Best Practices Report

For the digital inclusion of older persons: a “digital rights” approach

St@ndbyMe

PROJECT

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Forward

For most of us, the adoption of new technological solutions in everyday life is seamless and a natural extension of our identities. Sometimes, however, we are troubled by the fact that others do not keep up with all the digital developments that are commonly available. For example, you may have witnessed some older persons struggling with technology in your family or in your professional practice. When it comes to that, a question that often arises is whether the lack of digital competences is a personal choice, a personal failure, or simply a generational phenomenon. In the St@ndbyMe project we argue that the answer to these questions is “clearly no”.

The creation and dominance of digital environments in modern societies has not been the doing of “mother nature” rather the outcome of humans’ incredible intellectual capacity. The first digital electronic calculating machines were developed in the middle of the 20th century. Three decades into the 21st century we are talking about the digital transformation of our world. At the same time we have become increasingly dependent on digital means for carrying out transactions with the bank, when interacting with the healthcare system, to pay bills, to buy necessary goods, to get informed, or to seek information. In that environment, digital literacy has become an indispensable set of skills for an independent life and those who are digitally illiterate are often deemed as ill-adapted.

In the St@ndbyMe project we examine the consequences of remaining “analogue” within our digital societies. It takes a few days without a smartphone (have you ever lost yours?), the internet, or your computer to get a glimpse on what an “analogue” life looks like. Most would describe those days as unpleasant and filled with impediment and plagued by feelings of exclusion. This is, however, the everyday reality for many older persons who are not quite there in terms of digital literacy, hence not in the position to effectively use the technology that most of us master in modern times. This is no one’s choosing, yet, having someone in this state is not uncommon. Most of us have an older member of your family, a portion of your clientele, or some of our patients that fit this “analogue” profile.

The St@ndbyMe project is a collaboration between five non-government organizations (NGO’s) and one university in Europe: those are the Frankfurter Verband in Germany, TREE in Estonia, CollectiveUp in Belgium, APSS in the Czech Republic, and the Hellenic Adult Education Association in Greece, and the Linköping University in Sweden. In the past, the partners of the St@ndbyMe project have been active in helping digitally illiterate older persons towards their “digital” inclusion. In the present, we join forces and examine the issue of digital exclusion in older age from a human-rights perspective.

We hope that this Best Practices Guide will provide a thorough introduction on why a human-rights perspective is important when considering digital exclusion in older age. We also argue that increasing awareness on the driving forces of the “grey digital divide” is still a contemporary issue. This Guide will provide some introductory information for the diverse digital landscape in the countries of reference, how older persons are positioned in terms of digital literacy and internet use in these countries, along with the best practices that the project team could identify at the national level. The main scope of examination was the digital inclusion of older persons and the respect of their human rights in digital environments. We hope that this reading will be useful for you in picking out the best practices that can be applied at your organisation, region, or community. In addition, we hope that this Guide can serve as the basis for you to advocate the implementation of similar approaches in your organisation, region, or community, no matter if this refers to a strategic planning or the full employment of interventions and services. We hope that in this effort you will have older persons’ human rights in sight.

George Pavlidis, Coordinator of the St@ndByMe project

We are keen to hear your feedback about this Guide in our Community of Practice, so please send us your input in the project’s email (info@standbymelearning.eu), or in the project’s communication channels (see below).

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This publication has been written within the Erasmus + project St@ndbyMe, which aims to support practitioners in the field of adult education (i.e., teaching older persons the use of ICTs) and long-term care in building their capacity on how they can help older persons to meet their potential in digital participation, while protecting their rights to health, autonomy, independence, and privacy

Disclaimer

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Introduction

By George Pavlidis, Linkoping University

Do you have any memory of yourself as a child living in an environment where:

- no smartphones were used around you?
- no cell phones were used around you?
- no internet or no computers were used at home?
- no television was available at home?

Now, please count how many times you answered “yes” to these questions. This number will most probably testify to whether you are a digital immigrant or not, to your age, and to your level of digital proficiency. According to the Cambridge Dictionary [1] , a digital immigrant is *“a person who started using digital technology, computers, the internet, etc. during their adult life, but did not grow up using them”*. Most people would be tempted to name all members of younger generations (i.e., those born in 1982 onwards) as digital natives, just because they were born and raised into digital environments [2] . At the same time, many would be tempted to name all persons of older generations as digital immigrants [3] . But this is only partly true, as even to date there are young persons with low socioeconomic status, living with disabilities, and immigrants from developing countries that are digitally illiterate [4] .

The meaning and consequences of digital illiteracy changed over the last three decades as a function to the penetration of technologies in everyday life and the availability of internet access in the household. These digital transformations were gradual processes that happened at different pace in different countries [5]. The turn of the 21 st century brought computers, software, and wireless technologies that at first were nice toys to have and play with in western and affluent societies. However, these devices were developed further and gradually became tools that create competitive advantages to businesses and governments. To date, we are talking about digital devices as a necessity that makes life almost “standing still” when they malfunction. Have you ever noticed what the level of panic is today when the internet or your Wi-Fi does not work? Do you remember the Crowdstrike glitch in 2024 that affected 8.5 million computers globally, with flights unable to take off or land, card payments to freeze, and medical operations to get cancelled [6] ? It seems that it takes a software update error to cause chaos. If nothing else, the Crowdstrike glitch highlighted the scale of dependency we have on technology, as well as the devastating and disruptive impact that digital malfunctions have in our lives.

Are digital migrants digitally illiterate? The answer to this question is “most of the time, no”. Most older persons are competent users of most digital devices, such as computers, smartphones, and tablets, while others in older age remain non-users of technology. There are many reasons why some older persons do not use the internet, smartphones, apps, and digitally mediated services. For a thorough account on those reasons, we recommend that you follow the St@ndbyMe International Academy, a series of short MOOC courses that is developed in this project. There, you will find information about the three main drivers of digital illiteracy: low income, fewer years of attainment in education, and poor health [7].

Income and education are highly correlated, which means that a higher education usually brings a higher income down the road. Therefore, income and education are often grouped together as an indicator of socioeconomic status (or SES). Noteworthy is that a higher SES is also related with better health outcomes in older age [8]. The point made here is that low SES and poor health are related with digital illiteracy and the non-use of digital devices in older age. Hence, the digitalisation of modern societies has deepened existing inequalities. For the less privileged non-users of technology, the unsettling state brought from the Crowdstrike glitch or any technological disruption of significance is an everyday reality. Low income could practically mean that some older persons cannot afford an internet connection and the purchase of digital devices [9]. Older persons with lower educational attainment that have occupied “blue colour” jobs in their working lives are usually with fewer financial resources at their disposal in older age and overrepresented among the non-users of technology. Usually, they were not required to learn the use of Information and Communication Technologies (ICT) in their job - “blue colour” occupations rarely required the use of computers and the internet in the 20th century [10]. Contrarily, older adults with a “white colour” working life benefited from lifelong learning opportunities in digital environments, all supported by their employers in the context of modernising their business. In the turn of the 20th century, those with a “blue colour” working life had to exhibit a learning ethos in their private life to be “in sync” with digital developments and modernise their living environment.

Three things should not be overlooked in this discussion. Firstly, poor overall health and impaired vision are related with increased risks of non-use of the internet and low digital competence [11] , irrespective of past occupation and income. Poor health is also related to failing attempts in attending and completing courses that could bring older and digitally illiterate persons to know how to use digital devices and services. Lastly, the design of technologies is to a large extent ageist, meaning that their design largely overlooks the needs and the preferences of older consumers [12]. This negligence does not exactly bring enthusiasm to older persons that contemplate using ICTs- after all, who wants to buy a pair of jeans that do not sit well on them?

All this may provide to the reader with some insights and context on the determinants of ICT use and digital literacy in older age. Digital exclusion is not static and takes effect in different stages during one's life course. Thus, digital illiteracy and the non-use of ICT are neither products of the present (e.g., a choice) nor personal failures. One must consider the legitimacy of such claims by reflecting on whether someone has full control of their education, income, health, and occupation. Most scholars would agree that the individual has some agency in shaping the outcomes of their lives, but the powerful effect of the context cannot be overlooked. In this Guide we showcase that the social conditions that incubate digital literacy and promote digital transformations vary significantly across national and regional borders. Therefore, digital literacy and the use of ICT devices in older age is an important part of European social policies [13] , with the ultimate objective being to change the social context that supports older persons' inclusion in digitised societies and minimise the digital among the member states of the European Union.

A human rights perspective has been most valuable in drawing the European social policies of the 20th and 21st centuries. The Universal Declaration of Human Rights (UDHR) is a milestone document that sets out fundamental human rights to be universally protected, no matter the fiscal losses for individual governments in securing these rights [14] . These are rights closely related to social protection and welfare, including the rights to life and liberty, freedom from slavery and torture, freedom of opinion and expression, the right to work and education, and many more rights that are considered inherent to all without discrimination. Yet, the Universal Declaration of Human Rights (UDHR) was drafted in 1948 when digitalisation was less of an issue for welfare policies and the protection of basic rights - the first digital computer started to operate in laboratory settings around this time. AFor many years to follow, the deployment and the use of ICTs were regulated by the laws of consumerism and the free market.

The digital era of the 21 st century and the massive adoption of ICT solutions in everyday life, both in the public and the private sector, brought the need to regulate digital infrastructure, processes, and content [15] . Among others, this has resulted in the discussion on whether access to the internet [16] , the affordability of digital devices [17] , and education for digital literacy (even in older age) [18] , should be basic human rights. The European Declaration on Digital Rights and Principles is an attempt towards this direction [19]. This Declaration refers to *"the set of universal rights and freedoms that are essential for people to access, use, create, and share digital technologies and information freely and securely. These rights are necessary to ensure that people can fully participate in the digital world without being subjected to discrimination, censorship, surveillance, or other forms of abuse"* [20]. Bare in mind that although the European Declaration on Digital Rights and Principles was signed by the Presidents of the Commission, the European Parliament, and the Council, this document is not legally binding for the member states of the European Union, nor have these principles being translated to national law.

Aim of this Best Practices Guide

The varying degrees of digital penetration in the countries of the European Union reflects the varying reality of older persons within digitised societies [21]. In this Best Practices Guide, you will read that on the one hand, Sweden has higher digital penetration rates and a clear strategy to support digital literacy initiatives for the public. The Swedish government had funded and assigned the public libraries the task to support citizens of all ages in acquiring digital skills, whilst providing access to digital devices in the premises, or as a loan [22]. On the other hand, Greece has lower digital penetration rates and no national policy for the digital literacy of older persons. This has left the responsibility of older persons' digital inclusions entirely on the efforts of charity organisations, the informal sector, and in the hands of NGOs. Many NGOs have good examples and best practices to demonstrate in this report, as is the case of the "Digital Pact for Old Age" launched by the German National Association of Senior Citizens' Organisations (BAGSO) [23] .

We believe that you, the reader of this Guide, is in a better position to choose the best practices that can be applied at your organisation, region, or community. We sincerely hope that this Guide can serve as a valuable informational tool for you, no matter if this is in advocating the implementation of similar approaches in your organisation, region, or community, or towards more inclusive societies for older persons. After all, with no binding regulation for digital inclusion in older age at the EU level, we must put faith in you, and to civil organisations, so that a human-rights approach will be adopted in building fair digital societies for all ages.

Methodology

The methodology that we followed for this Best Practices Guide is simple. All partners were instructed to conduct desktop research and find reliable evidence that describe the national policies for digital transformation, the level of digital penetration, as well as the usage rates for ICTs by older persons. We also asked them to find specific national policies and initiatives for the digital inclusion of older persons, having as an analytical lens the *human rights* and the *digital rights* frameworks described above. These are the results of our task.

Best Practices in Belgium

By Chrysanthi Katrini and Liliana Carrillo, CollectiveUP

Belgium finds itself at a pivotal juncture in the digital era, where the integration of older persons into the digital landscape is not just a matter of convenience but a necessity for societal inclusion and progress. Recent statistics indicate that up to 95% of Belgians are regular internet users, reflecting a widespread adoption of digital technologies across all age groups [24]. However, beneath this promising statistic lies a persistent challenge: the digital divide remains pronounced among older demographics. Concerns over digital literacy, access to technology, and cybersecurity continue to pose barriers to full participation in the digital society for many elderly Belgians.

In response to these challenges, Belgium has been actively shaping its regulatory landscape and fostering initiatives aimed at enhancing digital education and inclusivity for older adults. European Union regulations, alongside national laws and policies, provide a framework for advancing digital literacy and ensuring equitable access to digital resources. Concurrently, a series of events and best practices have emerged to address these issues, emphasizing collaborative efforts between government entities, non-profit organizations, and private sectors.

Belgium has taken the multifaceted approach towards digitalization and elderly education, examining the regulatory frameworks, key events, impactful laws, and innovative practices that underscore the country's commitment to bridging the digital divide across generations. By understanding these efforts, we can better appreciate how Belgium navigates the complexities of digital transformation while ensuring that all citizens, regardless of age, have the opportunity to harness the benefits of digital technology.

Best Practice 1: Uniting Belgium Against Digital Exclusion

In the late stages of 2020, BNP Paribas Fortis [25] initiated a revolutionary ecosystem named DigitAll with a crucial mission – to combat digital exclusion in Belgium. This ecosystem quickly evolved into a coalition, with over 70 companies, public authorities, and social organizations joining forces. Their common objective: to wage war against digital exclusion, a pervasive issue affecting 40% of the Belgian population and endangering their fundamental human rights.

As the campaign gained momentum, 46 organizations and companies committed to this cause by signing the Digital Inclusion Charter. This charter, symbolic of a collective pact, signifies a united front against the far-reaching consequences of digital exclusion. The signatories pledged to collaborate, identify best practices, promote digital inclusion within and beyond their organizational boundaries, and support awareness campaigns to address this societal challenge.

The campaign's launch event was a poignant affair, taking place at the Thurn & Taxis site, where an upside-down replica of the human rights obelisk vividly illustrated the fragility of fundamental human rights in the face of digital exclusion. Federal Deputy Prime Minister Petra De Sutter, a prominent figure at the event, stressed that digital exclusion surpasses mere device accessibility, extending into the realm of societal participation.

The heart of the campaign lies in the powerful testimonies that illuminate how restricted access to technology, inadequate digital skills, or a fear of technology curtails the exercise of fundamental human rights. Digital exclusion, a pervasive issue affecting Belgians irrespective of age or background, creates barriers to essential services such as healthcare appointments, school registrations, job applications, and online forms.

The sobering statistics presented by the 'Digital Inclusion Barometer' by the King Baudouin Foundation revealed a stark reality: almost one in two Belgians faces the risk of digital exclusion, regardless of age or social status. Shockingly, 1 in 10 Belgian families lacks access to an internet connection at home, further exacerbating the challenge.

The Digital Inclusion Charter, with over 70 committed signatories, represents a collective effort to collaborate, promote digital inclusion, and raise awareness about the social divisions created by digital exclusion. The campaign introduces a dedicated website to gather and showcase existing initiatives, inspiring and motivating other societal actors to contribute to the cause.

Find more info here: www.digitall.be

Best Practice 2: Bridging Generations with the help of technology

In a rapidly evolving world, where technology seems to change at the speed of light, it's not uncommon to see a growing divide between generations. This divide is particularly noticeable between older adults and their grandchildren. In Belgium, as in many other parts of the world, this gap can sometimes feel insurmountable. However, amidst the challenges lie opportunities for connection and understanding.

While older generations may find joy and fulfillment in practical, nature-related activities such as gardening, hiking, or birdwatching, younger generations often gravitate towards online and mobile gaming for their entertainment needs. This stark contrast in preferences can create a barrier to shared experiences and bonding opportunities between grandparents and grandchildren.

Moreover, societal shifts have also contributed to the growing gap. With families becoming more geographically dispersed and busy lifestyles dominating daily routines, opportunities for intergenerational bonding are increasingly scarce. The traditional Sunday family gatherings may now be replaced by virtual interactions or occasional visits, further widening the emotional and physical distance between generations.

Despite these challenges, initiatives aimed at bridging the generational gap are emerging. One such initiative gaining popularity in Belgium is geocaching [26]. This outdoor treasure-hunting game utilizes GPS coordinates to navigate participants to hidden containers, or "geocaches," scattered across various locations. What makes geocaching particularly appealing is its ability to blend technology with physical activity, offering a unique opportunity for grandparents and grandchildren to bond while exploring the great outdoors.

While the distance between older adults and their grandchildren in Belgium may seem daunting, it's essential to recognize the potential for connection and understanding that exists within this intergenerational relationship.

Best Practice 3: Empowering Detainees

The journey towards digitizing justice in Belgium, especially within the prison system, is marked by a commitment to modernization and enhancing the lives of detainees. The Detention Digitisation Service (DDD) within the Belgian Directorate-General for Penitentiary Institutions (DG EPI) serves as a crossroads for experts to expedite the ongoing digitization of detention [27].

For older adults navigating life within prison walls, the introduction of a digital platform offers a multifaceted approach to improving their quality of life.

This platform facilitates access to e-learning resources, providing educational opportunities tailored to their needs and interests. Secure internet access ensures a controlled online environment, allowing detainees to engage with educational materials, vocational training, and skill development programs.

One significant benefit for older detainees is the ability to communicate digitally with their families and friends. Secure internet and digital telephony services provide a means for inmates to maintain connections with their support networks outside the prison walls. The inclusion of IPTV (Internet Protocol Television) enhances entertainment options, contributing to the overall well-being of detainees during their time in confinement. The digital platform has been successfully implemented in three prisons and two forensic psychiatric centers, impacting nearly 1,400 inmates. This implementation marks a significant step towards integrating digital tools into the daily lives of detainees, offering them opportunities for personal growth and connection.

The visionary plan includes expanding the digital learning platform to encompass all detainees in Belgium. This expansion aims to provide secure internet access to a minimum of 7,500 additional detainees. By doing so, the initiative seeks to promote rehabilitation and reintegration by empowering detainees with digital tools that mirror those available in open society, fostering a sense of connectivity and educational advancement. For older detainees, access to crucial digital resources such as the internet, Wi-Fi, and telephony becomes instrumental in actively engaging in processes crucial to their reintegration into society. Digital connectivity becomes a tool for detainees to maintain a semblance of normalcy and stay connected to the external world, addressing crucial aspects like seeking employment opportunities, addressing housing concerns, and pursuing education under supervision.

Digital visiting emerged as a responsive solution during the COVID-19 pandemic. The initiative allowed detainees to maintain essential connections with their families and friends through virtual means. This not only addressed the challenges posed by the pandemic but also became an essential and legally recognized component of detainees' visiting options. Virtual visits enabled detainees to see their family and friends, fostering emotional well-being and reducing the sense of isolation. The rapid deployment of secure and controlled digital meeting platforms within a week showcased the adaptability of the prison system to leverage technology for the benefit of both inmates and their loved ones.

Best practises in Sweden

By George Pavlidis, Linkoping University

In a recent report, the Organisation for Economic Cooperation and Development [28] concluded that (p.3) *"Sweden is among the leading countries in the diffusion and use of digital technologies. Internet use by individuals and businesses is widespread and the digital divides along line of age, education, income, and firm size are narrower than in most OECD countries. Broadband availability, quality and affordability score among the best in the OECD"* This reflects the outcomes of the Digital First agenda set in Sweden for the period 2015-2018, aiming towards a digital state capable to [29] *"collaborate and engage with citizens, design and improve the delivery of data- and user-driven public services and policies, anticipate citizens' needs, and enhance the value of the government as a platform"*.

According to the Official Statistics of Sweden [30], approximately 96% of Swedes use the internet to date. The digital intensity level of businesses in Sweden has been among the highest in Europe, whereas most internet users at the ages of 16-24 (85%), 25-64 (92%), and 65-74 (72%) buy goods and services online [31]. Over 90% of persons aged 65-74 in Sweden have been users of the internet [32]. Consequently, the participation rates of older Swedes are ranked among the highest within the European Union [33]. According to the Official Statistics of Sweden [30] and the Swedish Internet Foundation [34], there are hardly any non-users of the internet in the age groups 15-75, but a significant proportion of older persons in the age group 75-85 (18% of men and 16%) never used the internet. .

However, the high digitalisation of Sweden has brought concerns about the exclusion of those who are digitally illiterate, as their access to information, goods, and services may be limited [33]. For example, health services that are provided through digital means are not equally accessible to persons who lack digital skills. In addition, many who are not digitally "savvy" are forced to pay more for getting transportation tickets or for carrying out bank transactions.

This report highlights that several initiatives are in place to improve the digital competence of older persons, often driven by educational or non-profit organisations, as well as in the context of older care services. They note, however, that these initiatives do not reach all in need of digital education. Accordingly, a recent study examining welfare policies and older persons' digital exclusion in Europe [35] concluded that the Swedish welfare policy relies heavily on popular education (e.g., in study circles, libraries, pensioners' organizations) and family support, leaving many old Swedes in need of digital education without public or formal support. They also commented that "the more digitized a society, the greater the chance that older people not using technology will be excluded from the digital and social spheres".

Despite the shortcomings that arise in addressing the needs of older persons in Sweden who lack digital competencies, there are several Good Practices Examples in Sweden that should be highlighted.

Best Practice 1 - Keeps the discussion of digital exclusions in older age alive.

Most policies and strategies towards the implementation of digitally mediated services are based on the common assumption that all individuals are digitally literate. This assumption may hold for the majority but not for all. Therefore, it is important to keep the debates on digital exclusion alive at any level, such as when discussing and deliberating welfare policies at the national and regional level. The reports listed below are made periodically and fulfill this purpose, keeping this way the discussion of digital exclusions in Sweden alive.

The first example is the report published by the Swedish Public Health Authority [33] with the aim to provide knowledge to professionals and stakeholders across the public and private sector about the risks of exclusion within digitalized societies [36]. The report makes several key points clear: the non-use of the internet is not always a matter of choice, whereas illness, affordability of hardware and internet access, as well as a lack of prior knowledge may hinder one's wish to become "digital". The report includes some best practices implemented at the local and national level, as well as a summary of research findings that are most relevant to the topic.

Another good example is the annual survey and the annual report that the Swedish Internet Foundation (Internet Stiftelsen) is being carried out in Sweden [37]. This survey is part of the World Internet Project, an international research project that aims to examine and document changes within households and nations that can be attributed to recent developments on how the Internet is used [38]. The latest report of The Swedish Internet Foundation illustrates that the primary reason for not using the internet among the 75+ age group is a lack of interest. Older persons who use the internet seem to wish for simpler digital environments so that they would not need help from others. This testifies to the difficulties older persons have in navigating through online environments within the public and private sector, such as e-banking and e-healthcare.

Financial transactions in Sweden are made predominantly online and often without an available alternative. Since 2009, the administrative boards of Sweden's counties have been assigned by the government with the task to monitor and assess how the basic payment services correspond to society's needs. This task has been carried out through independent investigations, surveys, and interviews, with the relevant findings periodically published in the form of reports. According to the latest report [39], civilians' access to basic payment services outside digital environments has deteriorated in 2023. Satisfactory solutions for citizens who do not have e-payment accounts are still lacking, whereas bank branches and ATMs are reduced drastically. Those who are affected the most are older persons, persons with functional variations, persons with a foreign origin, and asylum seekers. The report concludes that the ongoing work to promote digital education in Sweden is very important, but exclusion from analogue financial services is an ongoing challenge that has not been addressed fully by the ongoing initiatives.

Best Practice 2 - Putting libraries at the forefront of digital inclusion.

The public libraries have been used for a long time in Sweden as the locations of reference where citizens of any age can receive digital education, and/or support for navigating through internet-based services. With the increased digitalisations of Swedish society, the government decided to reinforce libraries' role in digital education [40]. To date, the directors of public libraries describe the tasks of digital education and support as one of their core functions, with older persons and people with migration background to be the most frequent users of these services. Among others, public libraries in Sweden offer access to ICT devices and in some cases the opportunity to loan ICT devices.

The Swedish Library Association (Svensk bibliotekförening) has published a report with some concrete examples of how libraries can support those in need of digital education [41]. The availability of loaning e-books and audiobooks has a prominent place in their "digital" agenda, as these serve individuals with mobility issues or functional variations (e.g., impaired vision).

Some of the concrete actions that are recommended by the Swedish Library Association are: organising information campaigns in remote locations, inviting representatives of banks and travel agencies to demonstrate their digital environments, and establishing drop-in meeting points for digital support.

The Swedish Library Association is part of a wider network called Digidel. This network has a mission to promote digital inclusion in Sweden. Digidel [42] created a website that offers updated and valuable resources for adult educators and organisations that address the public needs of digital education. The website is a bank of online courses and resources for adult educators, as well as for individuals who would like to improve their digital competencies. News, recent developments in the area, as well as various happenings and events are also available on this website. It is certainly worth checking!

Want more information? https://digidel.se

Best Practice 3 – Encouraging the cooperation between private and public organisations.

It is common for projects and initiatives that address older person's needs for digital inclusion to have a "short life". The main reason behind the termination of such initiatives is that their funding from charities, donors, the European Commission, or the state, is running out. The common timeframe of funding for projects of this nature is between 1-6 years, which means that many projects are not continued even when they have demonstrated efficiency and social impact during the period of implementation. But there are exemptions to this rule! The two examples that are listed below became viable and sustainable solutions for digital inclusion because actors from the private and public sectors in Sweden cooperated under a common goal.

Digivän (DigiFriend) is a program that was initiated during the COVID-19 pandemic by PRO (The National Association of Pensioners) in Gävle, together with the municipality and Gävle's city library [43]. This project was initially funded by Microsoft and the Sparbankstiftelsen (Savings Bank Foundation) and aimed to lift seniors out of exclusion by matching them with a "digital friend" from the community. The digital friends (Digivän) are volunteers that undergo some basic training and then meet with older persons who would like to acquire digital skills for the first time, or to increase their existing digital knowledge. Since the end of the project in 2021, Digivän has become the responsibility of Gävle's municipality and continues to recruit volunteers. The success of this project is reflected in the message posted in the municipality's Digivän's portal, where it is stated "The recruitment service is temporarily closed to new applications as the interest in becoming a Digivän has been great. The application will be reopened when the need for new volunteers increases"!

In Sweden, the municipalities are responsible to aid older persons who cannot shop groceries for themselves because of health reasons. The usual mode of this assistance is that a personal assistant receives a list of groceries from an older person, they go to the local store, and then they bring the shopping goods home. Coop is one of the largest chains of grocery stores in Sweden that pioneered a grocery shopping solution for older persons in need, made possible through the collaboration with local social care services [44]. The initiative was to bring personal assistants to sit together with older persons and go through the online shop of Coop, giving this way more control and more choices to older persons over their groceries. All personal assistants were equipped with either a portable computer or a tablet for that purpose, whereas Coop packaged the products together and made them ready to be delivered. Thereafter, the personal assistants picked the order up and they delivered them to older persons home, saving time and effort. Nowadays, more and more large grocery stores and local retailers are using this platform of collaboration with social care services in order to bring groceries to older persons in need of assistance across Sweden's municipalities.

Best Practices in Estonia

By Luigi Della Sala, Tree Agency

Estonia stands as a global leader in digitalization, leveraging its advanced digital infrastructure to foster e-governance and enhance public services accessibility. Known for pioneering e-residency and digital ID programs, Estonia has consistently integrated technology into everyday life. This has substantially impacted all demographics, including older adults, who are often at risk of digital exclusion in rapidly evolving technological landscapes.

The national efforts to integrate older adults into the digital world are supported by robust data; for example, approximately 80% of Estonians aged 65 to 74 are regular internet users, a significant increase from earlier years [45]. This growth in digital participation among older adults is indicative of Estonia's comprehensive approach to digital literacy.

The widespread usage of the internet in this age group reflects the success of various governmental and non- governmental digital literacy programs specifically tailored to meet the needs of the elderly. Furthermore, Estonia's digital agenda includes special initiatives aimed at reducing the digital divide, ensuring that seniors are not only consumers of digital content but also active participants in the digital community [46].

Digital healthcare is a standout aspect of Estonia's digitalization that particularly benefits older adults. The e-health system allows citizens to access their medical records online, renew prescriptions, and schedule appointments with ease. This system is crucial for older adults, as it enhances their autonomy and access to health services. Over 90% of data generated by healthcare interactions are digitized, and nearly all prescriptions are issued electronically [47]. This level of integration plays a pivotal role in promoting independent living among seniors, facilitating better health management through technology.

Despite these advances, challenges remain. A report from the Estonian Ministry of Social Affairs [48] highlights that while many older adults are increasingly fluent in digital technologies, a segment still struggles with basic digital skills. This disparity is addressed through targeted training sessions and workshops, often held in community centers and libraries, which have become hubs for digital learning and support. These institutions provide essential resources, including access to computers and internet, alongside guided instruction designed to build confidence and skills among older persons [49].

Further initiatives to support digital inclusion include partnerships between the public and private sectors aimed at creating user-friendly digital environments. These collaborations often focus on simplifying interfaces and increasing accessibility features that cater to the needs of older adults, such as enhanced visual aids and voice navigation systems [50]. Additionally, the Estonian government has facilitated programs like "Vaata Maailma" (Look at World), which specifically aims to teach essential internet skills to over 100,000 non-users, many of whom are seniors [51].

While Estonia's digital landscape offers a model of inclusive technology use, ongoing efforts are necessary to ensure that no demographic, especially older adults, is left behind in the digital evolution. The continuous update of policies, coupled with the implementation of educational programs and the enhancement of public digital infrastructures, shows Estonia's commitment to a digitally inclusive society. Here are some of the best practices in Estonia.

Best Practice 1 - Continuous Engagement on Digital Inclusion for Older Adults

Estonia recognizes the importance of continual dialogue and policy evaluation concerning digital inclusion. This is especially crucial for addressing the needs of older adults who may not be as digitally savvy as younger generations. The Annual Digital Inclusion Summits [52] , organized by the Estonian Ministry of Economic Affairs and Communications, are essential gatherings that bring together diverse stakeholders to enhance digital accessibility, particularly for older adults. These summits review the progress of digital inclusion initiatives, assess the effectiveness of current policies, and set future strategies.

They emphasize knowledge sharing, best practices, and collaborative projects. Workshops and training sessions provide practical tools to promote digital literacy among older adults. The summits significantly impact older adults by improving their access to services, quality of life, and social connectivity, helping to reduce digital exclusion and social isolation.

E-Inclusion Campaigns [53], as highlighted in the new Estonian Digital Agenda 2030 prepared by the Ministry of Economic Affairs and Communications, aim to boost awareness and usage of digital technologies among the elderly. These national initiatives provide workshops, online tutorials, and free internet access programs, ensuring older adults can engage with and benefit from digital tools. By offering practical training and resources, these campaigns help older adults navigate the digital landscape, fostering greater inclusion and connectivity within society. Barrier-Free Digital Public Services [54] is an initiative focused on redesigning public digital services to be more user-friendly for the elderly. This includes simplifying navigation and incorporating voice-assisted technology to ensure older adults can easily access and use these services. By making digital public services more accessible, the initiative aims to remove barriers that might prevent elderly users from fully benefiting from digital advancements, thereby promoting greater inclusivity and ease of use for all citizens.

Best Practice 2 - Libraries as Hubs for Digital Learning (for information on the activities and actions covered by this practice, you can access:

https://www.infotoday.eu/

https://keskraamatukogu.ee/en/classes/

https://www.educationestonia.org/

Public libraries in Estonia play a crucial role in promoting digital literacy by providing a safe and accessible environment for older adults to learn and engage with digital technologies.
These libraries offer various activities and actions, including digital literacy training programs, workshops, and one-on-one assistance. By serving as community hubs, libraries help bridge the digital divide, ensuring that older adults have the resources and support they need to navigate the digital world confidently. Tech Time Sessions in libraries offer hands-on assistance with digital devices and applications, tailored specifically to the needs of older adults. These sessions help older adults engage with digital tools by providing practical, personalized support, making it easier for them to learn and use new technologies confidently.

Digital Literacy Workshops, conducted by librarians and volunteer tech experts, cover essential digital skills for older adults. These workshops range from basic computer use to online safety practices, helping participants build a solid foundation in navigating digital technologies and ensuring they can safely and effectively use digital tools. Mobile Library Services bring internet access and digital learning materials to older adults in rural areas. By visiting remote locations, these mobile libraries ensure that even those in the most isolated regions have equitable access to digital resources and learning opportunities.

Best Practices in Greece

By Chelsea Lazaridou, Hellenic Adult Education Association

A significant digital gap can be observed in Greece between younger and older individuals, as a result of the rapid changes that ICT technologies have had in the way we interact, do business, and complete our everyday tasks, from scheduling a doctor's appointment to paying our bills. This transition has not been easily absorbed by all segments of society, as the older generations find it difficult to follow this fast pace of evolution, thus increasing their vulnerability to social isolation and exclusion. Furthermore, the digital divide and associated inequalities are deeply ingrained in society: individuals with higher levels of formal education tend to have a greater grasp of basic digital skills. Greece exhibited one of the most significant disparities between those with high and low levels of formal education in terms of the percentage of people with basic digital skills [55].

Research by Eurostat [56] has shown that only 2% of people over 65 in Greece have above-average digital skills, 78% of them have never used a computer, while in 2020, only 33% of people aged 65-74 in Greece had used the internet in the last 3 months.

The main barriers to Internet use are considered to be the fear of personal data disclosure to third parties, consumer suspicion of retail Internet businesses, cyber-attacks, the complex and lengthy procedures of services, and the lack of user familiarity [57]. This is particularly important for older people as it is believed that perceived risk is higher among the older generations not only in Greece but also in other EU countries.

In an online survey regarding digital transactions by older adults in Greece conducted in 2020 [58], 366 older adults participated. The majority of them reported little to no familiarity with the Internet and a lack of awareness of the obligations and consumer rights for online banking and e-commerce. The majority prefer to be served at a physical bank branch, but they are positively inclined to be able to carry out their transactions digitally, saving time and effort, although they raise the issue of security of electronic transactions mainly due to general unfamiliarity with the digital reality. Less than half of them carry out electronic transactions once a week, mainly payments and monitoring of accounts, money transfers, and online purchases. Of those who do not carry out electronic transactions, the main restrictions are unfamiliarity and lack of understanding of the connected process. If they overcome these barriers, they would also like to be able to pay and monitor bills, transfer money, and make online purchases. The majority of them remain skeptical and would prefer physical banking and government services. Most are uninformed about electronic/digital banking products and are concerned that the prevalence of a digital reality in the world of transactions will result in a reduction in jobs. Finally, a majority of participants also seemed to lack information about the special benefits offered by government-owned corporations to older persons. The Madrid International Plan of Action on Ageing (MIPAA), aims at the social protection of older people and acknowledges that the only way to tackle demographic ageing is to take measures for the well-being of older people and to promote active and healthy ageing. Although the MIPAA was signed by the Greek government in 2018, a National Action Plan on Ageing has not yet been implemented.
In a context where addressing ageing concerns is not a political priority, educational opportunities for older adults are primarily offered by non-profit organizations and municipalities. However, these initiatives are often limited, fragmentary, difficult to sustain, and heavily reliant on the dedication of organizers and trainers. Here are some best practises:

Best Practice 1 – Learning City, Municipality of Larissa

The Department of Social Policy of the Municipality of Larissa organized a Computer Learning Program addressed to older adults. The innovative program aimed to help older adults learn and enhance their digital and social skills in a pleasant and friendly environment. As stated, “Life in the Third Age is becoming increasingly digital, familiarizing’s older people with digital technology not only contributes to their psychosomatic health but also constitutes an inalienable right to knowledge, freedom of choice of information sources, and equal participation in social life, without age and racial exclusion”.

Over 200 citizens participated in the 40-h. program and had the opportunity to learn how to use the computer and to get familiarized with the internet and its possibilities [59].

Best Practice 2 - Digital Life Learning

The project implemented by NGO People Behind, in Greece [60] addresses both the need for senior citizens to integrate into society and be independent through the use of digital technologies and the need for university students to gain new experiences of “real work” while participating socially as active citizens. Digital Life Learning Life’s main aim is to create macro laboratories for older citizens aged 65-74 years old to improve their digital skills. The project operates in 4 EU countries where teachers will train HEIs students, who in return will teach seniors, thus being able to obtain micro-credentials employable in the job market from this experience.

Get more info : https://garagerasmus.org/project/digital-life-learning/

Best Practice 3- BESTIE – Befriending for Social Inclusion

The Erasmus+ project "Befriending for Social and Digital Inclusion", was implemented by the Hellenic Adult Education Association, Greece [61] and aimed to provide a fresh and innovative model of cross-fertilization of digital and social skills for senior citizens, migrants, and young people. The BESTIE project promoted co-operation within the community on an intergenerational basis, bringing together people of various ages and backgrounds, with the help of adult educators, to overcome the digital and social exclusion of these groups, by allowing them to work together on bridging key skills. Rather than combating digital exclusion by simply offering more digital opportunities, BESTIE aimed to combat digital exclusion by offering the most natural and socially beneficial method; community-based exchange in creating human interpersonal connections.

Get more info: https://bestieproject.eu/

Best Practice 4: Access to the Digital World

The program was a 6-year activity of 50και Hellas [62] funded by the private phone company COSMOTE, aiming to combat digital illiteracy among seniors. It was implemented in cooperation with 15 partner municipalities in Attica and Thessaloniki. "50 and Hellas" offered tablet and internet courses for people over 50 years old. More than 10.000 older people have enthusiastically participated in the program and learned to use computers, tablets, the internet, email, social media, and other applications that facilitate their daily lives.

Best Practice 5- National Digital Academy in Greece

The "3rd e-age initiative: Digital Empowerment of Older People" by the National Digital Academy of the General Secretariat for Digital Governance, aimed to tailor individual education and personalized support to older people by providing them with digital assistant trainers to perform basic digital tasks.

Older people had the opportunity to become familiar with the use of their personal devices and the exchange of information and data, to master the ability to request and receive digital services, as well as to enjoy communicating and sharing with their loved ones, at a basic level of security and a satisfactory degree of digital citizenship. This action was aligned with the country's national digital transformation strategy [63]. The initiative was implemented in 6 municipalities and more than 1400 beneficiaries with an average age of 71.5 years participated in more than 7,000 digital skills development sessions.

Best Practices in Germany

By Steven McAvenue and Peter Gehweiler, Frankfurter Verband

In the Digital Economy and Society Index (DESI) 2022 report for Germany [64] it was stated that (p.3):

"Germany ranks 13th of 27 EU Member States in the 2022 Digital Economy and Society Index (DESI). Germany progressed relatively well in the last five years (2017-2022).[1] As the EU's largest economy, Germany's progress with digital transformation in the coming years will be crucial, to enable the EU as a whole to reach its 2030 Digital Decade targets.

Germany shows a mixed performance on Human capital. The level of basic digital skills and basic digital content creation skills[2] is slightly below the EU average. However, the share of information and communications technology (ICT) specialists is above the EU average.".

This is the result of the Digital Agenda that was set in Germany for the period 2014-2017 [65], which had the main goal of *"making the advantages of digital progress available to all citizens. First of all, this involves ensuring that both private individuals and businesses have access to the Internet via powerful fixed and mobile networks at every location*".

Critics stated that the Digital Agenda remained too vague: *"The Federal Government's Digital Agenda is a first step in the right direction. However, it needs to become more than a declaration of intent. Concrete measures must follow,"* said Markus Kerber, Director General of the Federation of German industries (BDI) [65]. The President of Bitkom (formerly the German Association for Information Technology, Telecommunications and New Media) Dieter Kempf believed *"To become a real master plan, however, as a second step the Digital Agenda must be underscored by a very concrete implementation schedule"* [65].

According to the German Federal Statistical Office, approximately 95% of Germans use the internet to date, whereas it's approximately 85% of the users between the ages of 65-74. While 82% of internet users in Germany buy goods and services online, the differences of the age-groups, 16-24 (85%), 25-44 (91%), 45-64 (82%), and 65-74 (62%) are noticeable [66].

The new German government took office in December 2021 and set out its digital priorities in the Coalition agreement [67]. Digitalisation is a key priority for the new government, building on the digital dimension of the Recovery and Resilience Plan adopted by the previous government [64, p.3]. The implementation strategy 'Shaping Digitalization', adopted on 15 November 2018 [64, p.4], is a strategic umbrella covering more than 140 central digital policy projects in five fields of action: digital competence, infrastructure and equipment, innovation and digital transformation, society in the digital transformation and the modern state. By October 2021, over 90% of the implementation steps had been started, of which 44% had been completed [64,p.4]. The interactive digital policy dashboard [68], tracks progress on each measure covered by the strategy and other German digital strategies (artificial intelligence (AI), blockchain and data strategies), as well as impact indicators for digital policies. The dashboard helps to ensure transparent, verifiable, and evidence-based digital policy in Germany.

To compound the issues Germany has achieved with the Digital Decade target, concerns about the exclusion of those who are digitally illiterate have been raised [69], as their access to information, goods, and services may be limited. The German government relies heavily on registered non-profit organizations to find methods to improve the digitalization of older people. However, even these organizations state that more needs to be done through financial support and regulation [69]. Despite that, there are several good practices in Germany that aim for the digital inclusion of older persons within national borders.

Best Practice 1 – e-gov services.

Germany has been advancing its e-government services to improve efficiency and accessibility for citizens. An exemplary practice is the "Bürgerportal" (Citizens' Portal) offered by the Federal Government [70] which provides a centralized platform for citizens to access various public services, such as applying for permits, registering residency, or submitting tax declarations online.

This portal is meant to ensure streamlined communication between citizens and government agencies, reducing bureaucratic hurdles. However, as each state handles their platforms differently, and some agencies still use physical printouts internally, it has not reached its intended goal quite yet. Citizens that do not wish to use a digital portal can still make in-person appointments with the various government agencies using the public service number 115, which established itself as a new standard in citizen service during the pandemic, and thus one of the most important drivers for citizen-oriented, modernized and efficient administration [71].

To properly use the digital citizen's portal, Germany enacted a digital identity system that allows citizens to prove their identity online and access various e-government and private services securely. The eID [72] is embedded in the German national ID card (Personalausweis), and residency permit cards, which have been issued since November 1st, 2010.

The eID functionality is provided by a chip embedded in the national ID card. This chip stores personal data securely and can be read by authorized readers, which allows users to authenticate themselves online. This can be used for accessing government services, signing electronic documents, or proving identity to private companies, such as banks or online retailers. The system is designed with strong encryption and privacy measures. Users must enter a six-digit PIN to use the eID, and the system ensures that only the necessary information is shared during transactions. Facilitates cross-border use within the EU, promoting a single digital market. Despite its benefits, the adoption rate has been relatively low. Increasing public awareness and making the system more user-friendly are ongoing challenges. Some users may face difficulties with the required hardware and software, especially older citizens or those less tech-savvy.

While the system is designed to be secure, there are ongoing concerns about data privacy and the potential misuse of personal information. Overall, the Citizen's Portal combined with the eID system in Germany represents a significant step towards digital government and secure online transactions, with the potential for widespread impact if adoption rates increase and technical barriers are addressed. Germany's e-government services, including the Bürgerportal (citizens' portal) and the electronic identification system (eID), significantly impact older persons by improving access to government services, while also posing certain challenges in terms of digital skills, usability, and access to devices.

Based on our observations in our organization (Café Anschluss) and the focus groups we conducted in the St@ndbyMe project (see our website for the report) several advantages and disadvantages of the aforementioned services were noted. For example, the Bürgerportal and eID system allow older adults to access government services online, eliminating the need to travel to government offices. This is particularly beneficial for those with mobility issues or living in rural areas with limited access to physical government offices. In addition, services are accessible anytime, allowing older adults to interact with government services at their convenience rather than adhering to office hours, which can be a limitation for many. For digitally savvy older adults, these platforms allow for greater independence. They can handle their administrative needs without relying on family members or caregivers, which can improve their autonomy and self-esteem.

However, many older adults may not be comfortable using digital services due to limited experience with computers and smartphones. Navigating portals or setting up eIDs requires a certain level of technical proficiency that not all older adults possess. In addition, those without basic digital literacy risk being excluded from essential services, which could exacerbate existing social divides. Some older adults may require training or support to use these systems effectively. They are often more cautious about sharing personal information online and may be wary of the data protection implications of using digital identification. In Germany, privacy concerns are especially pronounced, as the population has historically been sensitive to data privacy issues.

Older persons may be more vulnerable to online fraud, and the eID system—while secure—can still pose a risk if users do not fully understand security measures, such as protecting their passwords and devices from phishing attacks. For those who cannot use these services independently, there may be increased reliance on family or social services, potentially leading to feelings of dependency or social isolation if they cannot keep up with the digital shift.

Not all older adults own a smartphone, computer, or have access to high-speed internet, which are necessary for using Bürgerportal and eID effectively. In cases where these tools are unavailable or unaffordable, older adults may face additional barriers.

For example, the eID function generally requires a newer smartphone or reader that supports NFC (near-field communication), which can be an additional cost and technical hurdle for older adults who do not already have such devices.

Germany has acknowledged these challenges and has implemented various initiatives to improve digital literacy among older persons, such as community digital literacy programs [73]. Additionally, there are often intermediaries or assisted digital support services (like our organisation Café Anschluss) with the coalition of DigitalPakt Alter that help older people who may need additional help navigating e-government services.

Best Practice 2 – e-health services.

Germany has been progressively integrating digital solutions into its healthcare system to enhance patient care and administrative processes. From January 1, 2021, all people with compulsory health insurance can store medical documents in the electronic patient record (ePA) and share them with doctors as desired [74]. **Health apps** that support and complement the treatment of various health conditions are already available on prescription. Telemedical solutions can also make some of the physical visits to medical practices unnecessary.

The dream of secure, nationwide networking within the healthcare sector has now become a reality. The telematics infrastructure enables medical practices, hospitals, pharmacies and other German healthcare facilities to securely exchange digital information. The goal is to connect all participants in healthcare with one another. To do this, technology that protects all patient data is used. Information required for treatment is therefore available in a direct and simple manner.

The electronic medical data card (eGK) [75] has been used by patients as proof of insurance for doctor and dentist visits since 2015.

In addition to master data such as the name and address of the insured person, emergency data or an electronic medication treatment plan can be saved to the card. The medication treatment plan helps prevent unwanted interactions between different types of medication. The introduction of the electronic patient record (ePA) marks another important step in the digitization of healthcare. Since 2021, those covered by statutory health insurance can request an ePA and an accompanying app from their health insurance provider. If given consent by the insured person, doctors can view important results, for example from previous visits to specialists or hospital stays. Beginning 2025 this changes to an opt-out. This helps ensure patients receive better and more efficient treatment, for example by reducing the number of duplicate examinations. With the electronic patient record, patients can view their own medical documents and use their app at any time. People wanting to remain analog are currently able to, though it is becoming increasingly more difficult to make appointments by phone or in person. Most doctors have walk-in hours, but these get filled quickly.

Get more info: ***German Federal Ministry of Health's Health portal:***
https://gesund.bund.de/en/topics/health-and-digitization

Germany's e-health services, like the elektronische Patientenakte (ePA, or electronic patient record), elektronische Gesundheitskarte (eGK, or electronic health card), and certified health apps (DiGA), have a range of impacts on older adults, offering significant benefits for health management, while also presenting some challenges related to accessibility, usability, and digital literacy. Based on our observations in our organization (Café Anschluss) and the focus groups we conducted in the St@ndbyMe project (see our website for the report) several advantages and disadvantages of the aforementioned services were noted

The ePA consolidates all health-related information—such as medical history, prescriptions, and test results—into a single digital file. This can be invaluable for older adults, especially those with chronic conditions or complex medical histories.

By having all health data in one place, both patients and healthcare providers can make more informed decisions, potentially improving care quality.

Older adults often see multiple healthcare providers. The ePA allows seamless information sharing among providers, reducing the risk of medication errors, duplicative tests, or gaps in care. This is especially beneficial for older patients managing multiple health conditions [76]. However, our experience and observations indicate that many older adults may struggle with accessing and managing their ePA, particularly if they lack digital literacy. Without proper support, they may find it difficult to navigate this system and could miss out on the benefits of having a comprehensive digital health record.

Furthermore, the government states that the eGK (electronic health card) facilitates the processing of insurance claims and sharing of basic medical data, streamlining administration for older adults. For instance, it automates insurance verification at medical appointments, which can reduce paperwork and wait times.

In an emergency, healthcare providers can quickly access essential health information if the patient uses an eGK with emergency data enabled. This can be life-saving for older adults with chronic conditions or allergies [76]. However, based on our observations and the findings of the focus groups conducted for the St@ndbyMe project, some older adults may not fully understand the features available on the eGK or how to activate them, such as emergency data storage. Furthermore, card readers and secure PINs are sometimes required, which can create accessibility hurdles.

Certified digital health applications (Digitale Gesundheitsanwendungen, or DiGA) provide tools to manage chronic conditions, such as diabetes or hypertension, through medication reminders, symptom tracking, or lifestyle coaching [77].

Many of these apps can improve self-management, especially useful for older adults managing long-term health issues. DiGA apps include resources for mental health, exercise, and preventive care, which can benefit older adults by encouraging active lifestyles and mental well-being. They may offer virtual consultations, cognitive exercises, or telemedicine access, potentially reducing the need for in-person visits.

However, based on our observations and the findings of the focus groups conducted for the St@ndbyMe project, older adults may face usability challenges with DiGA apps, especially those who are less familiar with smartphones or tablets. Many health apps are optimized for younger users, and the interfaces may not consider accessibility needs like larger fonts or simplified navigation. Apps may require updates or smartphone compatibility that older devices cannot support, potentially limiting access. Given Germany's heightened focus on data privacy, older adults might be more cautious or even hesitant about using digital health records or apps due to concerns over data security. They may worry about who can access their health information, how securely it's stored, or whether it could be misused. Older adults may also be more vulnerable to cybersecurity threats, especially if they lack experience with secure digital practices.

Based on our observations and experience in the work undertaken in Café Anschluss we can argue that for older adults who can access and use these e-health tools, the benefits can be profound. They enable older patients to be proactive in managing their health, keeping track of medications, monitoring their symptoms, and staying engaged with their healthcare providers.However, older adults who lack digital access or skills could be disadvantaged if these e-health services become the primary way of managing health information. This digital divide risks excluding those who may not be able to engage with these tools independently or lack a support network to help them do so.

Best Practice 3 – Information and education

Germany has a long tradition of social equality promoted by law. According to the Gini index [78] , the country is considered a society with low-income inequality by international standards. The German state offers its inhabitants extensive legal entitlements to family support and social security. According to a study published by the UN, Germany is one of the countries with the highest willingness to finance public goods through taxes. Information and education are a part of the public social goods [79].

The **BAGSO** (Bundesarbeitsgemeinschaft der Seniorenorganisationen / Federal Working Group of Senior Citizens' Organizations) [73] represents the interests of the older generations in Germany. BAGSO brings together around 120 associations and civil society organizations that are supported by older people or that are committed to the interests of older people. The diversity, expertise and commitment of its members are BAGSO's strength. Through its member associations, it is always close to the wishes and needs of older people.

In key policy areas, BAGSO puts issues on the political agenda that are relevant to the quality of life of older people. In position papers and statements, it identifies requirements for a better life in old age and provides impetus for political action at federal, state and local level. BAGSO addresses the increasingly diverse older generations directly and provides impetus for shaping the phase of life in old age. BAGSO is a non-partisan and non-denominational NGO that puts forward the programme Digital Pakt for Older Ager (DigitalPakt Alter). With the motto "Provide support. Learn. Creating networks" BAGSO supports older people in building up and expanding their digital skills. To this end, they promote real-life learning and counselling services on site, make successful projects visible, and offer all interested parties clear access to helpful information.

One of the organizations under the BAGSO umbrella is the Frankfurter Verband e. V. [80] with its project Café Anschluss [81]. The Frankfurter Verband für Alten- und Behindertenhilfe e. V. is the largest provider of social facilities in Frankfurt am Main. They operate several care homes for senior citizens, day care facilities, a care service for senior citizens' residences, an outpatient care service, meeting points for the 50+ generation and many other social projects and neighborhood services, since 1918.

One of these social projects is Café Anschluss, a part of the Zentrum Dornbusch (Center located in the district of Dornbusch) center, which also includes the Kreativwerkstatt (Creative Workshop). Café Anschluss is a team of approximately 40+ dedicated senior citizens, who work on a voluntary basis, along with two full-time employees. Together, they determine the program, offer and atmosphere within the project group.

For over 25 years, Café Anschluss has been offering support for people aged 50 and over to get started in the world of computers and the internet. Café Anschluss facilitates access to modern technologies and helps seniors to find out whether they are useful to them without fear or pressure to perform.

It also provides seniors with information about centers and care homes run by the Frankfurter Verband, the city of Frankfurt's town hall for senior citizens and public authorities (e.g. the public authority number 115 for all administrative questions). Furthermore, Café Anschluss provides a place for various activities, from reading and writing groups, to concerts and theater shows, movies, pen-and-paper roleplaying as well as outdoor trips and walking tours. It's all in the name, as Anschluss stands for connection.

Best Practices in Czech Republic

By PhDr. Jana Pšejová and Ing. Simona Matějková, APSS CR

For the Digital Decade 2030, the European Union has set a target of increasing the number of citizens with digital skills to 80% and reaching a minimum of 20 million IT professionals. However, current forecasts suggest that without any change only 59% of citizens with digital skills and 12 million IT professionals will be achieved, with only 19% of women being in the IT sector [82].

In business, the EU has a target of 90% of SMEs reaching a basic level of digitalisation and 75% of businesses using technologies such as AI, cloud, and big data. However, by 2022, only 69% of businesses had achieved basic digitalisation and 8% were using AI [82].

Last but not least, it touches on the digitisation of public administration and sustainability in digitalisation, highlighting the importance of innovation and promoting the principles of the online society.

The Czech Republic is described in the Annex to the EU Digital Decade Report as a country with untapped digital potential, while excelling in international technology projects and ambitions in the areas of quantum technologies and microchips. With 60% of the population with at least basic digital skills, the Czech Republic ranks above the European average but with only 4.5% of IT professionals in the total workforce and 11% of women in IT, it is below the EU average [82].

In the area of business digitisation, the Czech Republic is close to the European average with 68% of SMEs at a basic level of digitisation but lags behind in the more advanced use of AI, cloud services and big data. The report recommends the Czech Republic to step up support for digitisation, develop IT professionals, and improve cyber security and infrastructure, especially in rural areas, to maximise its digital potential [83].

There has been a marked increase in interest and engagement in the use of digital technologies by seniors in the Czech Republic, but significant barriers still exist [84]. Although steps are being taken to integrate seniors into the digital world, many remain without the necessary skills, resources, and support. This highlights that seniors in the country often lag behind in digital literacy compared to other age groups.

While expanding internet access and targeted education programmes are a step in the right direction to increase the percentage of seniors using digital services for communication, entertainment, and access to information, they also highlight the need to further increase efforts to close the digital divide [85].
These efforts should focus on providing personalised support and education to enable seniors to become full participants in the digital society, which will help their social inclusion and independence.

It is also essential to continuously monitor the situation and look for barriers specific to seniors that prevent them from making good use of digital products, given that they are often relatively incomprehensible changes that are not tangible [84]. It is desirable to actively remove these barriers and actively offer suitable solutions to seniors. The current digitization of social services can be divided into three main groups. The first is digital communication, the second is the use of technology to enhance client safety, and the third is robotic care. An integral part of social services is also healthcare, or medical care, so telemedicine also has its place, for example in nursing homes for seniors.

The COVID-19 pandemic has been a major accelerator of digitization in social services. Social workers from social prevention services, as well as professional counsellors, began to provide social counselling, advice, or crisis intervention remotely, and this trend continues. In residential social services, especially in nursing homes for seniors, digital communication became a consequence of the prolonged closure of these services to clients. Natural social contact was quickly replaced by digital means.
The second group consists of technologies representing various sensors, locators, surveillance, or monitoring systems, etc. Significant progress has been made, for example, in emergency care services. Technologies are also used in residential social services, with the Netherlands being a European pioneer.

This includes systems monitoring activities, the movement of clients in rooms, on beds, etc., or smart watches/wristbands that open doors and access to various rooms and spaces for clients while simultaneously informing staff that, for example, a client with dementia has left the facility area, etc. This naturally brings with it a whole host of ethical dilemmas and discussions. Third area - robotic care is still in its infancy, and at this moment, robots replace or rather complement social contact [86] [87].

Best Practice in the Czech Republic

The Czech Republic is implementing a number of activities that can serve as inspiration for the inclusion of seniors in the digital society. These examples illustrate well how to effectively use digital technologies to develop skills, improve services and promote inclusiveness, thus contributing to a better quality of life in the country.

Best Practice 1 - Access to useful information and education

1.a: Project “Digital Odyssey” [88]

The Digital Odyssey program, implemented by the Vodafone Foundation as part of the international Hi Digital initiative, aims to empower individuals, particularly seniors over the age of 65, by enhancing their digital literacy and independence. The overarching vision is to ensure that everyone can participate in the digital world, thereby avoiding digital, economic, operational, and social isolation.

Digital Odyssey offers a free online course designed specifically for users who have little to no prior experience with the internet. The course provides step-by-step guidance on developing essential digital skills, covering fundamental topics such as internet usage, smartphone basics, and app navigation. These lessons aim to equip participants with the skills needed to confidently navigate the digital landscape. The course is flexible, allowing seniors to complete it at their own pace, either independently or with the support of a mentor who can offer additional guidance.

One of the standout features of the Digital Odyssey program is the Intergenerational Translator. This innovative tool helps participants overcome language barriers by providing simple explanations for unfamiliar digital terms. It is especially useful for individuals who may struggle to understand certain instructions, descriptions, or other texts. The app is continually evolving, with new features and capabilities being added to better support users.

1.b: Project “Wise Owl” [89]

The Wise Owl initiative, implemented by Moudrá Sovička z.s. in partnership with the Česko.Digital platform, is dedicated to enhancing the digital literacy of seniors while reducing their feelings of loneliness and fostering intergenerational connections. Its overarching goal is to create a supportive environment that encourages seniors to embrace new technologies, leading to increased social and work engagement.

Since its inception in 2015, Wise Owl has been assisting seniors in safely navigating the complexities of modern technology and digital services. The next phase of the project involves the development of an online platform designed to connect seniors with digital assistants and donors across the Czech Republic. This platform will feature a map of available digital assistants, detailed information about their workload, and an easy-to-use appointment booking system. Importantly, all services offered through the platform will be free for seniors, ensuring that financial concerns do not pose a barrier.

The project addresses several common obstacles to seniors’ use of digital technology, including fears about using unfamiliar devices, the costs associated with technology, and a lack of personalized support. By connecting seniors with digital assistants who can provide individualized help, Wise Owl aims to build confidence in using technology. Additionally, the initiative seeks to promote intergenerational learning and collaboration, fostering connections between younger digital assistants and older learners.

1. c: Elpida and the Elbot project [90]

Elpida z.s. is driving efforts to enhance the digital and media literacy of seniors through various educational initiatives. The organization’s vision is to empower older adults by providing access to quality education and cultural opportunities, thereby fostering a positive perception of aging. One of its key goals is to ensure that seniors across the country can engage with digital learning and media education, making these resources more accessible and impactful.

To achieve these aims, Elpida undertakes a range of activities focused on improving seniors' digital skills and encouraging lifelong learning. Among the prominent initiatives is the "Seniors Write Wikipedia" project, which actively involves seniors in contributing to Wikipedia, enhancing both their digital competence and engagement with online content creation. Additionally, media literacy courses are offered to teach seniors how to critically evaluate information, recognize credible sources, and identify misinformation or fake news.

The "Media and Digital Education" project further extends these opportunities, broadening the scope of digital learning to encompass various formats and topics. A central element of the project is the ELBOT platform, an innovative e-learning tool designed to educate seniors from the comfort of their homes. ELBOT offers a wide range of courses tailored to seniors' abilities and interests, providing not only educational content but also an interactive environment that facilitates communication and social engagement.

1.d : Education and support for seniors in the Czech library network [91]

The Czech Republic is characterised by a well-developed network of libraries that reach into small communities, where they can provide significant support for the education of the elderly and provide them with accessible internet and professional support. Thanks to the modernisation and digitisation of services, libraries facilitate access to education and cultural heritage, support lifelong learning and play a key role in community life.

The experience of libraries in the country shows that seniors are generally very interested in learning through libraries. In terms of the content of educational sessions, the most requested topics are working with photographs, creating family trees, recognising the quality of information and information security. These topics reflect seniors' interest in practical skills that they can use in their daily lives. Educational courses are realized in many libraries across the country, all of which have Internet-connected computer stations and knowledgeable staff available for seniors. Many locations also have other broader services that are being tested in communities (e.g., health kiosks).

Examples:

https://www.knihovnabbb.cz/

https://www.svkkl.cz/

https://www.mlp.cz/

Best Practice 2 - State and public administration support for digitisation

2.a: Digitising the state for everyone [92]

It is desirable to involve the elderly in the state's digitisation activities, given that traditional paper-based options are being phased out. For the elderly this is beneficial as it saves them from the often complicated transport to deal with their affairs. This can only be leveraged if the new digital services are designed to be accessible to them while at the same time providing them with sufficient support and education. It is best to involve seniors directly in the development and testing of applications.

Examples include the involvement of seniors in the testing of the "Citizen Portal" mobile application being developed by the Digital and Information Agency. Seniors provided feedback on the app's handling, design and clarity, which helps in further development and improvement. The initiative focused on the importance of a clear and accessible design for older users and supported efforts to remove fears about the use of digital technology among the seniors.

2.b: Digital Czech Week 2023 (with a focus on seniors) [93]

The Week for Digital Czechia 2023 is a major event focused on digital education. The event, spread to almost all regions, offers more than 100 educational events and can strongly emphasize the importance of lifelong learning and digital literacy. In 2023 the event focused on a wide range of topics, including artificial intelligence and online safety, with a particular focus on seniors and youth, underscoring the need to strengthen digital skills for all generations. This initiative, supported by Deputy Prime Minister for Digitalisation Ivan Bartoš, represents a significant step towards greater digital inclusion supported by the state.

2.c: Facilitating seniors'; secure access to funds and usage of digital identity [94]

Seniors are gradually adapting to the use of modern electronic services including the fact that almost 50% of them have accessed e-banking from their bank. It is therefore evident that they are now willing and able to use it for their banking transactions and other official matters such as filling in the census questionnaire online. This also promotes digital adoption among the elderly and is an opportunity to bring seniors closer to using the banking identity option for example. It seems essential to clarify here that this service relates solely to identity verification, not with bank accounts or transactions themselves.

Indeed, banking identity allows seniors to easily access a wide range of public services and online transactions with a single login, which greatly facilitates their daily lives. At the same time thanks to integrated measures it will take care of security for online communication with the authorities. The service thus promotes independence and the banking identity is a valuable bridge for seniors to a more inclusive and accessible digital society.

2.d: TeleMedPoint [95]

TeleMedPoints are innovative contact points equipped with modern telemedicine systems that allow individuals to measure vital signs and health parameters such as blood pressure, heart rate, blood sugar and more, either independently or with the help of a trained assistant. Users can easily share these measurements with their doctor, conduct a video consultation, or use other health support services. The devices used in TeleMedPoints are accurate, reliable and registered as medical devices. Data security is ensured by encryption and transmission over a secure network, eliminating the risk of misuse. They are currently available to residents of remote villages in the Moravian-Silesian Region, where their operation is being tested

2.e: Senior against internet villains [96]

The National Office for Cyber and Information Security (NCIS), the key authority for cyber security in the Czech Republic, focuses on prevention, education and methodological support in this area. As part of its efforts to enhance the security of the digital environment in line with the National Cyber Security Strategy for the period 2021-2025, the NUCIB has developed the SENIOR tool. This initiative highlights the importance of educating seniors, who are considered an important group of digital technology and internet users, to ensure they feel safe online. The publicity and benefits of the SENIOR tool have been communicated through an official press release on the NCIB website as well as reports and news items on Czech television and the development of the tool has been supported by a number of partner organisations including the Police of the Czech Republic.Other courses aimed at strengthening safety competences are also available to seniors on the awareness portal, such as the online course Give Cyber.

Best practice 3 - Inspirational events and apps

3.a: Selections of apps suitable for seniors

It is good to note that not all tools need to be specifically developed or adapted for the elderly. Often it is enough to prepare a suitable selection, place it in a trusted place and publicise it. In this way, it is possible to find a suitable selection of applications, whether practical, educational or entertaining, e.g. on:

1. the website of the Evangelical Church of Czech Brethren, more precisely the Lifetool Social Activation Service from https://lifetool.diakonie.cz/clanky/tipy-na-vhodne-aplikace-pro-seniory/

2. the Active Senior website, specifically the Best Mobile Apps for Seniors page -

https://www.asenior.cz/nejlepsi-mobilni-aplikace-pro-seniory/

3. the website of the commercial electronics chain Datart, specifically on the page Make life easier for the elderly. Download handy mobile apps for seniors. https://www.asenior.cz/nejlepsi-mobilni-aplikace-pro-seniory/

3.b: Czech application for seniors Senifit [97]

The developers of the app set out to offer seniors a service on their mobile phone that would help them every day with their daily routine. Right after that, the focus is on the head, so it doesn't forget, and the body, so it doesn't decay. All this in such a way that seniors have fun, enjoy some entertainment and move around in an environment that is adapted to poorer eyesight, slower reactions, impaired fine motor skills.

The app is tested directly by the seniors, who provide immediate feedback to the development team. Currently (2024), the app is available in a basic version for free, with extended modules for a fee. The company is also open to implementations in wider communities or social services.

Further developments include a shopping list, SOS health card or audiobooks. Also features for the caring family or the wider community.

3.c : SeniorPassport - benefits for seniors [98]

A relatively large project supported by the public administration, its potential for digitalisation has not yet been fully exploited, and it focuses more on the areas of active living, providing discounts and benefits including advice and activity offers. Its users (people over 55) have a mobile app for their active use and using it naturally increases their digital literacy.

Holders of this card can enjoy discounts ranging from 5% to 50% on health care services, travel, meals, accommodation, educational activities, visits to museums, galleries, monuments and also on general consumer purchases. Registration for the program is free and the card offers cardholders benefits that make their daily lives easier and more enjoyable.

Best Practice 4 - Virtual Reality in Social Services [99]

Recent technological advancements in virtual reality (VR) and augmented reality (AR) can also greatly benefit social services. Both of these technologies have the potential to change how social care workers communicate with their clients and how clients perceive the world around them. VR and AR in social services find application not only in the education of social service sector workers but also in supporting clients with reduced mobility.

Focusing on the potential benefits of VR and AR for individuals with reduced mobility, it is clear that the use of these technologies can have an impact on their mental health which is a significant issue for these individuals. Although technology cannot replace the value of human interaction, it can serve as a valuable tool to improve the lives of individuals in the care of social services. VR and AR can help clients overcome fear and anxiety, manage stress and trauma, and improve their overall well-being by providing immersive experiences that simulate real environments and situations.

For clients with reduced mobility, VR can provide experiences such as traveling, attending events, and participating in outdoor activities that would otherwise not be accessible. AR can also be used to enhance clients' experiences in their current environment, providing interactive and informative tours of their local community and highlighting interesting places.

However, while the use of VR and AR in caring for clients in the social services sector offers many potential benefits there are also risks that need to be kept in mind and necessary measures need to be taken to ensure the safety and well-being of clients when using these technologies.

Best Practice 5 - Robotization of Social Care [100]

Robotization care is still in its infancy and at this point robots are replacing or rather complementing social contact. The beginning of this trend can be seen in robotic household pets (e.g., dogs) or the so-called PARO seal [101], which was developed in 1993 for seniors suffering from dementia. Another developmental leap brings us to robots that we can see at airports or hotel receptions. These are gradually making their way into nursing homes for seniors, including in the Czech Republic, for example, robot "Pepa" [102] . However, these robots can (for now) only communicate with their environment following the example of the digital assistant "Siri". The potential of these robots lies in the ability to upload the biographical story of a given client into the robot's memory. Knowing that individuals suffering from dementia recall long-term memory (at some stage of dementia), including memories from youth, occupation, etc., basic biographical data of the client can be uploaded into the robot, which will react to the senior's past. Additionally, through "validation techniques" it can calm them down or "deter" them from going to work in the morning, for example.

Some final words

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The examples outlined in this Best Practices Guide demonstrate the diverse approaches countries are taking to promote digital inclusion among older adults. From government-backed initiatives to NGO-led projects, these efforts share a common goal: bridging the digital divide to ensure older individuals are not left behind in today's rapidly evolving digital landscape.

Countries with advanced digital penetration, like Sweden, offer robust public strategies, such as funding libraries to provide digital literacy training and access to digital devices. Other nations, such as Germany, have launched initiatives like the "Digital Pact for Old Age," which brings together government and civil society to advocate for the digital rights of older adults. In contrast, countries with lower digital penetration rates, such as Greece, rely more on NGO and grassroots efforts to improve digital literacy and access for seniors.

Throughout the guide, we've seen how digital platforms can reinvent healthcare, improve financial independence, and foster intergenerational bonds. Libraries and community hubs play a vital role in offering accessible tech sessions and workshops, while corporate-community partnerships help ensure that digital tools are designed with inclusivity in mind. From healthcare platforms promoting independence to digital education programs tailored for seniors, the shared emphasis on human rights highlights the importance of including older generations in the digital transformation.

The insights provided in this guide offer a foundation for organizations and communities to advocate for inclusive digital policies and practices, ensuring that older adults have equal opportunities to participate in the digital world. We hope these examples will inspire further action toward building fair, digitally inclusive societies for all ages.

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