



Digitalisation and digital transformation in Lithuania

Implications for persons with disabilities

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1 Executive summary

The national approach to digitalisation policy priorities and actions has been developed since 2001, following approval of the Lithuanian National Information Society Development Concept. On 12 March 2014, the Lithuanian Government approved the Information Society Development Programme for 2014-2020, known as the Digital Agenda for the Republic of Lithuania. In order to implement the Digital Agenda, on 27 April 2015 the Government adopted an action plan with direct measures. The plan comprises more than 40 measures.¹ The majority of funding is allocated to the development of innovative digital tools and systems. New digital tools should be more accessible for citizens.

The Lithuanian Ministry of the Economy and Innovation is now the main governmental body responsible for policy setting and coordination in the digital government domain. The action plan is financed from national and EU funds.

The main Lithuanian Government digitalisation document is entitled *Information Society Development Programme for 2014-2019 'Digital Agenda for the Republic of Lithuania'*. In the document, it is pointed out that people with disabilities are one of the groups that use ICT most rarely.² Another very important document is Lithuania's *National Programme for Social Integration of Persons with Disabilities for 2013-2020*.³ This document can be referred to as the National Disability Strategy. The strategy seeks to promote the development and adaptation of information technology tools (for voicing, subtitling of broadcasts, remote interpretation of information into sign language, digitisation of sign-language dictionaries, calling the common emergency phone line on 112); voice-technology based tools (identification, voice functions); and other technological components (computer software, special keyboards, speech synthesisers and Braille format systems, image-zooming devices). Other Government strategies relating to education (State Education Strategy 2013-2022)⁴ and health (Health Strategy 2014-2025)⁵ do not single out the digitalisation process as a priority objective.

Lithuania's national strategies relating to education and health do not pay enough attention to digital technologies and their importance for people with disabilities, despite declared commitments on equal rights for all citizens.⁶ The education system

¹ Almost all strategies, policies and implementation measures do not include people with disabilities

² The Digital Agenda's first objective is to enable groups of the Lithuanian population, which until now, for various reasons, have not used, or have barely used, modern digital tools and the internet, to gain the necessary digital skills and apply them in various fields, also involving local communities. Digital Agenda action plan measures seeks to increase number of ICT users but on the other hand these measures does not single out people with disabilities as a priority.

³ Parliament of the Republic of Lithuania (*Seimas*), Resolution 'On Approval of the Lithuanian National Programme for Social Integration of the Disabled for 2013-2020', <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.437985/asr>.

⁴ Ministry of Education, Science and Sport, *National Education Strategy for 2013-2022*, https://www.sac.smm.lt/wp-content/uploads/2016/02/Valstybine-svietimo-strategija-2013-2020_svietstrat.pdf.

⁵ Parliament of the Republic of Lithuania, Resolution 'On Approval of the Lithuanian Health Strategy 2014-2025', 26 June 2014, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/608a896236f811e6a222b0cd86c2adfc?jfwid=-16p3pofuy>.

⁶ This statement is strengthened by the conclusions of the project 'Distance education of children during the COVID-19 pandemic: threats and opportunities from an ecosystem perspective' and the fact that aside from the culture field, strategies for other sectors do not directly address

lacks proper information and communication technologies that could be accessible to children with disabilities and various special educational needs. In the Health Strategy, the needs of people with disabilities are not singled out. Moreover, Lithuania's e-health system is not accessible for people with disabilities. According to social workers,⁷ it is almost impossible for people with disabilities to register in the e-health system by themselves. Lithuania's e-health system is not accessible for people with disabilities. In addition, Lithuanian society does not have the opportunity to vote online, due to security reasons. After adoption of the Concept of Online Voting in Elections and Referendums,⁸ no more legal acts to implement online voting have been approved. It is noted in the Concept that the online voting system must be accessible for people with disabilities.

From a negative perspective, the main areas that are considered as challenges are the usability and accessibility of digital services. Despite the Digital Agenda's ambitious goals, current strategies in the education, health and online voting fields shows that Lithuania's public sector lacks the expertise to lead digitalisation initiatives for people with disabilities. The Lithuanian e-health system is not adapted to people with disabilities. National strategies relating to education do not pay enough attention to digital technologies and their particular importance for people with disabilities in the educational process. Many other digital tools remain inaccessible and unusable for people with disabilities.

On the bright side, during the COVID-19 situation, opportunities for e-learning and remote work have started to grow and improve, bringing additional work and educational opportunities for people with disabilities. More digital technologies are being used in the education process for people with disabilities. Additionally, digital educational content has become easier to access for people with disabilities (see tables A and C below).

Good practices

An example of good practice concerning digitalisation strategies concerns the expansion of accessible services and information to people with disabilities. According to information provided by the Department for the Affairs of the Disabled, the ratio of television programmes translated into sign language and films and TV shows with subtitles is increasing every year. Moreover, the emergency call centre and rescue office can now receive requests in writing by SMS message.

Data from Statistics Lithuania show that people with disabilities are equipped with computers and have internet access at home (see table D). Additionally, the number of people who do not have these technologies is decreasing year by year. These changes are linked to the Digital Agenda action plan measure to encourage people to use information and communication technologies (ICT) and the National Disability

digitalisation and digital transformation as a priority. Read more in chapter number 2.2. and 3.2 of this report.

⁷ Online article about the Lithuanian e-health system and its accessibility for people with disabilities, <https://www.lrt.lt/naujienos/lietuvoje/2/943603/apibudino-e-sveikatos-sistema-efektyvi-bet-seniorams-ir-neigaliesiems-neikandama>.

⁸ Parliament of the Republic of Lithuania, Decision 'On the Concept of Online Voting in Elections and Referendums', <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.287235?positionInSearchResults=0&searchModelUUID=eae1625-cf9f-46c0-931c-482a218029e8>.

Strategy action plan measure to promote the development and adaptation of information technology tools (subtitling of broadcasts). The percentage of the overall population without a computer access is 2.6 times bigger than among people with some or severe limitation in activities because of health problems.^{9 10 11} It should be noticed that 'the definition of 'people with limitations in activities' is not always equal to 'people with disabilities.

Funding for the National Disability Strategy action plan relating to digital transformation measures increased dramatically from 1.8 % to 16.16 % in 2019. Looking forward at the 2021-2030 Programme for Developing an Environment Suitable for People with Disabilities in all Spheres of Life, there is a strong focus on disability-related digitalisation.

Recommendations

People with disabilities should be involved in all decision-making processes concerning inclusive digitalisation. Their experience can bring highly valuable insights, because they are the specialists in accessibility.

The Government must ensure that information and communication technologies are accessible to persons with disabilities and consistent with the universal design, United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) and European Accessibility Act principles.

National strategies relating to education and health should pay more attention to digital technologies and their particular importance for people with disabilities. More digital technologies could be used in the education process. In order to avoid the risk of digital transformation increasing the social exclusion of people with disabilities who are not digitally literate, Government institutions must develop training programmes for digital professionals on disability-related accessibility issues. In addition, more training on digital literacy should be organised for people with disabilities.

⁹ People with limitation in activities - long-term problems include longstanding health problems (conditions or diseases) and difficulties in basic activities (such as seeing, hearing, walking, communicating, etc.) that last or are likely to last for at least six months and encumber individual's work or everyday activities.

¹⁰ Eurostat data about share of persons who cannot afford a computer by level of activity limitation, sex and age
https://ec.europa.eu/eurostat/databrowser/view/HLTH_DM090/bookmark/table?lang=en&bookmarkId=24e66eab-44dd-472a-ad1a-154fcbfbf8c1.

¹¹ General Lithuania population statistics about households having personal computers and internet access: https://osp.stat.gov.lt/statistiniu-rodikliu-analize?hash=7e6bbcea-ec00-4f55-b7ef-37063bf61356&fbclid=IwAR2OmJq9B90ff613KCvy_AaZo8y0IInd3kQXxvOk_p4Yx8v15kHZEWmWw5Y#.

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

National digitalisation and digital transformation strategy

Lithuania has several decades of experience in utilising the potential of information and communication technologies in managing strategic initiatives. The national approach to information policy priorities and actions has been developed since 2001, following approval of the Lithuanian National Information Society Development Concept¹² (the Concept). It must be mentioned that the Concept is still in force and sets out basic principles for digitalisation in Lithuania.

The Concept features six main goals in order to establish conditions for the development of the information society and to promote this process. Those goals are:

1. Ensure the possibility for the public to acquire knowledge and skills;
2. Modernise the management of the state;
3. Develop business based on competencies (knowledge), information, communications and information technologies;
4. Minimise urban and rural information infrastructure differences to offer all the population equal opportunities to use IT for social and public needs;
5. Promote Lithuanian culture and preserve the Lithuanian language in the global information society;
6. Encourage participation in European Union programmes and projects aiming to create favourable conditions for the development of the information society in Lithuania.

The Concept prescribes multiple tasks in order to achieve these goals. Most of them are related to digitalisation and digital transformation. Here are a few examples of Concept tasks:

- to create conditions for every pupil to acquire appropriate IT-based knowledge at school while utilising teaching aids, teaching and methodological material, computers, local and global computer networks targeted for this purpose in all schools;
- to establish conditions to enable users of public libraries, as well as libraries in higher educational and research establishments, to use computerised services of libraries both in Lithuania and abroad as well as other information sources;
- to encourage the private sector to conduct business via electronic media: to establish favourable conditions for the implementation of IT, to make use of the most recent research achievements and to remove e-commerce restrictions.

Prior to 2011, the Government adopted various acts with specific plans and measures on how to implement the Concept. Finally, on 12 March 2014, the Government approved the Information Society Development Programme for 2014-2020, known as

¹² Parliament of the Republic of Lithuania, Resolution 'On the Approval of the Conceptual Framework of the National Information Society Development of Lithuania', 28 February 2001, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.130056>.

the Digital Agenda.¹³ The main author of the Digital Agenda is the Ministry of Transport and Communications. Various ministries were also involved in the creation process, including the Ministry of Social Security and Labour. However, the author did not find any evidence that the provisions in the Digital Agenda were coordinated with the Department for the Affairs of the Disabled or the Disability Council.

From 2014 to 2020, the Digital Agenda was updated three times. The purpose of the Digital Agenda is to define the goals and objectives of the information society development, with a view to maximising the economic advantages provided by ICT, primarily the internet as a very important tool for economic, social and cultural activities, enabling the circulation of advanced electronic services, work, access to entertainment, social interaction and free expression of opinion.

The Digital Agenda's goals represent society's expectations for a rapidly changing process of digitalisation. Those goals are:

1. Reduce the digital divide by encouraging people to gain knowledge and skills required for the successful use of ICT;
2. Develop online public and administrative services relevant to the population and businesses and encourage service recipients to take full advantage of them;
3. Promote the Lithuanian culture and language through ICT by creating publicly and culturally relevant digital content based on Lithuanian written and spoken language interfaces, and by developing digital products and electronic services;
4. Promote the application of ICT in the development of e-business;
5. Ensure the development of geographically uniform high-speed broadband infrastructure and encourage the use of internet services;
6. Ensure the development of secure, reliable and interoperable ICT infrastructure.

Compared with the Concept, the Digital Agenda has a similar number of goals. However, the Digital Agenda goals are formulated more precisely and targeted at digital transformation.

The Digital Agenda also sets out detailed programme implementation and evaluation criteria, including target values. The Digital Agenda's first objective is to enable groups of the Lithuanian population which until now, for various reasons, have not used, or have barely used, modern digital tools and the internet, to gain the necessary digital skills and apply them in various fields, also involving local communities. The evaluation criterion for this objective is the percentage share of people at risk of poverty and social exclusion who have internet access at home. In the author's opinion, the aim of this objective relates to people with disabilities because it seeks to improve access to digital environments and services for people at risk for social exclusion.

In order to implement the Digital Agenda, on 27 April 2015 the Government adopted an action plan¹⁴ with direct measures. The action plan is being funded from national and EU funds.

¹³ Parliament of the Republic of Lithuania, Resolution 'On Approval of Information Society Development Programme for 2014-2020 'Digital Agenda for the Republic of Lithuania'', 28 September 2015, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/033ccec007c411e687e0fbad81d55a7c?jfwid=14rb0wkcb1>.

¹⁴ Government of the Republic of Lithuania, Resolution 'On Approval of Information Society Development Programme for 2014-2020 'Digital Agenda for the Republic of Lithuania' inter

Table A: Funds allocated for Information Society Development Programme for 2014-2020 'Digital Agenda for the Republic of Lithuania' inter institutional implementation action plan

Fund source	2020	2021	2022
EU and national funds	66 162 000,00 EUR	31 262 000,00 EUR	9 675 000,00 EUR
National funds	9 574 000,00 EUR	4 342 000,00 EUR	1 122 000,00 EUR
EU funds	54 250 000,00 EUR	24 604 000,00 EUR	6 356 000,00 EUR

Source: Information Society Development Programme for 2014-2020 'Digital Agenda for the Republic of Lithuania inter institutional implementation action plan'

The Ministry of the Economy and Innovation is now the main governmental body responsible for setting and coordinating policy in the digital government domain. On 12 February 2020, the Minister of the Economy and Innovation¹⁵ formed a working group. The main task for this group is to prepare a draft of the state digitalisation development programme for 2021-2030. Unfortunately, persons with disabilities are not explicitly involved in the working group.

Web Accessibility

The Digital Agenda declares that people with disabilities are one of the groups that use ICT most rarely. In order to achieve its strategic goal,¹⁶ the Government has declared that the information provided on the websites of public institutions must meet special accessibility standards in order to be usable by people with special needs. Although Lithuania has legislation in place¹⁷ to ensure the accessibility of the information environment in order to enhance the social integration of people with disabilities through the use of ICT, the involvement of this particular social group in the information society has been a challenge.

In addition, in the light of the Directive on Public Sector Web Accessibility and the UNCRPD (Article 9), the Lithuanian Government, on 12 December 2018, obliged the Information Society Development Committee to monitor and provide methodological aid to enable public sector institutions to take the necessary measures to make their websites and mobile applications more accessible.¹⁸ Despite that obligation, on 8 September 2020 the National Audit Office pointed out, following investigation, that there is a lack of adaptation of websites and mobile applications. The National Audit Office concluded that only 3.4 % of public sector institutions websites are accessible.

institutional action plan', 10 December 2019, <https://www.e-tar.lt/portal/lt/legalAct/eabe9b40fa0811e4b733cba410730a6c/asr>.

¹⁵ Ministry of the Economy and Innovation, Order 'On the Establishment of a working group on the Digital Agenda Council', 17 September 2020, <https://www.e-tar.lt/portal/lt/legalAct/a57697704d7011ea8aceeadd0c5b168c/asr>.

¹⁶ The strategic goal is, through the use of the opportunities created by ICT, to improve the quality of life for the Lithuanian population; increase the efficiency of companies; and by the year 2020, to achieve the aim of at least 85 % of the Lithuanian population being internet users, and 95 % of companies using high-speed internet.

¹⁷ Government of the Republic of Lithuania, Resolution 'On Approval of Information Society Development Programme for 2014-2020 'Digital Agenda for the Republic of Lithuania'', 23 December 2017, [https://eimin.lrv.lt/uploads/eimin/documents/files/30310_LRV%20nutarimas\(en\).pdf](https://eimin.lrv.lt/uploads/eimin/documents/files/30310_LRV%20nutarimas(en).pdf).

¹⁸ Government of the Republic of Lithuania, Resolution 'On Approval of General Requirements for the Websites of State and Municipal Institutions and Bodies', 1 July 2020, <https://www.e-tar.lt/portal/lt/legalAct/TAR.3FB3953EFFDC/asr>.

The accessibility of mobile applications has not been assessed at all.¹⁹ The results show that implementation of the Directive on Public Sector Web Accessibility provisions will not be ensured by the end of 2021.

It must be pointed out that the act which sets out direct rules on how web accessibility in Lithuania should be ensured was adopted on 23 December 2013.²⁰ As yet, the act has not been updated. In 2016, the Lithuanian Disability Forum, in its alternative report to the UN Committee on the Rights of Persons with Disabilities, stated:

‘Almost all websites of public institutions are only formally adjusted for persons with disabilities – the websites have a version for persons with disabilities, but they are not adjusted for the visually impaired.²¹ The control of the adjustment of websites is formal and inadequate. The public agencies do not consult with persons with disabilities when updating their websites, there are no independent IT experts who could evaluate the level of accessibility and to advice [sic] on the matters of accessibility even though in most of the EU countries this is a function of certified specialists.’²²

To sum up, the Lithuanian Government should revise the legal provisions for web accessibility. Those provisions should be updated in the light of the European Accessibility Act and the UNCRPD (Article 9 and General Comment). The new provisions should meet universal design principles. In addition, the Government should involve organisations for people with disabilities in monitoring how state and municipality institutions update their websites in accordance with legislation.

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

Education

A key national strategic document in the education field is the *State Education Strategy for 2013-2022*²³ (Education Strategy). In this document, the process of digitalisation in education is not singled out as a priority objective; however, the role of ICT can be seen in the texts and goals of the whole Education Strategy. The national Education Strategy for 2013-2022 reflects the state’s main needs. These are named in the state

¹⁹ National Audit Office of Lithuania, press release on the situation of people with disabilities, https://www.vkontrole.lt/pranesimas_spaudai_en.aspx?id=25169.

²⁰ Information Society Development Committee director, Order ‘On the approval of methodological guidelines for the development, testing and evaluation of websites accessible for people with disabilities’, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.450397>.

²¹ Even the websites of the most important institutions for persons with disabilities, such as healthcare institutions, municipalities and social service centres, are difficult to understand for persons with disabilities.

²² Lithuanian Disability Forum (2016), *Alternative Report: Prepared for the UN Committee on the Rights of Persons with Disabilities for the discussion of the Initial Report of the Republic of Lithuania on the implementation of the UN Convention on the Rights of Persons with Disabilities*, https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=INT%2fCRPD%2fCSS%2fLTU%2f23330&Lang=en.

²³ Ministry of Education, Science and Sport, *National Education Strategy for 2013-2022*, https://www.sac.smm.lt/wp-content/uploads/2016/02/Valstybine-svietimo-strategija-2013-2020_svietstrat.pdf.

progress strategy document, *Lithuania's Progress Strategy 'Lithuania 2030'*,²⁴ which sets out a vision for a smart Lithuania. Society has to become active, consolidated and engaged in continuous education. Each person must be creative, responsible and open to change. Obviously, without the help of ICT, it is impossible to reach such goals. One of the Digital Agenda's priorities dedicated to education is the 'improvement of the population's digital skills'. A related task is to create flexible high-quality learning possibilities that will allow personalised lifelong teaching and learning in digital environments. The target is that 28 % of the population in Lithuania will use the internet for educational purposes by 2022.²⁵ In order to achieve this target, the Ministry of Education and Science is implementing a number of programmes and projects from EU funds. One strategic action plan in which digitalisation is related to disability is the Action Plan for the Inclusion of Children and Multidimensional Education 2017-2022.²⁶ The main purpose of the plan is to strengthen the inclusion of children with special educational needs in education. In order to achieve this goal, there are a few measures directed towards digitalisation. For example, one measure is targeted at the development of digital educational content for children with difficulties.

The digitalisation process in the country has been accelerated by the global pandemic. A recent survey carried out by the Ministry of Education, Science and Sport reflects the level of digitalisation in schools. The study showed that 92 % of schools have already encountered the use of distance learning in providing pupils with advice and having them complete an electronic diary.²⁷ In spite of that, however, the National Audit Office has noted in a press release that the provision of vocational training lacks efficiency, and only one third of students are using modern equipment.²⁸ In the author's opinion, Lithuania's national strategies relating to education do not pay enough attention to digital technologies and their importance for people with disabilities in the educational process. This statement is strengthened by the conclusions of the project 'Distance education of children during the COVID-19 pandemic: threats and opportunities from an ecosystem perspective'. Following research, the project team discovered that the distance learning process has created difficulties for children with special educational needs. In the study's recommendations, the authors suggested that school administrations and teachers give more attention to children with special educational needs and use appropriate ICT measures in the education process.²⁹

²⁴ State Progress Council, *Lithuania's Progress Strategy 'Lithuania 2030'*, <http://www.unesco.org/education/edurights/media/docs/2953897c103c13043bfabea84b716ae2f8c82f47.pdf>.

²⁵ Government of the Republic of Lithuania, Resolution 'On Approval of Information Society Development Programme for 2014-2020 'Digital Agenda for the Republic of Lithuania' inter institutional action plan', 10 December 2019, <https://www.e-tar.lt/portal/lt/legalAct/eabe9b40fa0811e4b733cba410730a6c/asr>.

²⁶ Minister of Education and Science, Order on 'Action Plan for the Inclusion of Children and Multidimensional Education 2017-2022', 27 June 2017, <https://www.e-tar.lt/portal/lt/legalAct/deca98f05bbf11e79198ffdb108a3753/asr>.

²⁷ 'Digitization processes in the country accelerated by a global pandemic', *Invest Lithuania*, 13 May 2020, <https://investlithuania.com/news/digitization-processes-in-the-country-accelerated-by-a-global-pandemic/>.

²⁸ National Audit Office of Lithuania, press release on the quality of vocational training, https://www.vkontrole.lt/pranesimas_spaudai_en.aspx?id=25035.

²⁹ Vilnius university researchers project on distance learning during the COVID-19 situation, https://1a25a355-a578-4749-8fc5-d5df368163ad.filesusr.com/ugd/d3b129_967116c5d1a04c67bc1ab2d037338097.pdf.

E-health

A key national strategic document in the health field is the *Health Strategy 2014-2025*³⁰ (the Health Strategy). In the Health Strategy, the needs of people with disabilities are not singled out. However, one of its goals is to develop the Lithuanian e-health system. We can also find in the strategy a commitment that all citizens should be able to use electronic health services and solutions. According to guidelines approved by the Information Society Development Committee director, all public information systems must be accessible for people with disabilities.³¹

This Health Strategy goal is related to the Digital Agenda aim to create advanced public and administrative electronic services.

In October 2019, the Ministry of Health issued an order regarding the new architecture of the Lithuanian e-health system, replacing the existing order from 2011. The new system has a portal for patients, healthcare workers and pharmacists, as well as a mobile application for patients and for nurses who deliver home care. The system also has a number of sub-systems for various purposes, including administration, e-prescribing, audit and analysis, prevention services, services for pregnant women and new-borns, medical imaging, support for clinical decisions, etc.³²

On the other hand, the Lithuanian e-health system is not adapted to the needs of people with disabilities. According to social workers, it is almost impossible for people with disabilities to register in the e-health system by themselves.³³ However, the report author directly contacted e-health system managers and asked them about system accessibility for people with disabilities, and got the answer: 'At the moment the system is under update. It is expected that eHealth system updates will be launched in 2023 autumn. Updates are being implemented according to requirements of legislation which oblige that system must be accessible to people with disabilities.'

In the author's opinion, the legal regulation of digital content in the field of health lacks provisions that promote an obligation to create accessible ICT systems for everyone.

Online voting

On 16 November 2006, the Lithuanian Parliament (*Seimas*) adopted the Concept of online voting in elections and referendums³⁴ (the Concept). It is noted in the Concept that the online voting system must be accessible for people with disabilities. However,

³⁰ Parliament of the Republic of Lithuania, Resolution 'On Approval of the Lithuanian Health Strategy 2014-2025', 26 June 2014, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/608a896236f811e6a222b0cd86c2adfc?jfwid=-16p3pofuy>.

³¹ Information Society Development Committee director, guidelines, <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.450397>.

³² European Observatory on Health Systems and Policies, Lithuania profile, <https://www.hspm.org/countries/lithuania14112013/livinghit.aspx?Section=2.7%20Health%20information%20management&Type=Section>.

³³ Online article about Lithuania's e-health system and its accessibility for people with disabilities, <https://www.lrt.lt/naujienos/lietuvoje/2/943603/apibudino-e-sveikatos-sistema-efektyvi-bet-seniorams-ir-neigaliesiems-neikandama>.

³⁴ Parliament of the Republic of Lithuania, Decision 'On the Concept of Online Voting in Elections and Referendums', <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.287235?positionInSearchResults=0&searchModelUUID=eae1625-cf9f-46c0-931c-482a218029e8>.

no more acts to that effect have been adopted since 2006. Lithuanian society does not have the opportunity to vote online, due to security reasons. During 2018,³⁵ there was an attempt to pass a new act that would allow voting online, but after discussions in the Parliament, the bill in question was rejected.

In the author's opinion, despite the current strategies in education, health and online voting, Lithuania's public sector lacks the expertise to lead digitalisation initiatives. This conclusion can be drawn from direct measures that are aimed at reaching set goals in relation to education, health and online voting strategies. The majority of measures do not focus on digital transformation. In order to change the situation, the public sector should focus more on information and communication technologies and their importance and accessibility for people with disabilities.

³⁵ Explanatory note to the e-voting law, https://www.google.lt/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwiLt5fypoXwAhUh-yoKHd8QCIIQFjAEegQIBRAD&url=https%3A%2F%2Fseimas.lrs.lt%2Frs%2Flegalact%2FTAK%2F42b9f8b0210411e88a05839ea3846d8e%2Fformat%2FISO_PDF%2F&usg=AOvVaw2bvzMzbokL7zp3LvabuCBj.

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

The Lithuanian National Programme for Social Integration of Persons with Disabilities for 2013-2020³⁶ (the Programme) can be called a national disability strategy. The strategic goal of the Programme is to develop a favourable environment and conditions for a dignified and full life for persons with disabilities in Lithuania, and to ensure equal treatment and quality of life for them. In the author's opinion, the Programme's second aim is directly targeted at digitalisation because it seeks to ensure the possibility for people with disabilities to use all information available to them. The Programme sets out the background: that there is a lack of adapted sources of information. At the moment, television broadcasts, movies, literature and sources of cultural information are provided in a format that is not accessible for people with certain disabilities. In addition, it is noted that the lack of an adapted information environment has resulted in an increase in social exclusion for visually impaired people, people with hearing impairments and those with intellectual disability.

The Programme seeks to promote the development and adaptation of information technology tools (for voicing, subtitling of broadcasts, remote interpretation of information into sign language, digitisation of the sign language dictionaries, calling the common emergency telephone number 112), voice-technology based tools (identification, voice functions) and other technological components (computer software, special keyboards, speech synthesisers and Braille format systems, image zooming devices). The programme has a target of making 10 % of all public information on Lithuanian national radio and television accessible for persons with visual, hearing and intellectual disabilities in 2020.

In order to implement the Programme goals, the Minister of Social Security and Labour adopts an order with a direct action plan each year.³⁷ 19 measures are directed for second Programme aim. However, during 2020, funding was provided for only 11 measures. In 2020, the Human Rights Monitoring Institute (the Institute) published a monitoring report³⁸ on how provisions of the United Nations Convention on the Rights of Persons with Disabilities are being implemented in Lithuania. In one observation, Institute researchers noted that in the Programme's direct action plan, most of the measures are aimed only at persons with visual or hearing impairments. The Institute recommended that the Lithuanian Government should collaborate more closely with organisations for persons with disabilities and organise training on digital information. In the author's opinion, the National Programme for Social Integration of Persons with Disabilities for 2013-2020 and its action plan are lacking any digital transformation measures for various disabilities. Most of the measures in the digitalisation field are aimed only at persons with visual or hearing impairments. The Government should

³⁶ Parliament of the Republic of Lithuania, Resolution 'On Approval of the Lithuanian National Programme for Social Integration of the Disabled for 2013-2020', <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.437985/asr>.

³⁷ Minister of Social Security and Labour, Order 'On the Action Plan for Lithuanian National Programme for Social Integration of the Disabled for 2020', <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/5bded660b55c11e982dae1db4290b1a9?jfwid=-nyuvwqbf>.

³⁸ Human Rights Monitoring Institute, report on how UNCRPD provisions are being implemented in Lithuania during 2019, <http://www.ndt.lt/neigaliuju-teisiu-konvencija/>.

revise the National Programme for Social Integration of Persons with Disabilities and include new provisions in the light of the European Accessibility Act and the UNCRPD (Article 9 and General Comment). The new provisions should follow the 'Design for all' principle in all fields relating to information and communication technologies.

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

Other sectoral strategies do not directly address digitalisation and digital transformation as a priority. For these reasons, it is very difficult to provide any analysis about challenges in other sectors with regard to digitalisation and how it relates to people with disabilities. However, the culture sector can be mentioned as one sector that has paid huge attention to digitalisation during the worldwide COVID-19 situation. Museums, libraries, archives and other cultural institutions in Lithuania were temporarily closed during the lockdowns, and the virtual space was the only place where all citizens could continue to explore cultural heritage objects and art.

The pandemic showed that digitalisation in the culture sector is very important in ensuring the rights of persons with disabilities to access culture and related services. A key national strategic document in the field of culture is the *Lithuanian Cultural Policy Strategy*³⁹ (Culture Strategy). The main goal of the Culture Strategy is the creation of inclusive culture for a sustainable society. In the Culture Strategy, the Lithuania Government makes a commitment to consolidate state information resources and make them accessible to everyone. In the author's opinion, these provisions relate to digitalisation. Moreover, in the Culture Strategy, attention is also directed to the development of information functions in libraries.

On 29 April 2016, the Minister of Culture adopted an order with strategic directions for library development from 2016-2020.⁴⁰ In the political guidelines, there is a key focus on digitalisation and the importance of libraries to lifelong learning. In order to meet the approved strategic directions, various libraries have started to change their action plans. According to an article about inclusive libraries by Siauliai Country Povilas Višinskis Public Library researchers Kristina Kulikauskiene and Laima Liukineviciene,⁴¹ digitalisation of information and services in libraries is a crucial process in order to create inclusive and accessible libraries for everyone.

After doing research, the author has concluded that, aside from the culture field, strategies for other sectors do not directly address digitalisation and digital transformation as a priority. The experience during the pandemic has shown that digitalisation in the culture sector is very important in ensuring the rights of people with disabilities to access cultural services. In the strategic direction guidelines that have been adopted for the culture sector, there is a key focus on digitalisation and the importance of libraries in lifelong learning. The digitalisation process in libraries contributes to reducing the digital and social divide.

³⁹ Parliament of the Republic of Lithuania, Resolution 'On Approval of the Lithuanian Cultural Policy Strategy for 2020-2030', <https://www.e-tar.lt/portal/lt/legalAct/Gaa23a109d4d11e9878fc525390407ce>.

⁴⁰ Minister of Culture, Order 'On the approval of strategic directions of library development during 2016-2020', <https://klpbibliotekos.files.wordpress.com/2016/05/biblioteku-pletros-kryptys.pdf>.

⁴¹ Kulikauskienė K. and Liukinevičienė L. (2020), 'Legal and Administrative Environment of Inclusive Libraries for People with Disabilities in Lithuania', *Informacijos mokslai*, 88, pp. 120-141, <https://www.journals.vu.lt/informacijos-mokslai/article/view/16667>.

4 Promoting disability inclusion through funding, education and training

4.1 How funding promotes disability-inclusive digitalisation and digital transformation

The main initiatives relating to the social integration of people with disabilities are represented in the National Programme for Social Integration of Persons with Disabilities.⁴² Several initiatives relate directly to the development of digital transformation in relation to disability.

To give some examples, aims could include subtitling more Lithuanian national radio and television programmes and ensuring audio representation; modernising the information environment of professional schools and cultural institutions; and improving the accessibility of services provided by the General Assistance centre for persons with hearing impairments. All measures mentioned in this programme should be financed from the state budget and municipal budgets for a given year, and additionally from European Union funds or other structural funds. The Department for the Affairs of the Disabled publishes a report on funding allocated to this programme every year.⁴³ According to these data, we can see that total funding almost doubled from 2018 to 2019.⁴⁴ Additionally, funding related to digital transformation increased dramatically from 1.8 % to 16.16 % in 2019 (see table B). The report for 2020 is not currently available, so it is not possible to state whether funding continued to increase last year.

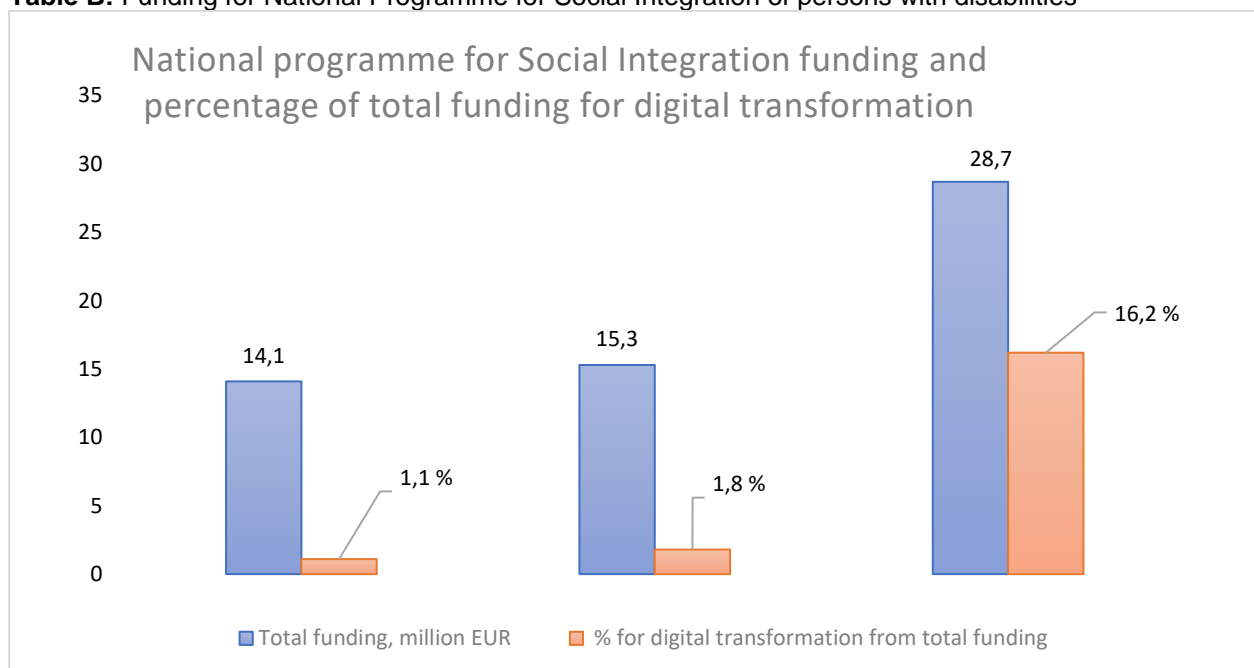
However, from looking at the 2021-2030 Programme for Developing an Environment Suitable for People with Disabilities in all Spheres of Life,⁴⁵ it can be affirmed that there is a strong focus on disability-related digitalisation. One of four reasons identified as creating inappropriate conditions for people with disabilities to participate and use publicly available services and products is a lack of accommodation in information infrastructure and information. Constant changes in the information technology and communication sectors are influencing the usual ways in which people communicate and use goods, services and information, so it is very important that all people, including people with disabilities, are able to use new technologies and benefit from them.

⁴² Parliament of the Republic of Lithuania, Resolution 'On Approval of the Lithuanian National Programme for Social Integration of the Disabled for 2013-2020', <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.437985/asr>.

⁴³ Implementation reports on the Lithuanian National Programme for Social Integration of the Disabled, <http://www.ndt.lt/nacionaline-programa/>.

⁴⁴ National Programme for Social Integration of the Disabled, funding for 2019, <http://www.ndt.lt/wp-content/uploads/Nacionalines-programos-veiksmu-plano-2019-%C4%AFgyvendinimas.pdf>.

⁴⁵ 2021-2030 Programme for Developing an Environment Suitable for People with Disabilities in all Spheres of Life, <http://www.ndt.lt/del-2021-2030-m-neigaliesiems-tinkamos-aplinkos-visose-gyvenimo-sirtyse-pletros-programos-projekto-vieso-aptarimo/>.

Table B: Funding for National Programme for Social Integration of persons with disabilities

Source: Department for the Affairs of the Disabled

Additionally, subsidies from the European Union structural funds were proposed for the installation and improvement of public infrastructure, and for increasing availability for people with disabilities, in an assessment of the preliminary impact of digitalisation on society.⁴⁶

It is interesting to note that the Agency for Science, Innovation and Technology, the main governmental institution responsible for implementing innovation policy in Lithuania, has confirmed that the projects it administrates do not include conditions that require new technology to be disability accessible. However, the agency has funded disability-related new digital technologies such as an intuitively controlled wheelchair robot;⁴⁷ a prototype of a smart white cane with integrated ultrasonic and vibromotor systems;⁴⁸ and development of smart pads to increase the integration of blind people in public spaces. According to information provided on 2014-2021 investments in Lithuania by European Union funds, there were 21 digitalisation projects directly related to people with disabilities.⁴⁹

These projects were assigned on priorities such as promotion of research, experimental activities and innovation, information society, high-quality employment and participation in the labour market. Funding for these 21 projects accounted only for 0.54 % of all funding on mentioned priorities (see Table C).

⁴⁶ Report about Information Society Development Programme for 2014-2020 Digital Agenda, https://www.visionary.lt/wp-content/uploads/2020/05/EIM-skaitmeninimas_galutine-ataskaita_suredaguota.pdf.

⁴⁷ Public announcement about intuitively controlled wheelchair robot, <https://mita.lrv.lt/lt/naujienos/lietuviu-komanda-sukure-unikalu-intuityviai-valdoma-vezimeli-robotaneigaliesiems>.

⁴⁸ Project information, https://www.esinvesticijos.lt/lt/finansavimas/paraiskos_ir_projektai/ismanios-baltosios-lazdeles-su-integruotomis-ultragarso-ir-vibromotoru-sistemomis-prototipo-sukurimas.

⁴⁹ Statistical information about investment in Lithuania by EU funds, https://www.esinvesticijos.lt/lt/finansavimas/paraiskos_ir_projektai.

To summarise, a visible focus on making digital transformation available for people with disabilities could influence an increase in funding for the future.

Table C: Projects funded from European Union in Lithuania

All projects (N)	3110
Digitalisation projects related with people with disabilities (N)	21
Funding for all projects, millions EUR	1285,8
Funding for disability inclusive digitalisation projects, millions EUR	6,9
Funding for disability inclusive projects %	0,54

Source: European Union investment action programme⁵⁰

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

The author of this report has tried to find programmes or training intended for digital professionals to increase their awareness of disability-related accessibility issues. However, there are no such courses currently available. One exception can be mentioned: the 'Digital information application guide' developed by the Lithuanian Forum of Disability Organisations, together with partners from the Lithuanian Union of the Blind and Visually Impaired and the Office of the Equal Opportunities Ombudsman.⁵¹ It was created in response to the Directive on Public Sector Websites and Mobile Applications adopted by the European Union in 2016. This guide presents ways to ensure that digital space is accessible to users with certain needs who require different opportunities. These guidelines can be used by web designers in updating public sector websites and mobile applications. However, as the directive in question is not applicable to private sector websites, the guidance will not be used extensively. In support of the view that there is a lack of disability inclusion training for digital professionals, Ramune Balcikonienė, the deputy chair of the Lithuanian Union of the Blind and Visually Impaired, has pointed out that 'at the moment, there are not enough digital professionals who know well accessibility problems related to disability ... government institutions don't have enough resources and the cooperation process between public and non-governmental sectors is too little in order to solve digital accessibility problems'.⁵²

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

Several countries, including Lithuania, have conducted research to investigate current practices in new technology courses within health and social care sectors during the

⁵⁰ Statistical information about investment in Lithuania by EU funds, https://www.esinvesticijos.lt/lt/finansavimas/paraiskos_ir_projektai.

⁵¹ Digital information application guide, developed by the Lithuanian Disability Forum, https://Inf.lt/wp-content/uploads/2018/12/Internetas_visiems.pdf.

⁵² Online article about accessibility of public websites for people with visual impairments, <https://m.diena.lt/naujienos/lietuva/salies-pulsas/viesojo-sektoriaus-interneto-svetaines-visai-nepritaikytos-silpnaregiams-934881>.

period 2017-2020.⁵³ In the first part of the research, partners prepared an online study to examine the availability and features of digital skills courses in the country. The courses for investigation were selected from categories including robotics, virtual and augmentative reality, intelligent domotics, e-health, assistive technologies, augmentative and alternative communication, person-machine communication and sensors. In the second part, a targeted survey was conducted involving health and social care professionals working with people with disabilities to find out the level of and need for digital skills.

From 2017 to 2020, 32 digital skills courses were available in Lithuania; all of them were conducted face to face. However, all those courses were focused on overall IT literacy, and not on the use of smart technologies in the health and social care sectors. It is worth mentioning that all the other countries (Ireland, Germany, Italy, Cyprus and Greece) included in the study had courses in the digital technologies mentioned. A survey of health and social care professionals in Lithuania showed that 96.3 % ($n=25$) of specialists who participated used digital technologies in their work and found them beneficial. Digital devices, mobile applications and augmentative alternative communications are used most often. It is interesting to note that a lack of IT knowledge was identified as the main difficulty in using digital technologies. Moreover, during 2017-2020, 42 % of survey participants had not taken part in any digital technology course and 53 % had only one or two training sessions. In conclusion, 100 % participants agreed that there is a need for more digital technology training.

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

There are digital literacy courses for all residents in Lithuania as part of the 'Connected Lithuania' initiative.⁵⁴ The report researcher has found no official information regarding whether courses have been designed according to universal design principles. Courses are free of charge and are adapted for people with disabilities. By the end of March 2021, almost 89 000⁵⁵ people had already participated in these free digital literacy training sessions.

Before quarantine, training sessions were organised in city libraries and people with disabilities could participate in them to learn how to use a computer, find information on the internet and communicate through social networks.⁵⁶ From the end of 2020 until March 2021, around 80 people with disabilities participated in such training. Furthermore, 'Connected Lithuania' training sessions on digital literacy became very popular among older people. During 2020, more than 30 000 people participated in the training, and 42 % were aged 50 years and older.⁵⁷

To summarise, we can point out that these training sessions can help to reduce the digital divide between older and people with disabilities. One option to enable people

⁵³ Study about new technology courses in health and social care sector during the period of 2017-2020, https://pjdc.lt/wp-content/uploads/2019/12/WP3-final-version_LT.pdf.

⁵⁴ See <https://www.prisijungusi.lt/>.

⁵⁵ Online article about digital literacy courses, <https://www.prisijungusi.lt/naujienos/konferencija-ar-lietuvos-gyventojai-pasirenge-skaitmeninio-amziaus-issukiams/>.

⁵⁶ Online article about people with disabilities participation in digital courses, <http://ngenytesocgloba.lt/negalia-ne-kliutis-ismokti-naudotis-ismaniaisiais-skaitmeniais-irenginiais>.

⁵⁷ Online article about digital courses in libraries, <https://emerging-europe.com/news/libraries-assume-frontline-role-in-reducing-lithuanias-digital-divide/>.

with disabilities to gain digital literacy knowledge would be for them to participate in training organised in day care centres. Almost all-day care centres have various digital tools and related activities. However, there is a lack of IT specialists with knowledge of how to work with people with disabilities. These activities do not usually follow any official education programmes. The author's statement in this report has been approved by Rasa Kavaliauskaite,⁵⁸ who notes 'this is not an official course, we hire IT specialists and they also help with other technology related questions'. Additionally, city libraries organise digital literacy courses for people with disabilities.

⁵⁸ President of the Lithuanian Association of People with Disabilities.

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

One of the most important potential opportunities that digitalisation affords to people with disabilities is better work opportunities. After the COVID-19 pandemic began, a lot of companies started to work from home remotely, and others have moved to online solutions. When the pandemic ends, some companies will continue with remote working at least part time, as they have experienced this way of working to be convenient.⁵⁹ In this situation, people with disabilities become more attractive candidates in the job market.

With remote working, an employer does not need to ensure that the workplace is accessible for people with disabilities. This could lead employers to select more people with disabilities as employees. Additionally, as some jobs have moved to remote online working, new employment opportunities for people with disabilities are emerging. According to data from Statistics Lithuania, people with disabilities⁶⁰ are equipped with computers at home. Additionally, the number of people who do not have these technologies is decreasing year by year.⁶¹ It is also interesting to note that the percentage of the total population that does not have a computer, is three times bigger than the percentage of people with disabilities (See table D).

Moreover, remote work gives people with disabilities an opportunity for better work-life balance. An example is Ona Gvildienė, who participated in the Career Development for People with Disabilities project and switched to working from home; an online article states, 'It is very important for her to be able to work from home and, having disability, is so much more comfortable as you can plan your time yourself and rest if needed'.⁶²

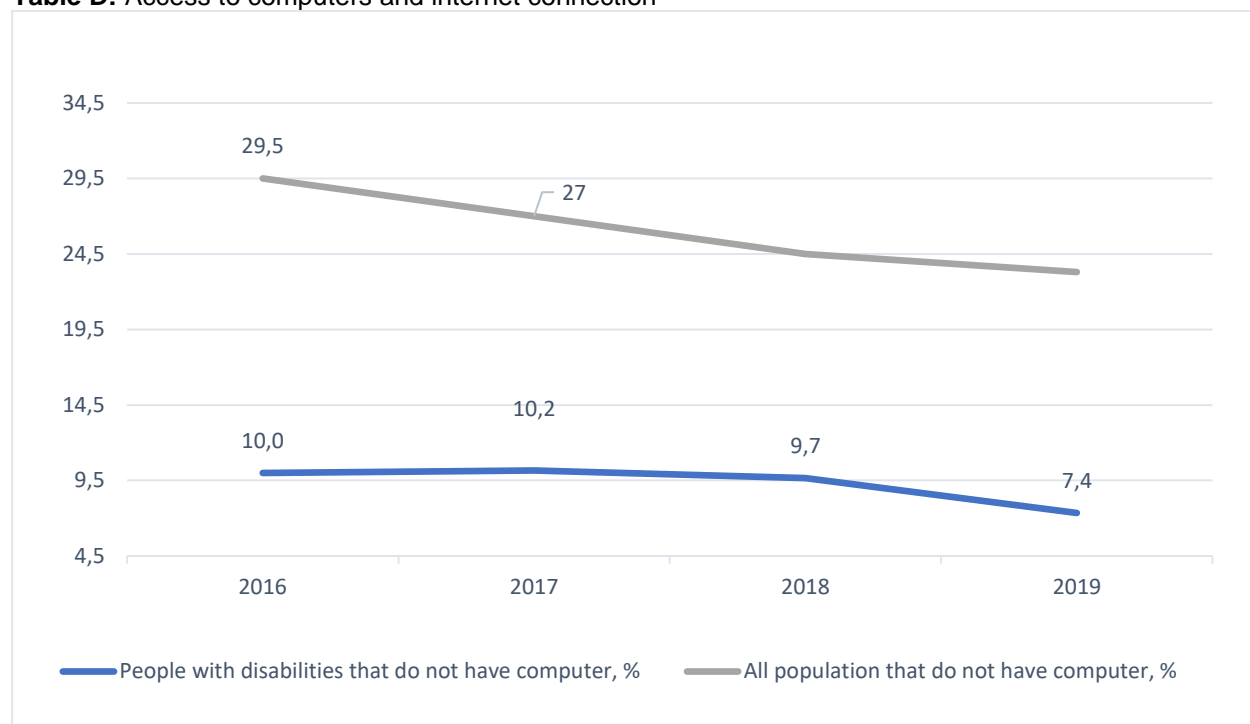
However, according to the provisions of the UNCRPD, Government must ensure that the labour market is inclusive and accessible. Remote working cannot deny people with disabilities the opportunity to freely choose their work environment.

⁵⁹ Online article about remote working, <https://www.lrt.lt/naujienos/verslas/4/1414383/darbas-is-namu-lieka-ilgam-imonos-visiskai-sugrizti-i-biurus-neplanuoja>.

⁶⁰ In this survey 'people with disability' is described as 'persons who has long-term problems include longstanding health problems (conditions or diseases) and difficulties in basic activities (such as seeing, hearing, walking, communicating, etc.) that last or are likely to last for at least six months and encumber individual's work or everyday activities'. International comparability requires that in population statistical surveys (questionings) persons whose activity, compared to ordinary human activity, due to health issues has been slightly or significantly limited over the last 6 months or longer shall be regarded as persons with disabilities. <https://www.stat.gov.lt/>; https://osp.stat.gov.lt/statistiniu-rodikliu-analize?indicator=S3R966&fbclid=IwAR14NCcEDMP-uC7gWzkXcOq-h6-Lf5Tj4xY1Xp4IruNTplG_pBExTiSf2rg#.

⁶¹ Lithuania Official Statistics, https://osp.stat.gov.lt/statistiniu-rodikliu-analize#.

⁶² Online article about people with disabilities employment opportunities, <https://www.biciulyste.lt/lt/tolerancijos-link/1695-darba-neigalieji-gali-rasti-tik-reikia-to-noreti-ir-stengtis>.

Table D: Access to computers and internet connection

Source: Lithuania official statistics⁶³

The second opportunity created by digital transformation is the enhanced availability of services and information. Greater use and availability of digital technologies has helped people with disabilities to use various services in daily life. For example, the emergency call centre and rescue office can now receive requests by written SMS message, which is very helpful for people with hearing impediments.⁶⁴ Another example is the KVTBalsas mobile application, which was created for visually impaired and blind people; it helps them check the public transportation schedule and announces by sound which bus or trolley will arrive at what time.⁶⁵

According to information provided by the Department for the Affairs of the Disabled, the ratio of television programmes translated into sign language and films and TV shows with subtitles is increasing every year (see table E). The availability of multiple

⁶³ Lithuania official statistics data of the Survey on Income and Living Conditions:

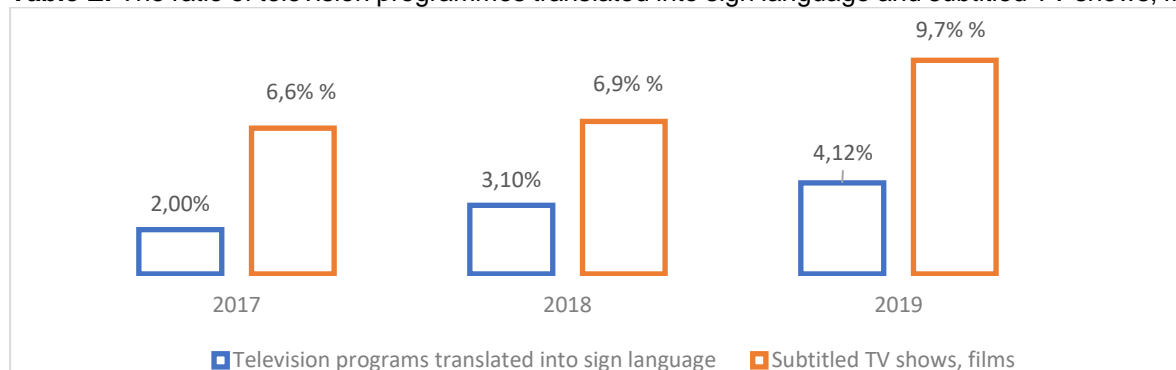
- 1) In the survey 'people with disability' is described as 'persons who has long-term problems include longstanding health problems (conditions or diseases) and difficulties in basic activities (such as seeing, hearing, walking, communicating, etc.) that last or are likely to last for at least six months and encumber individual's work or everyday activities'. International comparability requires that in population statistical surveys (questionings) persons whose activity, compared to ordinary human activity, due to health issues has been slightly or significantly limited over the last 6 months or longer shall be regarded as persons with disabilities. <https://www.stat.gov.lt/>; https://osp.stat.gov.lt/statistiniu-rodikliu-analize?indicator=S3R966&fbclid=IwAR14NCcEDMP-uC7gWzkXcOq-h6-Lf5Tj4xY1Xp4lruNTpIG_pBExTiSf2rg#/;
- 2) https://osp.stat.gov.lt/statistiniu-rodikliu-analize?hash=7e6bbcea-ec00-4f55-b7ef-37063bf61356&fbclid=IwAR2OmJq9B90ff613KCvy_AaZo8y0lInd3kQXxvOk_p4Yx8v15kHZEWmWw5Y#/;

⁶⁴ 112 emergency help information, <https://112.lt/apie-numeri-112/sms-zinute/>.

⁶⁵ Online article about mobile application for people with disabilities, <https://www.15min.lt/mokslasit/straipsnis/technologijos/kaunas-pristato-analogu-pasaulyje-neturincia-programele-akliesiems-ir-silpnaregiams-646-720280>.

channels is beneficial for people with disabilities in enabling them to access, receive and understand information.

Table E: The ratio of television programmes translated into sign language and subtitled TV shows, films



Source: Department for the Affairs of the Disabled

A third opportunity of digitalisation relates to education for people with disabilities. At the moment, as the COVID-19 pandemic has spread around the whole world, e-learning and online education has started to grow and improve, and a lot of new technologies are being used to make learning content attractive and accessible. A positive outcome is that there are now more possibilities for people with movement disability to participate in training and seminars organised remotely. Moreover, new technologies are playing a big role in the education of children with autism. In this case, the learning content needs to include a lot of visual illustrations in order to help children understand it.⁶⁶ Some education centres in Lithuania are using tablets, smart phones, interactive white boards and even a high-resolution video camera that helps to control the computer with movements of the head.⁶⁷ Laura Kanapiene, chair of the board of the Lithuanian Autism Association 'Rain Children', states that 'smart technologies help children to learn math, language or other subjects'.⁶⁸ Additionally, we can find applications that can help people with disabilities to use computers and access digital content more easily. For example, students from Vilnius University have created computers that understand Lithuanian speech and can speak Lithuanian.⁶⁹ Different applications allow for voice control of computers and browsers, the development of social skills and the improvement of language, information technology and self-service skills.⁷⁰

To summarise, there are a lot of good examples of where digital transformation and new technologies have helped to improve the life of people with disabilities. The examples cited in the areas of work, availability of services and education clearly

⁶⁶ Online article about technologies and learning content for children with special educational needs, <https://www.delfi.lt/gyvenimas/seima/autizmas-sutrikus-vaiko-raidai-i-pagalba-ateina-ir-technologijos.d?id=66041104>.

⁶⁷ Online article about the impact of technologies on children with special educational needs, <https://www.bernardinai.lt/2016-11-16-specialiuju-poreikiu-vaikai-ir-naujosios-technologijos/>.

⁶⁸ Online article about the impact of technologies on children with special educational needs, <https://www.delfi.lt/gyvenimas/psichologija/likimo-nuskriaustiems-gyventi-padede-naujosios-technologijos.d?id=69498472https://www.bernardinai.lt/2016-11-16-specialiuju-poreikiu-vaikai-ir-naujosios-technologijos/>.

⁶⁹ Online computer which can understand Lithuanian speech, <https://epale.ec.europa.eu/en/node/15182>.

⁷⁰ Online computer which can understand Lithuanian speech, <https://epale.ec.europa.eu/en/node/15182>.

indicate the role of digitalisation in creating improvements and new possibilities for people with disabilities.

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

In Lithuania right now there are a lack of studies and investigations about the challenges faced by people with disabilities in relation to digitalisation and digital transformation. However, from the analysis in this report, major findings can be highlighted with regard to the digital divide.

The main challenges faced by people with disabilities in the digitalisation field are the usability and accessibility of digital services. In Lithuania, many digital tools remain inaccessible and unusable for people with disabilities. The Lithuanian e-health system is not adapted to people with disabilities. According to social workers, it is almost impossible for people with disabilities to register in the e-health system by themselves. It is expected that new updates that should make the e-health system more accessible for people with disabilities will be launched only in autumn 2023. Website accessibility should also be highlighted as an issue. The National Audit Office concluded that only 3.4 % of public sector institutions' websites are accessible. The availability of mobile applications has not been evaluated at all.

Usability and accessibility of digital services in the education field should be mentioned. Lithuanian national strategies relating to education do not pay enough attention to digital technologies and its importance in the educational process for people with disabilities. This author's statement is strengthened by the conclusions of the project 'Distance education of children during the COVID-19 pandemic: threats and opportunities from an ecosystem perspective'. After research, the project team discovered that the distance learning process created difficulties for children with special education needs. In the study recommendations, the authors suggest that schools use proper ICT measures (for distance learning, schools should use a single education platform, which should be secure and reliable. Schools also should acquire or develop long-term remote educational programmes for the educational process.⁷¹

In the author's opinion, not enough digitalisation in the education field could be one of the reasons why the number of students with disabilities has been decreasing in Lithuania (see table F). In 2015, there were 367 students who indicated their disability status at universities, and 410 in colleges. In 2019-2020, there were 244 such students at universities and 108 in colleges (see table F). Students with disabilities compose about 0.5 % of the student population in Lithuania; the total number of students in 2020 was 105 942 (counting university and college students).

Table F: Number of pupils and students with a disability in educational institutions

	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Vocational school	1,334	1,346	1,359	1,332	1,283	1,085
College	410	301	242	181	141	108
University	367	419	362	314	279	244

Source: Lithuania Official Statistics

⁷¹ Vilnius university researchers project about distance learning during the COVID-19 situation, https://1a25a355-a578-4749-8fc5-d5df368163ad.filesusr.com/ugd/d3b129_967116c5d1a04c67bc1ab2d037338097.pdf.

A lack of knowledge of how to ensure accessibility is another challenge faced in the digitalisation field. The need for adaptation of digital field tools is pointed out in the National Programme for Social Integration of Persons with Disabilities, which seeks to promote the development and adaptation of information technology tools. However, a Human Rights Monitoring Institute report highlighted that most of the measures in the Programme are aimed only at persons with visual or hearing impairments. It is obvious that current Programme measures in a digitalisation context are insufficient or non-existent for different types of disability (e.g. people with intellectual disability).

Regarding different types of digital skills, residents of smaller towns and villages do not have equal conditions for access, and equal opportunities to access, the internet. According to 2020 official statistics, 69.9 % of households in rural areas have computers and internet access, while in cities and towns the number rises to 79.8 %. Also 17.8 % people in the 55-64 age group did not use public online services because of a lack of digital skills.⁷² Despite the Digital Agenda's goal of reducing the digital divide by encouraging people to gain the knowledge and skills required for successful use of information and communication technologies, the situation has not changed (see table G).

Table G: Number of people in different age groups who did not submit completed forms online to state authorities and other public institutions due to lack of skills and knowledge

All persons aged	2018	2019	2020
35-44	14,1 %	15 %	12,4 %
44-54	18,5 %	17 %	17,6 %
55-65	16,4 %	17,7 %	17,8 %

Source: Lithuania Official Statistics

People with disabilities should be present from the very beginning of the technological design process in order to ensure accessibility. In the course of preparing the report, the author discovered that people with disabilities and their representative organisations have not been involved in the drafting process for various strategies related to digitalisation. There is no evidence that the provisions in the *Information Society Development Programme for 2014-2020 'Digital Agenda for the Republic of Lithuania'* document were coordinated with the Department for the Affairs of the Disabled or the Disability Council.

⁷² Lithuania Official Statistics, <https://osp.stat.gov.lt/statistiniu-rodikliu-analize?indicator=S4R029#/>.

6 Conclusions and recommendations

6.1 Conclusions

Lithuania's Government does not collaborate with organisations for persons with disabilities in drafting strategies for digital transformation. People with disabilities are not involved in the decision-making process. Only 3.4 % of public sector institutions' websites are accessible. The availability of mobile applications has not been assessed at all.

The National Audit Office research results⁷³ show that implementation of the Directive on Public Sector Web Accessibility provisions will not be ensured by the end of 2021.

Despite the ambitious Digital Agenda goals, current strategies in education, health and online voting show that Lithuania's public sector lacks expertise in leading digitalisation initiatives for people with disabilities. This conclusion can be drawn from direct measures that are aimed at reaching goals in respect of education, health and online voting strategies. Other sectoral strategies, aside from the culture sector, do not directly address digitalisation and digital transformation as a priority. The majority of measures in the education, health and online voting fields do not focus on digital transformation. In order to change the situation, the public sector should focus more on digital transformation and its importance for people with disabilities.

At present, digital content is not fully accessible to people with disabilities in Lithuania. Additionally, the Agency for Science, Innovation and Technology does not set conditions to require that new technologies must be disability accessible. This Government and agency policy does not meet universal design, European Accessibility Act or UN CRPD (Article 9) principles.

The national disability strategy – the National Programme for Social Integration of Persons with Disabilities for 2013-2020 – and its action plan are lacking digital transformation measures for various disabilities. Most of the measures in the digitalisation field are aimed only at persons with visual or hearing impairments.

6.2 Recommendations

- People with disabilities must be involved in all decision-making process concerning digitalisation. In the course of preparing this report, the author discovered that people with disabilities and their representative organisations have not been involved in the drafting process for various strategies relating to digitalisation. People with disabilities are the best accessibility experts and their experience should be used in the legislative process.
- Digital inclusion for people with disabilities should be prioritised in Government strategies. The Government must ensure that information and communication technologies are accessible to persons with disabilities and consistent with the universal design, UNCRPD and European Accessibility Act principles

⁷³ On 8 September 2020 the National Audit Office pointed out, following investigation, that there is a lack of adaptation of websites and mobile applications. The National Audit Office concluded that only 3.4 % of public sector institutions websites are accessible. National Audit Office of Lithuania, press release on the situation of people with disabilities, https://www.vkontrole.lt/pranesimas_spaudai_en.aspx?id=25169.

- Lithuania's Government should revise the legal provisions for web accessibility. All public institutions' websites need to be properly designed so that people with various disabilities can access them. The national provisions on digital content must be updated in the light of the European Accessibility Act and the UNCRPD (Article 9 and General Comment). New provisions have a duty to meet universal design principles. Moreover, the Government needs to ensure that people with disabilities and their representative organisations can participate in monitoring how state and municipality institutions update their websites according to legislation.
- There are currently no courses for digital professionals on disability-related accessibility issues. Government institutions must develop training programmes and introduce universal design, UNCRPD and European Accessibility Act principles on accessibility for society. In addition, more training on digital literacy for people with disabilities should be organised. Gaining digital literacy knowledge could boost the number of internet users among, and work opportunities for, people with disabilities.
- Most of the measures in the field of development and adaptation of information technology tools are aimed only at persons with visual or hearing impairments, excluding those with other types of disability. Government must promote the development and adaptation of information technology tools to be accessible to people with all types of disability, including people with intellectual disability.

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