Digitalisation and digital transformation in Poland

Implications for persons with disabilities

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Implications for persons with disabilities

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1 Executive summary

The digitalisation strategies are anchored in various policy documents, among which The Integrated State Informatisation Programme is understood as a reference point.

Disability is addressed in the strategies mainly through focusing on accessibility. For example, the Integrated State Informatisation Programme addresses disability within the framework of the reorientation of public administration towards citizen-oriented services (5.1), where accessibility is pronounced among seven principles. When disability is tackled digitalisation is treated as supporting tool in overcoming barriers. Persons with disabilities and their organisations are not considered as key actors in shaping and deciding on the digital transformation, the solutions are rather designed "for" them rather than "with" or "by" them. A broader human rights-based approach rooted in the UN CRPD is scarcely present. Moreover, disability is often addressed as a homogenous category, and intersectionality with regards to age, rural/urban divide, gender, education, and or type of disabilities are not sufficiently addressed. Importantly, a robust analysis of the impact of digital transformation on persons with disabilities, and accountability mechanisms are lacking in the documents.

Within the Strategy for Persons with disabilities, 2021-2030 digitalisation is understood as an important tool for disability-inclusive policies, and a sphere where accessibility plays a key role in access to information and services. However, within some areas e.g., culture, education, accessibility, digitalisation is addressed, while other policies e.g., deinstitutionalization and independent living, labour market, prevention from violence, counteracting poverty, are not recognized as having substantial connections with digital transformation. Also, in other disability-related strategies, neither the digital skills of persons with disabilities nor youth mental health care system challenges and digitalisation, are addressed through a detailed analysis.

With regards to funding disability inclusion and accessibility, it's important to notice that the existing funding is defined mainly under the accessibility umbrella. The flagship programme Accessibility Plus anticipates that between 2018-2025 approximately PLN 23.2 billion will be allocated for the overall implementation of the objectives, including foreign public funds (which constitutes about 84 % of the program's budget). The budget of the Digitalisation area amounts to PLN 300 million.

Moreover, the European Funds for digital development 2021-2027 (a continuation of the Digital Poland 2014-2020) represents the next stage of the country's strategic funding for digital transformation and as of spring 2021 is undergoing public consultations. The expected budget amounts to 2 billion PLN. The proposed program addresses disability-inclusive digitalisation to a certain extent, however, it does not comply with the UN CRPD (the compliance with the UN CRPD is understood as a basic, ex-ante requirement that is unfulfilled). Moreover, during the public consultations the representative of the Polish Forum of Persons with Disabilities (PFON) highlighted the insufficient recognition of the active role of the civil society, including civil society activity as an area that requires digitalisation. PFON representative also suggested it will be important to centre accessibility in the programme using already existing strategic documents (e.g. Accessibility Guidelines for the Cohesion Policy issued in 2018 that were guiding EFS 2014-2020 programs).

The major opportunity highlighted by the civil society organisations (CSOs) is enhancing the accessibility of the digital sphere and its positive consequences for social cohesion and inclusion in many areas including e-learning, labour market, access to information. E-health remains one of the domains with the most urgent expectations, this includes the diversification of available communication channels within health care system as discrimination against persons with disabilities manifests itself in the lack of possibility to book an appointment in an accessible way.

Although the digital divide is a relatively well-researched topic, still disaggregated data allowing for intersectional analysis is very much absent. Among persons with disabilities 906,00, or approx. 35 % of people with disabilities have never used the Internet, thus persons with disabilities constitute 20 % of the general population who never used the internet, while it is estimated that persons with disabilities comprise approx. 14 % of the population of Poland. Central Statistical Office reports that in 2019, 76.9 % of households without persons with disabilities had a device with internet access compared to 69.4 % of households with persons with disabilities, a smartphone was owned by 69.3 % and 58.9 % respectively, thus disability gap is still visible. In the light of this evidence, it's important to highlight that researching and monitoring the disability gap in the digital divide remains crucial to hinder the negative effects of digital transformation on persons with disabilities so that the latter does not become a factor further exacerbating social inequalities. Other challenges with regards to disability and digitalisation relate to data security, surveillance, consent, and privacy challenges as well as ableist bias that may cause unforeseen harm to persons with disabilities.

Good practices

- Accessibility Plus programme – aiming at improving accessibility of the digital sphere, including public institutions webpages.
- Enhancing access to culture – attempts at ensuring digitalized heritage is accessible for persons with disabilities.

Recommendations

1. Embed all strategic documents related to digitalisation and digital transformation within the disability rights approach and ensure compliance with the UN CRPD.
2. Enhance the role of civil society, in particular Disabled Persons' Organisations (DPOs), in shaping the digital transformation, ensure professionals with disabilities, in particular women with disabilities, are working in digital transformation.
3. Continue the focus on the accessibility of the digital sphere yet also go beyond to use the potential of digitalisation in other areas including deinstitutionalization, counteracting violence, disability assessment, and services. Address intersectional inequalities by better targeting interventions.
4. Centre digitalisation and disability rights in education, including digital skills in special and integrated settings, as well as disability rights curricula of digital professionals.
5. Strengthen accountability mechanisms and ensure tackling broader questions of privacy, consent, surveillance, violence in digital sphere, digitalisation of care, security especially in digitalisation of health care services and ableist bias and how they relate to diversity of disabilities in digital transformation to protect from harm.

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

The strategies on digitalisation and digital transformation are anchored in various policy documents on selected aspects of the process. However, the most overarching document is the Integrated State Informatisation Programme[1] that is a point of reference for assessing the projects submitted for consideration to the Council of Ministers Committee for Digital Affairs[2] which evaluates them for compliance with the strategic directions of development in the area of informatization.

The Integrated State Informatisation Programme aims at further modernization of the public administration and improvement of the functioning of the state with the use of digital technologies. It is assumed that the implementation of the program will contribute to improved quality of communication of citizens and other stakeholders with the public administration. Specific objectives of the program were defined as following: (1) reorientation of public administration towards services focused on citizens' needs, (2) implementation of horizontal tools supporting activities of public administration (3) development of digital competencies of citizens, administration employees, and ICT specialists. State-led activities will cover both constant improvement of the quality of e-services and increasing the ease of access to them, their transparency, comprehensiveness, and usefulness.

The programme addresses disability within the framework of the reorientation of public administration towards citizen-oriented services (5.1), where paragraph three sets universality and accessibility among seven principles. It states that the public administrations should design digital public services so that they are inherently universal and adapted to different needs, e.g., the needs of the elderly and people with disabilities. There is no further reference to the non-discrimination principle, nor grounding within the disability rights framework through referencing the UN CRPD.

Among other policy documents that lay important directions and set milestones for the digitalisation process The National Broadband Plan[3] (adopted in January 2014 and updated in 2020) needs to be named, as it is a document that foresees 100 % of households and companies should have access to internet connectivity of at least 30 Mbps until 2020, and that 50 % of households and companies use internet connectivity of at least 100 Mbps by 2020.[4] At the end of 2018, 71.7 % of households in Poland had possibility to access internet connectivity of 30 Mbps or higher, while 19.3 % of households in Poland subscribed to services with a capacity of at least 100 Mb/s.[5] By 2025, the following is envisaged: (1) universal internet access of at least 100

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[1] The Integrated State Informatisation Programme, https://www.gov.pl/web/cyfryzacja/program-zintegrowanej-informatyzacji-panstwa.

[2] Council of Ministers Committee for Digital Affairs, https://www.gov.pl/web/digitalisation/council-of-ministers-committee-for-digital-affairs.

[3] The National Broadband Plan, https://www.gov.pl/web/cyfryzacja/narodowy-plan-szerokopasmowy, https://mc.bip.gov.pl/programy-realizowane-w-mc/narodowy-plan-szerokopasmowy.html.

[4] Targets are fully harmonised with the targets set by the European Commission's Digital Agenda for Europe (DAE).

[5] The National Broadband Plan – update, https://www.gov.pl/web/cyfryzacja/narodowy-plan-szerokopasmowy---zaktualizowany, p. 13.

Mbps, with modifications to speeds measured in Gbps, (2) internet access of at least 1 Gbps for all locations that are key drivers of socio-economic development (this includes schools, transport hubs and major public service locations, it also applies to internet-intensive businesses). Furthermore, additional objectives of the plan are aligned with those of the Gigabit Society. Disability is only once addressed in the National Broadband Plan, in the context of financial barriers in the usage of the internet. It references the 2017 Central Statistical Office[6] survey that showed that less than 4 % of households indicated financial issues as the main barrier to internet use. This problem concerns, in particular families with many children and end-users with disabilities. It states, that in this particular case, the solution to the financial barrier must provide direct subsidies to users, especially those with high motivation. This barrier is also tackled in the context of lack of access to the IT equipment adequate to use the potential of high-speed services.[7] Importantly, The National Educational Network[8] (OSE) is directly connected to the plan, as it aims at creating an ICT network connecting all schools in Poland. Launching OSE allows the introduction of new forms of education and equalizes educational opportunities for all students in Poland, especially those living in smaller towns and villages through, ensuring access to fast Internet provision of multimedia educational content, provision of network security services.

Moreover, with regards to digital accessibility, many provisions of the Polish law on digital accessibility follow directly from EU regulations on the subject.[9] One of the laws relating to digital accessibility is the Act of 19 July 2019 on ensuring accessibility for persons with special needs.[10] The aim of the Act is to improve the living and functioning conditions of citizens with special needs, due to disability or reduced level of functionality due to age or illness. Public entities must guarantee at least minimum accessibility, in three areas: architectural, communication, and digital. The latter is regulated by the Act of 4 April 2019. on digital accessibility of websites and mobile applications of public entities.[11] The Act defines obligations of digital accessibility and the obligation to place an accessibility declaration. It also describes the rules for monitoring digital accessibility and the rules for dealing with the lack of such accessibility. The deadline for the final adjustment of all websites of public entities was set 23 September 2020, and for mobile apps of public entities - 23 June 2021.

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[6] GUS, Społeczeństwo informacyjne w Polsce. Wyniki badań statystycznych z lat 2013-2017. Warszawa–Szczecin 2017, http://stat.gov.pl/obszarytematyczne/nauka-i-technika-spoleczenstwo-informacyjne/spoleczenstwo-informacyjne/.

[7] The National Broadband Plan, https://mc.bip.gov.pl/programy-realizowane-w-mc/narodowy-plan-szerokopasmowy.html, p. 60.

[8] Act of 27 October 2017 on the National Education Network http://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20170002184/U/D20172184Lj.pdf.

[9] Laws on digital accessibility, https://www.gov.pl/web/dostepnosc-cyfrowa/prawo-dotyczace-dostepnosci-cyfrowej.

[10] Act of 19 July 2019 on ensuring accessibility for persons with special needs https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20190001696/U/D20191696Lj.pdf.

[11] Act of 4 April 2019. on digital accessibility of websites and mobile applications of public entities https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20190000848/T/D20190848L.pdf.

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

The following sector-specific strategies were chosen for analysis in this chapter: the Policy for the development of artificial intelligence in Poland from 2020 the e-health programs, and The Strategy for Responsible Development.

Policy for the development of artificial intelligence in Poland from 2020,[12] is a strategic document in the field of digitalisation that was adopted on 28 December 2020. Disability does not constitute a key reference in the document. It is however addressed in the section on AI and society when stating that digitalisation will have different impacts on different socially excluded constituencies (which are not specified further). Actions including ethical analysis, and counteracting the negative impact of digitalisation are foreseen, however are communicated to be on a rather general and non-disability-specific level. The broad (non-specific to disability) anti-discrimination framework is also only briefly mentioned and does not ground the strategy fully within the human rights-based approach. It does not tackle the disability bias within the AI.[13] Although the document relates to the OECD AI Principles,[14] the anti-discrimination framework needs to be much more central and precise, including practical measures to counteracting ableism, to fully address the rights of persons with disabilities. Even the accessibility references are not clearly rooted in the rights of persons with disabilities. In this matter, the document "Assumptions to the strategy AI in Poland Ministry of Digitalisation Action Plan"[15] issued in 2018 is slightly more grounded in the disability rights approach, referencing the UN CRPD, highlighting the accessibility of AI products, especially in the medical realm. Regarding the involvement of Disabled Persons' Organisations (DPOs) in the development of this strategy – no evidence of such has been encountered in the research.

The Strategy for Responsible Development[16] - adopted by the Council of Ministers on 14 February 2017 - is one of the key policy documents that provides a basis for changes in the development management system, including the existing strategic documents (strategies, policies, programmes). The strategy does address digitalisation and the use of digital technologies, in particular, communication via high-speed telecommunications networks. While disability is addressed in various areas of the strategy, within the chapter on digitalisation it is only referenced in the context of communication. In particular, it tackles communication based on advanced digital solutions, as a crucial catalyser for the inclusion of people with disabilities, due to the systematic introduction of wide-ranging services, e.g., in contacts with offices and institutions. It is argued that good mobile network coverage is a prerequisite for the reliable functioning of applications supporting people with disabilities, as the

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[12] Policy for the development of artificial intelligence in Poland from 2020 https://monitorpolski.gov.pl/M2021000002301.pdf.

[13] Whittaker M. et al, (2018), Disability, bias and AI, https://ainowinstitute.org/disabilitybiasai-2019.pdf.

[14] Scoping the OECD AI Principles Deliberations of the Expert Group on artificial Intelligence at the OECD (AIGO) https://www.oecd-ilibrary.org/docserver/d62f618a-en.pdf?expires=1603987342&id=id&accname=guest&checksum=28E90DC24CF15EF5DCB93E10 76E7ED08.

[15] Assumptions to the strategy AI in Poland Ministry of Digitalisation Action Plan http://gov.pl/documents/31305/436699/Za%C5%82o%C5%BCenia_do_strategii_AI_w_Polsce_.pdf /222505de-d5e2-061e-cff3-935da04e351f?download=true.

[16] The Strategy for Responsible Development, https://www.gov.pl/web/fundusze-regiony/informacje-o-strategii-na-rzecz-odpowiedzialnego-rozwoju.

applications, to be fully effective and efficient require a good and reliable connection to a wireless network - both mobile and local. The same argumentation is used in the 5G strategy[17] - a tool to enable the effective implementation of 5G networks in Poland and providing citizens with access to new technologies which directly refer to the Strategy for Responsible Development. However crucial it is, the broader disability rights perspective in digitalisation is lacking. Remarkably, although building the information society is - along with the development of a modern digital network, and data security – defined as a key dimension of intervention, it is limited in specifying details. It foresees - however without greater details, nor disability mainstreaming perspective – flexible adaptation to individual needs of citizens, and support addressed to groups with different levels of digital competence, with particular emphasis on actions for digital inclusion. A more human rights-based approach to disability and digitalisation, including a robust analysis of the impact of digital transformation on persons with disabilities, is however lacking.

Although in **2019** Poland ranked only 23rd in the general The Digital Economy and Society Index, and 2**0th** in terms of the development of digital public services among EU Member States,[18] digitalisation is being **gradually** advanced within the healthcare sector over the past years. E-health strategies[19] do include implementation of the e-patient portal, digitalisation of issuing of the sick leave as well as e-prescriptions. Nevertheless, in the report *E-health: benefits, challenges, informatization strategy*[20] issued by the Ministry of Health in September 2019 we cannot find any references to disability. Although many of the introduced general solutions do support access to the health of persons with disabilities on diverse levels, to some persons with disabilities the solutions remain inaccessible (see chapter 5.2). *The A - Z Guide* presenting the timeline of changes in the area of e-services in healthcare[21] issued in December 2020, highlights however the possibility to request e-prescriptions through the e-patient portal, which is planned to be introduced by 2021. This solution will support in particular persons with disabilities. It is crucial to research, monitor, and develop an e-health strategy that would centre disability-rights perspective including, digital solutions supporting accessible communication with medical professionals (including communication in Sign Language), issues connected to privacy, accessibility of medical documentation, and digitalisation of disability-specific public services.

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[17] The 5G Strategy, https://www.gov.pl/web/cyfryzacja/strategia-5g-dla-polski.

[18] DESI Index 2020, https://digital-strategy.ec.europa.eu/en/policies/desi.

[19] Although the introduction of *The Strategy for the Development of eHealth in Poland 2018 – 2022* was announced, the available public information does not provide citizens with the document itself https://www.portalsamorzadowy.pl/ochrona-srodowiska/strategii-rozwoju-e-zdrowia-przyjeta,101992.html, https://www.cez.gov.pl/aktualnosci/szczegoly/prezentacja-strategii-rozwoju-e-zdrowia-w-polsce-na-lata-2018-2022/.

[20] Ministry of Health, (2020), *E-health: benefits, challenges, informatisation strategy* https://cez.gov.pl/aktualnosci/szczegoly/e-zdrowie-korzysci-wyzwania-strategia-informatyzacji-raport/.

[21] Ministry of Health, (2020*), The A - Z Guide* presenting the timeline of changes in the area of e-services in healthcare https://ezdrowie.gov.pl/downloadFile/4249.

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

Poland has adopted its first Disability Strategy[22] on February 16, 2021. The document *Strategy for Persons with Disabilities 2021-2030* does address digitalisation, however certain aspects of digital transformation are tackled in a more elaborated and explicit way, than others. The very concept of accessibility, including digital access, is central and addressed both in background analysis as well as in the action plan section. It is however important to highlight that there is no separate chapter on digitalisation, and the diagnosis chapter does not present rich disaggregated data on the digital divide and disability nor the comprehensive analysis of the impact of digital transformation on diverse disability communities. No explicit reference to digitalisation in education nor work is made in the strategy diagnosis chapter.

Accessibility itself comprises the II priority of the program. The digital access in the background analysis relates mainly to accessible web pages of public institutions, where it is admitted that over the past years the progress was too slow. According to the data presented in 2013, only 1.7 % of the surveyed webpages of public institutions met the minimum requirements, in 2015 the number raised to 13 %, in 2016, increased to 22.9 %, and in 2017 the level of accessible public administration services doubled to 47.8 %. The authors of the Strategy highlight, that on 4 April 2019, the Polish Parliament adopted the Act on digital accessibility of websites and mobile applications of public entities, implementing Directive 2016/2102 of the European Parliament and the European Council on the accessibility of websites and mobile applications of public sector bodies.[23] The Act sets out, the requirements for the content, review, and update of accessibility declarations of websites and mobile applications of public entities and their publication. The provisions implementing the European Accessibility Act (EAA)28) which will be in force in the Polish legal order from 28 June 2025, will impose the obligation to make websites and mobile applications accessible also in the private sector including the transport services, banking, and e-commerce.

The main planned activity related to digital access is the action titled *Ensuring access to online content for all.* This commitment includes meeting accessibility standards in the central GOV.PL portal, where the catalogue of services and information will be adjusted to the needs and requirements of persons with disabilities and seniors. In order to ensure the effective implementation of the measure, training will be provided on the practical creation of digital documents, multimedia, and websites for staff responsible for producing information. In addition, it is planned to create a database of best practices in digital accessibility. The database will be updated with the latest solutions and will be made available on the GOV.PL portal. The Strategy foresees monitoring of the digital accessibility of public bodies to be introduced, in order to

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[22] Strategy for Persons with Disabilities (2021-2030) http://www.niepelnosprawni.gov.pl/download/Uchwala-Nr-27-Rady-Ministrow-w-sprawie-przyjecia-Strategii-1614284683.pdf?utm_campaign=pfron&utm_source=df&utm_medium=download.

[23] Directive (EU) 2016/2102 of the European Parliament and of the Council of 26 October 2016 on the accessibility of the websites and mobile applications of public sector bodies, Official Journal of the EU L 327 of 02.12.2016, https://eur-lex.europa.eu/legal-content/PL/TXT/PDF/?uri=CELEX:32016L2102.

measure progress and map the work that is still to be done. The Strategy includes also the launch of a system of automatic monitoring of the accessibility of government websites.

The strategy envisions also digital activities under priority *II. 3.3 Development of various methods of communication for people with different types of disabilities and new technologies supporting this process.* By 2025 it is planned to work on the implementation of a live subtitling service. An analysis aiming at formal recognition of the live subtitling services will be carried out, attempts will be made to standardize and certify this service. Moreover, under task *II. 3.4 Establishment of a Communication Centre, real-time remote communication services for Deaf, deafblind, and hard of hearing persons* are planned. This will include among others, a professional Polish Sign Language interpretation, as well as transcription into Polish text or Braille.

The strategy foresees also to enhance job search in the governmental administration via digital access under *(II. 3.5.) Adaptation of internet search tools for job offers in the government administration to the needs of people with disabilities.*

With regard to education, two main activities are planned: expanding the basis of available e-materials on the Integrated Education Platform,[24] and increase of access to audio-visual and printed material. As stated, by 2023, it is also foreseen to provide remote access to the POLONA Digital National Library for persons with disabilities who have difficulties in reading printed text in order to make it possible to use the materials directly from own devices, in the place of residence.

Under priority *III. Ensuring support for children and young people with disabilities in developing their potential activities* will be implemented in order to make school textbooks available to Deaf and blind students in the form of e-resources in appropriate formats adapted to their needs. Access be provided to textbooks in a digital form, the so-called e-workbooks including auxiliary books for learning Polish Sign Language (PJM), will be made available, allowing for the use of textbooks during the school year.

Moreover, the very concept of digitalisation is explicitly mentioned concerning culture and heritage. The "Digital culture", and under *(II. 4.2.) Making cultural heritage accessible to persons with disabilities through digitization* aims at providing access to cultural resources that will be improved through the digitisation of cultural heritage in order to make them available on the Internet in accessible formats.

The strategy also promises better access to disability-related information under *(VII. 1.4.) Niepelnosprawni.gov.pl.* The information and service portal for persons with disabilities will be enhanced via the gov.pl infrastructure. As promised, the portal will be updated on an ongoing basis with the participation of employees of relevant offices and ministries. It is also assumed that one of the elements of the portal will be related to research and analysis, where indicators, research, evaluation results in the disability field, will be gathered. The action assumes preparation of the portal by the Minister of Digitalisation in close cooperation with the Ministry of Family and Social Policy, and then engaging social organisations associating persons with particular types of disabilities or acting on their behalf.

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[24] See www.epodreczniki.pl.

While understanding the role of the Strategy it is, however, important to remember it has been adopted only in February 2021 and its implementation has to be closely monitored. Significantly, the Ombudsman - in his detailed comments to the proposal of the strategic document[25] - highlighted two crucial factors possibly hindering the proper implementation of the strategic document. Firstly, the vast majority of planned activities have not been linked to any measure. This puts into question the possibility of effective monitoring of the implementation of the Strategy. Secondly, it is the financing of the Strategy activities that raises a strong objection of the Ombudsman. The strategy is to be implemented within the existing amounts included in the financial plans of the public finance units. He points out that this means that the Strategy was prepared on the assumption that new tasks in the area of protection of the rights of persons with disabilities will not entail any financial consequences for the state budget. He states that such an assumption calls into question the credibility of the entire document. The Plenipotentiary for Persons with disabilities who is responsible for the implementation of the strategy answered these concerns in a letter stating that:

> *the exact estimation of the costs of implementation of the planned regulations and system changes will be possible in the first stage of work on the implementation of the Strategy for Persons with Disabilities.*[26]

Importantly, the role of civil society, in particular persons with disabilities in shaping the digital domain, and digital transformation processes was not elaborated upon in the Disability Strategy. Moreover, as we can see, only certain disability-related spheres were addressed. For example, the labour market policies aiming at tackling the wide disability gap in employment are not addressing comprehensively the digitalisation process with its opportunities and challenges for persons with disabilities, including the employment in the IT sector. Other from disability rights perspective crucial topics, such as counteracting and preventing violence and digitalisation are not addressed.

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

The following disability-related strategies are analysed: the Integrated Skills Strategy 2030, The Accessibility Plus Programme, The National Programme for Mental Health Protection 2017-2022.

One of the key strategies important from the disability rights perspective for the digital transformation is the Integrated Skills Strategy 2030.[27] It is a policy document framing the development of skills in line with lifelong learning, that addresses both digital competencies, digital exclusion as well as education of persons with disabilities. Priority 6 *Equalizing access to development and opportunities use of skills*,[28]

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[25] Uwagi Rzecznika do projektu Strategii na rzecz Osób z Niepełnosprawnościami 2020-2030, https://www.rpo.gov.pl/pl/content/uwagi-rpo-do-projektu-strategii-na-rzecz-osob-z-niepelnosprawnosciami.

[26] Odpowiedź pełnomocnika rządu ds. osób niepełnosprawnych, 26.10.2020, https://www.rpo.gov.pl/sites/default/files/Odpowied%C5%BA%20%20pe%C5%82nomocnika%20rz%C4%85du%20ds.%20os%C3%B3b%20niepe%C5%82nosprawnych%2C%2026.10.2020.pdf.

[27] Integrated Skills Strategy 2030 (detailed), https://www.gov.pl/web/edukacja-i-nauka/zintegrowana-strategia-umiejetnosci-2030-czesc-szczegolowa--dokument-przyjety-przez-rade-ministrow.

[28] Integrated Skills Strategy 2030 (general part), http://www.ibe.edu.pl/images/download/Zintegrowana_Strategia_Umiej%C4%99tno%C5%9Bci_2030_cz%C4%99%C5%9B%C4%87_og%C3%B3lna.pdf.

emphasizes using ICT in the everyday work of teachers, including implementing standards of accessibility. Accessibility is understood as access of excluded persons, including persons with disabilities on equal terms with others to information and communication technologies and systems. The main directions of actions in this priority include two important objectives:

> (3) Combating digital exclusion of groups particularly affected by it.
> (4) Improving the quality and promoting inclusive education, with particular emphasis on preparing children, young people, and adults with disabilities to enter the labour market.

It is however important to highlight, that the Strategy does not elaborate on the intersection of disability and digitalisation extensively. For example, digital exclusion, and improving the quality of education of persons with disabilities is presented as rather parallel processes, at least at the document level. It is thus not clear to what extent digital competencies are central to the vision of education of persons with disabilities and the practical implementation of the Integrated Skills Strategy. At the detailed description level, a subtask under thematic area: "To disseminate existing, develop and implement new solutions for the development of basic, transversal and vocational skills of children, young people and adults" is defined, that proposes designing and disseminating of digital activities, including online courses, in accessible formats for persons with disabilities (p. 12). There is however little specific information that would address questions specific to special educational needs (SEN) pupils and students, including women and girls that are less represented in the IT sector (regardless of disability status women comprise only 14 % of IT workers in Poland[29]). Although the Strategy sees digitalisation as key, we do not find information in the central role of developing digital competencies of teachers specializing in working with persons with disabilities, nor the pupils and students with disabilities. It would be recommended to further integrate the Integrated skills strategy for 2030 with the Strategy for Persons with disabilities 2020-30. Additionally, in compliance with the 2020 Country Specific Recommendation (CSR) 2 to improve digital skills, it would be important to understand how the development of digital competencies both in the special schools as well as integrated settings is being planned and implemented.

The second crucial policy in this context is the Accessibility Plus Programme[30] 2018 – 2025,[31] where digitalisation is understood as one of the priorities. The priority is related to digital exclusion and equal treatment, as well as freedom of choice. The program comprises of activities, under the priority *5 Digitalisation* the following activities are foreseen:

> ACTIVITY 17 Accessible Internet websites and mobile applications. The Activity aims at providing accessibility of public portals and websites, with special reference to those which are used for contact with citizens. […] The accessible

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[29] Raport z badania społeczności IT, 2021, https://bulldogjob.pl/it-report/2021#zarobki-a-doswiaczenie_3.

[30] Accessibility Plus programme, English version, https://www.funduszeeuropejskie.gov.pl/media/72628/Dostepnosc_angielski.pdf.

[31] On 19 September 2019, the Law on Ensuring Accessibility for Persons with Special Needs entered into force, which, among others: identifies public entities obliged to ensure accessibility for persons with special needs (Art. 3.), defines the obligations of public entities to ensure architectural, digital and information and communication accessibility (Art. 5.), regulates the following issues: coordination of accessibility, accessibility certification, complaints procedure, Accessibility Fund.

free templates of the Public Information Bulletins (compliant with the recommendations of the WCAG standard) will be made available for all public institutions among others.

ACTIVITY 18 Accessible multimedia contents - In order to exercise the right of access of people with disabilities to multimedia content the activity aims at improvement in accessibility of multimedia services by way of amendment of the Broadcasting Act and obliging broadcasters to provide 50% of broadcast programs with audio-description and live subtitles; obliging producers of films co-financed from public funds to provide audio description, subtitles for the Deaf or a PSL interpreter; making available the educational content (e.g. e-handbooks, guides, atlases with maps, magazines).

ACTIVITY 19 Friendly office - provision of public administration employees with competencies in digital accessibility related to creating and making available electronic content and creating documents in simple language, friendly for the citizen in a condition of improving accessibility of entities rendering public services.

The program sets intended results: (1) 100 public Internet portals meeting accessibility requirements, (2) 50 % of airtime accessible for everyone, (3) public administration resources accessible for all citizens, Beyond the accessibility of online space, the program foresees the development of accessible transport application, improving healthcare facilities and their digital domains, supporting e-commerce, digitalizing various types of cultural resources taking into consideration the accessibility aspect; development of Polish Accessibility Standards including digitalisation as well as monitoring digitalisation and accessibility.

Thus, it is important to highlight that the Accessibility Plus programme – in comparison to other strategies – does anchor to the widest extent, the disability rights approach, as the basis for the accessibility of the digital sphere. However, what is not being tackled is for example actions aimed at counteracting the algorithm bias. Namely, the concern that the algorithms will become a root of a system that do privilege the interests of those already having strong positions in the societal power structures. Moreover, disability rights informed discussions on AI bias continue expressing already existing concerns - that have been central to disability affirmative policies - like for example consent, privacy, surveillance, representation, or visions of normalcy in the context of often asymmetric power relations.[32]

The third strategy for which disability rights perspective on digitalisation should be important is the National Programme for Mental Health Protection 2017-2022.[33] It is the main policy document that aims at (1) "providing people suffering from mental disorders with comprehensive, wide-ranging, and commonly accessible healthcare and other forms of care and assistance necessary for living in the family and social environment; 2) developing proper social attitudes towards people with mental disorders, in particular understanding, tolerance, kindness, as well as preventing their discrimination". The document however does not specify any objectives and tasks connected with digitalisation. Additionally, the diagnosis of the condition of mental health and factors constituting possible threads to mental health, does not refer to the ongoing digital transformation, despite the fact that it plays increasingly a crucial role

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[32] Whittaker M. et al, (2018), Disability, bias and AI, https://ainowinstitute.org/disabilitybiasai-2019.pdf.
[33] National Program for Mental Health, https://www.gov.pl/web/zdrowie/narodowy-program-ochrony-zdrowia-psychicznego1.

in the lives of people, especially among younger generations of so-called digital natives. This seems to be a major oversight, that should be understood in a broader context of the condition of mental health care system. Poland - as reported in EDE 2020/21 report[34] - faces serious problems and shortages in youth psychiatry. In 2020 media reported a crisis in psychiatric care for youth – exhausted admission limits at wards, the wards being closed, waiting times for first-time psychiatrist visits reach few months, and waiting times for hospitalization - up to 12 months. The sector experienced staff shortages among psychiatric doctors,[35] psychiatric nurses, and occupational therapists, low knowledge and awareness of general practitioners, low valuation of health services, uneven location of psychiatric institutions in the country, and difficult housing conditions.[36] It would be important to both tackle the impact of violence in the digital sphere and other impacts of the digitalisation on the mental health, as well as to understand if and how digitalisation may support solutions for the systemic problems raised.

Additionally, given the importance of the issue, it would be crucial to understand how digitalisation will be understood in the deinstitutionalization strategy that is currently being developed. A similar analysis would be needed for the new national program for counteracting poverty and social exclusion, not yet being finalized. Particular focus on the economic deprivation of persons with disabilities and digital skills as well as the digital divide would be important to analyse, from a generational perspective.

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[34] European Disability Expertise, Poland, https://ec.europa.eu/social/main.jsp?langId=en&catId=1532&moreDocuments=yes.

[35] Jonas-Kozik J. (2017), Sytuacja psychiatrii dzieci i młodzieży w Polsce w 2016 roku. Aktualne występowanie i obraz zaburzeń psychicznych wieku rozwojowego, Psychiatria 14(1):61-63, https://journals.viamedica.pl/psychiatria/article/view/50844/40627.

[36] RPO, (2020), https://www.rpo.gov.pl/pl/content/uwagi-rpo-do-projektu-strategii-na-rzecz-osob-z-niepelnosprawnosciami.

4   Promoting disability inclusion through funding, education, and training

4.1   How funding promotes disability-inclusive digitalisation and digital transformation

Given the lack of disaggregated data it is impossible to assess the exact scale of disability-inclusive funding related to digitalisation. However, disability-specific funding in digitalisation exists and is defined mainly under the accessibility umbrella. Below two programs are analysed: the European Funds for Digital Development 2021-2027 being in consultation stage and the Accessibility Plus – related funding.

The European Funds for digital development 2021-2027[37] programme is a continuation of the Digital Poland 2014-2020 and represents the next stage of the country's strategic funding for digital transformation. The expected budget amounts to 2 billion PLN. The proposed program addresses disability-inclusive digitalisation to a certain extent, however, it is crucial to highlight that it does not comply with the UN CRPD. The compliance with the UN CRPD is understood as a basic, ex-ante requirement that is unfulfilled. The criteria on national framework for the implementation of the Convention on the Rights of Persons with Disabilities includes:

> 1. End goals with measurable milestones, data collection and monitoring mechanisms being ready 2. Arrangements to ensure that policies, legislation and standards on accessibility are adequately considered in the preparation and implementation of programmes, and 2a. Reports to the Monitoring Committee on cases of non-compliance of operations supported by the Funds with the UN CRPD (...) and complaints relating to the Convention made in accordance with arrangements made under Article 63 (6) of the General Regulation. While the first one is fulfilled, the latter are not met.

Currently, the programme is undergoing public consultations.[38] The representative of the Polish Forum of Persons with Disabilities (PFON) highlighted the insufficient recognition of the active role of the civil society. He tackled the civil society activity as an area that requires digitalisation, as well as the inclusion of CSOs as beneficiaries (especially in sections 2.2., 2.3., and 2.4). PFON representative also suggested to provide 1 % of funding for each activity to the development of the potential of the CSOs. The second point made by PFON related to the fact that still some applications that are serving relation between the state and the citizens are not fully accessible. Thus, it will be important to centre accessibility in the programme. It was recommended to use the already existing documents: The Agenda for Equal Opportunities and Non-Discrimination as part of EU Funds 2014-2020, introduced in 2015, and Accessibility Guidelines for the Cohesion Policy issued in 2018 that were guiding EFS 2014-2020 programs.[39] PFON stated, that it would be beneficial to implement the obligation to use universal design as well as EU directive on accessibility. The government

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[37] Fundusze Europejskie na Rozwój Cyfrowy 2021-2027,
https://www.polskacyfrowa.gov.pl/media/100367/FERC.pdf.

[38] Fundusze Europejskie na Rozwój Cyfrowy 2021-2027 – wysłuchania, https://www.wysluchania-nowaperspektywa.pl/fe-na-rozwoj-cyfrowy.

[39]
https://www.funduszeeuropejskie.gov.pl/media/55001/Zalacznik_nr_2_do_Wytycznych_w_zakresie_rownosci_zatwiedzone_050418.pdf.

representative concluded that the WCAG 2.1 standards will be applicable to all the activities under the programme.

The beforementioned Accessibility Plus Programme anticipates that between 2018-2025 approximately PLN 23.2 billion will be allocated for the implementation of the objectives, including foreign public funds (PLN 19.6 billion, which constitutes about 84 % of the program's budget). The budget of the Digitalisation area amounts to PLN 300 million.

The Accessibility Plus program foresees 5 universal design labs that will be established at selected technical universities or research institutes to carry out innovative projects, scientific research, and development work. The National Research and Development Centre (NCBiR) provides support for research and development works that are part of the Accessibility Plus Programme. NCBiR activities for 2019 have also included the launch of the "Accessibility Research Programme - Things are for People".[40] The activity that is planned to be implemented by the Centre is the establishment of a national funding program for accessibility research supporting research on the design of ergonomic and cost-effective methods of adapting products to the specific needs of users and the application of new technologies (e.g. applications to teach programming to persons with disabilities). The program is to be financed entirely from a specific grant; the program budget has been planned at the level of PLN 40 million. The scope of the programme included among others:[41]

o Practical application of speech recognition and speech control systems for operating everyday devices, e.g. by using a voice assistant.
o Development of new technological solutions enabling automatic examination and adjustment of websites and mobile applications to the WCAG standard.
o Development of standards and technologies to support the evacuation of people with special needs during random events.
o Developing a route planning system to allow people with mobility constraints to move without barriers (the so-called door-to-door transport).
o Developing technological solutions to support communication in educational processes with people with intellectual disabilities.
o Development of an educational platform allowing for the preparation of e-learning courses adapted to the requirements of visually or aurally impaired persons.

In the first call for proposals, 107 proposals were submitted among which 18 projects were selected for funding amounting to PLN 41 298 706.[42] The programme however included both digital and non-digital solutions.

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[40] Details of the Accessibility Research Programme - https://archiwum.ncbr.gov.pl/aktualne-konkursy/szczegoly-konkursu/competition/konkurs-rzeczy-sa-dla-ludzi/.

[41] The scope of the Programme https://archiwum.ncbr.gov.pl/fileadmin/Krajowe/rzecz_sa_dla_ludzi/3._Zakres_tematyczny_konkursu_Rzsdl.pdf.

[42] List of funded projects, https://www.ncbr.gov.pl/fileadmin/user_upload/import/other/lista_rankingowa_pozytywnie_ocenionych_wnioskow_pp.pdf.

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

The inclusion of disability and accessibility matters in the education of digital professionals is still in need of improvement. While accessibility is starting to be addressed, the broader disability rights and anti-discrimination perspectives are missing from the curricula. It would be recommended to add to the education standards (pl. *standardy kształcenia*) explicitly a standard outcome on knowledge of the equality and anti-discriminatory principles, participatory and the human rights framework, including knowledge of the UN CRPD and skill to implement the framework into activities, plans and projects related to digitalisation. Also, the foreseen activities under the Accessibility Plus focus mainly on access. For example, in the area of Education in Measure 13 - *Accessibility in curricula*, actions will be taken to sensitize students of technical subjects, e.g., computer science and programming to the issue of accessibility. In general, the education standards address non-technological subjects very briefly, for example in the IT curricula under social and rights-based matters declares topics related to professional and ethical responsibility, codes of ethics, and codes of conduct, risks, and liabilities associated with information systems. No explicit reference to disability was found at the standards level. Thus, it is the sole intention of academic teachers if they bring attention of the students to disability rights.

According to a non-representative, yet interesting study (n=1128), students in general assess poorly teaching digital competences at universities - every third participant stated that their university did not teach digital competences at all, and every fourth student stated that that the studies did not develop critical thinking.[43]

Interestingly, the Ombudsman, in his letter addressed to the Ministry of Science Higher Education in 2019, urged to include a broad range of topics related to universal design in the higher education of those who shape the environment. In the answer the Ministry stated:

> In relation to other fields of study, such as e.g., construction, urban planning, interior design, information technology, design, industrial design, the Minister of Science and Higher Education is not competent to determine a model education in the form of education standards. The universities shape their didactic offer and study programs on their own. At the same time, the universities have the possibility of supplementing the curricula with an additional element, so that each student achieves the assumed learning outcomes. Therefore, there are no obstacles for the studies to be enriched with the principles of universal design, which are important from the point of view of all users of the designed objects - also people with disabilities. These contents can also be realized by universities as part of post-graduate studies. Decisions in this regard are within the sphere of autonomy of universities. University authorities also decide on the level of detail of this content and its optionality.[44]

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[43] Śledziejowska K., Włoch D. (2020) Gospodarka cyfrowa. Jak nowe technologie zmieniają świat, Warszawa: WUW. https://www.delab.uw.edu.pl/wp-content/uploads/2020/04/Katarzyna-%C5%9Aledziewska-Renata-W%C5%82och-Gospodarka-cyfrowa.pdf.

[44] https://www.rpo.gov.pl/sprawy-generalne/pdf//2019/7/XI.815.29.2019/1703997.pdf.

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

The training for accessibility professionals is undergoing formalization on the basis of the announcement[45] of the Minister of Funds and Regional Policy of 14 April 2020 on the inclusion of the market qualification "Implementing accessibility in an organisation" in the Integrated Qualification System. As reported in the system record, digital accessibility is important part of the qualifications. The holder of the qualification "Implementing accessibility in an organisation" is responsible for implementing accessibility and compliance with legislation and good practice in an organisation, including architectural, digital and information and communication standards. The qualification implies that the person can, among others:

- list and discusses different forms of accessibility, including architectural, digital, information and communication solutions;
- vreate an accessibility improvement plan for the organisation covering all areas, including websites, applications, digital documents;
- fefine the content of the organisation's accessibility statement in the areas of architecture, digital, information and communication and transport, among others.

With regards to special pedagogy education standards[46] digital inclusion and accessibility is not explicitly addressed. It is however tackled to a certain extent in the general pedagogy education standards. The very word accessibility does not appear in the regulation of the Minister for Science and Higher Education of 25 July 2019 on the standard of education preparing for the teaching profession.

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

The high-quality education on digitalisation and digital transformation are still in need of development in the lifelong educational system in Poland. According to a 2017 survey, about 54 % of 25-64 year-olds had no or low digital skills or had not used the Internet in the last three months. This was a higher share than the average for EU countries (41 %) (Eurostat, 2019).[47] There is no comprehensive and up to date[48] data on the digital skills of persons with disabilities.[49] A qualitative research on digital competences of persons with intellectual disabilities, showed that students show willingness to acquire new skills in the use of tablets, phones and to deepen their knowledge about the practical use of modern equipment. The students declare the

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[45] Announcement of the Minister of Funds and Regional Policy of 14 April 2020 on the inclusion of the market qualification 'Implementing accessibility in an organisation' http://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WMP20200000380.

[46] Regulation of the Minister for Science and Higher Education of 25 July 2019 on the standard of education preparing for the teaching profession http://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20190001450/O/D20191450.pdf.

[47] OECD Skill Strategy Poland http://ibe.edu.pl/download/MEN/OECD-skills-strategy-Poland.pdf; https://ec.europa.eu/eurostat/databrowser/view/isoc_sk_dskl_i$DV_317/default/map?lang=en.

[48] Research reporting data from 2013 exists however, see Duplaga M (2017) Digital divide among people with disabilities: Analysis of data from a nationwide study for determinants of Internet use and activities performed online. PLOS ONE 12(6): e0179825. https://doi.org/10.1371/journal.pone.0179825.

[49] Katarzyna Garwol (2019) "Stopień umiejętności korzystania z technologii cyfrowych a wykluczenie społeczne na przykładzie osób niepełnosprawnych, starszych i ubogich". Nierówności Społeczne a Wzrost Gospodarczy 58:47-68, https://www.ceeol.com/search/article-detail?id=790372.

need to deepen and broaden their skills of using both the devices and various applications, but not for educational purposes, rather to develop interests and satisfy curiosity. A lack of literacy is not a barrier to students using modern electronic devices effectively. It concludes that the use of multimedia as a medium combining different forms: text, sound, graphics, animation, video should therefore be more widespread in the education of people with intellectual disabilities.[50]

Importantly, even though there is no solid data on digital skills of population of persons with disabilities, it can be assumed with high probability that the situation differentiates on the gender axis. The IT community survey 2020,[51] under the patronage of the Ministry of Development confirmed that the IT community is very male dominated (90 % men and 10 % in IT). According to the Gender Equality Index 2020: Digitalisation and the Future of Work – the men score higher than women in internet use skills generally in most EU member states, including Poland. Moreover, it has been proven that the gender divide widens with age and digital skills increase with level of education.[52] Thus, given the disability prevalence rates among older population are higher, it is important to research and understand better the situation of women with disabilities in IT and their digital skills. Especially, as around one in four Europeans perceive a lack of training opportunities as an obstacle to increasing their digital skills and gender stereotyping often hinders women selecting IT-related training.[53]

Apart from the compulsory education system, the training on digital skills for persons with disabilities is rather fragmented and dispersed, organised mostly on the project basis, thus relies heavily on the social capital and access to information. The project-based activities are mostly EU funded, like Digital Skills without limits,[54] however other single initiatives funded with IT sector exist e.g., scholarship fund Diversity in IT.[55]

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[50] Sobocha, E., & Pietrzak, M. (2017). Praktyczne zastosowanie kompetencji cyfrowych przez osoby z niepełnosprawnością intelektualną. In A. B. Kwiatkowska & M. M. Sysło (Eds.), *Informatyka w edukacji : wokół nowej podstawy informatyki* (pp. 298–308). Wydawnictwo Naukowe Uniwersytetu Mikołaja Kopernika, http://iwe.mat.umk.pl/iwe2017/materials/art2017/37.pdf.

[51] The IT community survey 2020, https://bulldogjob.pl/it-report/2020.

[52] European Institute for Gender Equality, (2020), Gender Equality - Index 2020.

[53] European Institute for Gender Equality, (2020), Gender Equality - Index 2020.

[54] Digital Skills without limits https://www.pfron.org.pl/pfron/szczegoly/news/kompetencje-cyfrowe-bez-ograniczen/.

[55] http://niepelnosprawni.pl/ledge/x/1808526;jsessionid=89DFDF485A0EE51FDA39373AE4EBCA17.

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

The major opportunity highlighted by the CSOs is enhancing the accessibility of the digital sphere and its positive consequences for social cohesion and inclusion. This comprises mostly access to information, e-services, and facilitation of the relationship between the citizens and the institutions of the state. The Accessibility Plus program – a well-known and visibly communicated commitment to making digital space accessible - brings expectations of real change in participation of persons with disabilities in the digital sphere. If the program is being implemented with high-quality standards, it will result in better access to information for citizens with disabilities. Already, the Central Statistical Office report *Information Society in Poland 2020*[56] highlights that in 2019. 85 % of public administration units had a website that met the requirements of the law on digital accessibility of websites and mobile applications, and 20.7 % declared the possibility for citizens to participate in online public consultations. There are however differences with regards to territorial division, in 2019 the highest percentage of public administration units whose main website complied with the requirements was recorded in the Opolskie (92.9 %) and Silesian (90.4 %) provinces, and the lowest in the Podkarpackie and Lubelskie (78.5 % and 79.4 % respectively). Interestingly, however, the annual report[57] on accessibility issued by Widzialni Foundation – a main civil society organisation working on digital access and disability – confirms a significantly lower number: 60.2 % of accessible public institutions webpages. It brings an important question on the necessity of independent monitoring of the Accessibility Plus program and other digitalisation commitments. Nevertheless, the change reported is remarkable – from 1.7 % in 2013 to 60.2 % in 2019, which is partly due to the centralization of government webpages. The assessment of the accessibility of existing e-services by Widzialni Foundation reported no important improvement of e-services from a disability perspective since 2018. The report stated that for low-vision and Deaf consultants, services were feasible, apart from the fear of using the private account in the Trusted Profile. Blind consultants assessed 5 out of 9 e-services as not accessible.[58] The mobile apps were not fully accessible for blind users. Thus, there is still efforts needed to meet the communicated outcome quality measures.

Secondly, the very improvement of access to the internet is also considered as beneficial for persons with disabilities. As reported in the report *(Dis)abled in the 5G network*[59] issued by the National Institute for Telecommunications in cooperation with the Integration Foundation there is a high potential of practical applications for high-speed mobile networks that will realistically improve the daily lives of many people, for example "(1) high-speed video transmission for sign language users, (2) applications and assistive devices based on artificial intelligence and the Internet of Things (IoT) for, among others, people with limited vision functions, and (3) transport

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[56] Information Society in Poland 2020, https://stat.gov.pl/en/topics/science-and-technology/information-society/information-society-in-poland-in-2020,1,7.html.

[57] Raport Dostępności 2019, https://www.widzialni.org/container/raport-dostepnosci-2019.pdf.

[58] Raport Dostępności 2019, https://www.widzialni.org/container/raport-dostepnosci-2019.pdf.

[59] The (Dis)abled in the 5G network, https://www.gov.pl/web/cyfryzacja/niepelnosprawni-w-sieci-5g--raport-il-pib.

autonomisation". It is also highlighted that the availability and development of the services in Poland will depend on the actual, rapid deployment of 5G networks (initially at least in larger urban centres).

Thirdly, opportunities are seen with regards to the e-health sector, being a dynamically changing sphere, partially due to COVID-19 pandemic response. If the digital tools will be accessible and easy to use by persons with disabilities, they have a great potential to enhance access to healthcare at least in certain aspects, including for example issuing prescriptions for persons with chronic conditions. It could also ease processes related to disability assessment and disability-specific services e.g., issuing of documents such as parking cards, application for recalculation of disability benefits, and other disability-specific processes that have the potential to be realized via an online application process.[60] There is already communicated possibility to use the internet to order medical aids, orthopaedic equipment, or rehabilitation stays.

Moreover, civil society organisations do see opportunities in addressing the disability gap on the labour market with digital tools. In general, Poland lacks a digitally competent workforce.[61] This paired with the increasing opportunities for remote working make ICT skills more employable, therefore, eliminating digital exclusion should be a priority, especially for the economically inactive group, which includes 1.79 million persons with disabilities. Working online is an often-desired solution especially for persons living with disabilities that are influencing mobility or communication. For some of the caregivers, it also offers an option to take up paid work and balance it with caring obligations, however, the shortcomings of this solution and its precariousness, are also very articulated, especially through gender lenses, as it is usually women in the families who take up care responsibilities. For many it results in difficulties in navigating care and work obligations. Due to care responsibilities, among others, women are more likely than men to be involved in precarious or informal work, with limited access to social protections, which puts them at disadvantage.[62] Moreover, the caretaker social benefits cannot be granted if the carer is involved in any kind of professional work.[63]

Importantly, in order to fully benefit from the opportunities, the legal regulations will need to be adjusted. As reported by National Institute for Telecommunication and Integration Foundation this includes the Act of 27 August 1997 on Vocational and Social Rehabilitation and Employment of Persons with Disabilities. It is suggested that the 5G technology is likely to: (a) change the system and the way professional work is carried out also by persons with disabilities, (b) affect diagnostic methods related to disability assessment, (c) accelerate and introduce new methods of contact between a person with disability and an office/institution, (d) create opportunities to develop new ways of social activisation of persons with disabilities. In its current form, the above-mentioned Act says little about new technologies, which may limit the opportunities brought by 5G.

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[60] E-route to the office bumpy for the weakest, https://www.prawo.pl/samorzad/e-uslugi-dla-niepelnosprawnych-cyfryzacja-administracji-bariery,463597.html.

[61] Śledziejowska K., Włoch D. (2020) Gospodarka cyfrowa. Jak nowe technologie zmieniają świat, Warszawa: WUW. https://www.delab.uw.edu.pl/wp-content/uploads/2020/04/Katarzyna-%C5%9Aledziewska-Renata-W%C5%82och-Gospodarka-cyfrowa.pdf.

[62] European Institute for Gender Equality, (2020), Gender Equality Index 2020.

[63] European Institute for Gender Equality, (2020), Gender Equality Index 2020.

Opportunities in relation to e-learning, especially in the face of the acceleration of the digitalisation in education due to pandemics are also voiced, allowing some groups of persons with disabilities to have better options for lifelong learning, higher and postgraduate education. Many challenges with regards to online learning are however simultaneously raised and were reported in the EDE report on COVID-19 response, including specific challenges faced by persons with intellectual disabilities.

There are also other opportunities being voiced with regards to digitalisation especially with regards to communication, transport (usage of beacons), assistive technologies, banking, smart cities, emergency response, telecare, and medical care. However, the debate around these possibilities is somehow not yet being at the heart of the public debate. Similarly, despite the fact that deinstitutionalization is being more often addressed by both the DPOs and also at the governmental level, and ongoing attempts to create the deinstitutionalisation strategy are present, little is known on how the digital tools can support the processes.

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

The Digital Economy and Society Index (DESI) created on behalf of the European Commission shows that Poland lags behind other European Union Member States in almost all areas of digital transformation. Poland ranks 24th out of 28 countries in the DESI 2018 ranking.[64]

Digital exclusion is considered one of the main challenges, alongside with selective, non-comprehensive transformation and the lack of digitally-savvy workforce.[65] Digital exclusion remains relatively high in Poland, and persons with disabilities are among social groups that are the most affected[66] – along with seniors, persons living in the rural areas, women in pre-pension age, and the unemployed. According to the *Digital exclusion during a pandemic. Access to and use of the Internet and computer in selected social groups*[67] report the COVID-19 pandemics has amplified the exclusion as most activities were moved to online spaces, leaving many persons with disabilities without access.

Although the digital divide is a relatively well-researched topic, still disaggregated data allowing for intersectional analysis is very much absent. According to the Central Statistical Office, in 2019 4.51 million Poles aged 16 - 74 have never used the internet, placing Poland among the countries with the highest indicator on this measure 15 % - while the EU average is 9 %.[68] Among persons with disabilities 906 000, or approx.

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[64] Śledziejowska K., Włoch D. (2020) Gospodarka cyfrowa. Jak nowe technologie zmieniają świat, Warszawa: WUW. https://www.delab.uw.edu.pl/wp-content/uploads/2020/04/Katarzyna-%C5%9Aledziewska-Renata-W%C5%82och-Gospodarka-cyfrowa.pdf.

[65] Śledziejowska K., Włoch D. (2020) Gospodarka cyfrowa. Jak nowe technologie zmieniają świat, Warszawa: WUW. https://www.delab.uw.edu.pl/wp-content/uploads/2020/04/Katarzyna-%C5%9Aledziewska-Renata-W%C5%82och-Gospodarka-cyfrowa.pdf.

[66] Duplaga M (2017) Digital divide among people with disabilities: Analysis of data from a nationwide study for determinants of Internet use and activities performed online. PLOS ONE 12(6): e0179825. https://doi.org/10.1371/journal.pone.0179825.

[67] *Digital exclusion during a pandemic* (2021), http://www.federacja-konsumentow.org.pl/p,1689,dad1c,raport-fk--wykluczenie-cyfrowe.pdf.

[68] *Digital exclusion during a pandemic* (2021), http://www.federacja-konsumentow.org.pl/p,1689,dad1c,raport-fk--wykluczenie-cyfrowe.pdf.

35 % of people with disabilities have never used the Internet, thus persons with disabilities constitute 20 % of the general population who never used the internet.[69] It might be concluded that they are disproportionately represented at that measure, as it is estimated that persons with disabilities comprise approx. 14 % of the population of Poland. With regard to age, in the 65-74 age group, the difference for those who have never used the internet is as much as 20 percentage points (53 % Poland vs. 33 % EU average). It is also estimated that 945,000, or approx. 36 % of people with disabilities have never used a computer.

Persons with disabilities in Poland are more digitally excluded than in EU countries. The latest available data (from 2012) shows that only 35 % of persons with disabilities in Poland had Internet access at home, while the EU average was 55 percent. The difference between Poles with and without disabilities s in terms of Internet access at home was as high as 34 percentage points, while for EU countries it is on average 19 percentage points.[70] Data included in the Social Diagnosis 2013 report show that 21.3 % of persons with significant disability used the internet, while this figure was 35.9 % for persons with moderate disability and 40.6 % for persons with mild disability.[71]

As summarised by *Digital exclusion during a pandemic* report[72] the most frequently mentioned reasons for having no access to the Internet at home are lack of such need (67.7 %), lack of appropriate skills (52 %), too high costs of equipment (21.6 %) and too high costs of access (14.7 %). Households with the lowest income (less than PLN 2 500 net) are most at risk of digital exclusion. They dominate among all households without access to ICT. It is reported by Central Statistical Office that in 2019, 76.9 % of households without persons with disabilities had a device with internet access, compared to 69.4 % of households with persons with disabilities, a smartphone was owned by 69.3 % and 58.9 % respectively.[73] Lack of appropriate equipment is the reason for 210 000 persons with disabilities not using the network. Whereas too high costs are an obstacle for 116 000 people.[74]

Importantly, the problem of having to share computers with siblings and parents affects at least 1 million students regardless of disability status (25 %). According to estimates of the Digital Centre, 50-70 000, i.e., 1-1.5 % of the students in Poland do not have any computer or tablet at home. How these measures relate to the disabled population is however unknown. The Polish countryside is also still affected by the problem of worse connection quality or even the lack of the possibility of Internet access. The bandwidth of the network was indicated as the biggest barrier to remote education in

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[69] GUS (Central Statistical Office), Wykorzystanie technologii informacyjno-komunikacyjnych w gospodarstwach domowych (The use of information and communication technologies in households).

[70] Scholz, F., Yalcin, B., & Priestley, M. (2017). Internet access for disabled people: Understanding socio-relational factors in Europe. Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 11(1), article 4. doi: 10.5817/CP2017-1-4.

[71] Masłyk, T., Migaczewska, E. (2014). Portret aktywnego, niepełnosprawnego użytkownika sieci internetowej. Niepełnosprawność: zagadnienia, problemy, rozwiązania, 3(12) (s. 25–39). Warszawa: PFRON.

[72] *Digital exclusion during a pandemic* (2021), http://www.federacja-konsumentow.org.pl/p,1689,dad1c,raport-fk--wykluczenie-cyfrowe.pdf.

[73] GUS, (2019), Household budget survey in 2018, op. cit.

[74] *Digital exclusion during a pandemic* (2021), http://www.federacja-konsumentow.org.pl/p,1689,dad1c,raport-fk--wykluczenie-cyfrowe.pdf.

schools in rural areas by headmasters of schools surveyed for the "Lesson: Enter" study.[75]

In the light of this evidence, it's important to highlight that researching and monitoring the disability gap in the digital divide remains crucial to hinder the negative effects of digital transformation on persons with disabilities. If not mitigated well, there is a risk that access to technology can contribute to social inequalities and widen the socio-economic divide within the disability population as well as between populations with and without disabilities. In this scenario, only those who have a high economic and social capital would benefit fully from the digital transformation, while poverty, low income, and lack of digital competencies will further exacerbate inequalities due to progressive digitalisation. It is thus necessary to design the digital transformation in such a way it does not benefit only those who already do have stronger positions in the socio-economic structures.

Other challenges with regards to disability and digitalisation relate to data security, surveillance, consent, and privacy challenges as well as ableist bias[76] that may cause unforeseen harm to persons with disabilities. It is especially important to carefully design the solutions that are and will be crucial, irreplaceable, or lifesaving so that they do not breach security, privacy, and consent principles. Given the political polarization, rapid changes in the political scenes, limited and low-quality participation mechanisms, and rising authoritarianism in many countries around the world it is crucial to critically assess the safety with regards to disability data.

On the other hand, the very data collection with regards to disability and digital transformation remains a challenge. The existing data do not allow for a comprehensive intersectional analysis of how digital transformation influences diverse subcategories within the disability community. For example, it is crucial to understand the gender dynamic, age dynamic, as well as how education status, race, ethnicity and migration, rural/urban divide - just to name a few – is related to disability and digitalisation. It is also crucial to understand the influence of digitalisation processes on diverse groups such as persons with blind-deafness, intellectual disabilities, psychosocial disabilities, autism spectrum, etc.

Regarding research, it is also digitalisation of the data collection in the context of Article 31 of the UN CRPD that remains problematic. A good example of challenges being faced by persons with disabilities within this domain is the 2021 Census. The Ombudsman has drawn the attention of the Director of the Central Census Bureau to the need to ensure the accessibility of the 2021 Census survey form.[77] He replied that the prepared interactive form application complies with the Act on digital accessibility of websites and mobile applications of public entities and is adjusted to the WCAG 2.1 standard so that people with disabilities can use it. Despite these assurances, the census survey remains inaccessible to blind and visually impaired people. The reading software cannot read some of the questions on the form. This raises critical concerns

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[75] *Digital exclusion during a pandemic* (2021), http://www.federacja-konsumentow.org.pl/p,1689,dad1c,raport-fk--wykluczenie-cyfrowe.pdf.

[76] Whittaker M. et al, (2018), Disability, bias and AI, https://ainowinstitute.org/disabilitybiasai-2019.pdf.

[77] RPO (2021), Census - problems faced by people with disabilities, https://www.rpo.gov.pl/pl/content/rpo-spis-powszechny-problemy-osob-niepelnosprawnosciami-mniejszosci.

over the methodology of data collection as well as on the quality of implementation of the Accessibility Plus program.

Another important case reported by the Ombudsman relates to disability-specific questions of use of the e-services, namely the personal trusted profile ePUAP,[78] hence also to the e-patient portal. Persons with disabilities and their carers have long called for a solution to the lack of equal access to it. The Ombudsman informed that he has received complaints about the establishment of a trusted profile on the ePUAP portal and the impossibility of confirming the identity of a person with a disability who cannot do so independently. The situation is particularly difficult for people with limited mobility who do not have bank accounts. People acting on their behalf have been refused confirmation of their identity when setting up a trusted profile - despite having a notarized power of attorney.

In such cases, the current regulations prove insufficient. The Higher Commissioner for Human Rights (RPO) has therefore asked Prime Minister whether a study has been carried out on the possibility of introducing video identification for the confirmation of the trusted profile with a 3-year validity period. In case of a negative answer, the RPO asks to be informed whether measures are planned to enable the confirmation of the trusted profile by persons with disabilities who cannot go to the confirmation point, including the confirmation of the trusted profile on behalf of a person with disabilities on the basis of a notarial power of attorney.[79]

Additionally, in the report on access to health for persons with disabilities[80] the Ombudsman reports that the study respondents pointed to the lack of an appropriate communication channel especially for Deaf and hard of hearing persons due to lack of options to communicate in Polish Sign Language (PJM). Thus, the reported needs - apart from increasing the availability of specialists – focus on the improvement of the process of communication between patients with disabilities and staff responsible for making appointments. Thus, the diversification of available communication channels (e.g., SMS, e-mail, web portals) is necessary at the stage of making an appointment, as discrimination against persons with disabilities manifests itself in the lack of possibility to book an appointment in a way accessible for people with various disabilities. Thus, the Ombudsman highlights digitalisation among his key recommendations for the health care sector.

Another important challenge, as well as opportunity, also reported by the Ombudsman, is ensuring accessibility of health care institutions' websites and medical records for people with disabilities. Obligations in this respect are imposed on healthcare institutions under the Web Accessibility Act and the Accessibility for Persons with Special Needs Act. He states that these acts, however, define accessibility in very general terms, introducing the possibility of not guaranteeing accessibility if this would entail considerable costs or would be difficult to organise. In the case of health care

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[78] RPO (2021), https://www.rpo.gov.pl/pl/content/osoby-z-niepelnosprawnosciami-bez-rownego-dostepu-do-profilu-zaufanego-interwencja-rpo.

[79] RPO (2021), https://www.rpo.gov.pl/pl/content/osoby-z-niepelnosprawnosciami-bez-rownego-dostepu-do-profilu-zaufanego-interwencja-rpo.

[80] RPO (2020), https://www.rpo.gov.pl/sites/default/files/Dostepnosc_uslug_opieki_zdrowotnej_dla_OzN.pdf.

institutions, for fulfilling the right of every person to health protection, it would be appropriate to define more detailed standards.[81]

An important issue that is also being raised in the report by the National Institute for Telecommunication and the Integration Foundation is the impact that digitalisation may have on de facto further isolating persons with disabilities within their homes. The progressing possibilities to work from home, shop from home, contact doctors and institutions from home, etc., may result in the hindering of creation, or in a deep transformation of social bonds, as well as enhance further isolation of persons with disabilities at home.[82] This challenge is a good example of the accountability for the impact of designed technologies, especially given the low formalization of education on disability rights and the broader human rights approach of the IT professionals.

What still remains a big challenge is also ensuring the active role of persons with disabilities within the digital transformation including both employment of persons with disabilities within the IT sector (especially women with disabilities), designing solutions "with" and not "for" persons with disabilities, as well as the role civil society including DPOs play in the shaping, deciding upon, and prioritizing the strategic directions for digital transformation.

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[81] RPO (2020),
https://www.rpo.gov.pl/sites/default/files/Dostepnosc_uslug_opieki_zdrowotnej_dla_OzN.pdf.

[82] Moon, N., Linden, M., Bricout, J., Baker, P. (2014). Telework rationale and implementation for people with disabilities: Considerations for employer policymaking. *Work, 48(1),* 105-115.

6 Conclusions and recommendations

6.1 Conclusions

While Poland is importantly improving its efforts with regards to accessibility of the digital sphere, other aspects of digital transformation and disability are not advanced sufficiently in the strategic documents i.e., digital skills of youth or elderly with disabilities, mental health and digitalisation, inclusive labour market and digital tools, deinstitutionalization and independent living, training of ICT professionals on accessibility, prevention from violence, or counteracting poverty.

Most of the strategy documents do not address digitalisation from a disability-inclusive perspective comprehensively. When disability is tackled in the strategic documents, digital tools are rather used as means of support or help to overcome barriers, rather than anchoring them within the human rights framework. Policy documents mostly do not refer to the UN CRPD, and the new European Funds for Digital Development 2021-2027 Programme - which is undergoing currently public consultations - states that it does not fully comply with the CRPD.

Moreover, the diagnosis and suggested plans and solutions presented do not address in-depth the question of ambivalent or negative impacts of digital transformation on diverse members of the disability community. If they do mention it, it is only covering the digital divide (that still remains a considerable disability gap). Nothing is being said about AI bias or harm, surveillance, and privacy challenges in relation to disability.

Overall, disability is addressed rather in general terms, very little is communicated specifically on particular needs of groups e.g., persons with intellectual disabilities and digital skills, legal capacity and digitalisation, mental health, and digital transformation, to give a few examples. Interestingly also, in most policy papers, disability is not being addressed intersectionally, thus it is still unknown what role factors such as economic status, gender, rural/urban divide, or education play at this intersection. It would be crucial not to treat the category of disability as a monolith. For example, addressing age in the analysis would allow understanding and also adequately addressing the potential of digital natives with disabilities in relation to e.g., labour market participation.

There are many opportunities with regards to enhancing disability rights and disability-specific issues via digitalisation including within the health care sector, access to information, education, and the labour market. Yet, it is also important to highlight that the implementation of the planned objectives remains the biggest challenge, in particular, the establishment of high-quality monitoring and evaluation remains an overall challenge.

Finally, the role of the disability community in shaping the digital transformation and political visions is barely visible, despite the huge potential given for many persons with disabilities digital domain is a key and everyday area to navigate in life.

6.2 Recommendations

1. The government should ensure that all strategic documents related to digitalisation and digital transformation are informed by the disability rights approach and compliant with the UN CRPD. Analyse clearly the effects on the digitalisation of persons with disabilities, including with relation to social inequalities. Develop a strategy to mitigate the effects of the digital divide for persons with disabilities. Establish monitoring and evaluation frameworks and introduce accountability measures.

2. Enhance the role of civil society (in particular DPOs) as well as digital professionals with disabilities (especially women with disabilities) in shaping the digital transformation. All actors involved in digitalisation (state and non-state duty bearers including IT sector) should design mechanisms that ensure that (1) strategic decisions are being made with meaningful participation of disability rights organisations (2) solutions are being created not "for" but "with" and "by" persons with disabilities.

3. Continue to focus on the accessibility of the digital sphere yet also go beyond it for example work towards preventing ableist bias in the algorithms. The relevant government agencies including the Plenipotentiary for Persons with Disabilities should address the role of digitalisation in all disability-specific strategies, including the deinstitutionalization, combating poverty, counteracting violence (both in online and offline spaces) as well as developing disability-related e-services (e.g., online application for rehabilitation related services, personal assistance, respite care, disability assessments and benefits). Address intersectionality within disability analysis and programs.

4. Centre digitalisation and disability rights in education. Education programmes at all levels should prioritize high-quality training in the area of digital skills in the life-long learning of persons with disabilities, including children, adolescents, and elderly persons. Ensure intersectional approach including disability and gender equality in access to learning spaces and training on digitalisation and IT, so that women with disabilities can benefit from and contribute to development of digital future for all. Ensure digital skills are central also in the education in special and integrated settings, in rural and urban areas. Ensure curricula of technical and digital professionals' education address accessibility, disability rights, counteracting ableism, and broader human rights and anti-discriminatory framework, including at the level of official educational standards (pl. *standardy kształcenia*).

5. Strengthen accountability mechanisms and ensure tackling broader questions of privacy, consent, surveillance, challenges in the digitalisation of care, violence in digital spaces, security especially in digitalisation of health care services and ableist bias and how they relate to diversity of disabilities in digital transformation to protect from harm. All actors – state and non-state duty bearers including IT sector and civil society should be involved in the process.

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