



Increase  
Digital  
Competences  
to Promote Inclusion

**InDiCo - Increase Digital Competences to Promote Inclusion**

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# **Status quo of the EU DigComp framework implementation at the pan-European level**

**Report**



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## Author of this report:

**Benedetta Pesce (European Platform for Rehabilitation)**

## Project Partners:



Chance B (Austria); European Platform for Rehabilitation (Belgium); Universität Klagenfurt (Austria);  
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## 1 Introduction

The European Commission's (2023) targets for the digital decade envisage that at least 80% of those aged 16-74 shall have at least basic digital skills by 2030. DigComp 2.2, the digital competence framework for citizens (Vuorikari et al., 2022), which allows the categorisation and comparability of digital skills on eight levels, plays a key role in the European Commission's digital strategy.

Although the DigComp framework includes basic digital competences at levels 1 and 2, and the digital strategy aims for 'digital skills for all', persons with learning difficulties are at risk of exclusion. In the InDiCo project we agreed on using the term 'persons with learning difficulties' instead of 'persons with intellectual disabilities' to describe persons who experience challenges in all areas of life due to intellectual difficulties.

'Learning difficulties' encompass a range of challenges with regard to learning arising from various factors which can be genetic, neurobiological, cognitive, motivational, affective, or socioeconomic factors. It includes both general learning deficits and specific disorders like reading, spelling, or arithmetic difficulties. Diagnosis and intervention must be tailored to the individual, with some factors being more modifiable than others. Terminology and policies surrounding learning difficulties vary widely across regions and educational systems. Contemporary definitions are largely descriptive, focusing on addressing the specific needs of individuals to facilitate their learning progress in all areas of life (Lenhard & Lenhard, 2013).

Often training programmes are inaccessible to them, or the adult learning and education staff who support and accompany persons with learning difficulties have low digital competences themselves. Against this backdrop, the InDiCo project aims for a clearer understanding of the competences required by persons with learning difficulties in their digital interactions, a competence-based approach for adult learning and education staff in the assessment and training of digital competences, and improved validation of digital competences in connection with the DigComp framework.

One step to reach these aims is to examine the current state of digital inclusion of persons with learning difficulties in relation to the DigComp framework, specifically in relation to proficiency levels 1 and 2. In six reports (for Austria, Germany, Greece, Portugal, and Spain, and the pan-European level) the extent to which 'digital skills for all' with regard to persons with learning difficulties has already been achieved is explored.

As an introduction to this report, DigComp is briefly explained and the central concepts of assessment and validation are introduced, followed by an explanation of the methodology.

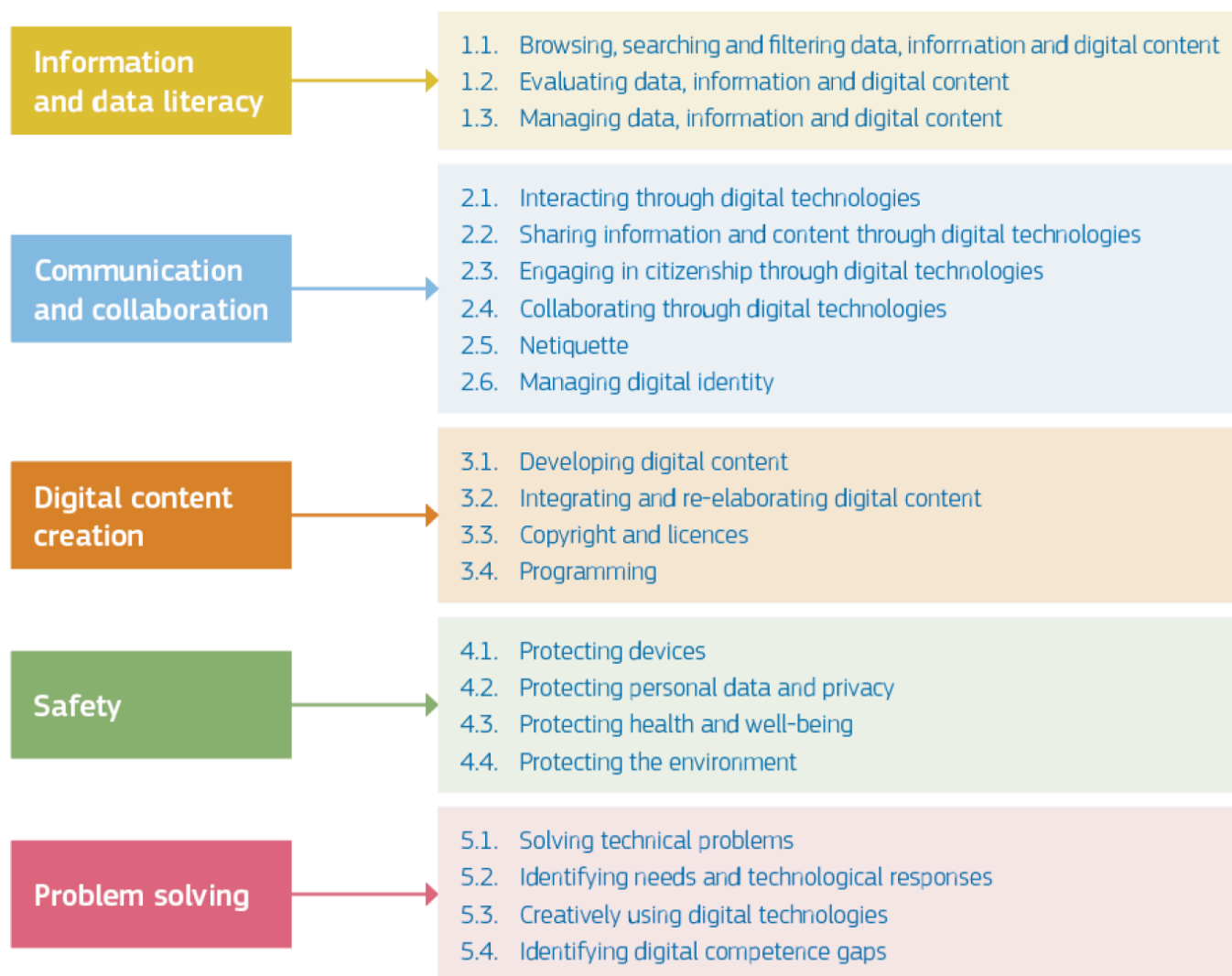
### **DigComp 2.2: The Digital Competence Framework for Citizens**

DIGCOMP, a framework for developing and understanding digital competence in Europe, was first published in 2013 (Ferrari, 2013). Digital competence has been acknowledged as one of the

eight key competences for Lifelong Learning by the European Union. Digital competence can be broadly defined as the confident, critical and creative use of information and communication technology to achieve goals related to work, employability, learning, leisure, inclusion and/or participation in society (p. 2). The DIGCOMP framework aims to support the development of digital competence of individuals in Europe and represents an attempt to allow for self-assessment based on five areas of digital competence and three proficiency levels (p. 14) and presents a detailed framework with an in-depth description of the different aspects of 21 digital competences (pp. 15–36).

The latest version to date is DigComp 2.2, the digital competence framework for citizens (Vuorikari et al., 2022). The framework is a pan-European instrument designed to enhance citizens' digital competence, assist policymakers in formulating policies that facilitate digital competence development, and plan educational and training initiatives to enhance the digital competence of specific target groups (p. 2). The DigComp framework provides a common language to identify and describe the key areas of digital competences – information and data literacy; communication and collaboration; digital content creation; safety; and problem solving – in terms of knowledge, skills, and attitudes (p. 3). The use of agreed vocabulary allows to consistently apply the competence-based approach to instructional planning, assessment and monitoring (p. 4) “Ultimately, it is up to the users, institutions, intermediaries or initiative developers to adapt the reference framework to their needs when tailoring interventions (e.g. curriculum development) to fit the specific needs of target groups” (p. 4).

The DigComp 2.2 encompasses five competence areas with a total of 21 competences and eight proficiency levels (p. 4):



As previously stated, the InDiCo project places particular emphasis on proficiency levels 1 and 2, which are regarded as the fundamental levels ("foundation"). Proficiency level 1 and level 2 are distinguished by the degree of guidance needed. The following example derives from competence area 2, which is "Communication and collaboration" and is given for competence 2.4 "Collaborating through digital technologies" (p. 21):

FOUNDATION	1	At basic level and with guidance, I can:	<ul style="list-style-type: none"> <li>choose simple digital tools and technologies for collaborative processes.</li> </ul>
	2	At basic level and with autonomy and appropriate guidance where needed, I can:	<ul style="list-style-type: none"> <li>choose simple digital tools and technologies for collaborative processes.</li> </ul>

In the framework, selected examples of learning outcomes in the form of knowledge, skills and attitudes are given, and selected examples of “use cases”, either from an employment scenario or a learning scenario, are presented (e.g., pp. 12–13).

## Assessment and validation of learning outcomes

Validation of non-formal and informal learning (VNFIL) can be conceptualised as a powerful tool to support disadvantaged and vulnerable adults, highlighting the importance of introducing and advocating for alternative pedagogical approaches where the assessment and validation of (prior and in situ) learning is seen “as a learning process” (Andersson, 2017), rather than a policy-driven summative assessment and certification for capacity building purposes. VNFIL prioritises and places the individual at the centre (Villalba-García, 2021, p. 357).

With this in mind, and in view of the project's objectives, two key concepts need to be highlighted:

- Validation means a process of confirmation by an authorised body that an individual has acquired learning outcomes measured against a relevant standard and consists of the following four distinct phases: identification, documentation, assessment, and certification (Cedefop, 2023, p. 9).
- Assessment is normally referred to as the stage in which an individual's learning outcomes are compared against specific reference points and/or standards. It needs to be designed to capture and assess the learning specific to each individual, so various tools need to be considered. In some cases, written tests will be sufficient; in other cases, demonstrations, practical tests and evaluation of other forms of evidence will be required (p. 16).

The InDiCo project considers the DigComp framework as a relevant standard for the assessment and validation of learning outcomes. However, we also intend to include competences required by persons with learning difficulties in their digital interactions, thus prioritising the learner's voice and putting the individual at the centre. We also recognise the value of other relevant frameworks, such as the UNESCO (2021) framework for media and information literacy.

## Methodology

Drawing on qualitative social research (Given, 2008) and addressing the digital inclusion of persons with learning difficulties as a social issue (Bloor, 2011), the following research questions guided the data collection and analysis process to gain an understanding of the current state of digital inclusion of persons with learning difficulties in relation to the EU DigComp framework, specifically in relation to proficiency levels 1 and 2. The findings are presented in six reports (for Austria, Germany, Greece, Portugal, Spain, and at a pan-European level).

- How is the EU DigComp strategy implemented? Does a national DigComp framework exist or is it being developed? How is the national framework linked to the National Qualifications Framework (NQF)? And: What is the current state at the pan-European level?
- Are there any gaps or challenges in the implementation of the DigComp strategy/framework at levels 1 and 2?
- What bottom-up initiatives are working towards the digital inclusion of persons with learning difficulties with a focus on promoting digital competences at levels 1 and 2?

The following data collection steps were taken:

- We conducted web searches for policy papers, reports, studies and information on policy-driven projects, as well as information on relevant bottom-up initiatives for persons with learning difficulties (project websites, evaluation reports and the like) based on relevant keywords, screened the content, and documented these materials (Prior, 2011, p. 95).
- We have used the following search terms, among others, and in various combinations: digital inclusion for all; digital competences; digital skills; digital literacy; digital initiatives for persons with learning difficulties; adult basic education; National Qualifications Framework; and validation of non-formal and informal learning;
- We surveyed the project's associated partners and identified key informants (Fetterman, 2008), in particular policy makers, digital strategy experts, persons with learning difficulties providers, and validation experts, through the web searches.
- Drawing on a question-based interview guide (Morgan & Guevara, 2008), we conducted interviews with selected key informants. Together we explored the effectiveness of (national) strategies for enhancing digital competencies, particularly focusing on initiatives for persons with learning difficulties, and delved into the challenges and (possible) key stakeholders to (further) promote digital inclusion, and explored issues of assessing and validating digital competencies for persons with learning difficulties and strategies to ensure their inclusion in digital environments.

For the data analysis process, we selected the most relevant documents in terms of understanding the current situation and included the recorded key informant interviews as the base material for analysis.

We followed the method of qualitative content analysis (Julien, 2008) and applied a basic form of interpretation, the “summary”. The objective of such a “summary” is to “reduce the material in such a way that the essential contents remain, in order to create through abstraction a



comprehensive overview of the base material which is nevertheless still an image of it” (Mayring, 2014, p. 64).

In order to provide answers to the research questions, we analysed the base material and identified the key messages that emerged from the documents and the key statements or comments that emerged from the interviews as the basis for this report to shed light on the status quo of the digital inclusion of persons with learning difficulties in relation to the EU DigComp framework, specifically in relation to proficiency levels 1 and 2.

## 2 EU policy initiatives for the implementation of the EU DigComp strategy with regard to persons with learning difficulties

In today's increasingly digital society and economy, possessing digital skills is more crucial than ever. Without them, individuals run the risk of missing out on opportunities for empowerment, social inclusion, and employability. The European Union is committed to shape the digital future of its citizens by promoting various policy initiatives and involving many different stakeholders that complement the main framework of the DigCom strategy.

As mentioned in the introduction, Europe's common digital targets and objectives for 2030 were established by the Digital Decade policy program 2023 (European Parliament and the Council, 2022) which is a comprehensive framework that sets up a monitoring and cooperation mechanism to reach them. One of the main goals of the strategy is to have a digitally skilled population (min 80% with basic digital skills) and highly skilled digital professionals (20 million more graduates and a gender convergence). The European Commission took concrete actions and initiatives to support the defined objectives. After identifying the key performance indicators (KPIs) through an implementing act, the European Commission has released, in collaboration with Member States, the EU-level trajectories to evaluate whether progress toward each target is sufficient to meet the 2030 goals. Annually, the European Commission will issue the State of the Digital Decade report, which will assess progress towards the EU-level trajectories and the overarching Digital Decade targets. The report will also recommend additional actions and efforts when necessary. As stated in the inaugural State of the Digital Decade Report "the Digital Decade Policy Programme relies on close cooperation with Member States to ensure collective progress and the involvement of all stakeholders at European, national, regional and local levels" (European Commission, 2023).

An important policy initiative worth highlighting is the proposal made by the European Commission for a 'Declaration on European Digital Rights and Principles' (European Parliament, the Council of the European Union and the Commission, n.d.). The aim is to empower individuals to capitalise on the opportunities presented by the digital decade. To achieve this, the European Commission has introduced a framework of European digital rights and principles that reflect EU values, fostering a sustainable, human-centred approach to digital transformation. The declaration, signed by the Presidents of the Commission, the European Parliament and the Council, is a shared political commitment of the EU and the Member States to promote and implement the rights and principles in all domains of digital life. One of the key principles of the Declaration is that *"Everyone has the right to education, training and lifelong learning and should be able to acquire all basic and advanced digital skills"*. Among the others, solidarity and inclusion represent a thematic priority of the declaration which advocates for equitable access to technology, emphasising inclusivity and the promotion of fundamental rights. It outlines specific measures across various domains to ensure that the digital transformation benefits all segments of society, particularly prioritising elderly individuals, rural residents, persons with disabilities, and marginalised or disenfranchised populations and their advocates. In particular, signatories of the declaration pledge action in key areas such as connectivity, digital education and skill

development, ensuring fair and equitable working conditions, and enhancing digital public services.

Based on the screening and the interviews conducted with key informants, it emerges that, despite the European Union's significant investment in digital skills development, the overall level of digital proficiency in Europe has not experienced substantial growth. In light of this observation, the Joint Research Group worked on the 'JRC SCIENCE FOR POLICY REPORT: SUPPORTING POLICIES ADDRESSING THE DIGITAL SKILLS GAP: Identifying priority groups in the context of employment'. This report has identified the profiles of the priority groups being below basic digital skills according to the Eurostat's Digital Skills Indicator (DSI) definition and which would require policy attention to move up the current level of 54% of adult citizens in Europe with basic digital skills up to 80% according to the digital targets 2030. Furthermore, the report proposes targeted measures to tailor and adjust the educational training offerings to the unique context and requirements of specific target groups, such as age, educational attainment, migrant background, and living conditions. These measures encompass a number of key areas, including enhancing the accessibility of courses, devising strategies to reach participants, fostering participant motivation, and implementing dropout prevention initiatives (European Commission, 2022).

For the practical implementation of the EU DigComp framework, the Joint Research Centre (European Commission, n.d.a) of the European Commission produced Guides to support stakeholders, including practical information and best practices that aim at being inspiring:

- **'DigComp into Action: Get inspired, make it happen'** is a user guide that serves as a resource to assist stakeholders in implementing the DigComp framework by showcasing 38 existing inspiring practices of DigComp implementations. The document spans various domains including education, social inclusion, social participation, and employment.
- **'DigComp at work: the EU's digital competence framework in action on the labour market: a selection of case studies'**, accompanied by its 'Implementation Guide' with practical guidance for labour market intermediaries on the use of DigComp, offers insights into the application of the strategy within the contexts of employability and employment. It covers three major areas: the identification of the needs, the development of educational training materials based on the needs, and the validation of skills. The report lists case studies where digital professional profiles were formulated using DigComp as a general reference, delineating the requested digital competencies for selected job roles. Stakeholders involved in these implementations include digital experts, employers, managers, and HR professionals. The Implementation Guide outlines the methodology employed in crafting professional digital profiles. Noteworthy practices, such as the initiative by the Red Cross in Spain, which developed 23 profiles for low qualification jobs, follow this approach. Additionally, vocational education and training (VET) providers across Europe are tailoring their educational offerings to align with the specific digital competencies identified for each professional profile.

- **‘Developing digital competence for employability:** Engaging and supporting stakeholders with the use of DigComp’ is a report based on the insights gathered during a stakeholders’ consultation workshop in 2019, which endeavours to shed light on possible policy strategies to support labour market intermediaries in their efforts to enhance digital skills using DigComp.

Furthermore, the ‘Digital Education Hub’ established by the European Commission is another significant initiative that serves as a pivotal platform for fostering innovation and collaboration in the domain of digital learning across Europe. This hub functions as a beacon for accessibility, offering resources, tools, and best practices to educators, students, and policymakers alike. Through its comprehensive approach, it aims to bridge the digital divide, ensuring equitable access to quality education for all. By harnessing the power of technology, the hub empowers learners to thrive in the digital age, preparing them with the skills and knowledge needed to succeed in a rapidly evolving world. Its dedication to excellence and inclusivity, the digital education hub embodies the European Commission's vision of a digitally empowered society (European Commission, n.d.b).

As Europe progresses towards its digital future, it is crucial to acknowledge that digital skills are not only vital for individual empowerment, social inclusion, and employability, but also form the foundation of the European Union's vision for the Digital Decade. European policies for the implementation of the DigComp strategy are targeted at all citizens. At the same time it is a flexible instrument for European countries which shall all commit to implement their frameworks by tailoring them to local needs and contexts, ensuring that the benefits of the digital transformation are accessible to everyone.

### **Key actors for the implementation and promotion of EU DigCom framework for persons with learning difficulties and other marginalised groups**

Key informants stated that digital inclusion requires the coordinated effort and collaboration of multiple stakeholders. Apart from governmental institutions at the EU, national, and regional levels, educational institutions play a pivotal role in integrating digital skills into their curricula. Technology and telecommunications companies also hold responsibility in developing accessible products and services. Additionally, third-sector organisations, social workers and individuals who provide support to socially marginalised groups and integrate digital inclusion aspects into their daily assistance, all have a crucial role to play. An exemplary organisation in this sector is Fundación ONCE, dedicated to promoting the social inclusion of people with disabilities in Spain. Drawing on their specialised knowledge and expertise, Fundación ONCE makes substantial contributions to national-level digital literacy plans and digital skills training programs.

Public employment services are also fundamental for the promotion of the framework. One of the key informants highlighted the pivotal role in Spain of the national-level public employment service which has recently updated its system interface. Now, when employers post job vacancies, they are required to indicate the specific competencies from the DigComp framework

that candidates must possess for the position. This measure significantly contributes to raising awareness about the framework.

Each of these actors can bring their unique expertise, resources, and perspectives to address the challenges of digital inclusion. Collaboration between the public and private sectors, as well as the active participation of the community and organisations, are fundamental to ensuring that digital inclusion strategies are effective and sustainable over time.

At the European level, we identified different key actors who stand out for their efforts in promoting digital inclusion among vulnerable groups. Two of the most relevant are:

‘All Digital’ is a leading pan-European association representing member organisations across Europe that work with 25,000 digital competence centres. It plays a crucial role working towards digital skills development of vulnerable groups. A relevant project developed by All Digital is the ‘DigComp Hub’ funded by the Erasmus + programme with the main purpose of disseminating, training, documenting good practices and engaging adult education providers and educators across Europe in the path to digital transformation through the use of the DigComp Framework. All Digital is also the host of a community of practice, DigComp CoP, gathering thousands of members. Community of practice is the place where different actors working with the DigCom strategy are and can connect with people working in the same areas. Joining the community gives the possibility to raise questions, express opinions in discussions, engage in working groups, exchange materials and experience, access good practices, learn from peers, share resources and be informed about the latest developments concerning the CoP. Communities of Practice are open to everyone, welcoming both individuals and organisations. (ALL DIGITAL AISBL, n.d.).

‘Digital Collective’ (DigiCo) is a European network based in Belgium, with a primary focus on promoting basic digital skills. Their mission is to ensure that European citizens possess the necessary digital competencies to thrive in society, particularly in terms of accessing employment opportunities or maintaining job positions. With approximately 120 partner organisations dedicated to digital inclusion, Digital Collective aims to establish a unified narrative and disseminate common best practices among training providers and advocates of digital inclusion. They engage policymakers cohesively to effect tangible changes at the policy level. Working closely with local partners and training providers who directly interact with digitally excluded people, Digital Collective supports the development of basic digital skills training programs and assessment methods. They facilitate connections with similar organisations operating across Europe, providing a European perspective on digital inclusion initiatives. By collaborating closely with trainers, Digital Collective incorporates insights into the challenges faced by digitally excluded individuals into their advocacy efforts and operational strategies, bridging the gap between grassroots organisations at the local level and higher policy and research spheres (Digital Collective, n.d.).

### 3 Gaps and challenges in the implementation at levels 1 and 2 with regard to persons with learning difficulties

Key informants identified a number of challenges associated with the implementation of the EU DigComp strategy, which were not limited to persons with learning difficulties but also extended to other vulnerable groups. The EU DigComp indeed serves as a broad instrument, acting as a reference for Member States and targeting the general population. Also, the rapid evolution and continual updates in digital technologies demand ongoing adjustment of the skills essential for their use.

According to the feedback given by the key informants, there is an evident disconnection between the theoretical framework of the DigComp and the practical implementation of support for digitally excluded people on the ground. The framework does not really speak to them and its extensive document is not easily applicable to local contexts at the ground level by training providers. Moreover, while in some countries (such as Austria and Italy) there is much awareness about the DigComp strategy because the framework is included in the national regulation and it is embedded in the educational curricula, in many others there is a notable lack of knowledge and understanding of the framework.

Time is a critical factor influencing the implementation of such a framework. To effectively integrate a model like this in local contexts, considerable time is required. It necessitates years for the framework to cascade down to national and local levels. Primarily, it must be comprehensively understood and endorsed by national organisations, who then need to be persuaded on the practical applications tailored to their contexts and needs. This process is crucial for the successful integration and utilisation of the framework at the grassroots level. And, as outlined by one of the key informants, key actors such as employers currently do not fully consider the framework.

Documentation for DigComp is often inaccessible to persons with learning difficulties. While accessibility standards guidelines exist, stakeholders frequently hesitate to enforce high accessibility levels due to concerns about the associated burden and costs. Also, the material lack of access to training resources and technology itself may also be a challenge for persons with learning difficulties.

In relation to the assessment and validation of digital skills, persons with learning difficulties and other vulnerable groups facing digital exclusion often have lower proficiency in language skills, which presents challenges in comprehending lengthy and complex sentences, and they may experience test anxiety. Furthermore, many resources have been developed in various languages, across different geographic regions, and for different purposes and needs. Identifying the available tools and resources presents a challenge in itself.

The diversity of solutions available at the local level makes the comparability of proficiency levels across different countries more challenging. While DigComp acts as a general reference

framework, various nations have established their own education and training systems, along with validation and assessment mechanisms, resulting in varying implementation methods.

It clearly emerged the need to implement methodological adaptations in the delivery of training in digital skills, and in the qualification of teachers about the learning processes of this disability group and how to approach the training. A top-down approach for implementing the EU DigComp is not considered an effective solution, given that each country possesses a unique digital context, including specific platforms, regulations, and providers (for instance, utilising PIX in other countries necessitates specific adaptations). Moreover, translating the tools into different languages presents challenges in ensuring a common understanding due to linguistic nuances.



## 4 Bottom-up initiatives working towards the digital inclusion of persons with learning difficulties

Bottom-up initiatives refer to activities and projects that are conceived and executed ‘from below’, typically by practitioners who possess specialised expertise in engaging with marginalised and vulnerable populations, particularly persons with learning difficulties. While a top-down approach brings value at the EU policy level to ensure consistency in standards across European countries, all key informants stressed the significance of embracing a bottom-up approach in the development of education and training programs, as well as assessment and validation systems. This approach is essential to effectively address the unique needs of persons with learning difficulties.

A review of the screening and interviews has identified a number of significant case studies, projects and initiatives targeting persons with learning difficulties and other marginalised and vulnerable groups. The following section presents a selection of exemplary bottom-up initiatives that have been identified as exemplars of good practice. It should be noted that this selection is not intended to be exhaustive.

‘Right To Connect Now’ (RTCN) is an Erasmus+ funded project led by EUC, JKU, and EASPD is an initiative implemented across different European countries seeking to bridge the digital divide through a peer-to-peer education model and by creating accessible digital tools for people with intellectual disabilities (PwID). It establishes a universally applicable framework for the competence development of those supporting learners with intellectual disabilities in enhancing their digital skills. It also develops an accessible e-learning platform tailored specifically for PwID needs and requirements, co-designed in collaboration with them, and accompanied by comprehensive guidelines for its utilisation.

‘Por Talento Digital’ is a permanent training program in digital skills and technological professions launched under the coordination and financing of the ONCE Foundation and its associations Inserta Empleo and Inserta Innovación, and the support of the European Social Fund. It is aimed at the acquisition of knowledge and technological and digital qualifications of people with disabilities to promote their employment and inclusion in professions with high demand in the labour market, thus multiplying their professional perspectives. The training courses offered are designed to enhance both fundamental digital skills and specialised ones. The program incorporates several distinctive features to ensure its effectiveness and accessibility:

- Adapted training: the training is designed to meet the physical and cognitive accessibility needs of students, incorporating technical aids and personal support.
- Flexible learning modalities: training is offered in various formats, including in-person, online, and blended learning, to accommodate different learning preferences and needs.
- Nationwide reach: the program is accessible throughout Spain, ensuring that participants from all regions can benefit.



- Support programs: financial aid and individual training scholarships are available to facilitate attendance and participation in the courses.

(Por Talento Digital, n.d.).

The Autism and Learning Disability Digital Inclusion Network (ALaDDIN) is a programme operating under the 100% Digital Leeds umbrella in the United Kingdom. This initiative is dedicated to providing inclusive digital support for people with learning disabilities and autistic individuals in various aspects of their lives, including employment, health, and social participation. The primary objective is to establish a citywide network that facilitates the provision of solutions to the barriers to digital inclusion faced by individuals and organisations that support them. This is achieved through the implementation of an inclusive, person-centred model of digital activity and participation. It is evident that individuals with learning disabilities, autism, or both may be excluded from the digital sphere. The programme was established in response to the global pandemic of 2019-2020, comprising approximately 30 organisations. Its objective is to bridge the digital divide experienced by the target group. ALaDDIN is committed to addressing the issue of digital exclusion by:

- driving a paradigm shift in perceptions and culture surrounding the utilisation of digital tools. This involves developing training programs not only for persons with learning difficulties but also for their families, caregivers, support workers, and staff/volunteers.
- serving as a forum for sharing funding opportunities, fostering partnerships between service providers, and exchanging best practices and challenges. It acts as a collective voice, advocating for the common interests of the community.
- facilitating the procurement of digital equipment and supporting organisations in ensuring that people can use these tools in a manner that is accessible and meaningful to them.
- ongoing engagement with persons with learning difficulties, autism, or both in testing accessibility and gathering insights into barriers to inclusion, ensuring that interventions remain responsive to the needs of the community.

(Autism and Learning Disability Digital Inclusion Network (ALaDDIN), 2023).

‘The Reading and Writing Foundation’ (Stichting Lezen en Schrijven) is a Dutch organisation specialised in preventing and tackling low literacy in the Netherlands, with a particular focus also on digital literacy. They carry out a project aimed at training people with intellectual and/or physical disabilities who possess low-level skills and are employed in sheltered employment companies. As part of this project, a specialised platform tailored to the target group has been developed. This platform utilises predominantly images rather than text to assess the digital skills level of participants (Stichting Lezen en Schrijven, 2020).

The ‘Pact for GENERATION D’ is an initiative of the Spanish Government that provides a space for companies and organisations to share projects and opportunities for companies, the third

sector, the media and institutions in general, around the reduction of the digital gap, digital inclusion and lifelong learning in terms of digital skills (Government of Spain, n.d.)

With the aim of promoting the digital employability of people with intellectual disabilities, Fundación Telefónica and Fundación Prodis in Spain have developed guides that include the results of a study on the influence of technology to promote the employability of people with intellectual disabilities. Under the name of the ‘Digital Model for Labour Inclusion of People with Intellectual Disabilities’, they offer a point of reference to promote the digital inclusion of this group and help them face the challenges of the digital society on equal terms. They provide four guides based on a study on the influence of technology on the employability of persons with intellectual disability, which offer guidelines from the point of view of employers, job coaches, families and persons with intellectual disabilities themselves (Fundación Telefónica, 2023).

‘Technological Alliance for Inclusion’ (Alianza Tecnológica por la Inclusión – ATI). An initiative by Plena Inclusión (The Spanish Umbrella Organization for Intellectual Disability) financed with Next Generation Funds under the Recovery and Resilience Plan, to tackle the digital gap among persons with disabilities. The project aims at involving tech and tech-based companies and convinces them of the social and financial benefit of developing products and services that are accessible, usable and understandable for all, and specially for people with cognitive issues (Plena inclusión, 2023).

‘An inclusive digital economy for people with disabilities’ is a report jointly produced by Fundación ONCE and the ILO Global Business and Disability Network in the framework of Digital Hub Europe, which analyses the digital transformation of the world of work and how it affects opportunities and challenges for the inclusion of persons with disabilities, with the objective of raising awareness and identifying actions to shape a future of work in a more disability-inclusive way (ILO GBDN and Fundación ONCE, 2021).

Furthermore, in light of the specific needs of persons with learning difficulties, it was emphasised by two key informants that while DigComp delineates 8 levels of digital skills proficiency, ranging from Foundation to Highly Specialised, the framework lacks a "zero" level. This level would address skills even more foundational than those covered in the Foundation level, encompassing basic abilities such as starting a computer and typing on a keyboard, essential for accessing digital tools. To this regard, an exemplary best practice is the Dutch framework ‘Digital Skills for Adult Education’ which expands upon the Foundation (level 1 and 2) outlined in the DigComp strategies and determines three proficiency levels: Entry Level, Basic Level 1 and Basic Level 2. These are in line with national standards in language and mathematics. The Digital Skills Guide for Adult Education developed is for educators, supervisors, learners, and organisations involved in designing and delivering digital skills training and courses tailored for adults with limited education and digital proficiency (CINOP, 2018).

## 5 Conclusions

In conclusion, the implementation of the EU DigComp strategy with regard to persons with learning difficulties presents both opportunities and challenges. While the European Union has demonstrated a strong commitment to shaping the digital future of its citizens through various policy initiatives, the practical implementation of these strategies at local levels faces several barriers.

One significant challenge is the discrepancy between the theoretical framework of DigComp and its practical implementation on the ground. The complexity of the framework and its lack of adaptability to local contexts hinder its effectiveness, particularly for vulnerable groups such as persons with learning difficulties. Additionally, the rapid pace of technological advancement necessitates constant adaptation of digital skills, further complicating efforts to bridge the digital divide.

Efforts to address these challenges include the design and development of accessible training and assessment and validation tools which are tailored to the specific needs of the different target groups. However, ensuring accessibility and customization for persons with learning difficulties remains a priority.

Collaboration among stakeholders at various levels is essential for the successful implementation of digital inclusion initiatives. Public and private sector organisations, educational institutions, and third-sector organisations all play crucial roles in promoting digital literacy and inclusion. Bottom-up initiatives, led by practitioners with expertise in engaging marginalised groups, offer valuable insights and solutions tailored to the unique needs of persons with learning difficulties. While a top-down approach can be more effective to raise awareness about DigComp across European countries.

Moving forward, it is fundamental to continue exploring innovative approaches to digital inclusion, while also addressing gaps in resources and accessibility. By leveraging existing frameworks and resources, fostering collaboration among stakeholders, and prioritising the needs of persons with learning difficulties, we can work towards a more inclusive digital future for all.

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## 7 Annex

### Key informants interviewed for this report

Name of the key informant	Organisation and/or area of expertise	Associated partner	Date	Duration	Setting
Clara Centeno	Senior Researcher, Education and Training, Digital skills and EU values at European Commission	No		1h 10min	Online
Léa Ichikawa	Program Manager at The Digital Collective (DigiCo) / Talks about inclusion and digital skills	No		1h	In person
Sabina Lobato Lobato	Director of Training, Employment, Operations, and Studies at the Fundación ONCE	Yes			via email
Mónica Cadenas	Director of Por Talento Digital at the Fundación ONCE	Yes			via email