A Year Better

ICT FOR BETTER LIFE

WORK PACKAGE 2

MAPPING DIGITAL SURVIVAL SKILLS AGAINST DIGCOMP AND DIGITAL SOLUTIONS AVAILABLE TO ESCAPE DEJECTION AND LONELINESS

Baseline Report

2024-1-ES01-KA220-ADU-000246397

Prepared by:

IAL FVG

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

Index

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

1. Introduction

As Europe's population ages, ensuring that older adults are equipped to participate in the digital society has become a critical social and policy priority. Digital technologies increasingly influence how individuals access information, communicate, manage health, interact with public institutions, and maintain social ties. In this context, **digital literacy is not merely a technical skill but a prerequisite for social inclusion, personal autonomy, and equal access to rights and services**.

This report investigates **the state of digital inclusion among older adults in the European Union**, with a particular focus on five countries: **Italy, France, Poland, Spain, and North Macedonia**. The analysis covers the **period 2021-2025** and aims to highlight the extent to which seniors are able to navigate digital environments, the demographic and structural factors influencing this capacity, and the role of public and private stakeholders in supporting digital participation.

Through comparative analysis, the report identifies **key trends and country-specific dynamics** in the adoption of digital tools by people aged 55 and over. It explores both quantitative data - such as levels of internet use and digital skills - and qualitative insights into the lived experiences of seniors engaging with technology. The study also highlights gaps between younger and older generations, without assuming uniformity among seniors themselves, who represent a heterogeneous group with diverse needs, skills, and motivations.

The scope of the report extends beyond measuring access: it seeks to articulate what "digital survival" means for older adults in contemporary Europe. Particular attention is paid to the kinds of digital skills required to ensure that seniors can stay connected, independent, and informed, especially as essential services - from public administration to healthcare - become increasingly digitised.

The report is structured into eight sections. Following this introduction, Section 2 presents an overview of the main findings, including key trends and challenges emerging across the

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

countries analysed. Section 3 delves into levels of digital literacy and access to technology, while Section 4 reviews national and regional policies addressing digital inclusion for seniors. Section 5 focuses on essential digital survival skills and their role in social inclusion and well-being. Section 6 offers an in-depth analysis of the structural, psychological, and infrastructural barriers limiting older adults' digital engagement. Section 7 assesses the challenges and opportunities linked to digital adult education, highlighting gaps in training and alignment with the DigComp framework. Finally, Section 8 outlines concrete recommendations for improving digital training and upskilling pathways tailored to the needs of seniors.

By aligning demographic trends, policy insights, and training strategies, this report aims to contribute to **a deeper understanding of what is needed to promote meaningful digital inclusion among older populations across Europe**.

2. Key Findings

Digital engagement among seniors **is increasing** - **but unevenly**. Across all countries analysed, the use of digital tools among older adults has increased since 2021, particularly among those aged 55-74. In Spain, for instance, over 80% of individuals in this age group had used the internet in the past three months by 2023. France reports similarly high levels (86%) among those aged 60-74. North Macedonia has seen a significant rise in general internet access (over 90% of households as of 2024), though usage among older groups remains more limited. In Poland, 61.9% of citizens aged 60-74 had used the Internet in the past 3 months (GUS 2023), a significant jump from pre-pandemic levels. Italy lags behind, with only 19.4% of seniors aged 65-74 possessing basic digital skills, well below the EU average.

Despite this progress, participation tends to decline sharply beyond the age of 75. For example, only 36% of Spaniards aged 75+ report using the internet regularly. Furthermore, **digital engagement varies significantly depending on education level**, **income**, urban versus rural **location, and gender** - with older women particularly at risk of exclusion in countries like Italy France and Poland.

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

Smartphones are the dominant gateway to digital access. Mobile devices have become the primary tools for internet use among older adults, due to their accessibility and familiarity. In all countries, smartphones are the most commonly used devices by seniors. **Tablets** and **computers** follow, often used for tasks requiring larger screens, such as administrative procedures or accessing medical portals. Nevertheless, **owning a device does not automatically translate into confident use**, especially when digital services are poorly designed or require complex authentication procedures.

Motivation and relevance are driving digital adoption. The most **frequent online activities** among seniors include **communicating** with family and friends (via messaging or video calls), **searching for information**, and **using essential services** such as banking, online shopping, or interacting with public administrations. The pandemic accelerated this shift, particularly in areas such as **telemedicine** and **e-government**. Seniors are more likely to adopt digital habits when they see tangible benefits - such as avoiding travel for appointments or staying connected to family.

Country-specific dynamics reflect varying levels of readiness and support. Spain has made strong progress in digital adoption among older adults, supported by national and regional training programmes. France has invested in mediation and local services (e.g., “France Services”), helping seniors access e-government tools. Italy’s digital divide remains more pronounced, particularly between north and south, urban and rural areas. North Macedonia reports high overall internet penetration but continues to face substantial gaps in digital skills, especially among those aged 60+.

In all five countries, **public authorities increasingly recognise digital inclusion of seniors as a policy priority**. National and regional strategies exist to support digital skills development, **yet implementation remains fragmented**. Initiatives often lack the necessary scale, continuity, or alignment with the lived realities of older learners. Many rely on the presence of mediators, NGOs, or local partnerships, which vary widely in coverage and quality.

While access to digital tools has improved, **a significant share of seniors still struggles with independent use of online platforms**. This includes difficulties with navigation, digital identity systems, or interpreting official language. Low levels of problem-solving skills and limited familiarity with online safety and content creation further limit their autonomy. In Poland, for example, fear to make irreversible mistakes leads distrust in digital services, particularly in areas such as healthcare, banking, and administration. As digital services become increasingly embedded in daily life, these gaps risk deepening social exclusion.

The following sections will further explore the conditions under which digital skills develop - or fail to develop - among seniors, looking more closely at literacy levels, policy interventions, barriers to access, and opportunities for more effective and inclusive training pathways.

3. Digital Literacy Levels and Access to Technology

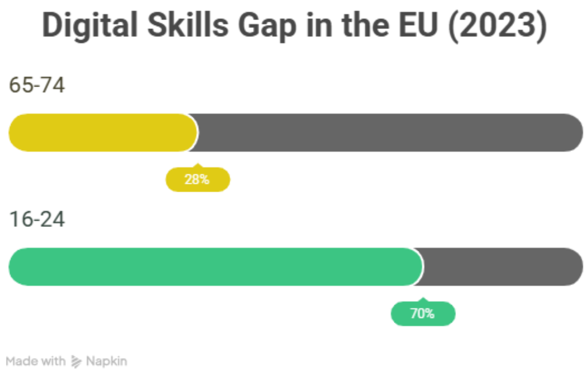
Across all the countries analysed, older adults have shown a **growing interest** in digital technologies, although **significant disparities** persist in terms of access, use, and skill levels. In countries such as Spain and France, individuals aged 65 to 74 report relatively high rates of internet use - over 80% and 86% respectively - demonstrating a notable engagement with online environments. In contrast, Italy, North Macedonia and Poland reveal a more fragmented picture. In Italy, for instance, only 19.4% of those aged 65-74 possess basic digital skills, and in North Macedonia, while household internet penetration has surpassed 90%, nearly one-fifth of

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

individuals aged over 60 remain disconnected or use the internet only sporadically. In 2023, only 15.4% of Poles aged 60-74 were classified as having at least basic overall digital skills.

This **generational gap** is further underscored by EU-wide comparisons. In 2023, just 28% of people aged 65-74 in the EU had basic digital skills, in stark contrast to the 70% of individuals aged 16-24. In France, the digital literacy gap is particularly sharp: only 2% of young people (15-24) are considered digitally illiterate, compared to 62% among those aged 75 and above. These figures highlight how age intersects with other factors - such as education, income, and geography - to determine the extent of digital participation.



Device usage among seniors reflects both preference and accessibility. **Smartphones** are the most commonly used tools for internet access across all countries studied, thanks to their portability and user-friendly interfaces. In Italy, France, and Spain, older adults predominantly rely on mobile devices to maintain social contact and carry out routine online tasks. **Tablets** are also popular, especially among those with visual or motor impairments, while **computers** remain in use for activities such as administrative procedures or reading news, particularly among more digitally literate users. However, owning a device does not necessarily equate to confident or autonomous usage. **Poorly designed applications**, **small interfaces**, and **complex authentication systems** can all serve as barriers to regular digital engagement.

The nature of digital engagement among seniors tends to revolve around **communication** and **information-seeking**. Messaging apps, video calls, and social media platforms are widely used to maintain contact with relatives and prevent isolation. Searching for goods, services, or health-related content is also common. Seniors predominantly go online to read news and to search for health-related information. However, the use of essential digital services - such as **e-**

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

government portals, online banking, and telehealth platforms - remains lower than among younger demographics. For example, only 46% of Italian seniors reportedly use online banking, and the uptake of telemedicine is limited by both usability challenges and concerns about data privacy. In North Macedonia, digital healthcare usage among older adults remains notably scarce.

Geographic disparities also play a crucial role in shaping digital access. Urban areas typically benefit from better infrastructure and more frequent opportunities for digital training, while rural regions - especially in southern Italy and parts of North Macedonia - often suffer from limited broadband coverage and reduced access to tailored support. **Income and educational background** further compound these inequalities. Seniors with higher levels of formal education and more financial resources are significantly more likely to navigate the digital world independently. By contrast, low-income individuals face difficulty acquiring or maintaining devices, paying for subscriptions, or finding trustworthy learning resources.

Gender-related differences persist, particularly in Italy and France, where older women are often more digitally excluded due to lifelong structural inequalities in education and labour market participation. These inequalities can lead to reduced confidence in digital settings, lower levels of autonomy, and a greater reliance on family members for online tasks.

Altogether, the picture that emerges is one of increasing digital engagement among seniors, yet marked by **sharp divisions based on age, geography, education, and income**. While access to devices and connectivity has improved in recent years, the ability to use digital technologies meaningfully and independently remains unevenly distributed. Addressing these disparities is key to ensuring that all older adults can participate fully in an increasingly digital society.

4. Policy Framework for Digital Inclusion and Senior Education

In recent years, national and regional institutions across Europe have increasingly recognised the importance of digital inclusion for older adults, embedding this objective within broader

Co-funded by
the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

strategic efforts to promote **digital transformation** and **social equity**. While the rationale behind these initiatives is largely shared, the level of implementation and coordination varies significantly across countries.

North Macedonia has adopted a National Strategy for e-Inclusion that explicitly addresses the digital needs of older adults. It provides structured support through designated times in internet clubs, the development of dedicated websites, and training programmes that are further reinforced by the National ICT Strategy 2021 - 2025 and the Adult Education Strategy 2025 - 2030. These policy instruments aim to provide flexible and accessible lifelong learning pathways. Furthermore, North Macedonia participates in regional cooperation efforts - particularly within the Western Balkans framework - focusing on building digital competences and improving inclusivity.

In France, the national strategy places significant emphasis on reducing digital inequalities. The Plan National pour l'Inclusion Numérique and the roadmap France Numérique Ensemble (2024-2027) aim to equip millions of citizens - including seniors - with foundational digital skills. These initiatives are operationalised through networks such as France Services, which provide localised digital mediation and access to administrative tools. Initiatives such as the Digital Pass and the deployment of "Digital Carers" reinforce on-the-ground support for older adults navigating public services.

In Poland, digital development goals are set towards universal digital access, digital skills development, and inclusive participation, with explicit recognition of vulnerable groups, including seniors (Strategia Cyfryzacji Polski do 2035 roku - Digital Transformation Strategy 2035). The Poland's National Recovery Plan (KPO), continue to allocate funding for improving digital skills, particularly for older adults and digitally excluded groups.

Italy's approach is anchored in the National Strategy for Digital Skills and the multi-stakeholder initiative Repubblica Digitale. These programmes aim to reduce digital divides through public-private partnerships, coordinated efforts with the National Coalition for Digital Skills and Jobs, and interventions at the regional level. Notable regional initiatives include "Pane e Internet" in Emilia-Romagna, "DigiPASS" in Umbria, and "Paas" in Tuscany. The Digital Civil Service scheme

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

mobilises young facilitators to assist older users in navigating digital services, particularly in relation to health and e-government platforms.

Spain integrates digital literacy for seniors into its broader National Plan for Digital Skills, supported by the Recovery, Transformation, and Resilience Plan. Several autonomous communities have developed tailored training programmes: Catalonia, Andalusia (through the Andalucía Vuela plan), and Castilla-La Mancha (with CapacitaTIC+55) offer free courses targeting individuals over 55. Spain also promotes remote learning solutions, such as the Mentor Classrooms initiative, and supports civil society interventions led by foundations and NGOs.

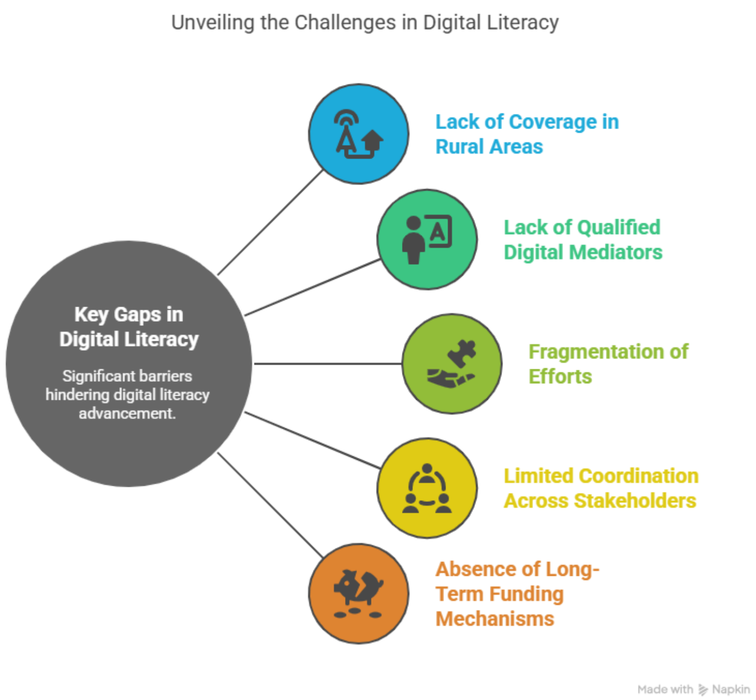
While these policy frameworks provide a robust foundation, their effectiveness largely depends on implementation at the local level. Public institutions, NGOs, and private actors play complementary roles in translating policy into practice. Adult education centres - such as Italy's CPIAs and North Macedonia's Centre for Adult Education - offer structured courses, while libraries, municipalities, and community centres frequently host accessible digital training sessions. NGOs such as E-Seniors (France), the Metamorphosis Foundation (North Macedonia), and Creciendo Association (Spain) design and deliver programmes that are often more flexible, localised, and responsive to learners' specific needs. In Poland, civil society remains an essential force: organisations like Fundacja Orange, Fundacja Zaczyn, and Federation of Universities of the Third Age (UTWs) are actively involved in programme delivery, teacher training, and advocacy.

Private companies contribute by developing user-friendly technologies, offering in-kind or financial support to training initiatives, and co-designing solutions with NGOs or public agencies. **Cross-sector collaboration remains essential** to scaling successful models and ensuring sustainability.

Despite these efforts, **some key gaps persist**. Many programmes lack adequate coverage in rural and remote areas, and the availability of qualified digital mediators often falls short of demand—especially in France and Italy. Moreover, the fragmentation of efforts, limited coordination across stakeholders, and the absence of long-term funding mechanisms continue to hinder broader impact.

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.



Nevertheless, promising examples demonstrate the potential of well-designed, inclusive, and context-sensitive approaches. Whether through intergenerational mentoring, mobile training units, or targeted community outreach, these practices suggest that progress is possible when policy frameworks are supported by strong partnerships and grounded in the realities of older learners.

5. Survival Digital Skills for Social Inclusion and Loneliness Prevention

As digitalisation permeates every aspect of daily life, certain competences have become essential for older adults to remain connected, autonomous, and socially included. These skills **extend beyond technical proficiency** and directly **impact seniors' ability to maintain relationships, access services, and safeguard their rights in an increasingly digital society**.

The capacity to **communicate digitally** stands out as one of the most critical areas for **social inclusion**. Tools such as messaging apps, video call platforms, and social media channels enable older adults to sustain ties with family, friends, and communities, helping to mitigate loneliness and emotional isolation. In many cases, mastering these platforms offers not only social benefits but also emotional reassurance, especially for those living alone or with reduced mobility.

Accessing information online is another vital skill. Older adults need to navigate search engines, interpret results critically, and identify trustworthy sources - especially regarding health, finance, and news. This form of digital literacy supports both daily decision-making and informed participation in society. However, without structured support, many seniors struggle to distinguish reliable content from **misinformation**, especially in politically or medically sensitive areas.

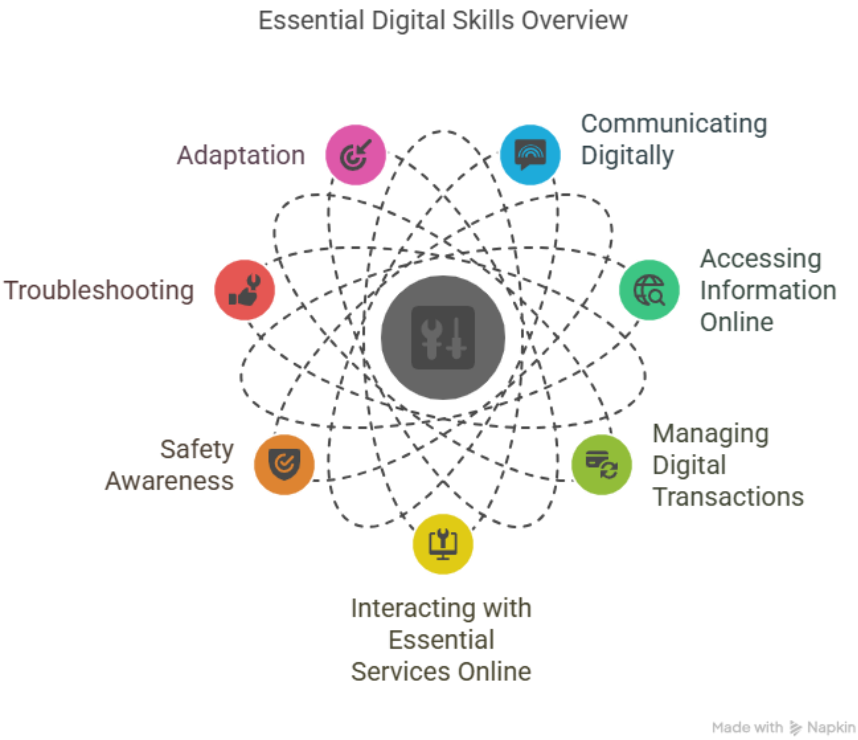
Equally important is the ability to manage **digital transactions** and interact with **essential services online**. From using e-banking apps to accessing public administration portals, digital platforms are now the default interface for a wide range of bureaucratic, financial, and logistical operations. Yet these platforms often present accessibility challenges: authentication procedures, formal language, and inconsistent design elements can easily deter less experienced users.

Healthcare-related digital skills are also increasingly relevant. The use of **telemedicine,** digital health portals, and wellness tracking apps requires seniors not only to be digitally competent but also confident in sharing personal data. Concerns about privacy and usability continue to limit uptake, particularly among those unfamiliar with navigating secure systems.

Underlying all these domains is the need for robust digital safety awareness. **Understanding the risks of scams, phishing, data breaches, and online fraud is essential** for seniors to engage confidently online. Basic practices such as managing passwords, recognising suspicious links, and protecting personal information are fundamental elements of digital survival.

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.



These competences align closely with the **European DigComp 2.2 framework**, which defines five core areas: information and data literacy, communication and collaboration, digital content creation, safety, and problem-solving. While communication and basic information search are often well covered in existing training, seniors are less frequently supported in areas such as **content creation or troubleshooting** - skills that could greatly enhance their digital autonomy. Similarly, **awareness of how to adapt to technological changes**, such as new interfaces or AI-based systems, is not always addressed, even though it is becoming increasingly important.

Developing these digital survival skills is not simply a technical endeavour. It is a **social investment in active ageing, personal empowerment, and democratic participation**. When older adults are equipped with the right skills and confidence, they are better positioned to exercise their rights, maintain independence, and contribute meaningfully to digital society.

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

6. Barriers and Gaps in Digital Literacy and Online Engagement

Despite increasing awareness and investment in digital inclusion, older adults across Europe continue to face significant and multi-layered barriers that limit their full engagement with digital technologies. These **obstacles** are not solely **technical or infrastructural**, but also deeply **social, psychological, and economic** in nature, often intersecting in ways that reinforce digital exclusion and make standardised solutions ineffective.

A primary challenge remains the **lack of basic digital skills**, which continues to affect a substantial proportion of older adults, particularly those over the age of 75. According to EU data from 2023, only 28% of individuals aged 65-74 had at least basic digital skills, while the figure among the 16-24 age group stood at 70%. In Italy, the picture is even more critical: only 19.4% of seniors in the 65-74 age group possess such skills, compared to 59.1% among the younger cohort. North Macedonia presents similar concerns, with 76% of adults registering either low or no digital competence, or not being evaluated at all. These statistics illustrate the persistent gap that characterises digital participation by age group and highlight the urgency of focused interventions.

Compounding this lack of skills are **widespread psychological barriers**. Many older people feel overwhelmed by digital technology, perceiving it as alien or threatening. The fear of making mistakes, damaging devices, or falling prey to scams often leads to avoidance. Such **fears** are not unfounded. Concerns about online safety-particularly regarding phishing, identity theft, or fraudulent schemes-are commonly reported. These **anxieties** are frequently magnified by prior negative experiences, or by media portrayals that reinforce a sense of vulnerability. As a result, even those who have internet access and a device may refrain from using them for anything beyond basic functions, such as phone calls or text messages.

Barriers related to design and **usability** further constrain digital participation. Older adults often encounter websites and applications that were not developed with accessibility in mind. Menus are cluttered, navigation is unintuitive, and font sizes are too small. In France, for example, more than 20% of citizens report feeling uncomfortable with digital tools, with older adults making up two-thirds of that segment. In Italy, the SPID digital identity system is frequently cited as a source

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

of frustration, requiring multiple steps and password verifications that are difficult to manage without assistance. Similarly, in Spain, the Cl@ve PIN system for public services has been identified as a usability barrier, particularly for seniors with limited digital familiarity.

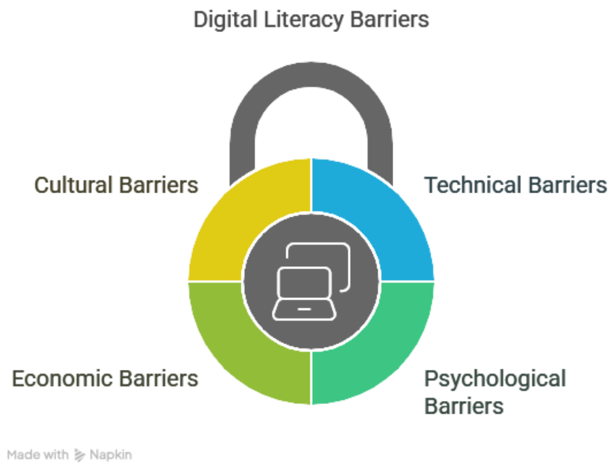
Economic limitations also play a significant role. Many older adults live on limited pensions and face financial pressure that affects their ability to purchase digital devices or pay for internet subscriptions. In North Macedonia, despite a national internet access rate of over 90%, more than 19% of the population - largely older adults - remains offline. **Regional disparities** are particularly pronounced. In Italy, digital skill levels vary significantly between the North (25%) and the South (17.2%). In Poland, a substantial share of retirees lives on modest pensions, and after covering basic expenses, many cannot afford new devices and internet subscriptions. This gap reflects not only economic inequalities, but also differences in infrastructure development, with rural areas lacking reliable broadband access or affordable learning opportunities.

Access to training remains insufficient, both in scale and in approach. Existing programmes often fail to address the specific needs of older learners. Many are too short, use technical jargon, or progress at a pace unsuitable for those unfamiliar with digital tools. Face-to-face and intergenerational formats—where younger people support older adults - have shown promising results but are not yet widespread. In Spain, successful examples like the “Plan Granada Digital” or “Séniors Conectados” illustrate how community-based and peer-assisted learning can make a real difference. France’s “France Services” centres and Italy’s Digital Civil Service initiative represent national attempts to scale such approaches, but availability remains inconsistent, and many rural or remote areas are left underserved.

Co-funded by
the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

Social perceptions further exacerbate exclusion. Older people are often **stereotyped as incapable** of adapting to new technologies, an image reinforced by a lack of representation in digital policy design and communication campaigns. This fosters a **sense of inadequacy** and **reduces motivation** to engage with training opportunities, especially when services are not perceived as welcoming or accessible. Gender inequalities deepen these challenges. In France and Italy, older women are especially at risk of digital exclusion due to historical gaps in education and workforce participation, which have a long-term impact on confidence and exposure to digital environments.



The result is **a complex ecosystem of exclusion, where gaps in skills, accessibility, trust, and support converge**. Bridging this divide demands more than distributing devices or building infrastructure. It calls for sustained, multi-level engagement across public and private sectors, an inclusive design of digital services, pedagogical models that respect different learning needs, and a commitment to addressing the broader social inequalities that shape older adults' relationship with technology.

7. Challenges, Opportunities, and Skills Gap Assessment

The digitalisation of adult education represents a crucial yet complex challenge for ensuring inclusive learning environments that address the diverse needs of older adults. **While policy**

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

frameworks increasingly prioritise digital inclusion, the implementation of effective, scalable, and adaptive training models remains uneven. A core difficulty lies in the fundamental skills gap: many older learners begin with minimal or no prior exposure to digital tools, and face a steep learning curve that traditional educational formats are not designed to accommodate.

This gap is evident across the countries analysed. In North Macedonia, for example, data show that 76% of adults have low, no, or non-assessed digital competences. In Italy, only 19.4% of seniors aged 65-74 have basic skills. In Poland, only around 15% of seniors aged 60-74 possess at least basic digital skills, with virtually no representation at higher proficiency levels. In France, the digital illiteracy rate among those over 75 reaches 62%. These figures point to a systemic failure to provide accessible digital education pathways tailored to older users. Training initiatives often focus on general ICT skills, without connecting them to everyday needs such as accessing public services, communicating with health professionals, or managing personal finances online. Moreover, training rarely addresses the emotional and psychological dimensions of learning - such as anxiety, fear of failure, or embarrassment - which significantly influence the motivation and engagement of older learners.

Despite these challenges, there are also clear opportunities. A growing number of older adults express **willingness to learn digital skills**, especially when training is linked to practical benefits. In North Macedonia, over 60% of seniors indicated an interest in learning ICTs. Across the EU, policy documents increasingly frame digital inclusion as a component of active ageing and lifelong learning. The integration of digital training into local community services, libraries, and care centres offers a promising route for outreach and support. Programmes such as “Mentor Classrooms” in Spain, “France Services” hubs, and Italy’s “Pane e Internet” have demonstrated that targeted local interventions can reach populations otherwise excluded from formal education.

Key success factors for these initiatives **include a flexible, learner-centred approach**. Effective training is delivered at **a slower pace, using clear language and practical examples related to daily life**. The most impactful programmes use intergenerational mentoring or peer-to-peer methods, which help reduce fear and build confidence. Small group or one-on-one formats allow for personalised instruction, while continuous support - such as digital help desks or mobile

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

facilitators - reinforces long-term engagement. **Accessible learning materials, printed handouts with large fonts, and simple visual instructions** are also essential to accommodate different physical and cognitive abilities.

When assessed against the European DigComp 2.2 framework, most training programmes focus on the first two competence areas: information and data literacy, and digital communication and collaboration. Seniors are typically trained to search for information, send messages, and use video conferencing tools. Safety - particularly recognising scams and securing personal data - is increasingly included, though often in a basic or reactive form. The other three areas -digital content creation, problem-solving, and adaptability to emerging technologies - receive considerably less attention. For example, few programmes provide guidance on how to independently troubleshoot common issues or adapt to updated apps and systems. Skills such as recognising misinformation or understanding algorithmic systems (e.g., AI recommendations) are rarely addressed, even though they are critical for navigating today's digital landscape.

Drivers of digital inclusion include demographic trends, growing awareness of technology's benefits, and stronger policy commitment. The expansion of accessible device markets and the increasing use of smartphones by older adults also support engagement. At the same time, the presence of family networks and social support often plays a decisive role in encouraging adoption and sustained use.

However, **persistent inhibitors** continue to limit progress. These include **economic inequalities, geographic disparities, cultural resistance, lack of trust in digital platforms, and inconsistent training availability**. In many regions, especially rural ones, infrastructure limitations and the absence of local digital mediation services prevent older adults from even beginning their learning journey.

Addressing these factors requires a systemic shift in how digital skills training for seniors is conceived, funded, and delivered. It is not sufficient to offer one-off workshops or online tutorials. A comprehensive ecosystem is needed - one that combines public investment, cross-sector collaboration, inclusive technology design, and long-term educational strategies that meet older learners where they are, and support them in reaching where they want to be.

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

8. Recommendations for Training and Upskilling Pathways

Building on the evidence gathered across North Macedonia, France, Italy, Spain and Poland, this section presents strategic recommendations for the design and implementation of digital training pathways for older adults. The goal is to **foster self-sufficiency, improve digital inclusion, and support lifelong learning**, while also addressing the structural and individual barriers that currently hinder engagement.

Training programmes should prioritise practical digital competences that are directly applicable to daily life. These include the use of smartphones and tablets, web browsing, sending and receiving emails and messages, and accessing essential services such as online banking, e-government platforms, and telemedicine portals. A specific focus should be placed on digital communication skills that help maintain social ties - such as video calls and social media use - as well as cybersecurity basics, including password management and scam recognition. Developing basic problem-solving abilities, such as troubleshooting device errors or navigating new applications, is equally critical to promoting autonomy.

To ensure relevance and effectiveness, **training should be delivered through learner-centred methodologies**. Programmes must be paced appropriately, with simple language and clear, jargon-free explanations. Small group or individual formats allow for greater flexibility and personalisation. Teaching environments should be supportive and free of judgment, helping to reduce anxiety and fear of failure. Learning materials should be adapted to physical and cognitive needs - using large fonts, printed guides, and visual aids. Strategies such as storytelling, gamification, and incremental progression can make learning more engaging. Highlighting learners’ progress and celebrating small successes builds confidence and reinforces motivation.

Accessibility is a prerequisite for participation. Training sites must be physically reachable, particularly for those with mobility issues or living in rural areas. Programmes should include provisions for free or subsidised access to devices and internet subscriptions. Public libraries, municipal centres, and senior associations are ideal venues for community-based learning, while

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

mobile units can reach underserved areas. Platforms and services should be designed with universal accessibility principles, ensuring intuitive interfaces, scalable fonts, and simplified navigation.

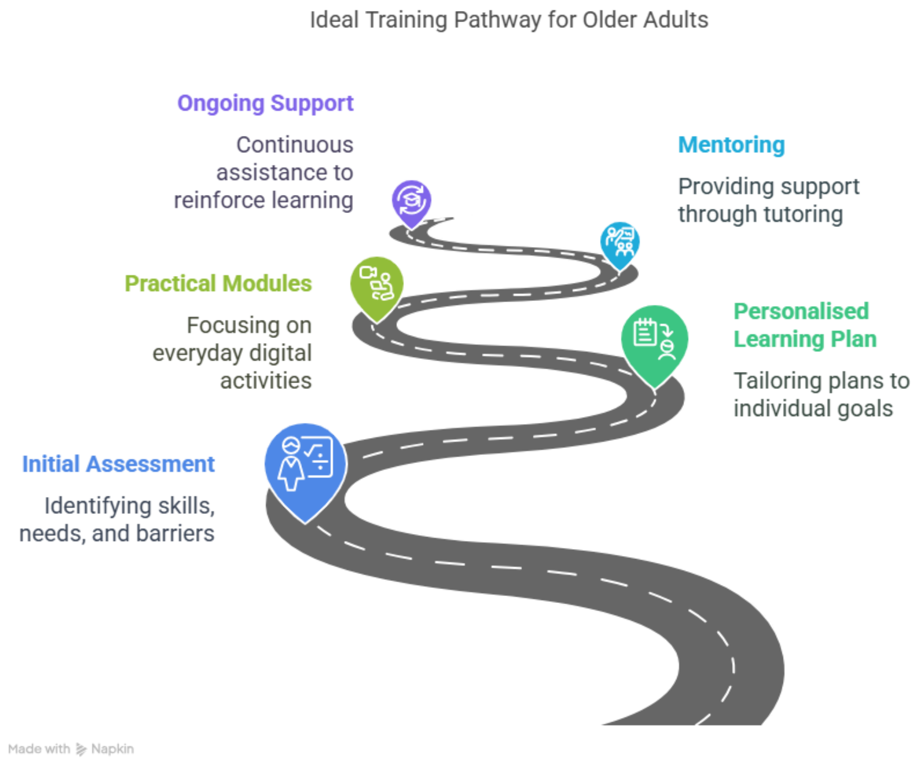
Formal and informal education providers each have essential roles to play. Universities of the Third Age, adult learning centres (such as Italy's CPIAs), and municipal training services can offer structured programmes integrated into regional and national strategies. Informal actors - NGOs, community groups, and volunteer networks - are particularly effective in reaching vulnerable or isolated populations. Their flexibility, cultural familiarity, and community roots allow them to deliver training in ways that formal providers may not. Successful examples include "Séniors Conectados" in Spain, "Astroliens" in France, and "E-Seniors on Board" in North Macedonia, which demonstrate the power of local partnerships and peer-to-peer learning.

Multisectoral collaboration is fundamental to sustaining impact. **Governments** must take the lead in embedding senior digital inclusion into national digital agendas and financing long-term programmes. **NGOs** bring on-the-ground experience and social trust. **Businesses** can support through the development of age-friendly technologies and funding. **Public-private partnerships** - such as those promoted by the Italian "Repubblica Digitale" initiative - can pool resources and expertise for greater outreach and innovation.

An effective upskilling pathway for older adults requires **a comprehensive ecosystem**. This includes **initial assessments** to determine learners' needs and levels; **personalised learning plans**; practical, **scenario-based instruction**; **continuous support** through mentoring or digital helpdesks; and mechanisms for feedback and adaptation. Intergenerational models, where younger mentors guide older learners, have proven particularly effective in enhancing digital fluency and building confidence. Programmes must also keep pace with technological evolution, offering introductory modules on emerging tools and encouraging a mindset of adaptability.

Co-funded by
the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.



Ultimately, investing in senior digital training is not just a matter of closing skill gaps. **It is a commitment to equity, dignity, and full participation in a society where digital technologies increasingly mediate access to rights, services, and social connection**. As populations age, the imperative to ensure that older adults are not digitally left behind becomes not only a policy priority, but a measure of democratic resilience and social justice.

Conclusions

As Europe's population continues to age, the imperative to ensure full digital inclusion for older adults has become **both a social and political priority**. The findings of this report confirm that while significant progress has been made - particularly in terms of access to digital infrastructure and the expansion of policy frameworks - substantial challenges persist. Digital literacy remains unevenly distributed, shaped by socioeconomic status, geographic location, educational background, gender, and health conditions. These factors contribute not only to skill gaps, but to deeper forms of social exclusion and dependence.

The evidence across North Macedonia, France, Italy, Poland and Spain demonstrates that older adults are not unwilling to engage with digital technologies. Rather, their ability to do so is often constrained by structural, psychological, and pedagogical barriers. The most effective responses are those that combine practical, community-based training with personalised support and age-friendly design. Intergenerational learning, continuous mentoring, and the integration of digital literacy into local social services are proven pathways for fostering long-term digital engagement.

Addressing these issues requires **coordinated, sustained efforts across sectors**. Governments must continue to invest in inclusive infrastructure and long-term training programmes. NGOs and community organisations should be empowered to act as intermediaries, while businesses have a critical role to play in designing accessible technologies. Most importantly, **older people** themselves **must be recognised** not only as beneficiaries of digital transformation, but **as active participants and contributors**.

Digital inclusion is no longer a matter of innovation - it is a matter of equity and social justice. Ensuring that older adults can access and benefit from digital tools is essential for their well-being, independence, and ability to participate in democratic life. As digital technologies evolve, so too must our commitment to making them truly universal.

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

9. Bibliography

1. AYB_Country Report_EU and related bibliography

- European Union Agency for Fundamental Rights, Fundamental Rights of Older Persons: Ensuring Access to Public Services in Digital Societies, 2023.
- https://fra.europa.eu/en/publication/2023/older-people-digital-rights (Accessed March 24th, 2025.)
- https://ec.europa.eu/eurostat/databrowser/view/isoc_ci_dev_i/default/table?lang=en (Accessed March 24th, 2025.)
- https://ec.europa.eu/eurostat/web/interactive-publications/digitalisation-2024#online-activities (Accessed March 25th, 2025.)
- https://www.digital-boomer.eu/index.php?lang=EN (Accessed March 26, 2025.)
- https://www.theguardian.com/lifeandstyle/2024/sep/18/dont-fear-the-boomers-how-poland-is-celebrating-its-old-people-and-making-life-better-for-every-age (Accessed March 25th, 2025.)
- Wilson, G., Gates, J. R., Vijaykumar, S., & Morgan, D. J. (2023). Understanding older adults' use of social technology and the factors influencing use. Ageing & Society, 43(1), 222–245. https://doi.org/10.1017/S0144686X21000490
- OECD, Gap analysis and implementation roadmap for enhancing the digital skills of seniors during and beyond the RRP implementation timeline Activity 4.1 Conduct a gap analysis, 2024. https://www.oecd.org/content/dam/oecd/en/about/programmes/dg-reform/slovak-republic/Gap-analysis-and-implementation-roadmap-for-enhancing-the-digital-skills-of-seniors-during-and-beyond-the-RRP-implementation-timeline.pdf (Accessed March 25th, 2025)
- https://epale.ec.europa.eu/en/blog/importance-acquiring-digital-skills-elderly (Accessed on March 25th, 2025)
- https://epale.ec.europa.eu/en/blog/digequal-analysis-e-government-access-european-adults (Accessed on March 25th, 2025)
- Adult Social Inclusion in a Digital Environment, 2021. https://ec.europa.eu/programmes/erasmus-plus/project-result-content/bd26d89c-bf1b-4eec-b50e-27c4c11505cc/ASIDE_Reports_version_7-09-2021_r2.pdf (Accessed on March 25th, 2025)
- Erasmus+ Programme: yes we can, Guide for senior educators with the adaption of freire methodology in the ICT learning, 2022. https://ec.europa.eu/programmes/erasmus-plus/project-result-content/52d1076a-4acf-4dd2-a658-e88c99ed4cfd/YWC-IO3-FINAL_VERSION.pdf (Accessed on March 26th, 2025)
- Madis Handbook, 2022. https://www.madisproject.eu/files/MADIS_HANDBOOK_EN.pdf (Accessed on March 26th, 2025)

2. AYB_Country Report_FRANCE and related bibliography

- ARCEP. (2023). Le baromètre du numérique – Édition 2023. Last accessed on 13th of March 2025 https://www.arcep.fr/cartes-et-donnees/nos-publications-chiffrees/barometre-du-numerique/le-barometre-du-numerique-edition-2023.html

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

- AXA Prévention. (n.d.). Inclusion numérique : Guide pour les seniors. Last accessed on 13th of March 2025. https://www.axaprevention.fr/conseils-internet/inclusion-numerique-guide-seniors
- Conseil national du numérique. (2024). La société numérique française: Les professionnels de la médiation numérique au défi de l'éloignement numérique. Last accessed on 13th of March 2025 https://labo.societenumerique.gouv.fr/documents/37/La_soci%C3%A9t%C3%A9_num%C3%A9rique_fran%C3%A7aise_La_m%C3%A9diation_num%C3%A9rique_au_d%C3%A9fi_de_l%C3%A9loignement__2SSnt5y.pdf
- CREDOC. (2018). Baromètre du numérique 2018. Last accessed on 13th of March 2025 https://www.credoc.fr/publications/barometre-du-numerique-2018-1
- Delias, L. (2021). Vieillissement et usages numériques: Les enjeux pratiques et symboliques de la dématérialisation des services administratifs pour les adultes âgés [Aging and internet use: Practical and symbolic consequences of the digitalization of public services for older adults]. Terminal, (128). Last accessed on 13th of March 2025. https://doi.org/10.4000/terminal.7867
- FBF. (2022). The French and cybersecurity: Perceptions and behavior [Press release]. Last accessed on 13th of March 2025. https://www.fbf.fr/uploads/2022/10/fbf-press-release-study-the-french-and-cybersecurity-perceptions-and-behaviour.pdf?utm
- Grosperrin-Legrand, J., Bamba, B., & Chassagne, A. (2023). Personnes âgées et exclusion numérique: Une approche critique [Older adults and digital exclusion. A critical approach]. Revue des Sciences Sociales, (30-39). Last accessed on 13th of March 2025 https://journals.openedition.org/revss/10704?lang=en
- INSEE. (2018). Baromètre du numérique. Last accessed on 13th of March 2025. https://www.insee.fr/fr/statistiques/3324829?sommaire=3324839
- INSEE. (2023a). Les Français face à l'illectronisme : taux et composition selon l'âge et les compétences numériques. Last accessed on 13th of March 2025. https://www.insee.fr/fr/statistiques/7633654#:~:text=en%20%25-,Figure%201%20%E2%80%93%20Taux%20et%20d%C3%A9composition%20de%20l%27illectronisme%20selon%20l,sont%20en%20situation%20d%27illectronisme
- INSEE. (2023b). Utilisation des outils numériques par les seniors en France. Last accessed on 13th of March 2025 https://www.insee.fr/fr/statistiques/6049346?sommaire=6049348&utm
- INSEE. (2023c). Les usages numériques des Français en 2023. Last accessed on 13th of March 2025 https://www.insee.fr/fr/statistiques/7627199?sommaire=6967865&utm
- Mutualité Française Occitanie. (n.d.). Les Français et la santé : Les plus de 50 ans adoptent le numérique. Last accessed on 13th of March 2025 https://occitanie.mutualite.fr/actualites/les-francais-et-la-sante-les-plus-de-50-ans-adoptent-le-numerique/?utm
- Vigouroux-Zugasti, E. (2017). L'expérience du numérique chez les aînés : enjeux et limites du solutionnisme technologique. Sciences de l'information et de la communication. Université Michel de Montaigne - Bordeaux III. Français. ffNNT : 2017BOR30046ff. fftel-01764923f. Last accessed on 13th of March 2025 https://theses.hal.science/tel-01764923/document
- Yilmaz, A.(2024). Inclusion numérique des seniors : une étude mixte des déterminants psychosociaux et des effets des dispositifs d'accompagnement. Séminaire bi-mensuel du

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

laboratoire Paragraphe, Apr 2024, Saint-Denis, France. ⟨hal-04542110⟩ Last accessed on 13th of March 2025. https://univ-paris8.hal.science/hal-04542110

3. AYB_Country Report_ITALY and related bibliography

- DigComp 2.2 - The Digital Competence Framework for Citizens - Riina Vuorikari, Stefano Kluzer, Yves Punie / EU Commission's Joint Research Centre (JRC)
- National Strategy for Digital Skills - Dipartimento per la trasformazione digitale
- Italy: A Snapshot of Digital Skills (2024) - Digital Skills and Jobs Platform - EU
- Promoting healthy aging using new digital solutions in Italy: A scoping review - L. Danesin, V. Pucci, A. Vidoret, S. Mondini, G. Arcara, S. Montemurro, F. Burgio
- Digital Literacy, Technology Education and Lifelong Learning for Elderly: Towards Policies for a digital Social Innovation Welfare - M. D'Ambrosio, D. Boriati
- Cittadini e competenze digitali - ISTAT
- Decennio digitale e capitale umano: il ritardo dell'Italia nelle competenze - ISTAT
- Politiche per l'invecchiamento attivo in Italia: Quali possibili obiettivi nelle Regioni, nelle Province Autonome, nei Ministeri e nei Dipartimenti presso la Presidenza del Consiglio dei Ministri? Raccolta di rapporti - Dipartimento per le politiche della famiglia, a cura di Davide Lucantoni e Andrea Principi
- Raccomandazioni per l'adozione di politiche in materia di invecchiamento attivo - Dipartimento per le politiche della famiglia, a cura di Davide Lucantoni, Pietro Checcucci, Marco Socci, Roberta Fefè, Giovanni Lamura, Francesco Barbabella, Andrea Principi
- Digital Decade Country Report 2024: Italy - European Commission
- Gli anziani nelle città metropolitane - ISTAT
- Invecchiamento attivo e condizioni di vita degli anziani in Italia - ISTAT
- Istat, aumento l'uso della rete internet, anche fra anziani - ANSA
- Un percorso verso l'inclusione anche in Europa: da Nonni su Internet a e-EngAGEd - Fondazione Mondo Digitale, a cura di Alberta Testa

4. AYB_Country Report_MACEDONIA and related bibliography

- Abad, L. (2014). Media Literacy for Older People facing the Digital Divide: The e-Inclusion Programmes Design.
- Barriers to Digital Inclusion among Older People: an Intergenerational Reflection on the Need to Develop Digital Competences for the Group with the Highest Level of Digital Exclusion
- Comprehensive Education Strategy (2018-2025)
- Country Report and Roadmap for Digital Agenda advancement in North Macedonia, 2020, North Macedonia Digital Agenda Observatory
- "Digital skills for civic engagement" Virtual Training Program in North Macedonia, 2022
- DIGITALIZATION AND DIGITAL SKILLS OF CITIZENS AND BUSINESSES, state of play, Macedonia 2020
- European questionnaire on Information and Communication Technologies Data
- Eurydice Report on Adult Education and Training, 2024
- Eurostat
- Eurostat Community survey on ICT usage, 2024
- Macedonia's National e-inclusion strategy
- National Employment Strategy 2021-2027
- National ICT Strategy 2021-2025

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

- Research “Digitalization in Agriculture – NOW”- Metamorphosis Foundation, 2021
- Research on the use of digital tools by citizens and assessing the digital gap by UNDP
- SOLIDAR Foundation’s annual Citizenship and Lifelong Learning Monitor
- State Statistical Office of North Macedonia, 2024
- Strategy for Adult Education 2025-2030
- UNDP North Macedonia: e-Seniors on Board, 2024

5. AYB_Country Report_POLAND and related bibliography

- AGE Platform Europe / European Commission (2019). Active Ageing Index 2018: Analytical Report.
- https://unece.org/population/publications/active-ageing-index-analytical-report
- Age Barometer 2023 - Poland (2023). Brussels: AGE Platform Europe.
- https://www.age-platform.eu/policy-work/age-barometer
- CBOS - Public Opinion Research Center (2021). Internet Use and Attitudes Toward Digital Technologies in Poland. Warsaw: CBOS.
- https://www.cbos.pl/EN/publications/reports.php
- Digital Skills and Jobs Coalition - Poland. Gov.pl and EU Digital Skills Portal.-
- https://digital-skills-jobs.europa.eu/en/organisations/digital-skills-and-jobs-coalition-poland
- European Commission (2023). Digital Economy and Society Index (DESI) - Country Profile: Poland.
- https://digital-strategy.ec.europa.eu/en/policies/desi-poland
- European Commission (2023). Small Business and Digital Transformation: Policy Insights. Brussels: European Commission.
- European Commission & UNECE (2020). Active Ageing Index Country Reports: Poland and Comparative Overview.
- Eurostat (2024). Individuals - Frequency of Internet Use by Age Group.
- https://ec.europa.eu/eurostat/databrowser/view/isoc_ci_ifp_fu/default/table
- Fundacja Orange (2021). Digital and Social Exclusion in Poland. Warsaw: Orange Foundation.
- https://fundacja.orange.pl/strefa-wiedzy/post/wykluczenie-spoleczno-cyfrowe-w-polsce-2021
- Holistic News (2022). Loneliness Among Seniors in Poland: Scale, Consequences, Solutions.
- https://holistic.news/en/senior-loneliness-is-on-the-rise-in-poland-we-can-help-them/ - :~:text=Increasing Loneliness of Seniors,sense of isolation and abandonment
- ICT4 Elderly (2020). ICT4 Elderly Handbook: A Practical Guide to Enhancing Digital Skills for the Elderly. Digital Skills and Jobs Platform, European Commission.
- https://digital-skills-jobs.europa.eu/en/inspiration/resources/ict4-elderly-handbook
- Ministry of Digital Affairs (2023). Digital Transformation Strategy for Poland 2035. Warsaw: Government of Poland.
- https://www.gov.pl/web/cyfryzacja/strategia-cyfryzacji-polski-do-2035-roku
- Ministry of Family and Social Policy (2021-2025). Active+ Multiannual Programme. Warsaw: Government of Poland.
- https://www.gov.pl/web/rodzina/aktywni-ministerstwo-oglasza-nowy-program-dla-seniorow
- Ministry of Investment and Development (2019). Operational Programme Digital Poland 2014-2020. Warsaw: Gov.pl. https://www.polskacyfrowa.gov.pl/strony/o-programie/dokumenty/program-polska-cyfrowa-2014-2020/

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

- Nesta (2020). Spotlight on Digital Skills: Poland. London: Nesta.
- https://www.nesta.org.uk/blog/spotlight-on-digital-skills-poland/
- OECD (2021). Digital Transformation of Adult Learning and Skills in Poland. Paris: OECD Publishing.
- https://www.oecd-ilibrary.org/education/digital-transformation-of-adult-learning-and-skills-in-poland_bdbbdfa4-en
- Polish Academy of Sciences (PAN) (2021). Digital Exclusion of Older Adults in Poland – Analysis and Recommendations.
- https://journals.pan.pl/dlibra/publication/142100/edition/124500/content
- REMEDIS Project (2023). Digital Skills Training for Older Adults Using Geragogical Methods. Erasmus+ KA2 Project.
- https://remedis-chanse.eu/towards-digital-inclusion-the-polish-remedis-teams-interventions/ - :~:text=This initiative aimed to empower,Brzozów helped us recruit participants
- SeniorApp (2024). Digital Support and Engagement Platform for Older Adults.
- https://seniorapp.pl
- Satistics Poland (GUS) (2023). Autumn Years - Active Ageing in Poland. In: SDG Report - Poland 2023. Warsaw: Statistics Poland.
- https://raportsdg.stat.gov.pl/2023/en/Autumn_years.html
- Statistics Poland (GUS) (2023). Employment of Older Persons in Poland - Data and Trends. Warsaw: GUS.
- https://stat.gov.pl/en/topics/labour-market/
- Statistics Poland (GUS) (2024). The Situation of Older People in Poland in 2023. Warsaw: GUS. https://stat.gov.pl/files/gfx/portalinformacyjny/en/defaultaktualnosci/3618/1/6/1/the_situation_of_older_people_in_poland_in_2023.pdf
- Stowarzyszenie Miasta w Internecie (2025). Latarnicy Polski Cyfrowej: Program Wsparcia Cyfrowego Osób Starszych.
- https://latarnicy.pl/
- UKSW Intitute of Social Work and Public Policy (2023). Expert Study: Digital Competences of Older Adults in Poland - Status, Barriers, Needs. Warsaw: Cardinal Stefan Wyszyński University.
- https://rob.uksw.edu.pl/wp-content/uploads/2023/12/ekspertyza-04-21-12.pdf
- World Economic Forum (2022). Which European Countries Have the Most Digitally Skilled Populations? Geneva: WEF.
- https://www.weforum.org/stories/2022/04/europe-basic-digital-skills

6. AYB_Country Report_SPAIN and related bibliography

- European Commission.(2024).DigComp 2.2: European Digital Competence Framework for Citizens. Retrieved March 10, 2025, fromhttps://digital-strategy.ec.europa.eu
- CYD Foundation.(2024).Digital inclusion and active ageing in Spain. Retrieved March 10, 2025, fromhttps://fundacioncyd.org
- Telefónica Foundation.(2024).Digital training for older adults. Retrieved March 10, 2025, fromhttps://fundaciontelefonica.com
- Google Spain.(2024).Digital accessibility for seniors. Retrieved March 10, 2025, fromhttps://about.google/inclusion-digital

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

- INCIBE.(2024).Cybersecurity Guide for Seniors. Retrieved March 10, 2025, fromhttps://www.incibe.es
- Ministry of Education and Vocational Training.(2024).Educational plans and digitalization for seniors. Retrieved March 10, 2025, fromhttps://www.educacionyfp.gob.es
- Ministry of Digital Transformation.(2024).Access and digital skills in the elderly. Retrieved March 10, 2025, fromhttps://www.transformaciondigital.gob.es
- Red.es.(2024).Strategies and policies for the digitalization of the elderly. Retrieved March 10, 2025, fromhttps://www.red.es
- Bank of Spain.(2024).Financial education and banking digitalization in the elderly. Retrieved March 10, 2025, fromhttps://www.bde.es
- Ministry of Economic Affairs and Digital Transformation.(2024).Digital skills and technological inclusion in Spain. Retrieved March 10, 2025, fromhttps://www.mineco.gob.es
- Ministry of Education and Vocational Training.(2024).Mentor Classrooms: digital distance learning. Retrieved March 10, 2025, fromhttps://www.aulamentor.es
- Red.es.(2024).Digitalisation plans and digital skills in Spain. Retrieved March 10, 2025, fromhttps://www.red.es
- National Health System.(2024).Telemedicine and digitalization strategies for healthcare. Retrieved March 10, 2025, fromhttps://www.sanidad.gob.es
- National Institute of Statistics (INE).(2023).Survey on Equipment and Use of Information and Communication Technologies in Homes. Available in:www.ine.es
- Newtral.es.(2024). Older people reduce the digital divide: 80.1% use the internet. Retrieved March 10, 2025, fromhttps://www.newtral.es/personas-mayores-uso-internet-brecha-digital/20240109/
- MAPFRE Foundation.(2021).II Senior Consumer Barometer. Available in:https://ageingnomics.fundacionmapfre.org/barometro/ii-barometro-del-consumidor-senior-2021/
- 65Andmore.(2021).Goodbye to the cliché of digitally illiterate adults: more than 60% are on the Internet. Available in:https://www.65ymas.com/barometro-consumidor-senior/adios-cliche-mayores-analfabetos-digitales-60-por-ciento-internet_34805_102.html
- National Institute of Statistics (INE).(2022).Projection of the Spanish population 2022-2072. Available in:www.ine.es
- 65YMORE.(2024). People over 65 in Spain are European leaders in Internet use. Retrieved March 10, 2025, fromhttps://www.65ymas.com/sociedad/mayores-65-anos-espana-son-lideres-europeos-en-uso-internet_56668_102.html
- Community of Madrid.(2024).ICT classroom for seniors. Retrieved March 10, 2025, fromhttps://www.comunidad.madrid/servicios/mayores/aula-tic
- Granada Provincial Council.(2024).Granada Digital Plan: technological inclusion for seniors. Retrieved March 10, 2025, fromhttps://www.dipgra.es/plan-granada-digital
- Orange Foundation.(2024).Seniors Connected. Retrieved March 10, 2025, fromhttps://fundacionorange.es/seniors-connected
- Telefónica Foundation.(2024).Digital literacy programs for seniors. Retrieved March 10, 2025, fromhttps://fundaciontelefonica.com/alfabetizacion-digital-mayores
- Google Spain.(2024).Initiatives for the digital inclusion of seniors. Retrieved March 10, 2025, fromhttps://about.google/inclusion-digital-mayores

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.

- SER Network.(2024, February 1). Half of those over 65 in the Balearic Islands are victims of the digital divide. Retrieved fromhttps://cadenaser.com/baleares/2025/02/01/la-mitad-de-los-mayores-de-65-anos-en-baleares-son-victimas-de-la-brecha-digital-radio-mallorca/
- InfoPeriodistas.(2024). Only 36% of Spaniards over 75 years old connect to the Internet. Retrieved on March 10, 2025, fromhttps://www.infoperiodistas.info/notadeprensa/27018/Solo-el-36-de-los-espanoles-mayores-de-75-anos-se-segura-a-internet
- The digital divide among seniors: only 37.5% interact with electronic administration.(2024, April 10). Radiocable. Retrieved fromhttps://www.radiocable.com/brecha-digital-mayores-375-interactua-administracion-electronica.html
- SER Network.(2025, February 6). Digital training courses will reach all municipalities in the Community of Madrid. Retrieved fromhttps://cadenaser.com/cmadrid/2025/02/06/las-formaciones-en-capacitacion-digital-llegaran-a-todos-los-municipios-de-la-comunidad-de-madrid-ser-madrid-norte/
- SEPE is offering courses for people over 45 years of age with job opportunities of up to 3,000 euros: these are the requirements.(2025, February 3). AS. Retrieved fromhttps://as.com/actualidad/economia/el-sepe-esta-dando-cursos-para-mayores-de-45-anos-con-salidas-laborales-de-hasta-3000-euros-estos-son-los-requisitos-n/
- The Creciendo Association continues its work on digital literacy.(2025, January 30). Cadena SER. Retrieved fromhttps://cadenaser.com/canarias/2025/01/30/la-asociacion-crezando-continua-con-su-labor-de-alfabetizacion-digital-ser-lanzarote/
- The UN ranks Spain 17th in digital administration, although users' perceptions are different.(2025, February 3). The Country. Retrieved fromhttps://elpais.com/tecnologia/2025-02-03/la-onu-situa-a-espana-en-el-puesto-17-en-administracion-digital-although-la-percepcion-de-los-usuarios-es-diferente.html
- Doctors, pharmacists and patients demand that paper package inserts for medicines be kept.(2025, February 19). The Country. Retrieved fromhttps://elpais.com/sociedad/2025-02-19/medicos-farmaceuticos-consumidores-pacientes-y-mayores-exigen-que-se-mantenga-el-prospecto-en-papel-de-los-medicamentos.html
- Salvia helps 45 seniors combat unwanted loneliness and digital isolation.(2024, September 25). Cadena SER. Retrieved fromhttps://cadenaser.com/castillayleon/2024/09/25/salvia-ayuda-a-45-personas-mayores-a-combatir-la-soledad-no-deseada-y-el-aislamiento-digital-radio-palencia/

Co-funded by the European Union

Co-funded by the European Union. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the European Union or the Spanish Service for the Internationalisation of Education (SEPIE). Neither the European Union nor the granting authority can be held responsible for them.