Employers Survey
SUMMARY REPORT

FINAL

SUMMARY REPORT

EMPLOYERS SURVEY DIG AGE +

November, 2022

CONTENT

Index of **figures**

Index of tables

1. INTRODUCTION

Knowledge is becoming the main productive force, and lifelong education is part of the culture of the twenty-first century. Today, the individual is exposed to constant changes, to which he must be able to adapt and follow. Adults face many problems and obstacles in their education, and in order to overcome them and get as much training as possible for life and work, they need motivation.

New technologies are completely changing the way we live and work. Changes in working environments today are influenced by a number of factors, the most important of which are the rapid development of technologies and other scientific breakthroughs, new ways of organizing work, a new division of labor on a global level, and demographic changes. Digital technology penetrates almost all areas of public, private and professional life and has a powerful transformative effect. This brings with it various opportunities as well as risks. The opportunities are related to the flexibility of work organization, high independence in time allocation and the possibility of working anywhere. There are also risks, as working time becomes a very relative concept, access to social security systems is reduced, legal protection of "employees" is reduced and incomes become incomparable. New forms of work also increase the risk to workers' health due to time pressures, increased workload and, as a result, psychosocial risks in the work environment (EUROFOND, 2016).

According to the latest research, the following three elements are essential for a smooth reintegration into the labor market: motivation, employability and opportunities for training or employment. Older workers are less inclined to engage in education and training for work-related reasons than younger workers. While this is likely partly due to fewer incentives to engage in training opportunities given their shorter remaining working lives than other age groups, it also suggests that these workers may be unprepared and less adaptable and these could affect their job performance or potential layoffs. In adult education, special attention is paid to certain target groups that need special treatment due to their specific characteristics (differences in race, education, abilities, employment, physical and mental condition, nationality and language, position in society, etc.).

Life expectancy is getting longer, and social development is becoming faster, so the education system must be designed in such a way as to ensure lifelong learning, or the continuity of learning throughout all periods of life. Among other things, education affects the quality of life, reputation in society, self-image and better use of free time. It is for this reason that education is one of the key factors in today's society, which enables the acquisition of material

goods and the establishment of social networks, although it also brings lower risks when it comes to unemployment or exposure to various negative factors.

Older employees often face problems in education, they do not have sufficient education, i.e., they are also among the more difficult people to employ and they are not equally included in society (Gracin, 2016). Future challenges in the field of digital competences will require a significant increase in training opportunities for adults, especially vulnerable groups, to encourage investment in knowledge and skills. A key challenge is that a large number of older workers lack the basic digital skills needed to survive in a technology-rich work environment. Addressing this challenge will require an immediate and massive increase in training opportunities for them. As digital inclusion becomes less about access to technologies and more about knowledge and skills, digital skills have been recognized as a key competence in all OECD countries (OECD, 2019).

Reducing the mismatch between available skills and needs for the digital transformation of the economy has been a key priority at EU level over the last decade (European Union, 2017). In 2010, the European Digital Agenda recognized the need for indicators to measure the extent of digital competences in the EU, which was implemented through the development of the Digital Competence Framework ('Dig Comp').

2. THEORETICAL BACKGROUND

Digital transformation is changing the world of work (Frey and Osborne 2017). The increasing use of technology affects organizational structures as well as communication and collaboration processes and fosters a trend towards knowledge-based work activities (Van Laar et al.2017). There is an increasing need for interdisciplinary skills (e.g., problem solving, creativity, critical thinking, learning skills and for digital competences (Findeisen and Wild, 2022).

Due to demographic change, labor supply will be reduced. Maintaining of the active population in Europe will be possible only by increasing the employment of young people, of older people and of women. Despite the financial and economic crisis, the employment rate of older workers (aged 55-64) has risen very rapidly in the European Union during the last two decades. On average, it already exceeds 60% of the total population of this age group The picture of the Slovenian workforce differs from the situation in Europe: employment rate of young people under the age of 25 and those over the age of 55 is far below the EU average, while our population between the ages of 25 and 54 is employed above average. This situation carries very poor prognosis for the future of the economy and the vitality of the nation not only because of the rapid aging of the workforce, but also because of the anthropological deficit of the middle generation in investing into family life and children and due to the

potential burnout of this generation as a result of poor work-life balance while providing informal care without the respite care and other forms of support; this forms of support are fast developing in other European countries, despite them having lower middle-generation employment ratio than we do. An urgent task for economic sustainability and quality on the national level is therefore rapid improvement of the quality of management with different age groups (age-management) in the workplace.

According to the predictions, share of the older workers is going to increase during the coming decades. Trends of the working age population in the EU show, that the age group 55-64 will increase, with some countries, especially the northern ones, exceeding three-quarters (Ramovš & Svetelšek, 2020). The European workforce will be older than ever. In many countries, the proportion of older workers will rise to 30% or more of the working population (Ilmarinen, 2012).

Training older workers is a precondition for raising the average working age and ensuring their success; research reports of good practices on this topic from a wide variety of companies around the developed world have been on the agenda for years (IBM, 2005)

Full involvement in the processes within the digital society requires individuals to master a whole range of new abilities and skills based on knowledge of modern ICT. Acquiring e-skills for the effective use of ICT is an important element of the development of an inclusive digital society, therefore it is necessary to follow the realization of two of the strategic goals written in this strategy, namely 1) Improvement of e-competences and e-skills of the population and 2) Improvement of e-skills for the use of ICT for new digital jobs.

In the near future, 90% of jobs (especially engineering, medicine, art and architecture) will require some level of digital skills (Digital Skills and Jobs Coalition, European Commission, 2013). The fact is that the lack of digital competences in the integration into the labor market, including employees, is a major obstacle to the further process of technological modernization of companies and thus the economic development of the country. The European Commission found that two fifths of the workforce in the EU lack digital skills (European Union, 2017). **Digitization has a major impact especially on socially vulnerable groups, such as the long-term unemployed, the young unemployed, individuals with a low level of education and the elderly. To improve this situation, developing the digital skills of the EU workforce is essential.**

A recent survey by the European Commission on digital skills in the workplace found that 88% of organizations have taken no action to tackle the lack of digital skills in their employees. This is of particular concern as a lack of digital skills affects performance, with the main negative impacts being lost productivity and reduced customer numbers. In fact, research has shown that digital transformation in organizations around the world is hindered by a lack of relevant digital skills and inadequate employee training (Digital Work Research, 2018).

The gap between the use and need for digital competences increases the digital divide or gap, which indicates that people with certain demographic and socio-economic characteristics are at a disadvantage in accessing and using the Internet compared to other groups (van Deursen and Helsper, 2015; Delello and McWhorter, 2017; Hodge et al., 2017). The reality is that the constant development of ICT brings with it the need for people to acquire ever higher levels of digital literacy in order to maintain their sense of inclusion. Digital literacy is a set of skills related to the use of ICT that each individual must develop in order to function in a digital society (Friemel, 2016; Van Deursen et al., 2016). Thus, we can say that digital competence is a fundamental element of the development of every individual, as it enables their integration into today's society in a more participatory way.

For the expected benefits, such as increased productivity, accelerated innovation and increased employee satisfaction, it is essential that individuals adopt and use them in a predictable manner. This includes a range of elements, from ensuring strategic alignment and strong governance to investing in good user experience design and ongoing change management. It has also been shown that the digital literacy of the workforce can contribute to the successful adoption of technologies. Thus, organizations need to invest not only in technologies, but also in people and skills that enable the workforce to use them optimally, thereby enabling what Soule and co-authors (2016) described as 'digital prowess' or the ability of the organization as a whole to move quickly and take advantage of new digital opportunities.

2.1. Office clerks and other clerks

The occupations expected to have most new job openings are researchers & engineers, technical laborers and office associate professionals. Overall, almost 9 out of 10 job openings will require medium or high-level qualifications.

An Office Clerk is **a professional who performs various tasks around an office, such as typing documents, answering phone calls and filing records**. The specific duties vary depending on the employer's needs for an individual position.

Clerks record, organize, store, compute and retrieve information, and perform a number of clerical duties in connection with money-handling operations, travel arrangements, requests for information, and appointments. The tasks performed by clerks usually include: stenography, typing, and operating word processors; entering data into computers; carrying out secretarial duties; keeping records relating to stocks; etc. Their jobs include: typists and word processing operators, bank tellers and related clerks, telephone switchboard operators, receptionists, etc.

Most occupations in this major group require completion of the first stage of secondary education, but some occupations will require the completion of the second stage of secondary education.

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Empirically, these changes can be observed in data tracking employment trends in the United States between 2007–2018. The evidence indicates that nearly 2.6 million jobs were displaced over a span of a decade.5 Figure 1 presents the types of roles that are being displaced— namely Computer Operators, Administrative Assistants, Filing Clerks, Data Entry Keyers, Payroll Clerks and other such roles which depend on technologies and work processes which are fast becoming obsolete. In late 2019, the gradual onset of the future of work—due in large part to automation, technology and globalization—appeared to pose the greatest risk to labor market stability (Word Economic Forum, 2020).

Work Activities of clerks and other clerks

- Working with Computers — Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.
- Communicating with Supervisors, Peers, or Subordinates — Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
- Getting Information — Observing, receiving, and otherwise obtaining information from all relevant sources.
- Performing Administrative Activities — Performing day-to-day administrative tasks such as maintaining information files and processing paperwork.
- Documenting/Recording Information — Entering, transcribing, recording, storing, or maintaining information in written or electronic/magnetic form.

Office and other clerks are expected to face employment pressure and skill challenges in the following years. Providing qualitative and accessible training to these workers would be indispensable for their job security and development. The training should take into account

these target groups. Up and reskilling programs need to focus not only on technical skills but also soft skills that could be more resilient to replacement from automatization.

3. PURPOSE AND OBJECTIVE OF RESEARCH

3.1 Purpose and objective of research

The research is one of the goals within the ERAZMUS + project DIG-AGE+. The aim of the project is to train and empower older employees, 50+, so that they are able to face the changes that remote work brings with it, accompanying the digital transition of companies.

In general, digital skills comprise a range of basic to very advanced skills that enable the use of digital technologies on the one hand and the basic cognitive, emotional or social skills required to use digital technologies on the other. "Digital literacy is the awareness, attitude and ability of individuals to appropriately use digital tools and devices to identify, access, manage, integrate, evaluate, analyze and synthesize digital resources, create new knowledge, create media expressions and communicate with others, the context of specific life situations to enable constructive social action and reflection on this process. "

The definition supports a multi-layered model that shows technology users progressing through three stages: digital competence (in which a number of skills are acquired), digital application (in which those skills are applied to the setting used) and finally digital transformation (in which the application of skills leads to innovation and creativity). As this definition and model state, digital literacy becomes multi-level and multi-element, requiring the individual to engage in a process of continuous learning and adaptation over time. It is based on this framework for digital skills in the workplace, which covers technical, cognitive and social-emotional skills.

This is critical because it is not enough for employees to simply manage various devices and applications, they must also find and share information, communicate and collaborate, and constantly learn and adapt to accomplish tasks, solve problems, be productive, and thrive digitally workplace.

With the aim of finding out where the biggest gaps are, which are assessed by employers in relation to the actual situation and the needs of employers, we made a quantitative survey with the aim of analyzing the digital skills required by employers from the point of view of the industry and profession, including the analysis of the most common gaps in digital skills with

employers. In the research, we focused on the **office clerks [1] and other clerks**[2] that are a composite group of occupations who mainly record, organize, store and retrieve information related to the office tasks and questions.

The objectives of research were:

- To determine the difference between the existing and necessary digital competences of employees 50+ (office clerks and other clerks) from the perspective of leaders, HRM

- To identify the measures that companies have implemented in the last year with the aim of reducing the gap between the needs for digital competences and the actual competence of employees (clerks and other support clerks)

- To identify the effectiveness of the measures taken to reduce the digital skills gap of employees 50+.

The purpose of research was to identify gaps in digital competences and prepare the best training programs adapted to the needs of companies and individuals.

Target groups:

- Managers, leaders, owners, human resource managers, responsible for education or HR development in companies

3.2. Sample

We conducted the survey among employees in five partner countries: Belgium, France, Poland, Finland and Slovenia.

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[1] Office clerks carry out a range of clerical and administrative activities related to recording, organizing, storing and retrieving information; compiling accounting, bookkeeping, financial and other numerical data; and sorting and delivering mail, filing documents, preparing information for processing, maintaining personnel records, etc. The types of job undertaken by office clerks includes: secretaries, typists and data entry clerks, accounting and bookkeeping clerks, payroll clerks, mail carriers and sorting clerks, scribes, filing and copying clerks, and personnel clerks.
They usually need to have completed the first-stage of secondary education but in some instances they will need to have completed the second-stage of secondary education, perhaps by undertaking specialized vocational education and training (CEDEFOP, 2019)..

[2] Other support clerks are engaged in sorting and delivering mail, filing documents, preparing information for processing, maintaining personnel records, etc. They usually need to have completed the first-stage of secondary education but in some instances they will need to have completed the second-stage of secondary education, perhaps by undertaking specialized vocational education and training. The tasks carried out by people in this occupation includes: recording information on the issue and return of library books; classifying and filing various documents; maintaining personnel records; performing a range of miscellaneous clerical duties. The types of job classified to this occupation includes: library clerks, personnel clerks, filing and copying clerks, etc. (CEDEFOP, 2019).. .

Figure 1: Number of respondents per country
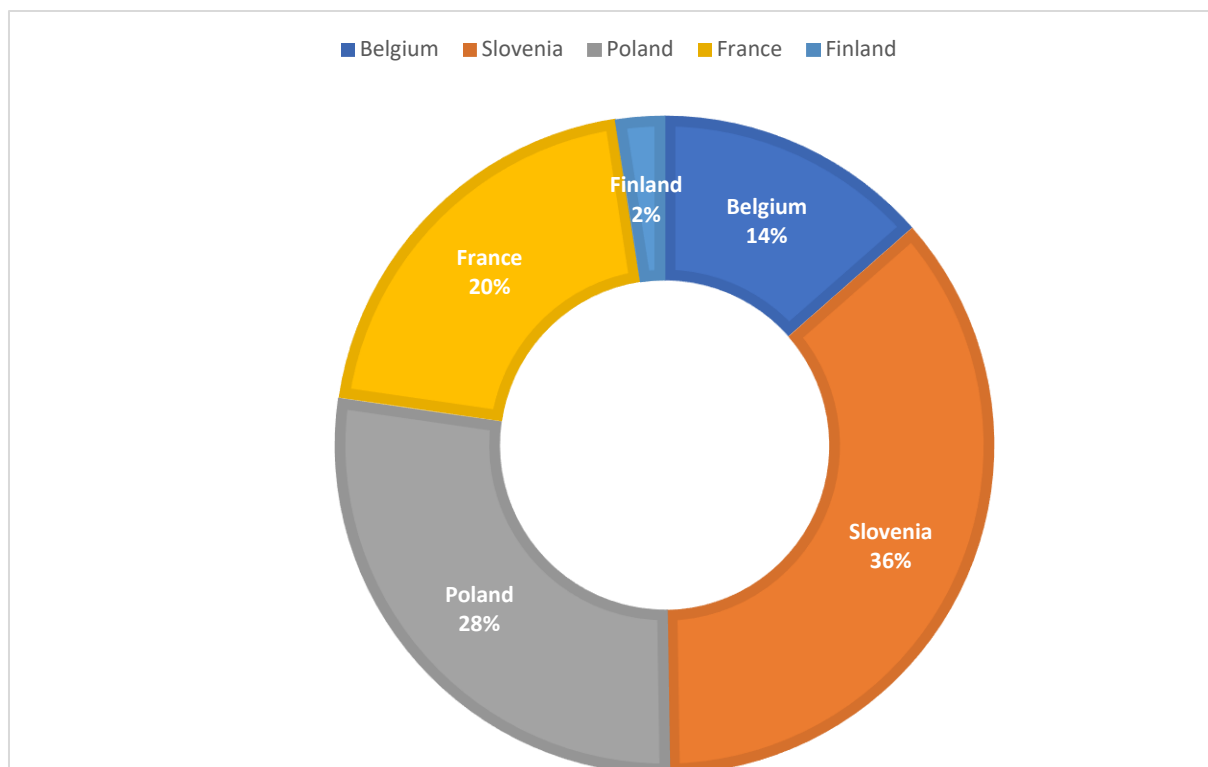
Source: (own)

A total number of respondents was 207. The majority of respondents were from Slovenia and Poland (64%).

3.3. Measuring instrument

A widely used conceptualization of digital competence is provided by the Dig Comp (Ferrari 2013). Based on the claim that every citizen needs digital competences to participate in an increasingly digitalized society, the framework distinguishes between five areas of digital competence (Ferrari 2013). Information (browsing, searching and filtering information;

1. Evaluating information; storing and retrieving information).
2. Communication (interacting through technologies; sharing information and content; engaging in online citizenship; collaborating through digital channels; netiquette; managing digital identity).

3. Content creation (developing content; integrating and re-elaborating; copyright and licenses; programming).
4. Safety (protecting devices; protecting data and digital identity; protecting health; protecting the environment).
5. Problem solving (solving technical problems; identifying needs and technological responses; innovating and creatively using technology; identifying digital competence gaps).

When designing the measuring instrument, we started from the questionnaire The Digital Workplace Skills Framework (Digital Work Research, 2018), in which we identified 5 basic sets of competences, namely:

1. Information literacy

2. Communication and cooperation

3. Creation of digital content

4. Security and Operations

5. Solving problems

The respondents- employers rated the development of digital competences on a scale from 1 to 5 (a rating of 1 means that the competence is very poorly developed, and a rating of 5 means that the competence is very well developed), and then they assessed the needs of the department (companies, organizations) for these digital competences, also on a scale from 1 to 5 (a rating of 1 means that the competence is not needed at all, and a rating of 5 means that the competence is absolutely necessary).

Then we were interested in what measures were implemented in the last year in case of a gap between the needs for digital competences and the actual competence of the employees. Since motivation is a very important factor in the success of training, we also checked how often, on average, individual segments of employees participate in education and training (either at the workplace or outside the workplace) for the needs of (better) work performance. In this question, the respondents answered only for those groups of employees who are their superiors.

The last question was related to the effectiveness of Steps Taken to Prepare for Potential Skills Gaps as a Result of the Loss of Older Workers. The respondents evaluate steps taken to close identified gaps in digital skills. The respondents rated on the asses the current steps for each category (Very effective, Effective, somewhat effective, not effective, not at all effective). Only one answer was possible for each step.

3.4. Research Limitations

The main limitation of the research is a small and unrepresentative sample. Also, the research is limited to the leaders' view of the development and needs of digital competences among their subordinates and their readiness for training. It is necessary to take into account that these are managers' assessments, and these assessments can also be distorted or distorted, especially in those cases when managers had to give a general assessment for a large number of their subordinates (it is easier to give a more realistic assessment for a smaller number than for greater number of subordinates).

3. DIGITAL COMPETENCE STUDY RESULTS

As we have already mentioned, the research was carried out in five countries, the data below are presented summary for all countries together. In the following, we will draw attention to the specifics of individual countries, where is this necessary or much different from summary results.

3.1. Characteristics of the respondents who participated in the research

To begin the quantitative research, we will first present the characteristics of the respondents (employees) who participated in the research. The aspects from which we analyzed the employees are as follows: (1) workplace - the position they hold, (2) working area, (3) the type of organization in which they are employed, and (4) main activity of the company.

The Figure 1 presents the working position in the organization by country.

**Figure 1: Working position in the organization by country**
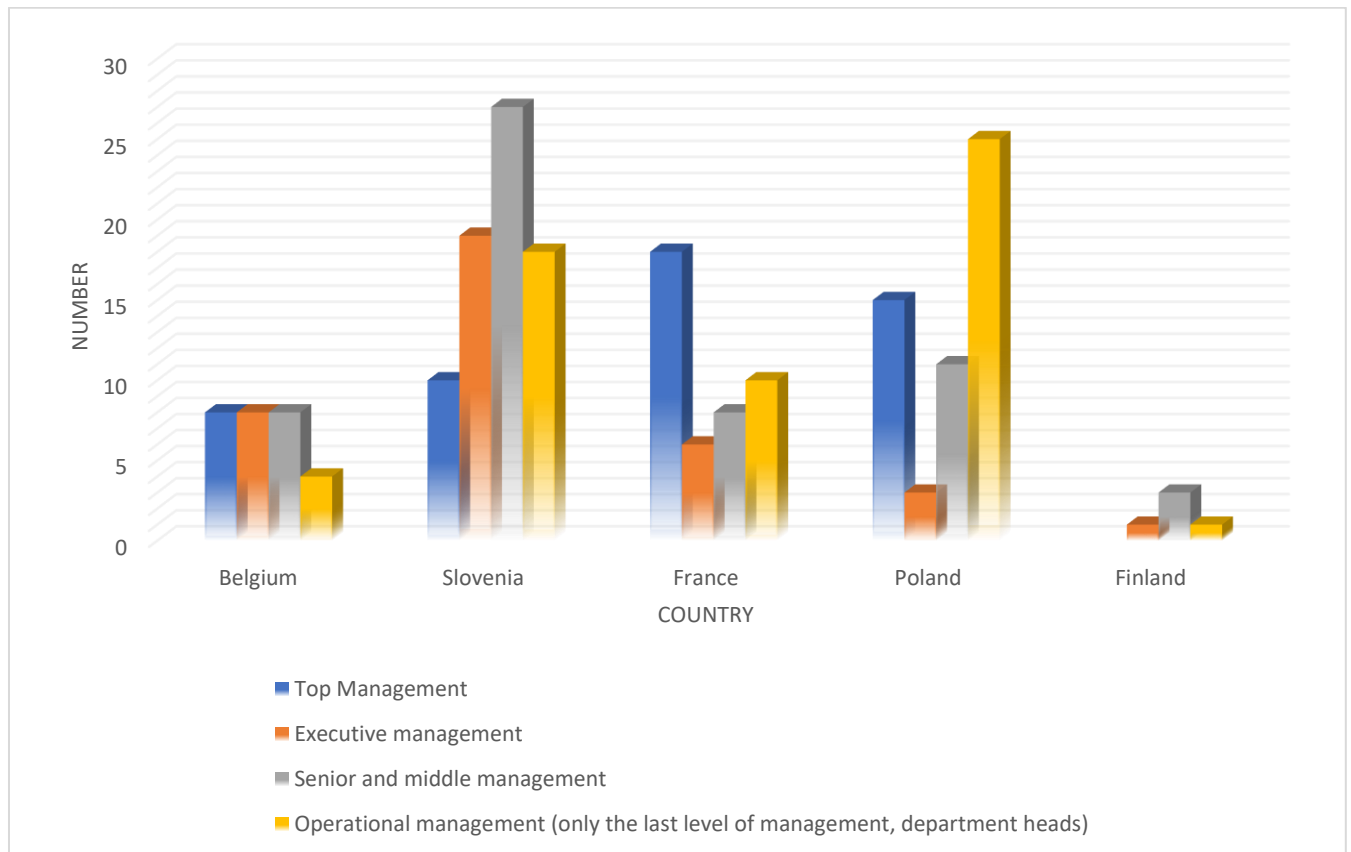
Source: (own)

Figure 1 presents the structure of the respondents included in the survey according to the position held by the respondents. In 28% of the respondents held the position of senior and middle management, followed by respondents who are employed in the position of operational manager (exclusively the last level of management, heads of departments) with 29%. 25% of respondents occupying the highest management positions in companies (management). Therefore, respondents from all hierarchical management levels took part in the research. Under the second, the respondents mentioned mainly the position of independent professional associate.

We were also interested in the working area in the organization in which the respondents are employed. Figure 2 presents the structure of employees according to the working area in the organization in which they are employed.

Figure 2: Working area summary
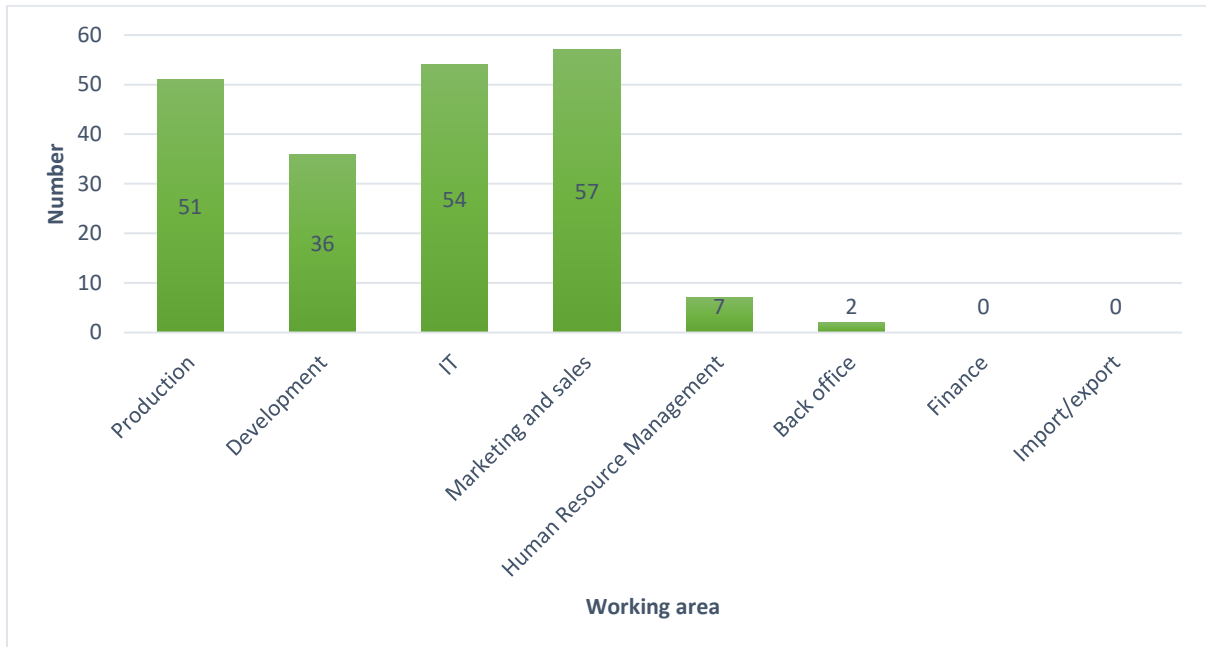
Source: (own)

The Figure 2 shows that majority of respondents are working in the following areas: production, marketing and sales and IT.

Table 2: Working area by countries

	Production	Development	IT	Marketing and sales	HRM	Back office	Finance	Import/ export	Total
Belgium	8	8	8	4	0	0	0	0	28
Slovenia	10	19	27	18	1	0	0	0	75
Poland	15	3	11	25	3	0	0	0	57
France	18	6	8	10	0	0	0	0	42
Finland					3	2			5
Total	51	36	54	57	7	2	0	0	207

*HRM is Human resource management

Source: (own)

We were also interested in the type of organization in which the respondents are employed. Figure 3 presents the structure of employees according to the type of organization in which they are employed.

Figure 3: Type of organization in which the respondents are employed per country
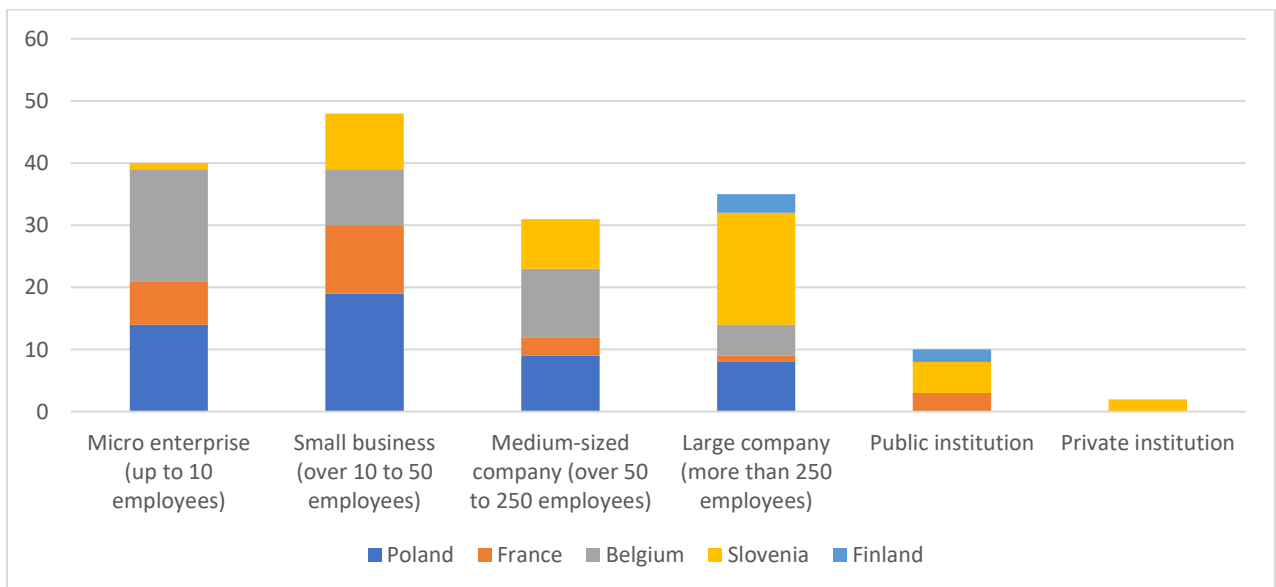
Source: (own)

Figure 5 shows that 53% of respondents work in micro and in small companies. They are followed by respondents who are employed in large companies with 18% and medium sized companies with 21%.

As the last discussed aspect of the respondents, we present in Figure 4 the structure of the respondents according to the type of industry, i.e., the main activity to which the company in which the respondents are currently employed belongs.

Figure 4: Main activity of the company
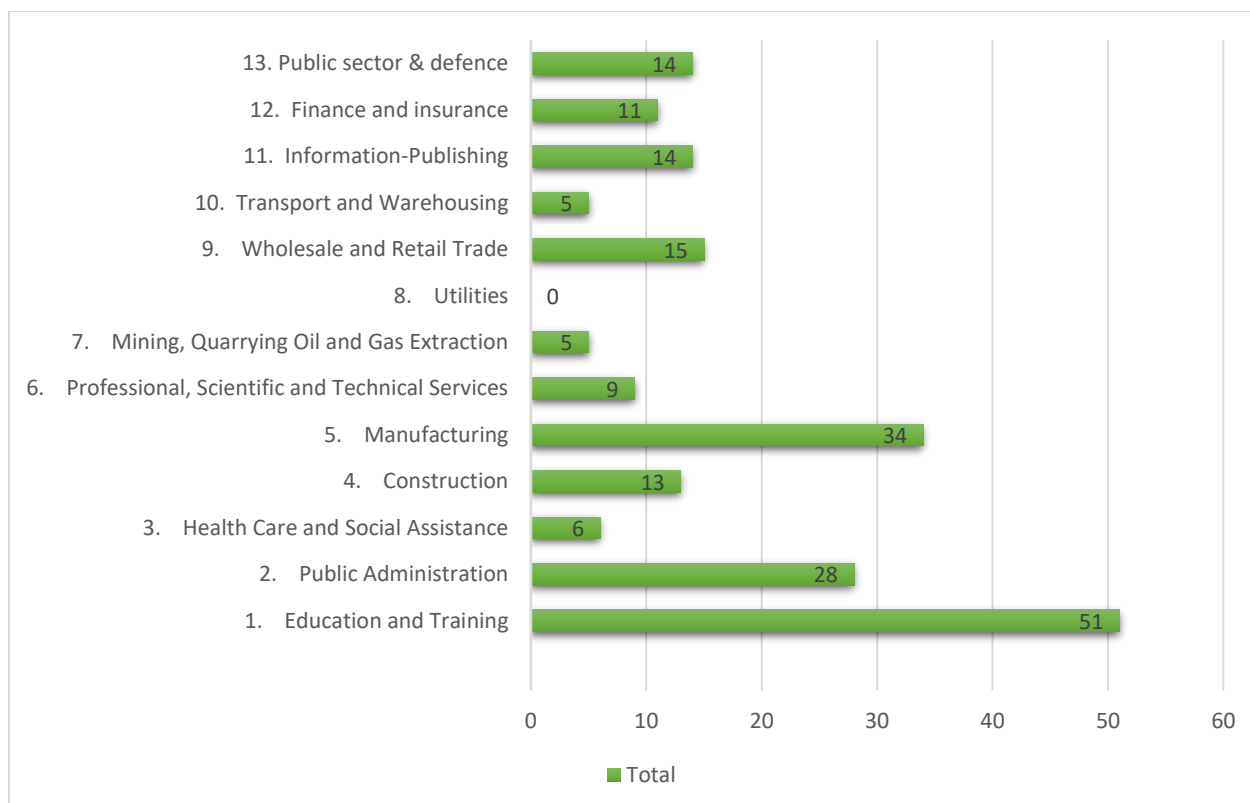
Source: (own)

As it can be seen from the figure 4, the largest number of companies are from the following industries: education and training (25%), while manufacturing (17%) and public administration 14%. Respondents from these companies represent a total of 56% of all respondents. This is followed by wholesale and retail trade, information - publishing and public sector & defense each represented by 7%.

After presenting the characteristics of the sample, we focus below on the descriptive statistics of the manifest variables.

4.2   Gaps between required and actual digital competences

The European Digital Skills Survey (2018) also found that 15 % of workplaces in the EU had digital skill gaps in their workforce. The gaps related to basic skills were more concentrated

among technicians (22 %), elementary occupations (21 %), sales workers (20 %) and clerical workers (17 %), illustrating the importance of basic digital skills for a wide range of occupations. More than 70% of workers in clerical roles require at least a moderate level of digital skills to perform their job. Even 42% of those employed in elementary occupations need some level of digital skills to be able to do their job (Cede fop, 2015).

Data from Eurofound's 'Sixth European Working Conditions Survey' show a correlation between type of occupation and use of digital technologies. High-skilled clerical workers are more likely to use digital technologies, 49% of workers in this occupational group do so all of their working time and 36% of them do so for at least between a quarter and three quarters of their working time. Low-skilled clerical workers are less likely to use digital devices, 40% of them do so all of their working time and 26% between one quarter and three quarters of their working time.

Table 3 shows the existing and desired digital competences of older employees over the age of 50, employed in the positions of clerks and other clerks. The respondents were asked to evaluate the present digital competences of their employees 50+ who work as office clerks and other clerks (score 1 means that the competence is very poorly developed, grade 5 means that the competence is very well developed), and the digital competences need to be developed in the group of Employees 50+ (grade 1 means that the competence is not needed at all, and grade 5 means that the competence is urgently needed).

Respondents evaluated competences according to five groups of competences, namely:

1) Information literacy

2) Communication and cooperation

3) Creation of digital content

4) Safety and performance

5) Problem Solving

The summary results are presented in table 3.

Table 3: Digital competences

	PRESENT DIGITAL COMPETENCES OF EMPLOYEES 50+ (situation assessment)			DIGITAL COMPETENCE NEEDS IN 5 YEARS OF EMPLOYEES 50+ (needs assessment)			Sig. (2-tailed)
	N	Mean	Std. Deviation	N	Mean	Std. Deviation	
INFORMATION AND DATA LITERACY	**195**	**3,28**	**0,918**	**195**	**3,48**	**1,275**	**0,000**
Ability to search for and access data, information and digital content.	195	3,36	0,900	195	3,36	1,412	0,000
Ability to organize, store and retrieve data, information and content in a digital environment.	195	3,44	0,936	195	3,62	1,284	0,003
Ability to analyze, compare and critically evaluate sources and types of data, information and digital content.	195	3,03	0,919	195	3,47	1,127	0,000
COMMUNICATION AND COLLABORATION	**195**	**3,48**	**1,015**	**195**	**3,91**	**1,004**	**0,012**
Ability to communicate and collaborate using email and social networking sites (e.g., Facebook, LinkedIn).	195	3,72	0,966	195	4,03	0,908	0,042

Ability to communicate and collaborate using a variety of digital technologies (e.g., MS Teams, Skype, Zoom, GoTo Meeting).	195	3,27	0,981	195	3,70	1,200	0,065
Ability to share data, information and digital content with others using appropriate digital technologies (e.g., OneDrive, WeTransfer).	195	3,45	1,099	195	3,99	0,905	0,011
DIGITAL CONTENT CREATION	**195,00**	**3,02**	**1,2021**	**195,00**	**3,10**	**1,200**	**0,000**
Ability to create simpler digital content in various formats (e.g., document in MS Word, spreadsheets and graphs in MS Excel, presentations in MS PowerPoint).	195	3,59	0,911	195	3,55	1,171	0,000
Ability to create more complex digital content in various formats (e.g., infographics, more complex presentations, simulations, videos and other multimedia content).	195	3,04	1,274	195	3,34	1,214	0,000
Ability to program and develop software.	195	2,44	1,422	195	2,39	1,215	0,000
SECURITY AND OPERATIONS	**195**	**3,22**	**1,075**	**195**	**3,52**	**1,253**	**0,000**
Understanding of risks and threats and knowledge of preventive security measures in the digital environment.	195	3,31	1,069	195	3,86	1,267	0,612

|							
Ability to protect personal data and protect privacy in the digital environment.	195	3,34	1,025	195	3,63	1,369	0,000
Ability to protect oneself and others from potential threats in the digital environment (e.g., online blackmail / harassment).	195	3,39	1,061	195	3,71	1,144	0,000
Ability to work and operate high-tech devices.	195	2,83	1,144	195	2,88	1,232	0,000
PROBLEM SOLVING	**195**	**3,07**	**1,106**	**195**	**3,69**	**0,988**	**0,000**
Ability to identify and solve technical problems in device management and / or in the use of digital environments.	195	3,32	1,180	195	3,76	1,023	0,000
Ability to use digital tools to innovate processes, services and products.	195	2,62	1,074	195	3,49	1,027	0,000
Identifying one's own digital skills gaps and finding opportunities for development and learning.	195	3,28	1,064	195	3,83	0,912	0,000

Source: (own)

In Table 3 the data show the big and medium gaps between the present digital competences and the need of development of digital competences of employees 50+ in the future. In the Table 3 the competences in which the largest gaps can be observed are marked in red, with yellow color are marked the middle gaps. If we look at the data, we can see that, in general, employers' asses' big gaps in the present digital competences of their employees 50+ on the workplace office clerks and clerks in the area problem solving and middle gaps in communication and collaboration.

It would be necessary to strengthen and upgrade all digital competences related to problem solving where big gaps were identified. Big competences were detected also in the area security and operations where have to be strengthen the understanding of risks and threats and knowledge of preventive security measures in the digital environment and in the area communication and collaboration and above all, the ability to communicate and collaborate using various digital technologies (e.g., MS Teams, Skype, Zoom, GoTo Meeting) should be upgraded and strengthened.

Somewhat smaller gaps appear in the field of strengthening the ability to communicate and collaborate using a variety of digital technologies (e.g., MS Teams, Skype, Zoom, GoTo Meeting) and at the same time in the entire set, which refers to digital competences related to communication and collaboration. The central gap in digital competences was identified in the field of information and data literacy, the need to develop the ability of employees to analyze, compare and critically evaluate sources and types of data, information and digital content.

In the Figure 5 the differences between individual sets of digital competences are presented so that we can better identify gaps.

Figure 5: Digital skills gap- employees
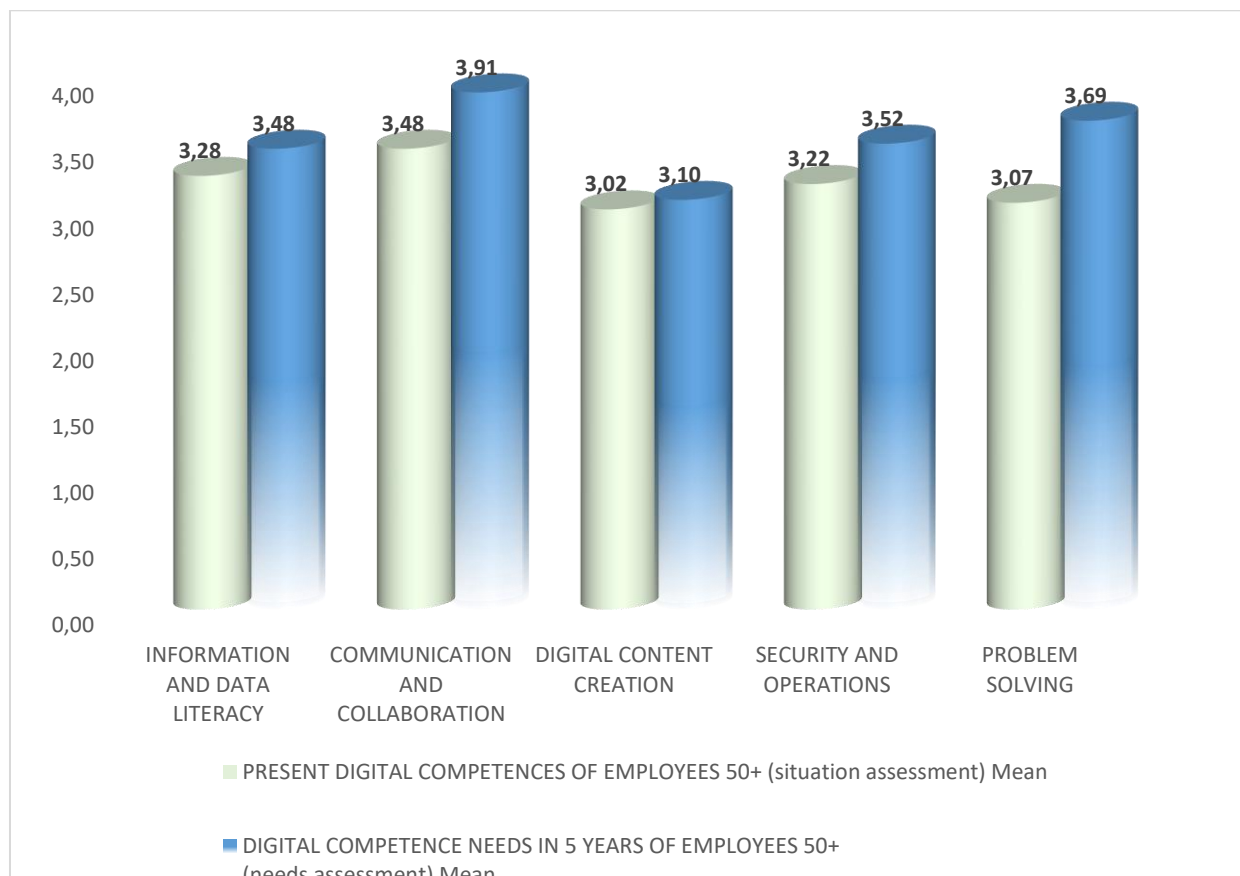
Source: (own)

Employers estimate that employees 50+ have to improve all their digital competences, which they will need to perform in their work in the future, e.g., in 5 years. Employers estimate that the greatest need for improving digital skills is related to problem solving and communication and collaboration.

The results by the country show major differences, which are listed below.

The vast majority of respondents from **Belgium** rated the need for **digital competences lower on the scale than the current competences.** Only in the case of two competences did the employers assess that there is a large gap between existing and necessary competences.

- Ability to create more complex digital content in various formats (e.g., infographics, more complex presentations, simulations, videos and other multimedia content).
- Ability to use digital tools to innovate processes, services and products.

No big digital skills gap was identified by the employers from **France.** Most of the digital skills competences are rated to have lower importance in the future. **The results for France differ significantly compared to the answers of respondents in other countries.**

The assessment of employers in Slovenia and Poland is completely different from that in Belgium and France. While **Polish** employers estimated that there are large gaps in the areas of information and data literacy, security and operations and problem solving.

Employers in **Slovenia** also perceive large gaps in digital competences, namely in all groups of digital competences, such as:

- • information and data literacy

- • digital content creation

- • communication and collaboration

- • security and operations

- • problem solving

The respondents from **Finland** rated a lot of competence needs to be developed lower as there is the current state of developed competences, the minor gaps were identified in the area security and information where the respondents' asses that employees understanding of risks and threats and knowledge of preventive security measures in the digital environment should be developed. In the area digital content creation, the ability to program and develop software should be developed.

Based on the results of the analysis, we can conclude that it is necessary to deepen trainings to strengthen competences in the following areas[3]:

- • **INFORMATION AND DATA LITERACY**

  - • Ability to **analyze, compare and critically evaluate** sources and types of data, information and digital content.

- • **COMMUNICATION AND COLLABORATION:**

  - • Ability to **communicate and collaborate** using a variety of digital technologies (e.g., MS Teams, Skype, Zoom, GoTo Meeting).

  - • Ability to **share data, information and digital content** with others using appropriate digital technologies (e.g., OneDrive , WeTransfer).

- • **SECURITY AND OPERATIONS**

  - • **Understanding of risks and threats** and knowledge of preventive security measures in the digital environment.

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[3] *In individual countries, there are also other digital competencies that need to be developed in the next 5 years, but we have presented the data at a summary level, as these are the basis for preparing a professional profile.*

- **PROBLEM SOLVING:**

  - Ability to **identify and solve technical problems in device** management and / or in the use of digital environments.

  - **Identifying one's own digital skills gaps and finding opportunities** for development and learning.

  - Ability to **use digital tools to innovate processes**, services and products.

Identifying one's own digital skills gaps and finding opportunities for development and learning in addition to the already listed digital competences, we determined which other digital competences the studied target groups of employees additionally need according to their managers.

Based on the results, we can conclude that, according to employers, office clerks and other clerks need additional skills in order to perform their work competently. Thus, the respondents believe that employees 50+ at the workplaces office clerks and clerks would need additional digital skills in the fields:

- Perform on existing tools (Teams, Drive, ...),

- Cybersecurity and data protection,

- Doodle questionnaire,

- Excel - demanding,

- Programming,

- 3D drawing,

- Connectivity between applications (formats, back-up, auto sync...),

- Understanding the options offered by a modern information system

- The ability to recode disinformation, the ability to create accessible documents

- Learning the advanced usage of new software.

The respondents from Finland added that employers also require an open attitude towards constant digital change in the workplace. The employees must also have curiosity, interest and willingness for change.

The respondents from Slovenia noted that there is a very big difference between employees 50+ and 60+, who today are also represented to a greater extent in companies and have much greater problems in the digital environment than employees 50+. Indeed, at 60+ there are certain fears to use digital tools, competences are more difficult to acquire. So even in the 50+ group, it **is necessary to distinguish between younger and older people** and to adjust the acquisition of competences.

4.3 Measures to reduce the gap between the existing and necessary competences

We asked the respondents (managers) to answer the question " **What measures have you taken in your department (company, organization) in the last year to close the gap between the needs for digital competences and the actual qualifications of employees?",** with the aim of identifying key measures that are implemented by companies to reduce the gap between existing and required competences. The answers are shown in Figure 6.

Figure 6: Measures taken to close the gap- summary
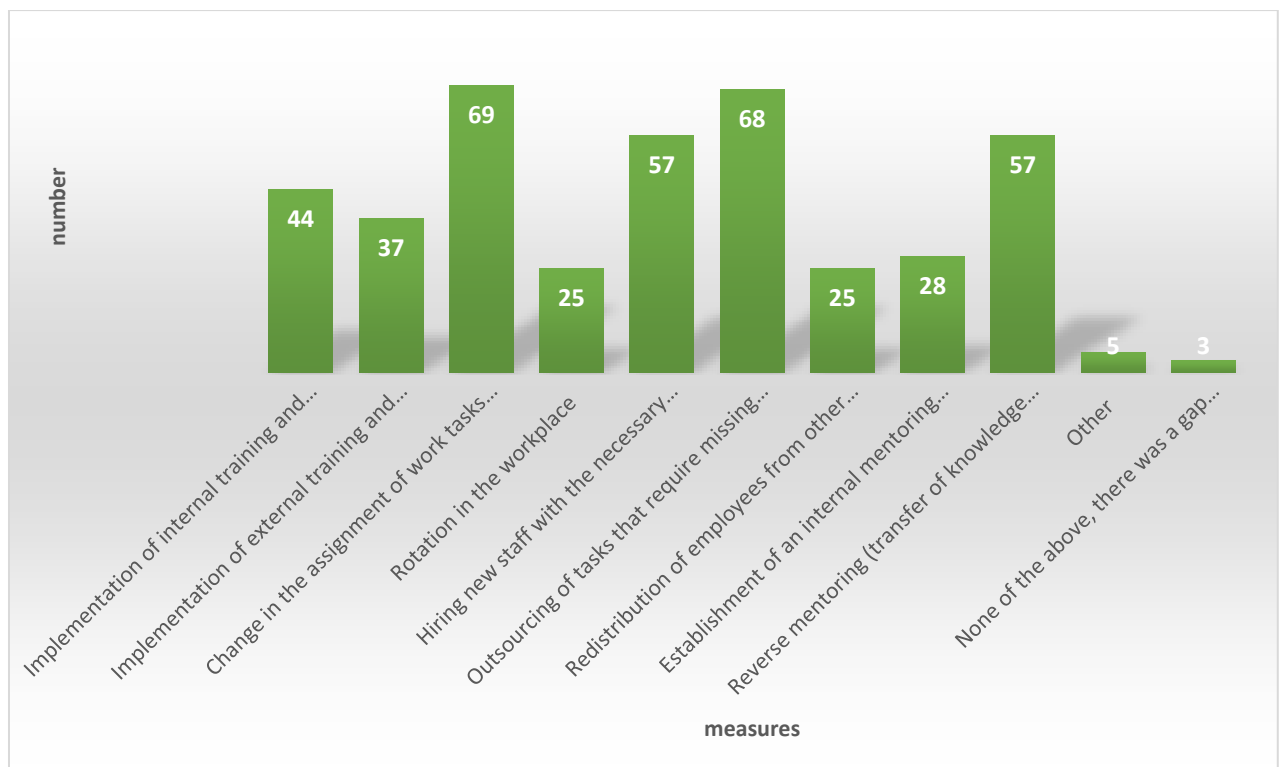
Source: (own)

The respondents answered that in the past year, the measure of changing the assignment of work tasks according to the individual's competences was the most used measure, and the outsourcing of tasks that require missing competences was often used as a measure.

14% of companies used reverse mentoring as a method to reduce the gaps in digital competences. They performed internal and external training programs with different topics:

Internal training and development programs:

IT (ERP, Dashboards, SF, digitalization of processes)	CYBER & COMPUTER SECURITY	EXCELL, WORD, MS Office tools	Project management
Mentoring	On the job training (learning by doing)	Cross project teams	Employee support

External training and development programs

Webinars	Online training tools	Intranet content (knowledge pills, podcasts) - for all employees, not only 50 plus	ICT security, MS Office, Excell
Work life ballance	Specialized technical training	Possible at the individual request of the employees	Any kind as needed

The respondents assessed that the best measures taken were different training programs tailored specifically for the 50+ target group, which were aimed at strengthening digital skills (employers in all countries think so).

In the survey, we asked the respondents to evaluate the effectiveness of the measures taken to reduce the digital gap in the competences of employees 50+. The measures were evaluated

on a scale from 1 to 5, where 5 meant very effective measures, 4 effective, 3 somewhat effective, 2 ineffective, and 1 not at all effective measures. The results are shown in Figures 6.

Figure 7: Measures taken to close the gap
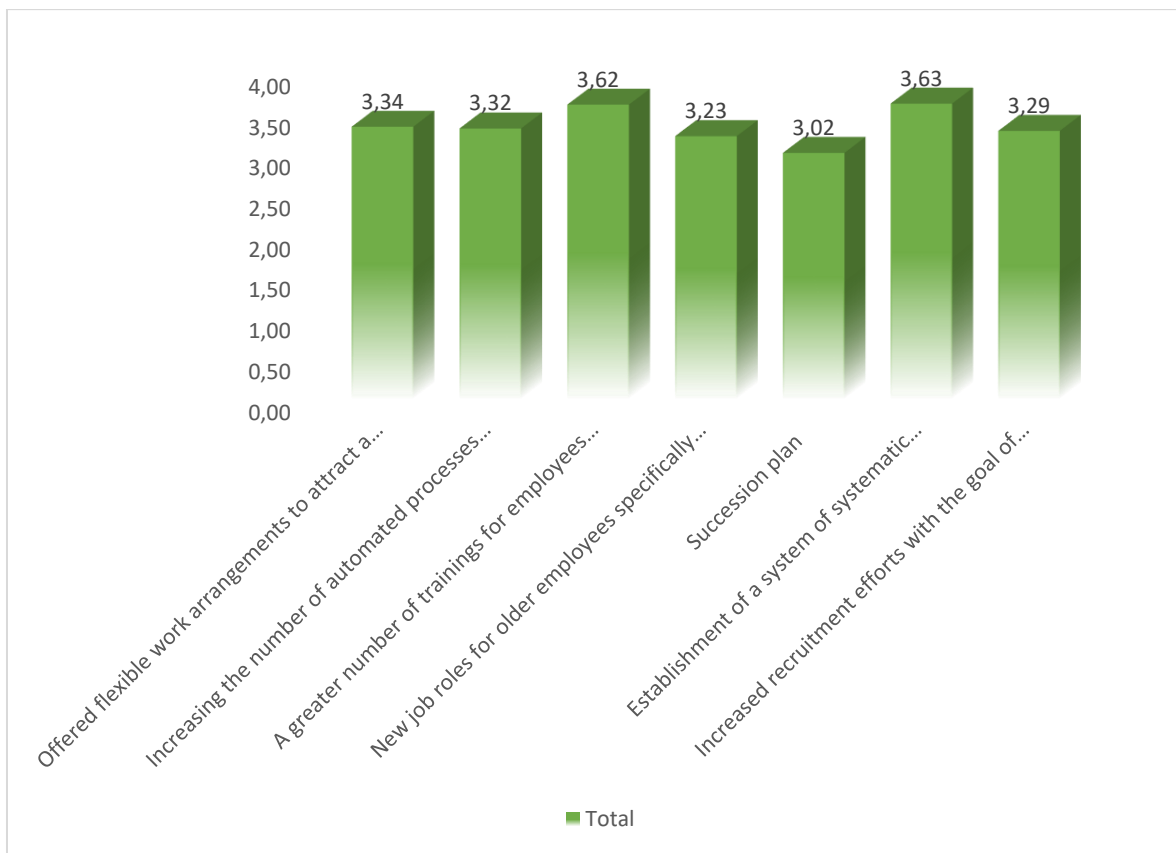
Source: (own)

The data in Figure 6 show that the most effective measures are »establishing of a system of systematic preservation of tacit knowledge - institutional memory/ organizational knowledge of employees before retirement and« and »A greater number of trainings for employees 50+ with the aim of improving digital competences«.

Table 4: Best measures by country

	BELGIUM	SLOVENE	FRANCE	POLAND	FINLAD
Offered flexible work arrangements to attract a broader range of applicants (e.g., job-sharing, telework)	2,52	3,29	3,42	3,82	3,67
Increasing the number of automated processes (e.g., implementing robotics)	3,21	3,25	3,00	2,82	4,33
A greater number of trainings for employees 50+ with the aim of improving digital competences	3,59	3,41	4,17	3,91	3
New job roles for older employees specifically designed to bridge skills or knowledge gaps	2,48	3,31	3,67	3,02	3,67
Succession plan	2,28	3,48	3,04	2,65	3,67
Establishment of a system of systematic preservation of tacit knowledge - institutional memory/ organizational knowledge of employees before retirement	3,59	3,35	3,54	3,67	4,00
Increased recruitment efforts with the goal of replacing retired employees	2,79	3,36	3,83	3,28	3,2

Source: (own)

In Poland, employers highlighted the flexibility of work arrangements, in France - increased recruitment efforts, in Slovenia there are also succession plans, and in Belgium the

establishment of a tacit knowledge preservation system and in Finland - Increasing the number of automated processes (e.g., implementing robotics).

5. DISCUSSION AND KEY FINDINGS

As it can be seen from the results the research shows significant discrepancies between existing and required digital competences.

Given that the biggest gap between needs and the actual situation is observed in the thematic group of problem solving, it would be necessary to focus special attention on upgrading all three competences that belong to this thematic group, namely: the ability to identify and solve technical problems in the management of devices and/or when using digital environments, the ability to use digital tools to innovate processes, services and products, and to identify one's own shortcomings in the field of digital skills and to seek opportunities for development and learning.

In terms of the size of the gap between the needs and the actual situation, the thematic group communication and collaboration follows, within which all competences should be strengthened:

- Ability to analyze, compare and critically evaluate sources and types of data, information and digital content.

- Ability to communicate and collaborate using a variety of digital technologies (e.g., MS Teams, Skype, Zoom, GoTo Meeting).

- Ability to identify and solve technical problems in device management and / or in the use of digital environments.

In terms of the size of the gap between needs and the actual situation, the thematic set of security and operations and data literacy follows.

Because the digital skills gap widens faster than new employees enter the job market, employers should not expect to be able to simply hire their way out of the problem. Already more than half of office workers need training and digital reskilling to remain effective in their current roles. Employers must look for long-term solutions in training options and the development of a workplace culture of continuing education.

The respondents also estimated that the most effective measures used to reduce the gap between the digital competences of employees 50+ are primarily "establishing a system of systematic preservation of tacit knowledge - institutional memory/ organizational knowledge

of employees before retirement" and "A greater number of trainings for employees 50+ with the aim of improving digital competences".

Differences appear between the countries included in the research, especially in the identification of gaps in digital competences, as in some countries (Finland, France and Belgium) employers (managers) estimate that the need for competence development will be less in order to increase the employment of target groups and successfully perform work smaller. However, with the development of digitization and Industry 5.0, new competences will certainly appear that employees will have to acquire in order to perform their work smoothly.

6. CONCLUSION

Recent trends in the workplace – some spurred by pandemic adaptations and others by the increased scalability of advanced digital services in cloud environments – have already placed the demand for digital skill sets far ahead of current capabilities in the workforce. If current trends hold, this gap will broaden in the coming decade, and businesses unable or unwilling to address the digital skills gap will find it harder to perform competitively.

Developing and enhancing human skills and capabilities through education, learning and meaningful work are key drivers of economic success. To capture the opportunities created by technologies, many companies across the private sector have embarked on a reorientation of their strategic direction. By 2025, the capabilities of machines and algorithms will be more broadly employed than in previous years, and the work hours performed by machines will match the time spent working by human beings. The augmentation of work will disrupt the employment prospects of workers across a broad range of industries and geographies. New data from the Future of Jobs Survey suggests that on average 15% of a company's workforce is at risk of disruption in the horizon up to 2025, and on average 6% of workers are expected to be fully displaced (World Economic Forum, 2020).

A high level of digital literacy can help reduce the cognitive load of individuals when using technology, allowing them to focus on the task at hand. It can also enable them to quickly access information, collaborate with others and share knowledge, and more successfully solve problems in technology-rich environments.

Digital competences can also contribute to inclusion and well-being in the workplace and to the management of social relationships and identities in the virtual workplace. In fact, digital

literacy is essential for the modern workforce and is considered one of the top ten workplace skills for future organizations.

Alongside changes such as the shift to hybrid and flexible work, COVID-19 has exacerbated skills gaps and highlighted inequalities in the workforce. Mc Kinsey & Company (2022) found that 87% of companies are either experiencing a skills gap in their workforce or anticipating one within the next few years.

Organizations can use two primary paths to build employees' skills and close the skills gap: upskilling, which utilizes learning and development programs to build on existing skill sets, and reskilling, which imparts entirely new skills to help employees shift into a different role.

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APPENDIX 1

QUESTIONAIRRE FOR EMPLOYERS

DIGI AGE+

Dear respondent!

We are a team of experts from different countries who are working together in the Erasmus + project DIGI AGE+. The aim of the project is to train and empower a novel aged workforce aged 50+ capable of dealing with remote working change accompanying the digital transition of companies. In order to identify the digital skills gap and prepare the best training programs tailor made to the needs of the companies we have prepared the questionnaire for employers. We would like to respond on the questions persons who have the best overview of working tasks of the employees in your workplace, for example the person responsible for human resources issues or the managing director or. middle management.

The target group are **office clerks [4] and other clerks**[5] that are a composite group of occupations who mainly record, organize, store and retrieve information related to the office tasks and questions In the workplace using ICT, being autonomous and evaluating information are the most important tasks and skills of office and other clerks. Other supported clerks are expected to suffer cut downs in all sectors, especially low and medium qualified workers. The skills required for these clerks have changed considerably in recent years due to outsourcing, specialization, technological change and globalization. So please have in mind these two target groups when you fill out the questionnaire.

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[4] Office clerks carry out a range of clerical and administrative activities related to recording, organising, storing and retrieving information; compiling accounting, bookkeeping, financial and other numerical data; and sorting and delivering mail, filing documents, preparing information for processing, maintaining personnel records, etc. The types of job undertaken by office clerks includes: secretaries, typists and data entry clerks, accounting and bookkeeping clerks, payroll clerks, mail carriers and sorting clerks, scribes, filing and copying clerks, and personnel clerks.
They usually need to have completed the first-stage of secondary education but in some instances they will need to have completed the second-stage of secondary education, perhaps by undertaking specialised vocational education and training (CEDEFOP, 2019)..

[5] Other support clerks are engaged in sorting and delivering mail, filing documents, preparing information for processing, maintaining personnel records, etc. They usually need to have completed the first-stage of secondary education but in some instances they will need to have completed the second-stage of secondary education, perhaps by undertaking specialised vocational education and training. The tasks carried out by people in this occupation includes: recording information on the issue and return of library books; classifying and filing various documents; maintaining personnel records; performing a range of miscellaneous clerical duties. The types of job classified to this occupation includes: library clerks, personnel clerks, filing and copying clerks, etc (CEDEFOP, 2019).. .

We guarantee that your responses will be presented completely anonymously and will never be analysed or displayed individually. The survey length is approximately 15-20 minutes. We would very much appreciate your participation.

Many thanks for taking part in our survey.

Members of the project group at DOBA Faculty

Background questions

Before we start with the main questionnaire, we would like to as you some demographic questions. We would like to ask you some questions about the company and your position.

Q1: What position do you work for in the organization? Please choose one of the following answers.

1. Top Management

2. Executive management

3. Senior and middle management

4. Operational managers (only the last level of management, department heads)

5. Other: _____

Q2. Which is your main working area in the organization? Please choose one of the following answers.

1. Production
2. Development
3. IT
4. Marketing and salles

5. Human resource management

6. Back office

7. Finance

8. Import and export

9. Others:_____

Q3. The size of the company you work for. Please choose one of the following answers.

1. Micro enterprise (up to 10 employees)

2. Small business (over 10 to 50 employees)

3. Medium-sized company (over 50 to 250 employees)

4. Large company (more than 250 employees)

5. Public institution

6. Private institution

7. Other: _____

Q4. What is the main activity of your company that generates most of your revenue? Please choose one of the following answers.

1. Education and Training
2. Public Administration
3. Health Care and Social Assistance
4. Construction
5. Manufacturing
6. Professional, Scientific and Technical Services
7. Mining, Quarrying Oil and Gas Extraction

8. Utilities

9. Wholesale and Retail Trade

10. Transport and Warehousing

11. Information-Publiching

12. Finance and insurance

13. Other: _____

IDENTIFYING DIGITAL SKILLS GAP 50+

Q5. Think of the EMPLOYEES segment (over the age of 50) in your department, company working as clerks and other clerks. Please evaluate the digital competences of these employees listed below from two perspectives**: first assess the level of present digital competences** of employees 50+ (score 1 means that the competence is very poorly developed, grade 5 means that the competence is very well developed), and then assess the needs of your department (companies, organizations) these digital competences needs to be developed in the group of Employees 50+ (grade 1 means that the competence is not needed at all, and grade 5 means that the competence is urgently needed). Choose two answers in each line. Assess the current situation for each competence first, and then the actual needs. Then continue to assess the next competency and so on until the end.

PRESENT DIGITAL COMPETENCES OF EMPLOYEES 50+ (situation assessment)					DIGITAL COMPETENCE NEEDS IN 5 YEARS OF EMPLOYEES 50+ (needs assessment)				
1	2	3	4	5	1	2	3	4	5

Ability to search for and access data, information and digital content.

Ability to organize, store and retrieve data, information and content in a digital environment.

Ability to analyze, compare and critically evaluate sources and types of data, information and digital content.

Ability to communicate and collaborate using email and social networking sites (e.g. Facebook, LinkedIn).

Ability to communicate and collaborate using a variety of digital technologies (e.g. MS Teams, Skype, Zoom, GoTo Meeting).

Ability to share data, information and digital content with others using appropriate digital technologies (eg OneDrive, WeTransfer).

Ability to create simpler digital content in various formats (eg document in MS Word, spreadsheets and graphs in MS Excel, presentations in MS PowerPoint).

Ability to create more complex digital content in various formats (eg infographics, more complex presentations, simulations, videos and other multimedia content).

Ability to program and develop software.

Understanding of risks and threats and knowledge of preventive security measures in the digital environment.

Ability to protect personal data and protect privacy in the digital environment.

Ability to protect oneself and others from potential threats in the digital environment (eg online blackmail / harassment).

Ability to work and operate high-tech devices.

Ability to identify and solve technical problems in device management and / or in the use of digital environments.

Ability to use digital tools to innovate processes, services and products.

| Identifying one's own digital skills gaps and finding opportunities for development and learning. | ○ ○ ○ ○ ○ | ○ ○ ○ ○ ○ |

Q6. In addition to the digital competences already listed, what other digital competences do employees (over 50 years old) in your department (company, organization) still need? Briefly describe.

_____

I do not know

MEASURES AND TRAINING

Q7. What measures have you taken in your department (company, organization) in the last year to close the gap between the needs for digital competences and the actual qualifications of employees? Several answers are possible

- Implementation of internal training and development programs (list them)_____
- Implementation of external training and development programs (list them)_____
- Change in the assignment of work tasks according to the competences of the individual
- Rotation in the workplace
- Hiring new staff with the necessary knowledge and competences
- Outsourcing of tasks that require missing digital competences
- Redistribution of employees from other posts in the same organization
- Establishment of an internal mentoring system
- Reverse mentoring (transfer of knowledge in the field of ICT and modern technologies from younger to older)
- Other _____

- None of the above, there was a gap between needs and skills

Q8. The effectiveness of the measures taken.

Please evaluate the measures taken to reduce the digital gap in the competences of employees 50+. Rate the measures as: very effective, effective, somewhat effective, ineffective, not at all effective. Only one answer is possible for each statement.

	Not at all effective	ineffective	Somewhat effective	Efective	Very effective
Offered flexible work arrangements to attract a broader range of applicants (e.g., job-sharing, telework)					
Increased automated processes (e.g., use of robotics)					
Increased training and cross-training efforts					
Created new roles within the organization, specifically designed to bridge a skills or knowledge gap					
Developed succession plans					
Developed processes to capture institutional memory/ organizational knowledge from					

employees close to retirement					
Increased recruiting efforts to replace retiring employees					

Thank you very much for your cooperation!

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