

White Paper

The State of Digital Skills in CEE: Greece

Sponsored by: Microsoft

Jan Alexa

Jachym Homola

August 2019

SUMMARY

This IDC White Paper examines the digital skills issue from the perspective of employers in six countries of Central and Eastern Europe (CEE), with a focus on employers in Greece. The document identifies the skills that are in short supply and presents a skills outlook for the near future. It also provides information on the methods and strategies companies are using to tackle skills shortages, the key stakeholders in the digital skills domain, and notable determinants of digital skills demand.

With respect to Greece, the main findings are as follows:

- Organizations in Greece are generally aware of the importance of digital transformation, but only 11.1% have progressed in implementation of their DX strategies. As competitive pressures for skills increase, the ability of these organizations to execute growth plans may be stifled by the combination of a tight talent market and the urgency of hiring skilled personnel.
- Greek organizations are generally very positive about the impact of DX, with 48.1% of them believing that more jobs will be created than lost as a result of digital transformation.
- Organizations in the country face difficulties finding employees with digital skills. Notably, the digital skills with significant demand-supply mismatches are mobility solutions skills and skills related to robotic process automation. More than in any other country surveyed, Greek companies are lacking skills in the areas of artificial intelligence (AI) and the Internet of Things (IoT).
- Greek companies also expect to see a major deficit in digital skills in the near future, particularly for security skills, automation skills, and skills related to mobility solutions. At present, only 18.5% of Greek companies stated that their employees fully or mostly meet their digital skills requirements (the average among surveyed countries is 32.2%).
- In terms of business units, Greek companies view the lack of digital skills among employees as most critical in operations (56.8%). This area was consistently chosen as the most problematic by CEE organizations surveyed. Human resources and sales are the other units most affected by a digital skills gap.
- Information workers (advanced users of digital systems and applications) are likely to be the most sought-after employees in the near term, surpassing creators of digital solutions. The demand for information workers is particularly pronounced for those companies that have already implemented cloud solutions.
- Greek organizations see the greater effectiveness of operational and business processes as the main benefit resulting from the increased level of digital skills (51.9%), followed by improved staff retention (34.6%).
- Organizations in the country are aware of the important role of various stakeholders in fostering the national digital skills ecosystem and prefer to cooperate with the education sector as a whole as well as individual institutions (64.2%). They also emphasize the importance of international organizations (54%) for alleviating the digital skills shortages via the reskilling process. More than in any other surveyed country, companies in Greece attach significant

importance to cooperation with national policy makers (37.0%) in alleviating the skills shortage.

- Some 51.9% of Greek companies have reskilling programs in place, which is somewhat lower than the average (53.4%) for the surveyed countries. The reskilling is mostly focused on technological skills.
- Greek companies are trailing their surveyed counterparts in CEE countries in terms of adopting modern solutions and technologies like AI, augmented reality/virtual reality (AR/VR), and 3D printing. On the other hand, they lead their CEE peers in terms of blockchain usage and, especially, usage of internally developed applications (70.4%).

METHODOLOGY

This report on the state of digital skills in CEE countries is based on the analysis of a quantitative survey conducted in March and April 2019 among 702 organizations with 10+ employees in the Czech Republic, Greece, Hungary, Poland, Romania, and Russia. For details on the breakdown of respondents by country, please see the below table.

TABLE 1

Breakdown of Survey Respondents by Country

Country	No. of Respondents
Czech Republic	105
Greece	81
Hungary	110
Poland	136
Romania	109
Russia	161
All countries surveyed	702

Source: IDC EMEA, Digital Skills Survey, Microsoft, April 2019

The respondents to this Computer Assisted Web Interviewing (CAWI) survey were from a representative sample of verticals in each country. Respondents spanned various managerial levels and organizational departments. The bulk of respondents had decision-making powers – or at least held consultative roles – with respect to policies, decisions, and training regarding the digital skills of employees in their organizations.

SITUATION OVERVIEW

Overview of Central and Eastern Europe

This chapter of the paper provides the overall context in Central and Eastern Europe and the results of a survey on the state of digital skills¹ in six Central European countries. The main findings – skills perceived as lacking, expectations in terms of demand for workers, and other facets – are presented. A detailed examination of the situation in Greece is presented in the following chapters.

Organizations in CEE are generally aware of the need to digitally transform. Only 10.5% of organizations in the region reported that digitalization is not relevant for their operations; these organizations also have not undertaken any DX initiatives. Only 13.1% of organizations reported having a transformation strategy in place and having made good DX progress.

Most organizations in CEE lie between these two DX extremes, which is often impacted by the level of available digital skills. Only 1.1% of the companies reported that their employees do not meet their digital skill requirements at all, and only 3.5% indicated that their employees fully meet their digital skills requirements.

Organizations in the education and healthcare sectors reported that their employees were least likely to fully or almost fully meet their digital skill requirements. Even the in the best performing sector, finance, only 43.7% of organizations responded that their digital skills needs are either fully or almost fully met. Most organizations are thus fully aware of the need to acquire new digital skills.

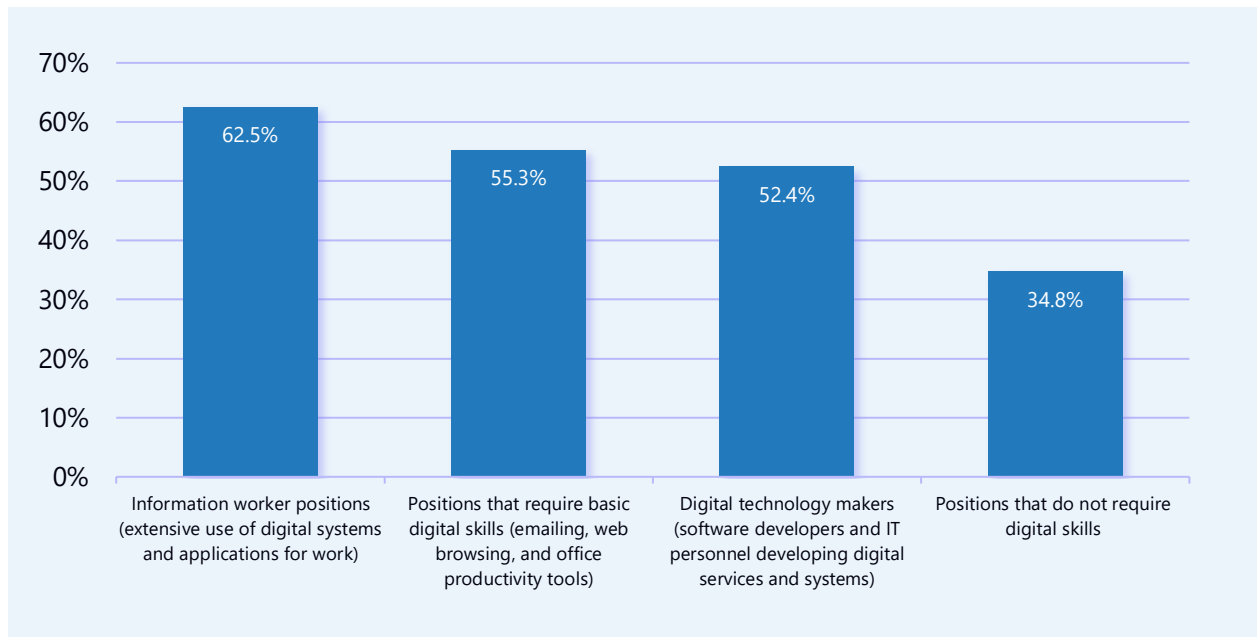
This skills gap is exacerbated by the automatization trend, as reflected in the outlook regarding the availability of employees with various skills (see Figure 1). The most sought-after employees in the immediate future will likely be flexible professionals who are advanced users of digital systems and applications. Interestingly, organizations reported that they have low demand for digital technology makers (e.g., software developers). Even though digital makers will be highly sought after among companies, more organizations prefer to hire highly skilled generalists (i.e., workers with broad skill sets who can learn quickly).

¹ Note: The term "skills" is used to refer broadly to what a person knows, understands, and can do. "Digital skills" relate to four specific areas: information, communication, problem solving, and software. For more details on methodology and the measurement of digital skills applied by the European Union, please see: <https://govtech.gov.pl/wp-content/uploads/2018/11/Metodologia-oceny-kompetencji-cyfrowych-w-UE-Eurostat.pdf>.

FIGURE 1

Expectations Regarding Demand for Digitally Skilled Workers in Central and Eastern Europe

Q. Do you expect to see an increase or a decrease in demand for the following position types in your company in the coming two or three years?



Note: Percentages show those expecting an increase or a significant increase in demand

Source: IDC EMEA, Digital Skills Survey, Microsoft, April 2019

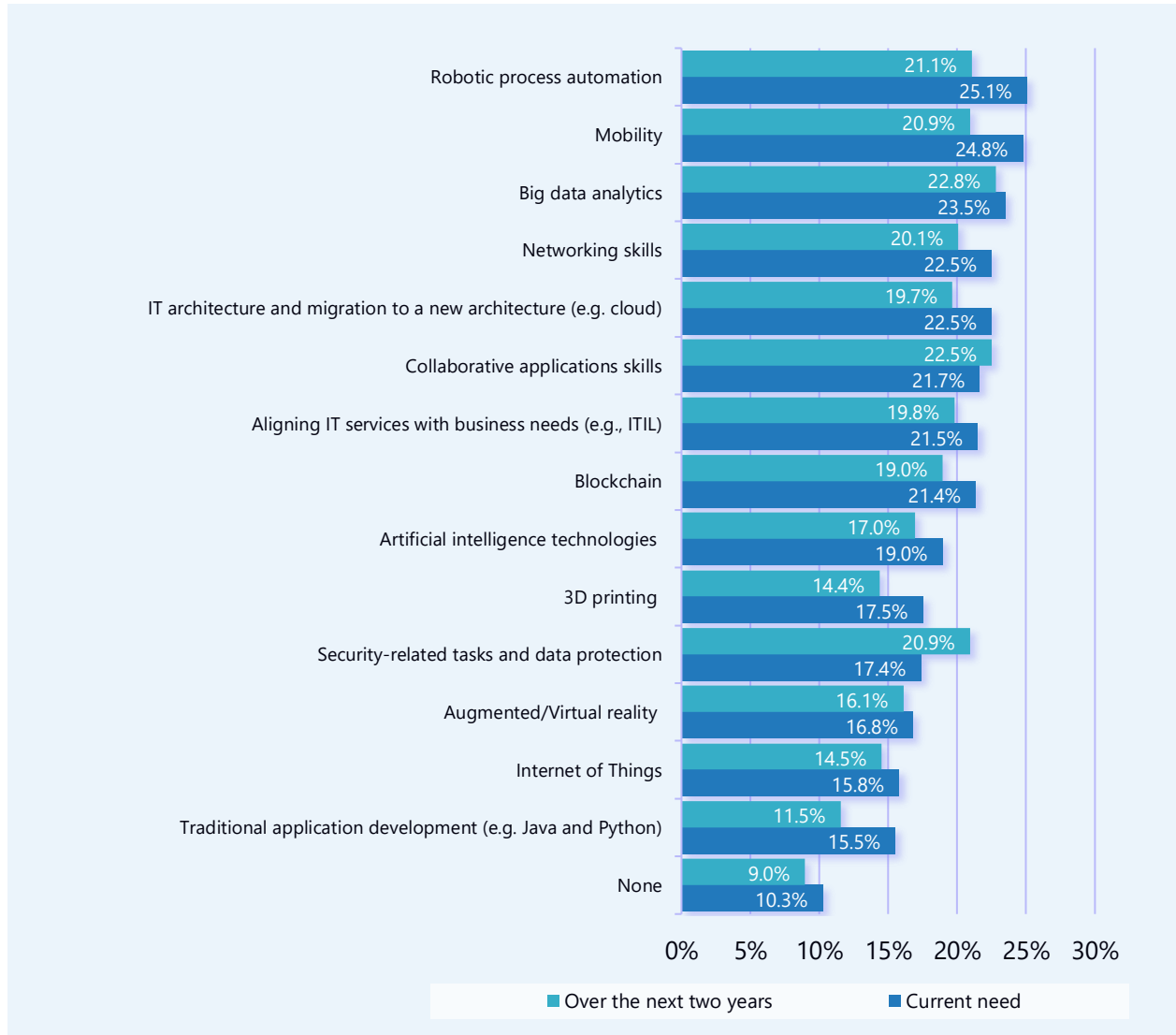
The respondents reported a wide variety of digital skills as currently lacking, most of which are likely to remain in demand well into the future. Among the most needed skills are those relating to network infrastructure, cloud, big data, automatization, mobility, security, and collaboration. Moreover, industries differ: While automation skills (including those for robotic process automation) are in demand in the manufacturing and utility industries, finance organizations are in clear need of mobility-related skills, and public sector respondents expressed a strong need for networking skills (network management). The aggregated view can be seen in Figure 2, below.

FIGURE 2

Main Digital Skills Lacking in Central and Eastern Europe

Q. Which of the following skills does your company currently need/lack?

Q. In which of the following areas will the need for talent/skills in your company increase over the next two years? Select up to five.



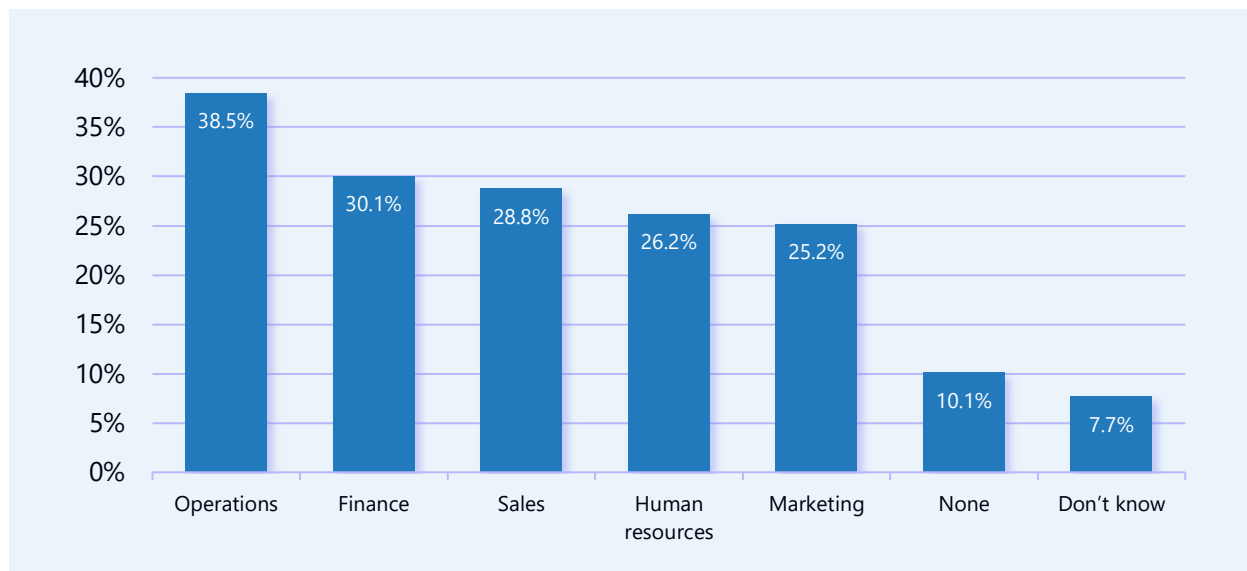
Source: IDC EMEA, Digital Skills Survey, Microsoft, April 2019

While a lack of digital skills was reported across the board, some organizational units within an entity are more likely to face skills shortages than others. In addition to operations – a key unit for every enterprise that has high demand for skills and which is likely to suffer shortages – marketing, sales, finance, and human resources (HR) units will generally face skill scarcities. The picture also varies across industries: While organizations in the public sector (education, healthcare, and government) face digital skills shortages more acutely in the HR and operations domains, retailers are likely to experience digital skill shortages in sales departments.

FIGURE 3

Organizational Units Facing Digital Skills Shortages in Central and Eastern Europe

Q. Which of the following departments in your company are facing the biggest challenges resulting from a lack of digital skills among employees? Choose all that apply.



Source: IDC EMEA, Digital Skills Survey, Microsoft, April 2019

Organizations in CEE face challenges in terms of finding the right employees; many also lack the right tools for talent acquisition. Across CEE, organizations mostly struggle with finding new hires with the right experience levels and the right skills levels in relation to new technologies. Organizations also struggle to retain skilled employees. Finding applicants with the right education levels was the difficulty cited least often.

In terms of the efficiency of various approaches to talent acquisition, companies in CEE consider hiring experienced people from other organizations within the same industry and reskilling existing staff to be the most efficient methods. Companies were least enthusiastic about hiring self-taught individuals and putting newly hired graduates through training programs. These results suggest significant deficiencies remain in organizations' ability to bring less-experienced personnel up to speed in terms of skills, even though organizations may not be averse to reskilling employees in general.

Greece

This part of the document provides detailed information about digital skills in Greece using data from an IDC survey sponsored by Microsoft. It outlines key drivers and the current situation with respect to digital skills and highlights the various tools that companies employ to rectify their shortage of requisite digital skills.

Key Business Drivers and Challenges

Several key aspects influence the precise composition and magnitude of the digital skills shortage in Greece. In general, the skills required by a company change as it advances along its DX path.

Organizations in Greece are generally well aware of the importance of DX, with only 7% of local organizations claiming that DX is not relevant for their operations (a low percentage compared with other CEE countries). However, 21% of organizations claim that digitalization is not a high priority for them (the highest percentage among surveyed CEE countries). The number of organizations that are

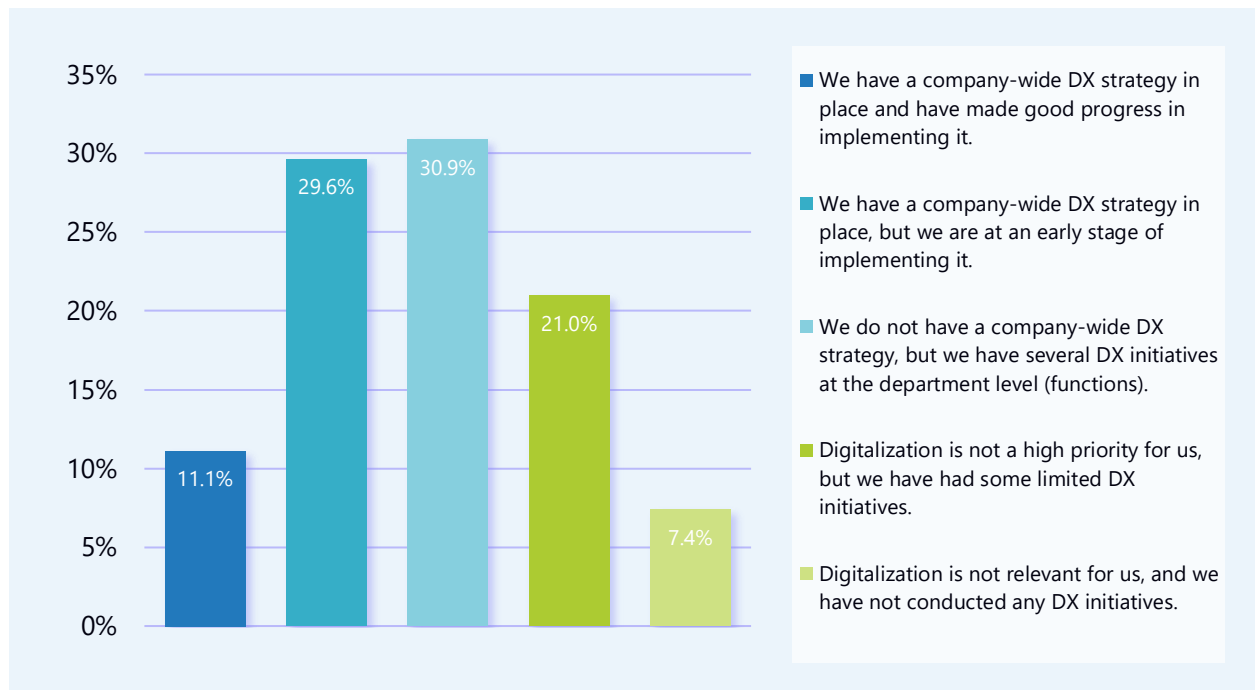
well along their DX paths is slightly below the regional average (11% compared to 13% in CEE as a whole). This situation will be driving demand for employees with new sets of skills. The adoption of 3rd platform technologies is a good marker for DX maturity; in general, organizations that have already adopted cloud (for example) are much likely to have implemented at least part of their DX strategy.

The current state of low DX strategy implementation is likely to exacerbate the skills shortage in the medium term – the competition for skills will grow, as similarly positioned companies will compete for skills necessary for DX implementation.

FIGURE 4

Digital Transformation Maturity in Greece

Q. What is the DX status of your company?



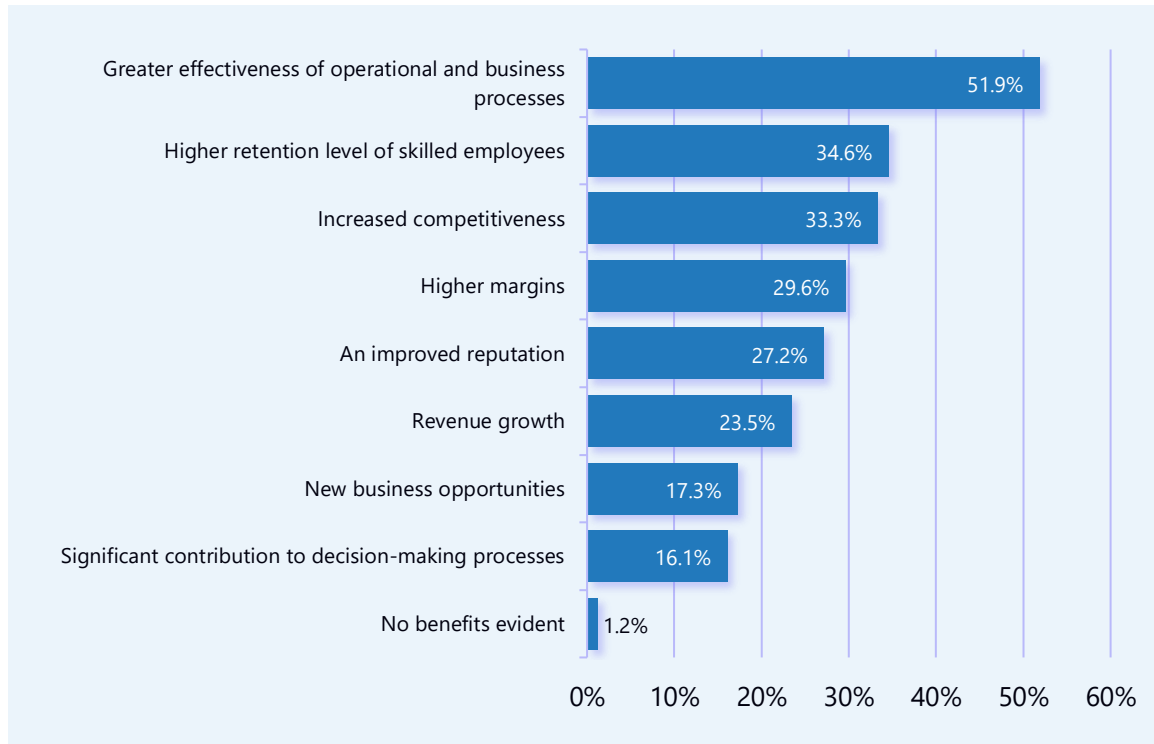
Source: IDC EMEA, Digital Skills Survey, Microsoft, April 2019

The second driver of demand for new skills is the perceived benefits of increasing employees' digital skills. Greater effectiveness and improved processes, followed by increased competitiveness and high retention of skilled employees, are the benefits cited most often by organizations in Greece. The streamlining of decision-making processes and opening new business opportunities are much less important (see Figure 5). High staff retention levels were cited by Greek organizations as an important benefit of increased digital skills – more than in any other surveyed country. This indicates the belief of Greek companies that reskilling and career development options are increasingly important for talent retention strategies.

FIGURE 5

Benefits from Increased Digital Skills in Greece

Q. *In your opinion, how will your company benefit from the increased digital skills of employees? (Choose up to 3)*



Source: IDC EMEA, Digital Skills Survey, Microsoft, April 2019

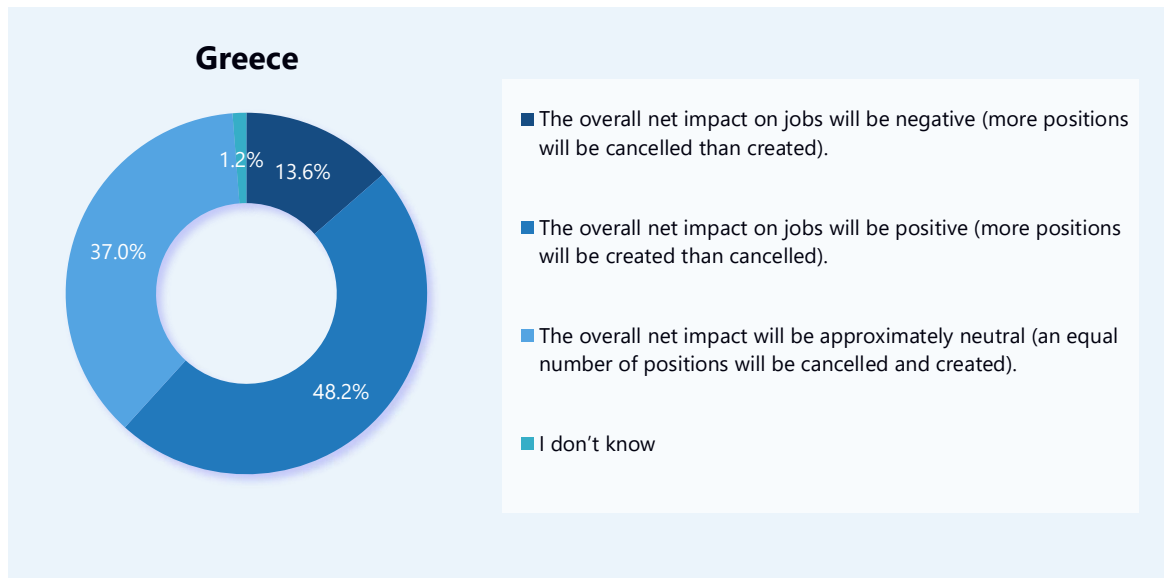
Furthermore, the importance assigned to improved reputation makes it clear that organizations consider being seen as digitally savvy as important for their overall branding and marketing efforts. This may reflect the fact that a very tight labor market makes it difficult for employers to distinguish themselves from competitors – consequently, being viewed as leaders in DX and digital skills may help attract and retain skilled staff.

Most organizations agree that DX will have an impact on their headcounts, and that digital skills will likely play a large part in that process. In Greece, many more organizations are positive about their headcount outlooks than negative; they believe that more jobs will be created than lost as a result of digital transformation. In this respect, Greece is the second most positive country in the sample, after Hungary. Interestingly, almost none of the respondents in Greece were unsure about the impact of DX, making it a significant outlier among the other CEE countries. This underscores the previously mentioned point that Greek organizations have a very good awareness of DX.

FIGURE 6

Impact of DX on Headcount in Greece

Q. In your opinion, what impact will DX have on headcounts in your company in the near future?



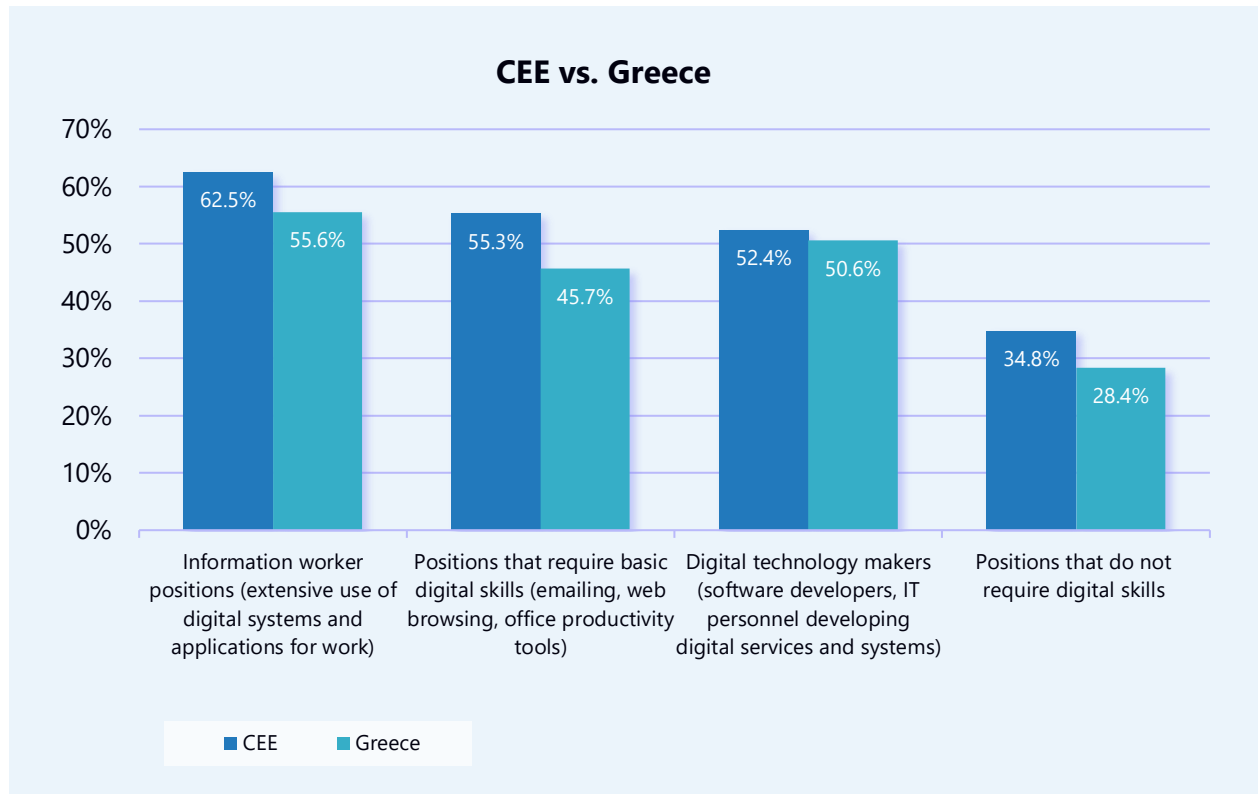
Source: IDC EMEA, Digital Skills Survey, Microsoft, April 2019

Greek organizations' attitudes about future hires are broadly in line with their CEE peers. Information workers (extensive users of digital systems and applications) will be the most sought-after individuals in Greece and across the region. This is also in line with the broader labor market trends; generalists capable of being quickly reskilled are becoming more valued. Interestingly, while Greek companies are optimistic about the impact of DX on their employment numbers, they are still significantly less likely to think that they will be hiring in the future, across all digital skills levels, than their CEE counterparts. This reflects the still difficult economic conditions in the country and the financial challenges faced by Greek companies.

FIGURE 7

Expectations for Demand for Digitally Skilled Workers

Q. Do you expect to see an increase or a decrease in demand for the following position types in your company in the coming two or three years? For each position type, please use the 5-point scale provided.



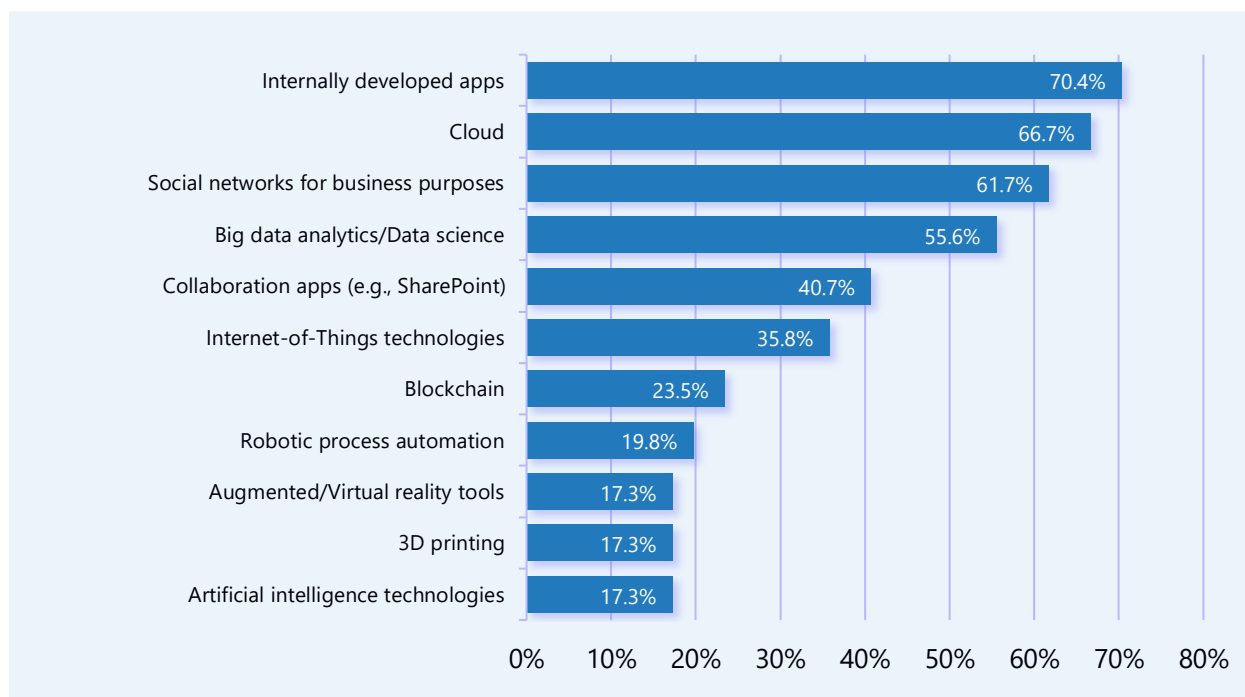
Note: Percentages show those expecting an increase or significant increase in demand
Source: IDC EMEA, Digital Skills Survey, Microsoft, April 2019

The current level of new technology/solution adoption is another important driver of demand for digital skills. Figure 8 shows the current level of adoption as reported by respondents in Greece. Cloud, social networks, and internally developed apps are among the most commonly adopted solutions for organizations in the country. On the other hand, adoption of 3D printing and AI is still rare, although the latter is likely to grow.

FIGURE 8

Digital Skills Accelerators in Greece

Q. Which of the following solutions/technologies is your company currently using?



Source: IDC EMEA, Digital Skills Survey, Microsoft, April 2019

In summary, several key factors are influencing how organizations perceive digital skills issues:

- As organizations progress along their DX journeys, their needs for digital skills change accordingly. In Greece, this will affect the demand for digital skills in the near future, as most organizations are aware of the importance of DX, but only a few have implemented, or mostly implemented, their DX plans.
- There are specific business aspects in which organizations are seeing the benefits of increased digital skills. Greater efficiency in operations is the most important, followed by retention of staff.
- There is a close relationship between the skills currently in demand and the adoption of technologies (see Figures 7 and 8), although there are exceptions, such as demand for process automation skills.
- In terms of headcount, organizations in Greece are more positive than their CEE peers about the impact of DX. Given their responses about the need for different levels of digital skills (Figure 7), demand for digital skills can be expected to increase in the future.

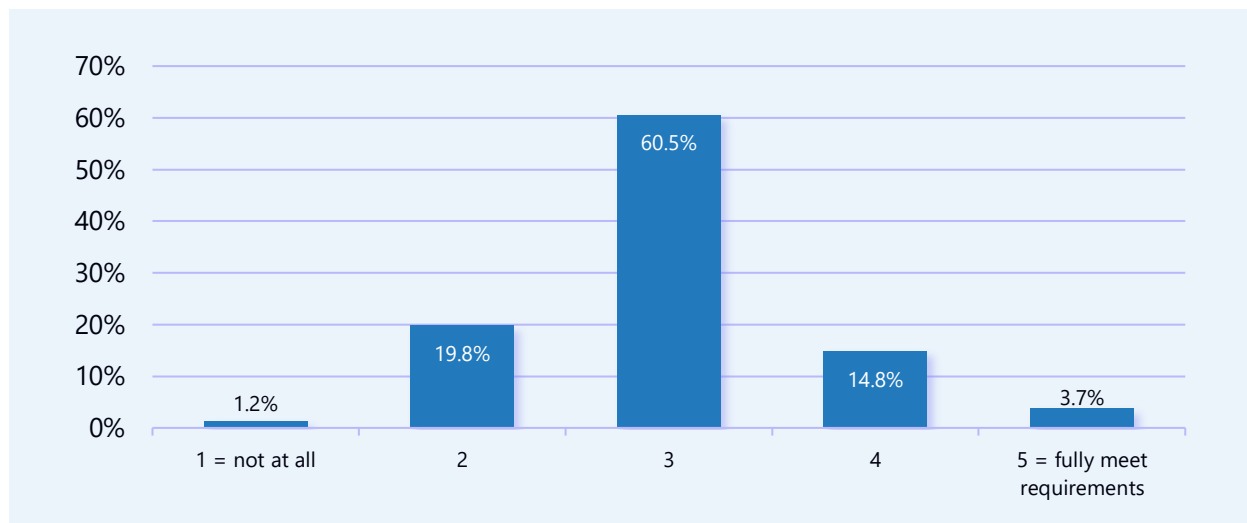
Digital Skills Trends

Greek organizations' approach to digital skills is largely dictated by the skill sets of existing employees. The bulk of organizations reported that their employees generally meet their requirements in terms of digital skills; very few indicated that employees do not meet their requirements at all (Figure 9). However, only 3.7% of organizations believe that their employees fully meet their digital skills requirements, suggesting that there is room for improvement across the board.

FIGURE 9

Digital Skills of Current Employees in Greece

Q. In general, to what extent (using the 5-point scale provided) do you think your current employees meet your requirements in terms of digital skills?



Source: IDC EMEA, Digital Skills Survey, Microsoft, April 2019

However, current organizational requirements may change significantly in the next two years. Some skills that are prized today (e.g., ITIL skills) may not be crucial in the future, while others (e.g., security skills) may rise in prominence. Some other skills that are presently in short supply will remain in demand (e.g., cloud migration, AI and process automation, and mobility solution skills).

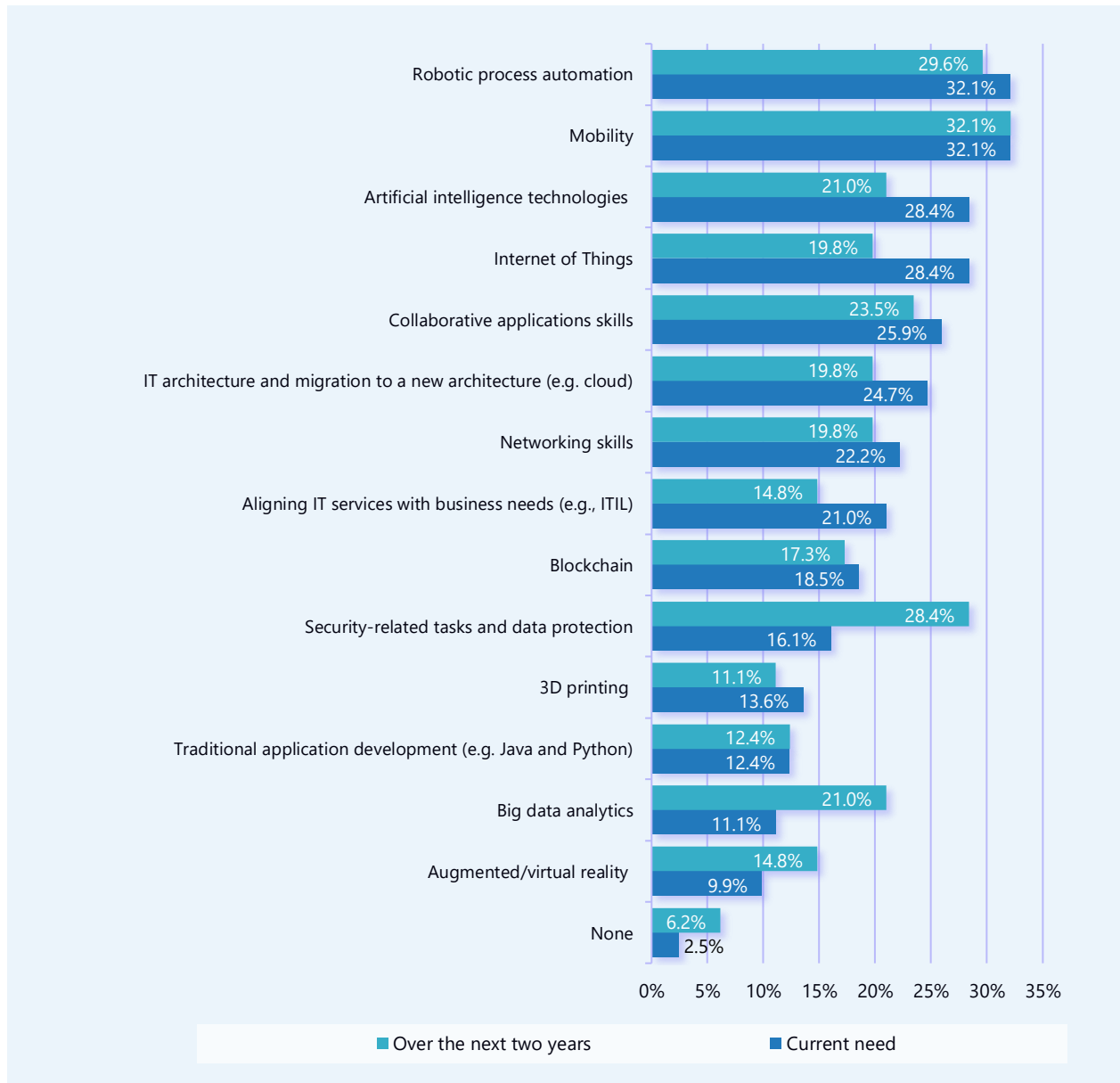
Compared with other CEE organizations, more businesses in Greece report a lack of specific digital skills (i.e., the skills highlighted in Figure 10). The businesses were also more likely to highlight that they expect their demand for these digital skills to increase in the future. This further underscores the importance of reskilling for Greek organizations.

FIGURE 10

Main Digital Skills Lacking in Greece

Q. In which of the following areas is your company currently lacking talent/skills?

Q. In which of the following areas will the need for talent/skills in your company increase over the next two years? (Choose up to 5)



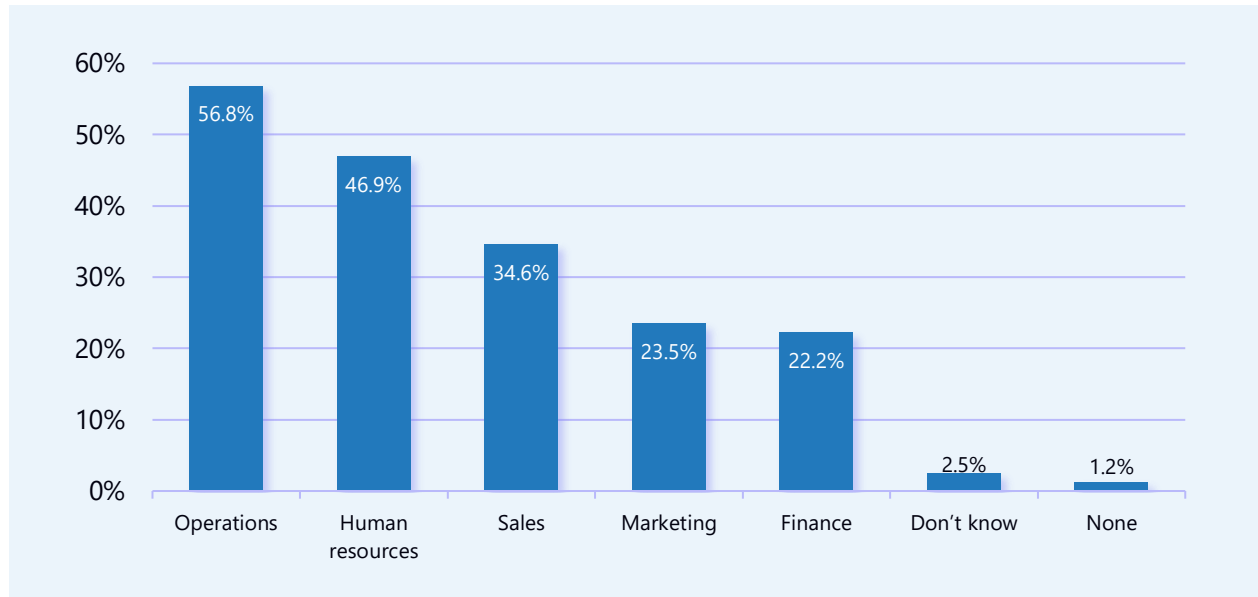
Source: IDC EMEA, Digital Skills Survey, Microsoft, April 2019

The differences in the perceived needs and lack of digital skills are not only based on the variety of skills, but also on specific units within organizations. In line with overall CEE trends, the operations units in businesses in Greece are most affected by the lack of digital skills (Figure 11). However, HR departments are the second-most affected organizational units in the country, which differs from regional averages.

FIGURE 11

Organizational Units Facing Digital Skills Shortages in Greece

Q. Which of the following departments in your company are facing the biggest challenges resulting from a lack of skills among employees? (Choose all that apply)



Source: IDC EMEA, Digital Skills Survey, Microsoft, April 2019

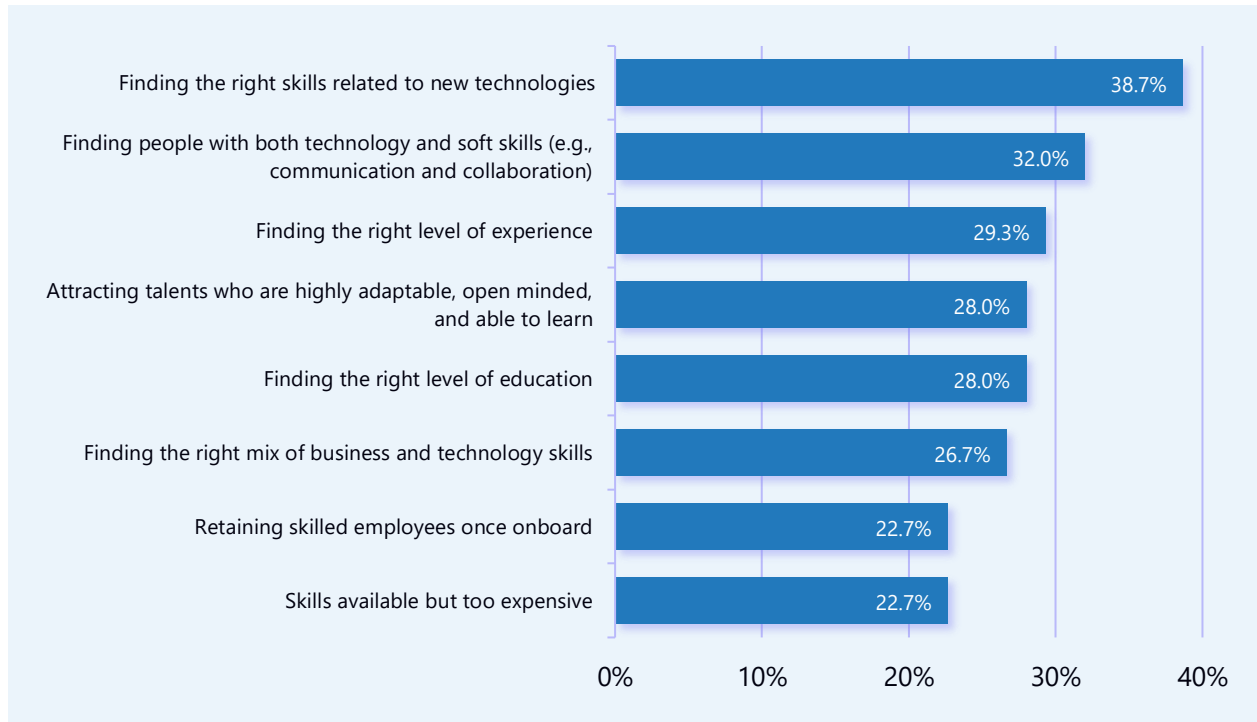
Most companies in Greece reported certain digital skills deficits. These companies report several obstacles to filling posts with the right people, while finding the right skills for particular technologies was highlighted as the most significant challenge. This result suggests that, while potential employees are generally widely available (unemployment in Greece is significantly above the regional average), there is a mismatch between demand for skills and supply. In other words, potential employees currently available in the market do not possess the skills that are in demand.

Moreover, the companies face problems in the areas of employees' ability to learn and in soft skills. This is an indication that, while the system of formal education is delivering graduates, there are gaps in soft skills such as adaptability (ability to learn) and, in particular, technical skills. The education sector in Greece will thus likely face higher pressure to offer courses that reflect the situation on the labor market (demand for skills).

FIGURE 12

Top Challenges in Current Skills Acquisition in Greece

Q. *What are the top challenges when seeking new hires who can help execute DX in your company? Choose up to three.*



Source: IDC EMEA, Digital Skills Survey, Microsoft, April 2019

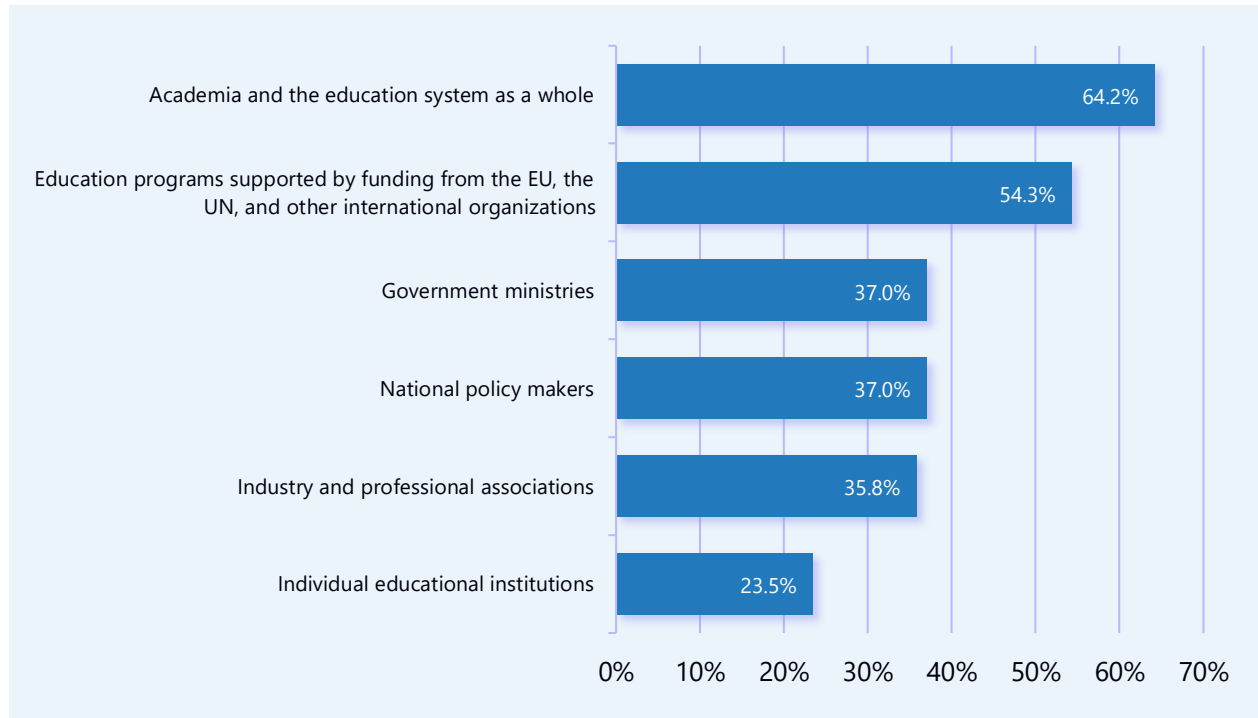
Acquiring New Skills and Skills Development

Given the challenges already noted, organizations in Greece are employing several talent acquisition and retention strategies. While their individual efforts vary, companies in the country have identified stakeholders that will help them alleviate the difficulties in recruiting digitally-skilled employees. The education sector as a whole is perceived as the most important stakeholder, followed by international organizations.

FIGURE 13

Digital Skills Stakeholders in Greece

Q. Which organizations do you think should primarily work with companies to help them alleviate the difficulties in recruiting digitally skilled employees? Choose all that apply.



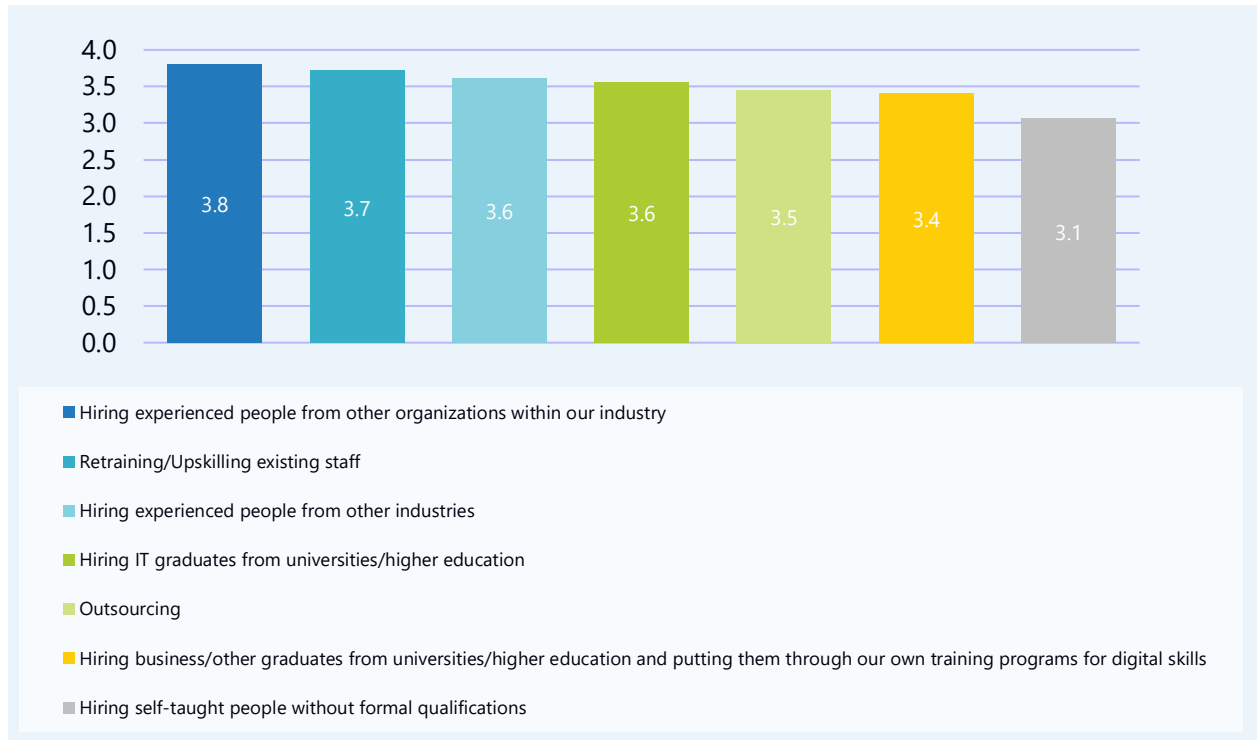
Source: IDC EMEA, Digital Skills Survey, Microsoft, April 2019

The importance of cooperation with the education sector is evident when evaluating the effectiveness of ways of acquiring employees with digital skills. While hiring graduates is not viewed as ideal, organizations are considerably more reserved about hiring self-taught people without formal qualifications, which are still regarded as an important indicator of ability.

FIGURE 14

Efficiency of Skills Acquisition Strategies in Greece

Q. To what extent are the following approaches effective in acquiring employees with digital skills? (On a 5-point scale on which 1 = not at all effective and 5 = very effective)



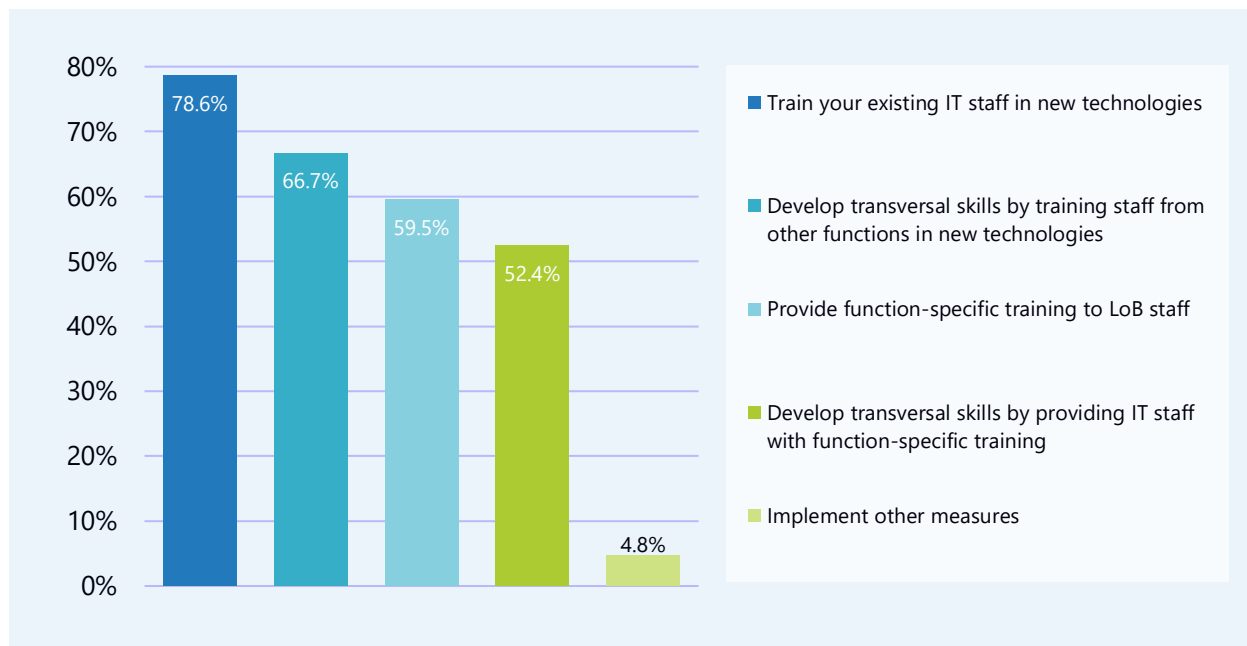
Source: IDC EMEA, Digital Skills Survey, Microsoft, April 2019

Hiring experienced people from the same industry is the most popular option, although this has its obvious drawbacks, mainly the (un)availability of such people on the labor market and higher costs. The second most popular choice is to reskill/upskill existing staff. On average, 53.4% of organizations in the CEE have training programs in place to help low-skilled employees with the demands of DX and the digital age; in Greece, this figure is only 51.9%. However, for those Greek companies that have already implemented a significant portion of their DX initiatives, the figure rises to 66%. This corroborates the need for reskilling to be an integral part of DX initiatives. Greek organizations focus predominantly on technology trainings, both for IT staff and other employees, as seen in Figure 15.

FIGURE 15

Skills Development Strategies in Greece

Q. Do you typically...



Source: IDC EMEA, Digital Skills Survey, Microsoft, April 2019 (base: organizations with some reskilling programs in place)

In summation, there are several important trends to note with respect to the demand for digital skills by organizations in Greece and the ways in which to address this demand. Compared with overall CEE trends, organizations in the country are:

- More likely to report a lack of digital skills.
- More likely to be positive about the impact of DX on their employee count, although the overall willingness to hire is still lower than CEE; a phenomenon likely caused by the more difficult economic conditions in Greece in general.
- More likely to prioritize cooperation with the education sector in order to alleviate the digital skills shortages.

There are some differences between current skills deficiencies and skills gap expected in the medium term. That said, some digital skills that are presently in short supply will be in even greater demand in the future, particularly enterprise architecture skills, cloud skills, security skills, and mobility solutions skills.

CONCLUSION

The demand for digital skills in Greece is poised to rise. However, the business environment in Greece presents challenges that need to be addressed by stakeholders. Given the overall trends revealed in the survey data as well as differences between Greece and the CEE region as a whole, some key survey results should be of interest to organizations seeking to improve their skills pool and the wider digital skills ecosystem:

- Organizations in Greece are generally aware of the importance of digital transformation, but only 11.1% have progressed in implementation of their DX strategies. As competitive pressures for skills increase, the ability of these organizations to execute growth plans may be stifled by the combination of a tight talent market and the urgency of hiring skilled personnel.
- Very few Greek respondents are unaware of the possible impact of DX on employee count; otherwise, companies are generally very positive about this impact.
- When it comes to fulfilling a need for technological or digital skills, Greek organizations tend to focus strongly on reskilling talented existing staff.
- In general, the Greek market is significantly lacking skills such as enterprise architecture, cloud, robotic process automation, and mobility/network solutions skills.

About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

IDC CEMA

Male namesti 13
110 00 Prague 1, Czech Republic
+420 2 2142 3140
Twitter: @IDC
idc-community.com
www.idc.com

Copyright Notice

External Publication of IDC Information and Data – Any IDC information that is to be used in advertising, press releases, or promotional materials requires prior written approval from the appropriate IDC Vice President or Country Manager. A draft of the proposed document should accompany any such request. IDC reserves the right to deny approval of external usage for any reason.

Copyright 2019 IDC. Reproduction without written permission is completely forbidden.

