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## DIGITAL TRAINING PLATFORMS - AN EFFECTIVE APPROACH TO INCREASE THE CREATIVITY OF EMPLOYEES WORKING IN SMES OF BALKAN COUNTRIES<sup>1</sup>

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**Abstract:** Digital learning platforms are essential for building a learning culture in organisations due to global economic rivalry and the need for continual professional development. In the Balkans, attracting and retaining top people is essential for innovation and corporate growth. The 2023 Global Talent Competitiveness Index (GTCI) puts the Balkan nations 30th to 83rd out of 134 countries worldwide and 27th to 39th out of 39 European countries, exposing a talent gap in Europe. This study investigates the role of information technology (IT) infrastructure and digital skills as fundamental components for the effective implementation of digital learning platforms in professional training within the Balkan enterprises. This article explores how IT infrastructure and workers' digital competency affect Balkan digital learning platforms for professional development uptake and effectiveness.

**Keywords:** Continuing vocational education, digital educational platform, SME's, life-long learning, professional trainings

**JEL:** I250

## ПЛАТФОРМИ ЗА ДИГИТАЛНО ОБУЧЕНИЕ – ЕФЕКТИВЕН ПОДХОД ЗА ПОВИШАВАНЕ НА КРЕАТИВНОСТТА НА СЛУЖИТЕЛИТЕ, РАБОТЕЩИ В МСП НА БАЛКАНСКИТЕ СТРАНИ

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**Резюме:** Цифровите платформи за обучение са от съществено значение за изграждането на култура на обучение в организациите поради глобалното икономическо съперничество и необходимостта от непрекъснато професионално развитие. На Балканите привличането и задържането на топ хора е от съществено значение за иновациите и корпоративния растеж. Индексът за глобална конкурентоспособност на талантите за 2023 г. (GTCI) поставя балканските нации на 30-то до 83-то място от 134 страни по света и на 27-мо до 39-то място от 39 европейски държави, разкривайки липсата на таланти в Европа. Това проучване изследва ролята на инфраструктурата на информационните технологии (ИТ) и дигиталните умения ка-

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*то основни компоненти за ефективното внедряване на платформи за цифрово обучение в професионалното обучение в балканските предприятия. Тази статия изследва как ИТ инфраструктурата и дигиталната компетентност на работниците влияят върху балканските платформи за дигитално обучение за усвояване и ефективност на професионалното развитие.*

**Ключови думи:** *Продължаващо професионално образование, цифрова образователна платформа, МСП, учене през целия живот, професионални обучения.*

## 1. Introduction

In today's world of intense business competition, attracting and retaining highly qualified talent will form the basis of business innovation and development. In this context, continuing vocational training becomes an irrevocable tool supporting competitiveness by providing personnel with the necessary skills and knowledge to effectively participate in the competitive struggle. Such trainings not only confirm the competences of the workers, but also provide them with an innovative approach that makes the enterprise able not only to compete, but also to be a leader in its field.

The advent of digital training education platforms has revolutionized the landscape of corporate training and employee development. These platforms offer a range of benefits that contribute to both individual and organizational growth, making them a vital tool in the modern enterprise environment. Web-based educational platforms include three fundamental attributes: they are facilitated by technology, facilitate contact among user groups, and enable these user groups to do certain activities (Cusumano et al., 2019). This concept is evident in a recent study conducted by Constantinides et al. (2018), in which digital platforms are defined as a collection of digital assets, such as services or content, that enable interactions among its users. The precise characteristics of the platform vary, nevertheless, based on the particular objective that its users are attempting to achieve (Jacobides et al., 2018). The definitions of digital platforms vary depending on the specific topic of study. The studies that have examined the technical aspects of digital platforms have mostly focused on their technological and digital characteristics, such as layered architecture and modularity (Yoo, Henfridsson, & Lyytinen, 2010). Information systems research has also focused on the socio-technical aspects of digital platforms, such as their influence on organizational structures or international standards (de Reuver et al., 2018).

The Global Talent Competitiveness Index (INSEAD, 2023) measures a country's performance in attracting and developing the human capital that contributes to productivity and prosperity. The GTCI is an input-output model with input pillars: Attracting Talent, Developing Talent, Retaining Talent, and Output Pillars: Medium level and high skill level. Mid-level skills, or professional and technical skills, are acquired through professional training and experience, and high-level skills, or global knowledge skills, are the knowledge and skills of workers in professional, managerial, or leadership roles. Information on the inbound pillars of the GTCI provides an insight into how the country is working to produce talent through education and training policies. The ranking of countries according to the GTCI for 2023 shows that the Balkan countries have the following positions: Cyprus 30 (GTCI =59.46), Greece 39 (52.75), Croatia 45 (50.38), Bulgaria 49 (49.05), Montenegro 50 (49.05), Serbia 53 (48.56), Romania 54 (47.39), Albania 56 (46.61), North Macedonia 71 (42.53), Turkey 81 (40.20), and Bosnia and Herzegovina 83 (39.79). It is interesting to note the importance of some indicators in the GTCI structure for 2023: ICT infrastructure 64%, Enterprise software 30%, Cloud computing 52%, Firms with

website 69%, Prevalence of training in firms 13%, Employee development 57 %, Use of virtual social networks 65%, Use of virtual professional networks 97%, Digital skills 14% (Values are squared Pearson correlation coefficients expressed as percentages.). These values reinforce the importance of adopting new technologies, developing digital skills, and building corporate infrastructure as critical elements for competitiveness and successful adaptation to the dynamic business climate.

Current trends in continuing professional education are focusing on digital learning platforms that provide flexibility and personalization of learning. Additionally, they include a preference for microlearning and video tutorials that offer short and focused training sessions that match the pace and learning styles of today's workers. Statistics on the usage of digital learning platforms for the year 2023 (Sagar Joshi, 2023) reflect this trend, with statistics showing that 77% of organizations have utilized eLearning to improve the work process and the skills required by employees, and more than 93% of worldwide companies plan to or have already used e-learning. According to E-Learning Trends (E-Learning Trends, 2023), 90% of organizations worldwide will provide digital training to their employees by 2023, with 67% offering the option of e-learning via smartphones. According to research, e-learning in the corporate sector is 45% faster and 60% shorter than traditional methods of staff training. And if organizations provide online training, 58% of employees will choose it for after-work or weekend training.

But the use of digital learning platforms can depend on several factors, including the degree of technological development, investments in education and training, and the specific needs of the business community in the respective region. Two of the challenges of e-learning platforms for developing corporate capacity are the reliance on the Internet and the difficulty it presents for people of non-tech-savvy generations. Having a stable internet connection is essential for delivering enterprise training using digital learning platforms. For non-technological employees and workers, the use of e-learning platforms and tools that require a certain number of technical skills can make it difficult for them to participate, as well as raise barriers to accessing professional training.

This report examines two important factors for the implementation of vocational training through digital learning platforms, namely the digital infrastructure of enterprises and the digital skills of workers in enterprises of the Balkan countries. The following sections of the document present results from an initial stage of a survey that is being conducted as part of a research project, the aim of which is to investigate the attitudes of Bulgarian entrepreneurs towards continuing vocational education and training of human resources and, on this basis, to derive specific policies and measures to promote company investment in human capital in the organization.)

## 2. Literature review

The digital educational ecosystem in Micro and Small Enterprises (MSEs) in the Balkans is an evolving and dynamic sector, increasingly vital for economic growth and innovation. In these countries, where MSEs form a significant part of the economy, the integration of digital technology into educational frameworks is not just a trend but a necessity for staying competitive in the global market. One of the core aspects of this ecosystem is the increasing reliance on digital platforms and tools for business education and training. Digital learning management systems (LMS), online courses, webinars, and interactive platforms are being extensively used to provide MSE owners and employees with essential business skills, ranging from digital marketing to financial management. The COVID-19 pandemic accelerated this shift, demonstrating the need for digital resilience

and adaptability in business operations. With the growing quantity of scientific articles dedicated to lifelong learning, it offers a thorough summary of the relevant research. This paper distinguishes itself from earlier studies by summarizing the main discoveries. The comparison of the elements that promote lifelong learning, as explained by human capital theory and institutional theory, indicates that institutional factors have a greater influence both inside and outside the business. These factors include the organization's culture, inclination towards learning, and structured methods for human resource development. Both the official and non-formal feedback from employees motivates management to allocate resources towards training initiatives (Neycheva, M., 2024).

According to the report *EMBRACING THE DIGITAL AGE (2023)*: The future of work in the Western Balkans (European Training Foundation, 2023), (conducting the six countries Albania, Bosnia and Herzegovina (BiH), Kosovo, Montenegro, North Macedonia and Serbia), in these countries, the significance of new kinds of work and platform work in increasingly digitalized economies is being recognized through policy discourse, as well as favorable policy frameworks and business environments. They are focusing on enhancing connectivity and digitalization as crucial preconditions for fostering the expansion of new online business models and also focusing on the development of a wide range of digital skills, which are crucial in the modern economy, beginning at a young age and through lifelong learning. Additionally, they are encouraging gender equality in the education of science, technology, engineering, and mathematics (STEM) education in order to translate it further in favor of gender equality in highly skilled professions.

Skills mismatches are a common source of complaint among employers in the Western Balkans, who also point to education systems that are flawed. Formal education does not appear to be sufficient for career advancement because the educational programs do not adequately cover the skills that are required in the labour markets. Under skilling and over skilling continue to be problems in the workforce. In 2019, approximately 50% of young graduates in Serbia held jobs that required lower levels of qualifications than their education. This was followed by 40% of young graduates in Albania and Kosovo, and approximately 33% of young graduates in Montenegro and North Macedonia. A little less than one-fourth of the workforce in Bosnia and Montenegro had a low level of education (ETF, 2019).

In earlier regional studies, as well as in the national data collection for this study, it was discovered that certain professions or industries are experiencing a shortage of skilled professional workers. A positive link between regional development and training frequency was found in Eastern Europe (Neycheva & Baltov, 2022). An example of this would be the fact that employers in Kosovo have a negative perception of formal education and vocational training institutions, while in Albania, it is difficult to find a workforce that possesses the necessary skills. At the same time, there are not many businesses in the region that are focusing on developing the skills of their workforce or investing in „new economy“ skills. These skills include digital skills as well as skills that are strongly complementary to computerized tasks. Some examples of these skills include the ability to learn new things and adapt to new challenges, as well as creativity, the ability to successfully solve complex problems, teamwork, and communication skills. In every country with the exception of Serbia, the most severe shortages of skilled workers are found in positions that require a high level of involvement in „non-routine“ tasks. These positions typically fall into the managerial, professional, and higher-level technician occupational categories<sup>30</sup>. In a similar vein, the majority of skill gaps are found in industries that have the potential to offer better employment opportunities and higher

wages, such as information and communications technology (ICT) and creative or high-complexity services (WIIW, 2020).

The underperformance of skill development systems, beginning with early childhood education and continuing through secondary and tertiary education, is frequently linked to these shortcomings in skill acquisition. Moreover, they become a factor that impedes the growth of firms as well as the creation of new jobs. According to the Enterprise Surveys conducted by the World Bank in 2019, for instance, between sixteen percent (in Montenegro) and forty-four percent (in Kosovo) of businesses have reported that they are experiencing difficulties as a result of an insufficiently educated workforce.

Government initiatives and EU-funded programs play a crucial role in supporting the digital transformation of MSEs in the Balkans. These programs often focus on improving digital literacy, providing access to digital tools, and fostering an environment conducive to e-commerce and digital entrepreneurship. Examples include initiatives to enhance digital infrastructure and provide subsidies or grants for digital upskilling. Collaboration between educational institutions and MSEs is also pivotal. Universities and vocational schools are increasingly tailoring their curricula to meet the specific needs of MSEs, incorporating real-world digital business practices and encouraging students to engage with local businesses through internships and projects. Furthermore, the rise of EdTech startups in the Balkans is significantly influencing the digital educational landscape for MSEs. These startups often offer customized solutions for small businesses, such as mobile learning apps and industry-specific online courses, making education more accessible and relevant to MSE needs.

The digital educational ecosystem for MSEs in Balkan countries is marked by a growing emphasis on practical, technology-driven education that aligns with market needs. This ecosystem is fostering a culture of continuous learning and innovation, essential for the growth and sustainability of MSEs in the increasingly digital global economy.

Another significant aspect of the Balkan digital educational ecosystem is the rise of EdTech startups. These startups are introducing innovative solutions in areas such as gamified learning, language apps, and adaptive learning technologies. They are not only supplementing traditional education but also providing new learning avenues for employees and professionals seeking upskilling and reskilling. Collaboration across borders is another emerging trend. Balkan countries are increasingly participating in European Union educational programs like Erasmus+, which facilitate knowledge exchange and foster collaborative projects in digital education.

Authors primarily (Ndou et al., 2023) examine countries such as Romania, Croatia, Serbia, Albania, Bulgaria, Bosnia & Herzegovina, Montenegro, North Macedonia, and Slovenia. This is significant because the Balkans is an essential component of Europe and a strategic priority for the European Union (EU Commission, 2020a). Additionally, these countries represent a significant market for products and services. Furthermore, certain Balkan nations have already become members of the European Union, while others are currently striving towards their accession. Consequently, they are fully dedicated to carrying out essential changes for economic growth and integration, while also promising to align with the EU's strategic plans for post-Covid recovery and advancement (EU Commission, 2020b). The EU's digital strategy is a significant reform that seeks to expedite the digitalization of businesses, universities, and governments in alignment with the EU's values and legal framework (EU Commission, 2020b). The Balkan countries exhibit a demographic profile with a higher proportion of young individuals, as indicated by the findings of a Eurostat survey (EUROSTAT, 2021). Younger people are more inclined to utilize digital technologies. However, as stated by EBRD (2022), the process of

digitalization is not consistent in both the Balkans and other EU countries, particularly when comparing urban and rural areas. The Balkan countries continue to exhibit low scores, as indicated by Hysa (2020) and Hysa & Kruja (2022). In addition, the study conducted by Bieber et al. (2018) found that a 10-percent rise in the digitization index is linked to a 0.63 percent increase in GDP in the Balkans. This supports the notion that the digital transformation process is a driver of economic growth. Therefore, by intensifying digital transformation, Balkan countries would move closer to the EU and other developed nations.

Researchers (Hawach et al., 2022) investigate the direct effects of Internet capabilities (trainings, communication, platform, and connection capabilities) on product and process innovation in ten different Balkan countries between the years 2007 and 2019 is being conducted in the Balkans. The resource-based view and knowledge spillover are two of the resources that are utilized in order to achieve this goal. This research was based on a database query that included ten countries from the Balkan region. The results of this study are presented here. Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Kosovo, Montenegro, North Macedonia, Romania, Serbia, and Slovenia are the countries that are included in this list. In addition to that, the query incorporated a further piece of data that was obtained from the World Bank Enterprise Survey (WBES). There is a positive correlation between the level of innovation in each country and the number of citizens who have access to the internet in their respective countries, according to the findings of researchers who conducted their studies in the Balkans. As a result, the incorporation of Internet capabilities is necessary in order to achieve unique product and process innovation in a variety of industries, including education, hospitality, healthcare, and finance, as well as to strengthen the development of new products and processes across the countries that make up the Balkan region. When it comes to investigating external knowledge, experience, and technologies that have a high relative cost, the authors also discuss the role that foreign technology licensing plays. In order to make the process of entering into agreements for licensed technology more straightforward, this is practiced.

Within the context of Albania's adoption of the fourth industrial revolution (Gjika, Ira & Pano, Nikollaq, 2022), also known as Industry 4.0, a comprehensive study investigates the crucial role that human resources play in the process. For the purpose of effectively managing the transition towards digital technologies that are integral to Industry 4.0, the purpose of this paper is to identify the specific skills and capabilities that are essential for businesses. Participation from managers working for a variety of Albanian businesses is a component of the empirical research. Through the utilization of this methodology, the paper is able to offer comprehensive insights concerning a number of significant research questions. The first objective of this study is to determine the primary occupations and skills that are necessary for Albanian businesses to implement the enabling technologies of Industry 4.0. Additionally, it investigates the availability of these professions and skills in the current job market. In the second place, it investigates the possibilities that are open to the Albanian business community for the purpose of preparing a new skilled workforce and enhancing the skills of the workforce that is already in place.

The extent to which human resource management and development policies and practices in businesses contribute to the recognition of the value of human capital is another area of investigation that needs to be carried out. This is something that needs to be done. In conclusion, the paper investigates those external factors that have the potential to improve the job market offers, particularly with regard to the alignment of these offers with the short-term and medium-term demands of businesses operating within the Albanian

market. Specifically, the paper focuses on the alignment of these offers with the demands of employment opportunities in Albania.

According to the findings, there is a significant level of awareness among Albanian businesses regarding the significance of digital transformation for innovation and competitiveness. This awareness is high. However, they also reveal a significant „discrepancy“ between the education and/or qualifications that are provided and the requirements of the job, particularly in the context of increasing information and communication technology (ICT) knowledge and its implementation across industries. This is especially true in the context of the fact that the job requirements are becoming increasingly complex. The findings of the study indicate that the availability of qualified human resources varies greatly depending on the industry in which the company operates as well as the specific profession or competencies that are required. This is the case regardless of whether the business is in the commercial or industrial sector.

### *2.1. The new circumstances – digital platform work*

Platform work has emerged as a prominent and conspicuous type of employment in Europe, particularly in light of ongoing discussions and deliberations on social and policy matters. This study defines platform work as any form of labour that is delivered, facilitated, or mediated through online platforms across diverse industries. This work can take on various forms and is compensated with payment. Tasks on digital labour platforms are fragmented and outsourced, while services are delivered instantly upon request. Every transaction involves a minimum of three parties: an online platform, workers, and clients. Simultaneously, the process of pairing workers with clients is facilitated and overseen through digital means, although the level of algorithmic management may vary. The Western Balkan region has not been exempt from the growing inclination to utilize digital platforms for work organization and job acquisition. Multiple studies (Golušin, 2020), along with the national fieldwork conducted for this research project, demonstrate that platform work has been increasing in all six economies. In the subsequent section, we provide an overview of the two primary categories of platform work: remote and on-location, along with their diverse manifestations, as identified in the respective target nations.

The skill requirements for remote platform work are diverse. For instance, clerical and data entry duties may necessitate fundamental digital competencies, while software development endeavors may necessitate proficiency in a particular programming language. Research conducted within the European Union (EU) reveals that platform workers, also known as online freelancers, commonly depend on a diverse range of skills, blending various types of knowledge and overall expertise. The work on platforms primarily enhances core technical skills, communication skills, and organizational skills. Similar to other nations, data from Western Balkan countries indicates that remote platform workers tend to be younger than on-location workers, frequently possess higher education qualifications, and possess proficiency in foreign languages. Experts at the national level have discovered compelling evidence of significant youth involvement in remote platform work in Albania, Kosovo, and Serbia. In addition, remote platform workers possess digital and soft skills that enable them to effectively utilize the platform for job searching and client interaction, similar to online freelancers in the EU90.

Certain remote platform workers, particularly students, commence their professional journey on platforms without any prior experience in the conventional economy (Andjelkovic et al., 2019). The responsibility for upskilling lies with remote platform workers themselves. Platforms lack opportunities for skills development and primarily promote courses in high-demand occupations. Remote workers typically undertake these

courses autonomously and are responsible for financing them in order to acquire new skills. However, it is essential for remote workers from the Western Balkans to prioritize the development of their skills while working in order to maintain their competitiveness on global platforms. Platform workers have the opportunity to enhance their soft skills and develop a quick learning ability through their continuous involvement in diverse projects and working with multiple clients. Gaining new skills leads to an increase in the number of projects, acquisition of new clients, and higher remuneration for tasks accomplished through platforms. The future job opportunities on remote service platforms are unpredictable. Primarily, this is due to the fact that the worker bears the individual responsibility for skills development and career advancement. The second reason is the ambiguity surrounding the recognition of skills and experience acquired on platforms within the conventional job market. This poses a significant challenge for platform workers due to the dynamic nature of learning and the transferability of skills across different platforms (Cedefop, 2020).

The research conducted at the country level emphasized the problem of skills recognition in Montenegro, Serbia, and Kosovo. It pointed out the importance of officially acknowledging non-formal and informal learning experiences, particularly in relation to the platform work and skills. It refers to individuals who join the workforce by engaging in platform work. Several workers have reported successfully establishing robust relationships with international clients via the platform, resulting in subsequent acquisition of long-term contracts and projects directly from the company. Regarding Kosovo, these clients are frequently situated in the United States, Western Europe, or Australia. Therefore, platforms have the potential to create job prospects in the international job market. Similarly to other countries in the region, the majority of remote platform workers from the Western Balkans are located in urban areas, primarily in capital cities. This is despite the fact that this type of work can be performed from different locations. Once more, this highlights the digital disparities as a hurdle to overcome in order to fully grasp the potential benefits of remote platform work.

### *2.3. Skills dimension*

The fields of education, training, and the development of skills are key policy areas that have the potential to make a large contribution to the region's sustainable development. Based on the findings of the investigation, it is evident that there are significant skill mismatches and shortages in the area. Concurrently, the labour markets in the Western Balkans are experiencing a process of flexibilization, which is resulting in the development of new work arrangements. Even in sectors of the labour market that are considered to be more traditional, there is a continuous progress in the need for skills. Workers are shown an increasing propensity to transfer their career paths more often, and it is anticipated that the migration between traditional and digital labour markets will become more prevalent. For the purpose of accommodating the ever-increasing diversity of learners, learning settings, and situations, there is a need for educational systems that are flexible and encourage continual learning. The implementation of systematic techniques for monitoring the availability and demand of skills, including digital skills, is needed in order to meet the demands for particular skills and guarantee optimum alignment of skills.

Labour market information systems should offer empirical data, go beyond the functional duties of individual institutions, and be incorporated into educational curricula.<sup>2</sup> The available evidence already indicates the sectors and occupations that play a vital role in stimulating the economic growth of the Western Balkans. The ICT sector is notable for its

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<sup>2</sup> ITU Regional Forum for Europe on Digital Skills Development (2021). Digital Skills in Albania



higher productivity compared to other sectors in the Western Balkan economies and is considered one of the most competitive in the global digital labour markets. Therefore, it is crucial to prioritize specialist ICT skills in training. Moreover, the creative industry has been experiencing global expansion and is projected to continue growing, thereby creating more employment prospects. The data collected for this report demonstrates a clear trend, with the creative industry being the most prevalent occupation among remote platform workers in the Western Balkan region. Additionally, other reports have confirmed the expanding creative sectors in certain Western Balkan countries, such as Serbia.<sup>3</sup>

Varying training trajectories and instructional structures can guarantee the adaptability necessary in the evolving job markets. Multiple advancements need to be considered. The age of digitalization offers numerous avenues for informal and non-formal learning. A growing number of individuals, including platform workers, are utilizing Mass Open Online Courses (MOOCs), as well as other non-formal education courses, or engaging in self-directed learning by leveraging the abundant textual and visual resources available online. These resources can be further developed and encouraged to provide workers with state-of-the-art skills.

Furthermore, experiential learning in the workplace not only enhances technical proficiency but also cultivates soft skills that enable workers, particularly young individuals, to seamlessly transition between different types of employment, whether it is within their local community or on a global scale. This also pertains to employment through digital labour platforms, particularly remote work for clients from different countries. However, in order to effectively apply the skills acquired in such environments, it is necessary to establish procedures for validating non-formal and informal learning. Recognizing the significance of flexible learning pathways and prior learning experience is crucial for individuals who are entering the labour market via platform work. The interviewed and surveyed stakeholders emphasized the importance of ensuring this priority in response to the growing flexibility of the labour markets.

### **3. Emerging Digital Tools in Continuous Vocational Training (CVT)**

Utilizing these cutting-edge technologies allows for immersive learning experiences, which are especially helpful for training that is both technical and practical in nature. They provide surroundings and simulations that are realistic, allowing for learning that is both safe and participatory. Through virtual reality (VR), users are able to engage in a three-dimensional world that is completely immersive. For the purpose of mimicking real-life events in which hands-on experience is essential, such as medical operations, mechanical repairs, or safety drills, this is very helpful. On the other hand, augmented reality (AR) superimposes digital information onto the physical environment, which makes the educational experience more enjoyable. One possible use for this is in the field of on-the-job training, which involves the projection of information or instructions into the actual working environment. It is possible to train in high-risk or hazardous settings using virtual reality (VR) and augmented reality (AR), which both provide safe platforms for training. By way of illustration, firemen and pilots may acquire expertise by training in simulated emergency conditions, which allows them to do so without the risk of really being hurt. The interactive element of virtual reality and augmented reality leads to increased levels of engagement among students. Because learners are actively engaged rather than just

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<sup>3</sup> Europa Regina (2022), Creative industries Serbia.

watching, this enhanced engagement often leads in higher retention of knowledge and skills due to the fact that learners are actively interacting.

The initial investment in virtual reality and augmented reality technologies may be substantial; but, over time, these tools may prove to be more cost-effective. Because training programs can be standardized and utilized for different learners, they eliminate the requirement for physical resources, travel, and even instructors. Instead, they reduce the demand for these things. Virtual reality (VR) and augmented reality (AR) training packages may be quickly updated or customized to meet the particular requirements of a given sector. It is also possible to build them up so that they can handle a big number of trainees in a variety of distinct places.

These technologies have the capability to offer learners with quick feedback, which enables them to comprehend and rectify their errors in real time. With regard to the development and enhancement of skills, this aspect is of great use. Virtual reality (VR) and augmented reality (AR) make some training programs more accessible by enabling learners to experience situations that may otherwise be out of reach due to factors such as geography or logistics. When it comes to skills that are difficult to master or need a high degree of accuracy, such as engineering design or surgery, virtual reality and augmented reality have the potential to provide a level of detail and interaction that cannot be achieved via current training techniques. Tools for Webinars and Video Conferencing are available, including Zoom, Microsoft Teams, and WebEx. Because they enable instructors and students to communicate with one another in real time, these technologies have become indispensable for live training sessions, workshops, and seminars.

In the field of Continuous Vocational Training (CVT), solutions such as Zoom, Microsoft Teams, and WebEx have emerged as vital resources, especially for the purpose of enabling live training sessions, workshops, and seminars. Their capabilities go beyond simple video conferencing, as they include a variety of functions that facilitate learning experiences that are both participatory and efficient. Let's take a look at the ways in which each of these platforms plays a role in CVT:

The video conferencing software known as Zoom is well-known for its user-friendliness and dependability. It is extensively utilized. The use of this platform for a variety of virtual meetings, including educational sessions, contributed significantly to its rise in popularity. The hosting of large-scale webinars, breakout rooms for group activities, screen sharing for presentations, and interactive elements such as polls and hand-raising are all made possible by this platform. Sessions may be recorded using Zoom's recording capability, which allows for subsequent review or for learners who were unable to attend the session in person. In situations when real-time engagement and participation are essential, such as when conducting virtual courses, seminars, and training sessions, Zoom is an excellent facilitator.

Teams from Microsoft: Teams, which is included in the Microsoft 365 package, is used not just as a video conferencing application but also as an all-encompassing platform for collaboration. In addition to video conferencing, it incorporates a wide range of collaboration capabilities, such as shared workspaces, file storage, and connection with other Microsoft products. Live captioning, meeting notes, and the capacity to organize big meetings are some of the other advantages that it provides its users. In settings where Microsoft 365 is already in use, MTeams displays a particularly high level of effectiveness. It works well for training programs that include collaboration, such as those in which continuous project work and communication are components of the general learning process.

The video conferencing software known as WebEx is yet another powerful tool that provides a broad variety of capabilities that are appropriate for professional meetings and training sessions. Video and audio conferencing of the highest quality, screen sharing, breakout sessions, and interactive capabilities like as polling and question and answer sessions are all provided by this platform. WebEx also provides a number of one-of-a-kind capabilities, such as a digital whiteboard that can be used for idea illustration and brainstorming. WebEx is a platform that is both robust and secure, making it suitable for a wide range of training requirements. It can be used for training sessions of varying sizes, from small too big.

Digital books and digital libraries online access to a great number of reading material and resources is made available via digital libraries such as Google Books and Project Gutenberg. These libraries are helpful for engaging in independent research and study. Tools for Interactive Learning and Gamification o Platforms such as Duolingo, which is used for language learning, and Kahoot, which is used for interactive quizzes, employ gamification to make learning more interesting and enjoyable. Podcasts on platforms such as Spotify or Apple Podcasts provide a large variety of educational information covering a variety of subjects, making them an excellent choice for those who like to learn by listening to audio.

Various areas of vocational training are addressed by each of these digital tools, which provide learners with the freedom to choose the mode of instruction that best fits them and to study at a speed that is convenient for them. The incorporation of these digital technologies with CVT techniques makes it possible to create a learning environment that is more dynamic, interactive, and individualized.

#### **4. Methodology**

The research focus of the present study is aimed at investigating the conditions for implementing digital training platforms in enterprises from the Balkan countries, with a priority for enterprises from Bulgaria. Their implementation in the CVT carried out by enterprises in the Balkan region can face various challenges. These challenges can be related to cultural, technological, educational, and organizational aspects. In the present study, attention is directed to technological limitations and the lack of educational culture. The uneven development of technology in the region can be a challenge for businesses. If SMEs have limited access to modern technology or the Internet, this will make it difficult to implement digital education platforms. The low level of digital literacy is also an obstacle to training staff in the use of new digital technologies. The tasks set in the current study are:

RT1: To establish the parameters and characteristics of the information technology infrastructure in Bulgarian organizations as one of the main variables for conducting effective training using digital learning platforms.

RT2: To establish the degree of digital skills of employees/workers in Bulgarian companies as a basis for conducting quality training through digital training platforms.

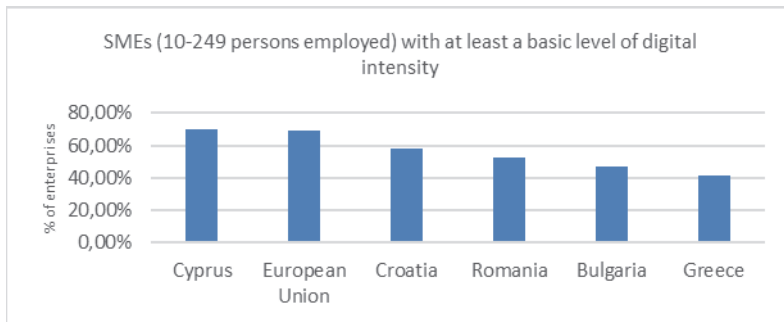
RT3: Conduct comparative research on these two factors in the Balkan countries and Europe.

To explore the potential of implementing digital learning platforms in VET for enterprises in the Balkan countries, data were collected from Eurostat and the national statistical institutes of the Balkan countries. The data are analysed using descriptive statistics.

*4.1. Challenges in the Implementation of Digital Learning Platforms for the trainings held in the enterprises of the Balkan countries.*

The digital intensity score is calculated by tallying how many of 12 specified technologies, such as internet access, high-speed broadband, ICT professionals, and others, are employed by organizations. At the most basic level, at least four technologies must be utilized. Figure 1 shows the digital intensity of SMEs across different Balkan countries. For 2022 Cyprus stands out with a high percentage of SMEs having at least a basic level of digital intensity. The overall EU average is slightly lower than Cyprus. Croatia follows with a lower percentage but still shows a significant proportion of SMEs with basic digital intensity. Romania's, Bulgaria's, and Greece's data show a lower percentage compared to the EU average, indicating that there might be challenges or opportunities for improvement in enhancing the digital intensity of SMEs in the country.

**Figure 1. The digital intensity score of Balkan countries for 2022**



Source: DESI 2023 indicators

*4.2. Categorization of the Balkan countries according to the degree of access to the Internet in the organizations/enterprises*

In their access to the internet for business purposes in comparison to the average European indicator the Balkan's countries are categorized in next groups (Fig. 1):

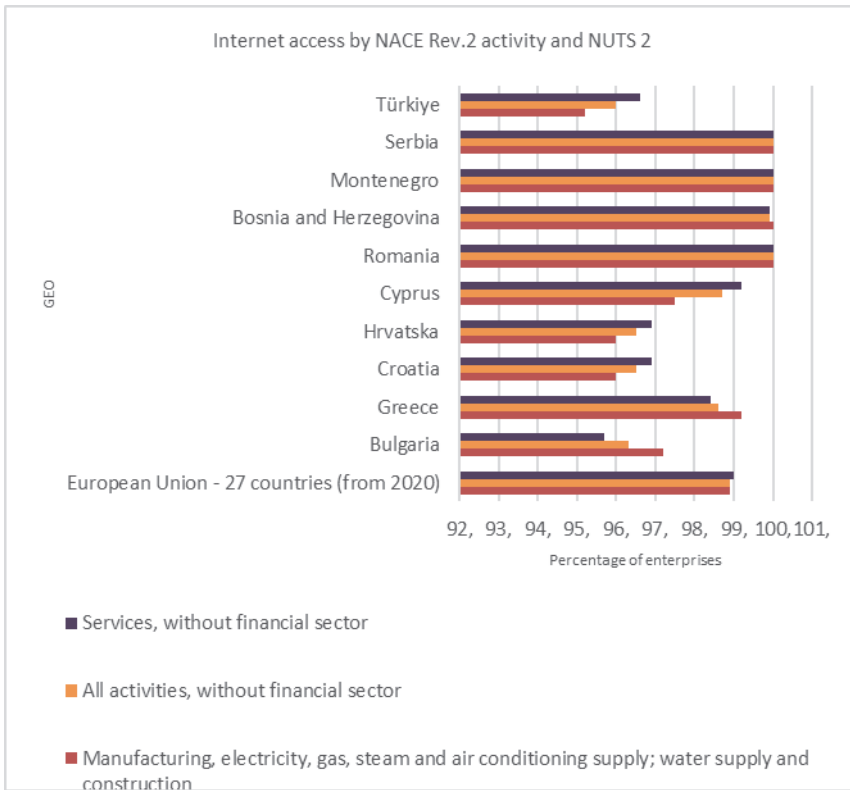
- High Access Group (over 98.9%): Romania, Montenegro, Serbia, Bosnia and Herzegovina.
- Potential for Growth Group (97-98.9%): Cyprus, Greece.
- Improvement Achievers Group (95-96.9%): Croatia, Hrvatska, Bulgaria, Türkiye.
- Low Access Group (below 95%): Not applicable as all countries, indicating reasonable access to the internet for business purposes.

In the field of manufacturing, countries such as Romania, Bosnia and Herzegovina, Montenegro, and Serbia demonstrate high access with a 100.0% indicator, making them leaders in internet accessibility. For comparison, the average European production indicator stands at 98.3%.

In the services sector, the same countries once again dominate with 100.0% access. In contrast, the average European services indicator is 98.3%. Countries with high access not only align with European standards but also play a leading role in providing internet access compared to other European nations. Countries with high access exhibit high values in both sectors, ensuring comprehensive digital development in both manufacturing and services.

In the services sector with low internet access, countries such as Bulgaria, Greece, Croatia, Hrvatska, and Türkiye fall below the European average, while in the manufacturing sector, Bulgaria, Croatia, Hrvatska, Cyprus, and Türkiye exhibit lower indicators.

**Figure 2. Access to the internet for business purposes for the Balkans countries for 2023 year**



Source Eurostat

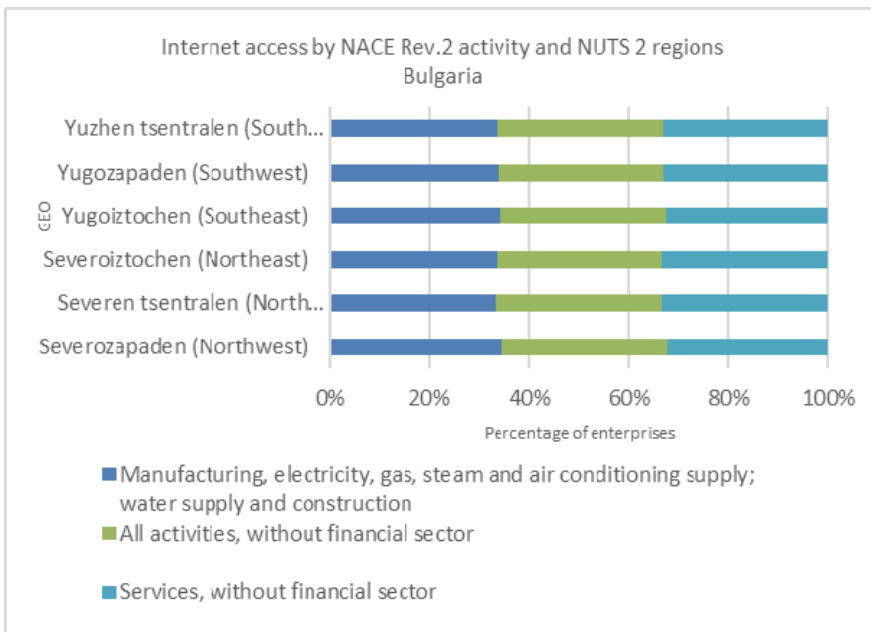
The Balkan countries included in the analysis exhibit diversity in their levels of digital development. Countries such as Romania, Montenegro, Serbia, Bosnia, and Herzegovina, which demonstrate higher values, can leverage their leading positions to share best practices and experiences in the development of educational and training programs. At the same time, countries aiming for improvements, such as Croatia, Hrvatska, Bulgaria, Türkiye, can view these differences as opportunities for active investment in educational initiatives focused on enhancing the digital skills of their workforce. They can see these differences as opportunities to invest in high-tech sectors and expand educational programs to promote digital education and innovation.

Differences in internet access and the use of digital technologies among the Balkan countries can provide valuable insights into the potential for using digital platforms for training in enterprises in this region. Countries with high values have a conducive

environment for developing digital educational platforms in enterprises, aimed at improving the skills of their personnel, which can enhance competitiveness and productivity. For successful use of digital training platforms in enterprises in countries with lower values, there is a need for investments in education and training, with a focus on developing digital skills in the workforce.

These differences in internet access and the use of digital technologies in Balkan countries can also have a significant impact on the innovative capacity of businesses in the region. For countries with lower values in internet access, limitations in digital technologies lead to challenges in implementing new and efficient processes and products.

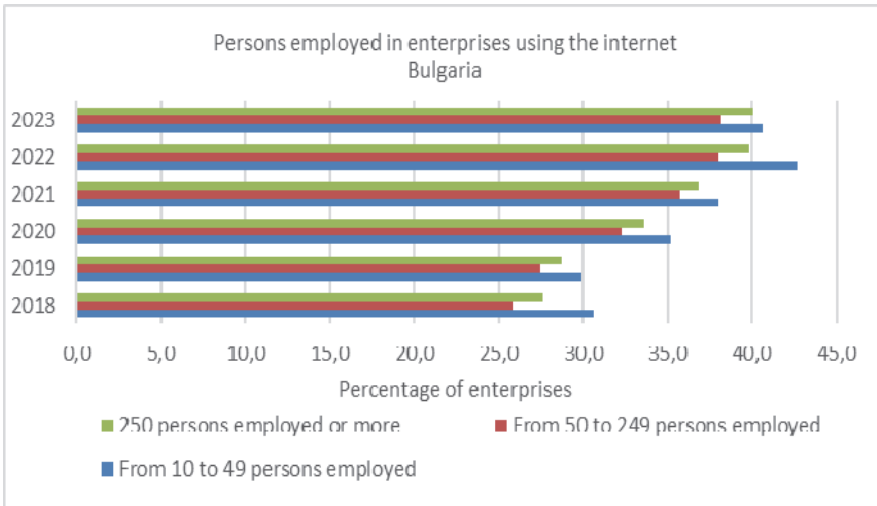
**Figure 3. Internet access for business purposes in the regions of Bulgaria for 2023**



Source Eurostat

In the manufacturing sector in Bulgaria, Yugozapaden (Southwest) and Severoiztochen (Northeast) regions demonstrate lower internet access with percentages of 99.1% and 98.4%, respectively (Fig. 3). The services sector in Severoiztochen (Northeast) and Severen tsentralen (North Central) regions in Bulgaria shows high internet access levels, both exceeding 98.3%. In the Severoiztochen (Northeast) and Severen tsentralen (North Central), there is a noticeable difference between internet access in the manufacturing sector and the services sector. Across all sectors, the Severoiztochen (Northeast) and Severen tsentralen (North Central) regions consistently demonstrate high levels of internet access, exceeding 98.3%.

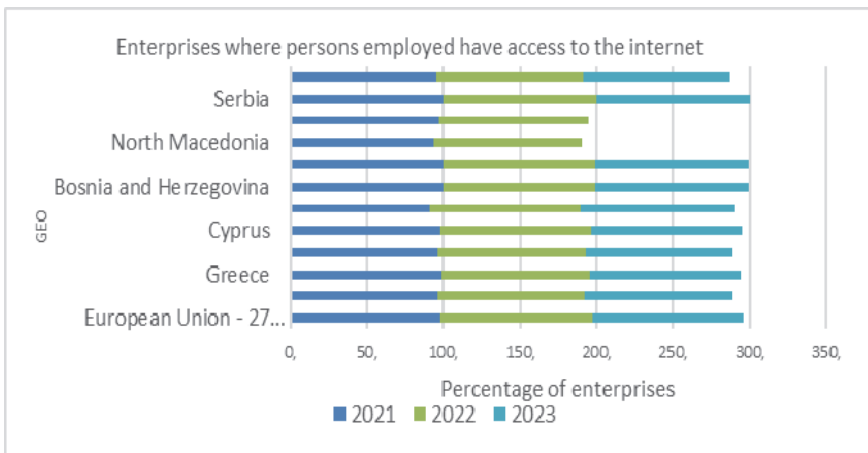
**Figure 4. The percentage of employees using the internet in enterprises in Bulgaria depending on size of enterprises for the period 2018-2023**



Source: National Statistical Institute, Bulgaria

There is a consistent growth trend in the percentage of employees using the internet in enterprises in Bulgaria, with an increase in the size of the enterprises (Fig. 4). Companies with a larger number of employees, especially those with over 250 employees, show a higher percentage of internet usage, and this trend is maintained from 2018 to 2023. This growth may reflect the larger opportunities and resources available in larger enterprises, enabling them to invest in more widespread internet access and technology use.

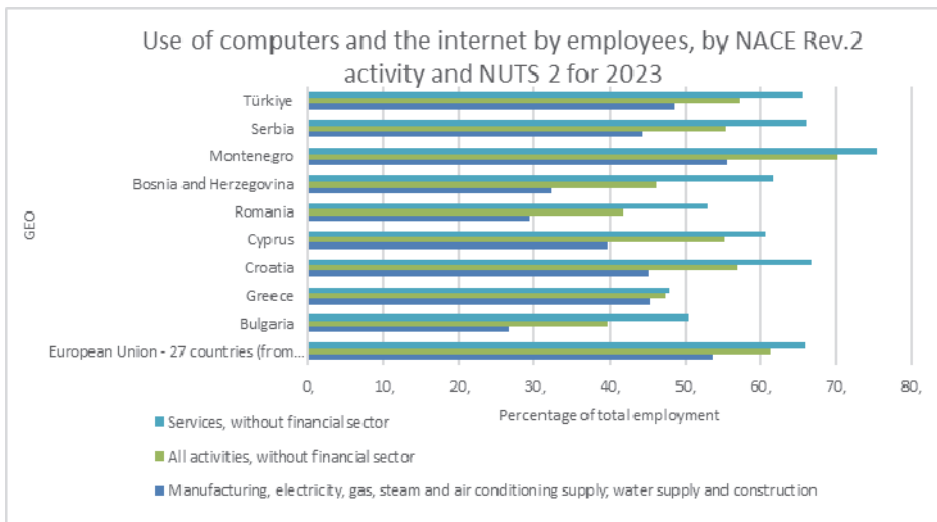
**Figure 5. The data on Internet access in enterprises from the Balkan countries for the last 3 years**



Source Eurostat

The EU-27 countries show a consistent increase in internet access over the years, reaching 98.9% in 2023 (Fig. 5). This reflects a positive trend in digital development across the European Union. The data on internet access across Balkan countries reveals diverse trends. While countries like Bulgaria and Romania have shown significant improvements, with Romania reaching 100% internet access, others like Greece experienced a decline during the 2022. Cyprus and Serbia maintained consistently high levels, indicating robust digital infrastructures. The overall positive trajectory in internet access across the region underscores the importance of continued efforts to address variations and foster inclusive digital development.

**Figure 6. The data on Internet access in enterprises from the Balkan countries for the last 3 years**



Source Eurostat

Regarding the indicator of the percentage of persons who use the Internet for business purposes, the countries of the Balkan Peninsula can be classified in relation to the European average as follows (Fig. 6):

- Above the European average: Greece (45.4%) and Croatia (45.2%) demonstrate significantly higher values than the European Union's average (53.8%). These countries can be considered leaders in the application of the internet for business purposes compared to others.
- Below the European average: Bulgaria (26.5%) and Romania (29.3%) show lower values and can be classified as countries with a lower level of internet usage for business purposes compared to the European average.
- Close to the European average: Serbia (44.3%) and Turkey (48.7%) are in close range to the European average, indicating a relatively high level of internet adoption for business purposes compared to other countries in the region.

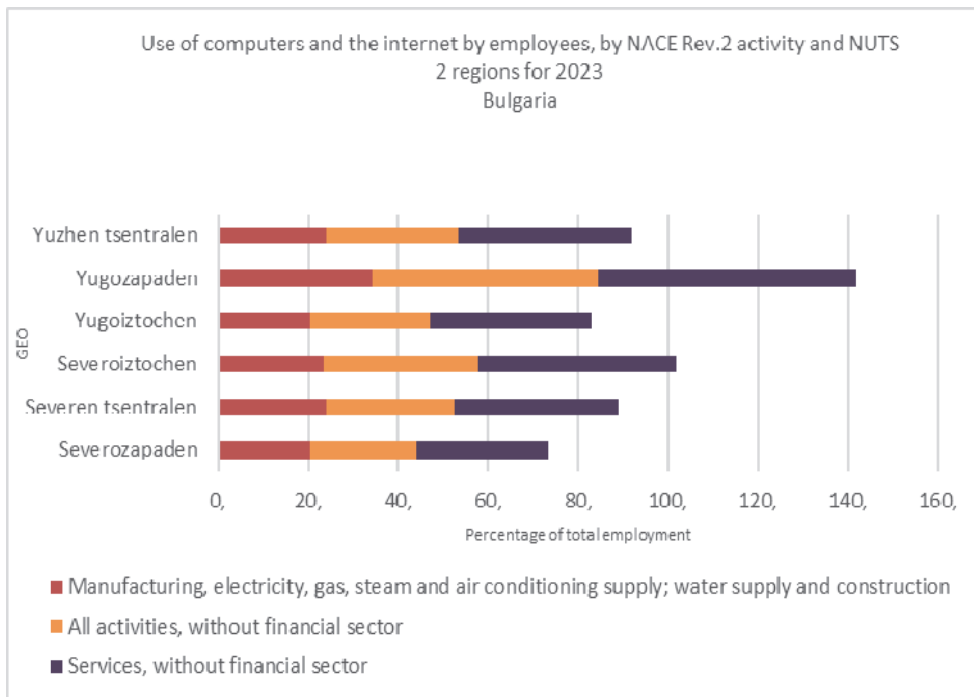
The Balkan countries exhibit diversity in levels of digital development. Greece and Croatia, as regional leaders, can provide good practices and models for the successful



implementation of digital technologies in business. The overall conclusion that can be drawn is that the Balkan countries need broader improvement and integration of digital technologies into their businesses to contribute to digital development in the region and reduce disparities compared to average European values.

In Bulgaria, the percentage of people utilizing the internet for business purposes in 2023 is 26.5%, which is much lower than the European Union average of 53.8%. This significant gap may highlight challenges or opportunities for increasing digital intensity in Bulgarian enterprises. The manufacturing sector in Bulgaria shows a value of 61.3%, while services have a value of 66.1%, indicating a wider acceptance of digital technologies in services compared to manufacturing.

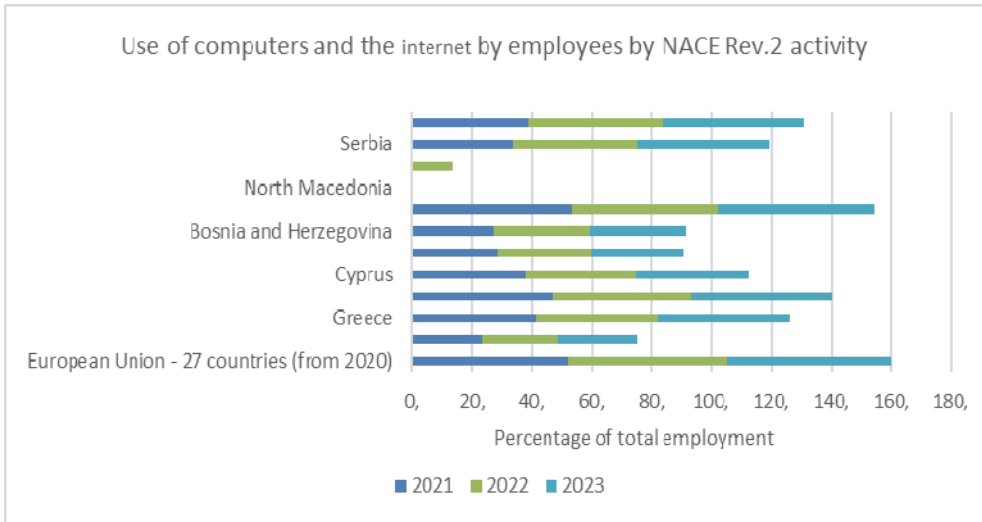
**Figure 7. Use of computers and access to the Internet by employees in enterprises by region of Bulgaria for 2023**



Source Eurostat

Indicators by regions for Bulgaria show that the Northwest region has the lowest value in the country at 23.5%, while the Southwest region has the highest value at 50.4% (Fig. 7). Examining the sectors, the Northwest region, and the Southeast region with 20.5% have the lowest values in the manufacturing sector. The Southwest region, with 34.1%, outpaces in manufacturing, presenting potential opportunities for innovation in the sector. In the services sector, high indicators are achieved in the Southwest region at 57.4% and the Northeast region at 43.9%. The Northwest region has the lowest indicator at 29.4%.

**Figure 8. Data on the use of computers and the internet by employees, working in manufacturing, electricity, gas, steam, and air conditioning; water supply, sewerage, waste management and remediation activities, from the Balkan countries for the last 3 years**



Source Eurostat

The overall trend in the European Union shows a consistent increase in the percentage of employees, working in manufacturing, electricity, gas, steam, and air conditioning; water supply, sewerage, waste management and remediation activities, who use computer and have internet access for business purposes, rising from 40.6% in 2021 to 54.2% in 2023 (Fig. 8).

Bulgaria has seen gradual growth in this aspect, with the percentage increasing from 23.3% in 2021 to 26.6% in 2023. However, it remains below the European Union average. Greece demonstrates fluctuating trends, reporting a decline for 2022. Croatia and Cyprus as Greece shows changes in trend as the indicator for 2023 being lower than that in 2021 and remaining below the European Union average. Romania, Bosnia and Herzegovina, Serbia, and Türkiye have experienced growth, with the percentage increasing, although still below the European Union average. Limited data for North Macedonia and Albania is available, making it challenging to provide a comprehensive analysis. However, Montenegro shows consistent growth, reaching 52.6% in 2023, close to the European average.

According to the data from the State Statistical Office of the Republic of North Macedonia (North Macedonia in figures, 2023) in 2022, 89.0% of enterprises had a fixed broadband connection, which is a decrease of 2.9 percentage points compared to the previous year. The survey done in Albania in 2023 by Ditjona Kule and colleagues (D. Kule, 2023) provides us with data on the indicators of computer use in Albania: only 19.5% of micro-firms with 1-4 people use computers, 72.2% of small enterprises use computers, and 85.5% of medium-sized enterprises use computers. In terms of Internet use, just 13.6% of microenterprises use it, 57.6% of small businesses, and 78.4% of medium-sized businesses.

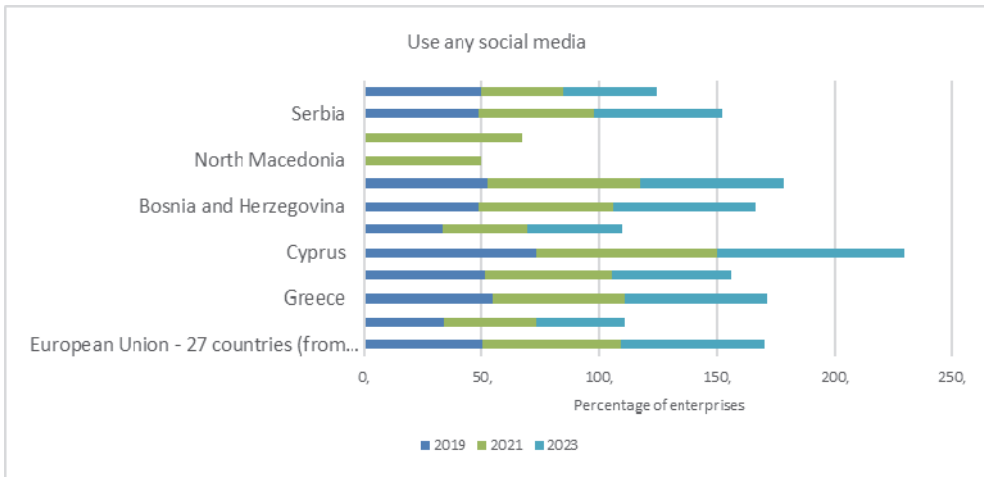
The Balkan states, exhibit diverse trends in the percentage of employees using computers and having internet access for business purposes. While some countries show gradual growth, most still fall below the European Union average, with Montenegro being a notable exception, approaching the EU average with consistent growth.

From the above, it can be concluded that countries with high Internet access and well-developed digital infrastructures, such as Romania, Bosnia and Herzegovina, Montenegro, and Serbia, have the potential to successfully implement vocational training programs using digital learning platforms. These countries have high rates of Internet access in the manufacturing and service sectors, which provides a favourable environment for the development of digital skills and learning.

4.3. Trends in the use of social media in organizations/enterprises in Balkan countries

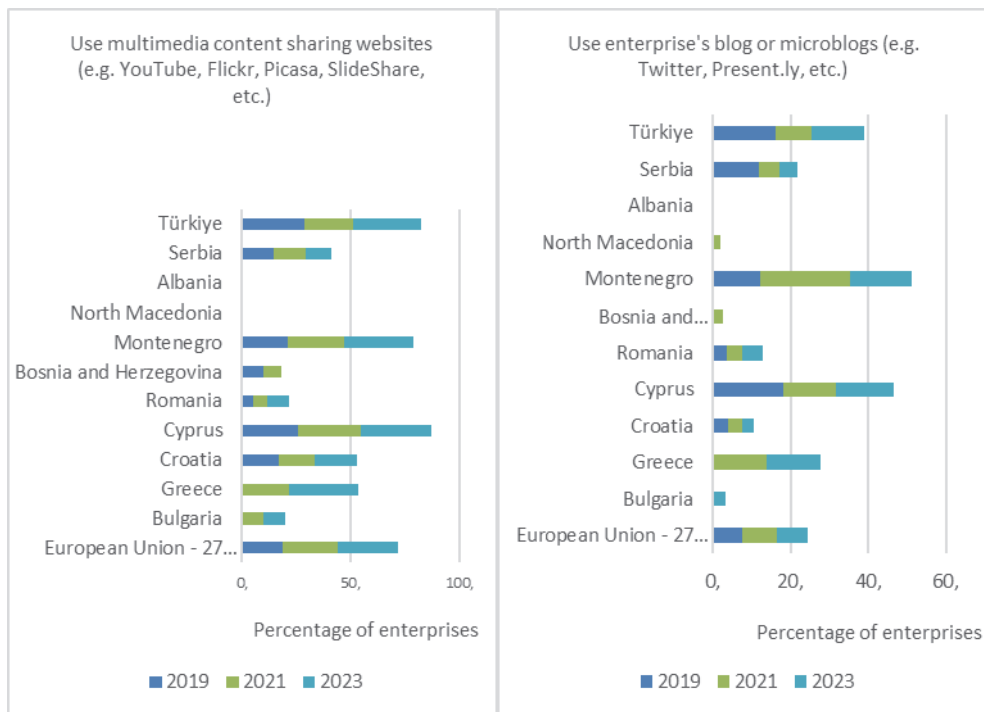
The trend in the data of Figure 9 shows an increase in the percentage of enterprises using social media in most countries from 2019 to 2023. In the European Union, this percentage grows from 50.3% in 2019 to 60.9% in 2023. Bulgaria, Greece, Cyprus, Romania, Serbia, Montenegro, and Bosnia and Herzegovina also exhibit growth in the use of social media during this period. Compared to the average European indicator, the highest values are observed in Cyprus, Greece, Montenegro, and Bosnia and Herzegovina, while Bulgaria, Romania, Serbia, and Turkey remain below the average European level.

Figure 9. Use any social media



Source Eurostat

**Figure 10. Social media use by enterprises from the field of production, electricity, gas, steam and air conditioning; water supply, sanitation, waste management and restoration activities for the period 2019-2023**

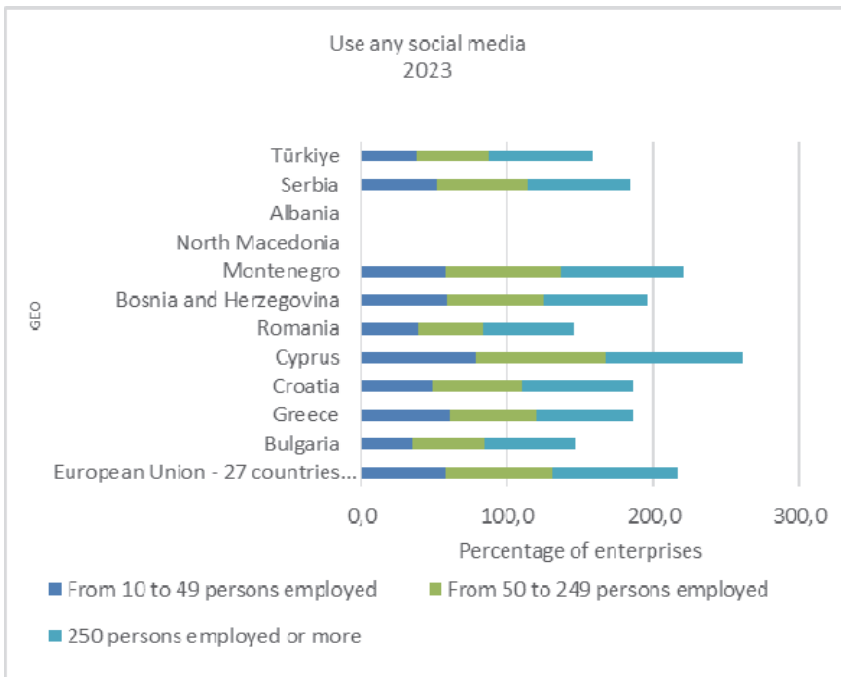


Source Eurostat

In the European Union, the percentage of using multimedia platforms for content sharing, such as YouTube, Flickr, and others, in enterprises within the manufacturing sector increases from 18.8% in 2019 to 27.7% in 2023 (Fig. 10). Notably, there is a growth in the use of multimedia platforms in Montenegro, where the percentage reaches 32.1% in 2023, and in Turkey, where a significant increase is observed from 15.1% in 2019 to 30.9% in 2023.

In 2019, only 7.5% of enterprises in the manufacturing and related activities sector in the European Union used blogs or microblogs, and this percentage slightly increased in 2023 to 7.9% (fig. 10). While there are some fluctuations in individual Balkan countries, the most significant increase is observed in Montenegro, Cyprus, Greece, and Turkey in 2023. In the remaining Balkan countries, the use of blogs or microblogs in enterprises remains significantly lower compared to the average indicator for Europe.

Figure 11. Social media use by size class of enterprise for 2023

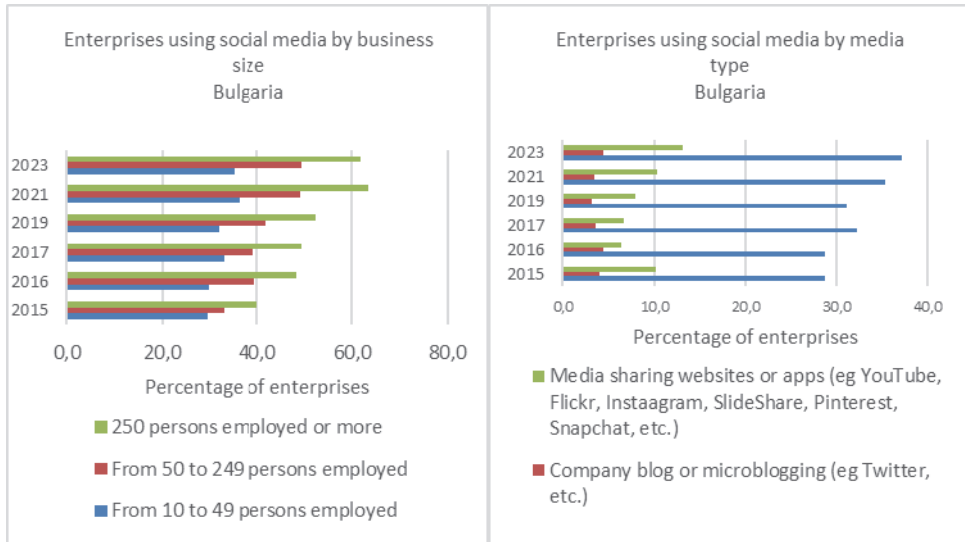


Source Eurostat

Larger enterprises, with 250 persons employed or more, consistently exhibit higher percentages of social media use across all surveyed European countries (Fig. 11). The European Union demonstrates this pattern with 86.0% usage in the largest enterprises, while the percentage decreases in smaller enterprises (72.8% for 50 to 249 persons employed and 58.0% for 10 to 49 persons employed). Among the Balkan countries, Cyprus stands out with the highest social media usage across all enterprise sizes, reaching 95.0% in the largest enterprises. Montenegro, Croatia, Turkey, and Serbia also follow this trend, showing increased social media usage in larger enterprises. However, smaller enterprises in these countries do not have relatively high percentages. Bulgaria, Romania, and Greece display similar patterns, where social media use is more prevalent in larger enterprises but significantly below the European average. In Serbia, and Bosna and Herzegovina, the percentage of social media use increases with the size of the enterprise but with a more moderate trend. It can be concluded that the indicator „social media use“ correlates with company size, with larger enterprises showing a greater tendency to use social media.

The overall percentage of businesses in Bulgaria using social media demonstrates a steady growth in recent years (Fig. 12). Larger organizations with 250 or more employees have a higher rate of social media usage. In terms of the many types of social media, it is clear that social networks such as Facebook, LinkedIn, and others are mostly used in business. Their usage rate has risen from 28.7% in 2015 to 37.2% in 2023. There is also a noteworthy increase in the use of media platforms and applications such as YouTube, Instagram, and others, with their percentage increasing over time.

**Figure 12. Social media use in enterprises in Bulgaria**



Source: National Statistical Institute, Bulgaria

The increased use of social networks may provide broader access to educational materials and resources offered through these platforms. In enterprises where this growth is observed, there is a possibility of developing and implementing digital training programs delivered through social networks or other digital channels.

When social networks are used inside an organization, they serve as a medium for the dissemination of information and ideas, hence facilitating communication among staff members. Employees are able to contribute to a wide creative interchange by sharing materials, ideas, and initiatives that inspire them via these networks to which they have access. Additionally, they provide the ability for the visual depiction of ideas via the use of graphics, movies, and other photographs. This visual component has the potential to improve conceptual comprehension and to stimulate creative thinking. The nature of social networks, which is open and dynamic, offers an atmosphere that is encouraging for workers to express their ideas and stimulates employee participation. It is possible to offer feedback and comments on ideas and projects in real time via social networks, which helps to promote the interactive process of absorbing new thoughts and increases the quality of the creative process inside the organization.

Employees are able to communicate more effectively with one another because to the platform those social networks in businesses give for the sharing of ideas and information. The implementation of digital educational platforms that encourage learning in real time and the sharing of information is only one possible use of this facet. During the period of 2019 to 2023, the nations of the Balkans displayed an increase in the use of social networks inside their businesses. Despite the fact that this encouraging trend is being seen, they continue to be lower than the norm for Europe, with the exception of Cyprus and Montenegro.

Although the use of social networks in Bulgarian businesses is constantly increasing, the indications are still below the norm for Europe, despite the fact that this increase is noticeable. The nation is in a situation with tendencies that are comparable to those of Romania and Serbia.

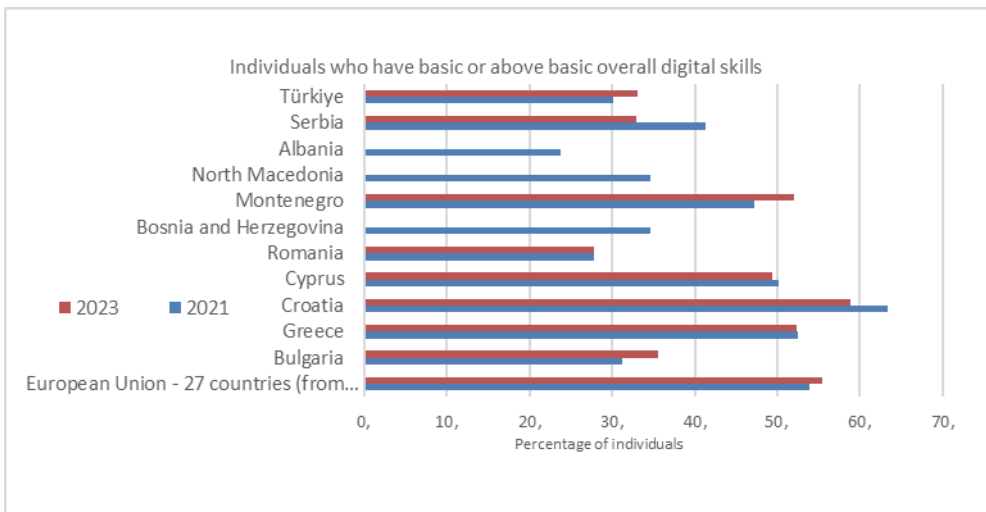
4.4. The digital literacy of employees in the enterprises of the Balkan countries

Using the data from 2023 and comparing it to the average European indicator, we can classify the Balkan countries into three categories (Fig. 13):

- High Digital Skills: Croatia (58.95%) has achieved the highest percentage of individuals with high digital skills among the Balkan countries, surpassing the average European indicator. Greece (52.40%) and Montenegro (52.02%) are at a similar level to the average European indicator (55.51%). They exhibit a stable percentage of individuals with high digital skills, indicating sustainability in the development of digital literacy in the country.
- Moderate Digital Skills: Cyprus (49.45%)
- Low Digital Skills: Romania (27.73%), Serbia (32.81%), Turkey (33.11%), Bulgaria (35.52%) have a lower percentage of individuals with high digital skills compared to the average European indicator. Despite the growth in recent years, they remain below the average values in the European Union.

A study by Albania’s Institute of Statistics conducted in 2023 (page 4, Survey on ICT usage in Households and by Individuals, 2023) indicated that all digital or computer skills had increased, with the largest increase recorded in skills related to „using spreadsheet software“ and „using word processing software“.

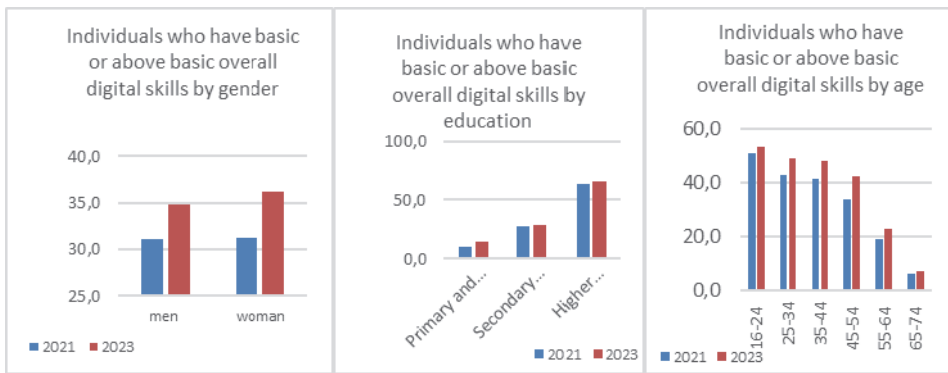
**Figure 13. Data for 2021 and 2023 for individuals in Balkan nations with basic or above-basic general digital skills**



Source Eurostat

Growth in digital skills is notable in certain Balkan countries, such as Croatia, Greece, and Montenegro. This growth can facilitate the implementation of digital learning platforms in enterprises, given the improved foundation of the workforce. In countries with a lower percentage of individuals possessing high digital skills, such as Bulgaria, Romania, Serbia, and Turkey, enterprises may face challenges in workers' readiness for training using digital educational platforms. It is very likely that businesses in Balkan countries are adapting to the use of new educational resources, including the implementation of digital learning platforms, to support their employees' professional development.

**Figure 14. Individuals from Bulgaria who have basic or above basic overall digital skills by gender, by education, by age**



Source: National Statistical Institute, Bulgaria

The overall percentage of individuals in Bulgaria possessing basic and above basic digital skills increased from 31.2% in 2021 to 35.5% in 2023. This positive trend may reflect efforts to enhance digital literacy in the country. Women exhibit a higher growth in acquiring digital skills compared to men from 2021 to 2023 (from 31.2% to 36.2% for women and from 31.1% to 34.8% for men) (Fig. 14). Individuals with higher education show a high percentage of digital skills ownership, increasing from 63.1% in 2021 to 65.3% in 2023 (Fig. 14). It is interesting to note that individuals with basic and lower education levels demonstrate an increase in the possession of digital skills from 10.3% in 2021 to 14.6% in 2023. Although all age groups show growth in digital skills ownership, the younger age groups (16-24 years and 25-34 years) have higher percentages of the overall increase (Fig. 14).

The high percentage of digital skills ownership among individuals with higher education is an indication that Bulgarian enterprises can direct their training efforts using digital learning platforms towards this segment of workers. The growth in digital skills ownership among individuals with basic and lower education can be interpreted as a positive signal for successfully overcoming the digital divide. These workers can benefit from digital learning platforms for additional training. The increase in digital skills ownership among the youth (16-24 years and 25-34 years) emphasizes the potential for active participation in digital learning platforms.



In countries where employees have high digital skills (Croatia, Greece), organizations can take advantage of this capacity and easily implement digital education platforms to improve the skills and knowledge of their employees. In countries where employees have lower digital skills (Bulgaria, Romania, Serbia, Turkey), organizations may face challenges in adapting their staff in order to use digital educational platforms.

The growth in the overall percentage of persons in Bulgaria with basic and higher digital skills can be seen as a positive signal for the improvement of digital literacy in the country. Women and those with higher education are a major factor in this increase.

## 5. Results and discussions

Analysis of data for the Balkan countries shows diversity in levels of internet access in businesses and digital skills of workers. Countries such as Serbia, Montenegro, Romania and Bosnia and Herzegovina are distinguished by high values of Internet access for business purposes compared to European standards. The manufacturing and service sectors in Serbia, Montenegro, Turkey have high indicators, providing a suitable environment for the development of digital skills. Countries such as Bulgaria, Croatia, Greece, despite some improvements in indicators, have a smaller percentage of enterprises with access to the Internet and social media. Disparities in the digital skills of employees between countries such as Croatia, Greece, and Montenegro, and those such as Bulgaria, Romania, and Serbia, highlight the potential difficulties for enterprises in the latter to prepare their staff for training with digital educational platforms. Despite challenges in some countries, the general growth in the digital skills of workers in the Balkan countries can be interpreted as a positive signal for the adaptation of businesses to the new educational resources.

However, the presented data eloquently show that the level of digital skills and digital infrastructure of a large part of enterprises from Balkan countries does not allow them to take advantage of the opportunities provided for training through digital training platforms. And such possibilities can be indicated in each of these countries. For example, Macedonian startup *Konceptiva Digital Coach* (<https://www.getcoach.app/>) develops a platform for corporate microlearning that allows companies to provide interactive training with elements of gamification to their employees.

Bulgaria is characterized by gradual growth in internet access and social media use in businesses but still experiences challenges in the digital skills of the workforce. The reported growth in the digital skills of employed people in Bulgaria, especially among women and younger age groups, provides an opportunity to bridge the digital divide. The uneven distribution of digital skills among different groups of workers in Bulgaria provides opportunities for educational programs for different layers of the workforce. Challenges arise in enterprises with workers with lower digital skills, where adaptation to learning with digital educational platforms will require additional support. In 2023, the Bulgarian Chamber of Commerce will create an electronic platform (<https://bia.contipso.com>) for training in the field of digital skills, offering 36 electronic courses. In the same year, 520 employees from 103 enterprises in 16 economic sectors went through pilot training. But investments in education and technological development can contribute to increasing the possibilities of using digital educational platforms for professional training in Bulgarian enterprises.

Future research will focus on investigating the effectiveness of partnerships between businesses and educational institutions in creating personalized and adapted training programs, assessing how these collaborations meet industry-specific needs and learner preferences. Another key area of research will delve into the effectiveness of enterprise

learning programs based on digital platforms, examining their impact on productivity, innovation, and competitiveness within organizations. Developing sophisticated models to measure the return on investment (ROI) in digital education platforms within enterprises is also a crucial research topic, with an emphasis on quantifying impacts on innovation and productivity improvement.

The research provides valuable information on the digital readiness of enterprises in the Balkan countries, especially in the areas of internet access, use of social media, and digital skills of the workforce. This analysis can serve as a basis for formulating strategies for the development of educational and training programs aimed at improving the digital skills of personnel and the successful implementation of digital educational platforms in enterprises. The findings of the research can direct the efforts of enterprises, educational institutions, and governments to optimize digital educational strategies with the aim of increasing competitiveness and the development of personnel in the region.

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