



Handbook on Digital Literacy: Insights on Cyprus and Italy



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Introduction

In the ever-evolving digital landscape, understanding the unique characteristics and challenges of a local community is pivotal for effective skill development initiatives. This handbook encapsulates the rich data resulting from a thoughtfully designed online survey, aimed at uncovering the intricate tapestry of the community's socioeconomic fabric and its specific digital needs. Administered anonymously, the survey delves into approximately 10 key aspects of participants' lives, offering a nuanced perspective on their:

1. **Socioeconomic Background:** Unveiling the demographic intricacies that shape the community.
2. **Level of Education:** Providing insights into the educational landscape and its potential impact on digital literacy.
3. **Current Employment Status:** Understanding the professional context in which digital skills are applied.
4. **Digital Skills-related Courses:** Exploring the educational pathways participants have pursued to enhance their digital capabilities.
5. **Institutional Sources:** Identifying the institutions that have been instrumental in shaping the digital skillsets of the community.
6. **Main Needs/Critical Issues:** Unraveling the challenges and pressing issues that participants face within their industries and broader contexts.

This handbook serves as a repository of knowledge, offering a detailed analysis of the survey data to guide tailored interventions for digital literacy and skills development. The anonymized nature of the survey ensures the confidentiality of responses, fostering candid insights that form the foundation for informed decision-making.

As we navigate the pages of this handbook, we embark on a journey through the diverse narratives that compose the local community. The insights garnered from this survey not only paint a comprehensive picture of the current state of digital readiness but also illuminate the pathways towards a more digitally empowered and resilient community.

Project Description

The overall goal of the "A,B,C...Digital Education" project is to increase the digital skills of adults between the ages of 25 and 34. This objective is in line with the priorities identified by the Commission on digital transition, including the "Digital Education Action Plan 2021-2027." In addition to this, the overall objective of the project also aims to have a positive impact on another key axis: job placement. Possessing skills digital is a prerequisite for accessing the labor market

and democratic participation, this due to the increasing digitization of many public and private services, even more increased as a result of the pandemic. In this context it is worth mentioning the digital skills gap both between states and, within the same state, between gender, age and territorial context (center/periphery). Contrary to what is normally believed, namely that today's young adults are a generation of "digital natives," the results of the International Computer Literacy Study (ICILS) indicate that young people do not develop sophisticated digital skills simply by growing up in a setting where they use digital devices. In contrast to other basic skills, the availability of cross-national data on the current level of young people's digital skills in the European Union (EU) is limited.

Based on this context, the project pursues 3 specific objectives:

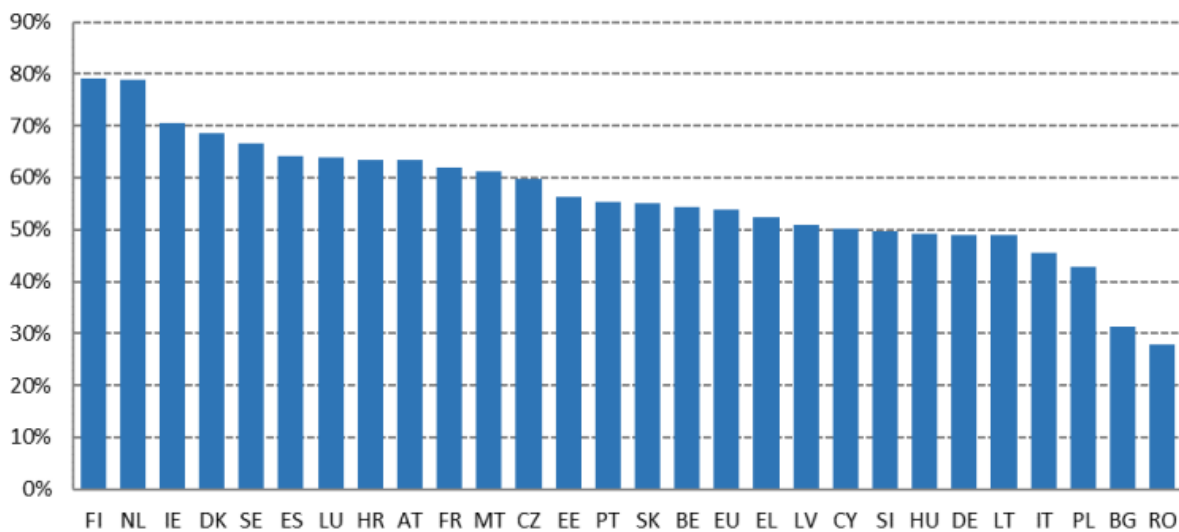
1. Acquire data on the current state of digital skills of adults (25-34) in different European countries.
2. Provide adults (25-34 years old) with basic digital skills.
3. Raise awareness among European citizens about the importance of digital skills for both educational and employment.

The project was constructed in order to achieve the following outcomes:

1. Increased number of adults with basic digital skills useful in education and employment.
2. Increased knowledge of the current state of adults regarding basic digital skills in 2 European countries.
3. Increased awareness of the importance of digital skills and own use of digital in order to achieve goals work, educational, personal.

Digital literacy at EU level: a brief overview

While 87% of people (aged 16-74) used the internet regularly in 2021, only 54% possessed at least basic digital skills. The Netherlands and Finland are the frontrunners in the EU, while Romania and Bulgaria are lagging behind. A large part of the EU population still lacks basic digital skills, even though most jobs require such skills. The proposed 2030 target of the Path to the Digital Decade is that at least 80% of citizens have at least basic digital skills. There remains a general shortage of ICT specialists on the EU labor market, and the number of vacancies keeps growing as new jobs emerge. During 2020, 55% of enterprises that recruited or tried to recruit ICT specialists reported difficulties in filling such vacancies. There is also a severe gender balance issue, with only 19% of ICT specialists and one in three science, technology, engineering and/or mathematics (STEM) graduates being women. The Path to the Digital Decade proposal set the target of gender convergence for ICT specialists. The Path to the Digital Decade proposal aims to increase the number of employed ICT specialists in the EU to at least 20 million by 2030, compared to 8.9 million in 2021 (corresponding to 4.5% of the labor force). Although there has been steady growth since 2013, an acceleration is needed to reach the target. As of 2021, Sweden – with 8% – and Finland – with 7.4% – have the highest proportion of ICT specialists in the labor force.¹



Source: Eurostat, European Union survey on the use of ICT in Households and by Individuals

In the era of rapid digital transformation, the very fabric of our daily lives is woven with the threads of digital interactions. The surge in digitalization has rendered digital skills not merely

¹ Digital Economy and Society Index (DESI) 2022, European Commission



advantageous but indispensable. These skills form the backbone of contemporary work methodologies and are increasingly becoming synonymous with essential life skills. The evolving nature of modern professions dictates that individuals equip themselves with advanced digital competencies, aligning with the heightened expectations of both public and private sectors.

In this landscape, the European Union (EU) recognizes the imperative of a digitally skilled workforce and population. The "Path to the Digital Decade" proposal stands as a testament to this acknowledgment, addressing the crucial interplay between infrastructure, digital business transformation, and public services. Propelling this vision forward are specific targets set for 2030, reinforcing the EU's commitment to fostering digital literacy and expertise.

The EU's ambitious goals for 2030 are outlined with clarity and purpose. By the end of the decade, the aim is to:

1. Acknowledging the fundamental nature of digital skills, the EU strives to ensure that at least 80% of its citizens possess basic digital competencies.
2. Recognizing the critical role of ICT specialists in driving innovation and competitiveness, the goal is to increase their number to 20 million, constituting around 10% of total employment.
3. Aiming for a balanced representation of men and women in the digital workforce, the EU emphasizes gender inclusivity,

Despite the urgency and importance of these targets, the current scenario paints a nuanced picture. As of 2021, only 54% of Europeans have acquired basic digital skills, indicating a gap of 26 percentage points from the set target. Disparities among Member States further accentuate this challenge, with countries like the Netherlands and Finland approaching the goal while others, including Romania, Bulgaria, Poland, and Italy, lag behind.

	EU DESI 2022
1a1 At least basic digital skills % individuals	54% 2021
1a2 Above basic digital skills % individuals	26% 2021
1a3 At least basic digital content creation skills % individuals	66% 2021
1b1 ICT specialists % individuals in employment aged 15-74	4.5% 2021
1b2 Female ICT specialists % ICT specialists	19% 2021
1b3 Enterprises providing ICT training % enterprises	20% 2020
1b4 ICT graduates % graduates	3.9% 2020

Source: DESI 2022, European Commission

To steer this transformative journey, the EU introduces the Digital Skills Indicator as a monitoring tool. This instrument not only tracks the performance of Member States in meeting digital skills targets but also provides valuable insights into citizens' online behaviors and competencies across various digital domains. It is poised to be a dynamic resource, shaping strategies and fostering collaboration to bridge the digital divide.

Digital literacy in Italy

In the 2022 Digital Economy and Society Index (DESI), Italy holds the 18th position among the 27 EU Member States. Despite being the third-largest economy in the EU, Italy's progress in digital transformation is pivotal for the collective achievement of the 2030 Digital Decade targets.

Over the past five years, Italy has demonstrated significant advancement in its DESI score, reflecting a notable commitment to digital development. This progress aligns with increased political attention to digital matters, including the establishment of a dedicated ministry, the formulation of key strategies, and the implementation of policy measures.

However, challenges persist, necessitating continued efforts to bridge existing gaps in the digital transformation landscape. Italy possesses a substantial opportunity to enhance its DESI performance by building on ongoing initiatives and leveraging inherent strengths. The establishment of a ministry, adoption of strategic frameworks, and policy measures illustrate Italy's commitment to digital evolution.

The extensive Recovery and Resilience Plan, renowned as the largest in Europe, provides Italy with substantial financial resources to expedite its digital transformation efforts. Additionally, the country boasts a robust industrial base and research communities in critical domains like Artificial Intelligence, High-Performance Computing, and quantum technologies.

To maximize these advantages, Italy should deploy digital technologies across all sectors of its economy, aligning with the human-centric approach advocated by the Digital Principles. By doing so, Italy can not only bolster its DESI ranking but also contribute significantly to the EU's overarching Digital Decade objectives².

Looking at this year's indicators, Italy is narrowing the gap with the EU when it comes to basic digital skills, however still more than half of Italian people do not have at least basic digital skills. The share of digital specialists on the Italian workforce is below the EU average and future prospects are undermined

	Italy			EU
	DESI 2020	DESI 2021	DESI 2022	DESI 2022
1a1 At least basic digital skills	NA	NA	46%	54%
% individuals			2021	2021
1a2 Above basic digital skills	NA	NA	23%	26%
% individuals			2021	2021
1a3 At least basic digital content creation skills⁴	NA	NA	58%	66%
% individuals			2021	2021
1b1 ICT specialists	3.5%	3.6%	3.8%	4.5%
% individuals in employment aged 15-74	2019	2020	2021	2021
1b2 Female ICT specialists	15%	16%	16%	19%
% ICT specialists	2019	2020	2021	2021
1b3 Enterprises providing ICT training	19%	15%	15%	20%
% enterprises	2019	2020	2020	2020
1b4 ICT graduates	1.3%	1.3%	1.4%	3.9%
% graduates	2018	2019	2020	2020

² Digital Economy and Society Index (DESI) 2022, Italy, European Commission

by low rates of ICT enrolment and graduates. A significant change of pace in Italy's digital skills' readiness is crucial for the EU to reach the Digital Decade target on basic digital and ICT specialists.

In the domain of human capital, Italy currently ranks 25th among the 27 EU countries. Notably, only 46% of the population possesses basic digital skills, falling below the EU average of 54%. However, the gap narrows concerning individuals with above basic digital skills, with Italy at 23% compared to the EU average of 26%.

The country faces challenges in nurturing ICT talent, evident in its low share of ICT graduates, comprising a mere 1.4% of Italian graduates, the lowest in the EU. In the labor market, the percentage of ICT specialists stands at 3.8% of total employment, below the EU average of 4.5%. Additionally, only 15% of Italian enterprises provide ICT training to their employees, trailing the EU average by five percentage points.

Despite these hurdles, Italy demonstrates proximity to the EU average in terms of gender representation in the digital sector. Female ICT specialists constitute 16% of the workforce, slightly below the EU average of 19%.

Italy has proactively addressed these challenges through a comprehensive National Strategy for Digital Skills. This strategy, operationalized through a plan adopted in December 2020, encompasses 111 initiatives with specified milestones to be achieved by 2025. Notably, the plan aligns with the Digital Decade target of equipping 80% of the population with basic digital skills by 2030.

Digital literacy in Cyprus

In the 2022 Digital Economy and Society Index (DESI), Cyprus holds the 20th position among the 27 EU Member States, showcasing positive relative progress. Despite starting below the EU average, Cyprus is converging towards it, especially in Connectivity, Integration of Digital Technology, and Digital Public Services.

Cyprus has made notable advancements in mobile broadband take-up, Very High Capacity Networks (VHCN) coverage, and 5G readiness. However, VHCN coverage remains below the EU average and the Digital Decade target. Intensified efforts are required for Cyprus to meet the goal

of all European households covered by a Gigabit network and all populated areas covered by 5G by 2030³.

While the country has improved in various DESI dimensions, there is a digital skills gap, with half of Cypriots lacking basic digital skills. Accelerated efforts are crucial to enhance citizens' digital capabilities. On a positive note, 66% of Cypriot SMEs exhibit a

	Cyprus			EU
	DESI 2020	DESI 2021	DESI 2022	DESI 2022
1a1 At least basic digital skills	NA	NA	50%	54%
% individuals			2021	2021
1a2 Above basic digital skills	NA	NA	21%	26%
% individuals			2021	2021
1a3 At least basic digital content creation skills³	NA	NA	60%	66%
% individuals			2021	2021
1b1 ICT specialists	2.7%	3.1%	3.9%	4.5%
% individuals in employment aged 15-74	2019	2020	2021	2021
1b2 Female ICT specialists	19%	18%	19%	19%
% ICT specialists	2019	2020	2021	2021
1b3 Enterprises providing ICT training	31%	25%	25%	20%
% enterprises	2019	2020	2020	2020
1b4 ICT graduates	2.6%	2.9%	2.7%	3.9%
% graduates	2018	2019	2020	2020

basic level of digital intensity, surpassing the EU average. Cyprus has a strong foundation for exceeding the Digital Decade target of having over 90% of SMEs with basic digital intensity.

The 'Digital Strategy for Cyprus (2020-2025)' spearheaded by the Deputy Ministry of Research, Innovation and Digital Policy aims to accelerate Cyprus' digital transformation. Aligned with the EU's objectives for the Digital Decade, the strategy focuses on e-government promotion, fostering a digital economy, enhancing connectivity, ensuring societal inclusivity, and strengthening data security. The strategy's success will be reflected in the recovery and resilience plan and gradually in DESI data, signaling Cyprus' commitment to a digitally progressive future.

Within the EU, Cyprus holds the 21st position in terms of human capital, falling below the EU average. The digital skills landscape mirrors this trend, with Cyprus ranking below the EU average of 54% for at least basic digital skills, registering at 50% for individuals aged 16 to 74. Notably, only 21% of the population possesses more than basic digital skills, and 60% have at least basic content creation skills. While this is below the EU averages of 26% and 66%, respectively, it highlights a foundational proficiency in content creation.

The percentage of ICT specialists in Cyprus' workforce is slightly lower than the EU average, standing at 3.9% compared to 4.5%. However, Cyprus matches the EU average for female ICT specialists, constituting 19% of the country's ICT workforce. In terms of ICT graduates, Cyprus lags behind the EU average, with only 2.7% of graduates specializing in ICT, compared to the EU average of 3.9%. Despite this, Cyprus performs well in the share of enterprises providing ICT training, with 25%, exceeding the EU average of 20%.

³ Digital Economy and Society Index (DESI) 2022, Cyprus, European Commission

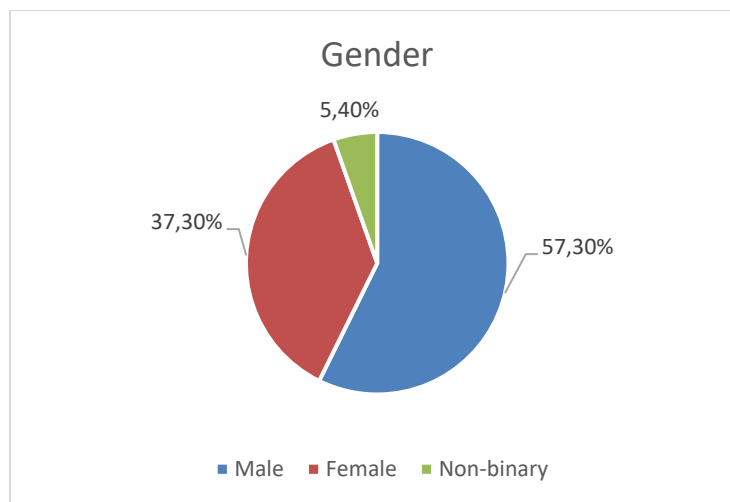
Survey results

In the following pages, the results of the survey administered online are shown. The survey recorded 110 answers, mainly from Italy and Cyprus, but with few respondents from other EU countries.

Demographics

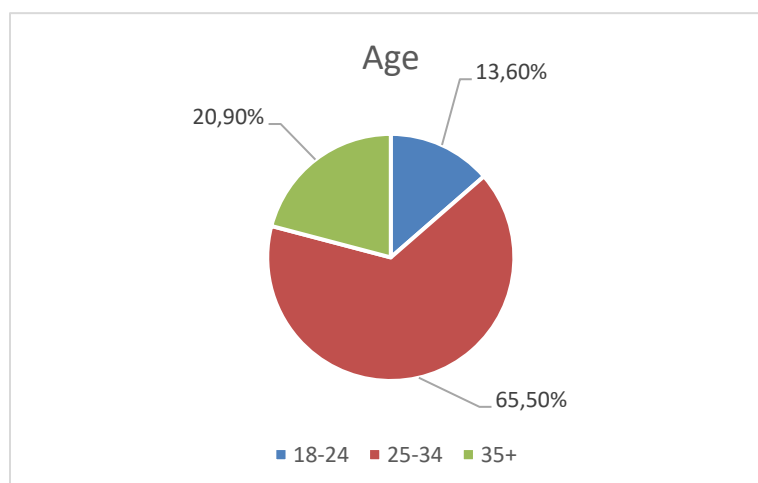
Gender

The results of the survey show how the majority of respondents are male (57,3%), while the female component represented the 37,3%. 5,4% of respondents determined themselves as non-binary. Below a graphic representation of the data presented.



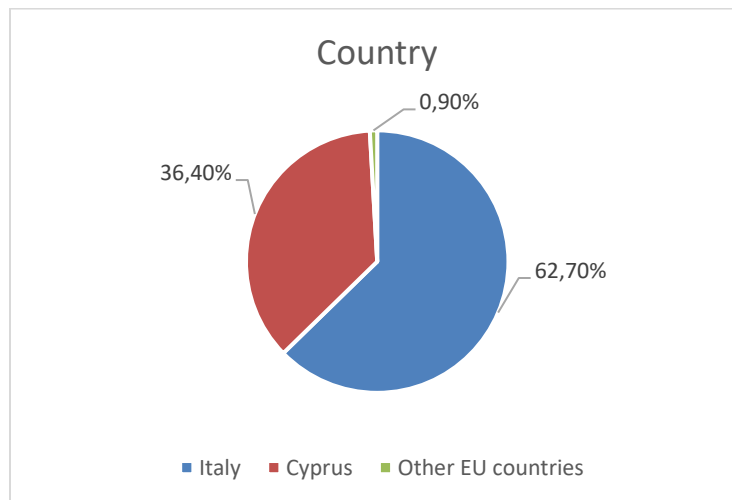
Age

The survey was addressed to 3 different age groups (18-24 years, 25-34 years and 35+ years). The majority of respondents belonged to 25-34 years age group (65,5%), followed by 35+ years age group (20,9%) and the 18-24 years age group (13,6%).



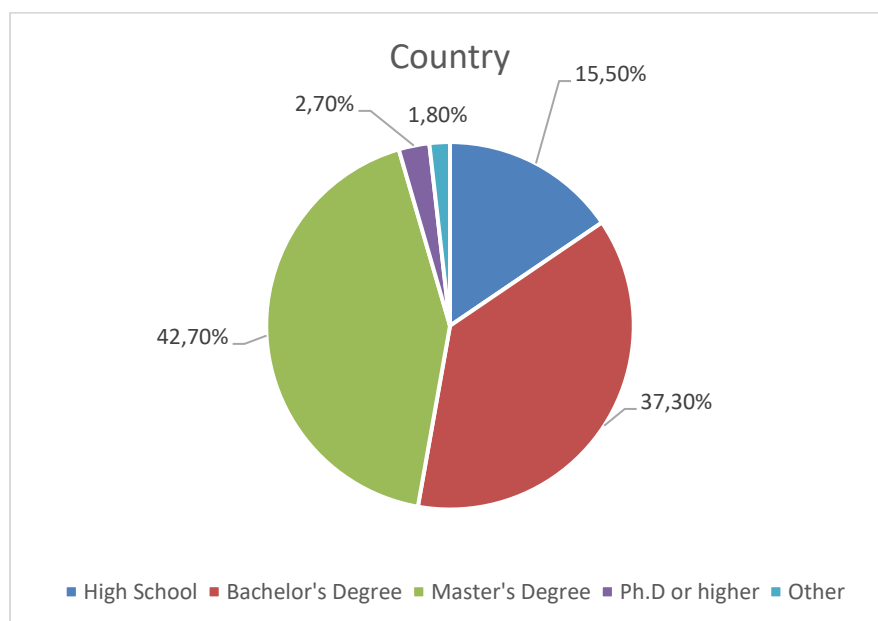
Country

The following chart show the division among survey respondents' country of origin. 62,7% of respondents came from Italy, 36,40% from Cyprus, while 0,9% from other EU countries.



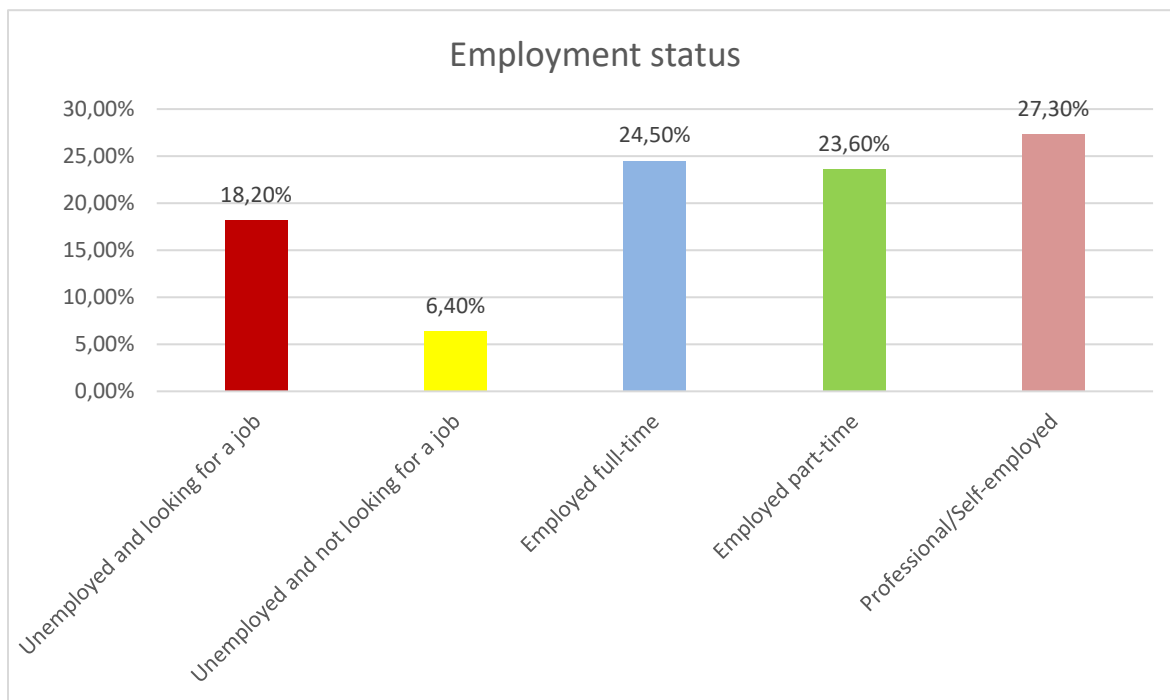
Level of education

Respondents were asked current level of education, to have an overview the educational landscape and its potential impact on digital literacy. In the following chart, the data emerging from the survey are shown.



Employment status

Respondents were asked current employment status so to understand the professional context in which digital skills are applied. In the following chart, the data emerging from the survey are shown.



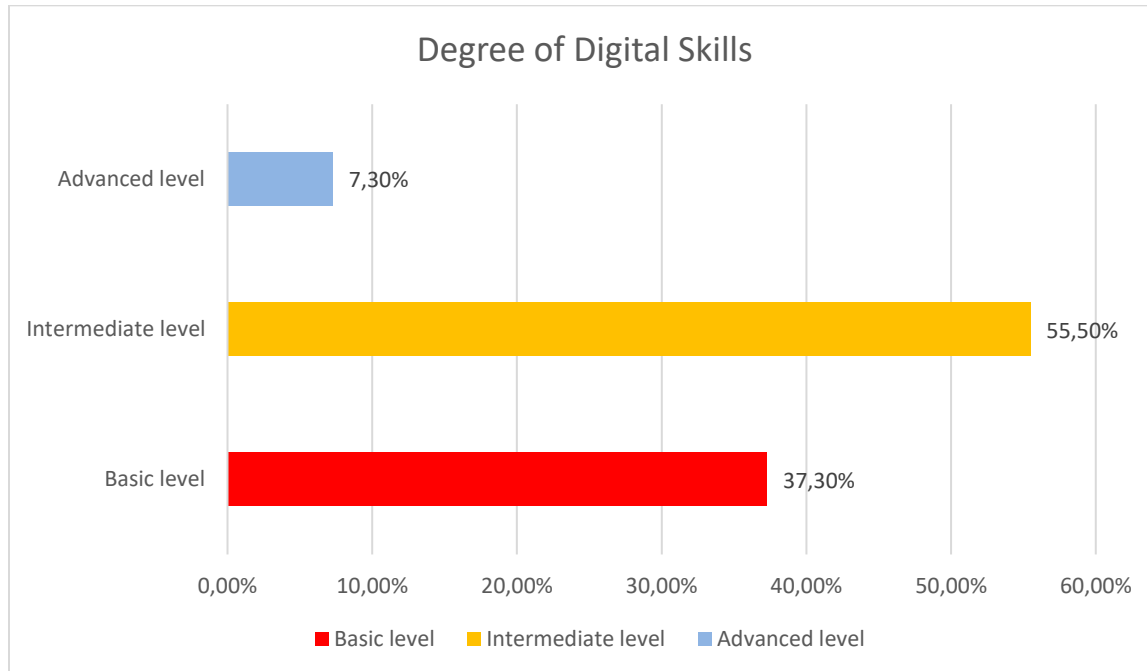
Digital Skills

Degree of digital skills

Respondents were asked to self-evaluate their degree of digital skills among 3 levels:

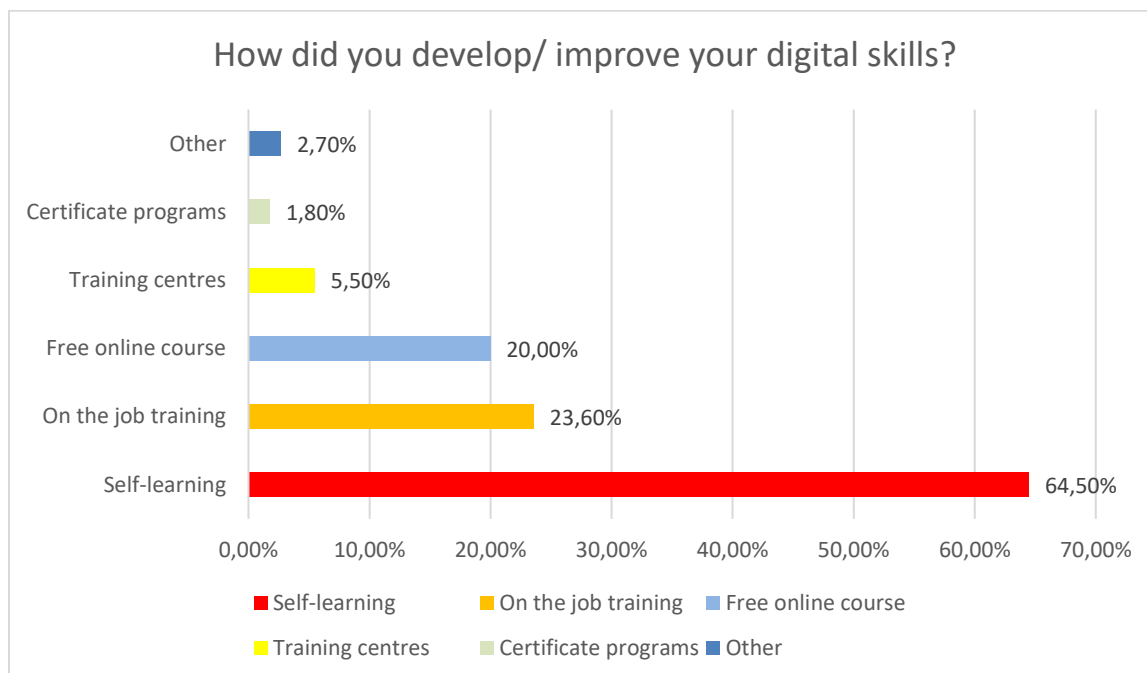
- i. Basic level (basic operation of a laptop/tablet/smartphone, basic online transitions such as sending emails and online payments)
- ii. Intermediate level (word processing, data entry, social media, computer literacy)
- iii. Advances level (computer programming, software development, Artificial Intelligence, Big Data, VR,)

The results showed a good degree of digital skills among the respondents. Below the charts summarizing the data.



Way of improvement of the digital skills

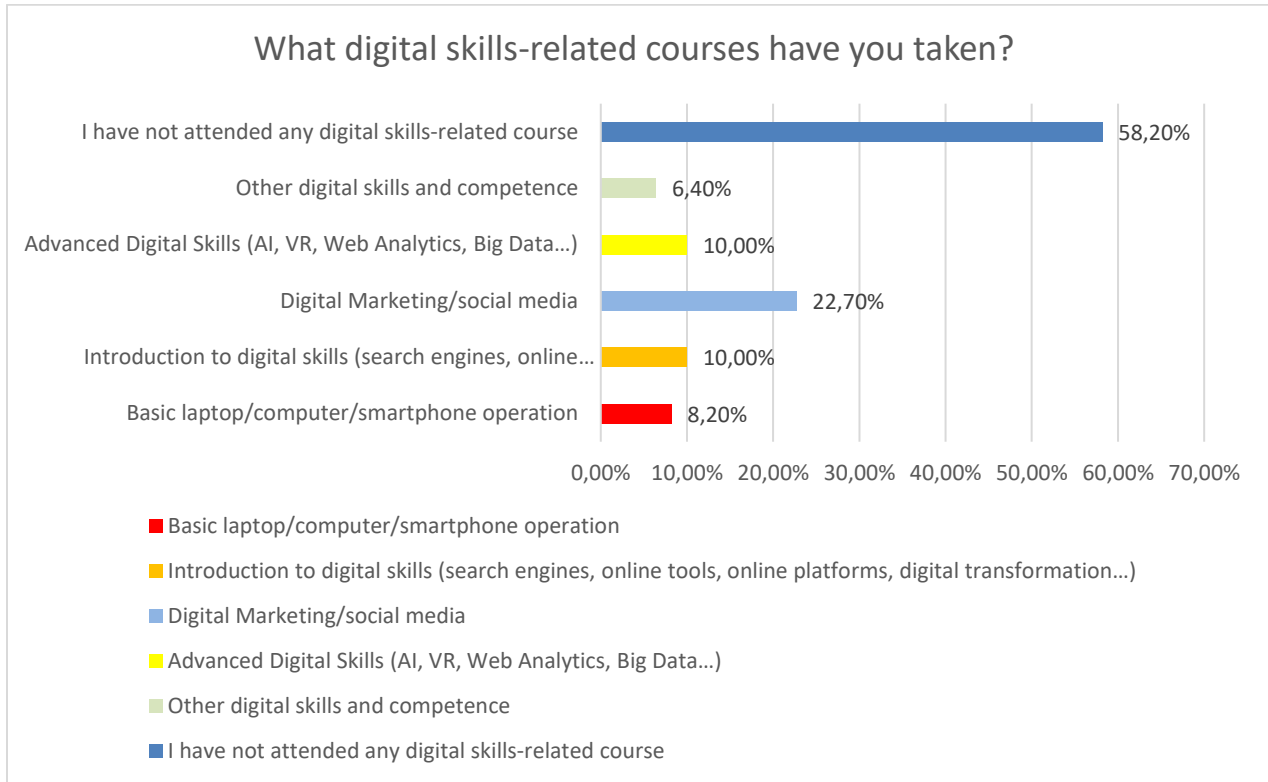
Participants were asked to present their ways through which they learned their digital skills. The following chart presents the data.





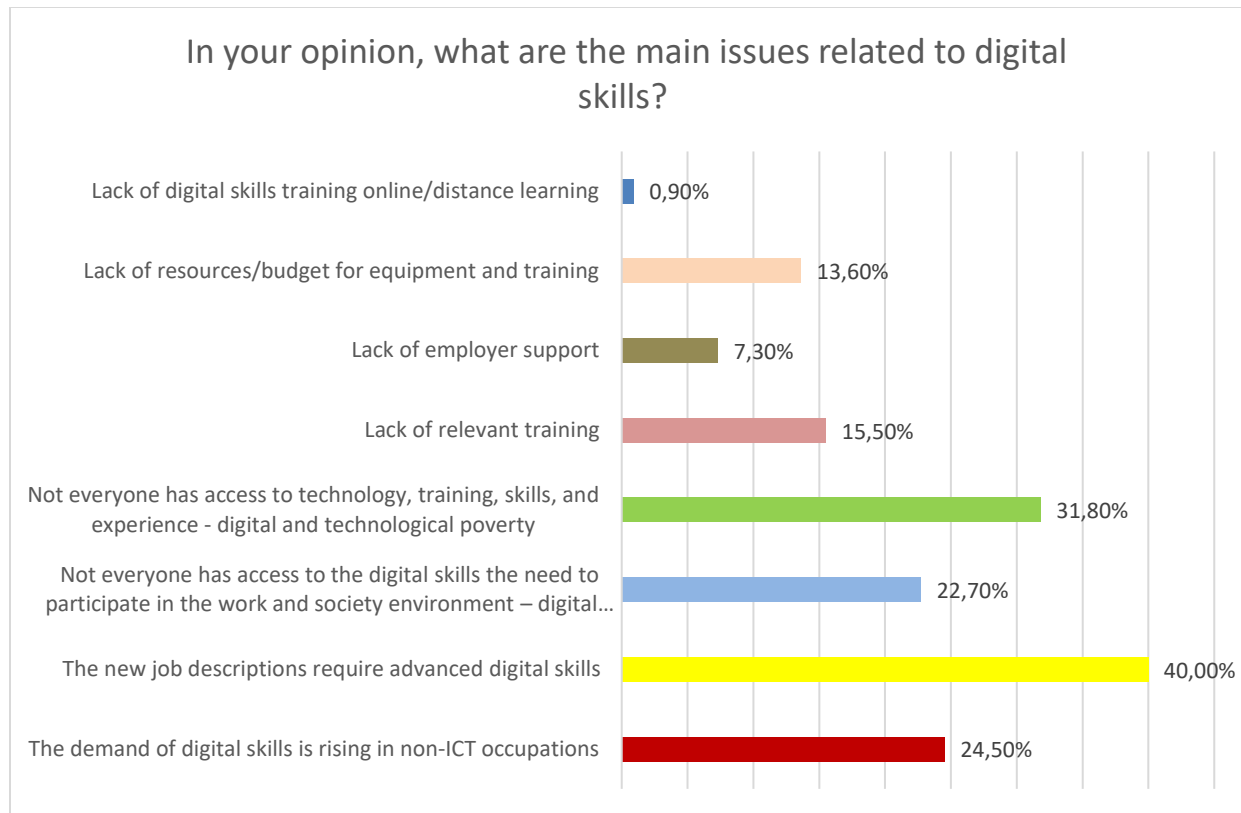
Attendance of digital skills-related courses

Respondents were asked to indicate if they had attended any training course aimed to improve digital skills and, if yes, what topic they dealt with. A figure worth highlighting is the percentage of people who declared that they had never attended a specific training course (58,2%). It is important to underline that participants had the possibility of express several options, therefore the percentage is referred to the item and to the individual participant.



Main issues related to digital skills

Respondents were asked to identify what were, according to their perspective, the main issues that affect the domain of digitalization and the increase of digital skills in the society. It is important to underline that participants had the possibility of express several options, therefore the percentage is referred to the item and to the individual participant.

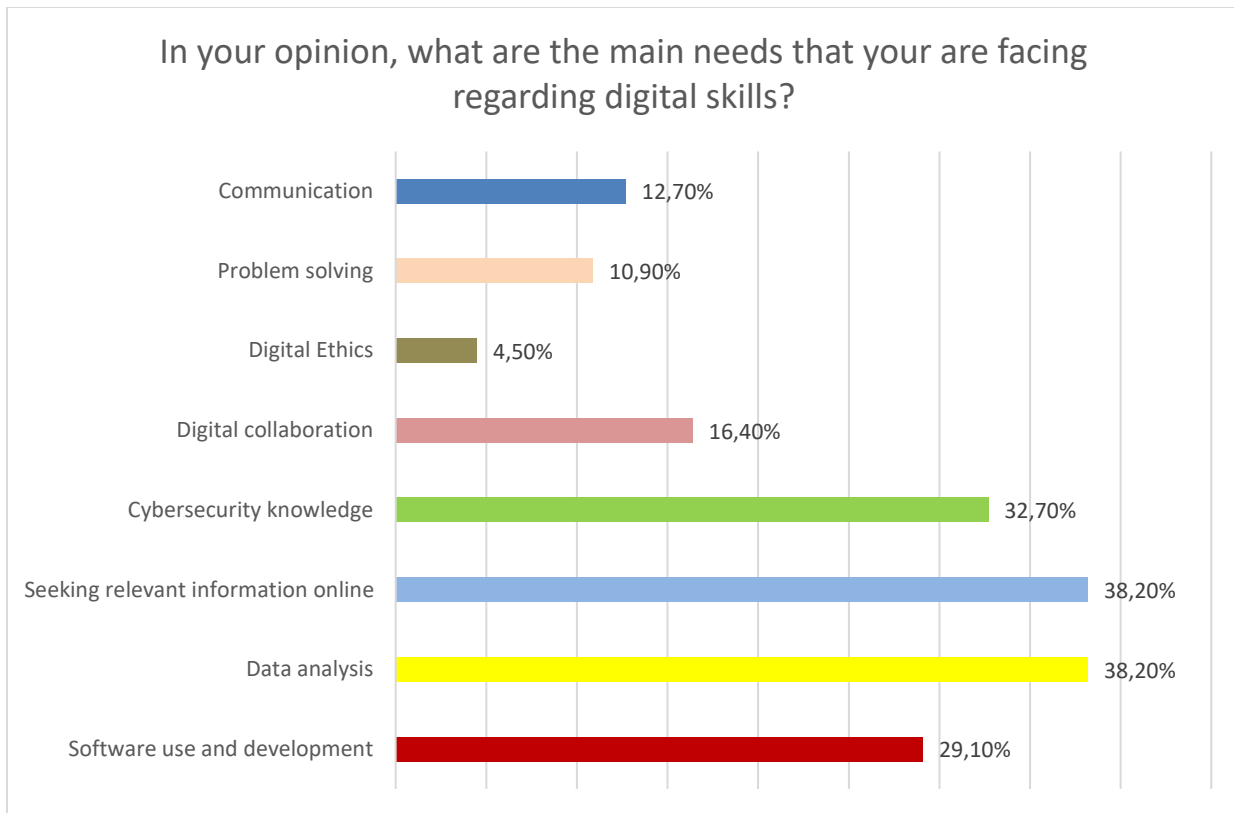


Figures show how the main issues identified is related to the advanced digital skills required for the new job description (40%), followed by the digital and technological poverty (31,80%), the increase of digital skills required for non-ICT occupations (24,50%) and the digital inclusion (22,70%). A very low percentage has indicated the lack of digital skills training online/distance learning (0,9%), as evidence of the numerous opportunities present on the market.



Main needs

Respondents were asked to identify what were, according to their perspective, the main issues they are facing as concerns the digital skills. It is important to underline that participants had the possibility of express several options, therefore the percentage is referred to the item and to the individual participant.



Figures show how the main issues identified is related to the data analysis and the research of relevant information online (both at 38,2%), followed by the cybersecurity knowledge (32,70%) and the software use and development (29,10%). The low score has been given to the Digital Ethics (4,5%) and the problem solving (10,90%), as evidence of progress in some areas or perhaps lack of knowledge of specific digital topics.