstream educational system and a separate parallel special education system. This is not compatible with the CRPD, Article 24(2). As reported in the National Council for Special Education Report, the UN Committee has recognised that “significant change takes time to implement and accepts the concept of progressive realisation which permits countries to signal their policy intent and how the system will change over a period of time”.¹⁴ It is clear that it will take time for Ireland to transition out of the current system. ICT within special education settings is overseen by the Digital Strategy for Schools 2015-2020. Support for Technology Use for Schools provides seminar programmes on various forms of assistive technologies, Digital Literacy Framework: General Learning Disability the aim of which was to develop a structure for teachers whereby students with GLD would be supported in accessing the curriculum through digital technologies such as tablets, Apps, and mobile devices. Under the Assistive Technology Scheme, funding is provided to primary and post-primary schools towards the cost of computers and specialist equipment to assist children with more complex disabilities to access the school curriculum. This can be the purchase of specialised equipment and/or software which the school does not already possess.¹⁵

In a recent report¹⁶ that observed technology use in special schools it was noted that there was very good use of assistive technology throughout the schools that were visited. For example, a camera called robot was used so that an ill child could join class from hospital. A MakerSpace room where students used technology for design and creative solutions to problems; a junior infant room where young children were working independently, in small groups, to complete tasks on a white board.

¹⁴ National Council for Special Education (2019). Policy Advice on Special Schools and Classes: An Inclusive Education for an Inclusive Society? p. 3. Available at: <https://ncse.ie/wp-content/uploads/2019/11/Progress-Report-Policy-Advice-on-Special-Schools-Classes-website-upload.pdf>.

¹⁵ <https://www.education.ie/en/Schools-Colleges/Services/Grants-and-Additional-Support/Assistive-Technology-Grant/>.

¹⁶ National Council for Special Education (2019). Policy Advice on Special Schools and Classes: An Inclusive Education for an Inclusive Society? Available at: <https://ncse.ie/wp-content/uploads/2019/11/Progress-Report-Policy-Advice-on-Special-Schools-Classes-website-upload.pdf>.

Higher education:

A Discussion Paper by the Future Focus Forum within the HEA entitled “Digital Transformation and Empowering Technologies in Higher Education” (2019),¹⁷ ties digital transformation securely to economic priorities as highlighted in Future Jobs Ireland 2019. Future Jobs Ireland 2019 draws on the Make Work Pay report that identified ways in which people with disabilities could be supported into employment. It recommended early engagement with those who are able to work and interested in getting a job are offered every possible support at the earliest possible opportunity to fulfil their employment goals. It identifies specific transition points as critical moments for support. For example, when young people with disabilities leave education, or when an adult experiences onset of a disability in working life. Additionally, it highlighted specific barriers and made subsequent recommendations to address such barriers around disability allowance thresholds and the medical card. It also recommended addressing the affordability of necessary aids / appliances / assistive technology required for everyday living for people with disabilities whose entry, retention or return to work could be jeopardised by being unable to afford these items, given the level of employment income, and whose needs are not met by other schemes of assistance. The National Forum for the Enhancement of Teaching and Learning in Higher Education is leading the way in supporting and coordinating initiatives to foster digital literacy among students. Several projects funded under the HEA Innovation and Transformation call will also be enabled by digital technologies.¹⁸

The National Forum for the Enhancement of Teaching and Learning in Higher Education (herein referred to as the National Forum) has been leading the way in progressing work on the teaching and learning dimensions, with key initiatives detailed in a recent report on “*Building Digital Capacity in Irish Higher Education 2013-18*”.¹⁹

Some notable achievements include: the development of a *Roadmap for Digital Learning in Higher Education: 2015-2017*.²⁰ This called for “a co-ordinated, multi-level approach to foster digital literacy, skills and confidence among students at all levels of education” and included four over-arching recommendations; the All Aboard *Digital Skills Framework*; and a *Review of Ireland’s higher education technological infrastructure*.

As found in *A Review of the Existing Higher Education Policy Landscape for Digital Teaching and Learning in Ireland*²¹ there is still further scope for improvement in the policy context. The content analysis conducted as part of the review indicated that HEI policies often fail to reflect the language of digital teaching and learning. It is recommended that policies are developed in consultation with those that will implement them in practice to ensure consistent and efficient implementation. A step-by-step

¹⁷ https://hea.ie/assets/uploads/2017/04/190212_FutureFocus_Digital-Transformation_Discussion-Paper.pdf.

¹⁸ <https://hea.ie/funding-governance-performance/funding/innovation-call/>.

¹⁹ National Forum for the Enhancement of Teaching and Learning in Higher Education, “Building Digital Capacity in Irish Higher Education 2013–18,” in *teachingandlearning.ie*, Published December 18, 2018, <https://www.teachingandlearning.ie/publication/building-digital-capacity-in-irish-higher-education-2013-18-national-developments-and-key-perspectives/>.

²⁰ <https://www.qqi.ie/Downloads/Kevin%20O%20Rourke.pdf>.

²¹ https://hub.teachingandlearning.ie/wp-content/uploads/2021/06/TL_EnablingPoliciesReview_WEB.pdf.

*Guide to Developing Enabling Policies for Digital Teaching and Learning*²² has recently been published by the National Forum to assist HEIs with this process. Individual HEIs have signalled further digital transformation initiatives in the Performance Compacts, submitted as part of the HEA's Strategic Dialogue Process. Additionally, several projects awarded funding under the HEA's 2018 Innovation and Transformation Fund call, will be enabled through digital technologies. These include projects focused on flexible and online learning, student retention, and student support. These various initiatives will be considered during the development of a *Higher Education Digital Transformation Framework* in Ireland. Championing a national approach to developing a digitally transformed higher education sector is a strategic theme of the HEA *Strategic Plan 2018-2022*.²³ It is envisaged that the Framework will "bring together and advance the work already started in the sector including: identifying infrastructure deficits and the need for targeted investment; opportunities for shared services and platforms to progress the digital agenda nationally (e.g. HEAnet, EduCampus); improving online learning and blended models of delivery; how to better use the data we currently have to improve student success; and, how to achieve open access to higher education and research publications and data".

eHealth

eHealth is essentially about the digitalisation of health services and processes so that the data about the right patient is available in the right place and at the right time. This ensures safe and efficient provision of care services. Ireland's eHealth Strategy 2013 sets out a vision and actions to embed an information-based system within the healthcare delivery sector.²⁴ The platform *eHealth Ireland* was set up to lead the delivery of the eHealth Strategy with a part of its role ensuring that the main impacted stakeholder groups are represented in the various eHealth programs e.g. mental health, ageing and disability groups. The Open Health Data Policy provides the overarching framework for the eHealth Ireland Open Data for Health Strategic Programme. This policy defines the required governance, preparation and publication of Open Data within the HSE. *eHealth Ireland*²⁵ has an accessibility statement based on the WCAG that provides guidance on accessibility for graphics, colours, language, tables and browsers.²⁶ HSE Digital Transformation was established in 2019 to support the adoption of digital health technologies within the HSE and has provided specific digital innovation solutions for C-19 via the HSE Virtual health website.

National guidelines on accessible health and social care services NDA/HSE (2016).²⁷ Technology addressed in the form of communication aids and devices. About letting people know how to access communication aids and adaptive technology, providing details on accessibility in a range of formats including digital adhering to the WCAG principles.

²² National Forum for the Enhancement of Teaching and Learning in Higher Education, "Guide to Developing Enabling Policies for Digital Teaching and Learning," in teachingandlearning.ie, Published May 25, 2018, <https://www.teachingandlearning.ie/publication/guide-to-developing-enabling-policies-for-digital-teaching-and-learning/>.

²³ <https://hea.ie/assets/uploads/2017/04/HEA-2018-2022-Strategic-Plan-FINAL.pdf>.

²⁴ <https://www.ehealthireland.ie/knowledge-information-plan/ehealth-strategy-for-ireland.pdf>.

²⁵ <https://www.ehealthireland.ie/>.

²⁶ <https://www.ehealthireland.ie/accessibility/>.

²⁷

<https://www.hse.ie/eng/services/yourhealthservice/access/natguideaccessibleservices/section1.html>.

Telehealth and telecare initiatives are considered elements of eHealth and may utilise assistive technologies, particularly useful for older people and to support independent living for persons with disabilities. The COVID-19 pandemic made the National Virtual Health Team²⁸ a significant service and ushered in new solutions to allow clinical consultations take place remotely using videoconferencing. The use of videoconferencing must comply with HSE IT policy and standards. The National COVID-19 Telehealth Steering Committee approved new platforms such as Attend Anywhere, Microsoft Teams, Skype for Business or Webex, Whatsapp (exceptional provision), Cisco WebEx and remote patient monitoring. As example, a number of remote patient monitoring solutions, co-designed by HSE Digital Transformation, have been approved and are being made available e.g. patientMpower, an app accessible on a patient's phone or tablet uses wireless pulse oximeter to measure a patient's oxygen saturation and heart rate, and a spirometer to record FVC, FEV1 and other lung measures. All information captured in the app is immediately available for the care team to view in a secure patient data portal.

Telework

Flexible working solutions, such as remote work, are becoming a priority from a range of perspectives, from sustainability and positive environmental impacts, to increasing participation amongst women, older people and people with disabilities. This is reflected in the current Government approach as evidenced in Future Jobs Ireland,²⁹ the Climate Action Plan³⁰ and most recently in Our Rural Future.³¹ Due to increased digitalisation and the rising accessibility of new technology, flexible working options such as remote work are a visible feature of the Irish workforce and, increasingly, an expectation from employees. Prior to COVID-19, Future Jobs Ireland 2019 examined the prevalence of remote work in Ireland, the types of remote work people are engaging in, and the attitudes towards remote work in Ireland. This includes the key influencing factors for employees and employers engaging in remote work. The report highlights how the adoption of remote working solutions removes some of the barriers to work for people with caring responsibilities, older people and people with disabilities by removing the need to travel into an employer's premises to work every day. It also highlights equality issues and reasonable accommodation in considering requests for remote working.

The National Remote Work Strategy: Making Remote Work (2021)³² sets out the way in which remote working can become a regular scenario post-COVID-19 pandemic working on the progress made during the pandemic. NUI Galway conducted a remote work survey and published findings in October 2020.³³ They found that '94 % of participants would like to work remotely after the pandemic' despite the challenges identified.³⁴ The strategy further highlights how 'Ireland has the lowest rate of employment amongst persons with disabilities in all European countries (32.3 percent) and the highest employment gap between people with disabilities and the general

²⁸ <https://www.ehealthireland.ie/national-virtual-health-team/national-virtual-health-team/>.

²⁹ <https://www.gov.ie/en/campaigns/33b78d-future-jobs-ireland-preparing-now-for-tomorrows-economy/>.

³⁰ <https://www.gov.ie/en/publication/ccb2e0-the-climate-action-plan-2019/>.

³¹ <https://www.gov.ie/en/publication/4c236-our-rural-future-vision-and-policy-context/>.

³² <https://www.gov.ie/en/publication/51f84-making-remote-work-national-remote-work-strategy/>.

³³ <http://whitakerinstitute.ie/project/remote-working-during-covid-19-irelands-national-survey/>.

³⁴ <https://www.gov.ie/en/publication/51f84-making-remote-work-national-remote-work-strategy/>, p. 4.

population (42 percent)'.³⁵ It identifies how mobility, transport and physical issues may make attending a workplace difficult while working from home for persons with disabilities in some cases is the only viable alternative. The move towards remote working as an acceptable and viable long-term option by employers is of benefit for people with disabilities. Concern remains around visibility, career progression as well as continued access to the physical workspace.³⁶

³⁵ <https://www.gov.ie/en/publication/51f84-making-remote-work-national-remote-work-strategy/>, p. 18.

³⁶ <https://www.gov.ie/en/publication/51f84-making-remote-work-national-remote-work-strategy/>, p. 18.

3 Do disability strategies address the potential of and challenges pertaining to digitalisation and digital transformation?

3.1 How digitalisation and digital transformation are addressed in the national disability strategy

Ireland's National Disability Inclusion Strategy 2017-2021 (NDIS)³⁷ directly provides actions to address digitalisation related to education. It aims to ensure that ongoing developments in legislation (e.g. Teaching Council, School admissions) and national priority areas including Junior Cycle Reform, Literacy and Numeracy Strategy, Digital Strategy and National Council for Special Education policy advice will influence and support teacher learning in inclusion, differentiation, and special educational needs across the continuum of teacher education (Action 38). In line with the Digital Strategy for Schools 2015-2020, the NDIS will ensure that schools can use Information and Communications as a tool for inclusive learning through guidance, advice and support on the use of accessible ICT and digital learning tools for teaching, learning and assessment for students with special educational needs (Action 45).³⁸

Additionally, the NDIS highlights the challenge to increase the public service employment target for persons with disabilities but does not correlate this with the digital transformation of government and public services. It aims to review transport supports to determine the type of cross departmental transportation options that will best help people with a range of disabilities to get to work and ensure implementation of the most viable proposals.³⁹ It will introduce a scheme that will significantly reduce the notice time for travelling for mobility-impaired customers requiring assistance.⁴⁰

3.2 How digitalisation and digital transformation are addressed in specific disability-related strategies

Employment

The Comprehensive Employment Strategy for people with disabilities (2015-2024) (CES)⁴¹ aims to foster increased labour market participation by addressing the demand side and supply side of the labour market. It focuses some of its main strategic priorities around the substantial role that digitalisation and digital transformation can play in terms of accessing and securing employment. Only 33 % of people with disabilities of working age are in work compared with 66 % of non-disabled people.⁴² The areas of action within the CES for building skills, capacity and independence recognises the importance of support for students with disabilities to learn, and of the transition from school to training and further education. Upskilling, digital literacy, ICT infrastructure

³⁷ <https://www.gov.ie/en/publication/8072c0-national-disability-inclusion-strategy-2017-2021/>, p. 22.

³⁸ <https://www.gov.ie/en/publication/8072c0-national-disability-inclusion-strategy-2017-2021/>, p. 24.

³⁹ <https://www.gov.ie/en/publication/8072c0-national-disability-inclusion-strategy-2017-2021/>, p. 3.

⁴⁰ <https://www.gov.ie/en/publication/8072c0-national-disability-inclusion-strategy-2017-2021/>, p. 3.

⁴¹ Government of Ireland (2019). Comprehensive Employment Strategy for persons with disabilities. Available at:

<http://www.justice.ie/en/JELR/Comprehensive%20Employment%20Strategy%20for%20People%20with%20Disabilities%20-%20FINAL.pdf/Files/Comprehensive%20Employment%20Strategy%20for%20People%20with%20Disabilities%20-%20FINAL.pdf>.

⁴² <https://assets.gov.ie/24412/0f5f058feec641bbb92d34a0a8e3daff.pdf>, p. 42.

and provision are addressed in the Digital Strategy for schools as discussed above (see section 2.2).

The NDA invited written submissions with 47 received from disability organisations. It also conducted a consultation session with disability organisations. Successive drafts of the CES were presented to Disability Stakeholder Group and to the National Disability Strategy Implementation Group for their views and amended drafts were prepared following those discussions.⁴³

Transport

Access to transport and transport services that are accessible is crucial to the everyday lives of people with disabilities. Transport for Ireland (TFI) provide general information on accessibility of other transport operators in Ireland.⁴⁴ The Department of Transport (DoT) together with the National Transport Authority oversee the public transport⁴⁵ accessibility programme which has been allocated EUR 28 million for the accessibility retrofit programme between 2018-2021.⁴⁶ The Department of Transport's Sectoral Plan, under the Disability Act 2005, is called Transport Access for All (2012).⁴⁷ This plan incorporates the actions of the NDIS, CES and the UNCRPD that relates to the department, its agencies, and public transport operators into an Accessibility Work Programme.⁴⁸ This has over 50 actions and is updated quarterly. It is overseen by the Accessibility Consultative Committee⁴⁹ members of which include disability stakeholders such as Inclusion Ireland, NCBI, NDA, Irish Senior Citizens Parliament, Chime, and the IWA.

The recent Accessibility Work Programme update 2021⁵⁰ states that accessibility features are built into all new public transport infrastructure projects and vehicles at design stage, with an on-going programme of accessibility improvement grants managed by the NTA for upgrading existing and older infrastructure and facilities. The indicative allocation for the Retro-fit Programme in 2021 is EUR 0.6 million.⁵¹ A major barrier identified in terms of rail travel is the platform train interface (gap) at stations. To address this gap, mobile ramps are required between the platform and the carriage and requires railway staff to attend and assist. Advance notice is necessary to ensure that assistance is available to enable access for wheelchair users.

Irish Rail has developed a smartphone accessibility app to address some of the key communication breakdowns that occur when providing assistance to persons with disabilities. It is currently in test phase on the DART line with a view to extending it to the full service. It is hoped that it will allow individuals to pre-book assistance and manage their journeys.⁵² There is 100 % on board audio and visual 'next stop' announcement on all Dublin Bus and Go-Ahead fleet which primarily service the capital city and transport to and from cities in Ireland. Bus Éireann fleet has been fitted with

⁴³ <https://assets.gov.ie/24412/0f5f058feec641bbb92d34a0a8e3daff.pdf>, p. 11.

⁴⁴ <https://www.transportforireland.ie/getting-around/accessible-travel-information/>.

⁴⁵ <https://www.gov.ie/en/organisation-information/ae763e-accessibility-consultative-committee/>.

⁴⁶ <https://www.gov.ie/en/policy-information/a22487-accessible-public-transport/>.

⁴⁷ <https://www.gov.ie/en/publication/1d2b87-transport-for-all-2012/>.

⁴⁸ <https://www.gov.ie/en/collection/ed138c-work-programme/>.

⁴⁹ <https://www.gov.ie/en/organisation-information/ae763e-accessibility-consultative-committee/>.

⁵⁰ <https://www.gov.ie/en/collection/ed138c-work-programme/#2021>.

⁵¹ <https://www.gov.ie/en/policy-information/705a02-accessibility-in-transport/>, p. 8.

⁵² <https://www.irishrail.ie/en-ie/Travel-Information/accessibility-onboard-trains/access-dart-app>.

multimedia screens which show route progress and stop information. A project is underway to roll out on-board audio and visual announcements for all 6 000 bus stops in rural and regional areas. Bus Éireann have next stop on board announcements at 51 % of their stops presently.

TFI has been in regular contact with the Luas User Group throughout the COVID-19 pandemic and held its most recent online Luas User Group meeting Jan 2021. Irish Rail Disability User Group's most recent online meeting was March 2021.⁵³

The majority of transformation in this area is infrastructural to address physical accessibility and increase the number of wheelchair accessible vehicles. Digital transformation has taken place in the use of the Leap card as the dominant means for fare paying passengers using public transport services nationally and a number of enhancements have been made to simplify payment for travel. An upgrade of the TFI website as a one-stop-shop for public transport information is ongoing. It will include all accessibility requirements and a journey planner that enables passengers to know the accessibility of each bus stop and also how to plan a Step-free trip end to end.

The 2019 mid-term review of the CES⁵⁴ highlights the Next Stop announcement project that will have on-board audio and visual announcements for 6 000 bus stops in rural and regional areas while 47 % of DART (Dublin inter-city rail). The Passenger Information system on trains is in need of upgrade. Irish Rail commenced a procurement process with a view to awarding the contract in 2020 and installation on 17x4 car sets in 2021, which is now delayed to 2022. It also states that the working group on transport (Action 104 of NDIS) will be convened to focus on identifying opportunities for collaboration between transport and other public bodies to promote greater mobility for people with disabilities.⁵⁵

The Just a Minute (JAM) card was launched across the public transport network in 2019 with major national transport providers becoming JAM card friendly. The JAM Card helps people with a communication barrier to tell others they need 'Just a Minute' discreetly and easily. It is also available as an app for smartphones and the training module for new taxi licenses includes JAM Card training. A new campaign to further promote the JAM card by the NTA has been delayed due to COVID-19.

NDIS Action 122 (SP 34,35 & 36)⁵⁶ ensures that all customer-facing staff in public transport companies receive disability awareness training and that such training is updated periodically.

NDIS Action 111 – CES Action 2.19⁵⁷ commits to the implementation of consistent and reliable on-board audio and visual announcements on all public transport vehicles, including buses coaches, DART, trains and trams and to monitoring and maintaining this aspect of accessibility.

⁵³ <https://www.gov.ie/en/policy-information/705a02-accessibility-in-transport/>, p. 12.

⁵⁴ <http://nda.ie/publications/employment/employment-publications/comprehensive-employment-strategy-2019-nda-year-end-review1.pdf>.

⁵⁵ <http://nda.ie/publications/employment/employment-publications/comprehensive-employment-strategy-2019-nda-year-end-review1.pdf>, p. 15.

⁵⁶ <https://www.gov.ie/en/policy-information/705a02-accessibility-in-transport/>, p. 10.

⁵⁷ <https://www.gov.ie/en/policy-information/705a02-accessibility-in-transport/>, pp. 9-10.

The review also highlighted that more consultation needs to be held to get the perspective of people with disabilities on how they find public transport currently.

The CES states the challenges that remain for transport in rural localities throughout Ireland where private transport, car sharing or taxis are the dominant mode of transport. Public transport in rural areas is being addressed through proposed programmes for improvement e.g. 'Connecting Ireland Rural Mobility Plan' and will provide better connections between villages and towns through enhanced and new local routes. It states that these local routes will be integrated with an enhanced regional network connecting cities and regional centres nationwide. Accessibility of the addition or upgrade of a rural network is understood in terms of wheelchair accessibility. It would be beneficial to broaden this understanding to include digital accessibility that would be necessary to access information or understand information about such a service i.e. ensuring that audio and visual announcements or information on local routes is accessible and up-to-date.

Deinstitutionalisation

The national policy⁵⁸ where people with disabilities are supported to live their lives within communities refers to the way in which smart technology can support someone to remain independent within their own home and how it should be included within an in-home model of support. Innovative options that rely on technology are seen as a way of minimising reliance on staff and can widen people's choices and enable them to be independent. Within the recommendations of the report is a fund to make provision for adaptations and assistive technology⁵⁹ to maximise the scope for independence. The Community Living Transition Planning Toolkit⁶⁰ refers to the practical support including new technology and access to Assisted Technology that is needed pre-transition to build capacity and to support the person to move. In 2016, EUR 20 million in capital funding was provided to 14 centres to support the transition of at least 165 individuals to appropriate community-based accommodations. Further breakdown of funds is required to identify the way in which accommodation was adapted or fitted with smart technology or assistive technology for in-home support. Additionally, training to assist the usability of such smart technology needs to take place in advance or alongside transition.

Health and care

The Sharing the Vision: A Mental Health Policy for Everyone⁶¹ refers to 'digital mental health'⁶² and how engagement with digital mental health technology is increasing in

⁵⁸ <https://www.hse.ie/eng/services/list/4/disability/congregatedsettings/time-to-move-on-from-congregated-settings-%E2%80%93-a-strategy-for-community-inclusion.pdf>.

⁵⁹ <https://www.hse.ie/eng/services/list/4/disability/congregatedsettings/time-to-move-on-from-congregated-settings-%E2%80%93-a-strategy-for-community-inclusion.pdf>, p. 22.

⁶⁰ <https://www.hse.ie/eng/services/list/4/disability/congregatedsettings/community-living-transition-planning-toolkit-nov-2018.pdf>, p. 18.

⁶¹ Government of Ireland (2020) Sharing the Vision: A Mental Health Policy for Everyone. Available at: <https://www.gov.ie/en/publication/2e46f-sharing-the-vision-a-mental-health-policy-for-everyone/>.

⁶² Digital health refers to using online or other digital technology to provide prevention and care. Some digital health programmes focus on promoting health and wellbeing and preventing ill health, while others may deliver early intervention and mental health treatment. There are numerous digital health programmes available, covering a range of mental and physical health concerns, and thus increasing individual healthcare management choices and improving access to support.

popularity with well-designed products and e-health initiatives providing greater opportunities for mental health promotion, prevention and early intervention. The policy proposed that digital developments will form part of the National Mental Health Promotion Plan.

It suggests using digital and social media channels to promote mental health and to provide appropriate signposting to services and supports. While the policy refers to numerous digital health programmes being available that cover a range of mental and physical health concerns it does not give examples of these. In addition, the report recommends the development of digital health solutions to enhance service delivery and empower service users.⁶³

The report recognises how digital technologies are an aid to core delivery service of mental health supporting individualised care, provide online professional development and enhance online therapeutic support interventions. Digital interactions can involve direct interaction between a health professional and the patient, care can be delivered in a live, interactive communication. It can also involve recording medical information for external review (with consent of patient or participant).⁶⁴ Digital health can benefit patients by:

- improving access to mental health speciality care;
- help integrate behavioural health care and primary care, leading to better outcomes;
- reduce the need for trips to hospitals;
- reduce delays in accessing care;
- improve continuity of care and follow-up.

⁶³ Government of Ireland (2020) Sharing the Vision: A Mental Health Policy for Everyone. p. 60
Available at: <https://www.gov.ie/en/publication/2e46f-sharing-the-vision-a-mental-health-policy-for-everyone/>.

⁶⁴ <https://www.gov.ie/en/publication/2e46f-sharing-the-vision-a-mental-health-policy-for-everyone/>, p. 77.

4 Promoting disability inclusion through funding, education and training

4.1 How funding promotes disability-inclusive digitalisation and digital transformation

The majority of funding of the NDS has been infrastructural, i.e. aimed at supporting the National Broadband Plan and its rollout to connect and upgrade business premises and homes across Ireland. Between 2012 and 2020, EUR 2.75 billion has been spent upgrading and modernising networks which support the provision of high-speed broadband and mobile telecommunications services.

Additionally, the focus of Project Ireland 2040 outlined in the NDP and the NPF contains funding of EUR 110 billion that will be directed towards upgrading digital infrastructure and improving digital connectivity throughout communities across Ireland. Individual local governments will be allocated funding to achieve this.

BenefIT 4 IT Training programme is a government grant initiative providing funding to third sector and not-for-profit organisations for the provision of digital literacy training. It aims to get more people online and focuses on harder to reach groups like older people, the unemployed and those who are marginalised.

Within the Department of Education there is an Assistive Technology Grant where under the Assistive Technology Scheme,⁶⁵ funding is provided to schools towards the cost of computers or specialist equipment, which are required for educational purposes for children with complex disabilities.

In January 2021, the Minister for Further and Higher Education, Research, Innovation and Science approved funding of EUR 5.4 million for a number of initiatives aimed at supporting students with disabilities to access and engage with higher education.⁶⁶ The initiatives, which involve 23 higher education institutions will improve college campuses and assist staff with training and development. Specifically, they include the development of assistive technology including for students with disabilities, an app to help students with visual or hearing impairment navigate their way around campus.

4.2 How disability inclusion is promoted through the education and training of digital professionals

It is difficult to ascertain the level and regularity at which disability and accessibility is addressed within further and higher education or CPD training of professionals in Ireland within the broad category of computer science. In some instances, evidence of diversity, disability and accessibility is visible at higher education level in modules pertaining to artificial intelligence and ethics,⁶⁷ however, this is not consistent across higher education institutions. Where a module or course has a focus on societal implications then it generally addresses a diversity of use and need. Recently, computer science has become an optional subject for Junior and Leaving Certificate cycle in Ireland. Within the curricula for Leaving Cert Cycle it addresses “Society and

⁶⁵ https://www.education.ie/en/Circulars-and-Forms/Active-Circulars/cl0010_2013.pdf.

⁶⁶ <https://www.gov.ie/en/press-release/8b29e-minister-harris-approves-54-million-to-help-students-with-disabilities-in-higher-education-institutions/>.

⁶⁷ http://www.nuigalway.ie/courses/taught-postgraduate-courses/computer-science-artificial-intelligence.html#course_outline.

community” including how ‘students will explore the role that adaptive technology can play in the lives of people with special needs and how access to, and engagement with computing and technology is of ever-increasing importance to societies, democracies and human progress’.⁶⁸ Ongoing professional development is provided for specific requirements rather than universal or inclusion of accessibility needs for a diversity of end users.

Enable Ireland hosts the National AT Training Service and offers AT training online via their e learning site.⁶⁹ It also offers a wide range of training, workshop and seminar options.

The NDA provides several tools and guidelines useful for the training of digital professionals including:

- Guidelines for accessible products and services such as Telecoms, Application software, Smart Cards, Public Access Terminals and Digital TV Equipment and services.⁷⁰
- Guidance for online public services⁷¹ to show how Universal Design processes and techniques can be progressively used to enable more people to use online public services with ease and satisfaction.
- IT Procurement Toolkit for guidance on all stages of procuring accessible ICT’s.
- Web accessibility techniques provides practical, advice and direction for anyone involved in web development, design and content. It provides guidance for Developers, Designers and Content providers and editors.
- Web accessibility auditing is intended for managers who are responsible for the development and maintenance of accessible websites.
- Technology for Older People is a Universal Design Survey Tool for assessing older people’s use of everyday technologies in Ireland.
- Universal Design for ICT provides an introduction and overview of the process and motivators for making ICTs more usable by more people.

4.3 How digital inclusion and accessibility is addressed in the education and training of accessibility and inclusion professionals

There has been an increased focus across the education sector in Ireland to spotlight diversity, equality and inclusion including best practice and further resources. For instance, Insights – Equality, Diversity and Inclusion⁷² provides guidance to early years practitioners, parents and primary school teachers on various forms of inclusion, different methods, as well as providing universal design guidelines. Within the higher education sector Equality, Diversity and Inclusion divisions have been created in all higher education institutions with the remit of providing guidance and training to students and staff including digital inclusion and accessibility. Additionally, Enable Ireland provides an introductory Assistive Technology course aimed at people working

⁶⁸ <https://www.curriculumonline.ie/getmedia/d73af6e3-b4e5-4edb-a514-6383e2306a4b/16626-NCCA-Specification-for-Leaving-Certificate-CS-WEB-v4.pdf>, p. 9.

⁶⁹ <https://enableirelandat.ie/>.

⁷⁰ <http://universaldesign.ie/Technology-ICT/Irish-National-IT-Accessibility-Guidelines/>.

⁷¹ <http://universaldesign.ie/Technology-ICT/Guidance-for-Online-Public-Services/>.

⁷² Department of Education (2021) Insights – Equality, Diversity and Inclusion. Available at: <https://www.gov.ie/en/publication/bb647-insights-equality-diversity-and-inclusion/>.

with primary level education.⁷³ Enable Ireland also hosts a 'Foundations in AT' course (5 ECTS) accredited by Technological University Dublin through their School of Mechanical and Design Engineering. It provides knowledge for those working with AT in health, education and employment. Enable Ireland also runs a range of customised AT workshops to meet the needs of specific training groups and invite suppliers and manufacturers of specific AT software and hardware to deliver introductory and/or advanced training that is either product-specific or provides an overview of a product range. Lastly, it invites product suppliers/specialist AT trainers to deliver workshops addressing the specific needs of an identified individual. It also provides StudySmart, a module aimed at providing information on different types of supports available that are free, of low cost, or commercially available.

In line with Social Inclusion and Accessibility policies of county councils (local government) in Ireland is 'Access to the built environment'. As example, Clare County Council operate a 'Buildings and Services accessibility policy'.⁷⁴ This policy aims to ensure accessibility is considered in all aspects of the built environment from procurement, auditing, accessibility information and disability equality training. However, digital accessibility and ongoing training of staff on adaptive technologies or digital advances is not specifically mentioned. Data on assistive technology use by people with disabilities in Ireland compiled by the NDA from National Disability Survey conducted in 2006 is far out of date considering the fast pace by which digital technology advances and has advanced. Knowledge of assistive technology use by people with disabilities in Ireland is required to bring education, training, and awareness up to date.

The main transportation providers in Ireland, namely – Dublin Bus, Go-Ahead Ireland, Iarnród Éireann Irish Rail, Bus Éireann, Luas all have an accessibility policy that take into account the needs of all of its customers. For example, Dublin Bus's accessibility policy⁷⁵ includes the aim of reviewing its service on a regular basis to see how best it can be improved, providing disability awareness training as part of their customer care training for their staff, as well as upgrading their communication system and providing accessible information where required. To achieve these aims, Dublin Bus holds quarterly meetings and consultations with the Dublin Bus Disability Awareness Group. The NDA provides an accessibility toolkit to help the businesses and service providers make their services, buildings, information and websites more accessible to customers with disabilities. The NDA also provides an eLearning module to help staff, particularly the public sector, communicate effectively with people with disabilities. While this focus and training on accessibility within transportation services is welcome, knowledge of the way in which staff or the provision of ongoing training in relation to digital transformation and adaptive or assistive technologies is provided is not categorised specifically. In light of the fact the Irish government is paying increased attention to digital transformation throughout the country and has made a large investment to supporting that transformation, it would be timely to see digital inclusion addressed specifically and visibly within training, education and awareness information and courses.

⁷³ <https://enableirelandat.ie/>.

⁷⁴ <https://www.clarecoco.ie/your-council/social-inclusion-and-accessibility/access-to-the-built-environment/#training>.

⁷⁵ <https://www.dublinbus.ie/Your-Journey1/Accessibility/Dublin-Bus-Accessibility-Policy/>.

4.4 How digital inclusion is addressed via the training of people with disabilities

Training for disabled people to improve their knowledge and understanding of digitalisation, primarily concerns assistive technology to improve accessibility and employability. Furthermore, digital learning and methods is embedded within the curricula of education provision in Ireland.

Beyond the education system a number of NGO's and charitable organisations offer information and training for people with disabilities. For example, Ahead is an independent non-profit organisation that focuses on education and employment for people with disabilities.⁷⁶ It provides information and training to students and graduates with disabilities, teachers, guidance counsellors and parents on disability issues in education. It works with graduates and employers through the GET AHEAD⁷⁷ Graduate Forum and the WAM Mentored Work Placement Programme.⁷⁸ It also coordinates LINK, an action learning network of European organisations promoting the inclusion of students and graduates with disabilities in Higher Education.

Enable Ireland's National Assistive Technology Training Service provides customised training programmes to support users of Assistive Technology to live the lives of their choosing. They deliver AT training online, via their elearning site, and offer a wide range of training, workshop and seminar options. They also oversee CHAT – Community Hub for Accessible Technology. CHAT is a community driven by people who share a passion and belief in the transformative effect that assistive technology has on individual's lives. CHAT creates a peer-supportive learning environment that aims to identify challenges, gaps and to consider solutions regarding AT. It has a national membership of over 200 people and organisations. It includes a range of stakeholders including people with disabilities (expert and non-expert AT users) with different member organisations hosting each CHAT gathering. Enable Ireland has an AT loan library where members can borrow from a wide-range of devices to trial with their clients and/or for professional training purposes.

Enable Ireland has also partnered with Microsoft to develop the AT Passport. This is a 'person-centred record of an individual's Assistive Technology needs, and would include technologies, training, tech support, funding and procurement details'.⁷⁹ It is envisaged that the AT Passport would travel with the person over their lifespan, from preschool to older years, as required.

Similarly, the Disability Federation of Ireland (DFI) runs a project called Freedom Tech⁸⁰ which aims to provide access to affordable and up to date technology for older people and people with disabilities. It lobbies government and conducts research on assistive technology support (see section 5.1 below).

⁷⁶ <https://www.ahead.ie/aboutus>.

⁷⁷ <https://www.ahead.ie/getahead>.

⁷⁸ <https://www.ahead.ie/wam>.

⁷⁹ <https://www.enableireland.ie/resources/news/enable-ireland-and-microsoft-join-forces-assistive-technology-passport>.

⁸⁰ <https://www.disability-federation.ie/freedomtech>.

Ireland has 27 Memory Technology Resource Rooms⁸¹ where people can know more about products and devices which can help manage memory difficulties. Such rooms provide opportunities to try out different devices and strategies to promote independence, safety and quality of life.

Rehab, a charity that provides training and services for people with disabilities, operates a variety of training courses focused on the digital economy through its National Learning Network.⁸²

The Department of Social Protection oversees Access the EmployAbility Service which is a nationwide employment support service for people with a health condition, injury, illness or disability. The service acts as liaison and support between employer and employee and can provide guidance on training required to help ensure successful recruitment and retention of employment.

The National Council for the Blind Ireland runs a number of courses that aim to improve digital literacy, the use of smart technology and assistive technology. This organization runs courses, for example, to learn to shop online with Jaws screen reader, touch typing for beginners or iPad with voiceover beginner training. Additionally, NCBI aims to develop an extensive indoor transport training facility called the Wayfinding Centre to equip people with disabilities with mobility skills to complete end-to-end journeys using multiple modes of public transport. The centre will offer specialised instruction and will simulate the various modes of public transport including the acoustics, hazards and built environment in order to develop confidence and familiarisation with new transport models and related technology.⁸³

⁸¹ <https://dementiapathways.ie/services-and-support/memory-technology-resource-rooms>.

⁸² <https://www.rehab.ie/national-learning-network/find-a-course/our-courses/>.

⁸³ <https://www.ncbi.ie/wayfinding/>.

5 The opportunities and challenges presented by digitalisation and digital transformation to the rights of persons with disabilities

5.1 The most significant opportunities presented by digitalisation and digital transformation for persons with disabilities

A discussion paper by Enable Ireland and Disability Federation Ireland (DFI) entitled: “Assistive Technology for People with Disabilities and Older People”,⁸⁴ highlights that assistive technology can:

- support people to access their human rights (UN CRPD);
- support the State to deal with resource constraints on services and social welfare spend;
- support the state to respond to population increases amongst people with disabilities and older people;
- offer value of money in terms of user satisfaction and increased quality of life and cost savings;
- support people to complete their education;
- support people to get and retain employment;
- support people to live in their community;
- support people to become digitally literate.

In light of the above opportunities, the report made a number of recommendations including:

1. issue a cross-Government Policy Statement that supports people’s right to access Assistive Technology at any age, where there is an identified need;
2. introduce an Assistive Technology (AT) Passport;
3. assign a central coordinating agency with responsibility to support an ecosystem of supports;
4. provide up to date information, advice and peer supports;
5. develop funding protocols;
6. develop Service Provision;
7. invest in capacity raising amongst AT users, professionals and in research and innovation.

The Independent Living Movement in Ireland (ILMI) Onside project highlights how elements of digitalisation and digital transformation can provide opportunities for disabled people ‘to access mainstream lifestyle choices beyond the traditional disability-service provider ‘care’ options’. However, such access requires IT equipment and training, as well as training on how to access and effectively use current web-based technologies. ILMI, as well as their project Onside, has been supporting disabled people to get the training they need on digitisation.

⁸⁴ O’Donnell, J., Long., S. Richardson, P. (2016) Assistive Technology for People with Disabilities and Older people: A Discussion Paper, Enable Ireland and Disability Federation of Ireland, Dublin. Available at: https://www.enableireland.ie/report#_Toc467830779.

5.2 The most significant challenges faced by persons with disabilities in relation to digitalisation and digital transformation

The NDA report ‘Transforming Lives: future demand for disability services’⁸⁵ highlighted that there is little hard data available on current expenditure on assistive technology or on service requirements in this area. The list of products currently in use by those with up-to-date records on the NPSDD shows a very wide variety, much of it low-tech and inexpensive items such as grab rails or walking aids, and extending to expensive items like specialised or powered wheelchairs, which can help maintain and enhance independence and mobility. A study for the NDA⁸⁶ that examined the data on assistive technology availability and use from the 2006 National Disability Survey found that unmet need was over 50 % for 11 of 32 types of assistive technology covered in the survey. The greater likelihood of unmet demand, controlling for other factors, arose

- for those with lower levels of impairment;
- when the assistive technology was for an impairment that was not the person’s main disability;
- for people living in communal establishments;
- for disability onset after childhood.

In 2020, the National Clinical Programme for People with Disabilities undertook a survey of technology use to learn from the experience of service providers in the sector.⁸⁷ COVID-19 has resulted in improved digital literacy among service users and staff, and it has indicated capacity for future service enhancement; using technology to augment services that existed prior to COVID-19. The survey highlighted a number of recommendations from the service provider experience. These included: i) investment in training programmes and upskilling for staff, ii) investment in technology and supportive infrastructure e.g. IT, both hardware and software platforms to support the delivery of virtual services, iii) familiarising and following HSE national guidelines available in regard to virtual health, and iv) that a process, programme development and shared learning structures are developed. Significantly, the survey highlights that further enquiry into the user perspective to improve access and outcomes for service users remains to be considered.

Research by Inclusion Ireland and Technical University of Dublin highlights the digital divide for people with an intellectual disability.⁸⁸ The CEO Enda Egan stated that they ‘found that people with an intellectual disability felt isolated and lonely during lockdown but they also found that those with access to technological supports, whether through education or day services, enjoyed participating online and used the tools to maintain

⁸⁵ National Disability Authority (2018) Transforming Lives: Report on the future needs for disability services. Available at: <http://nda.ie/Publications/Disability-Supports/Transforming-Lives.html>.

⁸⁶ Cullen, K., D. McAnaney, C. Dolphin, S. Delaney, and P. Stapleton. (2012) Research on the provision of Assistive Technology in Ireland and other countries to support independent living across the life cycle. Work Research Centre. Dublin. Available at: <http://nda.ie/file-upload/research-on-the-provision-of-assistive-technology-executive-summary1.pdf>.

⁸⁷ Walsh, M., R. Cormack, M. MacLachlan (2020). *Digital and Assistive Technology use in Disability Services during Covid-19: A Report on the Experiences of 120 service providers* “Right to Connect”. National Clinical Programme for People with Disability. HSE. Available at: <https://www.hse.ie/eng/about/who/cspd/ncps/disability/programme-publications/digital-and-assistive-technology-use-in-disability-services-during-covid19-report.pdf>.

⁸⁸ <https://inclusionireland.ie/news-events/idpwd2020-digital-divide-for-people-with-an-intellectual-disability-must-be-addressed/>.

friendships and keep up with family. However, many people reported not having access to these technological tools, and tools like Zoom were not suitable and accessible for all. Some were able to access at home, some had to go to local offices or services'. The common theme was the need for supports to be put in place to enable everyone to be included.

Ireland has been proactive in trying to close the digital divide with wide-ranging initiatives, from Ireland's National Skills Strategy 2025 and the National Broadband Plan to the 'Getting Citizens Online Programme'.⁸⁹ However, key barriers to digital inclusion remain – most notably around motivation and awareness of those impacted. In response to COVID-19, DFI found that people with disabilities cannot engage to the same extent in remote/online activities for a variety of reasons including digital poverty, low digital literacy, co-ordination difficulties in using phones and laptops/tablets, and living in areas with low internet connectivity.⁹⁰

⁸⁹ <https://www.irishrurallink.ie/getting-citizens-online/>.

⁹⁰ https://www.disability-federation.ie/assets/files/pdf/dfi_submission_impact_of_covid-19_on_people_with_disabilities_and_the_disability_sector_290620_1.pdf, p. 7.

6 Conclusions and recommendations

6.1 Conclusions

Ireland is proactively endeavouring to nationally transform the digital infrastructure and level of connectivity for businesses and citizens through the development of, for instance, a new NDS, the National Broadband Plan, the Digital Strategy for Schools 2020-2025 and Project Ireland 2040. While such strategies aim to ensure that all citizens of this digital transformation are included, stakeholder groups need to ensure genuine representation from within the disability community such as DPO's so that the interests and support required by disabled people is part of the consultation process. Disability training and awareness is highlighted within key digital infrastructures and among city and county councils (local government) to address the supports required for instance, to access public transport. While there is evidence that the understanding of issues pertaining to the lives of disabled people such as accessibility is broadening, the embrace of digitisation and digital transformation requires greater buy-in from across all sectors of life in Ireland including access to employment, culture and sport.

6.2 Recommendations

1. Government

- Increase access to digital literacy for older people and people with disabilities including continuity and progression of training to ensure competency in up-to-date technology.
- Continue to support and fund peer-learning environments such as CHAT that function to ensure knowledge exchange and opportunities to connect with others.
- Provide clear education and training modules for digital professionals on the WCAG and the benefits of universal design when creating digital technology, software or app design, as examples.
- Disability and awareness training programmes should be updated to include the way in which digital/smart technology or assistive devices can play a role in the everyday lives of people with disabilities and training provided to staff on the way in which assistive devices interact with public infrastructure including, as examples, transport, employment, housing, culture and sport.

2. National Disability Authority

- Provide updated data on the current spend on funds and grants including the assistive technology grant, or the workplace equipment adaptation grant considering the current emphasis on remote working, or adaptation of housing when transitioning from group living to independent living. Transparency in relation to assistive technology demand, grants, or spend either in a domestic or employment setting is not readily available through the National Disability Authority in Ireland.
- Undertake research on the way in which COVID-19 has impacted the digital literacy of persons with disabilities and how that can be improved upon as services continue to adapt and seek to expand their services digitally.

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