

DLiS

Digital Learning
Intervention Sociale

Result 1: Inventory and the creation of a digital agility index

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In a "Platform State" environment, becoming/being a vector for the enhancement of rights and access to essential services requires social workers to acquire solid digital skills combined with specific reflexive skills related to their professional field (Plantard & al., 2021). As part of the EU's drive to combat social inequalities and develop digital literacy, the ERASMUS+ DLIS project brings together six partners from four European countries, representing Western, Eastern and Southern Europe, for three years (2021-2024). The project aims to define the contours of the professionalisation of social workers in digital social mediation. Three outcomes are expected at the end of the project. The outcomes contribute to the learning of digital social mediation as an emerging practice in social work teaching by designing learning tools (digital agility index, guide to ethical and deontological benchmarks and video capsules). The approach is based on the collection of problem situations (practice stories) collected by learners (FC, FI).

The focus here is on Outcome 1: taking stock of European digitisation policies in relation to students' digital agility, based on 4 European countries (Belgium, France, Greece and Romania).

The aim of this first output is to produce an inventory of the reality of digital divides (legislative framework, needs, existing tools and approaches) by providing an overview of each partner country, and a digital agility index for social workers. These initial deliverables will be used to draw up European recommendations for authorities and professionals on digital access to combat social inequalities and the social divide (Brotcorne & Mariën, 2022). The aim of this project is to gather and produce objective data to diagnose the digital agility of social work students. The aim is to characterise the digital strengths and weaknesses of students in this specific field of learning. This diagnostic stage is used to support the production of tools designed to provide learning responses through systems designed and developed around the issues of digital uses in social work (results 2 and 3).

To develop the digital agility index, the partners produced a tool for diagnosing the digital agility of students in their various countries. The needs analysis carried out in the pre-project phase led the partners to the conclusion that there is not yet this type of tool for social workers and social work students, even though they are the real interfaces between civil society and the public authorities in terms of social emancipation and the promotion of social rights. While the construction of the indicator will initially be used here for a transnational diagnostic stage, the index could subsequently be reused by institutions with a view to reappropriating it in initial and continuing training, in order to prepare learners to assess their level of agility and raise their awareness of the many issues underlying the use of digital technologies in social work. The aim of this tool is therefore to be replicated: higher education establishments in social work, as well as those involved in continuing social work education, will be able to appropriate it according to their needs and to developments in access to essential rights and services. Training institutes will then be able to provide targeted support for their digital apprenticeships in relation to specific issues arising in their field.

agility index. In this sense, the creation of a digital agility index is an innovative approach with a high potential for transferability outside the project: to European training establishments that do not have this tool, to teachers, trainers, educational managers and student communities on social work training courses, as well as to social work professionals and the organisations that employ them and wish to assess their digital skills.

Until now, strategies to improve the digital skills of social workers have been based on personal and/or organisational initiatives, and have mainly provided "case-by-case" responses. The effects of these strategies seem limited: a broader framework is needed to encompass support for vulnerable groups in all the complexity of today's digital and paperless environment. The project's focus on the social work professions, with their specific apprenticeship schemes, is aimed at improving the quality of support for vulnerable people who are digitally (and socially, or even 'societally') excluded. As part of a European initiative to combat social inequality and develop digital literacy, the project provides practical ideas and training to raise awareness of the issue among social work professionals.

In summary, it proposes :

- To draw up an inventory of training needs in the project countries by diagnosing the digital agility of social work students and professionals through the production of a digital agility index,
- Identify the specific needs of professionals in order to train them and reduce the digital vulnerability of beneficiaries,
- To model learning systems that meet the functional, ethical and legal needs of professionals, with a view to combating the inequalities resulting from the different digital divides experienced by people receiving support,

Produce practical tools and guides for professionals that can be transferred across Europe.

This study is not intended to be an exhaustive overview of the situation in the partner countries. In addition to the literature and debates on the issue of digital agility and social work, it is based on the analysis of 58 interviews conducted in France and Belgium and 63 questionnaires sent to students and professionals. This quantitative feedback from the field, based on a small number of surveys, is intended to enrich the approach and the thinking behind it, but it is not the only way to shed light on the subject The results and analyses are presented in part 2.



ISSUES AND CONCEPTUAL FRAMEWORK

By proposing to train social workers (professionals and students) in digital social mediation, the project aims not only to have an impact on professionals in training in the partner institutions, but also to achieve widespread recognition of the 'role' of digital mediator among all social work professionals and trainers throughout Europe. While professional and educational cultures differ from one European country to another, the challenges of the digital transition are common, and manifest themselves in shared issues that can be tackled collectively. Recognising digital mediation as a cross-cutting role in all areas of social intervention breaks down the notion that digital skills are limited to specific professions, and facilitates their dissemination throughout society. Furthermore, the training of social workers in digital uses and tools is inextricably linked to the degree of inclusion and digital autonomy of the populations they encounter. At a time when the fight against social exclusion hinges on digital support, training social workers in digital skills is a major challenge both for the profession and for the people they support. Social workers are the interface between citizens and the promotion and enhancement of their social rights. It is therefore through this 'pivotal' role with vulnerable groups that they can play a part in passing on digital skills and helping to combat e-exclusion and the digital divide.

The Digital Learning project aims to produce concrete results that are free of rights and transferable. These outcomes are directly linked to the priorities of supporting digital capabilities and innovation in higher education and the training of social work professionals:

- By making it possible to measure the digital agility of social workers;
- By formulating ideas on the role of social digital mediation and the tools on which professionals and students can draw;
- By modelling a distance learning base through freely accessible themed e-learning modules.

The approach that consists of formalising digital social mediation through concrete practices and ethical reflections is innovative because it legitimises this professional role by highlighting its cross-disciplinary nature in the social work professions, and it encourages the consolidation of a genuine community of professional practices on a European scale.

Digital social mediation would therefore meet specific learning objectives in the field of social work, in response to the social and soon to be societal problems created or reinforced by the increasing digitisation of everyday life.

Firstly, and prior to constructing the index, we will present an overview of European policies on the digitisation of society. This inventory of digitisation objectives in European policies, illuminated by angles of analysis ranging from macro- to micro

(Bönfenbrenner, 1979) system, focuses on the needs and degree of digitisation of the partner countries.

The DLIS project is at the crossroads of European digitalisation policies (target 2030) and scientific work to characterise and clarify the notion of digital agility, or fragility.

social work students, but also professionals in the field. For themselves, and for the people they work with.

In such a context, in order to define the contours of digital social mediation as a specialisation in social work training, we need to anchor our work (methodology, results and analysis) in a theoretical framework that is referenced and valid in the human and social sciences. The issue of digital social inequalities is the subject of a great deal of scientific work (in education, sociology, anthropology of uses, economics) and the approaches to defining them are not only numerous, but also situate the subject in distinct directions (Fenoglio, 2021). As part of the DLIS project, we will draw on the conceptual framework of changes in social work in the digital age (Compère & Philippart, 2021; Okbani, 2021; Mazet & Sorin, 2020; Philippart & al. 2022; Sorin, 2019). For the concepts of the digital divide, digital inclusion and digital social inequalities, we will retain Fenoglio's (2021) watch file, in that it "circumscribes the terminology" and "invites a critical re-reading of the current acculturation of digital education". To this end, we draw on the frameworks of thought of researchers such as Van Dijk (2020), Brotcorne & Mariën (2020, 2022), Granjon (2009, 2022), Vendramin & Valenduc (2003), Colin & al. (2021), whose work is authoritative in the humanities and social sciences.

The literature currently defines "digital social inequalities" in terms of "digital capital" (Bourdieuian approach, Granjon, 2022). Another approach is to situate them in terms of instrumental skills, structural or informational skills, and strategic skills (Steyaert, 2001; Vendramin and Valenduc, 2003; van Dijk and Hacker, 2003). We will base our analysis on the notion of inequalities of use, which refers to "more than just access to computer equipment or an Internet connection [...] the fact of having, or not having, the knowledge and skills needed to resolve difficulties and develop uses of digital technology that enable them to secure a rewarding social position, as well as confidence in their abilities, interest and the social support that goes with it" (Brotcorne and Valenduc, 2009). In this sense, some researchers also speak of the "digital maturity" of citizens (Brotcorne and Mariën, 2020). Colin et al (2021) situate these digital social inequalities around the trinity of having, knowing and power.

Literacy is defined by the OECD as "the ability to understand and use written information in everyday life, at home, at work and in the community to achieve personal goals and to extend one's knowledge and capabilities" p.12. (...) "The use of new technologies in everyday life, the changing demands of the labour market and participation in globalisation all contribute to the need for skills upgrading" p.19 in OECD, [Information Literacy \[archive\]](#) [PDF] (final report of the International Adult Literacy Survey).

We will use Grudzieki and Martin's (2006) definition of "digital literacy" for its conceptual delimitation in the field of the project we are dealing with, in direct relation to the DigEuLit Project's emphasis: "digital literacy is the knowledge, attitude and ability to use digital tools and facilities to identify, access, manage, integrate, evaluate, analyse and synthesise [digital resources](#), build new knowledge, create media expressions and communicate with others, in the context of real-life situations".

and to reflect on this process". In J. Grudziecki and A. Martin, "DigEULit: Concepts and Tools for Digital Literacy Development", *Innovation in Teaching and Learning in Information and Computer Sciences*, vol. 5, no 4, 2006, p.249-267. However, without wishing to engage in a computational comparison of definitions, we cannot ignore the one used in the same article (p.254), which states that digital literacy is: "the awareness, attitude and ability of individuals to use digital tools appropriately. It enables a facility for identifying, accessing, managing, integrating, evaluating, analysing and synthesising digital resources, building new knowledge, creating media of expression and communicating with others - in everyday situations - to enable constructive social action." The DigEuLitProject then proposes a model of 3 interfaces designed to improve a learner's digital literacy skills. Of the three levels of digital literacy development, the second is called "digital use", which corresponds to a professional application of skills that develops when digital uses interweave the understandings and actions of the same community of practice, thanks to their daily learning. Ideally, this will lead to a genuine community of learning, as part of a lifelong learning pathway, as we might venture to add today (the initial publication dates from 2006).

Based on the principle that an exclusively techno-solutionist approach, devoid of territorial, educational and social contextualisation, will not on its own solve the problem of acquiring¹ digital literacy among social work students, the elements presented in this first deliverable are anchored in a conceptual framework that takes into account both the aim of European social digitalisation policies and scientific research in the humanities and social sciences. This approach, which combines a 'top-down' approach for the former and a 'bottom-up' approach for the latter, aims to compare what is 'expected' (political ambition), 'what is observed in the research field' (empirical and conceptual modelling) and what we can observe in terms of digital agility among social work students in each partner country.

Comparing these perspectives will enable us to draw up a clear pedagogical conceptual framework of what digital social mediation requires in terms of teaching for the purposes of professionalisation.



Part 1:

European policies on digitisation

FOREWORD

The DLIS project is in line with the political ambitions of the EU's "digital compass" for 2030: its aim is to promote the next generation of digital technologies, in particular quantum computing. These ambitions cannot be achieved without strengthening digital capabilities in education systems: initial training and vocational training. The aim is to achieve the target of 60% of Europeans enrolled in training by 2030. At least 80% of adults should have basic digital skills, and 20 million ICT specialists will be employed in the EU. It is also expected that at least 60% of adults will take part in training courses each year. The number of people at risk of poverty or social exclusion in Europe is to be reduced by at least 15 million.

The European development of e-administration is a response to these Community policies, which result in the dematerialisation of services and administrative procedures, but we know that they are disrupting relationships: exchanges take place electronically, by email, text message or chat box, with appointments being made more and more by Internet, without the possibility of physical contact (Préfectures, Pôle emploi, town halls, Caisse d'Allocations familiales, health centres, etc.). Problems of access to online services lead to inequalities, at a time when technology should be supporting the empowerment of social services users. It has been observed that the shift in social workers' remits towards digital support for people in social difficulty is taking place "without training" and with a "lack of confidence" on the part of professionals. Indeed, many social workers themselves find it difficult to get to grips with digital techniques. These situations have a direct impact on changes in the practices of social work professionals. Against this dual backdrop of the increasing digitalisation of society and the need to respond to the new needs of those receiving support, the DLIS project aims to help social work professionals and students 'acquire digital agility'.

Faced with a public in need of digital support, social work students and professionals need to draw on solid digital skills combined with reflexive skills specific to their field of action and intervention.

The aim of the DLIS project is to ensure that social work professionals and students acquire sufficient digital agility (increased capacity in digital uses and tools) to provide support to people in situations of digital divide. These professionals work, or are in the process of working, in the field of social work in the social economy, the public sector and the private sector. The project also aims to enhance the skills of students and professionals through various learning systems designed and developed from the ground up.

A European project, DLIS brings together a consortium of social engineering specialists from training institutes, university research and professional bodies. They come from countries in Western Europe (France, Belgium and Luxembourg), Eastern Europe (Romania) and Southern Europe (Greece). These countries are home to different realities embedded in diverse public policies and social histories. Drawing on these varied experiences, DLIS aims to enhance ICT training for professionals and offer them a number of methods and tools adapted to their specific context to develop their 'digital agility'.

OBJECTIVES AND METHODS

The aim of this publication is to present the essential European political, legislative, technical and societal context of the DLIS e-digitalisation and social work project.

It is based on a brief and synthetic review of the knowledge relating to the axes of political development in which social transformations and transitions are taking place. Uncertainty, transition, revolution? Over the last 10 years, how have European policies for the development of digital technologies gradually affected the daily lives of all citizens, including the most socially vulnerable? What are the consequences for social innovation and the training and qualifications required in the social engineering professions?

Using a macro-sociological approach, this paper seeks to outline the main contours of the state of play of digitisation policies in European society. Then, using a meso-sociological approach, it seeks to link these elements to the challenges of social work and the changes in professional practices needed to support people, at the micro-sociological level. These practices are being challenged by the political context of digital deployment in all sectors of society, and by an unprecedented health crisis over the last 24 months, which has had a major impact on the work of professionals in the social sector.

In part 1 of the document, the EU's digital strategy for 2030, our project is situated in its structural and political complexity. We will see the whole European construction of the digital world as an ambitious political will that involves both the world of the economy, research and training and the daily lives of all citizens with the development of e-administration.

Part 2 of the document describes the state of digitisation in the countries from which the project partners come. It presents the European digitisation criteria and indicators and maps out the 5 countries involved in the DLIS project: France, Belgium, Luxembourg, Greece and Romania.

Part 3 sets out to link the macro-political context² with the meso- and microsystemic contexts, from the point of view of social work and the need for digital skills. It highlights the challenges and levers for action posed by the digitisation of society on social work and the dematerialisation of administrations. Based on an analysis of the situation in France, it will show the limits of the measures already implemented to dematerialise the administration.

We shall see that what we are talking about is "social innovation". In other words, a thousand forms of digital organisation implemented to respond to needs, to develop new responses to social needs that are poorly or not at all satisfied. We will see that these digital technical solutions and the systems they implement lead to new uses of ICTs and new ways of providing social support that call into question the support practices of professionals.

The practices of professionals are also being disrupted by the arrival of new demands for support from new target groups. While the digital divide initially

²Bronfenbrenner, U. (1979). *The ecology of human development: experiments by nature and design*. Cambridge, Massachusetts: Harvard University Press

The dematerialisation of society has resulted in a massive demand for support for social welfare users (who are economically, socially, linguistically and/or culturally disadvantaged). The profiles of people affected by the increase in digitisation and lost in its labyrinth have changed considerably in France and Belgium. People are flocking to social services who are not precarious in a number of ways, but who are numerically fragile.

While education and income levels play a decisive role in the digital divide, the fact remains that the skills divide affects users with a wide range of profiles³.

For these reasons, this report adopts a broader terminology than "social welfare target groups" or "vulnerable groups/individuals". The public concerned by the digitalisation of society in terms of access to essential services and fundamental rights actually includes any citizen in a situation of digital vulnerability. As a measure of epistemological and theoretical precaution, with regard to the target audiences and the registers of activity of the various players in the professional field, we have opted for a taxonomy that requires us to 'take a step to the side' in the usual representation of the 'public in social action' and 'the professional in social action'.

In short, the "digitally fragile individual/public" does not systematically correspond to the social action public approaching the professional for a targeted problem. "It is often social services and voluntary organisations that, through a generally unformalised principle of delegation, take on users who come up against digital barriers in accessing their rights; it should be noted that this delegation effect applies from public bodies (social security funds in particular) to social services, but also from social services to voluntary organisations"⁴.

This reconfiguration of the public and professional action channels is on the way to becoming a new issue. The term "beneficiary", "user" or "precarious individual" used in this document therefore implies the notion of the "digitally fragile".

In order to respond to the problem posed by the link between "the deployment of digitisation and social innovation" in the EU, this document is the fruit of international documentary research, focusing in particular on European Union resources: committee reports and European statistics, in particular and assessment of the digitisation of society with regard to European and international criteria and indicators.

A diachronic and factual approach has been adopted in order to create a dynamic structure for the text. We based ourselves on the original texts published by the EU, and included factual documents, statistical data and academic references relating to changes in social work. We carried out a brief bibliographical search in the CAIRN platform databases in particular.

³ Van Dieren, M. (Nov-Dec 2021), "Des fractures multiples" in "Contrastes" no. 207: "Digitalisation: la nouvelle fracture sociale", Namur, Ed. Equipes Populaires.

⁴ Mazet, P. (2022), *Conditionnalités implicites et productions d'inégalités: les coûts cachés de la dématérialisation administrative (Implicit conditionalities and the production of inequalities: the hidden costs of administrative dematerialisation)*. Observatoire des non recours aux droits (ODENORE), Grenoble.

According to **Urie Bronfenbrenner's *Ecological Systems Theory (1979)***, 4 interacting systems or environments influence change and the cognitive, moral and relational development of individuals.

1. **MICROSYSTEM.** This is the most immediate or closest level in which the individual evolves. The scenarios included in this system are mainly the family network and the original social environment.
2. **MESOSYSTEM.** It includes the interrelation of two or more environments in which the person is actively involved. It can also be understood as the link between microsystems. Clear examples might be the relationship between the individual, his family and his relational network... For the beneficiaries of social action, we can envisage an extremely reduced, or precarious, meso-system. By extension, "digitally fragile" people, who are powerless when it comes to digital tools, live in a social space that restricts their range of possibilities and uses of ICTs.
3. **EXOSYSTEM.** It refers to professional practices, to the forces that influence what happens in microsystems. In this case, for the DLIS project, the "digitally fragile" individual is not understood as an active subject. This is because they are unable to use it (lack of equipment, lack of access, lack of digital agility). But it is the evolving practices of professionals that enable digital support for these people. The DLIS project acts on this register of systems in interrelation with the macro, meso and micro systems.
2
4. **MACROSYSTEM.** It refers to the social, political, cultural and structural conditions which determine and define in each culture the general characteristics of the institutions, contexts, etc. in which people and individuals in their society develop. It constitutes the values of a culture, customs, "fields of possibilities", demographics, etc.

Added to this is the **chronosystem**, which introduces the temporal dimension into the scheme. This includes technical cultural evolution, changes in ICT usage and environmental living conditions.



THE EUROPEAN UNION'S DIGITAL STRATEGIES

In Europe, in the ICT sector, while innovation comes on the one hand from the players themselves, researchers, the public and industry, its development comes on the other hand from a common impetus, a strategic vision and a Community policy favourable to digital innovation. For more than a decade, the European Union has been proposing digital transformations that seek to give direction to Member States and their populations. In this oriented approach, it appears that the aim of stimulating Europe's digital transformation is to: maintain Europe's position in the world's geopolitical top three⁵, relaunch the economic recovery, and prevent inequalities from widening, so as not to add a digital divide to the social divide. However, we shall see below the limits of this proactive doctrine, as problems of digital literacy and illiteracy⁶ are appearing and characterising certain territories and certain European citizens who are the most vulnerable socially and/or digitally.

Europe's digital strategy is part of a dynamic of public and private collaboration to meet the societal and political challenges of accelerating the digital transition. One of the major challenges it addresses is a technical one: that of disseminating a culture of digital data, by putting in place the tools to encourage its collection, storage, security, access, enhancement and dissemination, and by working on the challenges of exploiting this data in research and innovation (algorithms and artificial intelligence in particular).

In order to situate the DLIS project in the European context, we have drawn up a chronological table of the main programmes adopted by the EU over the last 10 years for the digital transition of society.



⁵ With the United States and China

⁶ Illectronism (electronic illiteracy) refers to a lack of knowledge in the digital field, or even a total absence of basic knowledge of how to use electronic resources. It is a neologism, a transposition of the concept of illiteracy into the digital domain.

1A. DIGITISATION POLICIES IN EUROPE

➤ MAY 2010: THE EUROPE 2020 STRATEGY

The Europe 2020 strategy, adopted by the Commission and published in May 2010, defines the role of the Information and Communication Technologies (ICT) through 3 objectives which consist of :

- Improving access to digital goods and services across Europe for consumers and businesses,
- Creating an environment conducive to the development of digital networks and services,
- Maximising the growth potential of the digital economy.

This last objective, Objective 3 of the Europe 2020 Strategy, concerns "the promotion of digital skills and high-performance IT systems, the digitisation of industry and services, the development of artificial intelligence (AI) and the modernisation of public services". This objective is achieved by raising awareness, informing and training professionals in the use and benefits of digital technology. Through this political will, Europe's digital strategy presents itself as an opportunity to develop the quality of services for beneficiaries (professionals and users). Professionals need to take ownership of it and make appropriate use of it, particularly in the context of initial and ongoing training, in order to build a professional digital culture.

➤ 14 DECEMBER 2020 : THE DIGITAL EUROPE PROGRAMME (2021-2027)

For the period 2021-2027, the Digital Europe programme will give a boost to EU programmes. With a budget of €7.6 billion, the programme funds projects in five priority areas: "supercomputing, artificial intelligence, cybersecurity, advanced digital skills and ensuring widespread use of digital technologies throughout the economy and society, while continuing to modernise public services".

The programme aims to bring the research sectors closer to digital technologies and their deployment. To ensure the quality of services provided to European citizens and businesses, particularly SMEs, it aims to bring the results of research to the market. The investments made under the Digital Europe programme support both of the Union's twin objectives: a green transition and a digital transformation, while strengthening the Union's resilience and strategic autonomy.

➤ THE EUROPEAN DIGITAL SPACE AND CYBER SECURITY

This new digital working environment for businesses and administrations requires the creation of a secure space for data reliability and protection, as well as for the security of personal data. EU leaders approved the European Data Strategy and the creation of common European data spaces in strategic sectors. They gave priority to the health data space, effective from the end of 2021. The European Council also insisted on the need to set up European services in

In addition, the Group has developed a "secure cloud" to ensure that European data can be stored and processed on European territory, in compliance with European rules and standards.

Cyber security threats are on the rise. Cyber attacks continued to increase in the EU in 2020 and 2021, both in terms of their sophistication and number and their impact. The EU is working on various fronts to protect data from cybercrime and to guarantee an open, safe and secure cyberspace for citizens and for working organisations (public services and private services).

THE MAIN CYBER THREATS

1. Ransomware, malicious attacks: the average amount of ransom demanded doubled between April 2020 and July 2021,
2. Malicious software that gains unauthorised access to a device, damaging it or disrupting its operation. These attacks have decreased by 43%,
3. Attacks via e-mail,
4. Distributed denial of service attacks, which prevent the use of a network ... There were 10 million attacks resulting from Covid 19,
5. Non-malicious threats: 50% are due to incorrect configuration.
6. Stealth or clandestine mining: unauthorised use to make cryptocurrency, the most common method used by cybercriminals.
7. Data breaches and leaks: There is an increase in healthcare.
8. Disinformation, manipulation of public opinion through deliberate attacks: Covid 19 is one of the main targets of disinformation.
9. Threats to the supply chain, to gain access to data: 58% of attacks.

Source: [Main cyber threats in the EU - Consilium \(europa.eu\) 2021](#)

➔ MARCH 2021. DIGITAL COMPASS 2030: QUANTUM COMPUTERS AND ACTION PLAN FOR THE IMPLEMENTATION OF THE EUROPEAN SOCIETY OF SOCIAL RIGHTS

QUANTUM COMPUTER

The "Digital Compass 2030" sets targets for digital transformation in a number of areas, to reaffirm the Union's relevance in a number of technologies. This new plan reveals Europe's determination to remain a competitive player in the quantum revolution expected over the decade.

To meet this challenge, new targets have been set for quantum technologies: the Commission is aiming for the first quantum-accelerated computer by 2025, paving the way for Europe to be "at the cutting edge" of quantum capabilities by 2030. With a global market estimated at

948.82 million by 2025, quantum computing promises a considerable commercial and military advantage for those countries that succeed in this global technological competition⁷.

The global "digital compass" sets out the EU's concrete digital ambitions for 2030. It aims to :

- Promote the development at European level of the next generation of digital technologies, including supercomputers, quantum computing, etc.
- Building capacity in strategic digital value chains, particularly microprocessors,
- Accelerating the deployment of secure, high-capacity network infrastructures, including fibre and 5G,
- Strengthening the EU's ability to protect itself against cyber threats,
- Leveraging digital technologies to achieve the EU's environmental goals,
- Building digital capacity in education systems.

In addition, as part of the proposal for a digital compass in Europe's digital decade, the Commission has set a target that by 2030 at least 80% of all adults should have basic digital skills, and that there should be 20 million ICT specialists employed in the EU, with equal numbers of women and men⁸.

SOME POSSIBLE APPLICATIONS OF QUANTUM TECHNOLOGY

- Health: quantum computers will contribute to the faster and more efficient development of medicines, for example by simulating a human organism, a veritable "digital twin".
"This will enable virtual drug trials to be carried out, personalised cancer treatments to be developed, the genome to be sequenced much more quickly, etc..."
- Improving the security of communications and data transfers: secure quantum communication systems can protect sensitive communications, online voting systems and financial transactions, ensure the long-term storage of sensitive data relating to health and national security, and secure critical communications infrastructures.
- Improved monitoring of resources: quantum gravity sensors installed on Earth, or on board satellites, will measure gravitational fields, making it possible to detect obstacles, subsidence and underground water resources, and monitor natural phenomena such as volcanic activity...
Economic activity/environment: quantum computers will optimise the use of algorithms to solve extremely complex logistical and planning problems, saving time and fuel or finding the cheapest combination of renewable sources to power an energy network.

Sources: [Seven areas impacted by quantum computing | Inria](#)

⁷ China and the United States currently dominate this market. Source: [Who are the main players in quantum computing?](#)

⁸ Source: European Commission. COM (2021) A digital compass for 2030: Europe charts the digital decade, 03.2021

EUROPEAN SOCIAL RIGHTS

The European Commission presents the Action Plan for the implementation of the European Social Rights Framework and a recommendation for employment support, following the crisis linked to the Covid-19 pandemic. In Oporto, the participants committed themselves to achieving three major objectives under the 2030 Action Plan:

- At least 78% of people aged between 20 and 64 should have a job;
- At least 60% of adults should take part in training activities each year;
- The number of people at risk of poverty or social exclusion should fall by at least 15 million, including at least 5 million children.

To help Member States achieve these objectives, the Commission is presenting two decisive proposals for Council Recommendations on individual learning accounts and on micro-credentials, as announced in the 2020 skills strategy and the Communication on the realisation of a European area of education.

➔ 22 OCTOBER 2021: EU LEADERS CALL FOR RAPID PROGRESS ON DIGITAL STRATEGY

At the European Council, EU leaders stressed the importance of digital transformation for economic growth, job creation and competitiveness. They stressed the need for inclusive and sustainable digital policies, with a particular focus on digital skills and digital education for Europe's citizens. Only 56% of adults have basic digital skills in 2019, and 90% of today's jobs, in almost all sectors, require some level of digital skills.

➔ 10 DECEMBER 2021: LAUNCH OF A EUROPEAN ONLINE SELF-ASSESSMENT TOOL, INDIVIDUAL LEARNING ACCOUNTS AND MICRO-CREDENTIALS

A new European online self-assessment tool for e-skills has been launched by the Commission. It enables citizens to test their digital skills and access training opportunities tailored to their needs.



A NEW EUROPEAN SELF-ASSESSMENT TOOL FOR DIGITAL SKILLS

This tool is available on the EU's e-skills and e-jobs platform and on Europass in the 24 official EU languages, as well as in Icelandic, Norwegian, Macedonian, Serbian and Turkish. Based on the digital skills framework, this free test covers information and data literacy, communication and collaboration, digital content creation, security and problem solving. At the end of the test, respondents will receive an assessment of their skill level, which will help them determine how to improve and where to find the most appropriate training.

Internal Market Commissioner Thierry Breton said: *"For Europe to succeed in its digital transition, we need to invest in digital skills for all, so that everyone has a level of digital competence that enables us to use the internet and technological tools. This new online self-assessment tool we are launching today will be available to all of us free of charge and will help us understand how digitally skilled we are, where and how we can improve."*

For many years, the Commission has been promoting projects and strategies (...). The European platform for e-skills and e-jobs, supported by the European Interconnection Facility programme, offers information and resources on e-skills, as well as training and funding opportunities. (...) This new digital self-assessment tool will also support the second priority set out in the Digital Education Action Plan for 2021-2027, namely strengthening digital skills and competences for digital transformation.

Source /Daily News 10 / 12 / 2021 Brussels, 10 December 2021 COLLEGE MEETING: Commission acts to promote lifelong learning and employability

"For many years, the Commission has been promoting projects and strategies to improve the level of digital skills across Europe. The European e-skills and e-jobs platform, supported by the European Interconnection Facility programme, offers information and resources on e-skills, as well as training and funding opportunities"⁹.

➔ A PRIVATE INITIATIVE THAT PAYS OFF: THE DIGITAL AGILITY TEST, TANU.

The launch of the new online e-skills self-assessment tool follows on from the Skills Pact, which calls on public and private organisations to join forces and take concrete action to improve skills and retrain people across Europe. This tool also supports the second priority set out in the education action plan

⁹Source /Daily News 10 / 12 / 2021 Brussels, 10 December 2021

for the period 2021-2022, i.e. strengthening digital skills and competencies for digital transformation.

The result is TANu, a universal digital agility test. David Castéra, director of Immersive Lab, is the creator of TANu. The aim of the test is to measure the skills and digital culture of a candidate or employee by confronting them with a wide range of questions relating to the digital world. TANu is structured as a MCQ of 90 questions with 3 possible answers to be taken in 30 minutes. The questions test knowledge of computing, the internet, social networks, technology and the digital economy. The question base is updated in real time: questions are added, changed or removed. The level of difficulty of the questions is continually reassessed using a big data platform. Since the launch of TANu, the majority of candidates taking the test have obtained scores between 50 and 6010.

➤ OTHER SOCIAL ECONOMY INITIATIVES

TANu is a private initiative that charges a fee. But there are also initiatives from the social economy, which are free for citizens in Belgium and France, based on DigComp Eu:

<https://pix.org/fr/>

<https://www.lesbonsclics.fr/fr/>

<https://www.123digit.be/fr/>

➤ DIGITAL TRAINING ACCOUNTS AND EUROPEAN OBJECTIVES

To facilitate access to digital training for professionals and overcome economic obstacles, the Member States, together with the social partners, must design individual training accounts, digital catalogues and guidance systems: Individual training accounts must be created for all European adults of working age and funded with training rights. The development of a digital catalogue, accessible on mobile phones, will have to offer quality training courses, adapted to the labour market, which can be financed under individual training accounts. These two tools will be complemented by career guidance and skills validation schemes, as well as paid training leave.

The aim is to achieve, each year, the target of 60% of adult Europeans participating in training activities by 2030, set in the action plan on the European social rights base. This challenge will benefit employees, companies and the entire European economy.

¹⁰Source: Tanu Educational guidelines for digital literacy assessment and certification, Tanu Digital, 2020

1B. THE EMERGENCE OF NEW PROFESSIONAL PRACTICES

Meanwhile, in Europe, the development of digital technologies is transforming the lives of citizens and businesses. From communication between people via social networks to relationships at work (employee-employer and customer-supplier relationships) and in government (relationships with citizens), the gradual transition to digital technology is intended to provide solutions to a number of European challenges, opening up new prospects in terms of jobs, education, innovation and competitiveness, the fight against climate change and the implementation of the ecological transition.

Successful digital and green transitions require professionals to have the right skills. The COVID-19 pandemic has made it even more urgent to upgrade and retrain the workforce to keep pace with changes in the labour market and to meet the demands of the various sectors. Yet few people take part in regular learning activities after their initial training. This is because they often lack the financial resources or time to improve their skills or acquire new ones, or are unaware of the training available and the benefits they could gain from it¹¹. Being trained and qualified gives people career prospects, helps them cope with uncertainty, and promotes inclusion and social advancement. At the same time, the economy's capacity for development and innovation depends on skilled and trained personnel.

➤ THE WORLD IS CHANGING, PROFESSIONS ARE TRANSFORMING...

With the end of the COVID-19 pandemic in sight, digitisation is a key element in European policy for economic recovery. In the care and social support sectors in particular, digitisation is seen as a factor in the resilience of Europe's health, care and social support sectors.

In this context, some professions will evolve, while others will probably appear or disappear, in the short term through the massive spread of digital tools and services, and in the medium term as a result of the automation of certain tasks combined with artificial intelligence (AI). These developments need to be anticipated by work organisations and by regulators of healthcare and social support services. The 'emergence' or 'disappearance' of certain practices can be accompanied by reforms affecting the training of professionals. European programmes aim to anticipate changes in certain practices.

The digitalisation of society has given the EU a new impetus to speed up the technological transition, by stimulating online services and promoting technologies.

¹¹ Remember that in 2019, only 56% of European adults had basic digital skills, whereas over 90% of today's jobs require some level of digital skills.

including cloud computing, quantum technologies, high-performance computing and artificial intelligence.

➤ GENERIC TECHNOLOGIES / DEFINITIONS¹².

CLOUD COMPUTING involves outsourcing computer data to remote servers. These services are aimed primarily at businesses and official bodies. Customer data is sent via the Internet to remote servers located in secure, video-surveilled storage centres with limited access.

QUANTUM TECHNOLOGY consists of processing information in a massively parallel way, using superimposed and entangled states within quantum computers, running quantum algorithms. The most widely used model of quantum processor is based on the classical processor with logic gates.

HIGH PERFORMANCE COMPUTING (HPC) is the processing of extremely complex problems or problems involving a large volume of data, requiring concentrated computing resources from a number of computer systems working in parallel (i.e. a single computer system).

"supercomputer"). High performance computing involves a system that exploits the potential of maximum performance of any computer, usually measured in petaflops. Examples of uses include weather, energy, life sciences and manufacturing.

The **SUPER COMPUTER** democratises Artificial Intelligence. Digital twin technology involves creating a computer model of an object, such as a machine or a human organ, or of a process, such as the weather. By studying the behaviour of the twin, it is possible to predict the behaviour of its real-world counterpart, using this knowledge to solve problems before they arise. Digital twin technology is changing rapidly, thanks to the increased processing capabilities of High-Performance Computing (HPC) technologies and the use of Artificial Intelligence (AI) software.

➤ COVID-19, ACCELERATING EUROPE'S DIGITAL TRANSITION AND DATA PROTECTION

For the Extraordinary European Council of 1-2 October 2020 "the COVID-19 pandemic has further highlighted the need to accelerate the digital transition in Europe (...) The establishment of a truly digital single market will provide an internal framework for European businesses to grow and develop".

EU leaders called for an EU-wide framework for secure electronic public identification (e-ID), which would give people control over their identity and data online and facilitate access to public, private and cross-border digital services.

¹² Sources: "Qu'est-ce que le numérique?" edited by Doueïhi Milad. Paris cedex 14, Presses Universitaires de France, "Hors collection, 2013, p. 5-55. URL: <https://www.cairn.info/---page-5.htm>

With the construction of a legislative framework on digital services and data protection, EU leaders argue that "The EU will remain open to all companies that respect European rules and standards. Digital development must preserve our values, fundamental rights and security, and be socially balanced. But digital technologies are full of contradictions. While they constitute a range of powerful tools for improving human organisation and existence, they remain limited in terms of their current capacity, for example in the case of artificial intelligence ¹³. They threaten to exacerbate social divisions and inequalities, and put millions of people out of work. This is a major challenge for the EU Member States.

➤ OTHER INTERNATIONAL RECOMMENDATIONS TO REDUCE THE DIGITAL DIVIDE THE DAVOS FORUM

It is worth noting that the specialists in the forward-looking reflections on Artificial Intelligence (AI) at the Davos Forum are aware of the vigilance that needs to be applied to systems in order to reduce inequalities. "Taking into account the impact of AI systems on diversity and inclusion should be integrated into the design and evaluation of all AI tools, as well as into their regulation and monitoring. In addition, subject matter experts are needed to understand the context in which an AI system will be deployed. Perhaps the most critical need is for AI development teams themselves to become more diverse - through changes in access to education and resources, recruitment practices and organisational cultures. There are many examples of AI systems that are problematic because they reflect the worldview and assumptions of their creators. While diverse teams are not a guaranteed solution, they reduce the chances that the impacts of diversity and inclusion will be overlooked. Diversity of talent in AI also broadens the innovation landscape more generally so that technology advances on all fronts" ¹⁴.

"THE GENEVA CHARTER FOR WELL-BEING

At the same time, "The Geneva Charter for Well-Being" ¹⁵ was adopted following the 10th World Conference on Health Promotion organised by the WHO in December 2021. It advocates "equitable access to digital technology and the exploitation of its full potential for human fulfilment and well-being". "A society that promotes well-being assesses and neutralises the harmful effects of digital tools and their impact on the power to act...".

"With over 4,500 people taking part online, this Charter marks a major step forward.

"In a society that promotes well-being, government is the guardian of all of society's assets for a healthy, sustainable and equitable planet on behalf of present and future generations". The Geneva Charter is very inspiring in this respect. It speaks of "bold policies of social transformation" based on several pillars, including respect for the principles of human rights, democracy and the rule of law.

¹³ [Strategic Intelligence \(weforum.org\)](https://www.weforum.org)

¹⁴ [Strategic Intelligence \(weforum.org\)](https://www.weforum.org)

¹⁵ Annex 1. *The Geneva Charter for Well-being, WHO, December 2021.*

human rights, social and environmental justice, solidarity and equity (gender and intergenerational). It calls for a commitment to sustainable, low-carbon development, based on reciprocity and respect between human beings and a peaceful relationship with nature. It also proposes that new indicators based on human and planetary well-being should be used to judge the success of policies, and to identify priority public spending in all areas.

The stated aim of the "Well-being Charter" is to remind political, institutional and private sector leaders and decision-makers of their responsibility to implement the principle of health in all policies and to empower people.

Among the five main areas of action (Appendix 1) recommended by the Charter, there is one that specifically concerns the digitisation of society. It is entitled "Managing the impact of the digital revolution". The Geneva Charter takes into account both the risks and the opportunities of digital transformation. A society that promotes well-being assesses and neutralises the harm and disempowerment of digital tools, ensures equitable access to digital technology and harnesses its full potential for human and global fulfilment.

The Geneva Charter is a timely reminder that the Covid crisis has highlighted social divides and underlined the impact of ecological, political, commercial, digital and social determinants of health and inequalities, within and between social groups and nations. It also highlights the links between human health and climate change, biodiversity loss and rapid urbanisation. (...) Nor can we ignore the war currently being waged in Ukraine, on European soil; yet the Geneva Charter refers to the "even more serious" crises generated by geopolitical conflicts, militarisation and the displacement of populations. This is in line with the preconditions for health cited in the Ottawa Charter (1986), in particular peace and shelter, to which, more than ever, we must add democracy and respect for human rights" 16

➔ MEANS AND EXPECTED RESULTS

What resources has the European Council allocated to this policy of digitising European society? And what are the expected results?

EU leaders agreed that at least 20% of the funds provided under the Recovery and Resilience Facility would be made available for the digital transition, including for SMEs. Together with the amounts provided under the EU's long-term budget, these funds contribute to objectives including:

- Promote the development at European level of the next generation of digital technologies, including supercomputers, quantum computing, blockchain, etc. ;
- Strengthen capabilities in strategic digital value chains, particularly microprocessors;
- Accelerate the deployment of secure, very high-capacity network infrastructures, including fibre and 5G;

¹⁶ [Feature of the month - Geneva Charter and health promotion \(sfsp.fr\)](#)

- Strengthening the EU's ability to protect itself against cyber threats;
- Leveraging digital technologies to achieve the EU's ambitious environmental goals;
- Building digital capacity in education systems.

➤ DIGITISATION EVALUATION CRITERIA AND INDICES AND THE 5 COUNTRIES OF THE DLIS PROJECT

This section is based on the results provided by the European Commission's DESI 2021, which sets out a number of indicators for measuring the digitisation of public services and businesses in the various member states.



tracks Member States' digital progress through the Digital Economy and Society Index (DESI) reports

In November 2021, the European Commission published the new edition of its annual report on the digital economy and society: the Digital Economy and Society Index (DESI). The DESI is a composite index that tracks Member States' progress in the digital field and identifies priority areas for action.

The European Commission has made a number of changes to the 2021 edition of the DESI in order to align the index with the four main axes and the objectives of the "digital compass", to improve the methodology and to take account of the latest technological and political developments. As a result, the results of DESI 2021 cannot be readily compared with those of previous editions. However, DESI scores and rankings from previous years have been recalculated to enable an analysis of the evolution of countries' performances.

The DESI is now structured into four interdependent dimensions, which are assessed using 33 individual indicators. Each dimension has the same weighting in the DESI.

- Human capital (digital skills, ICT specialisation)
- Connectivity (coverage and take-up of fixed and mobile broadband connections, broadband prices)
- Integration of digital technologies (digital intensity of SMEs, digital technologies in companies, e-commerce)
- Digital public services (e-governance)

In 2B, we present an overview of the general situation in Europe, with regard to the criteria for evaluating digitisation. In 2C, we present a specific focus on the digital context in the 5 countries involved in the DLIS project, i.e. Belgium, France, Greece, Luxembourg and Romania: Belgium, France, Greece, Luxembourg and Romania.

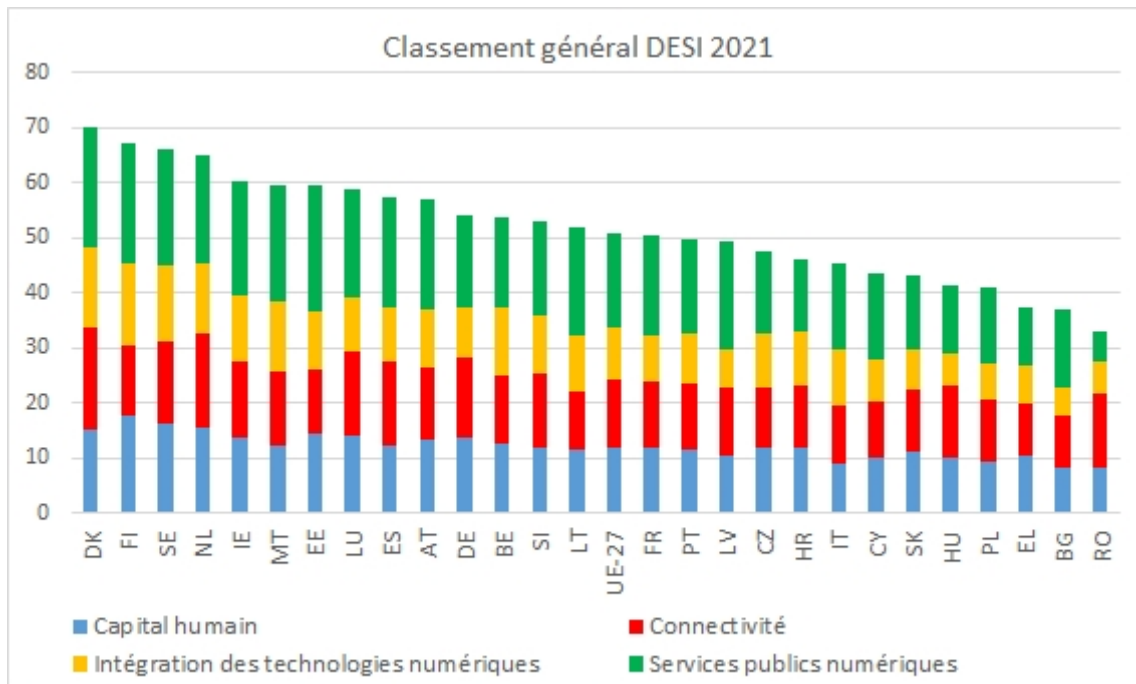
2B. THE GENERAL EUROPEAN PANORAMA

The overall DESI 2021 ranking is led by Denmark (score of 70.1/100) ahead of Finland (67.1), Sweden (66.1), the Netherlands (65.1) and Ireland (60.3).

Luxembourg ranks 8th (59.0), Germany 11th (54.1), Belgium 12th (53.7) and France 15th (50.6).¹⁸

Greece and Romania occupy the last 3 places.

¹⁸ [European Commission - Digital Economy and Society Index 2021 - gouvernement.lu // The Luxembourg Government](#)



Source: Commission européenne, Digital Scoreboard

➔ HUMAN CAPITAL

The DESI 'human capital' indicator covers the 'skills of Internet users' and the 'skills of Internet users' "advanced skills". The first is based on the European Commission's digital skills. This indicator is calculated on the basis of the number and complexity of activities involving the use of digital technology (PC devices and the Internet). The latter includes indicators on the number of ICT specialists, ICT graduates and companies providing specialised in-house ICT training.

According to the latest data for 2021, Finland leads on the 'human capital' indicator, followed by Sweden, the Netherlands and Denmark.

Italy, Romania and Bulgaria are at the bottom of the ranking.

Compared to 2020, the biggest increases in the 'human capital' index were seen in Finland (+2.6%), Estonia (+1.7%) and Greece (+1.6%)¹⁹.

The Digital Economy and Society Index, 2021

The Digital Economy and Society Index covers digital public services. The DESI 2021 ranking of Member States shows that Denmark, Finland, Sweden and the Netherlands have the most advanced digital economies in the EU, followed by Ireland and Malta. These countries all scored above 85.

¹⁹Source: DESI 2021, European Commission

In contrast, Estonia, Romania, Bulgaria and Greece have the lowest DESI scores, below 60 and well below the EU average of 72.220.

➤ TRAINING FOR ICT SPECIALISTS

With a growing demand for ICT specialists and jobs that are increasingly digitally driven, employers across the EU are looking for staff with the right skills to meet the demand for ICT specialists and workers who can make good use of digital technologies. We are seeing a slow but overall increase in the number of students studying and graduating in ICT fields.

In 2019, 3.9% of Europeans obtained an ICT degree. The countries with the highest share were Estonia (8%), Ireland (7.8%) and Finland (7.4%). Estonia also recorded the highest increase (+1.3%) compared to 2018. While Italy, Belgium, Portugal and Cyprus are among the countries with the lowest share of ICT graduates (less than 3%) in the European Union²¹.

The European Commission's objective is to contribute to halving the number of 13-14 year olds who do not have sufficient computer and digital literacy skills by 2030, as set out in the "Digital Education Action Plan. 2021-2027 ". The initiative also contributes to the decade's objectives of increasing the number of ICT experts and the number of Europeans with basic digital skills.

In 2020, more than 3.4 million people - mainly young people - took part in European Digital Coding Week in schools all over Europe and the world, despite the Covid-19 pandemic. 84% of activities took place in schools, even with lockdowns, and 44% of participants were girls. In the EU, Poland attracted 632,305 young people to coding days and Italy 330,021.

➤ FIBRE COVERAGE

By mid-2020, Malta was in the lead with 100% VHCN²² coverage, followed by Luxembourg and Denmark, and Spain with over 90% coverage.

The worst performing countries were Greece (10%), Cyprus (26%) and the Czech Republic (33%), although they all improved in 2020. There was spectacular progress in Ireland (48%), Austria (25%) and Germany (23%).²³

All Member States have 4G coverage of well over 95%.

²⁰ Source: DESI 2021, European Commission

²¹ Source: Digital Economy and Society Index 2021. Eurostat.

²² Very High Capacity Networks

²³ Source: IHS Markit, Omdia, Point Topic and VVA, Broadband coverage in Europe studies.2020.

➔ 5G NETWORK

Following spectrum assignments, 13 Member States have launched a commercial 5G network by mid-2020. The highest coverage levels were recorded in the Netherlands and Denmark (80% of populated areas), followed by Austria (50%), Ireland (30%) and Germany (18%).

Municipalities need more connectivity - WiFi4EU; The WiFi4EU initiative continues to promote free Wi-Fi access in public spaces: schools, parks, squares, public buildings, libraries, health centres and municipal museums.

➔ DATA ROAMING TRAFFIC

Due to the COVID-19 pandemic, confinements and travel restrictions, data roaming traffic decreased by almost 39% in 2020 compared to 2019. In particular, although some restrictions were lifted in the summer of 2020, the reduction in data roaming traffic amounted to 28% compared with the summer of 2019.

In addition, part of the fall is also a consequence of the fact that, due to Brexit, data from UK operators is not included in the roaming traffic reported from the third quarter of 2019.

➔ TECHNOLOGY QUANTUM

A great deal of investment and expertise will be needed to help quantum technologies make the transition from the research and development phase to deployment. At present, research is still largely dependent on the public sector: most fundamental research is carried out in universities and large state research bodies. Funding for quantum computing is still low compared with other emerging technologies. Worldwide, China, the EU24, the US, the UK, India and Japan are investing heavily in quantum technologies²⁵.

The EU's objective in the digital decade for quantum is for Europe to have its first quantum-accelerated computer by 2025, paving the way for Europe to be at the forefront of quantum capacity by 2030²⁶. The effort is massive, bringing together private and public laboratories. It is on a par with the post-war effort to develop transistor-based computers. Early January

²⁴ In France, CNRS, through its subsidiary CNRS Innovation, has taken a stake in the start-up, which has raised €3.3 million from investment funds. Quantum computing, which could solve problems that are currently beyond the reach of the most powerful computers, is mobilising numerous research teams around the world.

With two Chairs of Excellence and around thirty dissertation grants, including two in sociology and philosophy, the teams intend to "knit together interdisciplinarity". The challenge is a major one: to bring together different areas of expertise so that together we can define "not the solutions, but the questions that need to be asked". Theses, for example, are carried out under joint supervision in two fields or in tandem with a doctoral student from another field. Source: [French research at the heart of the Quantum Plan | CNRS](#)

²⁵ Source: CIFAR, *A quantum revolution: report on global policies for quantum technology*, April 2021.

²⁶ Source COM(2021) 118 final, *2030 Digital Compass: the European way for the Digital Decade*, 9 March 2021

2021, French President E. Macron announced a €1.8 billion national quantum plan. In the USA, the figure is \$100 billion, although this sum is not dedicated solely to quantum technologies.

A country's scientific supremacy can also be measured by its international publication record. In terms of the share of scientific articles in publications on the quantum theme in 2020, the EU was the largest, followed by China and the United States. However, in terms of impact factor²⁷, the United States was the leader in quantum publications, followed by the United Kingdom, the EU and China²⁸.

Patenting activity in the field of quantum computing began to accelerate in 2012. Quantum computing and quantum key distribution are the applications for which the most applications have been filed. The United States leads in quantum computing, and China leads in quantum key distribution.²⁹

Similarly, quantum metrology³⁰ and sensing saw an increase in patent applications starting in 2009, but the number of patent applications remains low in absolute terms, and mainly produced by research institutes (patent applications in the field rose from 8 applications in 2009 to 83 in 2017). The main patent administrations in this sub-sector are China, the United States and the EU.

➤ THE CHALLENGES OF THE DIGITAL TRANSFORMATION OF COMPANIES AND THE PUBLIC SECTOR

The digital transformation of businesses is opening up new opportunities and stimulating the development of new and reliable technologies. The EU's digital sovereignty will depend on its ability to store, retrieve and process data while satisfying the requirements of trust, security and fundamental rights. These dimensions include the digitisation of businesses and e-commerce and the dematerialisation of public services.

The best performing countries in the integration of digital technologies are Finland, Denmark and Sweden. On the other hand, Bulgaria, Hungary and Romania have the lowest levels of performance.

➤ DIGITAL INTENSITY INDEX AT COMPANY

The Digital Intensity Index (DII) measures the use of different digital technologies in companies and their level of quality.

Denmark and Finland are the only EU countries where the percentage of companies with a very high DII (i.e. possessing at least 10 of the 12 digital technologies monitored) is higher than 5%, followed by Belgium, Malta and the Netherlands with more than 2%.

²⁷ The journal impact factor (JIF) is an indicator that indirectly estimates the visibility of a scientific journal. For a given year, a journal's IF is equal to the average number of citations for articles in that journal published during the previous two years.

²⁸ Source: Scopus analyzer, keyword (quantum tecnolog*) 2020.

²⁹ Source :JRC, Patent analysis of selected quantum technologies, 2019.

³⁰ Measurement science, with high-precision sensors.

By contrast, in countries such as Bulgaria, Romania, Latvia, Hungary and Cyprus, the majority of companies (over 50%) have made only a small investment in digital technologies and have a very low DII.

➤ PUBLIC SERVICES: INDICATORS 4A3 AND 4A4

Digital technologies are increasingly imposing new demands and expectations on the public sector. Realising the full potential of these technologies is a major challenge for Member States and their governmental organisations. Effective eGovernment can deliver a wide range of benefits to citizens, as well as greater efficiency and cost savings for government. It can also increase transparency and openness. This dimension measures both the supply of and demand for digital public services, as well as "open data"³¹.

Europe's Digital Decade Strategy aims for all key public services for businesses and citizens to be fully online by 2030. Indicators 4a3 and 4a4 track progress towards these targets. The indicator measures the percentage of citizens submitting forms by online means.

The best performing countries were Estonia, Denmark and Finland, while Romania, Greece and Hungary achieved the lowest scores³².

➤ GOVERNMENT USERS

This indicator takes into account, out of all Internet users, the percentage of people who have used the Internet in the last 12 months to interact with public services. The indicator has been updated to better cover the volume of interaction between citizens and their country's online public authorities.

Denmark, Finland and the Netherlands performed very well on this indicator, with over 90% of Internet users (aged 16 to 74) interacting with public administration via a government electronic portal.

Romania, Bulgaria and Italy were less strong in this respect and were the only three countries where the percentage of citizens interacting with public administrations was below 40%.³³

➤ PRE-FILLED FORMS

This indicator measures the data quality of online forms presented to the user, giving a maximum overall score of 100. The use of interconnected registers is essential to ensure that users do not have to resubmit the same data to the public administration (the "once and for all" principle) for taxes, for example...

³¹ For the definition, see *Open data*, page 27.

³² Source :<https://joinup.ec.europa.eu/collection/nifonational-interoperability-framework-observatory/digital-public-administration-factsheets>

³³ Source: Eurostat, *Community survey on ICT usage in House holds and by Individuals (Data for France was not collected for 2020)*.

The best performing countries in 2020 were Estonia, Finland and Malta, which all achieved scores above 95 points. However, there is a substantial gap between the best and worst performing countries, with Romania below 10 points, and Slovakia, Greece and Cyprus below 40.

➡ DIGITAL PUBLIC SERVICES FOR CITIZENS

This is a new indicator that measures the quality of the service or information concerning the service to citizens provided online and via a portal: Services offered wholly or partly online.

The indicator represents the proportion of steps that can be completed online for major events in people's lives, such as the birth of a child, a new residence, etc.

Malta, Estonia and Luxembourg achieved the best results on this measure, with over 90 points. A total of 12 countries: Malta, Estonia, Luxembourg, Sweden, Austria, Latvia, Finland, the Netherlands, Ireland, Portugal, Denmark and Spain scored above 80 points.

Romania, Greece, Hungary and Bulgaria scored less than 60 points.

➡ DIGITAL PUBLIC SERVICES FOR BUSINESSES

This indicator measures the degree of quality of public services dedicated to companies to promote their industrial and commercial activities across borders.

The indicator assesses the extent to which public information services for businesses, when starting up a business and conducting regular commercial operations, are available online and across borders in other EU Member States.

In all, 10 countries - Ireland, Estonia, Luxembourg, Lithuania, Denmark, Malta, Sweden, Spain, Finland and France - scored more than 90 points out of 100, while Romania, Greece and Poland scored less than 70.

➡ OPEN DATA

This indicator measures the government's commitment to open data³⁴. "Data is open if anyone can freely access, use, modify and redistribute it, for whatever purpose. Open data is also a movement made up of players campaigning for open data. It is also a public policy that consists of opening up public data in order to encourage open innovation in the public sector, to be accountable to citizens and to improve the transparency of public action, and finally to make resources available to the private sector for the development of new services".

Denmark, Spain, France, Ireland, Estonia, Poland and Austria achieved good results with a score of 90% or more.

By contrast, Hungary, Malta, Portugal and Slovakia underperformed, with scores below 60%.

³⁴ [Open data - Wikipedia \(wikipedia.org\)](https://en.wikipedia.org/wiki/Open_data)

2C. THE 5 PROJECT COUNTRIES ³⁵

➔ 2C.1.DETAILS OF THE PERFORMANCE OF ONE PROJECT COUNTRY: THE GRAND DUCHY OF LUXEMBOURG³⁶

We have compiled below the data relating to the evaluation of Luxembourg's situation on the various criteria of the DESI 2021, in terms of ranking and score.

Human capital (6th / 56.2): Luxembourg is above the EU average for both e-skills and ICT specialisation indicators.

Connectivity (4th / 61.0): Luxembourg performs particularly well when it comes to the take-up and coverage of fixed and mobile broadband. When it comes to the price of broadband, Luxembourg's score is close to the EU average. The country is also well prepared for 5G and the commercial launch of 5G services took place in 2020.

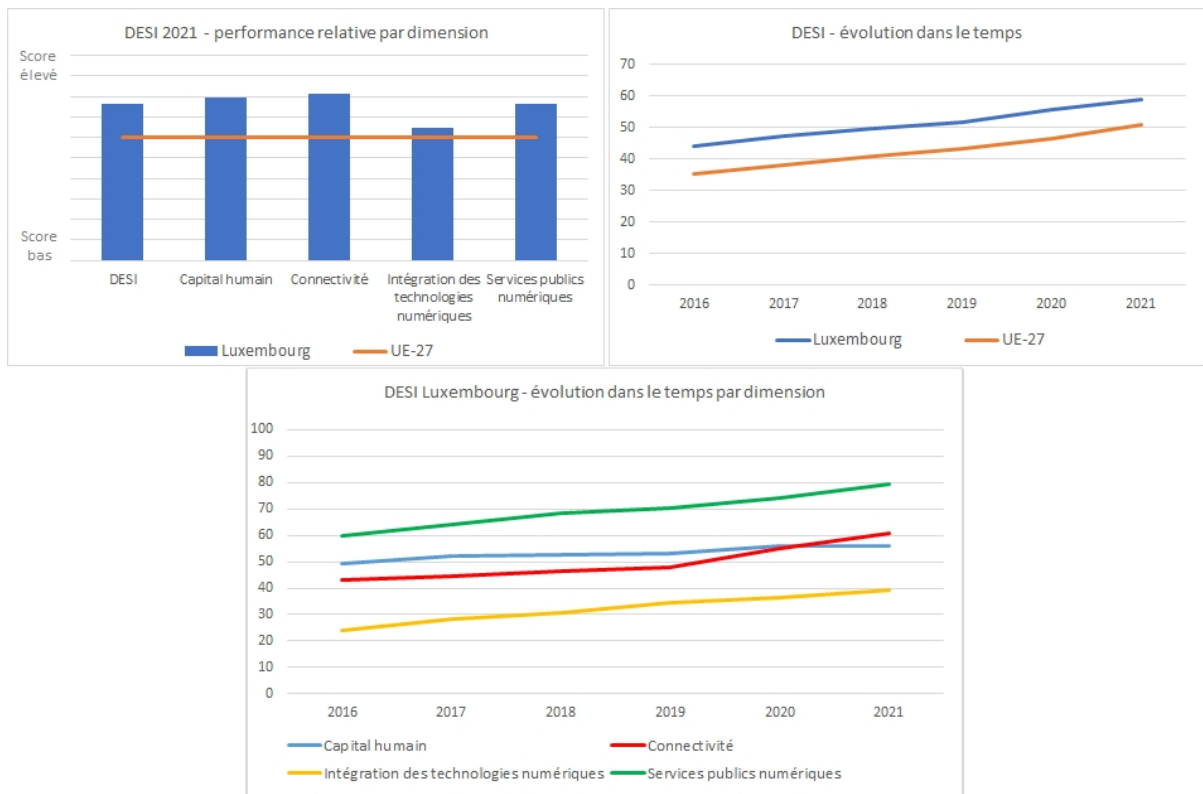
Integration of digital technologies (14th / 39.4): Luxembourg outperforms the European average in the percentage of SMEs with at least a basic level of digital intensity. When it comes to the use of digital technologies in businesses, Luxembourg performs well when it comes to the electronic exchange of information, social networks, megadata and artificial intelligence. However, electronic invoicing is not widespread in Luxembourg and few SMEs sell their goods and services online.

Digital public services (11th / 79.4): Luxembourg has made significant progress in the area of digital public services. The results are particularly good in terms of public services available online for businesses and individuals. The level of online interaction between public authorities and the general public is average. On the other hand, Luxembourg's score is well below the European average for open data.



³⁵ Annex 2 provides a double focus to present the European Union and the historical inclusion of these 5 countries in the community. Source: "The Permanent Atlas of the European Union" (5th edition) Giuliani JD and Joannin P, Robert Schuman Foundation. March 2022, <https://www.atlas-permanent.eu>

³⁶ [European Commission - Digital Economy and Society Index 2021 - gouvernement.lu // The Luxembourg Government](https://www.gouvernement.lu/en/actualites/actualites/2022/03/20220310_digital_economy_and_society_index_2021)



Source: Commission européenne, Digital Scoreboard

Overall, Luxembourg exceeds the European average in every dimension of the DESI 2021. Analysis of the development of the overall index shows that Luxembourg's score is consistently above that of the EU as a whole, and that the two scores move more or less in parallel. In more detail, Luxembourg has made continuous progress in all four dimensions of the DESI between 2016 and 2021.

In its assessment, the European Commission states that Luxembourg is doing well in terms of human capital.

While the shortage of ICT specialists persists, Luxembourg is implementing a range of strategies and initiatives aimed at strengthening the digital skills of its population.

Luxembourg has a very good record when it comes to connectivity. The country is almost entirely covered by fast fixed broadband networks, and also benefits from very good coverage of very high capacity networks. What's more, broadband services are slightly more affordable than the EU average. Luxembourg is also well prepared for 5G.

With regard to the integration of digital technologies, the European Commission notes that Luxembourg has made major progress in the adoption of digital innovations, in line with its ambition to move to a data-driven economy. The European Commission also refers to Luxembourg's commitment at European level, in particular its participation in the European Joint Undertaking for European High-Performance Computing (EuroHPC) and its signature of the declaration establishing a European Blockchain Partnership.

Finally, the European Commission points out that Luxembourg has made significant progress in the area of digital public services, which has enabled it to considerably improve its score in this dimension of the DESI.

➤ 2C.2. SUMMARY OF THE PERFORMANCE OF THE 5 COUNTRIES IN THE PROJECT

In order to focus on the digital contexts of the 5 countries participating in the DLIS project, we propose a summary of the various DESI indicators attributed to the partner countries, according to the elements gathered above, as shown in Table 1.

It appears that the distribution of results for the DESI 2021 indicators reflects the level of economic development of each country, its age pyramid, population density and the heterogeneity of its territory in terms of digital infrastructures and ICT training.

➤ TABLE 1. SUMMARY OF SOCIAL DIGITALISATION INDICATORS FOR THE 5 COUNTRIES PARTNERS IN THE DLIS PROJECT

Indicators DESI 2021	What measures the indicator?	Country partners	Score	Europe
Human capital DESI 2021	Economy and society digital	Romania Greece	Lower score à 60	Average EU 72.2
Training ICT specialists	Number of courses ICT, number of ICT graduates	Belgium	Minus 3	
Fibre coverage	VHCN coverage	Luxembourg Small country Greece Numerous islands	Plus 90%. 10%	
Digitisation of businesses and e-commerce	Building a digital- friendly environment, Data security	Romania	In the group of weakest countries	
Digital intensity index DII	The use of different digital technologies in companies and their level of quality.	Belgium Romania	High DII + 2%. Very low investment by 50% of companies	Denmark Finland DII +5%
Indicators 4a3 and 4a4 Public services	Measures the percentage of citizens submitting forms online via a portal administrative	Romania, Greece	Lowest scores	2030 target: key public services for businesses and citizens must be entirely online

Government users	Percentage of citizens aged 16-74 interacting with public administrations over the last 12 months.	Romania	less than 40%.	Denmark Finland Netherlands +90 %
Pre-filled forms	Data quality of online forms presented to the user	Romania Greece	below 10 points, below 40.	Maximum overall score of 100. Most popular countries high performance scores + 95 points
Digital public services for citizens	Quality of service / information to citizens provided online via an administrative portal for the birth of a child, new residence, etc.	Luxembourg Romania, Greece,	+80 points - of 60 points	
Digital public services for businesses	Degree of quality of public services dedicated to companies working across borders	Luxembourg France Romania, Greece	Score +90 points Score below 70	
Cover 4G/5G		5G Luxembourg ++		+95 % 4G
Digital Agility Index (IAD)	The right environment to digital transformation: regulation and the business environment, the education system and research facilities, connectivity, logistics infrastructure and market size...	Belgium Luxembourg France	Well placed moved up 2 places to 15th. Out of 115 countries	The European Union has placed 10 countries in the top 20 of the IAD 2020.

2D. THE DIGITAL AGILITY INDEX, CAPABILITIES AND SKILLS: FOCUS ON THE 5 COUNTRIES IN THE DLIS PROJECT

➔ 2D.1. THE IAD DIGITAL AGILITY INDEX³⁷ : A UNIVERSAL INDEX

The Digital Agility Index (DAI) is an indicator developed by the Euler Hermes Group to measure the ability of countries to provide businesses with an environment conducive to digital transformation. It is an important indicator revealing the conditions that are favourable or unfavourable to digital transition. A total of 115 countries are assessed on the basis of 5 criteria: regulation, business environment, education system, research facilities, connectivity, logistics infrastructure and market size.

THE 5 CRITERIA OF THE DIGITAL AGILITY INDEX. SCALE FROM 1 TO 100.

- Regulation and business environment: The "Distance to Frontier" indicator from the World Bank's "Doing Business" ranking was used.
- Education system and research facilities: The higher education - training and innovation scores developed by the World Economic Forum were used.
- Connectivity: The number of people using the internet as a percentage of the population, fixed and mobile telephone line subscriptions per 100 people, and the number of secure servers per 100 people were analysed.
- Logistics infrastructure: The "Logistic Performance Index" of the World Bank's "Doing Business" ranking has been selected.
- Market size: The number of Internet users and their income were analysed.

With a score of 88 out of 100 points, the United States dominates the 2020 DAI. US companies benefit from an imposing market in terms of size, a solid education and research development system, and an economic and regulatory environment that is favourable to digital development. In fact, its connectivity score rose by +1.8 points, following an increase of +5.1 points in 2018.

Among the top-ranked countries, the biggest rise was that of China. The country is ranked 4th, up 5 places on the last edition. This rise is due in part to improvements in regulations, the Chinese business climate, logistics infrastructures and the education system.

In Europe, it is difficult to define a uniform trend. Denmark is the European DAI champion, with a second-place ranking, up 1 place on the previous edition, and remarkable performances on every indicator. Germany remains on the podium, but has dropped one place since the previous ranking, due to slower growth in connectivity than in other countries. France moved up 2 places to 15th. The Netherlands (-5

³⁷Source: [Euler Hermes digitisation index | Euler Hermes](#)

places) and Sweden (-1 place), as well as Austria (-1 place). Despite this, the European Union managed to place 10 countries in the IAD 2020 top 20.

What is the correlation between the digitalisation of an economy and its ability to withstand the Covid-19 shock? Based on an analysis of 78 countries (comparison of DAI score and economic performance in 2020), we can see that for every 1 point increase in DAI score, an economy improves its ability to absorb the Covid-19 shock by 0.25 points of GDP growth.

The countries that adopted the most stringent measures, notably periods of confinement, relied much more heavily on digital services and technologies. They have managed to limit economic losses thanks to their high digitalisation potential. This group includes the United States, Denmark, Germany, China, the United Kingdom, Singapore, Switzerland, Sweden, Austria, France, Finland, Australia, Belgium, Spain and Luxembourg.

It should be noted that 3 of the project's partner countries are particularly well placed on the DAI index. They are France, Belgium and Luxembourg.

➔ 2D.2. BUSINESS AGILITY³⁸

Agility is the ability to adapt processes and operating methods to keep pace with the accelerating economic world. The concept of agility was formalised in 2001 by 17 IT application development experts, who pooled their methodological approaches to "lean" projects in an Agile Manifesto. The Manifesto is a document listing the "major Agile principles" applicable to organisations. In a way, it is the "Ten Commandments" of Agile theory.

The use of innovative technologies enables a strategy to be kept in step with the ever-changing business environment, efficiency and quality to be guaranteed, and data-driven decisions to be made and communicated to teams. This requires companies to master technology and operate software, infrastructure and platforms. By reacting quickly to change, supported by data analysis tools, agile businesses are always at the cutting edge of technology.

➔ 2D.3 DIGITAL AGILITY OF INDIVIDUALS

The way of characterising people's digital skills and competences has been defined by Eurostat (see box on page 36-37). The concept of digital agility brings together the areas of learning, qualification and training in digital technologies for European citizens.

³⁸Source: [Business agility in the digital age - Komcorp Service \(komcorpconsulting.com\)](https://www.komcorp.com/en/business-agility-in-the-digital-age)

Illectronism³⁹ refers to the fact of not having basic digital skills (sending e-mails, consulting online accounts, using software, etc.) or not using the Internet (physical inability or impossibility).

Digital literacy⁴⁰ would be the ability to understand and use information from digital sources without worrying about "skills lists", which are often criticised as being restrictive.

The challenge of digital literacy education is to avoid a new form of exclusion and inequality. We are talking about the digital divide (difficulties of access, connection and use) and illiteracy (lack of ability to use digital resources)⁴¹. DESI 2021.

➔ 2D.4. DIGITAL ACCESS, USE AND SKILLS: FOCUS ON THE 5 COUNTRIES OF THE DLIS PROJECT

Having set the scene from the point of view of measurement criteria and indicators in macro contexts (DESI, IAD° Meso (digital agility of companies, administrations) to micro systems (individual agility, Eurostat digital capacity), let's focus on the 5 European countries in the DLIS project.

In terms of the European ranking of households with access to the Internet, Luxembourg and the Netherlands are at the top (between 15% and 20% non-users and low or no skills), while Romania and Bulgaria are at the bottom, due to the low proportion of users (63% in Bulgaria and 64% in Romania).

Table 2 on page 39 provides information on the scale of Internet access and use in the EU, with the Macro context for each country in the first column.

The 5 partner countries in the DLIS project are highlighted in yellow, along with the EU average.

SKILLS AND COMPETENCIES DIGITAL

Source: Eurostat, 2019

Eurostat distinguishes four areas of digital skills:

- searching for information (on commercial or administrative products and services, etc.);
- communication (sending and receiving e-mails, etc.);
- solving problems (accessing your bank account via the Internet, copying files, etc.)
- use of software (word processing, etc.).

³⁹ Source: [The foundations of digital literacy | HabiloMédias \(habilomedias.ca\)](#)

⁴⁰ Source: [idem](#)

⁴¹ DESI 2021

These skills are measured on the basis of declarations about performing certain tasks in the annual household survey on information and communication technologies, carried out in all EU countries.

Each skill is graded: 0 (no skill), 1 (basic), 2 (more than basic).

Non-use of the Internet during the year results in a score of 0: the scale therefore measures a practical ability (linked to the possession of equipment and even minimal use of the Internet) if we consider the general population, but a skill if we restrict ourselves to Internet users.

It slightly underestimates 'software' and 'problem-solving' skills, not all of which require the use of the Internet.

These four skill areas are closely related, and by summing them up we obtain an overall indicator of numerical ability: a person has no numerical ability if they score 0 in each area (illiteracy) and more than basic ability if they score 2 in all four areas.

Between the two, Eurostat distinguishes between weak skills (at least one skill is rated at 0 and at least one is rated at 1) and basic skills (none of the skills is rated at 0 and at least one is rated at 1).

➤ TABLE 2. INTERNET ACCESS AND USE IN THE EUROPEAN UNION %.

Source: Eurostat 2019 (extracted on 10 February 2021).

CountryHouseholds with internet access

	Households with internet access	Individuals using the internet daily (1)	
		Together individuals	of which aged 16-24
Germany	95	85	98
Austria	90	80	98
Belgium	90	85	95
Bulgaria	75	60	89
Cyprus	90	79	99
Croatia	81	71	99
Denmark	95	92	98
Spain	91	78	94
Estonia	90	83	98
Finland	94	90	98
France	90	77	93
Greece	79	65	95
Hungary	86	75	97
Ireland	91	83	97
Italy	85	73	91
Latvia	85	75	98
Lithuania	82	73	98

Luxembourg	95	87	98
Malta	86	82	99
Netherlands	98	92	98
Poland	87	68	97
Portugal	81	65	97
Czech Republic	87	76	97
Romania	84	57	89
United Kingdom	96	91	100
Slovakia	82	76	98
Slovenia	89	74	96
Sweden	96	91	95
U E to 28	90	79	95

(1) *Individuals using the Internet at least once a day.*

According to the various studies⁴² and Eurostat 2019 surveys, Internet access and use by Belgians and the French are in line with the EU average, and those of Luxembourgers are 5 points higher. On the other hand, Greeks and Romanians have a lower percentage of households with Internet access. It should be noted that the youngest populations in the 5 DLIS project countries account for between 89% and 98% of daily Internet use, as shown in Table 3.



⁴² "L'usage des technologies de l'information et de la communication par les ménages entre 2009 et 2018", Enquêtes sur les TIC auprès des ménages, Insee Résultats, March 2019; "Dématérialisation et inégalités d'accès aux services publics", Défenseur des droits, January 2019; Franchomme M., Laboureur M., "Diagnostic territorial des dispositifs de lutte contre l'illectronisme dans les Hauts-de-France", Direction régionale de la jeunesse, des sports et de la cohésion sociale, October 2018.

➤ TABLE 3. INTERNET ACCESS AND USE (IN %)
 Scope: households with at least one person aged 16 to 74.

Sources Eurostat 2019 (extraction 10 February 2022 for the 5 countries in the DLIS project)

Country	Households with internet access		
	Households with internet access	Individuals using	internet daily (1)
		Ensemble of individuals	Of which 16- 24 years old
Belgium	90	85	95
France	90	77	93
Greece	79	65	95
Luxembourg	95	87	98
Romania	84	57	89
EU 28	90	79	95

(1) Individuals using the Internet at least once a day.

Table 4 (page 41) shows that low digital skills in 2017 particularly concern Romanians and Greeks aged 16 to 74 (a n age group common to all European surveys), respectively 36% and 31%, compared with only 14% of French and 12% of Belgians, which places these 2 countries in the EU average. It should be noted that only 3% of Luxembourgers have an overall digital literacy score of zero or low. 43

➤ TABLE 4. DIGITAL SKILLS LEVELS IN EUROPEAN COUNTRIES
 Scope: individuals aged 16 to 74 (%) Source *ICT SURVEYS 2017*

COUNTRY	No access to internet	Skills weak digital	Skills basic digital	Skills more than basic
Kosovo	17,0	62,0	16,0	5,0
Bulgaria	37,0	34,0	18,0	11,0
Romania	36,0	35,0	19,0	10,0
Northern Macedonia	26,0	42,0	20,0	12,0
Turkey	35,0	30,0	15,0	20,0
Serbia	30,0	31,0	20,0	19,0

⁴³ Source: ICT SURVEYS 2017

Croatia		34,0	25,0	20,0	21,0
Greece		31,0	23,0	24,0	22,0
Poland		26,0	28,0	25,0	21,0
Ireland		19,0	33,0	20,0	28,0
Latvia		19,0	33,0	21,0	27,0
Montenegro		29,0	22,0	35,0	14,0
Hungary		23,0	27,0	24,0	26,0
Cyprus		20,0	29,0	32,0	19,0
Portugal		26,0	23,0	20,0	31,0
Slovenia		22,0	24,0	24,0	30,0
Spain		17,0	28,0	23,0	32,0
Lithuania		23,0	22,0	23,0	32,0
France		14,0	29,0	28,0	29,0
Malta		20,0	23,0	18,0	39,0
<i>European Union (28 country)</i>	<i>(28</i>	17,0	26,0	26,0	31,0
Slovakia		19,0	22,0	26,0	33,0
Estonia		13,0	27,0	25,0	35,0
Czech Republic		16,0	24,0	36,0	24,0
Belgium		12,0	27,0	30,0	31,0
Austria		14,0	19,0	31,0	36,0
Germany		10,0	22,0	31,0	37,0
Denmark		3,0	26,0	24,0	47,0
United Kingdom		6,0	23,0	25,0	46,0
Finland		7,0	18,0	30,0	45,0
Switzerland		7,0	17,0	33,0	43,0
Norway		2,0	21,0	26,0	51,0
Sweden		5,0	18,0	31,0	46,0
Netherlands		4,0	16,0	32,0	48,0
Iceland		2,0	13,0	27,0	58,0
Luxembourg		3,0	12,0	30,0	55,0

Note: Italy did not provide data.

Reading: in 2017, in Luxembourg, 3% of the population had no access to the Internet during the year or had no digital skills, and 12% had low digital skills.



What does this overview of Digital Europe's development programmes and the assessment of Member State ownership reveal?

On the one hand, our work shows that with the Digital Compass, the EU is investing in new quantum technologies. It should be at the global forefront of the development of fully programmable quantum computers, which will be accessible throughout Europe by 2030. This technology is very energy-efficient⁴⁴. It is capable of carrying out in a few hours operations that currently take hundreds of days, or even years. The quantum revolution of the next decade will change the way digital technologies are used.

On the other hand, this assessment shows that Europe is uneven and fragmented in its approach to digital transformation. Not all countries started from the same level of infrastructure, computerisation, training/qualification, economic performance, etc.

The same is true of the 5 partner countries in the DLIS project. Overall, it is Romania and Greece that have not reached the average European level in terms of network structures and digital skills. When it comes to the quality of service provided to citizens online via an administrative portal (for the birth of a child, a new residence, administrative services, etc.), Romania and Greece are the furthest behind in Europe. The digitisation of public services and private companies is progressing more slowly in these countries. Europe is thus being built with its diversity, its heterogeneity, its social and economic history...

The DLIS project is an opportunity to assist partners in these countries to provide social support for citizens as the administration moves towards a paperless system, which will also gradually develop digitally. The latter must preserve values, access to services essential to fundamental rights, personal security and the ability to be socially balanced. This is what our project must promote, to build the conditions for the success of this transition in social support.

➔ THE EU'S CHALLENGES FOR 2030

With its various digital programmes and its ambitions, the EU is trying to move forward in an ambitious way, in order to draw all member countries together to meet a number of challenges in Horizon 2030, in particular :

- Widespread digitisation of the private and public sectors,
- Training for the professions of the future, as well as digitising the development of existing skills,

⁴⁴ "Quantum computers are elegant machines that are smaller and require less energy than supercomputers". Source: [What is quantum computing? | IBM](#).

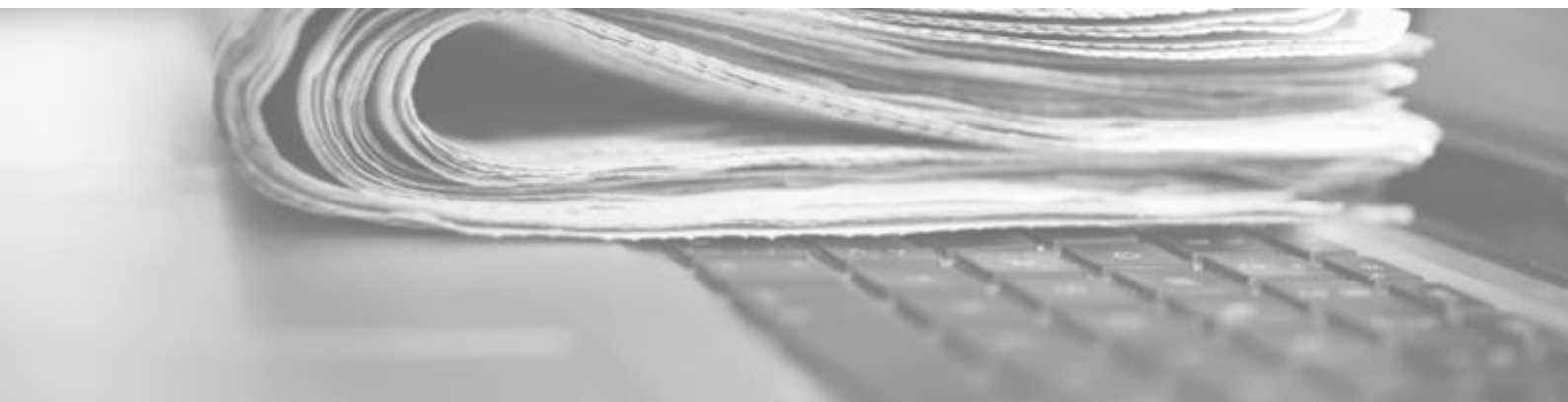
- Strategic autonomy, by positioning Europe in the race for quantum technologies, which encompass the digital, industrial, higher education and research sectors, i.e. virtually all social and economic activities,
- The fight for cybersecurity and against cybercrime,
- Decarbonising biodiversity and protecting scarce resources through high-performance, energy-efficient technologies⁴⁵.

It is in these structural and political contexts that digital support practices are being imposed on social workers in Europe. Before the Covid-19 health crisis, social workers were already using digital techniques⁴⁶, particularly in the countries of Western and Northern Europe. The Covid-19 health crisis has accelerated its use⁴⁷ in all sectors of society in most EU countries.

So what are the major challenges of digitisation for social work? How can we mobilise all the players involved? What digital uses should be encouraged in the social work sector? How can we build a digital Europe that is egalitarian, closer to its citizens and that

How can we make digital technology "work better for them"? How can we turn digital technology into a high-quality administrative tool for social support? How can we train professionals and build trust with beneficiaries? What are the learning conditions for people receiving support? A number of initiatives and guidelines are being implemented to provide answers to these questions. Let's take a brief look at what is being done and produced in the digital field in France, since that is where the DLIS project leader comes from.

Let's analyse the context of digitisation in France in terms of social inequalities, the limits of digitisation programmes and the contradictions in their implementation.



⁴⁵ "Behind the word decarbonation, we find all the measures enabling an economic sector, an entity - State, company - to reduce its carbon footprint, i.e. its greenhouse gas emissions, mainly carbon dioxide (CO₂) and methane (CH₄), in order to limit the impact on the climate". ENGIE, What is decarbonation?, 17 November 2021 [What is decarbonation? \(engie.com\)](https://www.engie.com/fr/actualites/actualites/2021/11/17/what-is-decarbonation/)

⁴⁶ "Monde social et numérique pendant le Covid-19: de la défiance à l'adoption", September 2020, available online: <https://wetechcare.org/blog/2020/09/21/publicationrapport-monde-social-numerique-crise-defiance-adoption/>

⁴⁷ MOLINA Yvette, SORIN François, "Rapport. Les usages numériques dans l'accompagnement social éducatif", Comité régional du travail social (CRTS) de Bretagne, 2019.

3A. THE CASE OF FRANCE: DIGITAL DEPLOYMENT AND PERSISTENT SOCIAL INEQUALITIES

In 2017, while 19% of French people do not have a computer at home and 27% of them do not have a smartphone⁴⁸, many initiatives are being taken by civil society and politicians to make public services paperless.

Indeed, as part of the Strategy for preventing and combating poverty, digital practices are one of the 6 priorities for adaptations to the continuing training plan for social professionals⁴⁹. For its part, in 2017, the HCTS produced reflections and practical sheets to deal with criticisms relating to the loss of quality in the relationship with people benefiting from the social sector. ⁵⁰ At the same time, the French National Authority for Health (Haute Autorité de Santé) produced a prospective analysis of the digital development of quality in the health and social care field⁵¹.

In September 2018, the Secretary of State for Digital, presented the National Plan for Inclusive Digital, to help the 13 million French people in a state of "illiteracy". The stated aim is to train 1.5 million people a year in digital skills in order to reduce inequalities. The plan has been drawn up in collaboration with associations, elected representatives, local authorities and local public and private players. An online consultation was also launched between January and March 2018, enabling more than 300 written contributions to be collected⁵².

In the French academic world of research, higher education and vocational training, researchers are questioning the impact of digital use on emerging new practices and professional identities. F Sorin⁵³ sees a balancing act between "duty to do" and "know-how", which raises questions about professional posture and the new qualifications expected. Mazet P and Sorin ⁵⁴ describe and analyse "the disturbances imported into the professionalism of social work agents by the demand for digital assistance". They show that professionals are "caught up in the tension of contradictory injunctions and equipped with flexible and unsuitable resources, and yet obliged by the aid relationship. To compensate for the lack of a clear definition of their institutional framework for intervention, they develop "self-mandated" practices. In a way, these are forms of "do-it-yourself", in a demanding digital world that requires high-level methods and tools combining technological engineering, critical philosophies and social innovation...

Added to these difficulties is the structural issue of the lack of equipment in terms of networks and connections, particularly outside towns. Contact with government departments and access to rights for the most vulnerable groups are so difficult to reconcile that there is a huge gap between the prescribed uses of digital technology and the uses actually made. The generic term "digital" covers a wide range of situations: the telephone, social networks and the use of business software. However, during the height of the health containment measures, studies show⁵⁵ that social workers testified to having worked at home with only their "paper files" and a mobile phone - their own! In view of the lack of digital equipment, a number of testimonies mention very heterogeneous situations, but are explicit on the tense notion of "working from home" rather than "teleworking". This work

of surveys pertinently question the limits and technical, organisational and human constraints of social engineering interventions, in the midst of the political process of the EU's digital transition and in the midst of a health crisis.

➤ WHAT ABOUT EQUIPMENT AND INTERNET ACCESS ?

To understand how interventions and public policies can be further improved to combat social inequalities when it comes to digitising society, let's take a look at the facts, which are nonetheless in favour of the roll-out of digital technology in France. We might expect many problems to be solved, notably because digital coverage of the territory (Internet access) has risen from 72.7% in 2017 to 85.4% in 2021. The number of internet users has increased overall since 2019, across all categories of the population, with 90% of households equipped with internet access at home⁵⁶, and 77% of individuals using the internet on a daily basis (Table 3 page 38).

However, in 2019⁵⁷, 15% of the population did not use the Internet during the year. This non-use is closely linked to the digital divide. While Internet access is growing, inequalities persist among the oldest people, those with fewer qualifications and households on modest incomes. Not to mention an invisible part of the population that is not using the Internet and about whom "nothing is known", except that they are having difficulty asserting their rights. "There is therefore little evidence to suggest that individuals who are not connected are *obliged to master their rights* in order to access them."⁵⁸

In France, for example, one in two people over the age of 75 has no Internet access from home (53%), while only 2% of 15-29 year-olds are not equipped. This is also the case for 34% of people with few or no qualifications (compared with 3% of those with higher education qualifications), and 16% of the poorest households (compared with 4% of the wealthiest)⁵⁹.

➤ WHAT ABOUT DIGITAL SKILLS ?

⁴⁸ ARCEP/CREDOD Digital Barometer 2017

⁴⁹ https://solidariteessante.gouv.fr/IMG/pdf/note_de_cadrage_travail_social_et_numerique.pdf

⁵⁰ HCTS: "Why and how social workers use digital tools", 2019,

⁵¹ HAS report Analyse prospective. Développer la qualité dans le champ du sanitaire, social et médico social, Numérique quelle (R)évolution? 2019

⁵² [Rapport-demat-num-21.12.18.pdf \(defenseurdesdroits.fr\)](#)

⁵³ Sorin, F. (2019). "Les pratiques numériques des travailleurs sociaux : entre "devoir-faire et savoir-faire", Vie sociale 4(28): 33-49. <https://doi.org/10.3917/vsoc.194.0033> DOI : 10.3917/vsoc.194.0033

⁵⁴ Mazet P and Sorin F, "Responding to digital requests for help: disturbances in the professionalism of social workers" Terminal [Online], 128 | 2020, online 09 November 2020, <http://journals.openedition.org/terminal/6607>; DOI : <https://doi.org/10.4000/terminal.6607>

⁵⁵ Catherine Deunf, "Confinement : 'Ce n'est pas du télétravail que nous avons connu, mais du travail à domicile'", <https://france3-regions.francetvinfo.fr/bretagne/confinement-ce-n-est-pas-du-teletravail-que-nous-avons-connu-du-travail-domicile1876860.html>

⁵⁶ Eurostat 2019.

⁵⁷ [Digital divide: illiteracy affects 17% of the population | Vie publique.fr \(vie-publique.fr\)](#)

⁵⁸ MAZET, P. Conditionnalités implicites et productions d'inégalités: les coûts cachés de la dématérialisation administrative, Observatoire des non recours aux droits (ODENORE), Grenoble.2022,

⁵⁹ "People living alone, in couples without children, or living in overseas departments are also affected by this lack of equipment".

When it comes to digital skills, one French person in three has a number of shortcomings. According to the latest report by the French Human Rights Ombudsman (Défenseur des droits 60), 38% of users have significant digital skills deficiencies in at least one of the following areas: finding information, communicating, using software and solving problems. 2% do not know how to use a computer, even though they have a PC. It should be noted that the level of digital skills in France remains similar to the European average.

According to INSEE, the dematerialisation of the administration increases the risk of non-use of rights and exclusion for the people concerned, as evidenced by the same report by the "Défenseure des droits", which states that certain measures still need to be improved 61 . For example, the "digital pass", designed to finance digital training, has been little used. In addition, it is noted that the burden and responsibility for the smooth running of procedures often rests with the user/beneficiary: "the user must inform himself", "the user must find his way", "the user must fill in online forms alone", "the user must update his browser", "the user must adapt to site changes", "the user must digitise documents". In the end, all these injunctions are not enough to regulate individual and collective action. They come up against the limits of professional organisations, individual goodwill and the socio-cultural incapacities and obstacles of users, who are sometimes vulnerable, fragile and destabilised when faced with digitisation.

➤ THE HETEROGENEITY OF VULNERABLE GROUPS FACED WITH THE DIGITAL

In France, the report shows the contradictions in the system, with many citizens particularly penalised by the dematerialisation of government services: 23% of the over-65s say they have encountered difficulties in completing their administrative formalities; 40% of people with no qualifications, 22% of the poor and 24% of households receiving minimum social benefits have no Internet access at home; and prisoners, undocumented migrants and the homeless are virtually excluded from Internet access. All these heterogeneous users face a multiplicity of difficulties in accessing and using digital technology.

➤ RECOMMENDATIONS

To reduce the difficulties faced by vulnerable groups in particular, the report makes 6 recommendations for the proper use and development of digital technology:

1. Maintaining several ways of accessing public services
2. Taking account of user difficulties
3. Identifying and supporting people with digital difficulties
4. Improving and simplifying paperless procedures for users
5. Training support staff
6. Taking account of specific target groups

⁶⁰ Report. Dematerialisation and inequalities in access to public services, Défenseur des droits, French Republic, 2019,

⁶¹ Report Dematerialisation and inequalities in access to public services, Defender of Rights, French Republic, 2019, 70 p.

The report provides a very detailed and pragmatic analysis of how this can be done in practice. For example, for **recommendations 3-5 and 6**, which are of particular interest to the DLIS project, in summary⁶², it is recommended to :

RECOMMENDATION 3

Organise a test to assess basic digital skills during the Defence and Citizenship Day.

Systematically assess the support needs associated with dematerialisation projects, provide dedicated resources and explain the measures taken or to be taken to meet them.

Redeploy some of the savings generated by the dematerialisation of public services towards the introduction of long-term support systems for users.

Set up a local public service bringing together a representative from each social security organisation, the tax authorities, the employment office, a social worker and a digital mediator to provide high-quality, general support for the population, particularly the most vulnerable. The level at which the new system is implemented could be adapted according to local needs.

RECOMMENDATION 5

Strengthen initial and ongoing training for social workers and public service reception staff in digital use, identifying people in difficulty and providing them with support.

RECOMMENDATION 6

Enable all persons deprived of their liberty, particularly in prisons, to have effective access to the websites of public services, social organisations and e-learning sites recognised by the Ministry of Education.

Systematically implement appropriate measures to enable people with disabilities to effectively access their rights in the event that it is proven impossible to make an existing website accessible and pending the implementation of a site that meets accessibility standards.

3B. CHALLENGES AND PROSPECTS

This document has described and summarised the European political processes for implementing the digital transformation of society and public administration in recent years. Our analysis highlights the conditions necessary for the success of the digital transition for

⁶² See pages 6 and 7 of the Report "Dematerialisation and inequalities in access to public services", Défenseur des droits, République française, 2019, 70 p.

the most vulnerable populations in numerical terms: the elderly, the poorest people on minimum social benefits, the least qualified, the least educated. These are among the target groups for social work support.

With the inevitable European increase in the dematerialisation of public services and equitable access to the same rights for all, a regulatory system needs to be developed. The conditions for success are based on social engineering challenges. They present themselves as obstacles to be overcome in the social support of individuals.

➤ CHALLENGE 1. DEVELOPMENT POLICIES TO DIGITISE SOCIETY.

For more than a decade, ambitious European policy programmes have been drawn up to develop the digitisation of society. There are a number of factual arguments in favour of its deployment. We have placed the contexts of the 5 European countries involved in the DLIS project in the context of the impact of these measures on practices for supporting vulnerable people in social work. We have seen that the factors influencing the success of e-administration and the obstacles holding back the development of the digital age within organisations are closely linked to the level of technological and economic development of the EU member countries and the ICT training levels of professionals.

➤ CHALLENGE 2. INFRASTRUCTURE DEVELOPMENT POLICIES DIGITAL

This implies that the strategies adopted by the EU must prioritise access for citizens/users capable of using digital technologies. These basic elements (access and usability) are essential to the development and evolution of e-government. A country's infrastructure is an essential prerequisite for the successful digital transformation of public policies, whether state or community-based. The use of new technologies and digital exchanges between organisations enables data to be centralised, facilitates access to information and improves the performance of public intervention. But equipment and infrastructure are not enough...

➤ CHALLENGE 3. MACRO AND MICRO EVALUATION CRITERIA AND INDICATORS

From the macrosystem to the microsystem, we have presented the digitisation criteria and indicators for society, businesses, administrations and individuals. These criteria establish a form of standardisation of the level of quality to be achieved for EU countries and citizens. These performance evaluation systems create a climate of demands and excellence that is harder to achieve for the most economically and technically vulnerable countries and individuals.

➤ CHALLENGE 4. ATTEMPTS TO REDUCE SOCIAL INEQUALITIES DIFFICULT TO IMPLEMENT

As other studies ⁶³ have shown, our study reveals that the success of digital transformation and administrative dematerialisation, which concerns social workers, depends essentially on policies to reduce social inequalities and on the involvement of governments in providing services that meet citizens' needs, using accessible digital technologies. We have pointed out, through the case of France, the limits of the provisions implemented for the most socially vulnerable people.

➤ CHALLENGE 5. MORE AGILE ORGANISATIONS

Supported by EU strategies, it is necessary to create "more agile" organisations that adhere to the policy of focusing on the citizen/user and enabling structural changes to be made within public administrations. On the other hand, to appreciate the efficiency offered by e-government, the legal framework for protecting individuals and data needs to be adapted to support the new digital procedures. These dimensions remain the priorities of the EU's digital strategies. But that alone is not enough...

➤ CHALLENGE 6. TRAINING POLICIES FOR SOCIAL WORK PROFESSIONALS

From a European perspective of combating social inequalities and developing digital literacy, the training of social work professionals is the key element in this deployment, to support digitally fragile populations. However, it has to be said that the results achieved to date in several European countries, particularly Romania and Greece in the DLIS project, in terms of access and digital agility, have not yet lived up to the expectations of the objectives set by the EU.

➤ PROSPECTS...

Social engineering professionals can only succeed if these challenges are met. The macrosystem, the exosystem and the mesosystem bring together various players involved in different aspects of social innovation: politics, economics, training, research, etc. The challenge is to bring them together around a common rationale and culture, that of equitable access for all to the digitisation of services. It is at local level that satisfactory achievements (inter-professional projects, local initiatives by user groups, FabLab, etc.) can be made,

⁶³ [Adil Khalil and Ibrahim Abdelhay Benabdelhadi, "The digital transformation of public administration: a systematic literature review" September 2021. DOI: \[10.5281/zenodo.5528289\]\(https://doi.org/10.5281/zenodo.5528289\)](#)

Hubcréatifs, etc) may be the most feasible: this is where the proximity of players, elected representatives and professionals is greatest.

We have shown that a great deal of progress still needs to be made in the fight against the digital divide, even in countries where networks and equipment are well developed, such as France, because some populations have not acquired basic digital skills. Indeed, the issue of combating social inequalities and developing digital literacy has not yet been resolved in all European countries. But the processes have been launched and are underway. European programmes to digitise society have 8 years left to meet the challenges of the digital age.

! Only 8 years to reduce the digital divide, mainly in terms of usage in countries that are sufficiently equipped (France, Belgium, Luxembourg) but insufficiently trained; and to bring our Greek and Romanian partners up to the average European level in terms of infrastructure and acquisition of the necessary skills.

This paves the way for European research projects and projects to train professionals, such as the DLIS project. In the case of the former, this work will analyse the macrosystem, the digital government systems, in the structural and political contexts of the countries concerned, in order to effectively guide intervention research and local social engineering actions. The second will identify, in the mesosystem, the best support and training practices for making the digital transition a success. The aim of this work is to be able to interact with the public, the most vulnerable users of the microsystem, in a sustainable way (chronosystem) and for all by 2030, the date of the EU's digital compass.



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Part 2:

Building a digital agility index for student communities in social work

QUANTITATIVE APPROACH

The methodology aims to construct a questionnaire on several dimensions of exploration relating to: access to equipment and networks; socio-digital fragility; the level of basic digital skills, but also those specific to the social work professions ('digital use' in digital literacy), i.e. the appropriation of ethical, deontological, legal and technical issues in professional digital uses specific to social work. The exploration dimensions of the indicator will be broken down into variables. These variables will feed into the final indicator, i.e. the digital agility index for social work students. The questions will be based on the variables in order to carry out the exploration by questionnaire. Documentary resources have already been identified in order to define an initial methodology for constructing the index. All the partners have contributed to the development of the index from the outset, through working meetings, transnational meetings and training activities.

➔ THE DIGITAL AGILITY INDEX BASED ON REGISTERS/SPHERES OF SOCIAL WORK ACTIVITIES

The diagnostic and self-positioning index, maturity and skills in digital devices in social work will be explored under 4 dimensions. These 4 dimensions, families or registers of activities are taken from the study by Molina and Sorin (2019).

This modelling of activities using digital devices in IS makes it possible to specify the actions of professionals.



The 4 ACTIVITY REGISTERS are defined by the authors as follows:

Activity register (size)
<p><u>Computerisation</u>: Processing and sharing information concerning the user or the support. This includes IT practices such as :</p> <ul style="list-style-type: none"> • Produce or mobilise digital tools for intervention • Using software packages securely and in compliance with the RGPD • Produce computerised professional writings • Carrying out online procedures with and for people receiving support
<p><u>Information</u>: Sharing and mobilising online resources. These are information practices such as :</p> <ul style="list-style-type: none"> • Search for information that is useful to the people we support, to organisations and to the public, professional institutions, etc. • Carrying out professional Internet monitoring ("curation") • Informing/referring people to information or services available online
<p><u>Mediation</u>: Using digital devices as a support tool. Activities include:</p> <ul style="list-style-type: none"> • Training in digital uses • Assessment of digital skills • Referrals to local digital players • Regulating digital practices • Raising awareness of digital uses
<p><u>Mediatisation</u>: Using digital devices as a means or support. This includes activities such as :</p> <ul style="list-style-type: none"> • The use of assisted and/or adapted digital communication systems • Professional use of digital social networks (RSN)

⇒ THE INDEX IS DEVELOPED BY EXPLORING THESE 4 DIMENSIONS AMONG RESPONDENTS
 At this stage, we feel it is relevant to extract some of the results of research carried out in Belgium (TICIS, 2019-2022) among professional respondents in social intervention (SI). The research is structured around three questions: What are the ethical and practical issues identified by social workers in the field in French-speaking Belgium? What uses and projects have already been developed or could potentially be developed for ICT in social work? How do social workers view the issues, uses and non-uses of ICTs?

The results analysed and the activities and professional actions described by front-line and second-line social workers highlight the following points:

- The digitisation of society and the resulting trend towards digitisation of access to social rights have become widespread (online accounts, access to certain rights and administrative procedures exclusively by digital means). The result is heterogeneous professional practices, and diverse (collective) uses that are not homogeneous either in their frequency or in the degree of maturity with which they are used;
- The results of the interviews also show different practices and uses depending on the position held and the tasks carried out. While social workers (in green on the diagram) mainly use "computerisation", "mediatisation" and "information" in their professional digital practices, specialised educators and youth workers (in purple) are more likely to use "mediatisation", "information" and "mediation". The usage modelling diagram drawn up by Sorin and Molina in 2020 is amended below to reflect this observation.
- The professional practices of social workers in relation to digital technology reveal use of at least two registers of activity according to the typology of Sorin and Molina (2020). The diagram below shows the registers of use called upon by the type of workstation occupied by the worker, whatever their initial training.

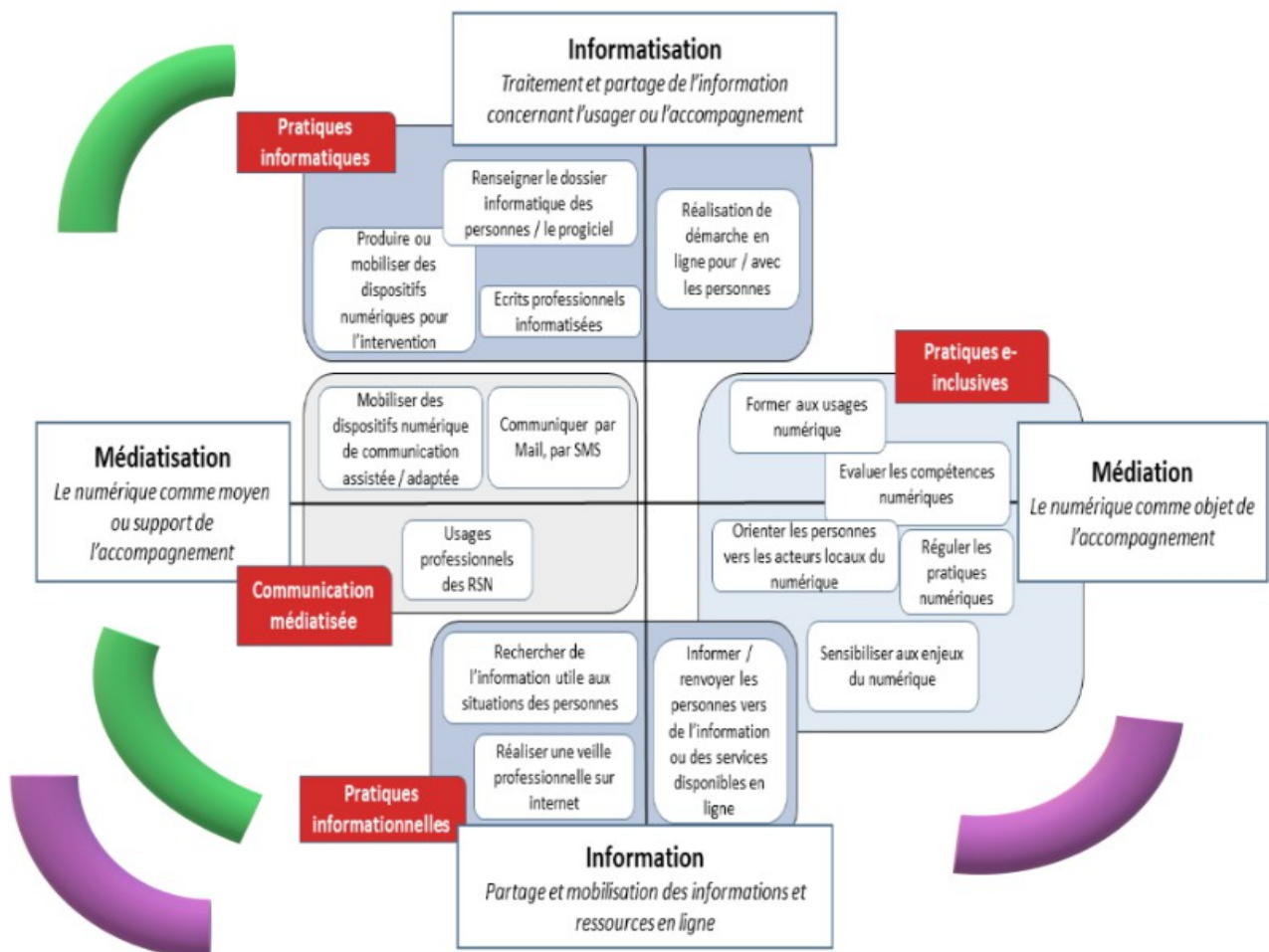
While support for SI users requires at least two of the 4 uses (Sorin and Molina, 2020), to varying degrees and according to very diverse criteria, the general observation can be made as follows, based on the comments made by the stakeholders interviewed:

- The use of "information" at the origin of "informational practices" does not require any digital maturity and/or agility specific to the profession⁶⁵ as far as "simplified" use is concerned. We note that professional use of the information register requires more complex know-how (Boolean operators, "ethical" search engine, anti-tracking plug-in, etc.);

⁶⁵ "We learn in passing that digital maturity is a finer indicator than digital competence (self-declared digital skills or types of use and/or diversity of practices). (The constant evolution of digital technology requires at least two skills: transfer skills and the ability to participate independently in a lifelong learning process". Brotcorne, P., Mariën I. (2020). Digital Inclusion Barometer 2020. Brussels: King Baudoin Foundation.

- The "computerisation" at the origin of "IT practices" (encoding in software packages, computerised social files, shared diaries, "e-administration" applications such as "ITSME", "Banque Carrefour", etc.) requires learning and skills specific to the profession. But this range of professional uses and practices calls for a high degree of digital agility on the part of the worker (articulating and prioritising ethical considerations,

Figure 4 : activités mobilisant des outils numériques et familles de pratiques numériques dans l'accompagnement social et éducatif



We will come back to this in more detail with some examples.) We will come back to this in more detail with some examples;

- The use of "mediation" (the use of digital technology as a support tool), which is at the root of e-inclusive practices, requires digital maturity and agility (often acquired "on the job") combined with personal skills developed in this area (stemming from a personal interest and previous personal and professional experience, in particular). These uses and practices are mainly found among social workers, whose main mission is to educate 'through' and 'for' digital technology. Examples: facilitators in digital public spaces (EPN), in the training areas of the "Plan Mobilisateur TIC" (PMTIC), in dedicated training courses set up by the administration, Public Centres for Social Action, Socio-Professional Integration Organisations (OISP), libraries, etc.);

- The use of 'mediatisation', which is at the root of mediatised communications practices (communications by email, on social networks, in discussion groups, instant messaging, etc.) requires a high level of agility and skills in their use if we are to refer to data protection, RGPD and account security. However, the professional practices reported reveal that these issues are unevenly perceived, understood and mastered by social workers and organisations. Although use is widespread and commonplace in both professional and personal life, the fact remains that the ethical issues associated with these practices are taken on in different ways, regardless of the sector of activity, the level or nature of education or the hierarchical position in the organisation.

At this stage, therefore, and taking into account the above observations, it would appear that the different business families require and reveal different levels of digital agility.

The digital agility index, supported by these 4 dimensions to be explored on the basis of concrete situations (of the 'case study' type) to be solved, will make it possible to establish a refined diagnosis of the digital maturity of students in initial training. It will then be the preferred teaching tool for targeting digital learning outcomes that are useful to the profession.

➤ THE 4 REGISTERS OF DIGITAL ACTIVITIES IN SOCIAL WORK ARE UNFOLDED IN SUB-DIMENSIONS OF EXPLORATION

Validation of the questions submitted to the partners at R1 - TRANSNATIONAL MEETING 1 Lille - France December 2021

- Combined self-positioning and diagnostic tool
- Self-assessment questions (aimed at gauging feelings about completing the questionnaire)
- Assessment questions (diagnostic)
- Partners' opinions

➤ THE QUESTIONNAIRE

The questionnaire consists of 60 questions:

- Proposal to partners :
 - Approximately 10 questions per activity register for the diagnosis => total of 40 questions for **the diagnosis**
 - **10 self-assessment questions** on completing the questionnaire (feelings and self-assessment of skills)
 - **10 identification variables** (independent variables: age, sex, year of study, previous studies, equipment available, geographical area)
- Consultation with the partners made it possible to adapt the questions according to the needs identified by each of the partners in its local area (a kind of local diagnosis). It was complicated to harmonise the degree of difficulty of the questions, because the needs of each of the territories are relatively heterogeneous. The degree of dematerialisation of the administration and essential services differs greatly between France on the one hand, and Romania or Greece on the other.

- It was decided to :
 - 10 questions relating to the "computerisation" register for a total of 35 points
 - 5 questions relating to the "mediation" register for a total of 11 points
 - 6 questions relating to the "information" register for a total of 8 points
 - 12 questions relating to "media coverage" for a total of 46 points

- The partners agreed that:
 - that the 'information' register requires technical skills that pose relatively few difficulties for students and professionals. The questions relating to the informational dimension are deliberately fewer in number because of the lower degree of difficulty encountered by social workers in the field, as demonstrated by the TICIS research (2019-2022). The understanding of this observation lies mainly in the mechanisms of appropriation (including primary affordance, i.e. widely accepted) of this use, recognised and practised by a large proportion of the working population (Compère L. and Philippart A., 2022). Searching the Internet (for oneself or for others) and using a search engine are activities that are
 It is less common to use "fine" research skills. Using 'fine' search skills is less common. This dimension will therefore be explored from the angle of advanced skills (Boolean operators, "ethical" search engine, anti-tracking plug-in, etc.). The scoring of questions for inclusion in the average digital agility index is therefore based on these arguments. This is a conscious methodological choice.

 - "computerisation" and "mediatisation" required more complex skills, calling on a high degree of situational analysis (data protection, data security, hierarchy of legal sources, references to the Criminal Code and Codes of Ethics, etc.);

 - that the "mediation" aspect was not yet widely used by the students, as they mainly had work experience, in which they were not yet specifically asked to "train, guide and support through and for digital technology". In fact, this register mobilises the other three registers when it comes to transmitting them to a supported audience. A high degree of digital literacy is then required for this range of activities to be required in an internship, i.e. progressive professionalisation. Deliberately, the decision was made to give less importance to these questions so as not to put respondents in a "double penalty" system. To put it plainly, to place oneself or to be placed in a position of digital support requires oneself to have sufficient digital skills to be able to support people in situations of digital vulnerability. Therefore, focusing on skills relating to computerisation and mediatisation means that these skills can be demonstrated in the first instance. Awarding 25 points per area would have been penalising insofar as there is a sort of correlation between the impact of the skills in the two areas (Computerisation and Mediation) on the third (Mediation). The computerisation and mediatisation registers are used extensively in social work (TICIS, 2022). The methodological choice was therefore deliberately made to orient the questionnaire for the index in this direction. Indeed, if the aim of the project is digital mediation (training through and for digital technology), it is essential to consider that the

Students must first have a sufficient level of mastery of the two dimensions (computerisation and mediation) before they themselves can train their public through and for digital technology (digital social mediation, etc.).



Recommendations

- Other methodological choices can be made. For example, a different number of points could be awarded for each register, depending on the need for specific skills in relation to territorial anchoring. In the event that social work students are already trained in computerisation and mediatisation, or have significant professional experience (e.g. validation of prior learning) in these areas of activity, it could be decided to allocate 25 points per area of activity surveyed.
- It could also be proposed that this scoring distribution be smoothed out by a rule of 3, when analysing the results. In this way, scores could be restored to 25 points/record. In the context of our review presented here, this was not the choice made by the project team. In fact, this smoothed average would, in the light of the methodological choices explained above, give rise to a graphical representation that could be misleading insofar as it would show the reader averages/record 'as if' they had been surveyed with the same weighting, in an equivalent manner and by quartile of distribution. However, our initial choice was to focus on the specific features of digital uses in social intervention. And research work in this professional field teaches us about the specifics of these uses. We will come back to this in our analysis of the results.



➔ THE QUESTIONS

Activity register (size)	Sub-dimensions	Learning activity
<p><i>Computerisation :</i></p> <p>Process and share information about the user or the support.</p> <p>These include IT practices such as :</p> <ul style="list-style-type: none"> • Produce or mobilise of digital tools for intervention • Using software packages securely and in compliance with the RGPD • Create of written professional writings • Carrying out online procedures with and for people receiving support 	1. Office automation	Classic software
	2. RGPD	2 Acting in the social sphere in accordance with social work placements: With what means? What strategies are used? Learning professional social work techniques in compliance with professional ethics and the RGPD
	3. Software packages	3.1 Encoding a computerised social file: what information should be included? How do you comply with the code of ethics and professional secrecy? 3.2 Access hierarchy, Infrastructure and programme design: understanding the environment in which I operate 3.3. A.I. at the service of social work?
	4. Specific applications used in social work	Recover official documents with dual identification
	<p><i>Information :</i></p> <p>Sharing and mobilising online resources.</p> <p>These are information practices such as :</p> <ul style="list-style-type: none"> • Searching for information that is useful to people being supported, to 	6. Digital agility in research

<p>professional organisations and institutions, etc.</p> <ul style="list-style-type: none"> • Keeping a professional watch on internet ("curation") • Informing/referring people to information or services available in line 		<p>6.4 Organise, structure and archive my research in the form of a directory so as not to lose information (One Note, Drive, Cloud, PearlTree applications, etc.)</p> <p>6.5 Creating a bibliography with a dedicated application</p>
<p><i>Mediation :</i></p> <p>Use digital devices as a support tool.</p> <p>These activities are :</p> <ul style="list-style-type: none"> • Training in digital uses • Assessment of digital skills • Referrals to local digital players • Regulating digital practices • Raising awareness of digital 	<p>7. Training and education in the use of online digital technology</p>	<p>Account and password management Data protection</p> <p>Raising awareness of GAFAM</p> <p>Knowledge of the territorial network and local players</p>
<p><i>Media coverage :</i></p> <p>Use digital devices as a means or support.</p> <p>These include activities such as :</p> <ul style="list-style-type: none"> • The use of assisted and/or adapted digital communication systems • Professional use of digital social networks (RSN) 	<p>8. Digital support</p>	<p>8.1 Adaptive technologies - dedicated applications for certain sectors (physical or mental disability, e-health, migration, undocumented or homeless people, etc.).</p> <p>8.2 Social networks: towards safe, reasoned and enlightened practices</p> <p>8.3. Social networks: a tool for enhancing and promoting the organisation</p>

Each of the sub-dimensions has been broken down into exploration questions in order to identify indicators. Some of the questions will be relatively theoretical and general. Others will be more rooted in local practices (e.g. knowledge of the local network of digital players).



Recommendations

- Validation of the following methodological elements - R1 - TRANSNATIONAL MEETING 1 Lille - December 2021
- Territorial anchoring and alignment of questionnaires by partners

TECHNICAL MEANS USED

➤ FINAL OBJECTIVES

At least for each partner:

- Align the questionnaires (territorial anchoring - order of questions and answers)
 - a. Know how to extract a .csv or .Excel file from the software used
 - b. Choice of software left to each partner, but decision to be made by March 2022

➤ SOFTWARE COMPARISON

KOBO TOOL BOX SOFTWARE	
<p>Benefits</p> <ul style="list-style-type: none"> • Data protection • Software specific for quantitative surveys • Export as .csv file • Used in the world university academic • Advanced level settings if required • Corresponds to the Agency's recommendations 	<p>Disadvantages</p> <ul style="list-style-type: none"> • Duplicability - replication • Free • Potentially complex handling

SPHINX SOFTWARE	
<p>Benefits</p> <ul style="list-style-type: none"> • Data protection 	<p>Disadvantages</p> <ul style="list-style-type: none"> • Ownership by each partner
<ul style="list-style-type: none"> • Software software software quantitative 	<ul style="list-style-type: none"> • Licence paying per number of questionnaires

- Export as a .csv file for import into Excel, PowerQuery and Power BI
- Duplicability
- Analysis linked to parameterisation or Analysis to be carried out with a second tool (Excel, PowerQuery, Power BI)

MOODLE E-LEARNING PLATFORM

Benefits

- Data protection
- Software Open Source (preferably Agency in the project)
- Already in place with certain partners
- Easy to use for students already familiar with the platform
- Export as a .csv file for import into Excel, PowerQuery and Power BI
- Power BI enables comparative analysis between countries
- Corresponds to the recommendations of the Agency

Disadvantages

- Non-access for certain partners Giving access to a large number of respondents who are not part of the institution is technically "cumbersome". for each of the institutions
- Duplicability for partners who do not have Moodle
- Analysis to be carried out with a second tool (Excel, PowerQuery, Power BI, Jasp)


GOOGLE FORMS SURVEY SOFTWARE

Advantages

- Protection of data if licence licence
- Already used by some partners
- Easy to use for everyone
- Export as a .csv file for import into Excel, PowerQuery and Power BI
- With Power BI, comparative analysis between countries possible

Disadvantages

- Data protection with paid free
- Analysis to be carried out with a (Excel, PowerQuery, Power BI)
- Not all partners have a Google account
- Ideologically weak in relation to the purpose of the project
- Analysis to be carried out with a second tool (Excel, PowerQuery, Power BI, Jasp)

MICROSOFT FORMS SURVEY SOFTWARE	
<p>Benefits</p> <ul style="list-style-type: none"> • Data protection • Already in place with certain partners • Easy to use for all audiences • Export as a .csv file for import into Excel, PowerQuery and Power BI • With Power BI, comparative analysis between countries possible 	<p>Disadvantages</p> <ul style="list-style-type: none"> • Data protection • Duplicability for partners who do not have Moodle, but have a Microsoft licence • Analysis to be carried out with a second tool (Excel, PowerQuery, Power BI) for comparative analyses • Not all partners have an account corporate and/or individual Office 365 account
<p> Recommendation</p> <p>Contact our partners</p> <ul style="list-style-type: none"> • An inventory to clearly and explicitly identify <ul style="list-style-type: none"> ○ the technical resources available to each and ○ ideological and pedagogical preferences • Avoid as far as possible : <ul style="list-style-type: none"> ○ GAFAM software and applications ○ Software and applications not protected by a paying licence (guarantee of a certain contractual logic on data protection) ○ Software and applications whose use requires a degree of technicality that does not allow each of the partners to appropriate the questionnaire in the original language. 	

In the end, we opted for Microsoft Forms :

- For its ease of use and handling
- 3 partners have an institutional licence, which guarantees a form of data protection (as opposed to free tools from GAFAM)
- Intuitive, fluid and easy to set up, normally for all partners.

The ideal solution, from an ethical and scientific point of view, would have been the free software "Kobo Tool Box". However, it requires prerequisites for quantitative methods and not all the partners were in a position to make it their own. In terms of timing, this would have delayed the delivery of the R1 originally planned.

➤ RESPONDENT COHORTS

SAMPLE

- ➔ Initial target: around 120 in France, 120 in Belgium and 120 in Romania
 - (1) Approximately 360 student respondents

- ➔ Actual number of respondents :
 - (1) France: 275 respondents
 - (2) Belgium: 247 respondents
 - (3) Romania: 117 respondents

This gives a total of 639 students, almost double the sample size originally forecast.



QUALITATIVE APPROACH

➤ OBJECTIVE: TO SUPPLEMENT THE RESULTS OBTAINED FROM THE DIGITAL AGILITY INDEX QUESTIONNAIRE WITH QUALITATIVE DATA COLLECTION

- By deepening self-positioning through questions to groups of respondents
- Bringing a different methodological angle: gaining an in-depth understanding of the results of this digital agility index through discussions with social work students and professionals.
- By completing a common data collection guide (excluding the Luxembourg partner, which is not initially included in the data collection) common to partners who have student cohorts This data collection takes place after the questionnaire has been sent out (live or recorded) and within the questionnaire itself (free-form questions at the end of the form).
- This approach enables us to refine the notion of digital agility in social work (expectations, know-how, feasibility, feelings, whether or not there is a gap between the learning objectives in the function, etc.).

The qualitative data provides us with information for improving the questionnaire, in the knowledge that it could potentially be reused or provide inspiration for other institutional environments. A document with identical questions was provided to the partners for their feedback.

➤ GENERAL COMMENTS FOLLOWING THE TEST

The questionnaire was considered too long and "difficult" to "very difficult" for most of the cohorts. Only Romania seems to have been spared this comment by respondents.

The majority of the respondent community were not, or were not very comfortable with digital vocabulary, yet most of them answered the questionnaire with their smartphones, and they use the internet every day (see question 9/10). We can deduce from this that they use devices on a daily basis that they are unfamiliar with or do not master, leading to professional risks/phishing/scamming/incapacity to pass on skills to others. This observation confirms the initial idea of the research, according to which the younger generations have no more facility with digital technology than their elders, even if their use of it may be greater.

The students say that they have become aware of a series of skills that they will need in their future jobs. In this sense, the questionnaire is a very good awareness-raising tool, enabling them to realise the gaps they may have in their knowledge of these issues, and to deconstruct the apparent neutrality (in terms of data protection, ethics, etc.) of the use of digital technologies, in other words to 'de-technicalise' the issues raised by digital technology. It is also a good tool for trainers to encourage discussion, raise specific professional situations in particular fields (e.g. mentally handicapped people), and create debate on the challenges of dematerialisation for social workers and the people they support.

The feedback from the audience during the discussions was generally very positive. Some said they found the event "entertaining".

However, the presence of the project's "ambassadors" in the school, who are also teachers in these sections, and the "face-to-face" conditions of the test in the classroom or auditorium, could be identified as a desirability bias among the respondents. Caution must therefore be exercised when interpreting this feedback. However, the free answers filled in at the end of the questionnaire repeated the same elements presented orally. And the questionnaire was configured in "anonymous" mode in the settings. This gives the responses a guarantee of validity.

For some, the terms seemed vague and far removed from the reality of their placement. Given that most of the sample were in Bac 1 or Bac 2 (B), the professional context and working environment were still in the realm of first experiences. The situational questions were generally problematic, because they required more concentration and the need to project oneself into situations that were not yet very concrete in the minds of the students, either because they did not yet have enough field experience, or because their experiences did not always involve the use of digital devices, particularly in the case of specialised educators.

More broadly, in each of the sections and years surveyed, in Belgium and in France, the respondents expressed a desire to be trained in these technologies, in their functional aspects, but also in a reflective and critical approach to the issues involved. There was a great deal of discussion when the questionnaire was administered, with most students spontaneously reacting to the questionnaire by recounting difficulties or questions they had encountered on their work placements. The questionnaire would therefore have contributed to a form of awakening and 'first attention' to the notion of digital agility in a professional context.

In **Belgium**, the training plans of the social department of the Haute École, at both Bac and Master level, do not include learning activities related to and for digital technologies. As a result, when they left the Haute École, the respondents virtually never followed any professional training content. Yet feedback from professional partners in the field and Bac 3 students calls for training content tailored to the specificities of social work, the sectors/fields of intervention, and even the specificities of each of the different 'social' professions. The questionnaire was initially drawn up on the basis of questions and reflections from professionals.

In **France**, the use of digital technology in social work has been incorporated into the official training guidelines for the Diplôme d'Etat d'Assistant de Service Social (DEASS). Training in digital issues is one of the six training priorities for social workers as part of the government's strategy to prevent and combat poverty, defined in 2018. The objectives concern the acquisition of a digital culture, the development of the ability to act in a dematerialised environment and the processing and sharing of information. However, as far as initial training is concerned, although the issue of digital uses is beginning to be incorporated into schools' training programmes (introduction to the concepts of digital inclusion, digital inequalities, awareness of the legal framework for data protection), this is still only on a very occasional basis and for a small number of hours. It should be noted that most of the cohort surveyed had not benefited from this teaching.

Finally, the questionnaire was not submitted to educational specialists in ergonomics, learning disabilities, inclusion or gender issues. However, it would be worthwhile submitting it to an advisory committee, for example, which could give informed opinions.

on these respective dimensions of expertise. For example, it was noted that students with concentration difficulties and "dys" disorders had more difficulty than others in answering the questionnaire, due to its density, vocabulary or level of language, which was more sustained than usual.

➔ THE DESIGN OF THE QUESTIONNAIRE AND/OR THE WORDING OF THE QUESTIONS

Some questions elicited comments or misunderstandings from the students in terms of their wording:

CONCERNING THE LEVEL OF EDUCATION :

Question 4 on the level of study posed a problem for some students, who did not know whether they should specify their level of training (1^{re}, 2^e, or 3^e year) or their general level of study (for those who had done other studies before, second-year ES students, for example, already had a master's degree in another discipline). Question 12 on previous studies clarifies matters, but perhaps comes a little late.

Respondents mentioned that it was not always clear to them whether the questions concerned their use of digital technology for work placements or as part of their studies. This was particularly the case with question 16 on the feeling of comfort in relation to the NDs: difficulty with the wording "teachers' expectations" coupled with "place of placement". The students suggested that there could be differences, and many were not clear about what the trainers expected of them in terms of using digital technology in a professional situation.

- The vocabulary used sometimes seemed too technical or not self-evident for the respondents and would require a simple definition. Below are some examples of the main terms or expressions used:
- The term "digital device" (question 13) remained vague for a majority of students, who needed clarification. Suggesting a simple, clear definition, even if it means "simplifying" a little, could improve understanding of the questions later on.
- Similarly, the term e-administration is used in the questionnaire as a common term. It is not defined in the questionnaire. For several students, the term seemed rather vague and was not immediately linked to concrete examples.
- The "computerised social file" (question 51) is relatively unknown. The term is also used to refer to "computerised user files" in the medico-social sector, but students are not familiar with it either. Should it be briefly defined, particularly for those with little or no work experience?

Finally, some of the questions may have seemed out of step with their own experiences of digital work placements. For example, the question about the usefulness of a 3D printer made little sense to them, as they never had access to this type of equipment in the departments where they work. In their view, the difficulties they experienced were at a more "basic" level, as evidenced by the problem situations we were able to collect from the students (see next section).

Generally speaking, the students found the questions about the scenarios difficult, insofar as their practices with regard to users varied according to the situation. It was therefore difficult to give a general answer about some of the practices adopted.

Technical difficulties related to the use of Microsoft Forms software were sometimes encountered (see conditions for administering the questionnaire - France).

Students who answered "No work placement experience" to question 11 suggested skipping question 13, on the use of DN at the work placement, or adding "not concerned/no work placement experience" as a possible response.

Many "no answers" to question 17 ("do you personally inform ...") possibly because the question was not always well understood (cf. use of the word "inform").

"digital device"). Is it appropriate to change the wording at the end to "... the use of digital technology", without betraying the meaning of the question?

The situational questions were generally problematic, because they required more concentration and required students to project themselves into situations that were not yet very concrete in their minds, either because they did not yet have enough field experience, or because their experiences did not always involve the use of digital devices, particularly among specialised educators.

Students with concentration difficulties and "dys"-type disorders had more difficulty than others in answering the questionnaire, because of its density, vocabulary or level of language, which was more sustained than usual.

The majority of respondents to question 62 commented on the length of the questionnaire, and the vocabulary they found technical. However, the whole cohort took less than an hour to answer, and the difficulty with the vocabulary was mainly due to a fairly wide ignorance of the terms used to talk about digital technology, even the most common terms e.g. internet browser. Some felt that shorter sentences should be used. Others insisted on length, recognising that their answers to the last questions could be biased, because they had answered them a bit quickly in order to finish quickly. In the free comments (question 63), two of them realised that they needed training after completing the questionnaire, one specifically on Word, the other on their digital skills.

During the first pass to the first years of ES/AS at the Métropole Lilloise site, a student pointed out a potential bias that could explain the differences in scores with the ES: the AS had had a course on the RGPD two weeks before, and this course does not exist for ES training.

➡ ON CHANGES AND IMPROVEMENTS TO BE MADE TO THE QUESTIONNAIRE

The following examples illustrate some of the ambiguities perceived by students between the two categories. objectives pursued by the questions and field practice of trainees/social workers :

- Question 9: On the frequency of access to the Internet, barriers to Internet access difficult to assess between difficult access, the affordability of the Internet, the quality of the network, the relevance of using the Internet, the fear of using the Internet (making mistakes, online scams, data protection).

- Question 14: With regard to the use of digital devices, are we talking here more about digital tools facilitating work with the user or for the user, rather than digital devices facilitating work within the department?
- Question 15: This question is difficult to answer because of the subtlety between the terms "for" and "with", which can be interpreted differently depending on the person, the situation and the digital tools to be used (e.g. SIAO instruction, which must be carried out by an instructing service, whether or not it is electronic, with the person and for the person).
- Question 21: You have the beneficiary in front of you or absent (1st case: you call in front of them, 2nd case: absent, tendency to send an email to keep a record).
- Question 31: Here we are talking about partnership and information sharing (different depending on the social worker's profile, several possible cases, several possible forms, etc.).
- The "other" questions (8 - 15) do not necessarily seem relevant given the relatively small number of responses (two on 8, one on 15) and the content of the answers:
- e.g. on question 7 (equipment available) no one answered "other", but two people did answer question 8, indicating "mobile phone" and "iPad", even though "smartphone" and "tablet" were possible answers to the previous question.
- e.g. question 15, the only answer actually corresponded to one of the possible answers.
- An explanatory answer key for the scored questions, particularly on the situation scenario, could be useful both for the students and for the trainer administering the questionnaire, in order to carry out a remediation session once the questionnaire has been completed (e.g. to remind students of the precise rules of the RGPD in a given situation, or to explain why a given answer is not the right one, etc.).

➤ PEDAGOGICAL INTEGRATION OF THE PROJECT AT HELMO ESAS (BELGIUM)

In addition to administering the questionnaire to the cohorts presented beforehand (247 for Belgium), the project benefited from pedagogical integration within a specific participatory system.

As part of the 'Social Work and Research' learning activity (3rd year of study), section Assistant. From September to October 2022, 195 students completed this 2-credit (30 h) activity.

As part of this project, the students were given the opportunity to undertake, in teams of 4 to 6 students, a qualitative research project on the general theme of digital agility in social work (students and professionals in the field). The DLIS project was presented to them in a 2-hour plenary session on 14/09/2022. Based on this thematic anchoring (DLIS66+), they practised the 'classic' stages of practitioner-researcher (Albarello, 2004.200567 and Quivy et al.68, 2011) in social work during 30 hours of activities with the supervision of a teacher-researcher per group of

⁶⁶ The ERASMUS DLIS+ project, in its entirety, was placed on the course's Moodle platform, in the document resource base for the course's students. They were invited to read it.

⁶⁷

ALBARELLO L. (2003), *Apprendre à chercher. L'acteur social et la recherche*, 2nd edition, De Boeck.

ALBARELLO L. (2004), *Devenir praticien-chercheur: Comment réconcilier la recherche et la pratique sociale*, De Boeck Supérieur.

⁶⁸ QUIVY R., VAN CAMPENHOUDT L. (2011), *Manuel de recherche en sciences sociales*, 4th edition, Dunod.

20 students. With a final exam due in November 2022, they are actively involved in the project as student researchers.

This device experiential experiential is unfold pedagogically according to the methodological stages of research:

- Determination of the theme by the DLIS project and choice of sub-theme by the team (identification of facts and phenomena through reading and use of internship experience);
- Development of the research question and hypotheses,
- Documentary research,
- Data collection using the methodology of the comprehensive interview and the methodology of the account of practice,
- Cross-analysis of results as a team.
- The scheme generated a total of :
 - 58 comprehensive/semi-directive interviews (as at 08.12.22) ;
 - 42 stories of practice
 - Gathered from social workers in the field and/or social work students on the theme of digital agility and digital social mediation.
 - It should be noted that the students were assisted in drafting the interview guides/frames. The teacher-researcher in charge of each group authorised the interview once the interview guides had been validated and the respondent's choice was relevant to the research questions.
 - In accordance with ethical principles and with all research in the human and social sciences, a consent form for participation in the research was drawn up and submitted to the respondents.

All in all, 442 students took part in the construction of the digital agility index at R1, through various educational activities:

- 247 students (BAC 1 - BAC2 and Master 2) who took part in the quantitative and qualitative approach via the questionnaire
- 195 BAC 3 students who contributed to the concept of the digital agility index through qualitative research. The process is backed up by a certification exam (November 2022).

➔ PEDAGOGICAL INTEGRATION OF THE PROJECT AT VLAICU UNIVERSITY (ROMANIA) AND CONDITIONS FOR ADMINISTERING THE QUESTIONNAIRE

Number of questionnaires collected: 117	Award dates/periods: November 2022
Education/level of students interviewed : – Social assistance – Bachelor's degree (Social Work) and Master's degree (Social Work Services)	Delivery method (e.g. in class/face-to-face, sent by email) : -1. in progress -2. face-to-face -3. sending by email Explanation: In the face-to-face course, the questionnaire was presented to the students along with information about the project. It was then sent to the group's e-mail address (year of specialisation), to which they responded online.

➔ PEDAGOGICAL INTEGRATION OF THE PROJECT AT IRTS - HDF LILLE (FRANCE) AND CONDITIONS FOR ADMINISTERING THE QUESTIONNAIRE

Number of questionnaires collected: 246	Test dates/periods: 6, 13, 17 and 19 October 2022.
Education/level of students interviewed : – 1 ^{re} year Diplôme d'État Educateur Spécialisé (DEES) and Diplôme d'État Assistant de Service Social (DEASS). – 2 ^e year Diplôme d'État Assistant de Service social (DEASS).	Delivery method (e.g. in class/face-to-face, sent by email) : Face-to-face, in class and distance learning.

➔ PEDAGOGICAL INTEGRATION OF THE PROJECT AT ESS CRAMIF - PARIS (FRANCE) AND CONDITIONS FOR ADMINISTERING THE QUESTIONNAIRE

<p>Number of questionnaires collected: 13 + 7</p>	<p>Test dates/periods :</p> <ul style="list-style-type: none"> - June 2022 - 16 November 2022
<p>Education/level of students interviewed :</p> <p>students enrolled in 1^{re} and 2^e years of DEASS studies</p>	<p>Delivery method (e.g. in class/face-to-face, sent by email) :</p> <p>In progress (face-to-face)</p>

The questionnaires were completed face-to-face by 1^{re} and 2^e year ASS (Assistant de Service Social) students.

The questionnaire was administered on tablets loaned by the school or directly by the students on their smartphones. The 2^{de} wave of questionnaires administered to 1^{re} year students had to be suspended due to a malfunction in the settings. Once the students had submitted their answers, they were surprised to find that some of their answers to questions such as age, number of work placement experiences, etc. were incongruously considered to be incorrect. It is possible that this malfunction was caused by uncontrolled updates to the tool, which led to a change in the options for setting the 'correct' answers.

The questionnaire was administered on each occasion in the presence of two members of the project team, preceded by a presentation of the DLIS project, its general objectives and the expectations associated with administering the questionnaire. The presence of the team enabled us to answer the students' questions and, in particular, to clarify some of the questions that might have given rise to misunderstandings.

The collection of responses was followed each time by a time for exchange and discussion with the students. These exchanges helped to highlight key points about the experience of using digital technologies in social work, and in particular to reaffirm the collective and organisational issues involved in reappropriating these technologies and their effects, over and above the individual dimension. During these discussions, the students expressed their feeling of a gap between the questions posed and the resources they have in practice to implement ethical practices that respect the rights of users in their work.

Facing the questionnaire gave rise to lively discussions: should we say what we know we should do in theory or what we do in practice? A number of students said that they knew what 'good' practice was in terms of providing support using digital technologies, but that they didn't have the opportunity to implement it in their organisations.

As well as administering the questionnaire, the project was integrated into the teaching activities of the 2^e year "Territorial Social Diagnosis" students. The aim of this teaching unit is to provide an introduction to research methodologies through data collection and analysis carried out by the students in a particular area and around a specific issue.

In this context, the students are expected to identify problem situations experienced by social workers and the excluded people they support in the 19th arrondissement. The diagnosis will be based on the collection of existing data (documentary research) and a field survey.

1. DOCUMENTARY RESEARCH

This will enable :

- to reformulate, on the basis of the characteristics of the area, the local issues surrounding the dematerialisation of public services in general, and the issues of specific to social policies to combat exclusion.
- statistics on the population of the area and the dematerialisation of public services in the area concerned

2. FIELD SURVEY

Several options are available, including :

- observations in public services or local associations, queues in front of ticket offices,
- interviews with social workers specialising and not specialising in digital support.

At the end of this investigation, a 15-page dossier was produced by each of the students and was used as the basis for a certification test as part of the State Diploma. Due to the timeframe of the project, this activity was only offered to students entering directly into their 2^e year of study.

Business activity broke down as follows

- June: - The team decides on the theme
- September - October: Introduction to the test and methodological framework documentary research, review of the literature and definition of questions

Development of survey tools

- November: Collection of empirical data (field survey)
- December - January: Analysis of the data and drafting of the dossier



➔ INTEGRATION OF THE PROJECT INTO THE KEPSIPI CENTRE AND THE UNIVERSITY OF ATHENS (GREECE)

Number of questionnaires collected: 10	Test dates/periods : -January to March 2023
Results not yet processed at this stage, as sample too unrepresentative	
Education/level of students interviewed : Students in Work Social Work à the University of Athens	Delivery method (e.g. in class/face-to-face, sent by email) : Questionnaire distributed on social networks used by students at the University (Facebook, WhatsApp)

FOCUS GROUP (QUALITATIVE APPROACH) OF THE KEPSIPI PSYCHO-MEDICO-SOCIAL TEAM

The Kepsipi Centre carried out a focus group with its field workers to assess the relevance of questions on the subject of the digital agility of social workers when they are on the job. This was therefore an exclusively qualitative approach aimed at translating the needs, expectations and requirements in terms of the digital agility of field workers.

The scientific team met to examine the questionnaire. The 9 people work in the centre in the field of mental health. They are a multidisciplinary team (child psychiatrists, psychologists, occupational therapists, speech therapists, special educators, play therapists and psychology practitioners). Participants range in age from 22 to 66.

GREECE RESULTS

Within the team, it may be argued that younger people have the opportunity to acquire digital skills as part of their basic education. The same cannot be said for adults who left their vocational training 15 years ago or more, or for workers who undergo lifelong learning.

Digital skills training in Greece is provided by a private organisation (ECDL), which issues a skills certificate after a written examination in Word, Excel, Internet and Power Point. It covers a very basic level of knowledge in terms of the register of activities relating to "Computerisation" (Molina & Sorin, 2019).

In this ECDL approach, as far as level A is concerned, the group as a whole feels adequate. Level B is mastered by most of the group (7/9), but not all.

Overall impression: Many of the skills included in level C (experienced user) seem extremely advanced. To the best of our knowledge, it seems unlikely that a social worker, even one experienced in digital skills, would possess such competencies.

Many social workers work for NGOs and are responsible for the personal data and information of their beneficiaries. This data is personal, even sensitive, in terms of the General Data Protection Regulation (GDPR). Organisations working with minors pay particular attention to the security and protection of their data. In Greece, this information is often stored on servers managed by the NGO. However, these servers are not particularly protected or secure. What is even more worrying is that, according to the Centre's workers, internal access restrictions or encryption protection are not common among these NGOs.

It is also common for reports containing sensitive, confidential information and professional secrecy to be exchanged by email, without the organisations having a clearly defined internal socio-technical framework for data security and protection. It would appear that exchanges involving mediated communication (email, SMS, instant messaging or otherwise) are not (yet) the subject of collective reflection in the field of social work. Organisations that protect and secure their data (such as Kepsipi) are the exception in the landscape of social work organisations in Athens. As a result, once in the field, students are not yet required to master the mysteries of the RGPD. Social work teaching is therefore not yet called upon to answer these questions.

In conclusion, the questionnaire on Mediation, Mediatisation and Computerisation seems to be at a level that is both too high and indicative of a level that is not yet expected by professionals in the field.

It would be useful to create a category covering encryption levels for folders and files containing personal information, restricted access depending on each person's speciality (social worker, psychologist, legal aid, etc.) and the way information is shared between colleagues.

The Focus Group highlighted a number of factors specific to the Greek context:

- From 2019 to today, the country's digital governance has made great strides forward. This is a government success story. Many public sector bodies have entered the digital age. Contacts and services for citizens on everyday issues (issuing of documents by municipalities and public administration) have been greatly facilitated.
- In the area of special processing (data protection, exchanges of sensitive information, etc.) which concerns an organisation such as Kepsipi, parents' transactions with their insurance company for the submission of documents and the collection of benefits are now carried out electronically and without physical presence.
- In the field of education, digital learning has made great progress, even if the people supported did not have the necessary means or skills. Computers have been made available to schools, students and families to help them with their educational activities. Equipment and infrastructure have been improved.

- Pensions, insurance, healthcare and prescriptions are now handled electronically, which is a relief for the public but also confronts them with their e-skills.
- The government and the Ministry of Digital Reform have created a digital platform <http://www.gov.gr> where citizens can be helped with a number of their problems. They have also created a "National Digital Skills Academy" platform where citizens can improve their digital skills through a series of exercises and videos.
- At the same time, private companies and telecommunications operators have invested in networks and connectivity. This raises de facto ethical questions in terms of democracy (transparency of access to databases) and deontology in the field (e.g. are people being encouraged to use these services, not knowing whether or not these private operators are (re)assuring them of the ethical guidelines they have put in place?)

IMPLEMENTATION AND DIFFICULTIES ENCOUNTERED

Ex-post, we feel that there are three major areas for reflection in the implementation of Outcome 1, based on the Leader's experience of this ERASMUS+ project. They are expressed in three dimensions and could be considered as points for attention:

- Agree on a common language for R1 production objectives
- Negotiate a shared socio-technical framework to the extent that each partner is able to do so,
- Measuring the influence of the specific timeframes of each partner and their potential impact on production periods.
- A common language

Translating the digital skills and digital agility of social work students into a common language proved complex and rich for the 6 partners from different countries, regions and functions. In fact, it highlighted their multiple territorial and therefore cultural roots. But this exercise of pooling resources to construct the digital agility index and the questionnaire also revealed heterogeneous professional needs in terms of the nature of the learning to be acquired and the degree of urgency to train social work students in one subject or another.

DIFFERENTIATED REQUIREMENTS

For example, the cybersecurity of beneficiaries' data seems to be of paramount importance for some (France, Belgium, Greece) and less so for others, at this stage of dematerialisation of services. For Belgium and France, the sphere of data protection issues, as well as that of supporting beneficiaries in digital training (mediation), appeared to be essential to the profession. While other partners (Greece, Romania) feel less of an immediate need for this, insofar as social services are not necessarily computerised to the same degree as their digital counterparts.

structures. The need to support the public in digital inclusion (e-inclusion) therefore seems to be less significant because of a less-deployed platform state. Surprisingly, the notion of 'e-administration' is unfamiliar to students in France, whereas in Belgium this term was not mentioned by respondents as 'unfamiliar' or requiring explanation. Similarly, French, Romanian and Greek students on work placements do not feel the need for and/or do not see the use of a 3D printer. In Belgium, on the other hand, there is a growing demand from students for access to and training in the use of this equipment, particularly in socio-cultural activities or in schemes whose remit is mainly prevention. The aim is often to be able to produce specific physical supports to illustrate an exhibition, replace a piece of a board game or produce low-cost, "made-to-measure" creations for a specific target audience (in the field of disability or mental health, "creative" workshops offer innovative practices). This type of material can then be mobilised and give rise to participative dynamics with the public).

ALIGNING NEEDS WITH A EUROPEAN OBJECTIVE FOR A DIGITAL AGILITY INDEX

- The differing requirements in terms of the nature of the learning and the degree of urgency in training students reflect the difficulty of "blending" the professional realities of the various partners into an index of digital agility that is unanimously shared by all the partners.
- While the review of the literature on the strategic aim of European policies on digitisation highlighted the desire to work towards an ideal for tomorrow's society, the simple fact of carrying out a questionnaire aimed at the same target group (social work students), but in different countries, highlighted the disparity of needs among students in relation to experiences in the field.
- It was therefore necessary to "make a decision" on the questions and themes that seemed crucial to each of them in their particular territorial context. It would therefore be presumptuous to claim that the sum total of the questions that make up the "index" can be considered as absolute and finely tuned to any professional social work reality in Europe.
- Having decided on the themes and questions to be addressed in the final version of the questionnaire, the next step was to assign a score, a value, to each of the answers considered to be correct. Here too, the weighting could give rise to different considerations depending on whether a dimension surveyed is perceived as essential to the profession or, on the contrary, considered in its territorial roots to be of little importance. For the purposes of transferability, this point deserves the attention of operators who plan to offer a questionnaire to their students.

➤ CONCLUSION

The various points developed above reveal the difficulty of establishing a "language

In a European context, this raises a number of fundamental questions about the dissemination of social policies in different countries. In a European context, this raises a number of fundamental questions about social policies in different countries:

To what extent will the standardisation and differentiation of European social policies strike a balance to ensure that each country achieves the common objectives in terms of digital skills?

Finally, we should mention the need to understand each other in a common language in the first sense of the term (vocabulary of the language in particular), i.e. that everyone has a sufficient command of the language in question.

the language chosen for the project. It goes without saying that it is necessary to understand each other well when developing this digital agility index. Translations from French into Greek or Romanian required time for consultation and clarification that would not have been realistic in the project timetable without a sufficient level of French on the part of the partners.

Setting up the project meant agreeing on the technical resources to be used to construct the index. As leader of the project, certain options were adopted, with different positions taken. The first difficulty was to define precisely the tasks to which each partner would contribute. One of the main elements relating to the socio-technical framework is the fact that the inventory of the partners' technological resources differs from one partner to another. This has an impact on the way in which the partners can become involved in resolving the difficulties encountered. This may seem paradoxical given that the core of the project consists of learning

It's all about "by and for digital". To assume that all the partners have the same resources and skills when it comes to digital technologies would be to ignore the reality of the situation and the socio-technical factors specific to each partner. It is therefore essential, from the outset, to consult each other, to listen to each other, to take the time and to fully understand the socio-technical framework of each of the partners. Indeed, depending on how computerisation and mediatisation are used in a professional context, digital social inequalities (Granjon, 2022) arise for the partners themselves within such a project. For example, some partners do not have an institutional licence for the Office suite or an institutional email address. This may seem trivial. However, this leads to a proliferation of communication tools and media that are difficult to harmonise. If there were a recommendation to be made, it would be that attention should be paid to this inventory of technical resources available to everyone. Not to mention the fact that uses are rooted in the needs of professional contexts. These differ greatly from one partner to another. Digital culture in a professional context is often the result of a transfer of personal digital culture, initially in terms of appropriation trajectories (Plantard, 2021).

However, after this transfer stage, in the trajectory of digital appropriation by the worker, if individual needs evolve into collective needs, the institutional socio-technical framework is put in place. It is then negotiated with the workers, or imposed by and within the organisations (Compère and Philippart, TICIS, 2022). The digital literacy of the partners should therefore be considered from the outset of the project, if it deals specifically with this issue. For example, it is not necessarily a given for everyone to favour free or open source tools. The ethical issues involved in using Google Forms or unsecured email do not make as much sense to some as to others. The project's socio-technical framework also needs to be thought through as soon as the first productions are launched, however small they may be. Socio-technical adjustments should therefore be seen as a mobilising factor to be incorporated into the timetable.

Certain options have therefore been selected for the production stages.

- in co-construction with partners ;
- or through negotiation;
- or even by proposals to be validated and a decision taken by the result leader¹.

There was therefore no single methodological approach to choosing the socio-technical framework for the project.

CHOICE OF SOFTWARE FOR THE DIGITAL AGILITY INDEX :

- The use of open-source software such as Yakforms and Framaforms does not offer sufficient scanning capabilities to process cohorts of respondents of the size envisaged in this project;
- The possibility of working with Google Forms was ruled out from the outset for reasons of data protection and security.
- The quantitative processing software (Sphinx, KoboTool Box) would have taken too much time for the partners to get to grips with. This would have meant that the leader would have had to do all the encoding and configuration. This was not an option, given the number of working days involved.
- The choice fell on Microsoft Forms, given that three of the partners had institutional licences. This increased support in the pre-test phases and in processing the results. In addition, Teams was the tool initially chosen in the initial discussions.
- Nevertheless, it was necessary for the leader to take charge of the encoding and parameterisation of the questionnaires (in Greek and Romanian, NDA). This meant, de facto, that the leader retained ownership of the questionnaires. And therefore of the extraction of the data tables, of the data. The data is then "cleaned" to make it readable and processable.
- Questions with several possible choices are not conducive to easy processing of responses with M Forms.
- The project funding does not provide for investment budgets for the acquisition of a paying licence (Office or Sphinx) which could then be shared by the partners. Or if it is possible to envisage it in the project budget, this was not the case in the DLIS.
- This has led to differentiated rights and access depending on whether or not each partner has Office 365. This has an immediate impact on the workload of the result leader.

CHOICE OF MEDIATED COMMUNICATION TOOLS FOR R1 :

- Communication around the R1's productions took place with relatively heterogeneous levels of access and mastery of the tools, as explained above.
- The consequences also manifested themselves in the communication tools used to produce the various stages of the schedule.
- So we had to resort to the tools that everyone uses. The functionalities differ depending on the communication application used (WhatsApp, Messenger, Skype, Zoom, etc.).
- The distinction between "private" and "professional" accounts remains blurred. As soon as the socio-technical framework is not institutionalised, the boundary between the different accounts used for mediated communication is immediately less clear-cut. This has repercussions on the proliferation of tools, the digital skills required for optimal and secure use, collaborative practices and even simply the sharing of access rights to documents. Using the Teams platform is not yet intuitive and fluid for everyone. This generates a lot of back and forth emails that could be saved, for example.

CONCLUSION

Based on our experience as R1 leader, and given the very essence of index production, the digital acculturation of partners and institutional technological resources must be assessed in terms of their potential impact on the production stages. Sharing a socio-technical framework, such as sharing a common language between partners, does not emerge spontaneously from exchanges. It needs to be clarified, negotiated and understood. This is part of the cultural richness of such projects. Understanding, in the sense of grasping the context and glimpsing the issues, the professional socio-technical framework of a European neighbour is a necessary stage in the smooth running of productions.



AN ADJUSTED TIMEFRAME

It may seem like common sense, but each partner has a calendar punctuated by different seasons. Rest and holiday periods are imposed for some and negotiated for others. Academic teaching calendars include imperatives such as examination sessions, course timetables, etc. which cannot be departed from. For partners operating in the field, other seasonal factors need to be taken into account, such as being involved in other projects, having intense periods of work at certain times of the year, etc. It is also important to clarify and negotiate how the partners' calendars and agendas fit together, otherwise the production dynamic may be hampered by the imperatives of each partner. For all the production stages envisaged, proposing a detailed timetable for everyone's involvement is an essential resource if we want to ensure that everyone is able to meet the production expectations. If this detailed planning of the production stages is not validated by everyone, the leader is undermined by an overload of work and the need to take decisions unilaterally. This runs somewhat counter to the desired dynamic.

PRESENTATION OF THE RESULTS AND ANALYSIS OF THE DIGITAL AGILITY INDEX

INTRODUCTION

The results of the questionnaire administered to partners with cohorts of social work students will be presented and discussed in this chapter. Hypotheses will be put forward in order to relate the statistics obtained to the current state of European digitisation policies (Part I of this report) and to research into the digital literacy of social workers. The latter having been considered, ex ante, as a determining factor in the production of digital social inequalities in the construction of the digital agility index of social work students, in their posture of almost "digital agility".

This is the "obligatory" role of digital social mediation in the field.

The figures below were obtained from cohorts of social work students at the following higher education institutions:

- IRTS Hauts de France and École de Service social CRAMIF in Paris for France
- Aurel Vlaicu University in Arad, Romania
- Haute École Libre Mosane for Belgium.

The Luxembourg partner (ACSEA) does not have any student cohorts. The Greek partner (Centre Kepsipi, Athens) does not have any directly, as it is a psycho-social therapeutic centre for children and adolescents. The approach was to translate the questionnaire into Greek and distribute it initially to student groups and circles at the University of Athens. À

To date (15/03/2023) we have 10 questionnaires completed by Greek respondents. We hope to obtain more in a second phase. It would be ideal to obtain around a hundred respondents to obtain a sample that can be considered sufficiently representative. The way in which the questionnaire was distributed (by email and on social networks) certainly has an impact on the response rate. Indeed, it is easy to deduce that a questionnaire submitted to students face-to-face in an auditorium during a learning activity, even if it was an invitation to respond and respondents were guaranteed anonymity, has a fairly obvious selection bias. Even though the questionnaire was standardised, the sampling techniques (and the methods of administering it - information bias and desirability bias) were heterogeneous. This points to a selection bias in the way respondents were selected (Savès, 2022).

Finally, the results obtained with the questionnaire will be presented in the form of hypothetical inferences in relation to the contexts of each of the countries in terms of digitisation. However, there is no statistical correlation to verify these inferences. They are more a matter of hypotheses of understanding than of a real invalidation/confirmation of initial hypotheses. A qualitative approach is provided by the partners in the discussion of the elements raised by the inferences proposed on reading the results. A systematic and broader qualitative approach, in a second phase of the project, would have been desirable to submit to the respondents these inferences that we are proposing.

INSTRUCTIONS FOR READING THE ANALYSIS TRACKS

1. As a reminder, we wanted to use this index to highlight the students' strengths and weaknesses in the areas of Mediatisation (communications by email, messaging, digital social networks, etc.), Computerisation (use of office software, use of software packages, taking steps online, completing reports in computerised form, etc.) and Information (searching for information, monitoring, content curation, etc.). Considering that activities relating to Digital Mediation (training people in vulnerable situations through and for digital technology) can be used by students at a later stage.

As mentioned above, digital social mediation activities are potentially accessible to social work students, provided that :

- To have sufficient professional experience of an internship for this professional posture to be activated in situ. Professional placements more rarely involve students in this type of activity, unless they are working in an organisation whose purpose is specifically to do so. However, it has been observed that these organisations accept first and second year trainees unless they have exceptional digital skills enabling them to run workshops as a digital 'trainer' .
- Digital Social Mediation activities require a high level of digital literacy. In other words, they require a relatively high level of technical know-how ("learning to learn" digital skills means being able to know the content "with full knowledge of the facts"). In a way, these technical skills need to be backed up by the requirements and values of social work (Compère and Philippart, TICIS, Research Report, 2022 - publication in progress). There is therefore a complex form of appropriation (technicality + technocriticism) prior to carrying out digital social mediation activities. For example, are BAC 1 and BAC 2 social work students capable of

to meet these requirements? We don't think so. This initial hypothesis has been confirmed by the contributions of the first wave of analysis from the France Service Digital Advisors (CNFS) national research programme, led by Pierre Mazet of LabAccès⁶⁹.

- **These two contextual determinants support the methodological choice to probe this dimension very little in the questionnaire. It was scored on 11 points out of a total of 100 in the questionnaire.**
2. As a result, the averages of the questions scored and the averages giving comfort indices have been reduced to a scale in hundredths (percentages) in order to improve the visibility of the graphs. Statistically, this means that the sum of the percentages obtained per activity register does not correspond to the gross index scored out of 100 points. This can be explained by the fact that the activity registers were not scored on 25 points each, but on total points awarded according to the need to mobilise or not these activities in social work. This was discussed with the various project partners.
 - If the questionnaire were to be adapted for transferability purposes, it would be up to future researchers to make different choices. For example, each area of activity could be surveyed on 25 points. This would standardise the averages, but to the (potential) detriment of the needs observed in the field.
 3. Secondly, when presenting the statistics obtained, we would draw attention to the fact that it makes little sense to present exhaustive and complete statistics. It was after an in-depth examination of the figures obtained by each partner that we opted to present certain results in preference to others. A choice had to be made. It is therefore after the survey has been carried out, and according to the singularities noted by each partner on reading the results, that the tables must be appropriated and certain variables cross-referenced to produce a useful analysis for each of the project partners. For transferability purposes, it should be noted that the analysis presented is by way of example. It is up to each educational establishment to draw inspiration from it in order to extract what it considers relevant in terms of the objectives set and the results obtained.

Illustrations :

- a. In this project, the questionnaire construction approach was based on activity registers. However, we had questions relating to the RGPD that came under different registers. So, after examining the results, we extracted the questions relating to the RGPD in order to present the rate of correct responses to these specific questions, independently of the registers to which the questions were initially linked. Indeed, (mis)knowledge of RGPD issues in social work seemed relevant to examine. It was therefore decided to present figures.
- b. Two other results seemed interesting to present after reading the figures. These were the indices of numerical self-confidence experienced before and after the scored questions. We shall see that self-positioning differs.
- c. On the other hand, some results are worth mentioning without presenting the details in tabular form. These include results relating to gender or geographical area, or to the equipment available for digital activities.

⁶⁹ Conference of 16/12/2022 {on line}, available at the following address: <https://www.labacces.fr/?CNFS> Last consulted on 02.02.2023

4. Finally, the project brings together two French higher education partners in social work, one in Lille and the other in Paris. The results have been merged into a single database for several reasons:
 1. The first is that the averages obtained by each of them differ slightly, but not significantly, except on certain dimensions. We'll see which ones.
 2. Secondly, for the purposes of summary and readability, the option chosen for this report is to present the results, not by partner, but by country forming part of the project. The advantage of having different questionnaires lies in the fact that we can objectively determine whether the differences are significant. As soon as we realised that they were not, the 2 partners concerned decided to present results "for the French partners" of the project. They are nevertheless in contact with each other, thanks to the project, and will be examining the results on certain variables in more detail, and their possible cross-references on dimensions that seem significant to them, in order to put forward hypotheses. For example, on the adaptation of training plans, on the geographical area of study, on the age of students, on whether or not students are retraining (age, previous career path, etc.). Each of these partners has its own specific characteristics in terms of the student population, the geographical area in which they operate, and so on.
 3. With a view to transferability and replication, the operator interested in In order to obtain more precise information about the index calculated by the French partners" or one of its components (e.g. IRTS or not, SSE or not, capital city or not, students undergoing retraining or not, etc.), is invited to contact the partners directly.
 4. The results are announced by country in the statistical tables presented. The term "country" should not be understood as an average of the French, Belgian and Romanian territories.

COMPARISON OF THE GROSS INDEX BETWEEN PARTNER COUNTRIES

The statistics below are presented in terms of the rate of correct answers, on a 100-point scale. We therefore express this index as a percentage of correct answers and a score out of 100.

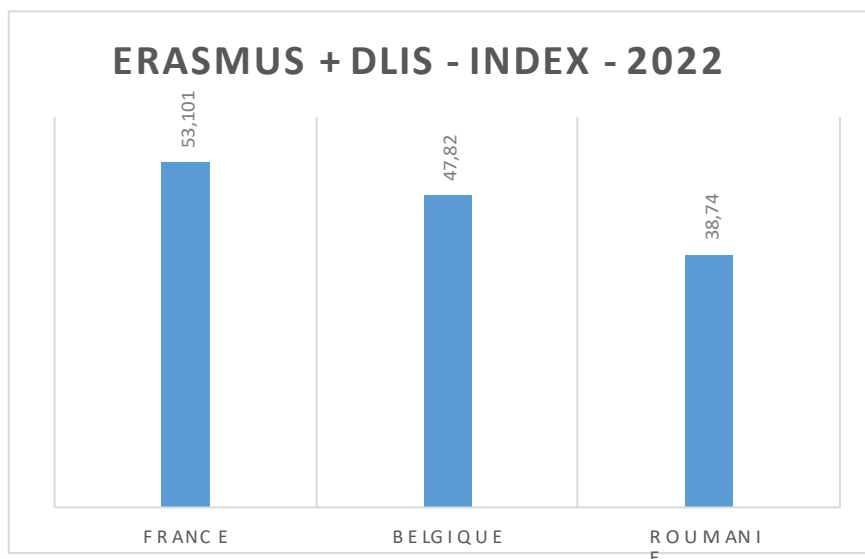
If we take a country ranking approach, such as that used in the Digital Economy and Society Index (DESI 2022) report, the percentages obtained show an identical distribution:

France is in first place, Belgium in second and Romania last. In the European Commission's DESI 2022 report, France is ranked 12th, Belgium 16th and Romania at the bottom. The two rankings are therefore linked in a similar way.

However, in terms of "values", on the basis of the percentages, an initial reading shows fairly low results, for skills considered to be "specific" to the social work professions (the reader can refer to the methodology section to judge the choices and considerations on the weighting and the nature of the questions that led to this arbitration on the part of the partners).

We are therefore going to propose some elements of contextual analysis of these three averages obtained by the partners;

Only France passes the 50% mark for correct answers on all the dimensions scored.



➔ HYPOTHESES OF INTERPRETATION AND UNDERSTANDING

FRANCE

Overall, France's performance and competitiveness in digitising society is better than expected (DESI, France, 2022). The European recovery plan supports multiple initiatives alongside significant growth in platform government (e-government).

In particular, digital infrastructure and tools are being installed in education and training establishments, new digital platforms are being developed to facilitate e-learning and digital inclusion measures are being implemented for the benefit of the most vulnerable people in France. (...) (DESI, France, 2022)

In terms of priorities, the emphasis is therefore on digital inclusion measures for vulnerable people (reducing digital social inequalities) and on the digital transition of education and its staff. However, the report is nuanced. Efforts are noted, as are initiatives and measures "in favour of". Nevertheless, their effectiveness, particularly in education, needs to be improved.

The effectiveness of measures to strengthen the digital skills of teachers and to improve the teaching of digital subjects could be further improved, as could that of measures to promote the upgrading and digital retraining of adults (DESI, France, 2022).

Could the digital agility index of social work students, with 53.10% of correct answers, reflect these two trends? In our opinion, it would be the expression of a dynamic that lies between an objective momentum (multiplication of actions) and a performance that has not yet been achieved, but is on the way to being by 2030. The objective is that, by 2022, 80% of the French population should have what Europe calls "basic" digital skills (DESI, France, 2022).

In terms of the human capital invested in "tech" (AI, quantum computing, 5G rollout, broadband, cybersecurity, etc.), France is investing massively in research, development and training programmes and aims to be among the best performing European countries.

In education, a tool such as the "Pix" platform, in its certifiable version for pupils, is envisaged from primary school onwards. A certification process with "PixEdu" is planned for the teaching community.

So it's a safe bet that social work students in France are aware of the need for information campaigns and actions to help them develop their digital skills. The result of 53.10% may seem "low". We temper the result obtained by the argument of a survey based on skills that we could characterise as "more advanced" according to European terminology. Indeed, it's worth pointing out once again that the skills surveyed are those that are not just a matter of the "technical" knowledge and "digital know-how" of each and every one of us. Most of the questions are situational scenarios (of the "casus" type) in a social work context. These are digital skills that can be considered specific to the profession insofar as they are based on the legal requirements and regulations applicable to social work. The students therefore had to draw on their digital skills, which they had to combine with the specific features of their profession. This is therefore an indication of digital literacy in social work.

As such, the questionnaire could perhaps be classified as "requiring high" or "more than basic" digital skills.

From this angle, the results immediately seem less mediocre, bearing in mind that in France, the agility index was surveyed among a sample of students mainly from years 1 and 2 (social workers and specialised educators).

Finally, it should be noted for the purposes of further analysis that France has a much more centralised level of e-government development than Belgium. This has an impact on the development of e-government, which reflects this centralisation in secure identification mechanisms ('France Connect') and in government databases (i.e. the dematerialised open source 'Démarches simplifiées' platform, which provides no less than

12,000 documents online and 'Nuage au Centre'). Belgium and Romania have other, more complex realities in terms of their institutional landscape and layers of governance.

BELGIUM

The digital agility index for Belgian social work students is 47.82%. Read on.

Slower growth

In 2021, Belgium was ranked 12th in the DESI and France 15th. A "reversal" of positions between these 2 countries is therefore observed in 2022. Belgium is downgraded in the 2022 ranking, mainly because of weak indicators on the connectivity dimension (DESI, Belgium, 2022). Despite its favourable starting position, Belgium has made less rapid progress than countries with a less advantageous starting position.

The country's relative digital growth, in the light of its starting position, is among the lowest in the EU (DESI, Belgium, 2022)

The Belgian administrative environment

However, the country scores highly in terms of the number of e-government users, with 74% of users compared to a European average of 65%. In the project questionnaire, a question was asked about (mis)knowledge of the term 'e-administration'. In Belgium, 40% of respondents answered the question correctly (compared with 33% in France and 51% in Romania). This is surprising in more ways than one. France has the highest DESI 2022 score of the three countries above, with 87% of users of e-government services. However, when asked about their knowledge of the concept of e-administration, a term officially defined by the French government, French students scored below Romania and Belgium. In Romania, only 17% of citizens use online public services. According to the DESI 2022 report, the modernisation of public administration (online, among other challenges) is a major challenge, along with the development of infrastructure and connectivity. We'll come back to this later. On the other hand, on the question of knowledge of the official definition of what e-administration is, the students obtain the best score with 51% of correct answers. One hypothesis might be that the country's history and culture saw a very powerful central administration under the communist regime. This could still have an impact on the perception of what an administration, and therefore e-administration, is.

This figure warrants a moment's reflection if we are to fully understand the context of e-administration in Belgium. Different levels of powers, competences and governments shape the institutional and therefore administrative landscape. There are ministries at federal and regional level. The local (communal) level is also responsible for specific matters and powers. Belgium has undergone a number of reforms that have redistributed these levels of power, competences and government, dividing up and reshuffling the allocation of responsibilities.

institutions. From fragmentation to fragmentation, the Belgian administration and institutions distribute or redistribute ministers, competences and matters to be governed.

Between 1970 and 2014, there were six reforms of the State (and its Constitution). As a result, official online services are numerous and not very centralised. The range of structures offering secure identification has therefore adapted. Each government (Federal, Regional, Provincial and Communal) and its administration offers a connection platform for online procedures, with one or more secure two-factor identification systems. As pointed out in the DESI 2022 report :

Belgium's federal system, with different levels of government (federal, regional, community and local) responsible for a range of areas of public administration, presents a challenge for the coordination and integration of online public services into 'one-stop-shop' services. (DESI, Belgium, 2022)

This heterogeneous political and institutional landscape has resulted in no fewer than 6 different secure identification systems for eGovernment. While "France Connect" is the secure identification system for e-government throughout France, it could be argued that Belgium has designed its e-government and the means of connecting to it to reflect the diversification of levels of power that it has experienced since 1970 with its six reforms of the State. This is no joking matter. This point is also made in the DESI in 2022 report.

Belgium offers six means of electronic identification⁷⁰ to facilitate interactions between citizens and public bodies. Five of these programmes enable interaction with public bodies by means of an intelligent device. In total, eight million people (almost 70% of the population) use at least one of these six identification systems, while two of the systems are also subject to notification to the European Commission under the eIDAS regulation. One of the systems (itsme), which is widely used and notified under the eIDAS regulation, is managed by a private entity in collaboration with the government⁷¹.

While the diversification of systems is a strength in terms of what they can offer users, it also has consequences for the digital skills of the social workers who help the digitally vulnerable. Which system should they choose? What equipment does the person have so that I can promote their "digital emancipation"? What are the requirements of one system compared with another? etc.

The six identification systems are not systematically offered by all online administrative portals. Some are more present in Flanders than in Brussels and Wallonia. Others are more common on regional eGovernment sites, while others are offered locally.

In short, there is not one official, secure connection system to use, but 6. Let's consider that it might be in a welfare recipient's interest to use one of these systems rather than the other.

⁷⁰ Identification systems in Belgium: FAS / eCards, FAS / Itsme®, FAS / Email OTP, FAS / SMS OTP, FAS / TOTP, FAS / Username / Password (DESI, Belgium, 2022)

⁷¹ On this subject, the Belgian Data Protection Authority (DPA), an official Belgian body, regularly makes the headlines by Belgium for its governance and management difficulties.

depending on their needs, to connect to one administration or another. In this case, the social worker really needs to analyse current and future demand and digital needs before recommending a particular secure online identification system and training the end-user in its use. Belgium plans to move to a digital one-stop shop by the end of 2023, probably along the lines of France Connect.

The project questionnaire includes a knowledge question on two-factor identification mechanisms. On this question, France recorded a score of 59% correct answers, while Belgium was again in the middle with 40% and Romania at the bottom with 19%. It should be noted that Romania does not have an official secure two-factor identification system, which makes this result all the more understandable. As e-government is not currently widely available to citizens, and developments linked to secure two-factor identification are not yet being proposed by official bodies, it seems surprising that social work students should even get such a high score. On the other hand, as Belgium has six officially proposed systems, the result seems particularly mediocre, if not weak.

In Belgium, the digital agility index reflects 229 responses from students in years 1 and 2, in the Social Assistants section. A small proportion (23) represented Master's level respondents. Among the latter, the agility index reached an average of 57.6%. The average of these 23 respondents was 'absorbed' by that of the larger sample of baccalaureate students in years 1 and 2.

Belgium is encouraged to step up its initiatives and measures to promote digital inclusion and training in ICT and "Tech" professions.

ROMANIA

38.74%: Romania recorded a score of 38.74% of correct answers to the digital agility index questionnaire. This is the lowest percentage recorded by the 3 countries. This result is "in line" with that of the DESI (European Commission, 2021, 2022), since it is also ranked last among the 27 countries.

As the DESI (Romania, 2022) points out, Romania has a very low index of basic digital skills (28%), and a very low index for advanced digital skills (9%) among its citizens. Considering that the index as designed in the project requires Social Work students to mobilise more than basic digital skills, then we could assume that in relation to the rate of citizens (37%) with basic to advanced skills, Social Work students would fall into this gap. In Romania, few public services will still be offered online in 2022. The dematerialisation of public services and its vagaries (Mazet and Sorin, 2020; Okbani 2021, 2022) do not (yet) pose the same problems for the profession and its career paths as those identified in France and Belgium.

It therefore seems common sense to qualify this index in the light of as yet untested needs for support in the digitisation of essential services (public and private). If we

If you look at the historical and socio-political context of Romania for a moment, you will see that this is a fairly legitimate result. Let's take a look at some of the factors that put the country in context.

Accession to the EU in 2007

While France and Belgium joined the early days of the European Union in 1957 (European Economic Community), Romania joined them along with Bulgaria in 2007. While the former followed the entire process of dialogue and negotiation from the outset, Romania obtained eligibility for European funds in 2007, after a long process of discussion to obtain the accession agreement (Cristescu and Muntele, 2007). Following the fall of the Berlin Wall, Romania has had to face up to many challenges, and getting its foot in the door of the EU is just one more (Pittau and Ricci, 2015). "Living together in Europe" within the Union encompasses economic, social and political requirements that each country has set itself in terms of objectives to be achieved. In terms of the date of accession and participation at the negotiating table within the EU, we can therefore consider that the three countries were not "aligned" on their initial positions. Contextual elements specific to Romania are worth mentioning in order to situate this result for the digital agility index of social work students.

Reforms of key sectors in the social work sphere

Since the end of the Communist era, Romania has embarked on a number of reforms: of the administration and its procedural legal codes, of the system for financing health insurance and healthcare, and of education. These sectors mobilise social workers who work within them, or at the very least, through partnerships and/or networking. Social work should therefore be seen as being, if not directly targeted by the reforms, at least impacted by them.

The structural reorganisation of public administration in Romania is a major challenge. Moving from a highly centralised system to one that includes local and regional responsibilities requires adjustments to be made at various levels of resources: political, managerial, technical, human and economic. A mode of governance that is effective and in harmony with EU expectations. It will take more than a decade to see the first results of these changes (Dragos and Neamtu; 2007). Romania has a great deal of capital for drafting and designing laws (inspired by European laws) but needs to improve their implementation (Dragos and Neamtu; 2007). The administration (in its organisation) and its services are therefore not yet at the stage of "all digital administration" targeted for 2030 by the EU. At present, only 21% of public services offer online services (compared with an EU-27 average of 67.3%). Internet users use online public services to the tune of 17% (compared with an EU average of 65% among Internet users in the 27 Member States). The score for the digital agility index in Social Work among Romanian students, at 38.74%, is therefore a rather very encouraging, even honourable, performance score, in the light of the context explained above.

It would be interesting to be able to present a socio-economic index variable for students at the University of Arăd. A closer look at the profiles of university students would perhaps show that they are representative of a proportion of the population rather than the population as a whole. More precise socio-demographic characteristics would make it possible to broaden the reflection.

A project for an online counter in the form of a "contact point" (DESI, Romania, 2022) is currently being developed to centralise citizens' interactions with the various levels of government.

administration: local level, district level and central level. This should help the country avoid the pitfalls of diversifying its online administration counters, such as those mentioned for Belgium, and be more similar to the French system ("France Connect"). Does Romania's progress on this proposal reflect a desire to draw inspiration from the 'models' of digital public administrative services that are among the most efficient in the EU-27? One could make that assumption.

It should also be noted that Romania is experiencing or has experienced :

- since 1997, a number of reforms to insurance and social security medicine (Oancea, Tudorache and Ciuvica, 2010)
- Since 1995, a number of reforms have been made to the various levels of education (pre-school, primary, secondary and higher education). The effective implementation of decentralisation has also been identified as a challenge for the country. Nevertheless, Romanian universities quickly organised themselves to apply their autonomy and responsibilities (Paun, 2006).
- since 2006, a new administrative legal framework (Dragos and Neamtu; 2007)
- Since the end of the Communist regime and the fall of the Berlin Wall (1989), there have been major migratory movements, as human mobility had previously been impractical. Secondly, accession to the EU "has gradually made Romanians the main migrant community in Europe" (Cristescu and Muntele, 2007). Finally, there is the recent conflict in Ukraine in response to the Russian invasion. A very significant wave of migration has changed the Romanian landscape.
- A lack of political stability. Since the COVID 2019 pandemic, no fewer than 5 governments have come and gone in less than 4 years (DESI, Romania, 2022).

The COVID 19 pandemic and social work :

The context of the COVID-19 pandemic has given impetus to new communication trends and encouraged social workers to quickly take control of technological tools of which they knew little or nothing (Baciù and Tranca, 2021). The effects of this drive towards technology, both in the field of social work and in its professionalisation (i.e. social work teaching), need to be considered from a longitudinal perspective. Will the prevalence of digital tools in the context of a pandemic last in the professional field of social work? We will need more time to assess the long-term effects. Given that digitisation in France and Belgium had already taken root in part of their activities before the pandemic, particularly in the area of computerisation (computerised social files, use of software packages, online procedures, drafting and transmission of social reports, etc.), it would be premature to make broader inferences about what the COVID-19 pandemic has caused in Romania in the field of social work.

The perception of technology in Romania

According to a study by Graviła-Ardelean (2019)⁷², digital technologies, cyberculture and digital literacy are positively represented. They are seen as a source of positive influence on future life. According to the respondents (mostly women with an average age of 33), technologies are identified as factors in the development of society and, potentially, as levers for solving social problems. At the time of the annual DESI, this

⁷² Gavrilă-Ardelean, M. (2019). Politici sociale, asigurări de sănătate și contribuții la managementul serviciilor de sănătate, [Social policies, health insurance and contributions to the management of health services - 2nd Ed] vol. II, in Colecția "Politici sociale", coord. Mihaela Gavrilă-Ardelean, Ed. EIKON.

This type of study deserves to be repeated, with a larger sample and in a post-pandemic context, within the professional field that concerns us. Incorporating this angle through questions linked to the perception of technology as a factor in the evolution of society could also form part of the approach of the digital (fr)agility questionnaire for social work student communities.

The Russia-Ukraine conflict and connectivity

The DESI index for 2021 and 2022 shows a 'status quo' for Romania between the two years. While countries with a low DESI index often catch up faster than others and show rapid growth considering their starting position (relative growth, DESI 2022), Romania may not have had the opportunity to focus on the expected digitisation targets. The DESI index shows a very significant increase in the Internet connection rate, due to the distribution of no fewer than 400,000 new SIM cards. The

"The 'Connectivity' score (DESI, Romania, 2022) has risen considerably (DESI, Romania, 2022, p.4). On the strength of these arguments, and of its efforts to achieve convergence and adopt resilience plans within the EU, Romania has a raw score for digital agility of which it can finally be proud. Belgium, with a much more enviable starting position (in general and a fortiori in 2021 in the DESI), is therefore the country, outside the three presented, whose score is surprisingly low. If we follow up these statistically unverified inferences of understanding, can we still speak of a "causal inference"? A more in-depth qualitative approach to these results would have made it possible to refine the analysis. At most, the "Digital Agility Index Questionnaire" tool provides a "snapshot" of the social work student population in a specific institution. The aim of this project is to identify the training needs of social workers to enable them to carry out their work appropriately using the various registers of digital activity.

GREECE

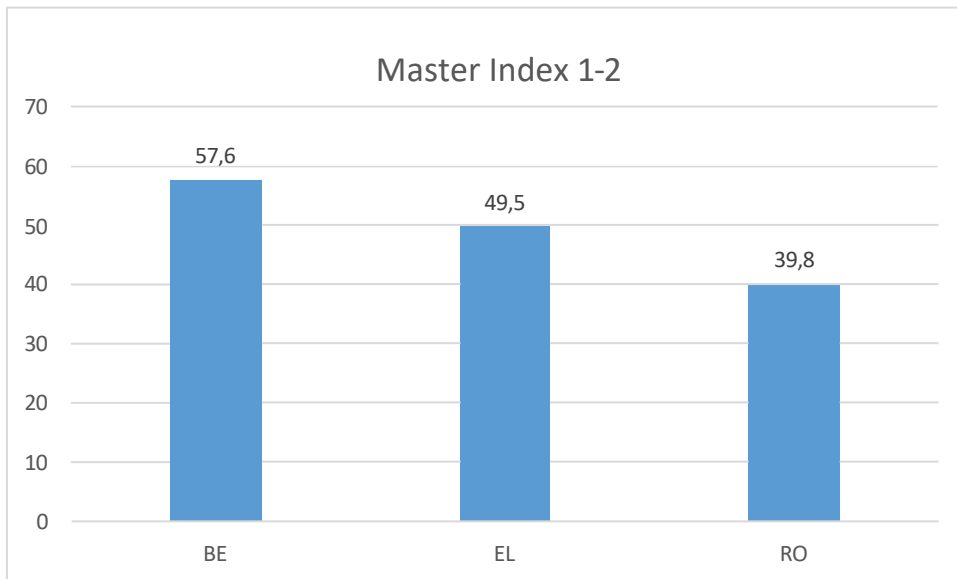
Index of students in Masters 1 and 2 in Social Work

The questionnaire was distributed via the Internet (social networks) in Greece to groups of social work students studying at the University of Athens (PADA). A sample of 10 responded.

It is therefore presumptuous to extend the results to the Greek student community in order to identify a general trend in the index. However, we have extracted results from the questionnaires for the countries for which we had cohorts in Masters 1 and 2 (Masters in Engineering and Social Action in Belgium, Masters in Social Work for Greece and Romania).

In Belgium, this represents a sample of 23 individuals, 10 in Greece and 30 in Romania. France did not have the opportunity to administer the questionnaire to a Masters-level student community.

For information purposes, we present here the gross index obtained by each country. It should simply be noted that, once again, the distribution of countries at European level is 'identical' to that presented in the DESI as far as scheduling is concerned.



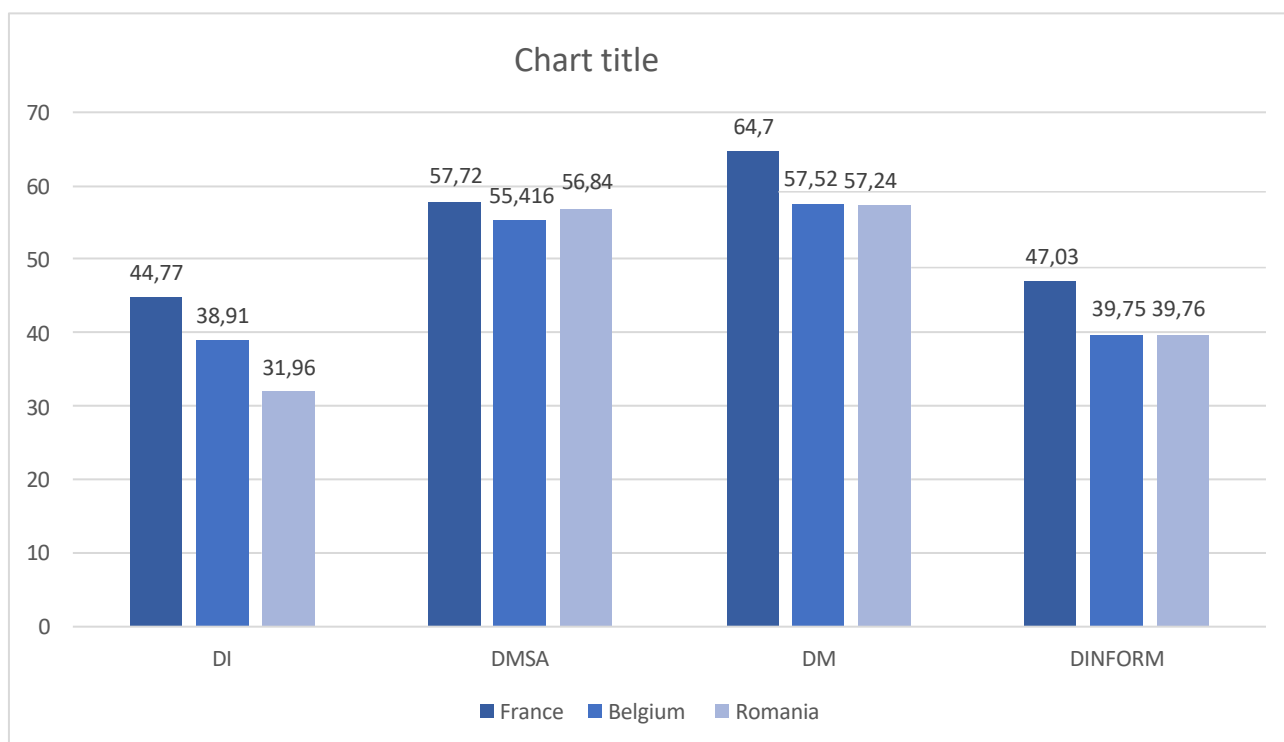
As a reminder, the ranking of countries in the DESI 2022 is distributed as follows:

- Belgium: 16th
- Greece: 25th position
- Romania: 27th position.

This cross-referencing between two separate databases does not warrant any high-level inference. All we can see is a similarity in the way countries are ordered.



➔ RESULTS BY ACTIVITY REGISTER



Legend

DI = Computerisation dimension

DMSA = Media dimension

DM = Digital mediation dimension DINFORM =

Information dimension

As a reminder, the averages obtained have been converted into percentages to make the graphs easier to read. Considering that they were not surveyed and scored equally, if they are added together, the result of the sum of the percentages exceeds 100. We refer the reader to the "Instructions for reading the results" in the Introduction to the results by activity register.

The table below shows the averages obtained per dimension, out of 100.

	Gross index over /100 points	DI Rate of answers correct Q28-30-31-32-33-34-35-48-51-59	DMSA Rate of answers correct Q43-44-45-46-47-49-50-52-53-54-57-60	DM Rate of answers correct Q29-42-55-56-58	DINFORM Rate of answers correct Q36-37-38-39-40-41
France	53,101	44,77	57,72	64,7	47,03
Belgium	47,82	38,91	55,416	57,52	39,75
Romania	38,74	31,96	56,84	57,24	39,76

Questions per register (33 questions scored in total) (Annexes 1 and 2)

- 10 questions relating to the "computerisation" register for a total of 35 points
- 12 questions relating to "media coverage" for a total of 46 points
- 5 questions relating to the "mediation" register for a total of 11 points
- 6 questions relating to the "information" register for a total of 8 points

➤ COMMENTS

The averages per register are in line with the results of the gross index. After the Romanian student cohorts, we can clearly see the Belgian cohorts in second place. Then come the French women, at the top of the list for each of the registers surveyed.

The results for **DIGITAL MEDIA (DM)** show 57.2% correct answers for Belgium and Romania, and 64.7% for France. This represents a higher score than computerisation and media coverage. However, we started from the assumption that these last two areas were supposed to be sufficiently mastered to 'support through and for' digital technology (digital mediation). This assumption seems to have been invalidated by the results obtained by the students. It should be remembered, however, that Mediation was not surveyed very much (5 questions for a total of 11 points, the average presented here as a percentage of correct answers) because of this hypothesis. It would be worth reworking the index questionnaire in order to better balance the distribution of points (/25 points for each register). And to eliminate this preliminary hypothesis, in order to measure (fr) digital agility more accurately by activity register.

For the **INFORMATION (DIFORM)** register of activities, the rate of correct answers was 43.04% for France, 39.75% for Belgium and 39.76% for Romania. These performances may seem rather low for a dimension which, a priori (starting hypothesis), does not pose any particular difficulty. This can be explained by the fact that the information-related questions were relatively "specific". For example, we were asked "In your opinion, Boolean operators are..." (MCQ), or the difference between Boolean and Boolean operators (MCQ). (MCQ) or the difference between a browser and a search engine. Perhaps these questions were too 'technical'. In any case, if the test were to be repeated, the number of questions per register and the scores for each register should be more evenly balanced, with an average of 25 for each register.

Finally, it should be noted that the lowest rate of correct answers was recorded for the three countries for the **COMPUTERISATION (DI)** activity register. This family of activities requires technical knowledge. In the questionnaire, a number of questions in this category related to concrete social work situations. For example, "As a (future) social worker, what would you recommend in the following situation: to draw up a social follow-up report on a beneficiary, in order to protect his/her data and respect professional secrecy? There was a choice of 4 answers, of which only one was considered correct. This question had a fairly low rate of correct answers, all countries combined. Or "In your opinion, a dual authentication mechanism for retrieving a document online (from a website) is a two-factor identification system... (only one answer possible)". The proposed answers concerned the characteristics of this mechanism, which is increasingly used in the context of e-administration, and

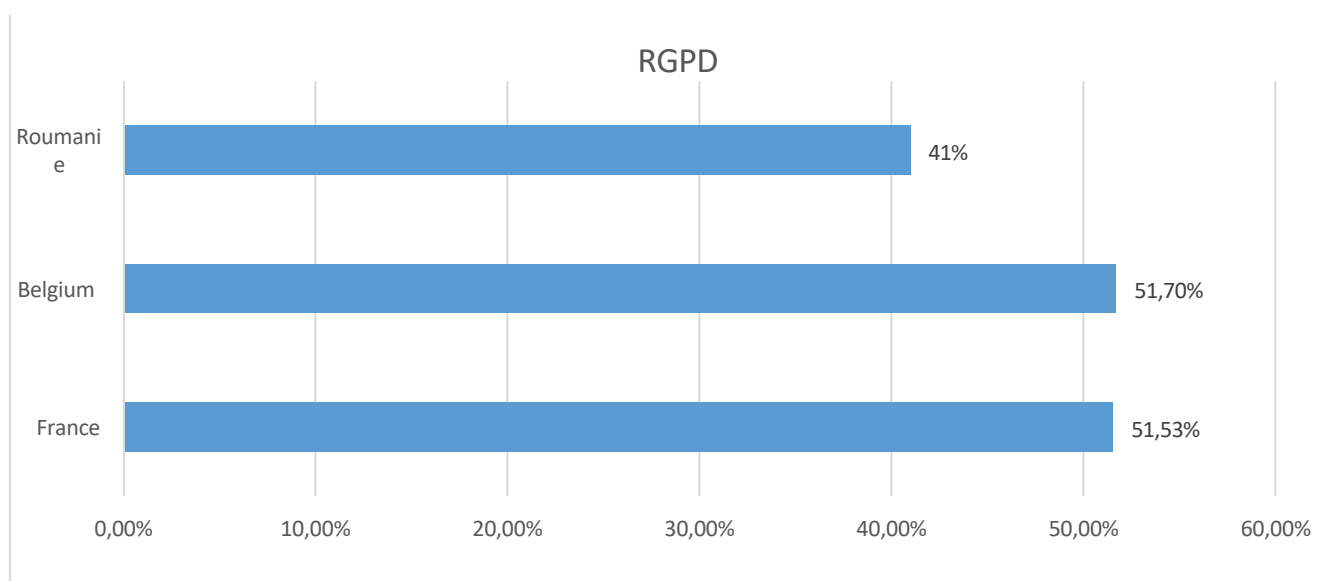
so by social workers in the process of helping people to retrieve/consult official documents online.

For the **MEDIATISATION** (DM) register, Belgium achieved the lowest score (55.4%), followed by Romania (56.84%) in second place and both narrowly ahead of France (57.72%).

➔ RGPD

While the questions in the construction of the index were built on the activity register classification model (Molina and Sorin, 2019), we wished to isolate the questions relating to the RGPD in order to situate students' knowledge of this dimension in particular. We then proceeded to identify the questions relating to security and data protection (Questions No. 32DI-33DI-34DI-46DMSA - 49DMSA - 53DMSA - 54DMSA - 58DM). As the legend

As indicated, these questions probed activities in various registers: Informatisation (DI), Médiatisation (DMSA) and Médiation (DM). As part of a European project aimed at working towards a shared identity, it seemed appropriate to distinguish between them in order to identify the averages. The sum of the scores gave a total of 33 points out of 100 if all the answers given were correct. In social work, knowledge of the basics of the RGPD is essential when it comes to dealing with the information of people receiving support (email exchanges on files, encoding in computerised templates, consent to data being processed electronically within the organisation, support with online procedures (public services and essential private services), etc.). The results are presented below.



The questions concerned both :

- Basic vocabulary [e.g. Question (Q) 32 on the meaning of the acronym, Q34 on consent],

- The technical vocabulary of the RGPD (e.g. Q33 on the definition of sensitive data)
- Or on [casus-type] scenarios typically encountered in the professional practice of social workers. E.g. Q46 on the use of a Google Drive cloud for communication between colleagues about beneficiaries, or Q49 on the use of WhatsApp to communicate with supported persons and transmit documents via this messaging system. Q54 concerned the distribution of a list of contacts to a partner in the professional network, without any prior request for the use of email addresses.

An initial reading of the results shows a fairly low level of knowledge of the European General Data Protection Regulation. It should be noted, however, that Romania and Belgium score higher on this dimension than the gross digital agility index.

	Index Gross on /100	RGPD Q32-33-34-46-49-53-54-58 Percentage of correct answers
France	53,101	51,53 %
Belgium	47,82	51,70 %
Romania	38,74	41 %

With regard to the results obtained in France, there was a relatively large difference between the two partners: the results obtained during the ESS Cramif were slightly higher (61% compared with 53% for France). A more detailed study of the results reveals significant differences depending on the questions. While questions relating to precise knowledge of the RGPD framework received few correct answers, as in the other establishments, questions relating more broadly to the links between the use of digital technologies and the implications for the protection of personal data appear to have been better mastered. These include questions such as "What would you do in the following case: you send an email to a colleague in the external network to give them monitoring information on a beneficiary, you... (Only one answer possible)" or "In your opinion, in the following situation, do social workers respect the ethics and deontology of the profession: in an accommodation for minors, they use "WhatsApp" to communicate with each other about beneficiaries."

The small sample used makes statistical interpretation difficult. However, at this stage we can put forward a number of explanatory hypotheses relating to the profile of students at this institution, which should be studied in greater detail by further surveys:

- 1st hypothesis: the variable of age and professional experience. A significant proportion of the students in the sample are changing careers. The proportion of students aged between 25 and 44 in this sub-sample is equivalent to that of 20-24 year olds.
- The practices and knowledge related to digital uses and their implications for data protection may be linked to previous career paths.
- Hypothesis 2: This weighting of career paths could be all the greater, as some students have had previous careers in the care and health field,

where the issues of professional secrecy and personal data are also very present. However, we do not have detailed data in this area.

- Hypothesis 3: The weight of the "teaching culture" The Cramif School of Social Work is institutionally attached to the Health Insurance sector, in which data protection is an important issue. In addition, the Cramif SSE devotes a large part of its teaching to health issues and professional secrecy.

In the discussions that followed the test (in France and Belgium), the students mentioned that although they were familiar with the "theory" of the RGPD, they were not in a position to apply the international Community regulation in the field, in a placement situation, due to the configurations and realities of the placement (infrastructures, lack of knowledge, team practices, etc.). There is a difference in average between the cohorts of French students who have taken an RGPD awareness/training module and those who have not done so throughout their school career.

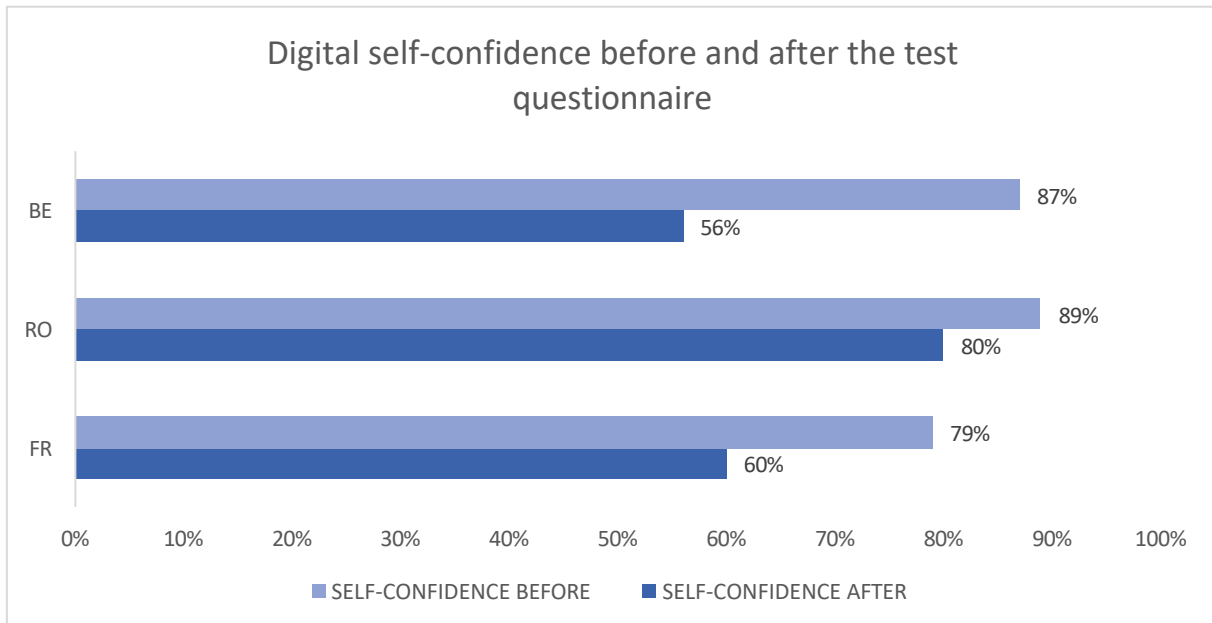
There is therefore an urgent need to train social work students:

- Technical and legal knowledge relating to each area of activity;
- In terms of uses and issues relating to each area of activity.

DIGITAL SELF-CONFIDENCE, ACCESS TO A CONNECTION AND SUFFICIENT EQUIPMENT

➤ ABOUT THE FEELING

Finally, we present the results relating to the self-confidence declared by the students before and after taking the scored test. The comparison of this variable seems relevant to us, as it allows us to identify one or other hypothesis of understanding.



Before taking the test, students had a very favourable impression of their use of digital activities (Q16), feeling comfortable or even 'very comfortable'. At the head of the pack are Romanian students, with 89% feeling comfortable, followed by Belgium with 87%, and finally French students with 79%. We could speculate that, in general, they feel less at ease with the digital environment, because they are more aware of the difficulties involved, given that dematerialisation is more advanced than in the other two countries. Or that they are more familiar with the complexity of the digital environment in a professional context, because they are more confronted with the registers of activity.

The question about comfort after completing the questionnaire (Q61), and free questions 62 and 63, on a scale from 1 to 4 (1, very uncomfortable to 4, very comfortable), concerned general feelings. The title of the question did not specify that it concerned feelings about the questions scored. Nevertheless, question 61 came just after the diagnostic questions. We can assume that respondents reacted to the fact that they had just taken a 'test' of their actual knowledge of the digital environment in a professional context. Linking Q16 to Q61 could actually be seen as an illusory correlation bias. Ideally, the two questions should have been asked in more detail and almost identically, which is bound to lead to a correction in the questionnaire:

Q16 => How do you feel about the use of digital technologies in a professional context (internship) or for professional training (school/university)? on a scale from 1 to 4 (1, very uncomfortable to 4, very comfortable)

Q61 => After completing this questionnaire, how do you feel about the use of digital technologies in a professional context (work placement) or for professional purposes (school/university)?

However, if we link the two variables, the feeling of comfort before and after the test varies greatly. The post-test results show that students feel less confident than they did before answering the scored questions.

In open comments and during face-to-face feedback with respondents, the length of the questionnaire was mentioned as a factor of discomfort. The average time taken to complete the questionnaire was around 30 to 40 minutes, which seemed reasonable at the outset. In France and Belgium, this time was allocated to learning activities. However, with regard to the inference to 'digital self-confidence' before and after taking the test, it can be hypothesised that the discomfort was less to do with the difficulty of the scored questions than with the discomfort caused by the length of time taken to take the 63 questions.

➤ ABOUT ACCESS TO A CONNECTION AND ACCESS TO SUFFICIENT EQUIPMENT

It should also be noted that in Q9 and Q10 on the frequency of access to and use of the Internet, all students, regardless of country, answered "Daily". This indicates daily use, with Internet access not appearing to be an obstacle to not knowing how to connect. Only 1 person in Romania said they had access to the Internet 2 or 3 times a week. We would need to refine the question further in order to distinguish whether this is a personal choice or not. But the questionnaire did not allow this.

Finally, in the questions relating to equipment and access to equipment, we did not identify any Belgian or French students who stated that they only had one smartphone to connect to and work with digital activities. In Romania, 17 students had a single smartphone and five of the others said they used a "public" computer to connect. These five also stated that they had personal equipment such as a PC or laptop. We therefore consider that for these five people out of a total of 117 respondents, the digital divide linked to access to hardware is not identifiable as such. However, for the 17 people (i.e. 14.5% of respondents) declaring that they connect and work with digital tools using only their smartphone may be significant in terms of the digital divide linked to access to hardware. Here again, the questionnaire could be improved by asking an additional question, such as "Do you have the equipment you need to work at school and at work in a digital environment?"

"What is the main obstacle you encounter in working academically and professionally in a digital environment?"

The issue of digital social inequalities seems to be less apparent among Belgian and French students than among Romanian students (access to sufficient equipment), through the declarative base of social work students, in terms of access to equipment and access to an Internet connection. This corroborates the proposal made in the previous chapter, the urgency is to be placed here too, the identification questions (1^{er} part of the questionnaire Q1 to Q20) deserve to be refined, some to be deleted in favour of others, more in line with the new hypotheses put forward after this first experiment in constructing an index. Assessed on these dimensions alone, the question of digital social inequalities (Granjon, 2022) is too weakly surveyed. As a reminder, the aim of the questionnaire was to report on the general landscape of digital literacy among social work student communities in relation to European digitisation targets as a whole. It did not focus specifically on this dimension.

As part of the process of constructing the digital (fr)agility index for social work student communities, the first stage was to take stock of European digitalisation policies. We have seen that European strategies for dematerialising society are particularly ambitious for the Member States. With globalisation, the development of quantum computing and artificial intelligence in all sectors of activity in Europe, new professional practices and new professions are emerging. Worldwide, it is estimated that between 375 and 800 million jobs will be obsolete by 2030. Digital technologies are therefore having a considerable impact on most professional sectors, particularly in the field of social work.

Within the overall picture, the DESI index reveals significant disparities in the state of digitisation across Europe. The focus is on the 5 partner countries in the DLIS project. As a result, the skills and digital (fr)agility of individuals (professionals and citizens), by country, reflect differing training needs. The digitisation of social services takes place according to the degree of digitisation in each territory. This observation has led to the identification of six major challenges in European digitisation policies. To succeed, social engineering professionals will have to invest in taking account of and cooperating with all the players involved in social innovation at all levels, according to Bronfenbrenner's (1979) theory of ecological systems: macro, exo, meso, micro. In this way, the political, economic, training and research spheres are being called upon to build a common European culture that promotes equitable access for all to the digitisation of services. It is on the basis of local initiatives and the dynamics of proximity between the various players (including user groups), elected representatives and professionals (in action and training) that engineering and social innovation strategies for the digitalisation of European society have the best chance of succeeding in the digital transition, with a view to achieving the objectives of the 'Digital Compass by 2030'. The European Society of Social Rights is an invaluable aid, with its nationwide action plan for digital training and the fight against social exclusion and poverty by 2030.

On the basis of these findings, the project partners decided to construct the index in the form of a questionnaire (quantitative approach) to be administered to their social work student communities. A total of 639 people responded, exceeding the initial objective in terms of sample size (360). The variables, in the form of questions, were designed around three axes: socio-economic characteristics aimed at identifying digital social inequalities within the workforce, positioning and feelings about digital activities (including the questionnaire), and finally, the digital skills specifically required in the field of social work.

In developing result no. 1, defining a socio-technical framework common to the partners, for the purposes of constructing the index, proved to be an exercise that was not self-evident. Indeed, the resources, know-how and culture specific to each of the partners had to be considered from the outset of the index construction. We identified a number of factors requiring particular attention: the need to establish a common language, the importance of a timeframe tailored to the realities of each partner, and the negotiation of technical resources to ensure that the index would be as effective as possible.

participation of each partner in the measurement of its institutional capacity building. In the methodology used to construct the index, we have already been able to highlight a disparity of resources and needs in terms of the partners' digital literacy. This in itself is an index that leads us to reflect on the European objective of a common goal by 2030 (Digital Compass). Nevertheless, the collaboration between the 6 international partners is helping to consolidate a real community of professional practices.

As far as the questionnaire is concerned, feedback and exchanges with the student and teacher communities have highlighted the need to adjust and correct certain pitfalls: understanding and wording of questions, relevance, validity, etc. during the pre-test and test sessions. In addition, offering more questions on how people feel about the digitalisation of society and how they feel about taking the questionnaire could enrich the analyses. It should also be noted that the quantitative approach chosen could be improved if it were supplemented by a methodical and rigorous qualitative research approach. The project's deadlines did not allow for this.

Within the student communities, the results obtained (score) on the social work digital agility index show a clear concordance with the ordering of countries in the European DESI ranking. A series of broad and hypothetical inferences relating to the contexts of each of the partner countries attempted to shed light on the results obtained by the student communities.

With a view to perpetuating the questionnaire as a tool for assessing the digital literacy landscape of social work student communities, amendments and corrections will attempt to remedy the pitfalls set out above. With a view to making the tool sustainable, it will also be up to each partner (or operator wishing to make it their own) to adjust and update the variables and questions, taking into account both the objectives of the 'Boussole 2030' and the specific local features linked to their area (expectations and needs in the field of social work, in terms of digital literacy among future professionals).

To sum up, the partners agree that there is an urgent need to train social work students in the technical and legal knowledge relating to each of the areas of activity and in the ethical and deontological uses and issues relating to each of these areas. This pooling exercise to construct the index also revealed heterogeneous professional needs, in terms of the nature of the learning to be acquired and the degree of urgency to train social work students in one or other dimension. Each country has different requirements, depending on the degree of digitalisation of its national context.

In the context (and to the extent) of the project, this reactivates a central question relating to European digitisation policies: How can standardisation (common European aim and identity) and differentiation (taking account of cultural and territorial specificities) of social policies be balanced so that each country achieves its European digitisation objectives?

Finally, it should be remembered that by drawing up a panorama of each partner country representing Western, Eastern and Southern Europe, this index attempted to understand the variegated landscape of the digital literacy of future social work staff. It is the starting point for results 2 and 3 of the DLIS project. It supports the

for the other two products in the project: a reflective tool for ethical benchmarks and e-learning video capsules.



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