diglib

Digital libraries for inclusive learning: A cross-national study on skills, practices, and innovation

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Table of contents

Executive Summary

The DigLib project

The DigLib project (2025–2027) is an Erasmus+ cooperation partnership in adult education that aims to transform public libraries into inclusive, digitally empowered community hubs for lifelong learning. Bringing together five partners from four EU countries, DigLib focuses on equipping librarians with the skills to act as community moderators who bridge the digital divide. Through research and mapping of digital competencies, the development of an immersive capacity-building programme, and implementation of Living Labs in 20 public libraries, the project promotes non-formal education to foster social inclusion, digital literacy, and equal access to opportunities in the digital age.

Main research findings

The DigLib research activities carried out focus on exploring the relationship between digital skills, educational practices, and the evolving role of public libraries in a digital society. The primary aim is to understand how public libraries and their professionals engage with digital education and support digital literacy among local communities, particularly adult learners and to identify specific training needs for library staff in this context.

The undertaken survey and desk research have shown that overall, while public libraries across all four countries show strong motivation and foundational digital skills, they require significant support in pedagogical training, access to emerging technologies, and infrastructure improvements to fully address digital inclusion and serve diverse communities.

Across Italy, Poland, Flanders, and Romania, libraries are seeing rising demand for digital support—especially from elderly users, the unemployed, and parents. While basic services like internet access, public computers, and ICT training for seniors are widely available, structured digital education and advanced offerings such as AI, coding, and VR remain limited due to resource and skills gaps.

Common training needs of library staff across countries include skills in emerging technologies—especially AI, coding, and VR—as well as media literacy and pedagogical skills to support diverse users in navigating the digital world. These findings underscore that digital competence in libraries must integrate both technical and educational dimensions. For the DigLib project, this points to the need for modular, practical, and

adaptable training that fits varied national contexts, supported by a flexible common framework. Achieving lasting impact in digital inclusion will require sustained investment in staff development, access to technology, and peer learning. A coordinated approach aligning policy, training, and service delivery is essential to empower librarians as facilitators of inclusive, community-based digital learning.

Conclusions and Recommendations

Across all four countries, a shared understanding is evident regarding the pivotal role of libraries in digital inclusion and education, yet their capacity to fulfil this role is shaped by differing levels of infrastructural readiness, policy support, and professional development frameworks. A recurring theme is the presence of motivated, adaptive professionals who, despite systemic barriers, drive innovation within their institutions. Libraries commonly provide basic digital services such as internet access and assisted digital support, yet the implementation of advanced technologies and innovative learning activities remains uneven, reflecting broader issues of funding, equipment availability, and structured training provision.

The DigLib training programme should focus on equipping library staff with both advanced digital competencies and strong pedagogical skills to support their evolving role in promoting digital inclusion. Key recommendations include prioritising universal and "meta" digital skills—such as understanding and communicating with AI, and navigating emerging technologies like VR/AR, robotics, and data ethics—rather than specific applications, which quickly become outdated. Training should be hands-on and, where possible, use real equipment (e.g., VR goggles), ensuring practical exposure. Equally vital is building librarians' capacity as educators and facilitators, with modules on inclusive, learner-centred methods, structured content delivery, gamification, and group engagement strategies to foster participatory digital learning environments.

To maximise impact, the programme should support peer learning through local and regional networks and promote cross-institutional collaboration for resource sharing. It must also be adaptable, allowing librarians to choose modules that reflect their specific community needs and national contexts—provided all content is made available in multiple languages. Special attention should be given to reaching underserved groups such as youth, migrants, job seekers, and older adults. Furthermore, training should include strategic planning tools to help librarians develop, evaluate, and adapt digital services over time.

Introduction

About DigLib

'Digital Libraries' (DigLib) is an Erasmus+ project running from 2025-2027, which will harness the potential of public libraries as inclusive community hubs for lifelong learning. DigLib is on a mission to transform public libraries into vibrant digital hubs, empowering librarians as community moderators. By mapping digital skills, delivering capacity-building programmes, and creating a dynamic digital education environment, DigLib fosters social inclusion and equips librarians to bridge the digital divide.

The project brings together five partners across four EU countries: FRSI (Poland), PL2030 (Belgium), EOS (Romania), CSBNO (Italy), and Dot Beyond (Italy). Over three years, the consortium will leverage the power of non-formal education to provide librarians with the skills to adapt to these challenges, empowering them to develop solutions which promote inclusivity, education, and social cohesion.

Activities of the project includes:
- **Research and mapping digital skills**: The mapping the digital skills of librarians and adult users will be used to design a capacity-building programme
- **Immersive learning environments**: The capacity-building programme will be delivered through an immersive and dynamic digital education platform
- **Living Labs**: The DigLib approach will be implemented and tested in 20 public libraries across 4 European countries

The DigLib project seeks to leverage the power of non-formal education to provide librarians with the technological skills needed to innovate and adapt. Our focus will be on helping librarians bridge the digital divide with their community, foster social inclusion, and facilitate access to quality job opportunities among the new digital citizens.

Objectives of the research activities

The DigLib research activities carried out focus on exploring the relationship between digital skills, educational practices, and the evolving role of public libraries in a digital society. The primary aim is to understand how public libraries and their professionals engage with digital education and support digital literacy among local communities, particularly adult learners and to identify specific training needs for library staff in this context.

The research specifically aims to:

➔ **Assess the digital competencies of librarians** and other professionals working in public libraries, including their capacity to design and deliver educational services and their experience working with adult learners;

➔ **Examine the range of digital literacy initiatives implemented by libraries**, with particular attention to how these activities respond to the needs of local communities;

➔ **Analyse the average level of digital skills among adult library users**, identifying key skill gaps and reviewing commonly adopted educational approaches, along with lessons learned from similar programmes.

The research conducted provides a comparative overview of how education, skills, and practices align in public libraries across four European countries: Belgium, Italy, Poland, and Romania. By adopting a cross-national perspective, the study highlights regional differences and explores the relationship between training approaches and applied practices within the library context. Collecting data on digital skills and competencies will support the identification of specific training needs and help develop a high-performing digital education ecosystem.

The main results of the research activities are presented in this open-source research report, which will feed into other project activities, in particular the development of the project's Learning Methodology and Curriculum. The report intends to outline the needs in terms of digital competences of library staff to fulfill this role.

The DigLib research framework

The DigLib research report is based on a research framework composed of complementary methodological approaches. Information, insights, data and expert advice was collected through an online survey, structured desk research, the collection of case studies, in-depth interviews and the consultation by four national advisory boards. For each of these elements, the project partners compiled individual reports that fed into the main text. Detailed national reports compiling the main results of the desk research and interviews can be found in the annex of this report.

Digital skills audit (survey)

Public library staff in Poland, Belgium (Flanders), Romania and Italy have been invited to participate in the online DigLib survey. The primary goal of the survey was to gather data to assess the skills gap among library staff in relation to their role in providing digital literacy educational activities to different communities in the 4 participating countries (Poland, Romania, Belgium and Italy) and to provide a basis for the learning and training activities.

We collected a total of 270 responses (44 from Romania, 33 from Poland, 27 from Flanders and 166 from Italy. The main findings are presented in the section '**Main findings of digital skills audit**' (page 75) of this report , more details on the collected data can be found in the survey report in the annex.

Desk research

The objective of the desk research was to examine academic and non-academic training opportunities in the library sector in the four partner countries by collecting existing data, analyzing relevant studies, and synthesizing insights from various sources into a cohesive framework feeding onto the final report. The findings are presented in the '**Country reports**' section (page 22), giving a comprehensive overview of the national landscape of academic and non-academic training opportunities in each country.

The following aspects were covered by the desk research activities:
- **National considerations:** The research included an introductory note for each country providing an overview of the library landscape and professional environment, implemented with interviews with experts.
- **Analysis of Librarian Studies in Universities:** The academic level of librarian studies varies significantly across European countries. Therefore, analyzing and evaluating the scope and depth of digital courses and courses covering digital technologies in this field was crucial, as it directly influences subsequent stages of the desk research and project outputs.
- **Analysis of Non-academic Courses and Seminars:** One of the components of our research involved reviewing seminars, workshops, and conferences organized around the theme in other learning contexts.
- **Verification and Examination of Existing Academic and Non-Academic Research:** The identification of any relevant studies or reports already published helped us to assess the existing body of knowledge in each country.
- **Mapping Similar European Projects:** It has been valuable to map other EU projects related to the topic, such as the ADELE project, which provided useful insights and data that align with the DigLib research goals.
- **In-Depth Interviews:** Interviews with at least three experts per partner were a core qualitative method. Participants were selected for their diverse backgrounds and experiences. The interviews aim to uncover strengths, weaknesses, and gaps in current training offerings.

To ensure consistency, all partners followed standardized procedures for data collection and interviews.

Case studies

As part of the DigLib project, 15 case studies were collected from the partner countries and other European countries that will be presented in a separate publication. For each country,

one case study has been selected to be included into the research report, aiming to illustrate current practices.

National advisory boards

All content-based project results will be analysed and consulted through online focus group meetings of national advisory boards facilitated by the project partners, consisting of 4 - 6 experts recruited at national level. First focus group meeting has been held to evaluate the content of the national country reports and first overall conclusions and recommendations presented in the report.

The DigLib research report is based on:	
Interviews with 12 experts in four countries	**Four national focus groups with members of the countries' advisory boards**
Case study collection: over 200 responses from 4 countries + 15 deep-dive interviews	**A skills audit survey across four countries, collecting 270 responses**

The role of public libraries in a digitalised society

The new roles of public libraries in a digitalised society

Recently, the rapid digital transformation in society has impacted the way in which citizens engage with information and digital technologies. Digital technologies are also increasingly shaping educational practices and skills required in professional contexts. Innovation efforts, such as the digitisation of public services, has also created marginalisation and exclusion of those individuals who lack digital competences and access to technologies. So, *how can the digital transformation be made more inclusive?*

Public libraries play a vital role in addressing this challenge. As community hubs for lifelong learning, they already provide support to individuals from all social groups in accessing information, providing assistance with digital technologies, and the development of new skills. The changes in society has also led to a significant transformation of the role of the public library and its staff.

Public libraries are largely considered as institutions of trust and safe places and therefore well placed to provide access to information and cultural contents, increasingly using digital sources and tools. They are increasingly taking action in key areas where digital transformation intersects with their core mission. Libraries play a crucial role in ensuring access to information and cultural content through digital tools and platforms, helping bridge the digital divide for individuals who may lack resources or digital skills. By offering free internet access, e-books, digital libraries and collections, and online learning platforms, assistance with digital tools and devices, libraries act as gateways to knowledge in a rapidly digitizing society. At the same time, they promote inclusion and participation by developing and hosting initiatives that build digital skills among diverse user groups, including seniors, migrants, and disadvantaged groups and youth. They also provide an opportunity to familiarise oneself with the latest technologies that are often not available free of charge elsewhere. For young people who are just planning their education and career, libraries offer access to information about educational and development opportunities, knowledge, inspiration and a space for exchanging ideas. Through targeted programming in media and digital literacy, libraries help strengthen democracy by fostering critical thinking, digital citizenship, and informed engagement with information.

Programmes and activities around digital technologies and skills in public libraries can take very different formats and cover a broad range of topics and skills at different levels. Ranging from open helpdesks to assist patrons with the use of digital devices, to workshops on internet safety for the elderly, or coding clubs for youngsters, most libraries develop

offers tailored to the needs of their communities. Depending on the context and local environment, the related skills requirements of library staff differ.

To fulfill these roles effectively, library staff need a combination of technical proficiency and strong facilitation skills. Beyond mastering digital tools, staff must be equipped to guide learning processes, mediate group discussions, and create inclusive environments for users with varying levels of digital confidence. Facilitation skills—such as empathy, communication, adaptability, and cultural sensitivity—are increasingly seen as core competencies in digital literacy programs. These skills empower library professionals to not only deliver content, but to foster meaningful learning experiences, helping users develop agency and confidence in the digital realm.

Does your library actively implement a documented digital strategy?
Answered: 199   Skipped: 71

ANSWER CHOICES	RESPONSES	
No	50.25%	100
Yes	49.75%	99
TOTAL		199

Digital Libraries (DigLib) Survey
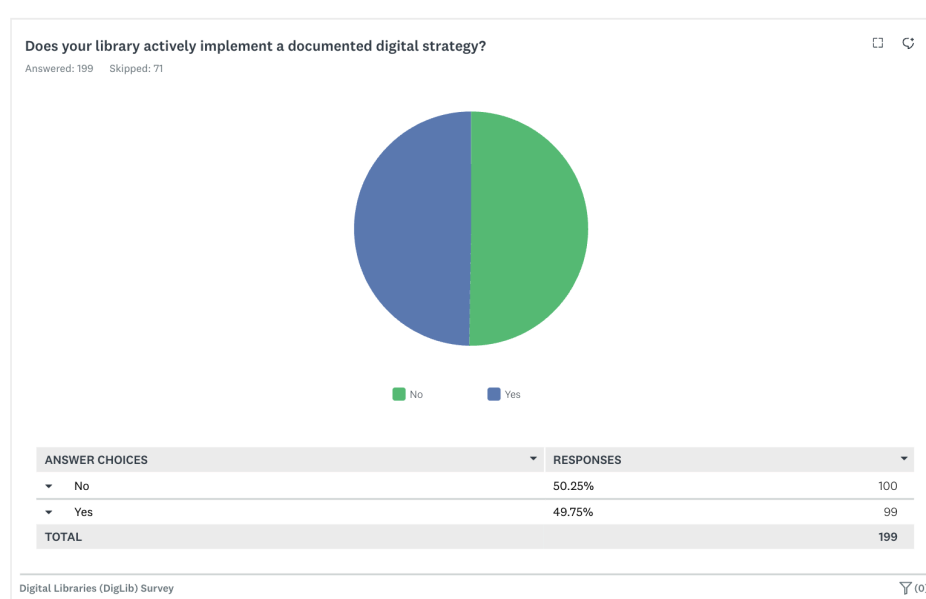
Figure 1
Half of the respondents of the DigLib survey indicated that their library implemented a documented digital strategy, meaning that the use of digital technology and tools is part of their strategic planning processes.

If your answer is yes, which components are covered by the digital strategy?
Answered: 89   Skipped: 181

ANSWER CHOICES	RESPONSES	
The library equipment of digital infrastructure and resources	80.90%	72
Continuing professional development for library staff	46.07%	41
Learning opportunities on digital competences for users	61.80%	55
Collaboration and communication activities with library users and partners	46.07%	41
Other (please specify) Responses	4.49%	4
Total Respondents: 89		

Digital Libraries (DigLib) Survey

Figure 2
A closer look at the components of the digital strategies in places shows, that, while digital equipment and infrastructure is covered by most strategies, other topics related to the training of library staff, learning opportunities for users and communication are also systematically considered by over 46% of the respondents' libraries.

Does your institution offer "assisted digital" services? (moments where staff provide digital support to users)
Answered: 168   Skipped: 102

ANSWER CHOICES	RESPONSES	
Yes	68.45%	115
No	31.55%	53
TOTAL		168

Digital Libraries (DigLib) Survey
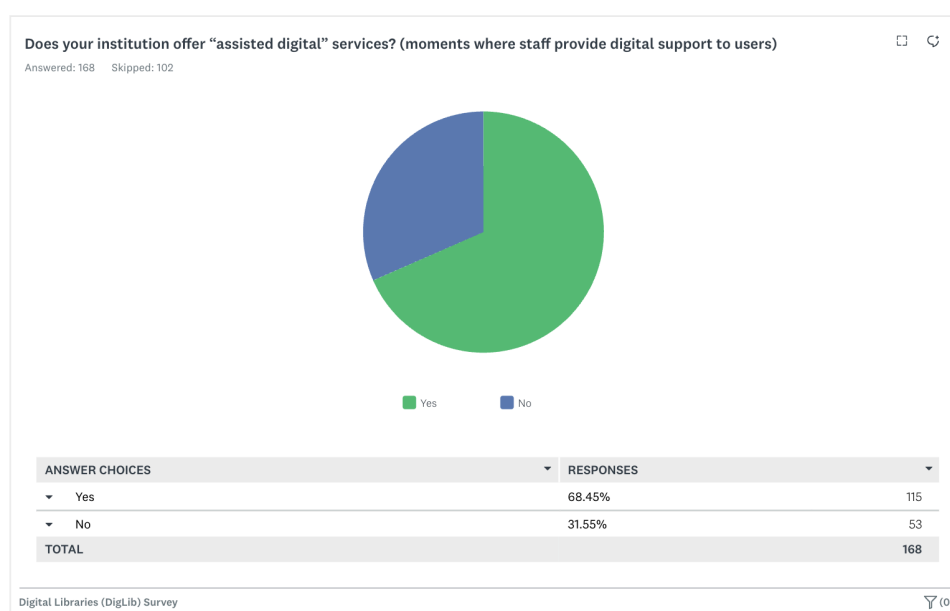
Figure 3
The DigLib survey shows that 68% of the responding libraries offer moments where staff provides support to users, most of which consist of ad hoc advice (Figure 4).

Figure 4
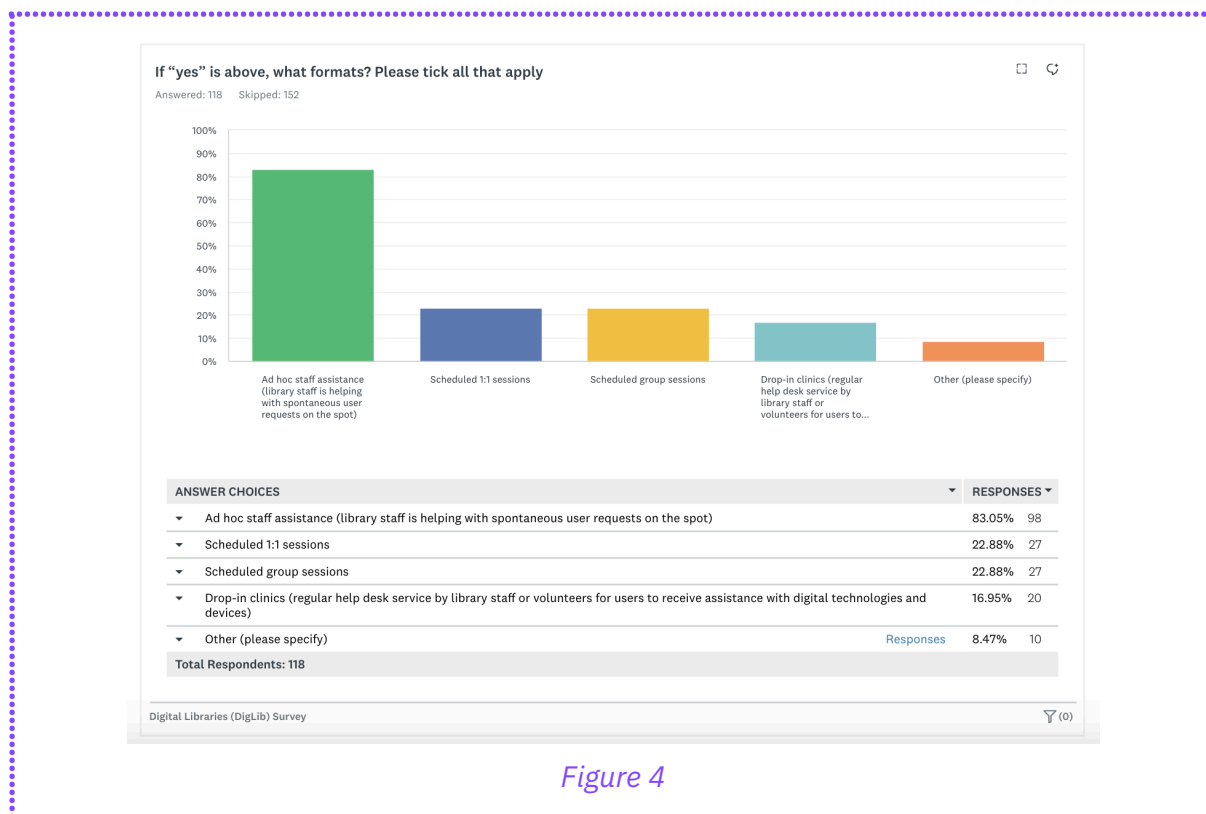
Relevant European projects

DigLib aligns itself and builds upon current and past European-funded projects on digital skills building in the library sector. Each of these projects addresses relevant challenges that public libraries face within the development of their digital strategies in many European countries. The approaches and materials created offer valuable insights and feed into the DigLib research activities.

In this section, a selection of relevant projects will be presented aiming to highlight the main take-aways for the DigLib research activities. This includes: ADELE, BIBLIO, LIBRA.I., Digital Travellers, 'Information Matters', and Mobile Culture. These projects and the impact they have had demonstrate a real need and demand in the sector for supporting library staff across Europe with developing skills to meet the challenges of the fast-paced digital transformation.

ADELE

The **Advancing Digital Empowerment of Libraries in Europe (ADELE)** project which ran from 2021-2024 and was co-funded by the Erasmus+ programme of the European Union. The consortium was composed of 5 partners from 4 countries (Belgium, Bulgaria, Ireland, and Italy), including Public Libraries 2030. The **ADELE** project developed a free customisable web-based tool to help adult education organisations reflect on how they use and where they can further integrate digital technologies to improve their services. The tool was designed and tested with 100 public libraries in Europe. The ADELE tool builds on the SELFIE tool for schools developed by the European Commission with the aim of supporting adult education organisations offering non-formal education. In doing so, the tool will help non-formal education organisations be digitally ready and forward-looking.

The ADELE tool can support users, library staff and managers in reflecting on the use of digital technologies in the library. It can be used to address the following issues:

- *In what areas is digital technology used effectively and where can the library make improvements?*
- *Does the library have a vision for how it wants to use digital technology and, if so, do staff and users know what it is?*
- *What kind of training do library staff find most beneficial?*

Additionally, the project collected **100 case studies** of digital innovation in public libraries from the ADELE network. This collection of best practices aims to encourage, inspire and initiate the integration of technology into non-formal education activities within public libraries. The case studies explore digital innovation of public libraries across the **6 ADELE competence areas**:

1. Management
2. Infrastructure, equipment, support, and resources
3. Continuing professional development
4. Self-reflection on digital competences
5. Learning opportunities on digital competences for users
6. Collaboration, networking, and community

The ADELE project aimed to create an evaluation framework to reflect on a broader concept for a digital strategy in public libraries. Whereas DigLib is more specifically investigating the needs for digital skills training, the ADELE tool allows a larger perspective on the use of digital technologies in public libraries. In developing the DigLib questionnaire, the components and categories used to describe digital skills and competences in the ADELE tool provided a useful reference point. Additionally, the collection of case studies from the ADELE project informed the design and scope of the case studies gathered as part of DigLib.

BIBLIO

The digital transformation is changing the role of libraries and library professionals, and it's not always easy to understand and adapt to it. The **BIBLIO (Boosting Digital Skills and Competences for Librarians in Europe)** project, co-funded by the Erasmus+ programme of the European Union from 2019 - 2022 aimed to analyse the library sector, to highlight skills gap, changes and needs, and to support the librarianship in gaining new skills and developing new innovative services. BIBLIO was implemented by a consortium of ten organisations from five EU countries: Belgium, Bulgaria, Greece, Italy, Latvia.

The BIBLIO project addressed the challenges posed by digital transformation within the library sector by analysing skills gaps, evolving professional needs, and supporting the development of innovative digital services. It aimed to strengthen the capacity of library professionals to adapt to and shape the digital future of public libraries.

Rather than functioning solely as an e-learning platform, BIBLIO was designed as a digital ecosystem that integrated skills assessment, modular training, validation, and recognition. Its objective was to foster upskilling and reskilling among both current and aspiring library professionals.

Key achievements of the project included:
- A comprehensive analysis of training needs and existing offers in the library sector;
- The identification of emerging job profiles aligned with digital transformation;
- The design of a modular Vocational Education and Training (VET) curriculum at EQF level 5, based on learning outcomes and blended learning principles;
- The development of digital Open Educational Resources (OER) supporting the acquisition of over 40 digital and transversal competences;
- The implementation of a MOOC and a Specialisation Training Course that combined face-to-face, virtual, project-based, and work-based learning.

The training was delivered through a dedicated online platform, fostering the exchange of knowledge, experiences, and best practices. The work-based learning phase emphasised intergenerational learning, and the project made extensive use of European tools such as EQF, ECVET, EQAVET, ESCO, and e-CF to ensure qualification recognition and labour market alignment.

The BIBLIO project published Policy Recommendations addressed to policymakers, VET providers, libraries and other key stakeholders, which summarised the experience gained from implementing the project in different countries and provided policy recommendations for its adoption in different contexts.

BIBLIO followed a similar logical structure than DigLib. Based on research outcomes, training materials on digital skills in the library sector were developed by the project partners. It was helpful looking at the BIBLIO research report while developing the research framework for DigLib to build on existing findings and approaches.

LIBRA.I.

The **LIBRA.I. (Libraries for A.I. Literacy)** project aims to integrate Artificial Intelligence (AI) into media and learning literacy training activities in public libraries. Libraries play a key role in equipping citizens with the skills to navigate an increasingly unpredictable digital world, serving as safe places. LIBRA.I. is upskilling librarians by providing AI-related training, enabling them to guide the public in understanding digital media, disinformation, and the ethical implications of AI, as well as how to use AI in everyday life.

LIBRA.I. is an Erasmus+ project that launched in November 2024 and is set to conclude in October 2026. In May, June, and July 2025, librarians in Riga, Brussels and Łódź will participate in hands-on workshops, where AI experts and AI ambassadors will provide specialised training to librarians. Together, they will co-create and test new training formats, ensuring that AI knowledge is accessible to diverse library users. The project will also produce a methodology framework on the integration of AI into media literacy training, published in the five languages of the project, and contribute to European digital education platforms. The methodology will be released towards the end of the project in 2026 and will be open to the public.

Led by Goethe-Institut Brussels, LIBRA.I. is a collaboration between Biblioteka Miejska w Łodzi, Muntpunt, Latvijas Nacionālā bibliotēka, and Université Libre de Bruxelles (FARI—AI for the Common Good Institute). Together, these institutions are working to position public libraries at the forefront of AI, media, and learning literacy, fostering critical thinking and informed citizen participation in the digital age.

New emerging technologies are rapidly changing and training material can be outdated quickly. The LibrAI project is currently ongoing and at the forefront with the development of training material related to AI for a public library context. DigLib can take inspiration from the project results and create synergies with the activities and partners. A representative from the LIBRA.I. project is part of the DigLib advisory board for Flanders and will feed relevant content into the process.

Information Matters

The EU-funded project **Information Matters** was focused on developing and piloting learning materials for elderly people and a training programme for adult education staff, mostly in public libraries, with focus on digital and media literacy, in response to the

implications created by the global *infodemic*[1], misinformation and fake news. From 2023 until 2024, the project organised activities which brought together library and digital education partners from Bulgaria, Romania and Austria. 'Information Matters' was based on the understanding that media literacy is the ability to evaluate, analyse, and understand media messages in all forms with a critical eye, while digital literacy helps individuals navigate an increasingly online world (incl. understanding how social media platforms, websites, and apps interact with society).

The project's objectives were to:
- **Enhance elderly people's digital and media literacy competences**, through the development and exploitation of innovative interactive learning materials with focus on tackling the infodemic, misinformation and fake news, expected to cause positive effect on at least 300 adults in Bulgaria, Romania and Austria during the project lifetime and at least 3000 across Europe by mid-2025.
- **Enhance adult education staff's competences to effectively engage in building elderly people's digital and media literacy**, through the development and piloting of a training programme to directly upskill 120 adult educators during the project lifetime and at least 400 by mid-2025.
- **Promote the importance of and the benefits from enhancing elderly people's digital and media literacy** by effectively disseminating the project activities and results, reaching out to 3000 stakeholders from across Europe.

Both the online training modules for educators and the educational webinars for users are available online on the project website. DigLib will build on the developed educational material, especially in relation to activities targeting senior citizens.

Digital Travellers in Europe

The main goal of the Digital Travellers in Europe project was to support people whose lack of digital skills makes it difficult to participate in social life through public libraries, which, due to their activities, are an ideal place for digitally excluded users.

Most important activities included:
- **Mapping resources** (online materials and courses) to create a European database of resources available to librarians supporting digitally excluded people
- **Training of librarians** in Belgium, Finland, the Netherlands and Poland
- **Training in libraries for digitally excluded people**

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[1] *An infodemic is too much information including false or misleading information in digital and physical environments during a disease outbreak. It causes confusion and risk-taking behaviours that can harm health*. (World Health Organisation, www.who.int/health-topics/infodemic)

- **Evaluation of the training methodology** and process to formulate recommendations regarding the role of librarians in the digital integration of the local community and the use of the DigComp 2.1 standard

The project was implemented by the partnership composed of: Bibliothèques Sans Frontières (France, *coordinator*), Bibliothèques Sans Frontières Belgique (Libraries Without Borders, Belgium), Public Libraries 2030 (Belgium), Suomen Kirjastoseura (Finnish Library Association, Finland), Koninklijke Bibliotheek (National Library, The Netherlands), and the Information Society Development Foundation (FRSI, Poland). The project ran from 2019 to 2021 and was co-financed by the European Union's Erasmus + programme.

The project created training methodology that is worth getting to know before starting to create a digital moderator profile and a training programme for librarians in the DigLib project, especially the training methodology for librarians to learn the skills required in digital education facilitation and used the skills and knowledge acquired to deliver workshops and other educational activities for their users (the project referred to both the European Digital Competence Framework for Citizens and the Digital Competence for Educators Framework, as it is also planned in the DigLib project).

Mobile Culture

The aim of the **Mobile Culture** project was to help educators and animators in the GLAM sector (Galleries, Libraries, Archives, Museums) by offering access to knowledge and innovative methods and digital tools to create better cultural offerings for adults. Mobile Culture was co-funded by the European Union Erasmus+ Programme, and implemented by an international consortium composed of Culture Shock Foundation (Poland), Clictic (Spain), Roes Cooperativa (Greece) and two Italian entities: Euroform RFSand Escape4Change.

As part of the project, the following results were developed:
- Report and guide on best practices, which presents transferable examples of online cultural activities and valuable digital tools from four partner countries;
- Online training platform with digital resources regarding creation of engaging online and offline activities for adults, innovative methods used in GLAM sector (such as design thinking, user-centered design, universal design, co-creation, phygital approach), best practices and cultural workshop scenarios, that can be conducted online, offline or in hybrid mode;
- Free, self-paced online course on how to create, conduct and promote engaging and inclusive cultural activities online for adults, especially from underrepresented groups (women, migrants, seniors, LGBTQ+, people with disabilities ect.) or those on the bring of social or digital exclusion.

All materials are available in English, Polish, Spanish, Italian, and Greek.

The Mobile Culture project also offers valuable input for DigLib, particularly through its recently developed online course aimed at librarians. Before designing new training programmes and materials within DigLib, it would be beneficial to review this course, which explores the use of free digital tools and emerging technologies (such as AI, AR, and VR) to support cultural activities. These topics align closely with DigLib's focus. Moreover, the course's application of principles such as universal design, user-centred design, co-creation, inclusivity, and storytelling in the context of cultural education could offer useful inspiration for DigLib's approach.

Main takeaways

The DigLib project benefits from several European initiatives on digital skills in public libraries. The **ADELE** project provided a broader framework for digital strategy, which informed the structure and content of DigLib's questionnaire and case studies by offering useful categories and examples.

BIBLIO contributed by linking research to training material development in the library sector. Its research report helped shape DigLib's research framework and ensured continuity with existing findings.

The ongoing **LIBRA.I.** project, focused on AI training for libraries, offers up-to-date content and potential for collaboration. A **LIBRA.I.** representative on DigLib's advisory board ensures knowledge sharing, and its training resources—especially for senior citizens—are useful for DigLib's educational activities.

Existing training methodologies from these projects are also valuable for developing DigLib's digital moderator profile and training programmes, aligned with European competence frameworks.

Finally, the **Mobile Culture** project provides a relevant and current online course for librarians on digital tools like AI, AR, and VR. Its emphasis on universal design, inclusivity, and storytelling offers practical insights for DigLib's future materials and programmes.

European digital competency frameworks

The DigLib project aligns with the EU Digital Education Action Plan[2], a policy initiative that sets out a common vision of high-quality, inclusive and accessible digital education in Europe, and aims to support the adaptation of the education and training systems of Member States to the digital age. More specifically, the project research framework and the tools used to collect data are based on EU competency frameworks; The European Digital Competence Frameworks for Citizens (DigComp) and Educators (DigCompEdu) provide a shared understanding of digital competence, aiming to improve citizens' and educators' digital skills across various areas. DigComp, specifically, defines five areas of digital competence, while DigCompEdu focuses on the digital competences of educators, encompassing six areas and proficiency levels.

The implications and potential benefits each of these frameworks could generate within the library context are outlined below.

DigComp

The DigComp Framework (Digital Competence Framework for Citizens) provides a comprehensive model that defines the essential digital skills needed by individuals to function in today's digital world. It is an invaluable tool for libraries looking to support digital skills development among their users. By using the DigComp Framework, libraries can provide structured, evidence-based support that helps individuals build their digital competence.

The newest version of the framework DigComp 2.2 - provides over 250 new examples of knowledge, skills and attitudes that help citizens engage confidently, critically and safely with digital technologies, and new and emerging ones such as systems driven by artificial intelligence (AI)[3].

How can libraries use the DigComp framework?

➔ **Digital literacy programmes**
Libraries can tailor their digital literacy training sessions using the DigComp framework. The competencies outlined in DigComp serve as a guideline for identifying the skills learners need and for structuring training modules. Workshops can be designed around the framework's areas, for example, a session focusing on

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[2] **European Education Area**. *Digital Education Action Plan (2021-2027)*. https://education.ec.europa.eu/focus-topics/digital-education/action-plan
[3] **Joint Research Centre**. *DigComp 2.2: The Digital Competence Framework for Citizens*. Publications Office of the European Union, 2022. Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC128415

"Communication and Collaboration" can teach users how to effectively use email, social media, and collaboration tools (e.g., Zoom, Google Docs).

➔ **Assessment of digital competence**
Libraries can use the DigComp self-assessment tools to help individuals assess their current digital skills. This allows library staff to better understand the needs of their community and provide personalized support. Regular assessments can track progress over time, helping learners identify areas for improvement.

➔ **Developing tailored services**
By understanding the framework's components, libraries can offer targeted services. For instance, users in need of help with safety and privacy online (DigComp area 4) could be offered specific workshops about secure online behaviors and protecting personal data. Libraries can also adapt their services for different groups, such as older adults, job seekers, or young learners, ensuring they address the specific competencies relevant to each group.

➔ **Creating collaborative digital spaces**
The DigComp framework emphasizes collaboration and communication, which are essential in today's digital work and social environments. Libraries can create spaces (physical and digital) for users to share experiences and learn from each other. Digital coworking areas or online learning platforms can allow individuals to apply skills such as problem-solving and content creation in real-world contexts. The European Commission is investing in libraries to become digital skills hubs, focusing on developing basic digital skills such as digital literacy, communication, and media literacy.

➔ **Building partnerships**
Libraries can use the DigComp framework to work alongside local community organizations, schools, and businesses to help develop a broad and inclusive digital skills strategy. Collaborative projects with other institutions can strengthen digital competencies within the local community and provide users with diverse learning opportunities.

What are the benefits of DigComp for libraries?

Libraries will be better equipped to design relevant services that meet the specific needs of users based on the framework's competencies. Using DigComp, libraries can offer structured learning pathways and resources that help individuals progress from beginner to advanced levels of digital literacy. By incorporating the DigComp framework into their services, libraries can engage their communities in lifelong learning and empower them with essential digital skills.

Valuable resource for use of DigComp

In 2018, the European Commission's Joint Research Centre (JRC) published '*[DigComp into Action: Get inspired, make it happen. A user guide to the European Digital Competence Framework](#)*'[4]. This guide supports stakeholders in the use of the European Digital Competence Framework (DigComp) by sharing 38 existing inspiring practices of DigComp implementations. These are illustrated by 50 content items consisting of case studies and tools.

DigCompEDU

The [DigCompEdu](#) (Digital Competence Framework for Educators) focuses on the digital competencies required by educators, including those in libraries, to effectively integrate digital tools in teaching and learning.[5] Libraries can use this framework to enhance their training programs, helping users develop essential digital skills in a structured way.

DigCompEdu is organized into 6 competence areas:
1. **Professional Engagement**: Using digital tools for personal and professional development.
2. **Digital Resources**: Selecting and using digital content and tools for teaching.
3. **Teaching and Learning**: Designing and managing learning activities with digital tools.
4. **Assessment**: Using digital tools to assess learning and provide feedback.
5. **Empowering Learners**: Supporting learners in developing their digital competencies.
6. **Facilitating Digital Competence**: Creating environments that foster digital learning and growth.

How can libraries use the DigCompEdu framework?

➔ **Developing educator training**
Libraries can design digital literacy workshops for educators using the DigCompEdu competencies. For instance, a session on "Teaching and Learning" could focus on digital tools for creating engaging learning experiences.

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[4] **Joint Research Centre**. *DigComp into Action: Get inspired, make it happen. A user guide to the European Digital Competence Framework*. Publications Office of the European Union, 2018. Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC110624
[5] **Joint Research Centre.** *DigCompEdu: The Digital Competence Framework for Educators.* Publications Office of the European Union, 2017. Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC107466

➔ **Supporting digital literacy programmes**
Librarians can assess the digital competencies of library users (especially educators) and tailor training on topics like digital resources and empowering learners to build digital skills.

➔ **Encouraging digital engagement**
Libraries can integrate the DigCompEdu framework into the professional development of educators by offering workshops that focus on enhancing teaching practices with digital tools.

➔ **Creating digital learning environments**
Libraries can create digital spaces that allow users to practice and develop competencies in areas such as digital resource creation, assessment tools, and learner empowerment.

What are the benefits of DigCompEDU for libraries?

Libraries can offer clear, competency-based training paths for educators and community members, supporting both teaching and learning in the digital age. By using DigCompEdu, libraries can empower educators and learners with the necessary digital skills to succeed in today's digital environment.

Country reports

This section provides a comprehensive overview of the national landscape of academic and non-academic training opportunities in each of the partner countries: Italy, Poland, Belgium (Flanders), and Romania. The references and sources can be found in the country reports, which are annexed to the DigLib research report.

Italy

National considerations

Library landscape

In Italy, there are over 8,000 libraries - precisely 8,131 as of 2023 - according to the Istituto Nazionale di Statistica, or Italian National Institute of Statistics, (ISTAT). More than three-quarters of these are public libraries, while the remainder are private or ecclesiastical institutions. However, only just over half of them are open to the public four or five days a week, and approximately 20 percent 6 or 7 days a week.

These libraries are staffed by approximately 33,000 librarians or, more commonly, assistant librarians or other personnel. Additionally, around 10,000 volunteers actively support library operations. Most libraries are small in scale, often managed by a single librarian or by staff from other municipal departments.

The issue lies in the fact that, in Italy, there are only 5,7 million registered users which accounts less than 10% of the whole population. This low engagement fuels a vicious cycle: libraries receive little investment because they are underused, and they are underused because public authorities, particularly municipalities, fail to invest in them. As a result, libraries struggle to modernize and attract new users, further deepening the cycle of neglect.

Italy ranks 18th in the European Union's Digital Economy and Society Index (DESI) for digital skills. While the EU average for basic digital skills among citizens aged 16 to 74 is 54%, Italy lags behind at just 46%. The gap is particularly evident among young people (ages 16–24), where only 60% in Italy possess at least basic digital skills, compared to 71% across the EU. The disparity is also significant among women: 43% in Italy have basic digital skills, versus 51% at the EU level.

A positive development is that Italian libraries are undergoing a gradual but significant transformation in response to the digital age. The DigLib Survey reveals a workforce that is predominantly female and composed of experienced professionals, many of whom have

been in the field for over two decades. These librarians are generally confident in their use of basic digital tools and are actively engaged in providing digital services such as public Wi-Fi, computer access, and digital help desks. However, the availability and sophistication of these services vary widely across the country: for example, according to the ISTAT, the availability of public Wi-Fi ranges from 70% in the North of Italy to just above 50% in the South. In particular, small municipalities under 2,000 residents lack the internet connection or other digital services. The differences between the central urban areas and the rural peripheries are significant.

While some libraries offer ICT training and media literacy workshops, others struggle with outdated infrastructure and limited resources. During the interviews conducted, Anna Maria Tammaro highlighted that innovation often stems from individual initiative rather than institutional support, leading to a fragmented landscape. Luciano Barrilà, from the CUBI library system, emphasized the need for libraries to become third places and social hubs, which requires a broader set of competencies. Riccardo Carpi and Ulisse Politi from Fondazione per Leggere confirm this uneven digital readiness: some librarians are eager to learn and experiment with tools like Canva and ChatGPT, while others remain hesitant or unaware of these technologies. They stress the importance of practical skills – such as managing PDFs or selecting copyright-free images – which are often overlooked but essential for daily library operations.

Professional Education

In Italy, the academic foundation for librarianship is well established, with universities such as Bologna, Milan, Rome, and Turin offering degrees in library and archival sciences. These programmes are typically rooted in the humanities, reflecting the country's rich cultural heritage. However, as the digital landscape evolves, so does the demand on library professionals. As a result, the current academic offerings are struggling to keep pace.

Students interested in library and information science typically begin their journey with a bachelor's degree in cultural heritage, literature, or archival studies, followed by a master's degree that focuses more specifically on librarianship, digital curation, or information management. These programmes blend classical training in cataloging, classification, and archival science.

Among the most prominent institutions offering such programs is the University of Bologna, renowned for its deep academic heritage and strong focus on archival and library sciences. Similarly, Sapienza University of Rome and the University of Milan offer comprehensive courses that prepare students for the evolving demands of the profession, including digital transformation and user-centered services. Other universities such as Padua, Pisa, Florence, Naples Federico II, Parma, Genoa, and Turin also provide specialized training, often through postgraduate programmes or professional development courses. These

institutions often collaborate with public libraries, archives, and cultural institutions, giving students practical experience alongside their academic studies.

Despite the availability of these programmes, the profession faces challenges – including underfunding and limited job openings – which makes academic preparation all the more crucial for those passionate about preserving and promoting access to knowledge. The DigLib Survey indicates that while librarians are generally well-educated, there is a growing recognition of the need for continuous professional development, particularly in emerging digital competencies. Training opportunities, however, are not uniformly accessible. Some librarians benefit from structured programmes and peer learning, while others lack institutional support.

Anna Maria Tammaro emphasizes the importance of interdisciplinary education that bridges the gap between humanities and technology. She recalls efforts to create shared courses on digital libraries, which unfortunately did not receive long-term institutional backing. Ulisse Politi points out the lack of a structured academic path for public librarians in Italy, noting that university programmes often focus more on archival studies than on the realities of public libraries. He stresses the need for a foundational 'toolbox' of digital competencies and advocates for short, accessible training formats like video tutorials and modular courses. Carpi adds that generational change is slowly bringing more digitally fluent staff into libraries, but systemic support is still lacking. Barrilà also notes that training should not only focus on tools but also on the underlying skills, such as graphic design principles, to ensure effective use of digital platforms.

Policies, digital strategy, and academic research

One of the most pressing issues identified in both the DigLib Survey and the interview with Anna Maria Tammaro is the lack of a cohesive national strategy for digital transformation in libraries. While some institutions have adopted digital strategies focusing on infrastructure and staff training, these efforts are not widespread. Tammaro points out that Italy has yet to fully integrate libraries into its broader digital and AI policies. The absence of a unified approach has led to disparities in service provision and innovation.

Academic research in the field, although rich and insightful, often remains disconnected from policy implementation. Tammaro advocates for greater collaboration between academia, policymakers, and library practitioners to ensure that research informs practice and that libraries are recognized as key players in digital inclusion. Initiatives like the Ministry's Dicolab project offer a glimpse of what is possible when libraries, archives, and museums work together toward common digital goals. Barrilà warns against reactive training strategies and calls for a more strategic, long-term vision that aligns training with the evolving role of libraries. Politi and Carpi underscore the absence of a centralized strategy for digital training and emphasize the importance of peer learning and the role of

library systems in identifying and sharing best practices. They also discuss the challenge of staff turnover, which hampers continuity in training efforts. Carpi suggests that systems should actively collect and disseminate successful local initiatives to build a shared knowledge base.

Survey outcomes

Profile of participants and libraries

The respondents to the DigLib survey present a rich and insightful snapshot of the current landscape of library professionals engaged with digital library initiatives. Most participants were women, reflecting the prevailing gender dynamics in the library sector. The age distribution skewed towards mid-to-late career professionals, with the largest group aged between 55 and 64, followed closely by those aged 45 to 54. This indicates a seasoned workforce with a substantial reservoir of experience.

Educational backgrounds were notably strong. A considerable number of respondents held advanced degrees, particularly master's qualifications in library and information science or related disciplines. This level of education aligns well with the complexity and evolving demands of digital library services.

In terms of job roles, the majority identified as either librarians or librarian assistants, forming the backbone of day-to-day library operations. Leadership roles such as library directors and heads of departments were also represented, though in smaller numbers. This variety in positions adds depth to the insights gathered, reflecting perspectives from different levels within library institutions.

Experience in the field was another prominent feature. Many respondents reported having worked in libraries for over two decades, underscoring a stable and deeply knowledgeable cohort. At the same time, newer professionals with less than five years of experience also participated, indicating ongoing renewal and generational exchange in the profession.

When it comes to digital skills, most respondents viewed themselves as independent users - comfortable with digital tools and capable of handling them without assistance. A smaller, yet significant, group identified as proficient users, highlighting a growing segment of tech-savvy professionals ready to navigate the digital transformation in libraries.

Overall, the survey paints a picture of a mature, highly educated, and digitally competent workforce, well-positioned to lead and adapt to technological advancements in the library sector.

Libraries' profiles

The libraries that took part in the DigLib survey represent a diverse range of institutional types and community contexts. Many of these libraries operate with relatively small teams; the majority reported having fewer than ten employees. Specifically, just under a third of respondents indicated working in single-person libraries, while a comparable portion reported teams of two to four people. Larger institutions, employing 11 to 30 individuals, were less common, and very few libraries employed more than 50 staff.

The communities served by these libraries also varied significantly in size. While a considerable number are located in small municipalities with fewer than 20,000 inhabitants, a substantial share operate in mid-sized towns ranging from 20,000 to 100,000 residents. A smaller group of libraries serve large urban areas with populations exceeding 100,000.

In terms of organizational structure, the majority of libraries indicated that they are part of a network with multiple branches. Most of these networks comprise more than ten branches, suggesting well-established collaborative infrastructures. This networked nature likely supports resource sharing and digital innovation across member libraries.

Library reach is further evidenced by the number of registered users. Nearly half of the libraries reported fewer than 1,000 active users, while another large segment serves between 1,000 and 5,000 users. Only a small fraction reported user bases exceeding 10,000, typically associated with libraries in larger urban centers.

Importantly, the survey also highlighted digital strategy implementation. Although just under half of the libraries currently have a documented digital strategy, those that do tend to cover multiple facets – ranging from infrastructure upgrades to training for staff and users, and collaborative efforts with the community. This demonstrates a growing commitment to digital transformation, albeit unevenly distributed across the sector.

Library user needs and impact on library staff's digital competences

The DigLib survey provides valuable insights into the evolving digital needs of library users and the corresponding impact on library staff competencies. A wide array of digital services is already being offered, though capacity and readiness vary. Wi-Fi, public access computers, and self-service printing are among the most commonly available services. Many libraries also offer digital help desks, digital learning spaces, and various ICT training programs targeting different demographics such as elderly users, youth, and job seekers. However, advanced services like makerspaces, VR, and AI-related activities are less commonly available and often desired but not yet implemented due to equipment or training limitations.

Most libraries observed a growing demand for help with digital skills, reflecting the increasing relevance of technology in everyday life. A majority also confirmed that they offer "assisted digital" services, where staff support users with digital technologies. These services are most commonly delivered through ad hoc assistance and scheduled one-on-one sessions, with a notable number also providing group sessions and drop-in clinics.

When asked which user groups most frequently request digital support, respondents pointed to elderly users and unemployed persons, followed by parents and youth, highlighting diverse and widespread digital inclusion needs. Despite this demand, only a quarter of the libraries currently offer regular digital education classes or workshops, suggesting a gap between user needs and available programming.

This growing reliance on digital services and support is clearly influencing staff roles and skill requirements. Many staff members acknowledge the need for further training to remain current with their responsibilities in a digitally evolving environment.

Identification of training needs

The DigLib survey reveals important insights into the current training needs of library professionals in relation to digital competencies. A majority of respondents feel their skills are generally up to date with their roles, yet many also acknowledge the desire or need for further professional development. This suggests a positive attitude toward continuous learning and a recognition of the dynamic nature of digital tools in library work.

When asked whether they have access to ongoing professional development opportunities, responses were evenly split. This points to a structural inconsistency in access to training, which could hinder efforts to standardize digital competence across the sector.

Regarding specific training topics, the strongest demand was for knowledge related to emerging technologies – such as artificial intelligence, augmented and virtual reality, coding, and open data. This was followed by a high interest in developing skills around information, data, and media literacy, especially concerning misinformation and data privacy. Other areas of notable interest include community assessment, facilitation of educational activities, and evaluation of library services.

From these results, several conclusions can be drawn. First, the willingness to update and expand digital skills is widespread among library staff. Second, training provision is not yet universally accessible, revealing a need for better infrastructure and institutional support. Finally, the most pressing training needs cluster around new technologies and media literacy, reflecting the shifting landscape of library services in an increasingly digital world.

Assessment of digital and facilitation skills present in libraries

Italian libraries are navigating a digital transformation, and the skills of their staff reflect both strengths and areas for improvement. In terms of **communication and interaction with library users**, a majority of librarians (57.7%) are independent users who can adapt digital tools and formats to meet diverse user needs. Additionally, 39.2% are proficient in sharing digital content across platforms. However, over half (52.6%) still require training in pedagogical techniques to effectively engage users in educational activities. For example, while many can manage video calls or text-based communication, they often struggle to facilitate interactive learning experiences.

When it comes to **creating digital content**, 46.4% of librarians are confident in producing materials such as videos, posters, and newsletters, and 51.6% can combine different types of content to create original works. Yet, a significant weakness lies in the understanding of copyright and licensing, with 54.6% being only basic users in this area. This suggests that while content creation is active, it may not always align with legal standards.

Exploring technological changes is a notable strength. An impressive 92.7% of librarians report knowing how to use generative AI tools, but only 7.3 % can guide others in using them. Similarly, 81.4% are familiar with Internet of Things (IoT) technologies. However, practical limitations persist, as 70.2% cite lack of equipment and funding as major barriers. For instance, a librarian may be skilled in AI applications but unable to implement VR-based programs due to missing infrastructure.

In the **area of information, data, and media literacy**, just over half of respondents (53.3%) can identify AI-generated or manipulated content, and 51.1% can assess the credibility of sources. Still, nearly half (48.5%) need further training in digital engagement tools such as online surveys or interactive platforms, which are essential for community outreach and feedback.

Finally, in **facilitating digital education for adults**, the picture is mixed. While 49.4% feel confident leading group learning activities and 67.8% can help learners manage their own digital learning paths, a concerning 66.7% are only basic users when it comes to ensuring accessibility, particularly for learners with special needs. This highlights a critical area for improvement, especially as libraries strive to be inclusive community hubs.

Overall, the assessment underscores a key message: while Italian librarians are increasingly digitally literate, their ability to translate these skills into inclusive, educational, and legally sound services still requires systemic support. Investments in training, infrastructure, and inclusive design are essential to break the cycle of underuse and underinvestment in libraries.

Conclusions and recommendations

Libraries are increasingly integrating digital technologies, with a significant number of respondents indicating proficiency in using tools like Zoom, Google Workspace, and interactive whiteboards. However, there is a notable need for training in pedagogical techniques and digital engagement tools. Many libraries face obstacles such as lack of equipment, insufficient funding, and low interest from users. Despite these challenges, libraries are actively offering digital literacy training, with a focus on basic digital skills, internet safety, and media literacy. Recommendations include increasing investment in digital infrastructure, providing continuous professional development, and fostering collaboration among library staff to enhance digital services. Libraries should also prioritize user engagement and feedback to tailor their digital offerings to community needs.

Interviews

In Italy, four key voices shed light on the evolving landscape of librarian education and digital competencies: **Anna Maria Tammaro** from the University of Parma, **Riccardo Carpi** and **Ulisse Politi** from Fondazione per Leggere, and **Luciano Barrilà** from Sistema Bibliotecario CUBI.

The professional landscape: Fragmentation and emerging awareness

Italy currently lacks a unified national strategy for integrating AI and digital transformation into the library sector. This absence has led to a fragmented training environment, where universities and professional bodies operate in silos, often without coordination or long-term vision. Anna Maria Tammaro emphasized this gap, noting that Italian academia struggles with interdisciplinarity – unlike more cohesive models seen in countries like Estonia, Norway, and Lithuania.

Public librarians, in particular, face a lack of structured educational pathways. Riccardo Carpi and Ulisse Politi observed that while digital topics such as AI, Canva, and content management are slowly entering training programs, the pace is uneven. Many librarians still prioritize traditional skills, and the shortage of qualified trainers – especially in AI -remains a significant hurdle.

Strengths: Grassroots innovation and generational change

Despite systemic challenges, there are promising developments. Online courses and self-paced learning are becoming more common, especially among younger, digitally

literate librarians. Carpi and Politi highlighted the role of librarians as digital facilitators, particularly for older adults, and stressed the importance of documenting and sharing best practices.

Luciano Barrilà brought a unique perspective from his background in psychology and organizational consulting. He views libraries as strategic tools for addressing broader social and economic challenges. Rather than expecting individual librarians to master an exhaustive list of digital skills, he advocates for multidisciplinary teams and training programs that combine strategic direction with grassroots input.

Weaknesses: Lack of continuity and strategic vision

A recurring theme across all interviews was the fragility of current training initiatives. Many programmes are short-lived, often ending when funding runs out. Tammaro shared her own experience with a discontinued Digital Library course, underscoring the vulnerability of non-institutionalized efforts.

Moreover, training is often reactive – responding to trends rather than anticipating future needs. Barrilà criticized this short-termism and emphasized the importance of foundational skills that transcend specific tools. For example, understanding graphic design principles is more valuable than simply learning how to use Canva.

Key barriers and considerations for future programmes

The Italian experience reveals several critical barriers to effective digital training:
- Lack of a national framework for digital competencies in libraries
- Inconsistent support for lifelong learning and professional development
- Limited alignment between university curricula and the practical needs of public libraries
- High staff turnover and instability, which hinder long-term skill development

As digital transformation accelerates, those librarians with stronger digital skills will be the ones leading community-facing initiatives. Training programmes must therefore be practical, cyclical, and tailored to the specific user groups librarians serve. There is also a pressing need to promote good practices and facilitate peer learning across institutions.

The core challenge

At the heart of the issue lies the absence of a minimum standard of digital competencies for librarians in Italy. Without a clear national strategy or competency framework, training remains fragmented, uneven, and often unsustainable. To truly empower libraries in the

digital age, Italy must recognize their societal mission and include them in broader national AI and digital transformation strategies.

Conclusions and recommendations

The DigLib project aims to transform public libraries into inclusive digital hubs by equipping librarians with the skills to foster lifelong learning and bridge the digital divide. Drawing from the Italian country report, it is evident that while librarians demonstrate strong foundational digital skills and a willingness to learn, systemic challenges such as fragmented training, lack of national strategy, and uneven access to resources persist. To address these, DigLib should prioritize the development of a cohesive framework for digital competencies, support modular and accessible training formats, and encourage collaboration among institutions. By aligning its immersive learning environments and Living Labs with the real needs of library professionals, the project can ensure that digital education is both practical and sustainable. Nationally, stakeholders should invest in strategic planning, interdisciplinary education, and the sharing of best practices to empower libraries as future-ready community anchors.

[Case study - Italy]

HubOut Makers Lab
Cultural Center Il Pertini of the Municipality of Cinisello Balsamo

Overview

The Cultural Center Il Pertini of the Municipality of Cinisello Balsamo hosts the innovative HubOut Makers Lab, a dynamic space within the HubOut Social Innovation Laboratory. This initiative transforms the library into a collaborative environment for digital fabrication, creativity, and community learning.

Goals and activities

The Makers Lab promotes "learning by doing" through access to CNC machines, 3D printers, and electronic workbenches. It offers thematic workshops and social events that empower citizens - especially adults - to design and create physical objects. The lab draws from the open-source movement, encouraging knowledge sharing and reproducibility.

Innovative elements

Innovation is embedded in the Lab's mission: it integrates coworking with public services, promotes community engagement, and supports digital transformation through interdisciplinary collaboration. The space is conceived as a "minifactory" where users

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[Case study - Italy]

HubOut Makers Lab
Cultural Center Il Pertini of the Municipality of Cinisello Balsamo

can prototype and build, blending digital and manual skills.

Skills and resources

Staff are expected to manage peer-to-peer learning groups, possess project management capabilities, and stay updated on technological trends. Basic knowledge of digital fabrication and educational tinkering is essential. The lab is equipped with CNC machines, 3D printers, and worktables to support hands-on learning.

Challenges

A key challenge is aligning the vision of innovation with the entire library staff and ensuring that patrons are aware of the lab's offerings. Many users still associate libraries with traditional services and may not realize the breadth of opportunities available.

Tips for other libraries

- Clearly communicate new services to users to maximize engagement.
- Ensure the entire staff shares the vision, even if not directly involved in implementation.
- Libraries should be inclusive spaces that promote social mobility and unexpected learning opportunities.

Conclusion

The HubOut Makers Lab exemplifies how public libraries can evolve into inclusive, innovative spaces that empower communities through digital and creative engagement.

Poland

National considerations

Library landscape, role of public libraries in digital education projects and policies/digital strategies in Poland

According to data from Statistics Poland, at the end of 2024, there were 7,541 public libraries (main libraries with branches) operating in Poland. Without taking into account the branches, there are a maximum of 2,860 head libraries (FRSI estimate, based on the assumption that each local government unit must operate one head library).

The majority of entities (64.6%) were located in rural areas. The largest group of public library users were people aged 25–44 (25%), followed by those over 60 (17.9%), 45–60 (17.2%), and 6–12 (17.6%). Nearly half of library employees (48.5%) had a degree in library and information science. Of all library employees, 65.7% took part in training courses aimed at improving their professional qualifications, financed by their employer.

According to the Library Act, the organizer for public libraries is a local government unit, at the provincial, district or municipal level. Libraries have separate legal personalities – they can operate as independent institutions or be affiliated with another institution, such as a cultural or community centre. They constitute a unique network within which adult education, including digital education, can be provided. Even though the library organiser is not obliged to provide financial resources for these activities, many libraries organise training and provide support in the use of the Internet, information retrieval and the use of digital tools.

According to 2024 DESI data, Poland ranks 26th in the EU (third from the bottom) in terms of the percentage of citizens with at least basic digital skills (44.3%), while the EU average was 55.6%.[6] This percentage has increased by 2 percentage points since 2022. More and more people are becoming convinced of the benefits of conducting administrative matters online, and the number of households with at least one computer has also increased. Digital skills gained importance during the COVID-19 pandemic, when the ability to navigate the 'web' or work remotely proved to be particularly important.

It is worth noting that initially, most public projects implemented in Poland focused on improving internet access by creating PIAPs (Public Internet Access Points, 2000–2015), mainly in libraries, but also in municipal offices and local fire stations. These activities consisted of providing computers and internet access, with the training element being almost completely overlooked. It was only later that the focus shifted to the development of digital competences (until 2020, the DESI index measured 'internet usage' rather than 'at least basic digital skills') – e.g. projects implemented under the 'Digital Poland Operational Programme 2014–2020' (European Regional Development Fund). These programmes focused on the development of digital competences of various groups of residents (mainly digitally excluded people or e-citizens), and as far as staff was concerned, only those usually associated with education, such as teachers. There was no programme specifically dedicated to libraries and librarians. Libraries and librarians could benefit from support by organising and conducting training for residents. Interested librarians were trained as trainers and could use training scenarios and educational materials developed and made available as part of these projects. Depending on the project, the library could receive computer equipment, including devices for people with disabilities (e.g. larger computer

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[6] **European Commission**. *DESI 2025: At least basic digital skills, All individuals (aged 16-74)*.
Available at: https://digital-decade-desi.digital-strategy.ec.europa.eu/s/qR8d4pjNP0Ypx/

mouses). Examples of such projects are 'e-Strong: digital skills, real benefits' (a project of the Aktywizacja Foundation implemented in cooperation with, among others, FRSI) or 'Me on the Internet' (a project of the Legal Culture Foundation).

However, these projects did not include all libraries, rather only those who expressed their willingness to participate and obtained the consent of local authorities (training agreements were signed with municipalities that declared a minimum number of residents to be trained). Libraries connected with cultural centres could apply to participate in the 'Digitisation of Cultural Centres' project run by the 'National Centre for Culture' (a government institution under the Ministry of Culture) and implemented as part of the 'Digital Poland Operational Programme'. As part of the project, cultural centres developed their digital strategy, prepared and implemented an offer of online activities, and received equipment. A common feature of these programmes was the voluntary nature of applications, which meant that more aware and interested entities applied for them.

In February 2023, the Polish government adopted the "Digital Competence Development Programme"[7], which is the latest strategic document of the state in the field of raising the digital competences of society. The programme's implementation aims to have 80% of Polish residents with at least basic digital competences, and 40% with digital competences above the basic level by 2030. The programme sets out objectives and actions for specific target groups (e.g. excluded persons, citizens, students, ICT specialists), as well as sources of funding, largely from the EU Structural Funds and the EU Recovery and Resilience Facility. Public libraries are mentioned in the programme as one of the entities that can run a digital development club (see below) or carry out digital classes for seniors as part of the "Multi-annual Programme for the Elderly Active+" for the years 2021-2025.

In the field of digital competence development is the 'Digital Development Clubs' project, carried out by the Digital Poland Project Centre, an agency of the Ministry of Digital Affairs. This project is ultimately intended to cover over 2,000 municipalities in Poland (80% of all municipalities) and is being implemented as part of the 'European Funds for Social Development' programme – European Social Fund Plus. Currently (2025-2026), a pilot project is underway in several dozen municipalities. These municipalities will receive grants to launch and run the clubs (including remuneration for educators). The project implementer will provide training for educators, lesson plans and educational materials. This is a unique programme on a European scale and a priority project within the 'European funds for social development' programme, resulting from the aim to ensure that by 2030, 80% of adult Poles have at least basic digital skills ('Digital Skills Development Programme').

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[7] **Service of the Republic of Poland**. *Digital competences*. Available at:
https://www.gov.pl/web/cyfryzacja/kompetencje-cyfrowe

Projects targeting libraries and librarians are mainly implemented by non-governmental organisations, depending on the available sources of funding. These include, in particular, the Polish Librarians Association, the Labib Association and the Digital Centre specialising in open data. An exception is the Information Society Development Foundation (FRSI), which, thanks to regular funding from its parent foundation, the Polish-American Freedom Foundation, has been implementing the Library Development Program since 2015. Between 2009 and 2015, the programme was funded by the Bill and Melinda Gates Foundation, which recognised the activities of public libraries as key to reducing the problem of digital exclusion. In 2012, the programme received the European Commission's European Digital Skills Award. FRSI is currently one of the most important entities supporting the development of public libraries and librarians' competences in Poland, including in the area of new technologies and digital competences.

Professional education - analysis of librarian studies in universities

Polish education of librarians at the academic level offers modern educational programs that are not only open to information technologies, but also recognize them as a basic component (subject and goal) of education.

Since the beginning of the second decade of the 21st century, the number of library science students in Poland has been declining dramatically. This is due to the following factors:
- The introduction by the Polish government in 2011 of 'deregulation' of the librarian profession, consisting in the abolition of the requirement for applicants for jobs in this profession to have a higher education degree in library science,
- A shortage of senior librarians, who had to make up for the lack of education in part-time studies,
- Demographic factors (declining birth rate) also played their part,
- Low library salaries put off young people from thinking about a future career in this profession.

For example: at the University of Warsaw (UW) in 2016, there were about 20 students studying library science in full-time mode. The last (2024) full-time yearbook graduated library science in a group of 4. This is happening despite the fact that universities are working on continuous improvement so that they respond to the challenges of the labor market or the changing realities of the profession (e.g. the UW curriculum is slightly different for each year group).

As a result of the above processes, the **number of universities offering education in the field of library and information science**, especially in part-time mode, **decreased** in the second decade of the 21st century. Many universities "switched" to education in fields such as social communication, information management, computer science or information architecture.

It is also worth noting that during the recruitment of future students, when presenting these courses, the authors use the words "library" and "librarian" without much enthusiasm - they write, for example, about "modern institutions working for the development of the information society" (University of Silesia, UŚ). Among the professions that can be performed after graduation, "librarian" is listed at the end (University of Wrocław, UWr).

At present (recruitment opens for the academic year 2025/2026), **academic studies in the field of library and information science are offered only by 4 universities**: Adam Mickiewicz University (UAM), Faculty of Pedagogy and Arts in Kalisz (full-time studies at the bachelor's level (BA)); University of Silesia (UŚ) , Faculty of Humanities (full-time and part-time studies at BA and master's level); University of Warsaw (UW), Faculty of Journalism, Information and Bibliology (part-time studies at BA's and master's level); University of Wrocław (UWr), Institute of Information and Media Sciences (part-time studies at BA's and master's level). None of the institutions offer uniform five-year master's studies.

Part of the academic education of librarians are also **postgraduate studies**, lasting 2 or 3 semesters. They are intended for people already working in libraries, who have a diploma of higher education, but want to expand/renew their qualifications. Such studies offer: UŚ, - Postgraduate Studies in "Library and Information Science"; UW - Postgraduate Studies in Library Science); UAM - Postgraduate Studies "Contemporary Scientific Library"; University of the National Education Commission in Kraków (UKEN) (Postgraduate studies in "Library Studies and Scientific Information").

<u>Analysis of library science' curricula</u>

At the outset, it should be emphasized that all universities offering library studies see the library as a modern organism, strongly linked to technologies: "*A library (...) is primarily an institution (organization) whose proper functioning and effectiveness depend on the mastery by the adepts of the above-mentioned professional groups of the skills of using modern information and library technologies, knowledge of information sources, the ability to create databases of these sources and the ability to communicate information to users of various intellectual or professional levels.*" (UŚ). These competences related to the ability to use new technologies are also perceived as important and the authors promise to acquire them.

Moreover, it should be noted that the presence of ICT topics in study programs is not limited to their presence in subjects that would be ENTIRELY devoted to them. One of the most important conclusions is that the **topic of modern technologies and their use is present in most professional courses offered in Polish programs in the field of library and information science**.

For example: the course "Social Communication" (UWr., BA, 1st year) offers students the following skills/knowledge: "*Public speaking (political campaigns, TEDx presentations, features of a good presentation). Eristic techniques in everyday communication. Developing teamwork skills. Using multimedia for presentations. Introduction to media discourse analysis, aspects of manipulation in the context of media and political communication*".

In relation to the issue of public libraries: when analyzing the content of educational programs in the field of library and information science (but also individual subjects), it can be concluded that **public libraries appear in them relatively rarely**. Much more often, courses or even specializations of studies are devoted to school/pedagogical libraries or – especially – scientific libraries. In the programs – especially in studies at the bachelor's level – there is a lack of courses dedicated in particular to public librarianship. The situation is better in second-cycle studies. An example here is the course "Modern library: Contemporary public libraries" (UŚ , full-time master's studies), or the specialization "Public and school libraries" (UWr , full-time master's studies).

The following are examples of subjects entirely devoted to modern technologies, the Internet, and social media:

1. Subjects included in the library and information science **bachelor's degree programmes**:
    a. UWr: "Information resources in the work of a librarian", "Graphics of information materials", "Digital resources management", "Introduction to digital humanities",
    b. UŚ: "Information Technology", "Social Media in the Work of the Library",
    c. UAM: "Multimedia Librarian's Workshop", "Internet Projects with SEO Elements", "Ethics and Ecology in the Information Environment", "Information Architecture",
    d. UW: " Information and Communication Technologies", "Digitization of Cultural Objects", "Introduction to the Design of Databases and Digital Repositories", "Mobile and Social Technologies".

2. Subjects included in library and information science **master's programmes**:
    a. UWr: "Editing of electronic publications" (specialization: "Digital libraries"), "Information education in libraries" (specialization: "Libraries in the knowledge society"), "Participation in digital culture" (specialization: "Digital cultural heritage"),
    b. UŚ: within the "Modern Library" block of classes there is a whole set of subjects such as "Special forms of documents", "Designing and creating websites", or "Information brokerage",
    c. UW: among several specializations that students can take, there is "Information and Knowledge Architecture" with subjects such as

"Organization of information in WWW services" or "Information architecture" or "Basics of researcher's workshop". Another specialization: "Organization and Management of Libraries" includes subjects such as "Social media in the activity of public libraries".

3. In **postgraduate study programmes** in the field of library science, courses (or content) related to ICT are present in the curricula, although they do not dominate. The examples below are practically exhaustive of the catalog of subjects of this type:
   a. UŚ: "Social media and web writing in the library"
   b. UKEN: "Multimedia Communication", "Techniques of Presenting Information", "Infobrokering", "Digitization")
   c. UW: "Searching for information in databases", "Computer laboratory for advanced users", "Internet as a tool for information services"
   d. UAM: "Open digital projects" ("Electronic sources of information, Open Science resources and university knowledge bases").

A detailed description of selected courses can be found in the Attachment 12.2. "Examples of academic courses developing librarians' digital competencies - Poland" in the country report for Poland, annexed to this report.

Non-public higher educational institutions

Those who want to acquire the basic competences necessary for working in a library in the shortest possible time can take advantage of the offer of qualification or professional development courses and postgraduate studies provided outside the public university system by non-public institutions. Classes are delivered either in person or online. The curricula of such courses include professional library science subjects. Digital technology subjects are missing or this subject matter is not visible in their descriptions. Some institutions organise specialised courses on selected areas of library science, e.g. library management or digital libraries.

Centre for Postgraduate Education at the Academy of Humanities and Economics in Łódź runs an online postgraduate course: library science with elements of digital information management. The course is aimed at master's and bachelor's degree holders of various specialisations who want to gain competence to work in libraries, preparing them to work outside the educational system. The study programme includes the following subjects: basics of working with databases, digital data security, computer systems supporting the work of a librarian, digitizing and digital libraries. The studies last 2 semesters and cost PLN 3800.

The offer of the Higher School of Vocational Education in Wrocław includes postgraduate studies in library science, conducted by e-learning in two variants: 2-semester (allowing students to gain qualifications to work in public libraries) and 3-semester for teachers (allowing students to gain qualifications to practice as a school-librarian). The studies cost PLN 410. In the 2-semester option, the study duration is 215 hours of study + 60 hours of practice. The study programme covers practical professional issues (such as the organisation and management of collections in a library, formal and factual development of collections), but also issues relating to the functioning of the book market, literature or the methodology of working with readers. The only subject in the programme whose name suggests the presence of topics related to the development of digital competences in relation to library work is: Internet and multimedia in didactics.

Professional education - analysis of non-academic courses and seminars

Librarians or those who want to work in a library but have not completed a degree in library science can benefit from a diverse range of courses, postgraduate studies and training. Courses and training are offered by library associations, the National Library, provincial public libraries, as well as institutions attached to non-public universities or commercial training companies. The topic of digital competences is present in specialised training courses offered by library associations, provincial public libraries and training companies. To a much lesser extent, it can be found in qualification courses, which are intended to equip participants with the knowledge necessary to start working in a library.

The National Library

The National Library organises various forms of training aimed at librarians working in different types of libraries and at other people interested in their topics. Its offer is dominated by issues concerning the practical aspects of library work, mainly cataloguing and searching for specific publications. In 2025, the only training topics concerning digital technologies and competences are: 'Microsoft Excel (basic level)' - full-time, 16-hour, fee-based training (cost: PLN 700 net + 23% VAT) and 'Polona.pl - service possibilities'. - online training, free of charge, developing skills in using the resources and functionalities of the POLONA Digital National Library.

Polish Librarians Association

The Polish Librarians' Association is the largest library organisation in Poland, with a membership of over 4,000. Its mission is to create opportunities to raise the competence of library staff and to work towards improving the quality of services. The Association has a wide range of training courses, both onsite and online, aimed at librarians from all types of libraries and other people interested in the proposed topics. Topics related to practical aspects of library work (e.g. "Formal development of audio documents with elements of the MARC21 format") and current challenges faced by librarians (e.g. "Bullying in the library - legal obligations with sample documents") predominate in the offer, but digital competence is present to a considerable extent and in various aspects. The training courses are mostly

paid. Examples of courses: "Artificial intelligence in everyday work. Free tools to make your life easier", "Social media - everything you need to know", "Create digital stories: how to use free heritage discovery tools", "Verifying information in the age of artificial intelligence: tools and methods", " The library in the face of modern threats and cyber threats", "Tik Tok, stories, reels - the latest forms of promotion" or "Trello - a planned way to work and collaborate".

Labib Association
The Labib Association was founded by members of the LABiB community initiated by the Information Society Development Foundation (FRSI) for the leadership programme implemented as part of the Library Development Program. The association designs activities to support the librarianship community and implements training and development projects for which they obtain funding in the continuation of the Library Development Program and in national competitions. The Labib Association was the FRSI's partner in the project "Library Online - a training programme" implemented in response to the challenges of the Covid-19 pandemic and the need to move library activities to the online world. As part of the project, an educational programme was developed and delivered to prepare librarians to introduce the offer of online activities to different audiences.

Provincial public libraries
Provincial public libraries carry out training activities as part of their statutory tasks related to supporting the network of public libraries in their provinces. Regular training courses of provincial public libraries for librarians are free of charge - to organise them, they obtain funding from external sources (e.g. programmes of the Ministry of Culture and National Heritage) or finance them themselves. Training courses are organised in person and/or online. Provincial public libraries also implement training projects and organise regular conferences, library forums or seminars. Some of them, e.g. the Provincial Public Library in Olsztyn, organise free introductory courses for newly employed people in public libraries.
Topics related to digital competences are present in the training programmes - some trainings are dedicated to specific tools and their use in the library's work, some deal with broader issues that involve specific digital tools or technologies, e.g. library promotion or communication with the public.

Examples:
- Joseph Conrad Korzeniowski Provincial and Municipal Public Library in Gdansk: Applications and open resources useful for teaching children and young people in the library' (online training on the Zoom platform);
- Provincial Public Library in Olsztyn: How to effectively promote reading and Book Discussion Clubs in the age of TikTok and artificial intelligence? (in-person);
- Provincial Public Library and Centre for Animation of Culture in Poznań: Artificial intelligence and graphic design for the library (course on the provincial library's e-learning platform).

Companies

The training on offer from private companies is rich and varied, but there are relatively few companies themselves offering training (paid) for librarians in public libraries. The market has been dominated by an entity called Good Books, a company that has an offer aimed at librarians, but also arranges programmes tailored to the individual needs of a library. The company currently offers more than 350 training topics for librarians. Training is delivered either in-person or via online webinars. In the case of in-person training, the company offers an interesting 3+2 formula, i.e. two meetings on a similar topic at the same time in a given library: one is aimed at library staff (3 hours) and the other at the public (2 hours). Good Books training courses are divided into a dozen categories corresponding to different areas and aspects of library work, including "New technologies in the library". It features training courses on topics including, among others, VR and 3D printing, e-books, tablets and different applications for librarians. Topics related to technology and digital tools are also present in training categories other than "New Technologies." In the "Promotion and Marketing" category, you will find subcategories such as "Artificial intelligence in the library," "Social media," "Library website," "Newsletter in the library," and "Graphics, video, media," among others.

Other companies offering online training courses for librarians are Future Investment, which offer a librarianship course aimed at people interested in working in a library (8 modules, including one entitled "Digital services in libraries", with the following topics: digital libraries, the process of digitising collections, e-books and audiobooks, online databases and catalogues, online services for readers). Sukurs Publishing House is the publisher of the magazines "Biblioteka w Szkole" ("Library in a school"), "Biblioteka Publiczna" ("Public library") and the bibliotekapubliczna.pl portal. The publisher runs training courses for librarians under the name of Public Library Academy. The training is conducted online and can also be viewed and listened to afterwards. They are free of charge for those who have subscribed to the 'Biblioteka Publiczna' magazine or purchased access to the portal. Training topics include "Services and applications useful in the library", "Cyber security in the library" and "Creative forms of book and reading promotion" (where one of the topics was the use of social media).

The Centre for Professional Development is an educational institution based in Warsaw, offering online courses on the ePedagog.edu.pl platform. The Centre offers a qualification course in library and information science aimed at teachers who are to work as teacher-librarians, as well as those without pedagogical qualifications who hold positions in libraries outside the educational system.

Verification and examination of existing academic and non-academic research

To our knowledge, no comprehensive study of the level of digital competences of librarians has been conducted in Poland. This may be evidenced by the fact that in the already referenced "Digital Competence Development Program", this group was not even mentioned among the groups providing this education - only school and academic teachers were mentioned.

The topic of digital competences was part of the research study conducted by the Wikimedia Polska Association as part of the WIKITEKA programme, aiming to enhance the role of school libraries in digital and inclusive education. The study report entitled 'Clipped wings. Situation, challenges and the potential of school libraries and librarians' (2022) investigates the current state, challenges, and potential of school libraries and librarians in Poland. The study aimed to diagnose the situation and needs of school librarians, understand the roles and functions of school libraries in local communities, assess digital competencies of librarians, explore the potential for transforming libraries into centers of informal digital education. The research combined qualitative interviews with 11 librarians, quantitative surveys with 423 librarians from various school types and regions. The report includes the results of self-assessment of school librarians' digital competences. Key findings reveal that digital competencies among librarians are generally high, with most able to use basic and intermediate ICT tools. However, access to modern equipment and paid digital resources is limited. Libraries are underutilized in digital education, though they have the potential to become key players in this area. There is a shared vision among librarians for future libraries: inclusive, modern, digitally equipped, and integrated with the school and local community.

Survey outcomes

Profile of participants and libraries

Within the DigLib survey there were 28 responses from head libraries received from Poland; despite the small number of surveys, their results reflect reality quite well. Most of the respondents were women (88.5%); one third of them were aged 35–44 (34.6%) and 38.5% were aged 45–54. The majority (65.4%) had a Master's degree - either in library and information science (12) or in another field (5). Positions: most of the respondents were librarians (9; 34.6%) or library directors (also 9; 34.6%), and 19.2% worked as branch or department managers. 65.4% of the respondents had more than 10 years of experience,

and 34.6% (9) had worked in libraries for more than 20 years. Only 3 of the respondents were new, having worked in the library for 3 years or less.

In terms of library user groups, most respondents work with employed people (85%), children (85%), seniors 65+ (81%) and young people (81%). When asked about their self-assessment of their own digital skills, more than half consider themselves "independent users", 9 as "experts" and only 2 "basic users".

Most libraries (46%) operate in small towns (between 5,000 and 20,000 inhabitants). 13 (46%) libraries are located in urban areas, 8 in urban-rural areas, and 7 in rural areas. 22 libraries (79%) are library networks (main library with branches), most of which have a small network (1-5 branches).

22 (79%) libraries are actively implementing a documented digital strategy. The most common indication (7 respondents) of its main component is equipping libraries with infrastructure and digital resources.

4 libraries (14%) employ one employee, similarly (4 each) have 5-10 employees, 11-20 employees and 51+ employees. Almost half (46.4%) have less than 1000 registered users, 9 (32%) have from 1001 to 5000 registered users.

Library user needs and their impact on library staff digital competence

The most common digital services offered in libraries include basic elements such as Wi-Fi (94% of responses), self-service printing (79% of responses), library-owned or managed digital devices (71% of responses), ICT training for older people (60% of responses) and access to public computers (58% of responses). More advanced services – such as digital learning spaces, online safety training and targeted ICT training for groups such as young people, job seekers and migrants – are only present in some institutions.

Many libraries express a clear desire to implement activities related to AI, coding, VR, but they lack the necessary equipment and trained staff to do so.

Almost 78% of libraries offer digital support to users, mostly in the form of ad hoc staff assistance (93%). Many also offer scheduled one-on-one sessions, walk-ins, or group workshops.

Older people were by far the most common recipients of digital support (89% of responses), followed by the unemployed (33% of responses) and parents (28% of responses).

Less than half of libraries (44.4%) conduct regular digital skills classes or workshops.

When asked if they felt their skills and knowledge were up to date for their role in the library in relation to digital technologies, the majority (56%) of respondents responded, 'Yes, most of them, but I would like to update my skills and knowledge in some areas.' Only 28% were confident that they would be able to complete all of their tasks without updating their skills and knowledge.

Identification of training needs

Only 28% of respondents felt confident in their ability to perform all digital tasks without further training. The majority (56%) indicated that while they could perform most tasks related to their library role, there were areas where they would welcome the opportunity to update or strengthen their skills. 17% admitted that their current skill set was insufficient. Half of the librarians surveyed (50%) reported access to continuing professional development programs in digital technologies, while the other half did not.

In terms of librarians' training needs, the most frequently mentioned need was training related to exploring technological changes (e.g. artificial intelligence (AI), augmented reality, virtual reality, robotics, coding, open data, the Internet of Things, etc.) – 83.3% of respondents selected this option. Right after that, 78% of respondents indicated the need to increase competences in the area of information, data and media literacy (e.g. data protection and privacy, critical thinking, counteracting disinformation/disinformation).

In addition to technical skills, many respondents also signaled the importance of developing skills in monitoring/evaluating library services (over 61%) and researching community needs (61.1%). Just over half also asked for support in designing digital education activities for different groups and in communicating and engaging different social groups.

Assessment of digital and facilitation skills present in libraries

Respondents generally feel confident using digital tools to communicate and share information. 78% rated themselves as independent or adept at sharing information via tools such as email and social media. Similarly, 72% considered themselves able to guide others in sharing information online.

More than half of respondents (53%) saw themselves as independent users when it came to creating and editing digital content such as videos, posters or blogs.

The application of copyright and licensing policies was identified as a weakness, with 35% identifying as basic users and only 18% as expert users.

The survey results indicate a high level of interest and awareness of new technologies, but low practical experience. Of the 17 responses to this question, most respondents (82%) were aware of emerging tools such as generative AI, virtual and augmented reality, robotics, and open data. However, the percentage of those able to teach or guide others was much lower (18%). Lack of training opportunities and lack of time were cited as the two main obstacles respondents encountered in integrating new or emerging technologies (such as AI, VR, robotics, etc.) into their library activities. The next two obstacles were: lack of equipment and insufficient funding. Both 41% of respondents considered themselves basic users and independent when it came to identifying unreliable sources or manipulated images, while only 18% considered themselves proficient.

Confidence in facilitating digital learning varies widely. 69% of respondents consider themselves basic users in facilitating group learning activities using digital tools, but only 6% feel proficient. Half of respondents reported having provided digital skills training in the past, most often in the areas of basic skills and social media.

Conclusions and recommendations

The results paint a picture of librarians who are motivated and competent in many basic and intermediate digital tasks, but face challenges when it comes to adapting their knowledge to more advanced or educator/trainer-type roles. Librarians have moderate confidence in digital technologies and are seeking opportunities to improve their skills, especially in new technologies and educational design.

The most pressing training needs also include complex areas such as artificial intelligence, data ethics, and community-oriented learning facilitation.

Interviews

In Poland, three interviews were conducted, with:
- A digital education trainer, member of the board of the Librarians' Association (LABiB)
- A representative of the Polish Librarians Association (director of the office of the General Board), Coordinator of the its training programmes and events
- A digital education trainer, employee of the Provincial Public Library in Szczecin at the instructional and methodical department.

Relevant notes about library landscape and professional environment

1) In Poland, there is no comprehensive and uniform system of training /professional development of librarians in digital competences. Training is carried out by various

institutions and organizations at the national level (e.g. FRSI, Polish Librarians Association, Labib Librarians Association), regional (e.g. provincial public libraries) or local level. Librarians also search for information on how to use different IT tools on their own and develop their competences simply in the workplace.

2) The level of digital competences of librarians in Poland is very diverse: there are experts (teaching other librarians), librarians who are not afraid to experiment with new technologies (they learn them together with residents), librarians who use new technologies in their own work (but are afraid to share this knowledge with users), librarians with only basic digital competences (reluctant to new technologies).

3) Most librarians learn to use digital tools primarily to make their work easier, not to make it easier for users. This results from 1) fear of technology, 2) the fact that they do not "feel" technology, do not understand it, 3) mundane matters, e.g. lack of a computer on which they can practice (because they share it with readers), too weak internet connection in the library, 4) fear of a bad assessment given by users, 5) lack of time. 4. It is difficult to determine to what extent the size of the town where the library operates translates into the level of digital competences of librarians. On the one hand, development programs aimed at libraries had limitations regarding the size of the town (up to 20, 50 or 100 thousand inhabitants); on the other hand, in large cities there is better access to training, to technology, and greater awareness.

Strong aspects of the existing learning programmes

- Voluntary nature of joining the project (participants were strongly motivated to learn and change)
- Comprehensiveness of the projects (various forms of training - stationary and online, mentoring, consulting and educational materials, and - if possible - additional computer equipment)
- These were practical workshops (not theoretical), arranged in thematic cycles
- Provision of ready-made scenarios of activities, e.g. classes for residents, to be used in the library immediately after the training
- High quality of educational materials and very good preparation of the training staff
- Great openness and support from the organizations that implemented these projects

Weak aspects of the existing learning programmes

- They always end when the funding ends - there is no strategic approach, there is no permanent security of the support provided
- None of these projects cover the needs of all librarians, because the group is heterogeneous (in particular, there was a lack of projects aimed at librarians with the lowest digital competences)

- After the training, there is a lack of on-site support for librarians – mentors advice should be available for librarians (it is not enough to provide equipment, training and ideas on how to use this equipment)
- Too high training intensity - librarians are very busy, there is no time for implementation of newly acquired competencies in practice (training should be more spread out in time)

Factors or barriers made the experience relevant

When planning DigLib, especially WP4 and WP5, it is worth being aware that activities for residents will not be conducted by librarians who have basic competences, but by those who will be more advanced. Perhaps the training programme for them and the materials should be more advanced than those for residents who - in principle - will be trained at a basic level. Training for librarians should be practical, arranged in a cycle; they should immediately refer to the specificity of the groups of residents that librarians will support. The project should also promote good practices in libraries and enable the exchange of experiences and information between librarians.

Identified challenge

- In Poland, there is no minimum standard of digital competences (catalogue of digital competences) that every person working in a library must meet.
- Librarians learn new applications primarily to use them in their work, not to teach their users.

Conclusions and recommendations

Conclusions from the research:

1) **The topic of modern technologies and their use is present in most professional courses offered in Polish academic programmes** in the field of library and information science. Polish academic education for librarians offers modern educational programmes that are not only open to information technologies, but also recognise them as a fundamental element (subject and goal) of education. However, this does not translate into the level of digital competence of most librarians currently working in libraries, as since 2011 it has been possible to practise this profession without having a library education

2) The event that constituted a kind of "game changer" in librarianship as a whole, including academic training in the field, was certainly a **pandemic**. This dramatic experience has shown in an exceptionally clear way what opportunities digital technologies open up in librarianship.

3) There is **no system of training or in-service training of librarians in the area of digital competence in Poland**. Some provincial libraries organize a library

preparation course, ("Fundamentals of Librarianship"), but it focuses on issues related to librarianship (marketing, promotion, creating some engaging activities for different groups) - there are no digital topics like robotics or programming. No action is taken in this regard either by the National Library. That is why librarians develop their digital competences through fragmentary training (rarely organized into longer cycles) or on their own. The issue of developing digital competences of librarians is made difficult by the fact that in Poland there is **no specific minimum standard of knowledge and skills (including digital ones) that a person working in a library should have.**

4) In Poland there is **no dedicated programme/project for librarians to develop digital competences**. The closest project to this in terms of subject matter concerned community centers (some libraries are organizationally merged with them into one institution). However, many libraries and librarians develop within the framework of programs aimed at developing competences of residents, primarily seniors - they are the only ones, apart from community centers, to conduct such activities on a regular basis. As part of these programs, librarians acquire training skills, conduct educational activities according to ready-made scenarios and materials, and libraries receive computer equipment and become locally recognized centers of digital education (even though the Act on Libraries does not provide for this function and does not oblige local governments to finance it).

5) The range of studies, courses and training programmes for librarians and those who would like to gain qualifications to work in a library is rich, diverse and flexible (full-time, online, e-learning, webinars), with the **vast majority being paid**, although prices range from a few hundred to several thousand zlotys. Topics related to new technologies, digital tools and the development of digital competences are present in training programmes, but mainly in specialist, fee-based training courses.

6) The largest selection of training courses, including those related to digital competences, is fee-based therefore not accessible to all interested parties. A strong point of the training courses offered by both library system institutions and non-public institutions and companies is the presence of the topic of artificial intelligence. However, there is a **lack of more advanced training courses** (e.g. on programming or creating your own AI tools). A barrier for many libraries is the cost – their small budgets do not allow them to cover both the costs of employee participation in training and travel expenses.

7) The answer to these challenges may be to **develop the training offer of provincial public libraries**, which still pays little attention to the development of digital competences (especially the more advanced ones) compared to other issues. A factor that could help in the development of training programmes – especially for provincial libraries and library associations – is **greater availability of funding programmes for the professional development of librarians**. Training courses organised by the provincial public libraries and (at least in part) by librarians' associations (Labib and SBP) are free or low-cost, have a practical dimension and

are conducted by people who are familiar with the everyday realities of public libraries and the challenges they face.

Recommendations for the DigLib project:

1) The training program should cover competencies related to:
   a) **exploration of technological changes** (e.g .: artificial intelligence (AI), augmented reality, virtual reality, robotics, coding, open data, internet of things, etc.),
   b) **information, data and media literacy skills** (e.g. security, data protection, privacy, critical thinking, countering disinformation),
   c) **use of new technologies and digital tools in culture and (non-formal) education**, i.e. how libraries can use specific tools, services or solutions in cultural projects and educational activities aimed at various groups of recipients.
2) Since the Digital Libraries project does not provide libraries with equipment, and few libraries have equipment that allows the use of virtual reality (VR) or augmented reality (AV), we recommend that the **issues related to VR/AR be formulated in the training programme in such a way that it does not require libraries that do not have the equipment to purchase it.**
3) It seems like a good idea to create **hybrid training courses**, e.g. combining classroom and online training (which could help people with weaker digital skills) or introducing innovative solutions such as the 3+2 formula (combining different groups of recipients). The training programme for librarians should be **spread out over time** so that librarians have time to test new competencies in practice.
4) Training content should immediately include **tips on how to design digital education activities aimed at specific user groups**, such as seniors, and what issues they could cover. Librarians should also receive ready-made lesson plans "to start".
5) Training activities should enable librarians to **share their experiences and exchange good practices** (the need to establish relationships, share experiences and learn from each other was expressed by the respondents and considered an important element of professional development of librarians), so that they believe that if other librarians managed, they too will cope with this challenge. This exchange should also be possible after the training has ended.

[Case study – Poland]

'Senior sm@rt at the start!'
Public Library of the City and Commune in Łazy (Poland)

Short description

The library organised a series of workshops for seniors to improve their digital skills related to the use of smartphones, including digital cameras. Seniors learned how to use them, as well as how to use the Internet safely and how to format, modify and publish photos online. At the same time, they were shown how to use the library's online catalogues.

The series of classes included:
- workshops on using smartphones and cybersecurity: 'Tablets in use – a new device for seniors', 'Smartphone = sm@rt senior, or what my phone can do', 'Seniors cannot be fooled – about Internet safety',
- digital photography workshops 'Start your photographic adventure' and 'About perspective through the lens' – seniors learned the secrets of digital cameras and the best 'tricks' and ways to take perfect photos;
- workshops on scanning and digitising retro photos: 'The past in the future' and 'Retro photos – a souvenir from the old days';
- workshop meeting 'Robots not only in the kitchen – a few words about programming', during which participants were introduced to the world of robotics and programming using tablets and Photon robots;
- classes 'Library on the web' on how to use the electronic library catalogue.

Elements of innovation

- The scope of the training was tailored to the needs and interests of seniors, e.g. digital photography workshops covered not only contemporary photography, but also the digitisation of old photographs.
- The titles of the workshops attracted attention, e.g. 'The past in the future' and 'Retro photos – a souvenir from the past'. Another example: 'Robots not only in the kitchen – a few words about programming'.
- The library broke the stereotype that robotics workshops are only for children and young people. As a result, seniors acquired new skills (the basics of coding), broadened their horizons and gained a topic/skills that they can talk about, e.g. with their grandchildren (connecting generations).
- The library cleverly 'smuggled' its library services (i.e. access to online catalogues) into a series of more attractive technology workshops.

Skills required by library staff

In general, librarians feel competent to conduct this type of workshop for seniors. However, they appreciate it when someone from outside offers to lead the workshop; it is always an added value for participants when the classes are led by someone new, rather than someone they have known for a long time. In the case of this project, the workshops

on smartphones and photography were conducted by outsiders. The workshop on digitising photos was conducted by a librarian who has been running a digital archive of local traditions for years. The workshops on online catalogues were led by librarians. They used to attend training courses to develop their skills as librarians, but now they do not have the financial resources to do so. They are now learning new technologies through self-study and 1:1 knowledge exchange (one librarian shows something to another).

Technical resources required in the library

The library has the right equipment, mostly received or purchased as part of various projects. This applies especially to tablets and Photon robots, but also multifunctional devices on which they scan photos.

Challenges met and how they were tackled

The challenge for seniors was finding time for these classes – they were very active groups of seniors; librarians had to organise workshops in the morning rather than in the afternoon (they always organise them for adults in the afternoon) because seniors were busy with other things in the afternoon. The challenge was and still is how much librarians can learn about seniors' privacy when helping them use smartphones. Where is the line? For example, can they help with installation and show them how to use mobile banking apps? So far, they do not help with the installation and use of such apps.

Tips for other libraries

Seniors expect not only learning but also time to talk, both with the instructors and with each other. It is worth including such time in the workshop plan.

Belgium (Flanders)

National considerations

Library landscape

According to the Flemish Local Cultural Policy Decree of 13 July 2001, "*the public library is a basic facility where every citizen can go with their questions about knowledge, culture, information and recreation. It actively mediates in answering these questions. The public library is active in the fields of literacy, cultural dissemination and cultural participation. The*

library operates in a spirit of objectivity and is free from ideological, political and commercial influences."[8]

Flanders hosts a well-established network of 314 subsidised public libraries, comprising 609 library branches in total. Despite this strong presence, the governance and funding structure of public libraries in the region has undergone significant changes over the past decade, leading to a complex and somewhat fragmented landscape.

In 2014, a policy shift aimed at increasing municipal autonomy resulted in public libraries no longer being a statutory requirement. Since 2015, municipalities have had full control over whether to maintain a public library, with funding for libraries being integrated into the Gemeentefonds – a general municipal fund – rather than earmarked specifically for library services. Furthermore, the provinces ceased their involvement in cultural policy in 2018, transferring the responsibility for library support to the Flemish government. While a separate regulation still applies to the bilingual Brussels-Capital Region, municipalities there continue to receive subsidies for Dutch-language libraries if they meet certain conditions. As a result, public libraries in Flanders are now locally managed and municipally funded, with each local authority independently responsible for maintaining its library services. This autonomy has created a fragmented system, where the availability and quality of services can vary significantly from one municipality to another. Nevertheless, there remains a strong societal conviction in Flanders that access to libraries is a basic right – a service that should be available to every citizen regardless of income or social background. Despite the decentralised structure, communal investment in library services persists. Libraries remain accessible and affordable: subscription fees are low, often around €10 per year, due to continued government subsidies. The average library typically serves a target population of 10,000 to 30,000 residents.

In recent years, public libraries in Flanders have been tasked with specific societal roles, including the promotion of literacy, digital education, and community support. Policy documents regularly reference the library's potential to address these societal challenges – though unfortunately, these references often lack the corresponding financial backing necessary to fully realise these ambitions. While Flanders has a widespread and affordable public library system with a strong social mission, it also faces challenges stemming from its decentralised governance, uneven resource allocation, and limited strategic funding.

To address the evolving digital needs of libraries and cultural centres, the Flemish government subsidies supporting organisations like Cultuurconnect. This organisation supports municipalities with their digital cultural policy challenges, especially in relation to public libraries and community centres. Cultuurconnect's strategy includes raising awareness, running collaborative digital experiments, scaling successful projects, and

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[8]Decreet houdende het stimuleren van een kwalitatief en integraal lokaal cultuurbeleid, 13/7/2001, https://etaamb.openjustice.be/nl/decreet-van-13-juli-2001_n2001036078.html

managing national digital services through a consortium model. Cultuurconnect provides the digital shared Flemish library system and offers related training for library staff.

In 2025, Cultuurconnect published a 'Digital Compass' for public libraries, an online reflection tool to capture digital inclusion in libraries.[9] The compass covers the four pillars of digital inclusion and identifies 26 roles libraries can take on related to this theme. Hereby, it distinguishes between 'essential' and 'optional' roles the libraries can fulfil in the four pillars:

1) **Access**: Providing a place where everyone can connect and use or discover digital devices.
2) **Support & Services**: Informing visitors about the digital world and providing guidance where needed.
3) **Competency Building**: Giving people the opportunity to develop digital skills at every level.
4) **Local Governance**: Collaborating with partners to structurally embed digital inclusion.

Cultuurconnect offers support to public libraries who are interested in using the tool and reflect on their digital inclusion strategy.

<u>Flemish strategy for media literacy and digital inclusion</u>

National Strategy on Media Literacy in Flanders

In 2008, the Flemish Parliament adopted a resolution supporting the development of the gaming sector and called for the creation of a Knowledge Centre on Media Literacy (Mediawijs). This centre is tasked with equipping Flemish citizens with the skills and understanding necessary to navigate a media-rich society. Its focus includes themes like cyberbullying, privacy, and gaming. It provides training and support to professionals across sectors such as education, welfare, and culture, with special attention to vulnerable groups, particularly children and youth. It also supports key influencers like parents, youth workers, and teachers.

Media literacy has become a growing policy priority in Flanders. The Flemish Youth and Children's Rights Policy Plan (2020–2024) identifies media literacy as one of five strategic priorities. The plan outlines four main objectives:

➔ Promote knowledge and skills through education and support.
➔ Empower youth as media users and creators.
➔ Address harmful online mechanisms affecting youth integrity.

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[9] Het Kompas voor digitale inclusie in de bib, Cultuurconnect 2025.

➔ Build awareness of children's rights related to digital life.

Since 2010, media literacy has been a cross-curricular goal in secondary education. In 2019, updated final objectives for the first grade emphasized digital skills as a key competence. Students are expected to:

- Understand digital addiction (e.g., gaming, social media),
- Create and share digital content,
- Collaborate and communicate online,
- Recognize digital systems and apply simple algorithms,
- Reflect on media's societal impact,
- Follow digital rules (privacy, ethics),
- Assess media behavior risks and opportunities.

These goals are integrated across subjects, from languages to economics. However, in higher secondary grades, media literacy remains a lower priority with only a general effort required by schools.

Non-formal education plays a key role in the media literacy strategy. The Knowledge Centre offers a wide range of training and support for professionals and volunteers in youth work, libraries, welfare services, and cultural organisations.

Resources include:
- **EDUbox** on fake news for secondary schools,
- Teaching materials for OKAN classes (non-Dutch-speaking newcomers) on digital skills and internet safety,
- **Ad? Wise!**, an advertising literacy toolkit by Ghent University,
- **Media Coach MOOCs** – online courses for teachers, youth workers, and library staff on topics like privacy and online identity (see below)

The Flemish Department of Education also supports training sessions for parents and teachers on creating a safe internet environment.

Education of library professional in Flanders

In Flanders, educational offers exist for library staff at three levels:

1) **Secondary adult education**
The library assistant (information mediator/"Bibliotheksmedewerker") course provides training at the level of vocational adult education (Library Assistant Training) and is facilitated by the CVO Groeipunt in Gent and Encora in Antwerp. Both courses prepare for executive functions in public libraries, special libraries, school libraries and documentation

centres. It comprises 300 or 160 teaching hours spread over two semesters. The curriculum covers the fields of client oriented information mediation and digital technologies and tools used in the library for the collection management and basic communication with library users. The course does not provide training on advanced digital skills and competencies required for library staff to assist or train users in digital skills.

2) Graduate (2 years under Bachelor level with practice focus)

The Artevelde University of Applied Sciences in Gent offers the graduate degree in Information Management: Library and Archives. The course started in the academic year 2019-2020. This HBO5 training is the continuation of the former Graduate in Library Science and Documentary Information Science (BDI). This renewed graduate has a specialization in libraries (and a new specialization in archive). The training lasts at least 2 years and prepares for the position of library, archive or information expert.

The curriculum includes two modules on digital skills:
- **Digital transformation in the information sector**, covering new technologies and their use in the public library.
- **Information coaching**: Students learn to identify, understand and question customers in a targeted manner so that they can proactively meet their information needs.

3) The postgraduate degree in Information Management

This course is given at the Erasmus University College Brussels (Leuven Campus). It is a one-year course that prepares to build a career in the information sector. Students learn the most important basic techniques, prepare for the digital present, work on their people skills and practice it all at an internship. The postgraduate in Information Management offers practical training given by lecturers from the field.

Most of the course modules include digital elements relevant for the library sector, including: Library automation & IT, Information skills, Reading promotion & e-inclusion, Metadata, Open Science and digital aspects of participation & target group work.

Flanders does not currently offer a university library course. In the summer of 2016, the last students graduated from the Information and Library Science course (University of Antwerp). Flanders is currently setting up a major in (Heritage) Libraries in the master's program in Heritage Studies at the University of Antwerp.

4) Training provided by associations and support organisations

Flemish Library Association
The Flemish Association for Library, Archive & Documentation (VVBAD) is a non-profit organisation for information professionals in Flanders, the Dutch-speaking part of Belgium.

It regularly offers seminars for library professionals focussing on emerging issues in the library field, including digital topics. Recent offers include training on AI in the library and information sector.

Mediawijs
Mediawijs offers training on digital inclusion in public libraries:
➜ 7-day online training programme "Digital inclusion coach"
➜ "Digiround", a group training around digital inclusion in public libraries, including site visits and online and offline training.
➜ 10-day course "Mediacoach Onderwijs, Jeugdhulp, Jeugdwerk en Bibliotheken 2025-2026"
➜ Media Coach Education, Youth Care, Youth Work and Libraries is a training for professionals from these sectors. A Media Coach immerses himself in the digital and media-savvy world. This course focuses on the digital world of children and young people, a target group that these sectors have in common. With your broad knowledge, you are the point of contact and coach for colleagues for everything concerning digital media and media literacy in your organization.

Cultuurconnect
Cultuurconnect is a publicly funded organisation for digital services supporting the cultural sector in Flanders. For libraries, it provides a shared collection management system and digital communication tools. Cultuurconnect is currently working on a roadmap for digital inclusion in public libraries. The organisation provides online and offline training on the digital services and hosts a digital helpdesk for public libraries using their tools. They can offer on-demand training on pressing issues and aim to develop a knowledge sharing platform around digital topics in the library sector.

Cultuurconnect initiates the initiative "C-hub", aiming to provide training on emerging technologies for the cultural sector. Training is open for library professionals, but also targeting other actors in the cultural sector. Latest courses focussed on advanced skills in AI use and innovative digital communication.

Training organised by individual libraries and library networks
Bigger libraries in Flanders initiate on the job training for their staff, often in collaboration with partner organisations, including the Artevelde Hogeschool and Cultuurconnect. Regional networks initiate training for smaller libraries with external partners as well.

Survey outcomes

Profile of participants and libraries

26 responses were collected in Flanders, bringing together a diverse group of experienced librarians with different professional backgrounds and levels of experience. The 26 libraries participating in the survey represent a diverse range of profiles, from small institutions with a single employee to large ones with over 50 staff members, though most fall in the mid-size category with 5–10 employees. User bases also vary, with the majority serving between 1,000 and 5,000 users, while a few serve over 10,000. Libraries are evenly distributed between urban and rural or semi-rural areas, with 38% located in small municipalities (5,000–20,000 inhabitants) and nearly half in larger urban areas, including seven in cities with over 100,000 residents. More than half are part of networks with over 10 branches. Around 50% of the libraries implement a digital strategy, with strong emphasis on user and partner communication (84%), and significant attention to equipment, staff development, and user learning opportunities (each cited by 76%). Most staff describe themselves as independent or proficient digital users and are actively engaged in serving a wide range of user groups, including youth, seniors, migrants, minorities, and people with disabilities.

Library user needs and impact on library staff's digital competences

In summary, the participating libraries are offering or intending to offer a diversified range of activities related to digital skills to different user groups. In general, the library staff have the necessary skills to deliver training and guide users with basic requests. Offers relating to new emerging technologies require more training, whereas for media literacy activities, learning material could lead to an increase of activities.

The survey reveals that most public libraries are well-equipped and staffed to provide basic digital services such as internet access, printing, and public PCs. Around half offer basic internet and computer training, with 66% specifically catering to elderly users, while support for other groups like youth, job seekers, and immigrants averages at 30%, indicating a need for more resources. Advanced digital skills and emerging technologies (e.g., coding, AI, VR) are of interest to 80% of libraries, but many lack the equipment and staff skills to implement them. Media literacy activities are similarly hindered by a lack of materials, despite libraries having the necessary skills. Additionally, digital support demand is rising, particularly from the elderly (87%), unemployed (75%), and migrants (68%), with 75% of libraries offering regular help desks and 33% conducting workshops. Overall, libraries aim to expand their digital offerings but face limitations in equipment, materials, and specialized staff training.

Identification of training needs

Overall, the respondents feel that their skills and knowledge are up to date with
the role they have to fulfill in the library related to digital technologies. 37% indicated to
feel competent with no need for upskilling, and 56% said that they feel competent for the
most part but that they would like to update their skills and knowledge in some areas.

The topics for which the survey respondents designated the biggest need for professional
training are "Exploring technological changes (eg: artificial intelligence (AI), augmented
reality, virtual reality, robotics, coding,open data, internet of things, etc.)" with 87% of the
answers. Equally rated at second position come the topics "Information, data, and media
literacy" and "Facilitation of educational activities around digital technologies".

56% of the respondents have access to continuous professional development training on
the use of digital technologies for library services.

Assessment of digital and facilitation skills present in libraries

In summary, the assessment of digital and facilitation skills in libraries reveals a mixed skill
set among staff, with notable strengths in digital communication and content creation, but
clear gaps in the use of advanced technologies and pedagogical facilitation. Most
respondents feel confident communicating with users through digital tools and guiding
them in basic digital use. However, 30% rate themselves as only basic users in pedagogical
techniques, and 25% in using digital engagement tools. While 50% are proficient in creating
digital content and applying copyright rules, fewer feel capable of editing complex digital
materials or integrating advanced technologies like AI or VR, where only 12–37% feel
equipped to guide users. Major barriers include lack of time (93%), equipment (75%),
funding (68%), and training (62%). Although information and media literacy skills are
generally strong, with 94% being at least independent in assessing online credibility, only
half feel confident in facilitating group learning activities, especially for learners with special
needs or using creative tools like gamification. To strengthen library services, staff training
should focus on advanced digital tools, inclusive pedagogical strategies, and hands-on
experience with emerging technologies such as AI, AR/VR, and robotics.

Main findings

For Flanders, the most striking findings highlight a clear gap between the ambitions of
public libraries to expand digital services and their current capacity to do so. While libraries
are generally well-prepared to deliver basic digital access and support—especially for
elderly users—there is significantly less provision for youth, migrants, and job seekers.
Additionally, although there is strong interest in offering advanced digital skills and

emerging technologies, many libraries lack the necessary equipment, training, and staff confidence, particularly in areas such as AI, VR, and inclusive pedagogical methods.

Interviews

In Flanders, PL2030 conducted interviews with three experts and practitioners in digital library policy and education, representing the Flemish government/department for culture and media, the Artevelde Hogeschool in Gent/Graduate degree in Information Management: Library and Archives , and the organisation Cultuurconnect, supporting the Flemish public libraries with digital services and training. The interviews were aimed to gain a deeper knowledge of the current state of library education, digital competencies, and staff training within the library sector in Flanders.

Insights to the current landscape of library education and training

According to the interviewees, public libraries in Flanders are evolving to meet new societal and digital demands, with staff coming from increasingly diverse professional backgrounds. This shift opens the door to broader expertise and fresh perspectives, even as it highlights areas for further skill development, particularly in digital and technical fields. There is a growing gap in digital and library-specific skills due to the Flemish government's removal of library science as a hiring requirement. Centralized systems like those offered by Cultuurconnect have streamlined traditional tasks such as cataloguing, allowing libraries to focus more on innovative services and user engagement.

Continuous training initiatives are actively being developed through regional networks and government-supported programmes, which promote digital inclusion and strengthen staff capabilities. Larger libraries often take the lead in internal training, while smaller ones benefit from collaborative regional models that effectively meet local needs. These partnerships foster valuable knowledge exchange and the sharing of resources.

Libraries in Flanders are increasingly committed to digital literacy and civic engagement, playing an essential role in guiding users through online platforms and services. While challenges remain—such as addressing misinformation and fostering public debate—there is growing recognition of the library's potential as a hub for trusted information and democratic participation. As the sector continues to build capacity and share best practices, it is well positioned to develop a more unified, forward-looking strategy that supports sustainable growth and innovation. The existing training and education for library staff does not seem to meet the individual needs that vary strongly depending on the local context and profile of the library.

According to the experts interviewed, library staff in Flanders require more advanced skills in digital literacy, curatorship of collections, misinformation handling, AI, and critical

thinking. It was stressed that basic digital skills must be integrated with social, pedagogical, and historical competencies. The experts also highlighted that sustainable progress requires coordinated policy, educational investment, and tailored professional development strategies.

The following recommendations were formulated to enhance the digital competencies of library staff in Flanders:

➔ **Centralised training programmes and shared knowledge**
As society increasingly relies on digital technologies, libraries should position themselves at the forefront of promoting digital skills and information literacy for all citizens. To achieve this, it is essential to invest in centralized and well-structured training programs tailored to equip library staff with the tools they need to support diverse user needs. The programmes should be hybrid, both online and in presence.

➔ **Stronger inter-regional collaboration**
By sharing resources, training modules, and best practices, libraries across Flanders and Belgium can build collective strength and avoid duplication of efforts. In this cooperative framework, partnerships with higher education institutions such as Artevelde University of Applied Sciences can play a vital role, providing expertise, research support, and ongoing training opportunities for library professionals.

➔ **A forward-looking digital library strategy**
A shared digital strategy could ensure coherent alignment between media literacy, digital inclusion, and broader social policy and underpin the role and linked requirements of public libraries to fulfil this role. Clear pathways for implementation within the library sector could help to translate these strategies into meaningful action on the ground.

Academic research

Academic research on media literacy and digital inclusion strategies in Flanders is undertaken by the SMIT University Institute, from the Studies in Media, Innovation and Technology department at the Vrije Universiteit Brussel. The recent publication "Empowering the Digital Citizen: Digital and Media Literacy Research in Flanders, Belgium"[10] of the SMIT provides an overview of digital and media literacy research in Flanders. This book offers an overview of digital and media literacy research in Flanders, Belgium, with a dual focus. It examines how political and technological changes over the past 10–15 years have influenced the use of digital media across age groups, and it

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[10] Van Audenhove, L., Demeulenaere, A., Walrave, M., d'Haenens, L., Lievens, E., Vanwynsberghe, H., & Nys, D. (Eds.) (2025). Empowering the Digital Citizen: Digital and Media Literacy Research in Flanders, Belgium. Owl Press, Borgerhoff & Lamberigts nv.

explores current debates around digital literacy. Key topics include the needs of diverse groups—such as children, vulnerable communities, people with disabilities, and influencers—as well as issues like sexting, cyberbullying, fake news, and online gaming. The book highlights the contribution of Flemish researchers to global discussions, considering local context. It also introduces Mediawijs, the Flemish Knowledge Centre for Digital and Media Literacy, which supports citizens in using digital media critically and responsibly through campaigns, interventions, and cooperation across sectors, including the library sector. Further publications of SMIT include a study on the digital inclusion policies contracted by the Flemish government in 2024.[11]

In addition, the Flemish library and supporting organisations (Cultuurconnect and Mediawijs) undertake surveys and studies to monitor the impact of digital and media literacy activities in public libraries in order to adapt their offers to current challenges and needs.

Conclusions and recommendations

The survey and desk research show that public libraries are active players in digital inclusion and education in Flanders. Digital technologies and inclusion, data and media literacy are essential components of libraries' programmes and activities and increasingly picked-up and reflected in professional training for library staff. It can be noted that the skills level of library staff implementing digital educational services vary depending on the local context of the library and of the programme scope and ambitions. Although there is strong interest in offering advanced digital skills and emerging technologies, many libraries lack the necessary equipment, training, and staff confidence, particularly in areas such as AI, VR, and inclusive pedagogical methods. The current education and ongoing training offer for library professionals in Flanders does not fully reflect the needs on the ground.

Based on the research findings summarised above, we recommend the following aspects to be taken into account with the development of the DigLib training programme:
  ➔ Develop flexible, modular online training modules;
  ➔ Ensure digital skills are taught in a social and pedagogical context;
  ➔ Include content on facilitation and pedagogical skills to work with different target groups;
  ➔ Focus on new technologies, including AI
  ➔ Include module on critical thinking and democracy
  ➔ It could be useful to assess the specific needs of the participating libraries.

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[11] Verhaert, P., Van Audenhove, L., Rothe, F., Anrijs, S. & Ponnet, K. (2024, oktober). De opkomst van digitale-inclusiebeleid in België tussen 2020 en 2024. Rapport in opdracht van de Vlaamse Overheid. Brussel: imec-SMIT, Vrije Universiteit Brussel

[Case study – Flanders, Belgium]

Digipunt
Bibliotheek Zwevegem

Short description

With Digipunt, the library provides help for digitally challenged target groups. This is done by organising courses and workshops about digital subjects; by providing free, individual help for people who experience problems with digital tools, software and hardware. The library also lends laptops to families, children and youngsters who cannot afford to buy one themselves. Leading up to the programme, there was a research project to explore the needs of the local population in regards to needs with ICT support.

The Digipunt offer consists of 2 fixed weekly helpdesk slots in the library that are implemented with the support of volunteers, including students. In addition, citizens can book individual appointments in the library or remotely, delivered through the library bus.

The Digipunt initiative is (until October 2025) funded by the Flemish and Federal Belgian Governments as part of the digital inclusion strategy and similar services are offered in multiple public libraries in Flanders as part of the "Digibanken" initiative. Over 700 Digipunten exist in Flanders. They are located in public libraries, cultural centres and other locations.

Elements of innovation

The Digipunt in the Zwevegem library is innovative because it deals with individual needs in a flexible way, based on the needs of the library users. At the same time, it is part of an overarching strategy for digital inclusion supporting over 700 Digipunts in public libraries and other accessible locations throughout Flanders. Hereby, the network of public libraries in Flanders is leveraged as an accessible infrastructure for digital inclusion.

Skills required by library staff

The library staff involved need to have a basic understanding of digital tools and services and have the capacity to coordinate the participating volunteers.

The volunteers need to be able to help with problem solving approaches and specific requests related to digital tools and e-services.

Technical resources required in the library

The Digipunt services require:
➔ Laptops that are not connected to the local network with the permission to install external software
➔ Wi-fi connection
➔ Printer
➔ Card reader (for eID)

[Case study – Flanders, Belgium]

Digipunt
Bibliotheek Zwevegem

Challenges met and how they were tackled

1. There is a great need for initiatives like Digipunt and we expect that will remain so for a long time to come. Local governments will need to invest in this.

2. Although the need is great, it is not always easy to attract the target groups you do it for. Older people find the way quite easily but recent immigrants don't always (because of the language and educational barriers).

Connecting the Digipunt offer with other activities taking place in the library has helped to reach specific groups. For example, through the Dutch language talking groups, recent migrants could have been reached. Collaboration with the social services of the municipality has also helped to attract people with needs of support in digital tools.
social services are sending them

Tips for other libraries

It is helpful to collaborate with external partners and experts that can support with specific knowledge and skills.

In Zwevegem, it has been successful to join forces with other libraries in the regional network and to receive help from supporting organisations such as Cultuurconnect, providing e-tools and services in public libraries in Flanders.

Why was the library a good place for this activity?

The library is a trusted place with a low threshold to enter. It is a non-commercial place open to all. Therefore, activities can reach a mixed and diversified public.

Romania

National considerations

The Romanian public library system consists of a network of **1,853 public libraries**, comprising 41 county libraries, 88 municipal libraries, over 200 city libraries, and more than 1,500 rural and communal branches. The system also includes the **National Library of Romania**, which functions as a national bibliographic center but lacks coordinating authority over the rest of the network.

Public libraries are **decentralized**, managed by local public authorities (county councils or local municipalities), which results in **wide disparities in infrastructure, funding, and service quality across regions**. While urban county libraries often have access to European projects and technical innovation, rural libraries frequently operate with minimal resources, outdated equipment, and unqualified or part-time staff. In many communes, one librarian manages the full range of administrative, cultural, and technical duties.

There is no national legal requirement for municipalities to maintain public libraries, nor a national standard for public library services. This leads to a **fragmented and unequal landscape**, with significant differences in library accessibility and performance depending on local political will and funding capacity.

In addition to these structural challenges, outdated inventory regulations - still designed primarily for physical collections - seriously limit the ability of libraries to manage digital resources effectively. The current copyright framework also creates major barriers for digitisation and the delivery of digital services, leading to legal uncertainties. Moreover, the lack of continuous investment in equipment and digital infrastructure - especially after the end of the Biblionet project - has widened the gaps between libraries and slowed down their digital transformation.

Despite these challenges, libraries remain a **crucial cultural and educational infrastructure**, particularly in rural and underserved areas. They offer free access to information, learning opportunities, and digital inclusion services for adults and youth, especially in contexts where formal educational or IT infrastructure is lacking.

Some transformative initiatives have shaped the current landscape. The **Biblionet project** (2009–2014), funded by the Bill & Melinda Gates Foundation, equipped over 2,200 libraries with computers and internet access and trained more than 3,000 librarians in ICT skills. It marked a turning point for Romania's libraries, enabling them to function as **community digital hubs**.

As part of Romania's National Recovery and Resilience Plan (PNRR)[12], a dedicated funding line **envisaged the modernization of up to 1,196 public libraries**, including digital equipment and infrastructure upgrades. However, as of now, implementation is still ongoing, and only a limited number of libraries have effectively received funding or completed upgrades.

In the absence of a national coordination mechanism, **project-based development remains the primary driver of innovation**. As a result, public libraries in Romania present a dual reality: while some thrive and lead in digital education, others remain static or risk closure due to lack of local support.

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[12] **Ministry of Research, Innovation and Digitalization**. (2023). *Applicant's Guide – Investment I17, Component C7: Digital Transformation. Funding schemes for libraries to become digital skills development hubs (Call 2)*. Bucharest: MCID.
https://www.mcid.gov.ro/wp-content/uploads/2023/09/I17_C7_Ghidul-Ssolicitantului-apel-2_draft.pdf

Professional education

Library and Information Science (LIS) education in Romania is available but fragmented. There is **no unified national curriculum**, and training opportunities vary widely in level and scope.

Formal academic LIS programs include:
- **University of Bucharest** – bachelor's and master's degrees in LIS and information science;
- **Babeș-Bolyai University (Cluj-Napoca)** – bachelor's degree in LIS;
- **West University of Timișoara** – postgraduate courses and continuing education in documentation, metadata, and digital humanities;
- **Lucian Blaga University of Sibiu** – programs for information professionals in cultural institutions;
- **Alexandru Ioan Cuza University (Iași)** – modules in information and communication science relevant to LIS.

There is **no national strategy for continuing professional development** of librarians. The need for structured lifelong learning is only partially addressed through **project-based training and NGO-led programs**.

The **National Association of Public Librarians and Libraries in Romania (ANBPR)**[13] plays a central role in organizing accredited courses and workshops, covering topics such as:
- Basic and advanced ICT skills (based on DigComp framework)
- Digital content creation
- Adult learning methodologies
- Gamification and digital storytelling
- Emerging technologies (e.g., AI, open data, robotics)

Through Erasmus+ and national projects such as **Teach for Future, Digital4LIB, E-Skills for E-Inclusion, SHIFT**, and the **Code Kids** initiative (by Progress Foundation), hundreds of librarians have been trained to become **digital facilitators**, especially in rural and small urban communities.

Access to training remains inconsistent across regions. Participation is often limited by lack of time, funding, or institutional support. There is no official requirement for digital competence among librarians, nor a system for formal recognition or certification of acquired skills.

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[13] The National Association of Librarians and Public Libraries of Romania (ANBPR https://anbpr.org.ro/

Policies / Digital strategy

Romania does not yet have a **dedicated national policy or strategy** for libraries, nor a national digital agenda that specifically integrates public libraries as actors of digital transformation or adult education. This gap results in fragmented and uncoordinated initiatives, limiting the potential for systemic and sustainable impact.

The **National Strategy for Digital Skills** (drafted in 2022) and the **Digital Competence Framework for Citizens** (DigComp 2.2)[14] have been partially adopted by training programs targeting librarians, but **without official alignment or mandates** from central authorities.

Under the **PNRR Component C7 – Digital Transformation**, libraries were recognized as community digital education centers, receiving funding for infrastructure. However, no complementary funding was allocated for training librarians, developing digital educational content, or ensuring sustainability beyond 2025.

Policy documents such as the **National Lifelong Learning Strategy**[15] or the **Digital Inclusion Strategy**[16] mention the importance of libraries in bridging the digital divide, but they lack concrete implementation measures or budgetary lines specific to library systems.

In the absence of public funding, **NGOs (e.g. Progress Foundation)** and **professional associations (e.g. ANBPR)** have assumed leadership roles in promoting the digital transformation of libraries.

To ensure sustainability, Romania needs a national library strategy that includes:
- Recognition of libraries as key actors in digital education
- Systematic investment in infrastructure and staff training
- Integration of library services in public digital inclusion policies
- Formal cooperation mechanisms between libraries, schools, local authorities, and civil society.

Survey outcomes

A total of **34 librarians** from Romania participated in the DigLib survey. The majority were women (88%), and most respondents were aged between 45–54 (50%), followed by the 55–64 age group (32%). In terms of educational background, many respondents held bachelor's or master's degrees in fields other than library and information science. Only

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[14] European Commission, Joint Research Centre. (2022). *DigComp 2.2 – The Digital Competence Framework for Citizens: with new examples of knowledge, skills and attitudes*. Luxembourg: Publications Office of the EU.
https://publications.jrc.ec.europa.eu/repository/bitstream/JRC128415/JRC128415_01.pdf
[15] **Government of Romania – Ministry of National Education.** (2015). *National Strategy for Lifelong Learning 2015–2020*. Bucharest.
https://sgglegis.gov.ro/legislativ/docs/2015/04/g3hn7pc9fk6szm48v5br.pdf
[16] **Ministry for Information Society**. (2015). *National Strategy on the Digital Agenda for Romania 2020*. Bucharest.
https://epale.ec.europa.eu/sites/default/files/strategia-nationala-agenda-digitala-pentru-romania-20202c-20-feb.2015.pdf

15% reported having formal LIS education (9% with a bachelor's, and 6% with a master's degree in the field). A quarter of respondents mentioned other types of qualifications, including technical or administrative studies.

Self-perceived digital competence

The self-assessment of digital skills revealed that most respondents consider themselves to possess **basic digital literacy**, particularly in using common office software, internet browsing, and communication tools. However, **advanced competencies**, such as using metadata standards, managing open data, or applying digital preservation methods, are rarely reported. There is also limited experience in areas such as artificial intelligence, 3D printing, coding, augmented/virtual reality, and the use of robotics in educational contexts. These findings suggest a significant **skills gap** when it comes to more complex or emerging digital technologies relevant for modern library services.

Access to training and institutional support

While some librarians have participated in structured digital skills courses, access to training remains **limited and inconsistent**, especially in small and rural libraries. Respondents reported that institutional support for digital transformation varies greatly: some libraries have access to updated equipment and periodic training, while others operate with outdated infrastructure and lack designated budgets for professional development.

The availability of IT support staff is also uneven. In most institutions, librarians must handle digital tools and platforms on their own, often without guidance or formal preparation. This contributes to feelings of insecurity or resistance toward adopting digital innovations.

Training needs and learning preferences

Survey responses highlight a **high demand for digital training**, especially in the following areas:
- Digital content creation tools
- Information and data literacy
- Safe and ethical use of digital platforms
- Use of collaborative online platforms
- Introduction to coding and generative AI
- Pedagogical use of technology for adult learning
- Tools for combating disinformation and promoting media literacy

Most respondents prefer **flexible, hands-on formats**, such as short online workshops, microlearning modules, or peer learning sessions. They also expressed interest in **collaborative training** with other libraries and external experts. Many emphasized the need for **training adapted to their real library work**, not overly theoretical.

Challenges and opportunities

The main challenges reported include:
- Lack of time during work hours to attend courses
- Absence of strategic digital development plans at institutional level
- Limited awareness of available training opportunities
- Difficulty in accessing high-quality internet or equipment in smaller libraries
- Low motivation when training is not linked to recognition or incentives

Despite these barriers, librarians showed **motivation and openness** toward digital transformation. Many expressed the belief that public libraries have a key role to play in fostering digital inclusion, especially for adults with limited digital skills. They underlined the importance of **national and European-level cooperation** to support more consistent access to training, resources, and guidance in the digital age.

Interviews

In Romania, a set of expert interviews was conducted with professionals from various backgrounds, including public and county libraries, academic institutions, professional associations, and NGOs working in the field of digital education. These interviews aimed to explore how libraries are adapting to digital transformation and how staff acquire and apply digital skills in practice.

Digital competencies in practice

All experts emphasized that digital skills have become essential in modern librarianship - not only for administrative and cataloguing purposes but also for community engagement, training users, and supporting access to digital services. Most librarians are familiar with basic ICT tools, especially those working in urban or better-funded institutions. However, substantial differences exist in skill levels depending on geographical location, library size, and the age or professional background of the staff.

Experts noted that in smaller or rural libraries, digital proficiency tends to be lower, especially in advanced areas such as:
- Working with metadata and digital preservation
- Using open data and digital learning platforms
- Applying collaborative digital tools

- Engaging with AI, coding, robotics, or augmented reality

Younger librarians are typically more comfortable using these tools, while older colleagues often feel left behind, especially in the absence of accessible and up-to-date training.

Training opportunities and limitations

While digital training is available in some contexts - often through externally funded projects or NGO partnerships - it is not consistently offered across the country. Experts described the national training landscape as fragmented and underdeveloped. Libraries often depend on short-term initiatives, with no stable or centralized mechanism for continuous digital skills development.

Professional development is frequently informal, voluntary, and dependent on the motivation of individual librarians. Smaller institutions often lack financial resources, digital infrastructure, or management support for structured training. This contributes to gaps in knowledge and missed opportunities to implement digital tools in everyday library work.

Institutional context and systemic challenges

A recurring theme in the interviews was the absence of a national framework that clearly defines digital competency standards for librarians. While some academic programmes include digital content, experts noted that the coverage is inconsistent across institutions and often based on outdated materials.

Although libraries are increasingly expected to play a role in promoting digital inclusion - by assisting citizens with e-government tools, offering digital skills courses, or supporting youth tech education - this role is not formally recognized or supported at the policy level. Experts underlined the lack of strategic investment, planning, and coordination from national authorities.

Good practices and successful initiatives

Despite the structural challenges, several positive examples were mentioned. Interviewees highlighted:
- Several European-funded projects implemented by the ANBPR association - such as **Teach for Future[17], SHIFT4IT[18], NEDLib[19], DIGITAL4LIB, and ROBO STEAM Academy[20]** - have significantly contributed to the development of digital

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[17] Teach for Future project - https://teachforfuture.ro
[18] SHIFT4IT project - https://shift-europe.eu
[19] NEDLib - https://nedlib.unibit.bg
[20] ROBO STEAM Academy - https://robosteam.eu

competences among librarians. These initiatives produced training materials, structured courses, and practical learning experiences on topics such as ICT skills, STEM education, gamification, and innovative teaching methods.

- Programmes run by the **Progress Foundation**, such as Code Kids[21] and the AI literacy initiative[22], which not only reached local communities but also contributed to the upskilling of library staff
- Local partnerships between county libraries and universities or NGOs in areas such as Cluj, Timiş, or Mureş.

These initiatives are valuable, but their impact remains limited due to a lack of national coordination and institutional follow-up.

Conclusions and recommendations

Conclusions:

The national research conducted in Romania, which combined desk analysis, expert interviews, and survey data, revealed key structural weaknesses but also areas of potential for developing digital competencies in the library sector.

Desk research confirms that Romania's library system lacks centralized strategic direction. With 1,823 public libraries managed primarily at the local level, there is no national policy framework or coordinating authority specifically focused on the digital development of libraries. Despite participation in a variety of European projects and isolated initiatives, efforts remain fragmented, and long-term sustainability is rarely ensured. Although some provisions for library digitisation were included in funding mechanisms such as the National Recovery and Resilience Plan (PNRR), few concrete outcomes have been documented, and access to these resources has been highly selective.

Academic library education programmes are available at several universities (e.g., Babeş-Bolyai University, University of Bucharest, West University of Timişoara), but coverage of digital topics remains limited or outdated. There is no unified curriculum ensuring that graduates are equipped with the digital skills required by modern libraries.

Expert interviews pointed to the absence of a national framework defining digital competency standards for librarians. Many professionals rely on self-training or occasional project-based workshops, which creates major disparities across institutions. Interviewees also noted the limited institutional support for integrating digital tools into daily practice or for building sustainable digital services.

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[21] Code Kids project - https://www.progressfoundation.ro/proiecte/codekids/

[22] AI project opportunities in the library - https://www.progressfoundation.ro/proiecte/ai-oportunitati-la-biblioteca/

Survey results reinforce this picture: respondents reported low confidence in using advanced digital tools and limited access to structured training. Most digital education is project-based and does not reach all staff. Few librarians have formal qualifications in digital pedagogy or ICT. Moreover, intergenerational gaps in digital familiarity are visible, particularly in smaller or rural libraries.

Despite these limitations, Romanian libraries have engaged in a wide range of digital learning projects - especially those implemented by ANBPR (e.g., Teach for Future, SHIFT4IT, NEDLib, DIGITAL4LIB, ROBO STEAM Academy) - which have played a key role in enhancing staff capacity in areas such as digital content creation, STEM, gamification, and online education. However, the lack of national-level coordination and sustainable funding continues to prevent these efforts from producing systemic change.

Recommendations:

1) **Develop a national strategy for digital transformation in libraries**, including clear objectives, funding mechanisms, and implementation support. This strategy should define the role of libraries in advancing digital inclusion and promote equitable access to training and infrastructure across all regions.

2) **Establish a national framework for digital competence standards** in the library sector. This framework should align with EU-level digital competency models (such as DigComp) and guide both initial education and continuing professional development of library staff.

3) **Invest in continuous professional development (CPD)** for librarians with a focus on advanced digital skills, such as digital content creation, data literacy, online collaboration, open data, AI literacy, and STEM-related tools. CPD should be accessible, regularly updated, and integrated into institutional planning.

4) **Strengthen academic curricula in LIS programmes** by integrating digital competencies more systematically and ensuring alignment with the needs of modern libraries. Partnerships between universities and library institutions should be promoted to bridge theory and practice.

5) **Support regional and local innovation** through pilot projects and communities of practice. Successful examples developed through European or national projects should be scaled up and integrated into long-term strategies, with support from national authorities.

6) **Recognize and support the role of libraries in digital education and civic engagement**. Libraries should be formally acknowledged in national digital and educational policies as providers of non-formal learning, digital inclusion, and lifelong learning services.

7) **Encourage inter-institutional collaboration between libraries**, educational institutions, NGOs, and public authorities to share resources, deliver joint training programmes, and foster innovation.

[Case study - Romania]

'Navigator 50+'
'Radu Rosetti' Municipal Library of Onești City, Romania

Short description

"Navigator 50+" is an initiative of the Radu Rosetti Municipal Library in Onești - currently the most modern and digitally equipped public library in Romania - designed to encourage and support older adults in using technology as a valuable tool for staying connected and enjoying the full benefits of the digital world.

In today's information-driven society, it is essential to help seniors navigate the internet and use computers with confidence. Through this program, participants learn how to browse the internet safely, communicate via social media, make online payments and purchases, and use software such as Word, Paint, and Excel. The project empowers them to use the internet in ways that improve their daily lives.

The sessions offer not only practical knowledge but also opportunities for social interaction. Retired seniors who attend the course report feeling more engaged with the community and more confident in using personal gadgets, as well as the library's state-of-the-art digital tools - including computers, tablets, laptops, interactive smartboards, Oculus VR headsets, interactive tables, selfie totems, and information kiosks.

This initiative helps older adults become active, connected members of the digital age.

Elements of innovation

Radu Rosetti Library stands out as a national leader in digital innovation due to its early and large-scale adoption of cutting-edge technologies in a public library context. Key innovative elements include the use of life-size holograms to present events and projects, integration of VR headsets in both educational and leisure contexts for seniors and youth, and the implementation of interactive learning spaces for preschoolers with smart tables and floors.

The library's ability to combine technology with community-centered learning - such as the Wikipedia editing program for seniors or VR-assisted digital storytelling - demonstrates a holistic and inclusive approach to innovation in digital literacy.

[Case study - Romania]

'Navigator 50+'
'Radu Rosetti' Municipal Library of Onești City, Romania

Skills required by library staff

Library staff must possess strong digital competencies, including proficiency in using smartboards, VR equipment, and content creation tools like PowerPoint, Canva, and Wikipedia's editing interface.

Beyond technical know-how, staff are also expected to have pedagogical skills to work effectively with diverse user groups, including seniors and children.

Continuous professional development is a key part of the institutional culture, with training provided by tech suppliers and national digital inclusion programs. Soft skills such as patience, empathy, and adaptability are essential in delivering engaging and accessible training sessions.

Technical resources required in the library

The library has made significant investments in state-of-the-art equipment to support its digital programs. These include interactive whiteboards (smartboards), tablets, laptops, desktop computers, VR Oculus headsets, life-size holographic displays, interactive floor projectors, and smart tables for children.

A modern multimedia room serves as the hub for robotics and coding workshops. The combination of high-end devices and purpose-designed spaces allows the library to offer a dynamic, hands-on learning experience for all age groups

Challenges met and how they were tackled

Unlike many other regions, the library did not struggle to attract senior participants, largely thanks to its strong community relationships and partnerships with local NGOs and senior organizations.

One notable challenge occurred during the pandemic, when the requirement to wear masks hindered communication during training sessions. This was mitigated by increasing one-on-one support and adapting teaching strategies. More broadly, the library's success is rooted in internal teamwork, flexibility, and proactive collaboration with local authorities, which enabled access to co-financing and long-term project sustainability.

Tips for other libraries

Other libraries are encouraged to build solid partnerships with local government and stakeholders to secure funding and institutional backing. Applying for European grants and collaborating with integration and development departments can unlock valuable

[Case study - Romania]

'Navigator 50+'
'Radu Rosetti' Municipal Library of Onești City, Romania

resources. Equally important is cultivating a library team that embraces continuous learning and innovation. Libraries should invest not only in technology, but also in the atmosphere, furniture, and design of learning spaces to enhance engagement. Staff training should be structured and ongoing, moving beyond self-directed learning to ensure quality and consistency.

Comparative cross-country analysis

Main findings of digital skills audit

Public library staff in Poland, Belgium (Flanders), Romania and Italy have been invited to participate in the online DigLib survey. It took approximately 20 minutes to complete the online form which contained quiz elements and self-evaluation statements on digital skills.

The primary goal of the survey was to gather data to assess the skills gap among library staff in relation to their role in providing digital literacy educational activities to different communities in the 4 participating countries (Poland, Romania, Belgium and Italy) and to provide a basis for the learning and training activities.

Sub-objectives were:
- To **understand** the professional profile of the respondent and the main characteristics of their working environment
- To **map** the range of activities around digital literacy undertaken in respondents' public libraries, especially towards local communities and identify related skills required from library staff
- To **assess** the level of competencies of survey respondents (digital and facilitation) to deliver digital literacy training in libraries to local/underserved communities.

The results will further serve to define average proficiency levels to the development of the training programme related to key-competences aligned with DigComp and DigCompEdu.

We collected a total of 270 responses (44 from Romania, 33 from Poland, 27 from Flanders and 166 from Italy. More details on the collected data can be found in the survey report annexed to this report.

The libraries' roles and required skills

In Italy, libraries are showing strong progress in integrating digital technologies, with many staff members demonstrating proficiency in tools such as Zoom, Google Workspace, and interactive whiteboards. However, there is a clear need for training in pedagogical techniques and digital engagement strategies. Challenges faced include a lack of equipment, insufficient funding, and limited user interest. Despite these barriers, libraries are actively offering digital literacy training, particularly in areas like basic digital skills, internet safety, and media literacy.

In Poland, public libraries play a crucial role in serving diverse communities, including the elderly and unemployed. Library professionals generally possess solid basic and

intermediate digital skills and show strong motivation to grow. However, they often struggle to apply these skills in advanced or facilitative contexts. There is a strong demand for upskilling in emerging areas such as artificial intelligence, data ethics, and community-based learning facilitation. While communication and content creation skills are fairly well developed, there are noticeable gaps in pedagogical methods and copyright knowledge. Libraries' technological growth is mostly limited by external constraints like equipment and funding, rather than a lack of interest.

In Flanders, a key finding is the discrepancy between libraries' ambitions to expand digital services and their current capacity. Libraries are generally well-prepared to provide basic digital access and support, especially for elderly users. However, services for other groups—such as youth, migrants, and job seekers—are much less developed. Staff confidence and training in advanced digital tools, like AI and VR, as well as in inclusive pedagogical methods, remain low. Libraries need support to bridge this capacity gap and better serve diverse user groups.

In Romania, librarians are committed to supporting digital skill development and are confident in delivering basic digital help, particularly for seniors. However, many staff feel underprepared when it comes to delivering structured digital learning or using new technologies. While communication with users is strong, confidence declines in areas like content creation, copyright understanding, and learning design. Interest in using new technologies such as AI and robotics exists, but lack of access to equipment, funding, and training limits their implementation.

Public libraries in Italy, Poland, Flanders, and Romania are playing an increasingly important role in supporting digital inclusion and literacy. Across all four countries, library staff are motivated and engaged, often showing strong proficiency in basic digital tools and a clear commitment to supporting their communities. However, there are several common challenges and developmental needs that emerge across the board:

➔ **Strong foundation in basic digital competences**
Library staff across all countries report a solid grasp of essential digital tools (e.g., Zoom, Google Workspace), and many libraries already offer basic ICT support, especially for older adults. This creates a strong foundation upon which more advanced digital services can be built.

➔ **Need for pedagogical and facilitation skills**
A recurring theme is the lack of training in structured teaching, learning facilitation, and inclusive pedagogy. While staff are comfortable with one-on-one assistance, they often lack confidence in designing and delivering structured digital learning sessions, especially for diverse audiences such as youth, migrants, or job seekers.

➔ **Limited confidence with emerging technologies**
Although there is broad interest in using technologies such as AI, VR, robotics, and gamification, actual implementation remains low. This is largely due to infrastructure gaps, insufficient training, and limited access to equipment and funding rather than a lack of motivation or interest.

➔ **Challenges in reaching underserved groups**
Most libraries have focused their efforts on supporting elderly users, while services tailored to migrants, youth, and job seekers are less developed. This indicates a need for a more inclusive and targeted approach to digital literacy services.

➔ **Resource and infrastructure barriers**
In all countries, the ability of libraries to innovate and expand their services is frequently hindered by external limitations such as outdated infrastructure, limited digital tools, and inconsistent internet access. These factors constrain even the most motivated staff.

➔ **Shared demand for professional development**
Library professionals consistently express a desire for ongoing training and upskilling, particularly in areas like media literacy, content creation, data ethics, and teaching digital skills. Peer learning, small-group formats, and cross-institutional collaboration are seen as effective training approaches.

Together, these findings suggest that European libraries are well-positioned to act as hubs of digital inclusion, but require targeted investments in training, technology, and strategic planning to fulfill their potential. With coordinated support, public libraries can evolve into dynamic, inclusive learning spaces equipped to meet the digital challenges of their communities.
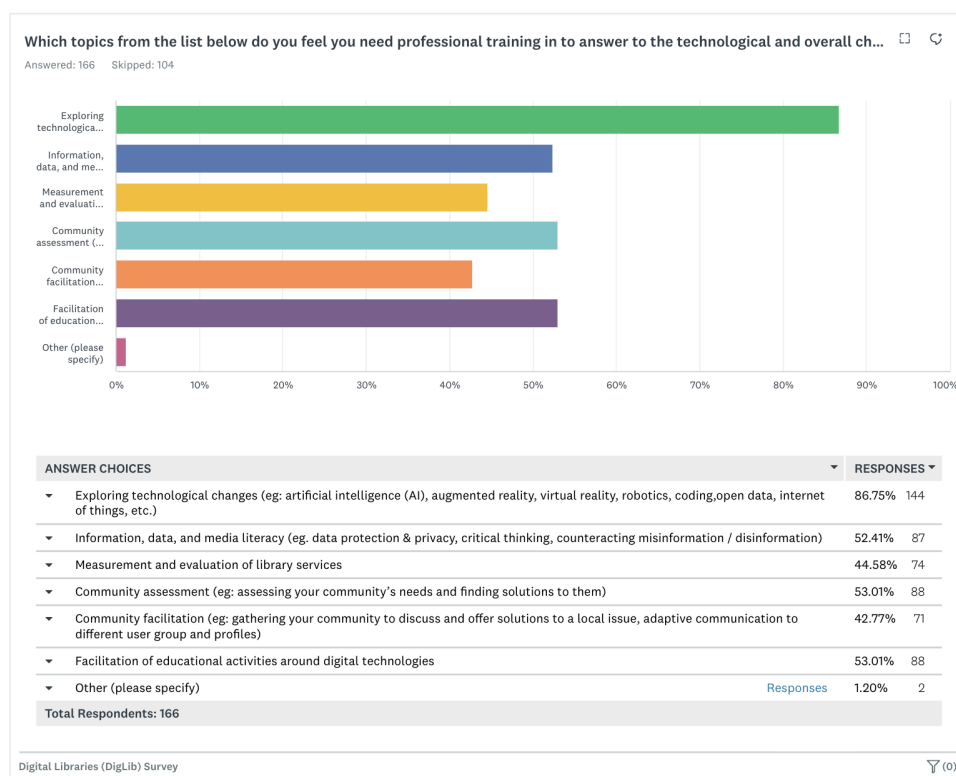
Figure 5

Being asked about their professional training needs relating to digital skills and the specific competences and topics they would like to deepen, the library staff participating in the DigLib survey ranked highest the topic of new technologies (AI, VR, AR, etc) followed by information, data and media literacy, community assessment and facilitation skills.

Identified user needs

The DigLib survey findings for Italy reveal a clear and growing demand for digital support among library users, particularly from elderly individuals, unemployed persons, parents, and youth. Users most frequently seek help with basic digital tasks, reflecting the increasing integration of technology into everyday life. Libraries are responding by offering services such as Wi-Fi, public computers, and ICT training, but more advanced services like VR, AI activities, and makerspaces remain limited. "Assisted digital" support is commonly provided through ad hoc help and one-on-one sessions, yet only a minority of libraries offer regular digital education programs, suggesting a gap between user needs and consistent, structured support. Overall, the findings highlight diverse and widespread digital inclusion needs that outpace current service offerings in many libraries.

In Poland, library users increasingly seek digital support, particularly older adults, the unemployed, and parents, prompting libraries to expand their digital service offerings despite infrastructure and staffing challenges. Most libraries provide essential services like

Wi-Fi, self-service printing, and basic ICT training, especially for seniors, though more advanced services—such as coding, AI, and VR—remain aspirational due to limited resources. Demand for help with digital tools is growing, and most libraries offer "assisted digital" support, primarily through ad hoc staff help and individual sessions. While digital education is often informal, fewer than half of the libraries run regular workshops or classes, and support for youth, migrants, and other groups is still limited. Staff are motivated and engaged but express a strong need to update their skills and collect more user feedback to better align services with evolving digital inclusion needs.

In Flanders, public libraries are largely equipped to meet users' basic digital needs—offering internet access, printing, and public PCs—and many also provide training in internet use, media literacy, and social media, especially for elderly users. However, support for other groups such as youth, job seekers, and migrants is more limited due to gaps in resources and staff capacity. Demand for help with digital tools is clearly increasing, particularly from elderly users, the unemployed, and migrants, prompting libraries to offer services like digital help desks, ad hoc support, and some workshops. While basic training is widespread, there is strong interest in expanding into advanced digital areas like coding, AI, and VR, but 80% of libraries report lacking the necessary equipment and training. Media literacy efforts are often hindered by a lack of educational materials, despite libraries having the skills to deliver such content. Overall, Flemish libraries are committed to supporting digital inclusion but require further investment to fully address the diverse and growing needs of their communities.

In Romania, libraries are making significant efforts to meet the digital needs of their communities, with many already offering essential services such as public internet access, self-service printing, and access to public computers. A strong focus is placed on digital inclusion, particularly through ICT training for elderly users, which is widely available. However, support for other groups—including youth, job seekers, and migrants—is less consistently offered, often due to insufficient equipment and staff training. Demand for help with digital tools and skills is rising, with elderly users, the unemployed, and parents being the most frequent requesters of assistance. To address these needs, most libraries provide ad hoc digital help and some organise one-on-one sessions or workshops, though regular classes remain limited. There is a clear ambition to expand into more advanced digital education areas, including coding, AI, and VR, but most libraries lack the resources and expertise to deliver these services effectively. Despite these challenges, staff are motivated and increasingly aware of the evolving digital expectations of users, underlining the library's role as a crucial access point for digital support in Romania.

Across Italy, Poland, Flanders, and Romania, library users are increasingly seeking digital support—particularly elderly individuals, the unemployed, parents, and, to a lesser extent, youth and migrants—reflecting the broader societal shift toward digital dependency. In all four countries, libraries are well-positioned to provide basic digital services such as internet

access, public computers, and printing, and many offer foundational ICT training, especially for seniors. However, consistent, structured digital education—like regular workshops or classes—is limited, and advanced digital offerings such as AI, coding, and VR are largely aspirational due to gaps in equipment, training, and staffing. While staff in all countries are motivated and actively provide ad hoc support, most express a need for further upskilling and resources to meet users' growing and diversifying digital needs. This shared pattern highlights libraries' central role in digital inclusion efforts, while underscoring a common need for investment to expand and deepen their service capacity.

In the last months, which library users have requested help with digital skills? Select all that apply.
Answered: 168   Skipped: 102

ANSWER CHOICES	RESPONSES	
Youth (under 18)	27.38%	46
Unemployed persons	42.86%	72
Elderly	81.55%	137
Migrants	25.60%	43
Parents	25.60%	43
High skilled persons	3.57%	6
Other (please specify) Responses	8.33%	14
Total Respondents: 168		

Digital Libraries (DigLib) Survey

Figure 6

The DigLib survey results show that elderly were the biggest group asking recently for support with digital skills in the participating libraries, followed by unemployed people, youth, migrants and parents.

National considerations compared

The comparative analysis of the national reports from Poland, Italy, Flanders, and Romania reveals both convergence and divergence in how public libraries approach digital transformation and staff competence development within their respective cultural, policy, and infrastructural contexts. In Poland, libraries form an extensive network across rural and urban areas, often acting as community hubs for digital inclusion despite facing significant structural and funding limitations. The training landscape for Polish librarians is

fragmented, with a reliance on non-governmental initiatives and project-based interventions to deliver digital upskilling. Although Polish academic library science programmes acknowledge the importance of digital competences, this emphasis does not uniformly translate into the practical capabilities of library staff, particularly given the deregulation of the profession and the absence of a national competence standard for librarians. Libraries are keen to deliver digital services, but limitations in equipment and structured training provision mean that librarians often acquire skills informally, primarily to support their own work rather than to facilitate learning for users.

Italy presents a landscape characterised by experienced professionals within a library system that varies greatly in terms of digital readiness and service provision. Italian librarians generally demonstrate confidence in using basic digital tools and a willingness to engage with technologies such as Canva and AI applications. However, the implementation of digital strategies is inconsistent, heavily reliant on individual initiatives and local leadership rather than national frameworks. Italian professional education remains rooted in strong academic traditions, yet with limited alignment to the practical digital needs of public library services, and the absence of a unified national digital strategy leaves significant disparities across regions. Libraries in Italy are increasingly seen as "third places" and social hubs, yet to fully embrace this role in a digital context, there is a need for structured, practical training pathways and a clearer alignment between academic education and everyday professional requirements.

In Flanders, the library landscape benefits from a well-established, subsidised network supported by a societal commitment to equitable access to knowledge and digital inclusion. Libraries in Flanders often participate actively in digital literacy initiatives, facilitated by organisations such as Cultuurconnect and supported by consistent infrastructural frameworks. Professional training opportunities are more structured, and staff frequently report confidence in delivering basic digital services, with a significant portion having access to continuous professional development. However, gaps persist in advanced areas such as AI, VR, and inclusive pedagogical methods, with local autonomy and varying municipal priorities creating differences in capacity across regions. There is a growing emphasis on media literacy and critical digital skills, with libraries being recognised as key actors in fostering civic participation and countering misinformation, although sustained investment and a shared strategic vision are needed to address emerging technological and social challenges comprehensively.

Romania's libraries operate within a context of constrained resources and limited systematic support, yet their role in providing access to digital resources and basic training remains significant. The professional development system lacks integration with the practical digital skills necessary for public libraries, and much of the digital capacity building relies on the dedication of librarians who pursue informal learning to address community needs. Romanian librarians often express a clear willingness to expand their

digital skills, recognising the importance of their role in bridging digital divides, yet their efforts are hampered by infrastructural limitations and the absence of consistent training programmes tailored to practical service delivery.

Across all four countries, a shared understanding is evident regarding the pivotal role of libraries in digital inclusion and education, yet their capacity to fulfil this role is shaped by differing levels of infrastructural readiness, policy support, and professional development frameworks. A recurring theme is the presence of motivated, adaptive professionals who, despite systemic barriers, drive innovation within their institutions. Libraries commonly provide basic digital services such as internet access and assisted digital support, yet the implementation of advanced technologies and innovative learning activities remains uneven, reflecting broader issues of funding, equipment availability, and structured training provision.

Common training needs identified across the reports include skills in emerging technologies—particularly artificial intelligence, coding, and virtual reality—alongside media and information literacy to equip librarians in countering misinformation and supporting users in navigating the digital world. Additionally, the need for pedagogical skills tailored to facilitating digital learning for diverse user groups, including older adults and marginalised communities, is a consistent finding, underscoring the fact that digital competence in libraries extends beyond technical skills to include social and educational dimensions.

For the DigLib project, these findings highlight the importance of designing modular, practical, and context-sensitive training that is adaptable to varying infrastructural and policy contexts. While the development of a shared framework is essential to promote a baseline of digital competences across European libraries, flexibility within this framework is necessary to accommodate the diverse realities and capacities identified within each national context. Sustainable progress in digital inclusion through libraries will require ongoing investment in staff development, access to appropriate technologies, and the promotion of peer learning and knowledge exchange practices to bridge existing gaps.

Ultimately, the comparative analysis illustrates that while libraries are well-positioned to address digital divides within their communities, realising this potential requires a coherent approach that aligns policy, professional education, and practical service delivery. Supporting librarians with the necessary digital, pedagogical, and facilitation skills will not only strengthen their professional identity but will also enable libraries to act as inclusive, innovative spaces for learning and civic participation in an increasingly digital society.

Country	Strengths	Challenges	Key Training Needs
Italy	Proficient in digital tools (Zoom, Google Workspace); active in basic digital literacy training.	Lack of pedagogical skills, digital engagement strategies, funding, and equipment.	Pedagogy, digital engagement tools, continuous professional development.
Poland	Motivated professionals with solid basic/intermediate digital skills; strong communication.	Low confidence in advanced tech (AI, data ethics); infrastructure gaps.	AI, AR/VR, media literacy, facilitation methods, copyright literacy.
Flanders	Basic digital support (especially for elderly); interest in innovation.	Gaps in serving youth/migrants; lack of capacity for advanced digital services.	Advanced tools (AI, VR), inclusive pedagogy, learner-centred methods.
Romania	High motivation; solid support for seniors and basic tasks.	Low confidence in structured learning and content creation; lack of equipment.	Teaching digital skills, media literacy, AI, content creation, structured learning.

Figure 7. Survey findings for training needs

Does your institution offer regular education activities (classes or workshops) on digital skills?
Answered: 168   Skipped: 102

Yes ■   No ■

ANSWER CHOICES	RESPONSES	
▾ Yes	33.93%	57
▾ No	66.07%	111
TOTAL		168

Digital Libraries (DigLib) Survey   ▽ (0)
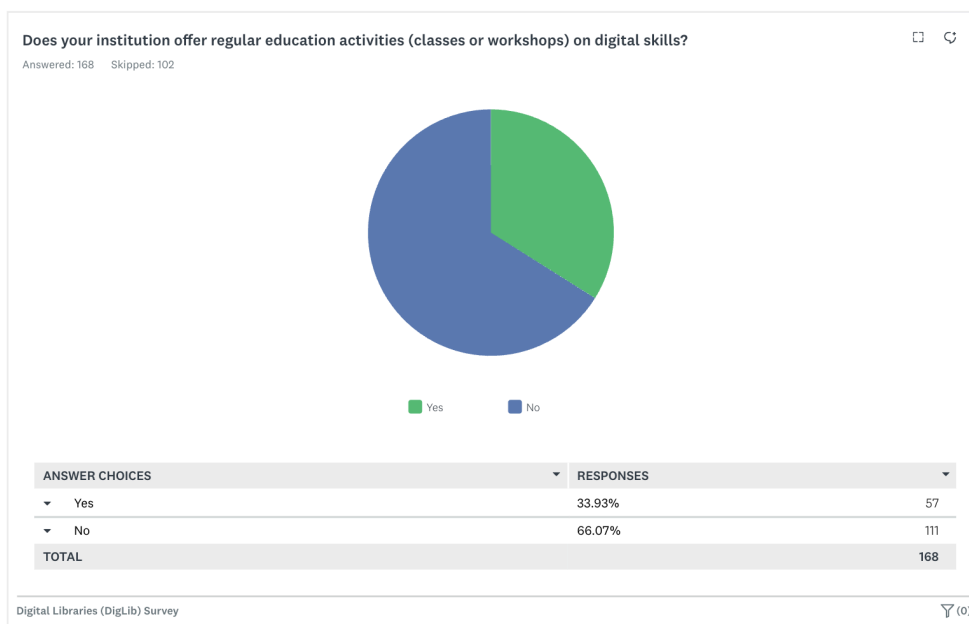
Figure 8

66% of the libraries responding in the DigLib survey offer regular educational activities on digital skills.

Overall, do you feel that your skills and knowledge are up to date with the role you have to fulfill in the library related to dig...
Answered: 166   Skipped: 104

ANSWER CHOICES	RESPONSES	
▾ Yes, I feel I can complete all my tasks and do not need to update my skills and knowledge	12.65%	21
▾ Yes, for the most part but I would like to update my skills and knowledge in some areas	74.10%	123
▾ No, I feel that my skills and knowledge need to be updated to complete my responsibilities	13.25%	22
TOTAL		166

Digital Libraries (DigLib) Survey   ▽ (0)

Figure 9

74% of the DigLib survey respondents feel that their skills and knowledge are up to date with the role they have to fulfil in the library related to digital technologies, but would like to update their skills and knowledge in some areas.

Self-evaluation statement on new technologies (tick which one applies)

Answered: 157   Skipped: 113

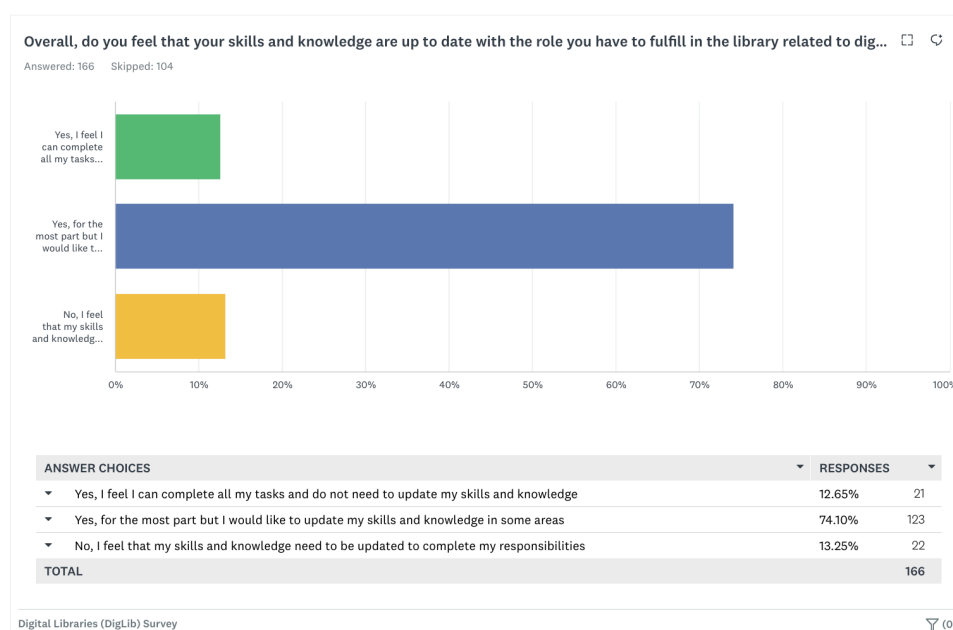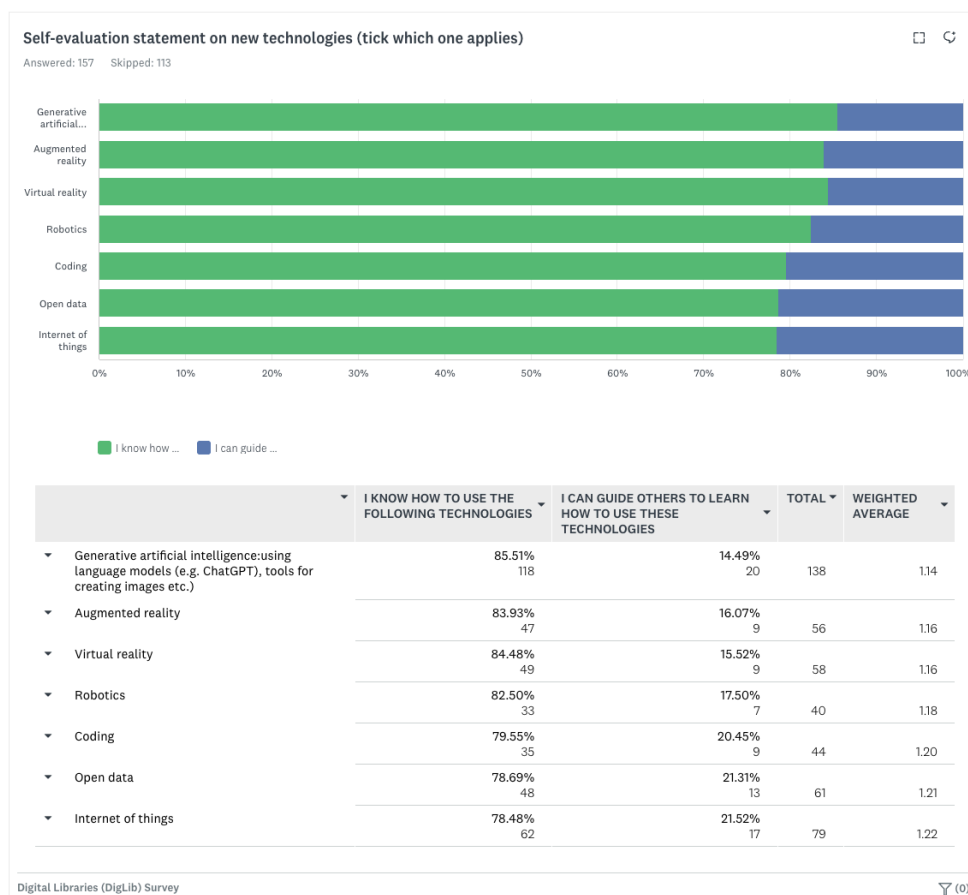|	I KNOW HOW TO USE THE FOLLOWING TECHNOLOGIES	I CAN GUIDE OTHERS TO LEARN HOW TO USE THESE TECHNOLOGIES	TOTAL	WEIGHTED AVERAGE
Generative artificial intelligence:using language models (e.g. ChatGPT), tools for creating images etc.)	85.51% 118	14.49% 20	138	1.14
Augmented reality	83.93% 47	16.07% 9	56	1.16
Virtual reality	84.48% 49	15.52% 9	58	1.16
Robotics	82.50% 33	17.50% 7	40	1.18
Coding	79.55% 35	20.45% 9	44	1.20
Open data	78.69% 48	21.31% 13	61	1.21
Internet of things	78.48% 62	21.52% 17	79	1.22

Digital Libraries (DigLib) Survey

Figure 10

The majority of the library staff participating in the DigLib survey knows how to use emerging technologies (AI, AR, VR, Robotics, Coding, Open data, IoT), whereas less feel confident with guiding others to learn how to use these technologies.

Conclusions and recommendations for the DigLib training programme

Overall conclusions

The rapid digital transformation of society has significantly influenced how people interact with information and technology, creating both new opportunities and challenges, particularly for those lacking digital skills and access. Public libraries play a crucial role in making this transformation more inclusive by serving as trusted, accessible hubs for lifelong learning. They offer support across social groups through free internet access, digital resources, skill-building initiatives, and technology assistance. Libraries help bridge the digital divide, foster digital citizenship, and promote democratic engagement, especially among vulnerable groups such as seniors, migrants, youth, and the disadvantaged. To meet these evolving demands, library staff require not only technical knowledge but also strong facilitation skills—such as empathy, adaptability, and communication—to create inclusive learning environments and empower individuals in the digital age.

The undertaken survey and desk research have shown that overall, while public libraries across all four countries show strong motivation and foundational digital skills, they require significant support in pedagogical training, access to emerging technologies, and infrastructure improvements to fully address digital inclusion and serve diverse communities.

Across Italy, Poland, Flanders, and Romania, libraries are seeing rising demand for digital support—especially from elderly users, the unemployed, and parents. While basic services like internet access, public computers, and ICT training for seniors are widely available, structured digital education and advanced offerings such as AI, coding, and VR remain limited due to resource and skills gaps.

Common training needs of library staff across countries include skills in emerging technologies—especially AI, coding, and VR—as well as media literacy and pedagogical skills to support diverse users in navigating the digital world. These findings underscore that digital competence in libraries must integrate both technical and educational dimensions. For the DigLib project, this points to the need for modular, practical, and adaptable training that fits varied national contexts, supported by a flexible common framework. Achieving lasting impact in digital inclusion will require sustained investment in staff development, access to technology, and peer learning. A coordinated approach aligning policy, training, and service delivery is essential to empower librarians as facilitators of inclusive, community-based digital learning.

Recommendations for the DigLib Training programme

To support the evolving role of libraries in fostering digital inclusion, DigLib should create a comprehensive training programme for library staff taking into account several key priorities.

First, it is essential to focus on advanced digital skills and emerging technologies. Training modules should cover areas such as artificial intelligence, virtual and augmented reality, robotics, data ethics, copyright, and media and information literacy. These areas will equip staff with the knowledge needed to navigate and teach cutting-edge digital topics. What's crucial, the training programme shouldn't indicate specific applications, because they change too fast; it is important for librarians to acquire universal competences, "meta" competences (e.g. how to talk to AI, how AI will help). VR/AR training must be carried out using appropriate equipment, e.g. goggles – if it cannot be purchased in the project, it should be borrowed for training.

Equally important is the strengthening of pedagogical and facilitation skills. Practical training should be provided on inclusive, learner-centred teaching methods, as well as on designing and delivering structured digital learning experiences. Staff should also be trained in engagement techniques, such as gamification and group learning, to foster more dynamic and participatory environments.

To enhance learning outcomes and build stronger professional networks, the programme should encourage peer learning and collaboration. Establishing local and regional learning groups will foster knowledge exchange, while promoting cross-institutional collaboration can help share training materials, expertise, and resources more efficiently.

Training must also be tailored to meet the needs of diverse user groups. Staff should be prepared to work effectively with underserved populations, including youth, migrants, job seekers, and older adults. This includes developing strategies for user engagement and incorporating community feedback to ensure services remain relevant and accessible.

Finally, the programme should include support for strategic digital planning. Library staff should be trained to create digital service plans that align with both community needs and available technologies. Developing skills in evaluation and service adaptation will help ensure libraries remain flexible and responsive as digital demands evolve.

If possible, it is worth ensuring that librarians could choose the modules that interest them more or are more useful in their country, because research results differ slightly between countries. But then all modules would have to be available in all national languages.

By addressing these areas, the DigLib training programme will empower libraries to become inclusive, future-ready centres for digital learning and community engagement.

However, Advisory Board Members consistently emphasized that training alone is not sufficient to ensure long-term impact. It must go hand in hand with broader structural measures, including sustained investments in digital infrastructure, updated legal frameworks (particularly in areas like copyright and inventory regulations), and policy-level support. Without addressing these systemic barriers, libraries may continue to face significant obstacles in fully embracing their role as digital inclusion hubs. At the same time, there is optimism that the dissemination of this research at the European level could serve as a catalyst for policy change and sustainable investments across countries.

Before preparing the training program, DigLib will develop **librarian learning personas:** 3-4 personal profiles of librarians as future participants of our training.[23] Each persona will have specific predispositions, needs, habits, level of knowledge of technology, etc. Personas can be prepared by members of the partnership, for example, on the basis of already conducted interviews and then consulted with representatives of the library community. This will bring an individual perspective to the training programme, i.e. the perspective of an individual librarian.

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[23] https://www.digitallearninginstitute.com/blog/how-to-use-personas-for-digital-learning-design

What are the main obstacles you encounter when integrating new or emerging technologies (such as AI, VR, robotics, etc.) i...

Answered: 157   Skipped: 113

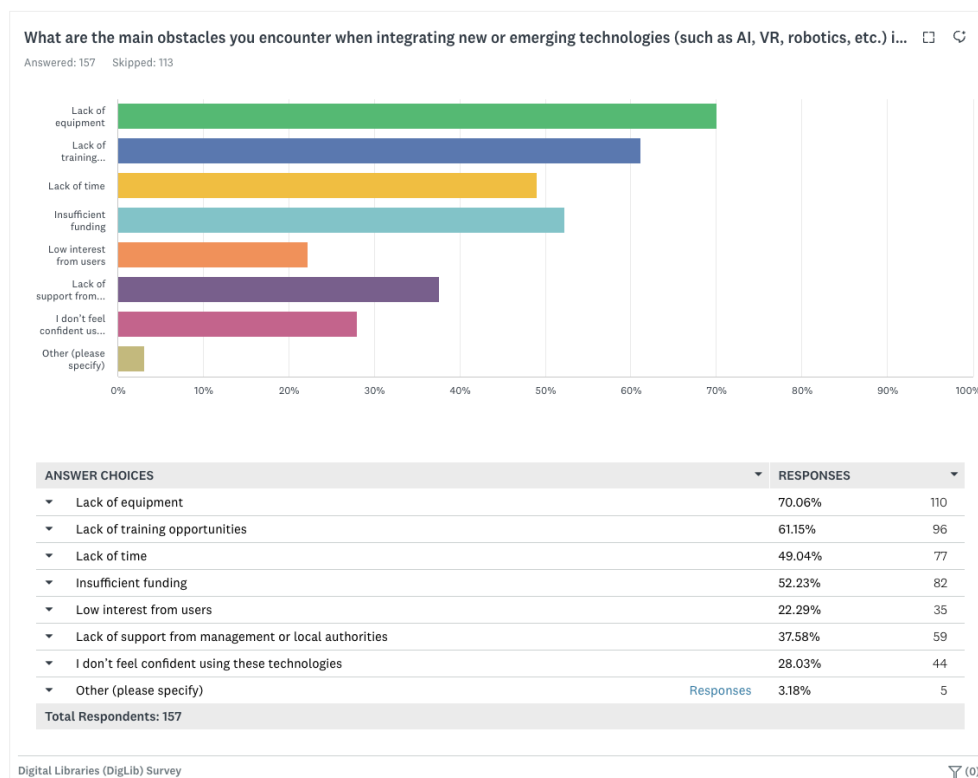| ANSWER CHOICES		RESPONSES	
▾	Lack of equipment	70.06%	110
▾	Lack of training opportunities	61.15%	96
▾	Lack of time	49.04%	77
▾	Insufficient funding	52.23%	82
▾	Low interest from users	22.29%	35
▾	Lack of support from management or local authorities	37.58%	59
▾	I don't feel confident using these technologies	28.03%	44
▾	Other (please specify) Responses	3.18%	5
Total Respondents: 157			

Digital Libraries (DigLib) Survey

Figure 11
The DigLib survey shows that the participating library staff encounters different obstacles when integrating new or emerging technologies. A lack of equipment, being the main one (70%), followed by a lack of training opportunities (61%) and insufficient funding (52%) and a lack of time (49%).

In a nutshell:

Recommendations for a the DigLib Training Programme

1. **Focus on advanced digital skills & emerging technologies**
   Develop training modules on:
   - Media and information literacy
   - Critical thinking
   - Artificial Intelligence (AI), Augmented Reality (AR), Virtual Reality (VR)

2. **Strengthen pedagogical and facilitation skills**
   Include practical training on:
   - Inclusive and learner-centred teaching methods
   - Designing and delivering structured digital learning
   - Engagement techniques (e.g. gamification, group learning)

3. **Encourage peer learning and collaboration**
   - Establish local and regional learning groups for library staff
   - Promote cross-institutional collaboration to share training, resources, and expertise

4. **Tailor training to diverse user needs**
   - Equip staff to work with underserved groups (youth, migrants, job seekers, elderly)
   - Emphasize user engagement strategies and community feedback loops

5. **Support strategic digital planning**
   - Train staff to create digital service plans that align with user needs, available tech, and staff skills
   - Build capacity for evaluation and adaptation of digital services

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Annexes

Annex 1: DigLib Survey report

Annex 2: Desk research country report for Poland

Annex 3: Desk research country report for Italy

Annex 4: Desk research country report for Belgium (Flanders)

Annex 5: Desk research country report for Romania

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