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Kosovo IT Barometer 2021 - 2022

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Introduction

The Information and Communication Technology (ICT) sector in Kosovo has emerged as a significant driver of economic growth, attracting regional and international companies seeking outsourcing services. Recognizing the sector's strategic importance, both the government of Kosovo and international institutions have been actively supporting its development. Since its establishment in 2008, the Kosovo ICT Association (STIKK) has been a key advocate and supporter of the ICT sector, consistently promoting its growth and advancement.

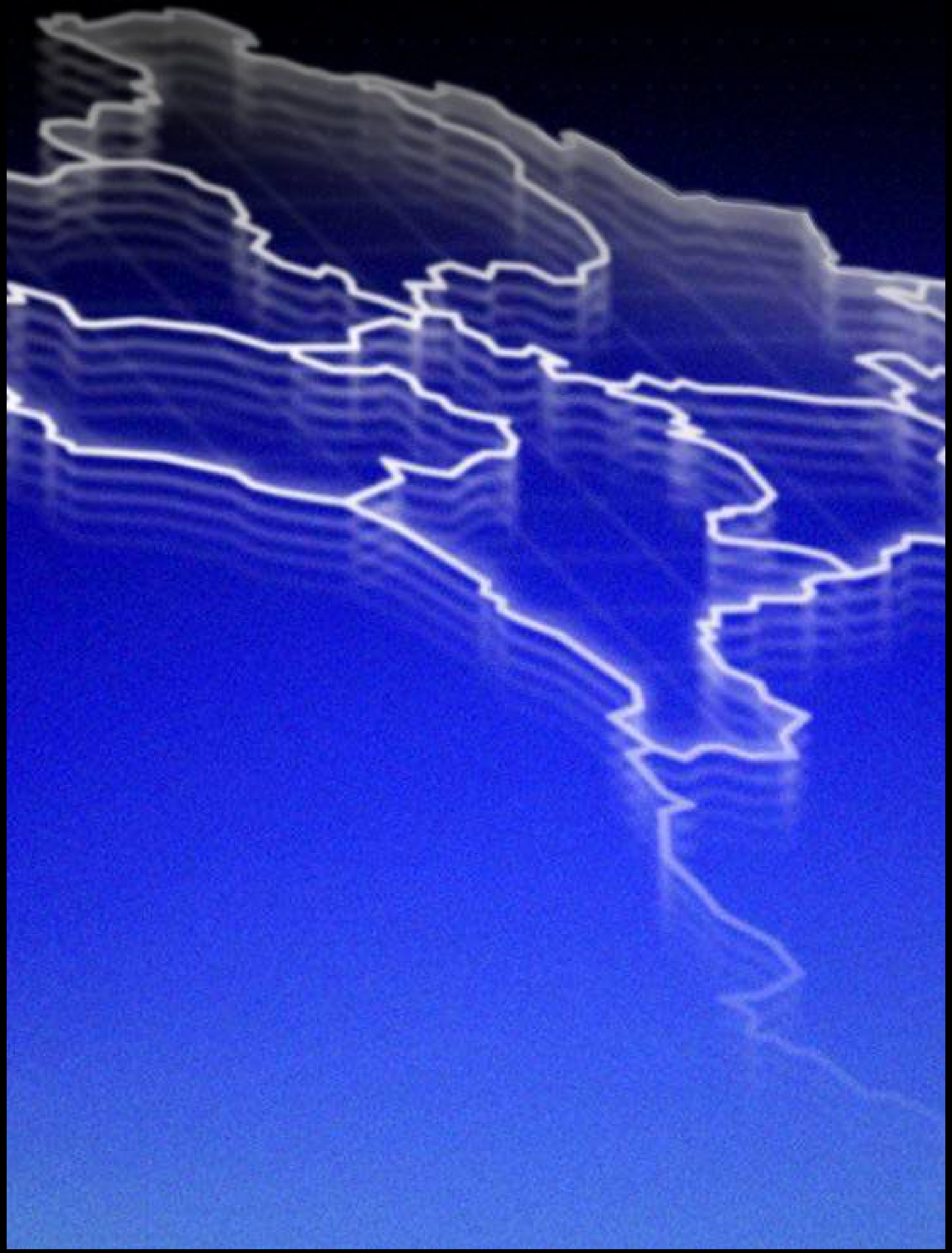
The IT Barometer report, produced by STIKK, serves as a valuable tool to provide a comprehensive overview of the IT sector's development, export capacities, recent trends, and human resources analysis. The 2021-2022 edition of the IT Barometer focuses on providing general information about the IT sector and companies in Kosovo, offering comparative analysis, highlighting export trends, and exploring recent innovations and changes in the working environment.

To gather the necessary data, a survey was conducted among 700 IT companies operating in Kosovo, offering valuable insights into the national ICT market's value and export capacity. This study, carried out by STIKK - Kosovo ICT Association, builds upon the annual tradition of the "IT Barometer" report, which has been published by STIKK since 2014.

One notable aspect of this year's IT Barometer survey is the larger sample size, encompassing 700 IT companies, allowing for more robust and comprehensive analysis. The data collection and analysis for the IT Barometer took place between December 2022 and May 2023, providing a current and up-to-date snapshot of the ICT sector in Kosovo.

The IT Barometer report was prepared by the Statistical Analytical Unit of STIKK, leveraging their expertise in data analysis and industry insights. The report's production was made possible through the support of USAID Compete Activity Kosovo, demonstrating the collaborative efforts of various stakeholders in advancing the ICT sector in Kosovo.

By examining the data and insights presented in the IT Barometer report, policymakers, industry stakeholders, and investors can gain a deeper understanding of the ICT sector's current landscape in Kosovo. This knowledge can guide strategic decision-making, promote further growth and innovation, and address challenges faced by companies and professionals in the field.



Executive Summary

The IT Barometer report provides a comprehensive analysis of the ICT sector in Kosovo, highlighting key findings and implications for companies, education institutions, and state institutions. The report reveals that the majority of ICT companies in Kosovo are small to medium-sized enterprises, primarily focused on software development and IT services. These companies demonstrate a strong market presence and engagement in export activities, with a significant percentage of their sales coming from international markets. The report emphasizes the importance of addressing challenges related to human resources, institutional support, and access to finance to foster sector growth.

In terms of technology usage, ICT companies in Kosovo heavily rely on open-source technologies and leverage cloud computing solutions. However, the availability of qualified and skilled professionals remains a critical concern, with a high demand for senior software developers, software architects, and individuals with strong communication and marketing skills. Education institutions are encouraged to enhance students' skills through internships and extracurricular subjects.

Salaries within the ICT sector in Kosovo exceed the average monthly salaries in the private sector, reflecting the industry's demand for technical proficiency and experience. Positions such as software architects and senior software developers command significantly higher salaries, indicating the potential for higher earnings in the ICT sector compared to other industries in Kosovo.

The report identifies several challenges faced by ICT companies, including competition for a qualified workforce, limited access to additional finance for expansion, and the need for institutional support. Recommendations for companies focus on fostering collaboration with educational institutions, investing in employee training, and implementing effective recruitment strategies. Education institutions are encouraged to align their curriculum with industry needs and provide opportunities for practical skills development.

State institutions are advised to provide better institutional support, facilitate access to finance for ICT companies, and promote the branding of the local IT industry abroad. Addressing visa requirements, fostering business partnerships, and enhancing market information availability are also important steps to facilitate business in export markets.

In conclusion, the IT Barometer report underscores the potential for growth and development in the ICT sector in Kosovo. By implementing the recommended strategies, companies, education institutions, and state institutions can collectively promote the competitiveness and sustainability of the ICT industry, contributing to the overall economic growth and prosperity of Kosovo.

Methodology

The methodology employed for the Kosovo IT Barometer 2021-2022 involved a comprehensive data collection process and rigorous analysis to provide accurate and reliable insights into the Information and Communication Technology (ICT) sector.

A questionnaire consisting of 42 questions was developed to cover various aspects of the ICT sector in Kosovo. The majority of questions were in a multiple-choice format, while a few allowed for open-ended responses. The questionnaire was designed to gather data on company profiles, market presence, export activities, technology usage, human resources, challenges faced, salaries, and other relevant factors.

The target sample for the study comprised 700 companies operating in the ICT sector in Kosovo. The survey questionnaire was administered using the SurveyMonkey platform. Invitations to participate in the survey were sent via email to the selected companies. The email addresses used were the ones declared by the companies themselves to the Business Registration Agency. The data collection period spanned from December to May, allowing sufficient time for companies to respond and provide accurate information.

The collected data were meticulously analyzed using statistical software, including Microsoft Excel and SPSS. Descriptive statistics were employed to summarize the survey responses, enabling a clear presentation of the findings. Charts, graphs, and tables were used to visualize the results, facilitating easy comprehension and interpretation.

The safety and confidentiality of the data provided by the participating companies were of utmost importance. The survey responses were anonymized and stored securely, adhering to strict data protection protocols. Only the Statistical Analytical Unit of STIKK had access to the raw data, ensuring the privacy of individual companies and their information.

The rigorous methodology employed in the Kosovo IT Barometer 2021-2022 study ensures the reliability and validity of the findings. The sample selection process and data collection methods aimed to capture a representative snapshot of the ICT sector in Kosovo.

Characteristics of ICT Companies in Kosovo

The first section of the IT Barometer report focuses on providing an overview of the participating companies. Out of the 700 companies invited to complete the questionnaire, a total of 82 companies, accounting for an 11.7% response rate, actively engaged in providing valuable insights for this study. These companies were selected to represent the diverse landscape of the ICT sector in Kosovo.

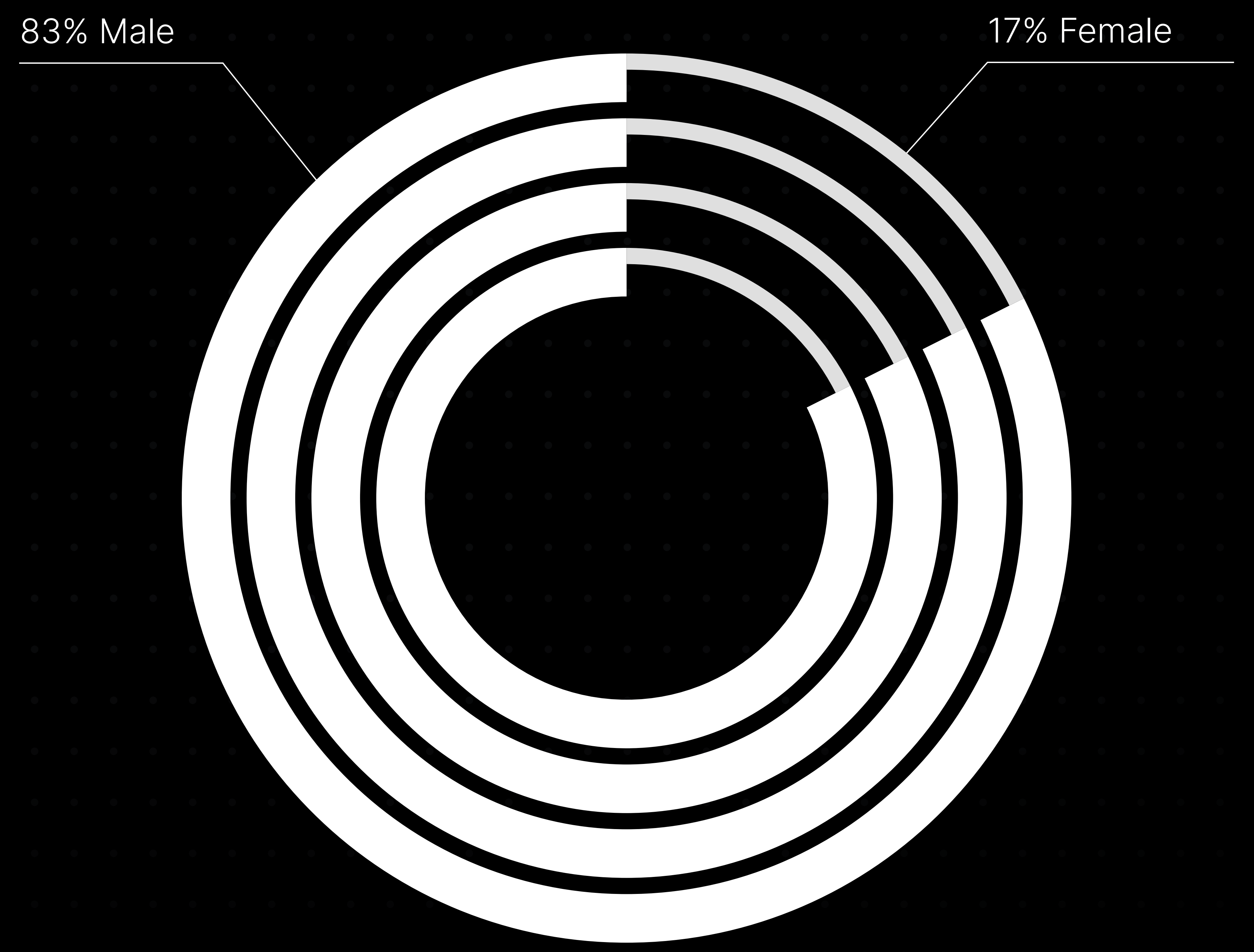
The sample of 82 companies, although not exhaustive, provides a representative snapshot of the ICT sector. However, it is important to acknowledge the limitations of the sample size and consider it when interpreting the results. Nonetheless, the responses received from these companies offer valuable insights into the current state of the sector.

Gender of the Main (Decision-Making) Owner

The gender distribution of the main (decision-making) owners among the participating companies provides an important insight into the representation of women in leadership roles within the ICT sector in Kosovo. Among the companies that responded to the questionnaire, it was found that 80% of the main owners were male, while 17% were female.

The data indicates a significant gender imbalance, with male owners dominating the decision-making positions within the companies. This finding highlights a potential disparity in the participation and leadership opportunities for women in the ICT sector. It suggests a need for greater efforts to promote gender diversity and inclusion, enabling more women to take on leadership roles and contribute to the sector's growth and innovation. of women in decision-making positions within the participating companies is a concerning observation. Almost the same percentage is supported by the Kosovo Business Registration Agency indicating that 86% of ICT companies are owned by males and 14% by females.[1]

Gender of the main (decision-making) owner in ICT companies in Kosovo



The relatively low no-response rate (2%) suggests that the majority of companies provided information regarding the gender of their main owners. However, it is important to note that the limited representation of women in decision-making positions within the participating companies is a concerning observation.

Ownership Structure of Companies

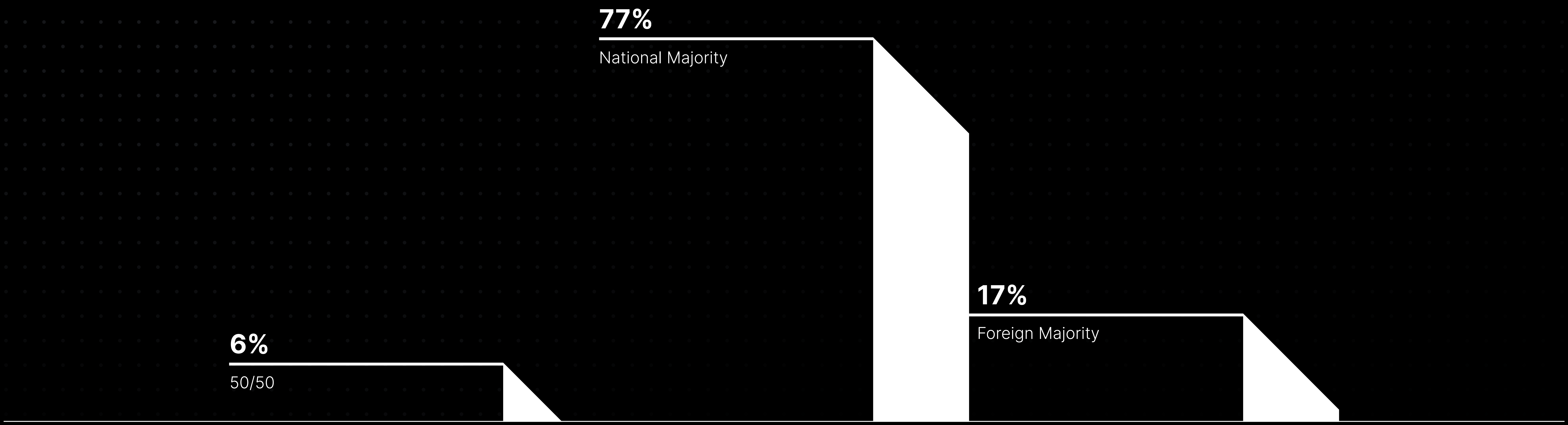
The ownership structure of the participating companies sheds light on the presence of national and foreign ownership within the ICT sector in Kosovo. The data reveals that national ownership holds a dominant position, with 71% of the companies reporting 100% national ownership. On the other hand, 9% of the companies reported 100% foreign ownership.

Delving deeper into the ownership distribution, it is noteworthy that 77% of the companies identified themselves as having a national majority ownership, while 16% reported a foreign majority ownership. This indicates a prevalent trend of national entities playing a significant role in the ownership and operation of ICT companies in Kosovo.

It is worth noting that a small percentage of companies (6%) reported having an equal 50/50 ownership split between national and foreign entities, signifying a collaborative ownership structure that leverages both local and international expertise.

These results are supported also by Kosovo Tax Agency indicating that 22% of companies declaring the activities are registered as foreign companies.[2]

Ownership structure of ICT Companies in Kosovo



[1]STIKK Report, Analizë e trendit të zhvillimeve në sektorin e TI për periudhën 2019-2022, pg, 71.
[2]STIKK Report, Analizë e trendit të zhvillimeve në sektorin e TI për periudhën 2019-2022, pg, 16

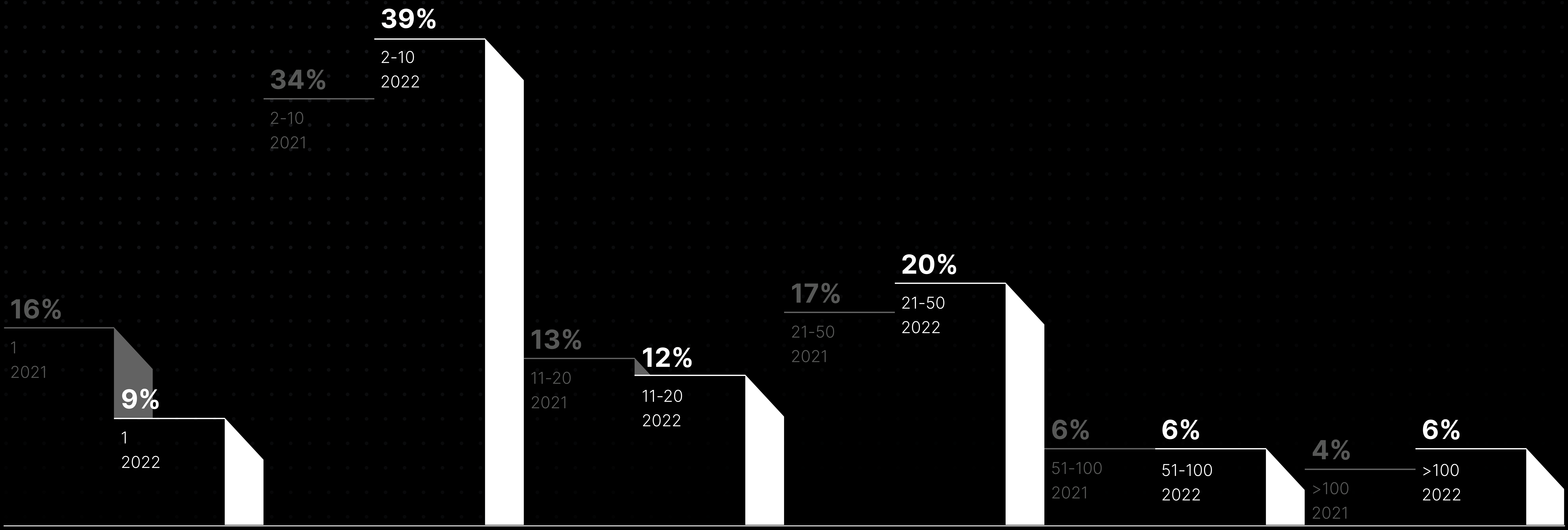
Employee Count

Analyzing the number of employees within the participating companies provides valuable insights into the size and scale of operations within the ICT sector in Kosovo. The data reveals the distribution of companies across different employee ranges, allowing for a closer examination of the sector's workforce.

In the year 2021, it is observed that 48% of the companies had 1 to 10 employees, while 32% had 11 to 50 employees. Companies with more than 50 employees accounted for 12% of the total, while 9% of the companies did not provide a response regarding their number of employees.

Moving on to the year 2022, the distribution shows a similar pattern, albeit with some variation. The percentage of companies with 1 to 10 employees decreased to 39%, while those with 11 to 50 employees remained relatively stable at 12%. The percentage of companies with more than 50 employees increased slightly to 6%.

Number of employees in ICT companies in Kosovo

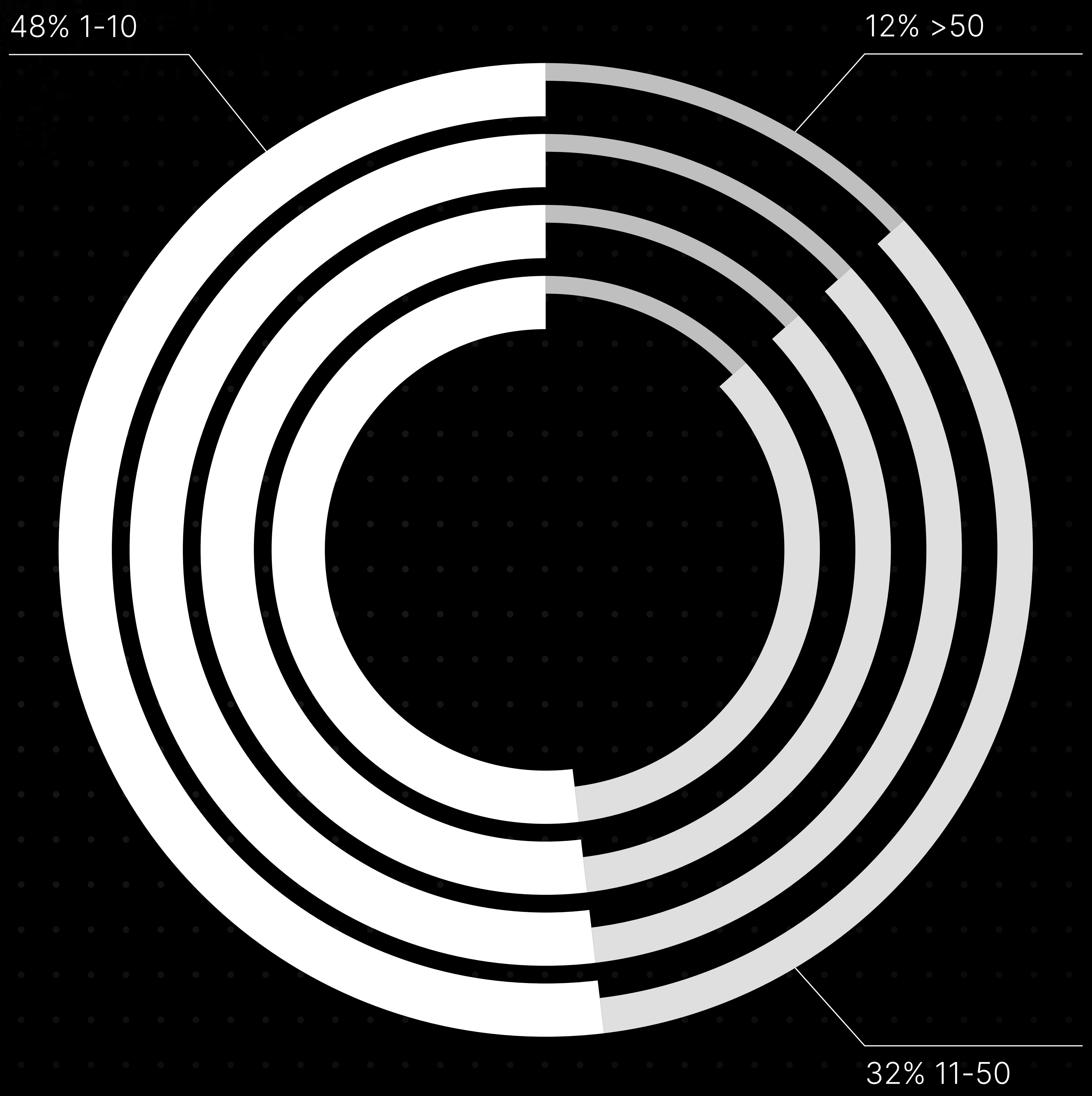


Over

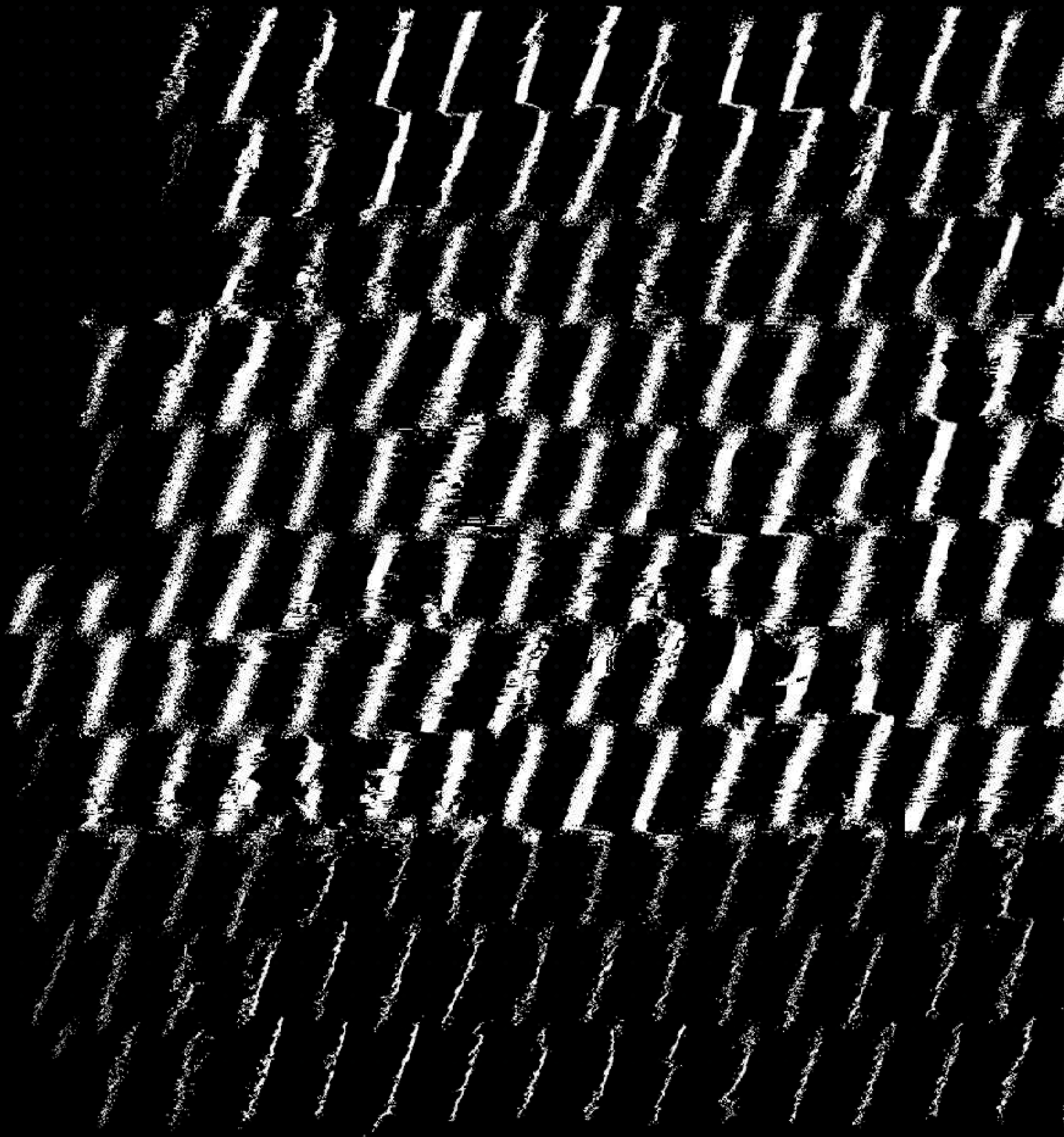
48%

of companies employ
1-10 people

Size of companies based on number of employees



By categorizing the companies based on the number of employees, we can observe that the majority of the participating companies fall within the 1 to 10 employee range, constituting 48% of the total. This indicates a prevalence of smaller-scale enterprises within the ICT sector in Kosovo. Companies with 11 to 50 employees account for 32% of the total, highlighting a significant segment of mid-sized companies. Those with more than 50 employees make up 12% of the companies, signifying the presence of larger-scale operations.



Almost 24% of the companies generate over

1M €

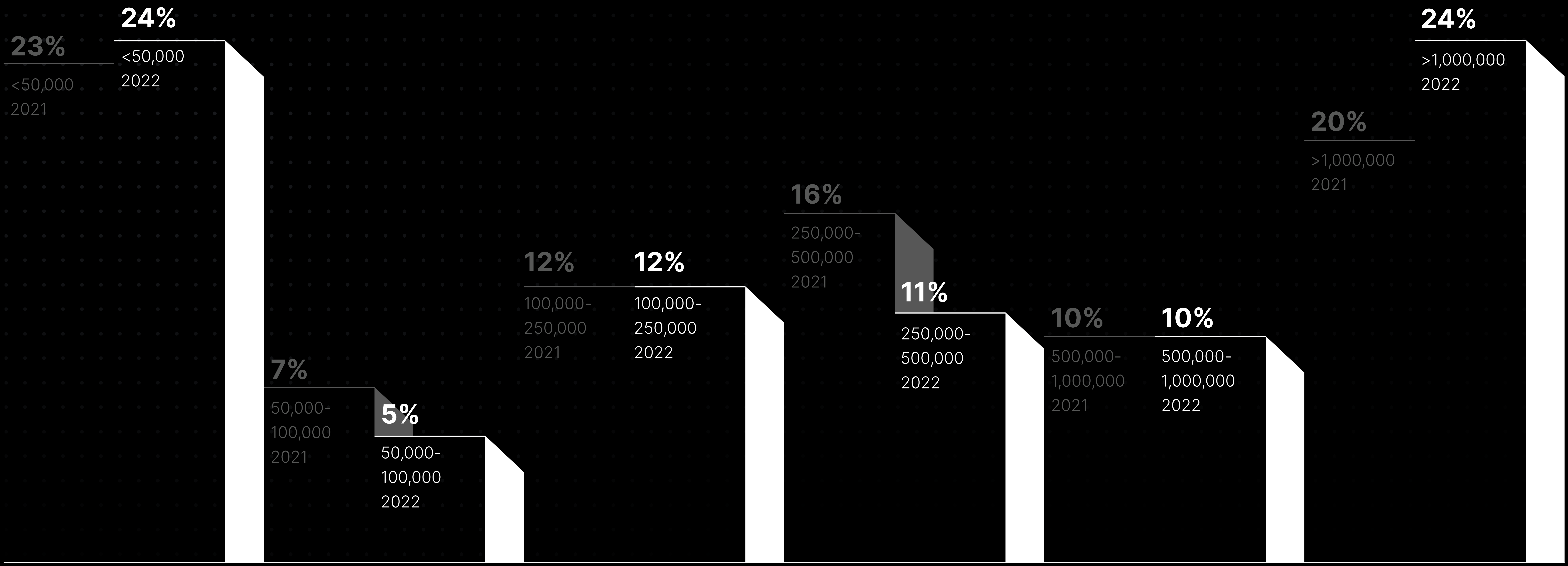
annual turnover

Annual Turnover of Companies

Examining the annual turnover of the participating companies provides insights into the financial performance and scale of operations within the ICT sector in Kosovo. The data reveals the distribution of companies across different turnover ranges, allowing for a closer analysis of the sector's economic impact.

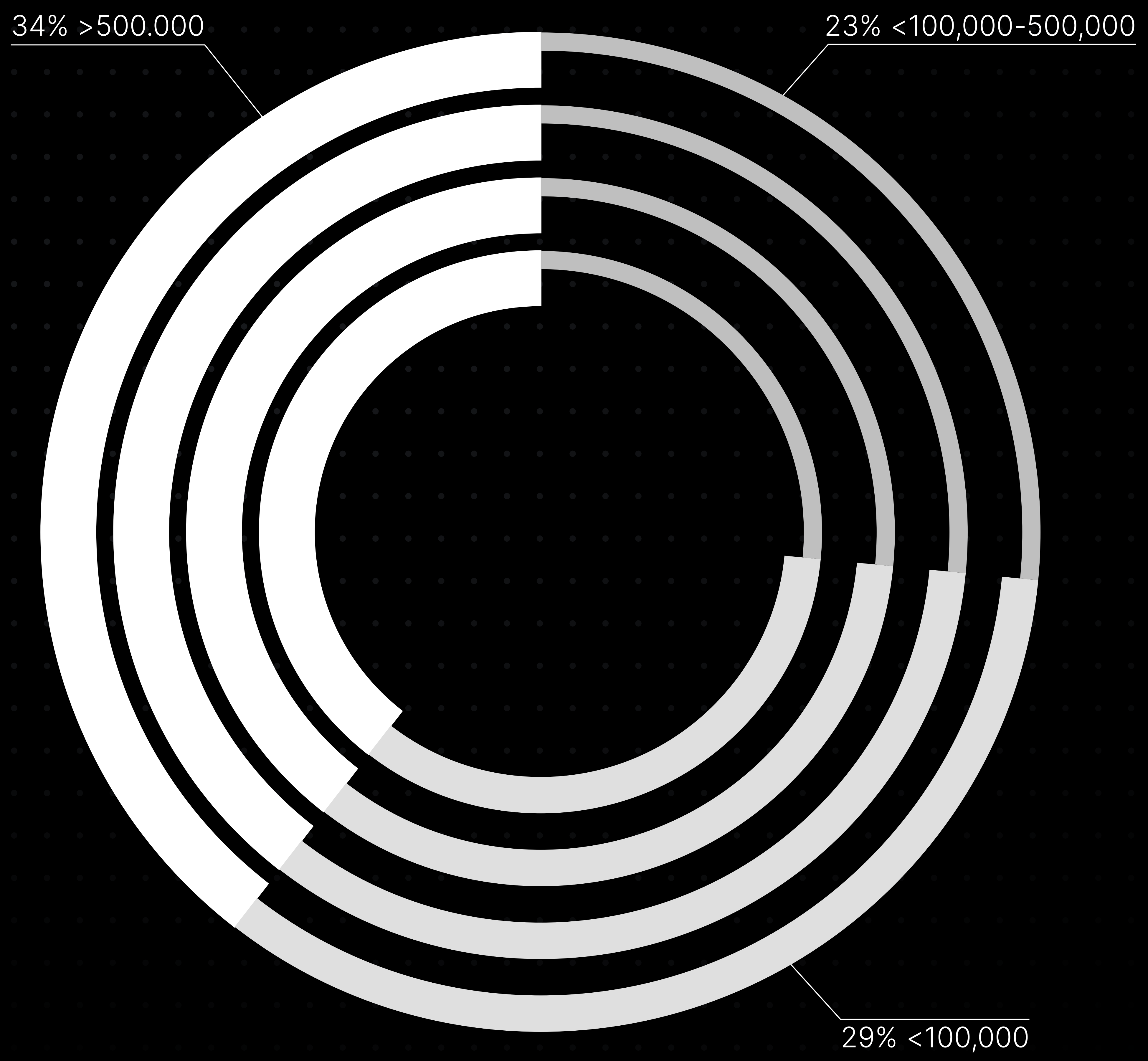
In the year 2021, it is observed that the largest percentage of companies (29%) reported an annual turnover of up to 100,000 EUR. Companies generating turnover between 100,000 and 500,000 EUR accounted for 23% of the total, while those with turnover over 500,000 EUR represented 34% of the companies. It is important to note that 13% of the companies did not provide information regarding their annual turnover.

Distribution of ICT companies in Kosovo by annual turnover 2021 - 2022



Moving on to the year 2022, the distribution of companies by annual turnover shows similar trends. The percentage of companies with turnover up to 100,000 EUR remained relatively stable at 29%. Companies with turnover between 100,000 and 500,000 EUR decreased slightly to 23%, while those with turnover over 500,000 EUR increased to 34%. The percentage of companies not providing information about their annual turnover remained at 13%.

Distribution of ICT companies in Kosovo by annual turnover 2022



By categorizing the companies based on annual turnover, we can observe that a significant portion (29%) of the participating companies falls within the up to 100,000 EUR turnover range. This indicates the presence of smaller-scale enterprises within the sector. Companies with turnover between 100,000 and 500,000 EUR constitute 23% of the total, representing a mid-sized segment. Those with turnover over 500,000 EUR make up the largest portion, accounting for 34% of the companies, indicating the presence of companies with more substantial financial resources and operations. The percentage of "No responses" regarding annual turnover (13%) should be considered when interpreting the data, as it may impact the overall analysis and understanding of the sector's financial landscape.

Overall, the overview of participating companies provides valuable insights into the ICT sector in Kosovo. It highlights the need to address gender imbalances in leadership positions, acknowledges the dominance of national ownership while emphasizing the importance of collaborations and partnerships with foreign entities, and recognizes the prevalence of smaller-scale enterprises. These findings lay the foundation for a comprehensive analysis of the sector, allowing for targeted recommendations to be made for ICT companies, educational institutions, and state institutions. The subsequent sections of the report will delve deeper into the survey findings, connecting different aspects of the data to provide a comprehensive and analytical assessment of the sector.

Quality Standards in ICT Companies

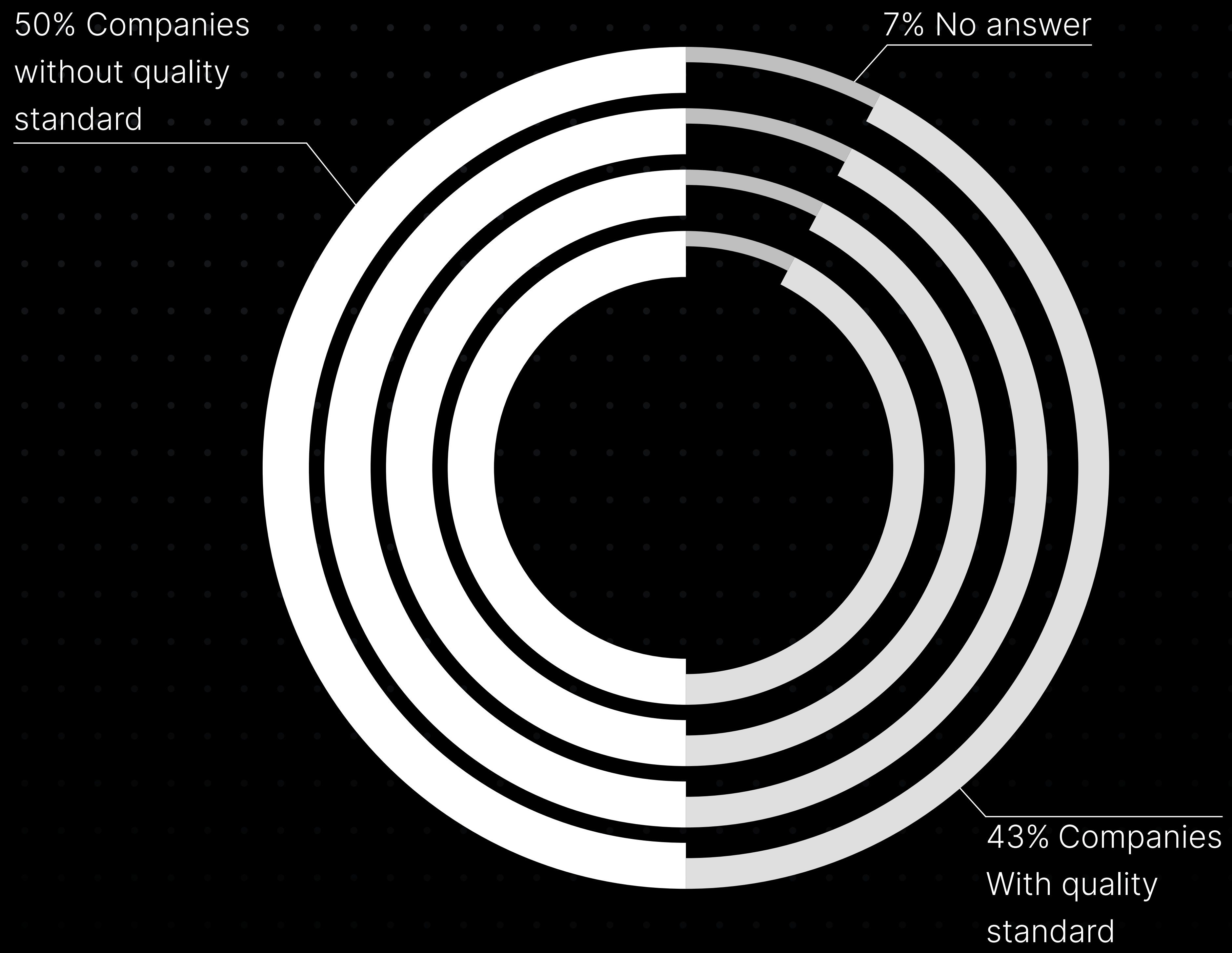
Quality standards play a crucial role in the ICT sector, ensuring that companies adhere to established norms and best practices. This section examines the distribution of quality standards among the participating companies, taking into account their ownership structure, annual turnover, and number of employees. Understanding the relationship between quality standards and company characteristics can provide valuable insights into the sector's overall level of professionalism and competitiveness.

Quality Standards Obtained by Companies

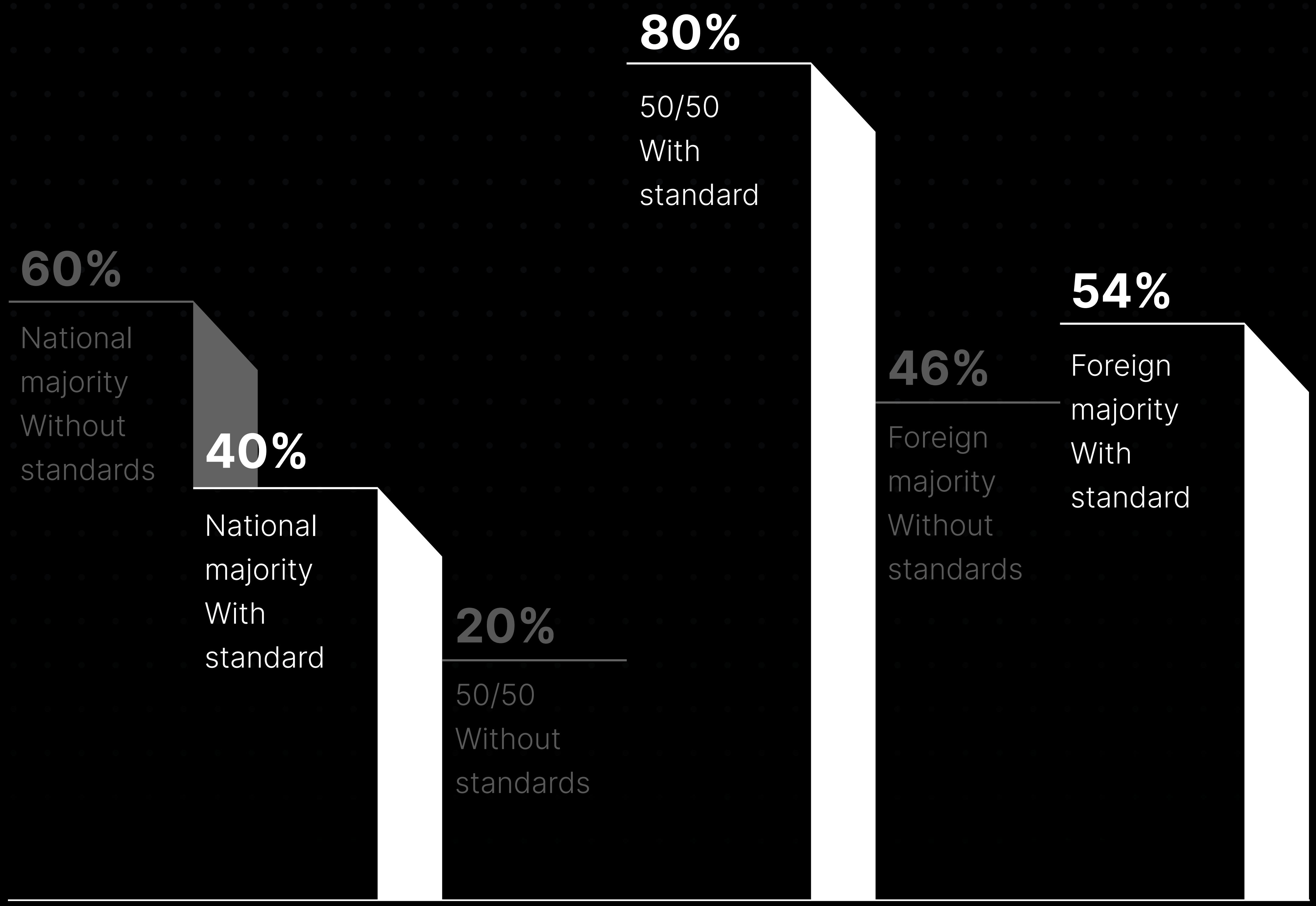
Among the surveyed companies, 43% have implemented quality standards, while 50% have yet to obtain any specific quality certification. A small percentage (7%) did not provide a response in this regard. This indicates that there is still room for improvement in terms of quality management practices within the ICT sector in Kosovo.

Analyzing the distribution of quality standards based on ownership structure reveals interesting patterns. Among companies with a national majority ownership, 37% have implemented quality standards. This demonstrates a commitment to maintaining high-quality standards among local entities. On the other hand, companies with a 50/50 ownership split exhibit the highest percentage (80%) of having quality standards, indicating the collaborative nature of their operations and the emphasis on meeting international quality requirements. Among companies with a foreign majority ownership, 54% have implemented quality standards, highlighting the importance placed on quality management by foreign stakeholders.

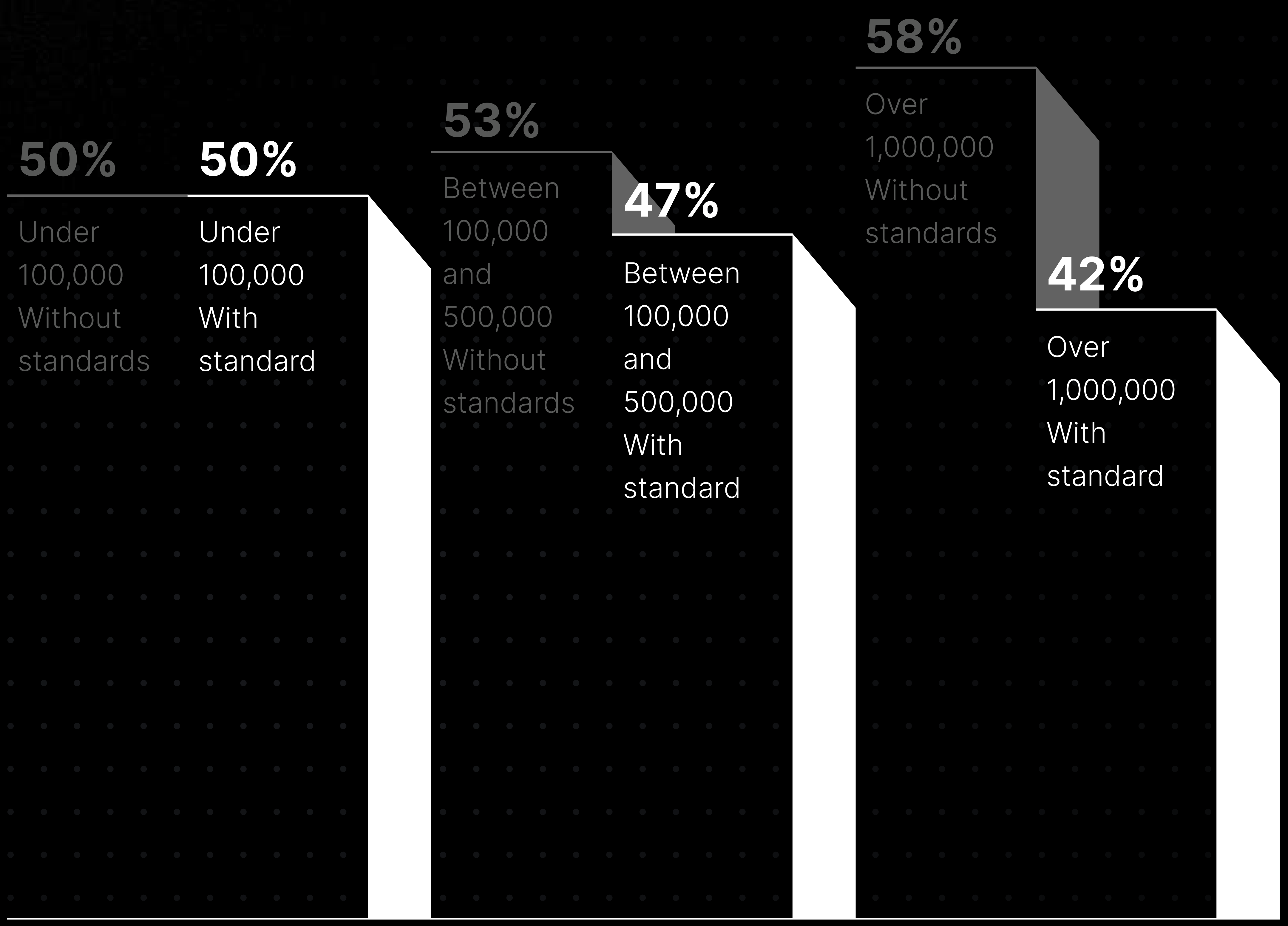
Obtainance of quality standards in ICT companies in Kosovo



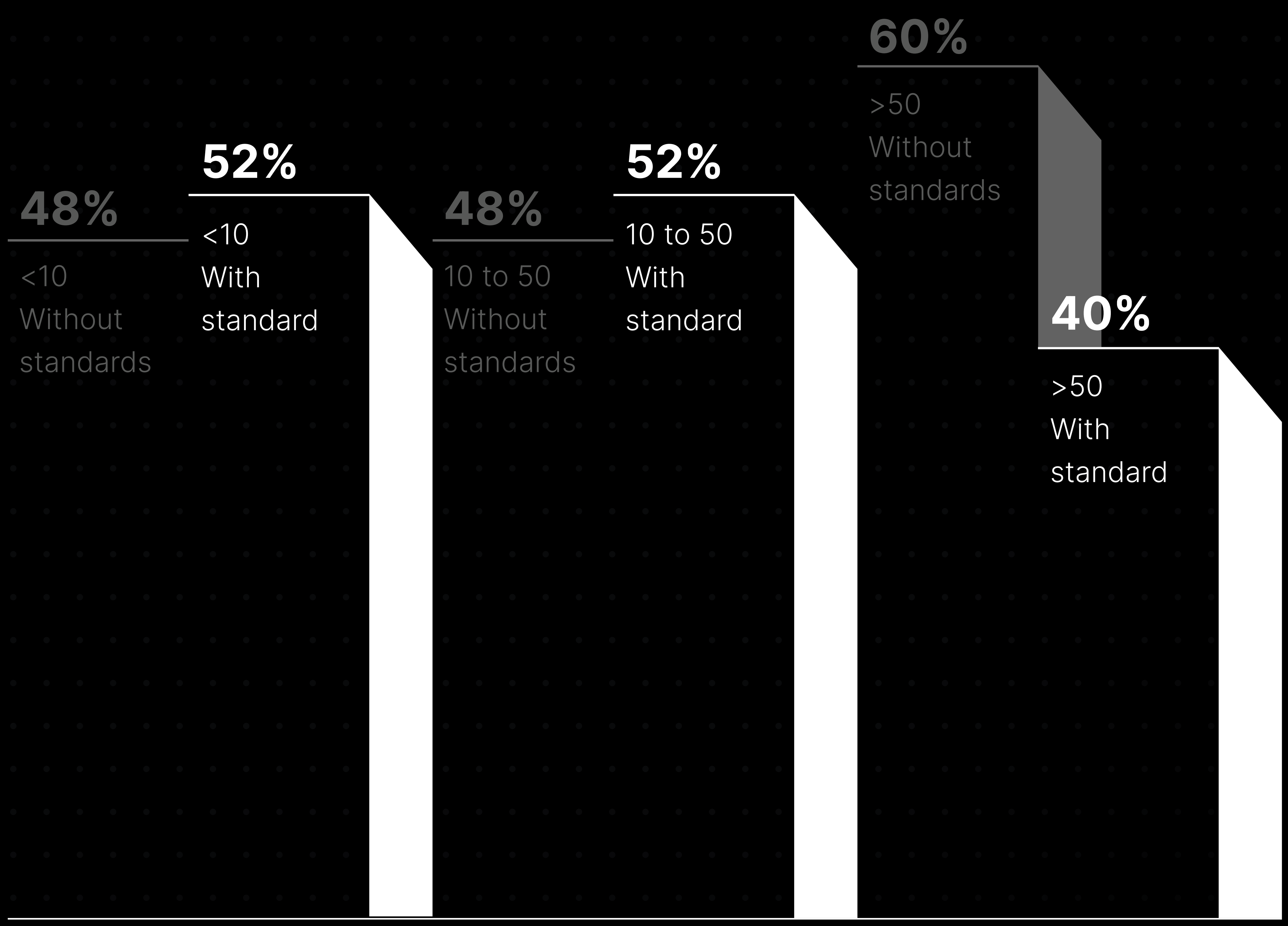
Distribution of quality standards by ownership structure



Distribution of quality standards by annual turnover (EUR)



Distribution of quality standards by number of employees



Examining the distribution of quality standards based on annual turnover reveals a relatively consistent adoption rate across different turnover categories.

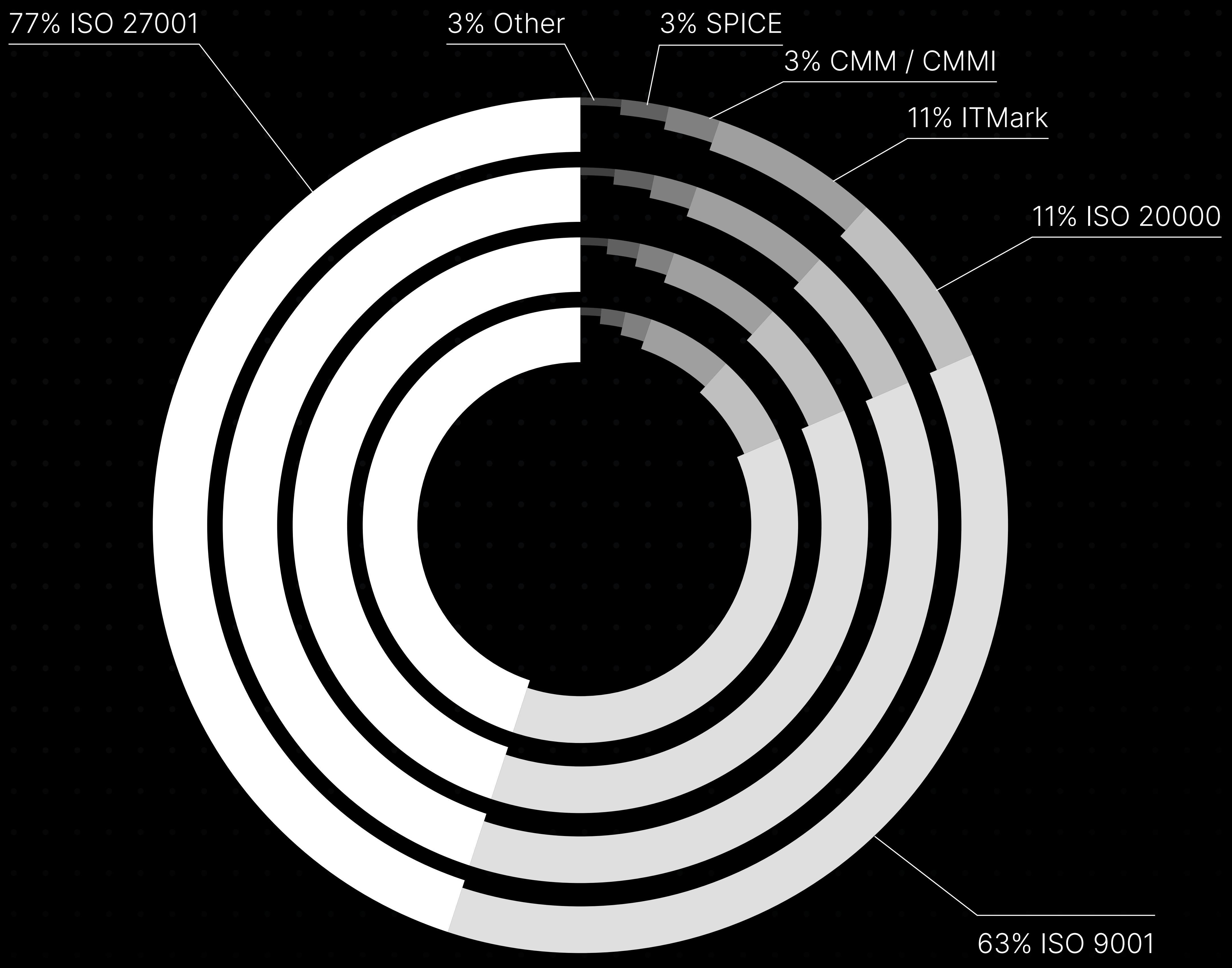
The distribution of quality standards based on the number of employees sheds light on the relationship between company size and quality management practices. Surprisingly, companies with more than 50 employees exhibit a lower percentage (40%) of having quality standards in place. However, it is important to consider that this analysis does not account for variations in the nature and complexity of projects undertaken by companies of different sizes, which may influence the perceived need for quality certifications.

The presence or absence of quality standards in the ICT sector has implications for the overall professionalism, credibility, and competitiveness of companies. Obtaining quality certifications can demonstrate a commitment to excellence, customer satisfaction, and continuous improvement. Encouraging more companies to pursue quality standards, regardless of their ownership structure, annual turnover, or number of employees, should be a priority.

Among the surveyed companies, ISO 27001 is the most widely adopted standard, with an impressive 77% of companies implementing it. ISO 27001 focuses on information security management, demonstrating a strong commitment to safeguarding sensitive data and protecting against potential cyber threats. ISO 9001, a standard for quality management systems, is the second most prevalent, with 63% of companies adhering to its guidelines. This signifies the importance placed on quality management practices and continuous improvement within the ICT sector in Kosovo.

While ISO 27001 and ISO 9001 dominate the landscape, a smaller percentage of companies have implemented other quality standards. ISO 20000, which relates to IT service management, and ITMark, a certification specific to the ICT industry, are both implemented by 11% of the participating companies. CMM / CMMI (Capability Maturity Model / Capability Maturity Model Integration) and SPICE (Software Process Improvement and Capability Determination) are less commonly adopted, each accounting for 3% of the responses. Additionally, 3% of companies have implemented other standards not specified in the table.

Distribution of quality standards among ICT companies in Kosovo



Reasons for Obtaining Quality Standards

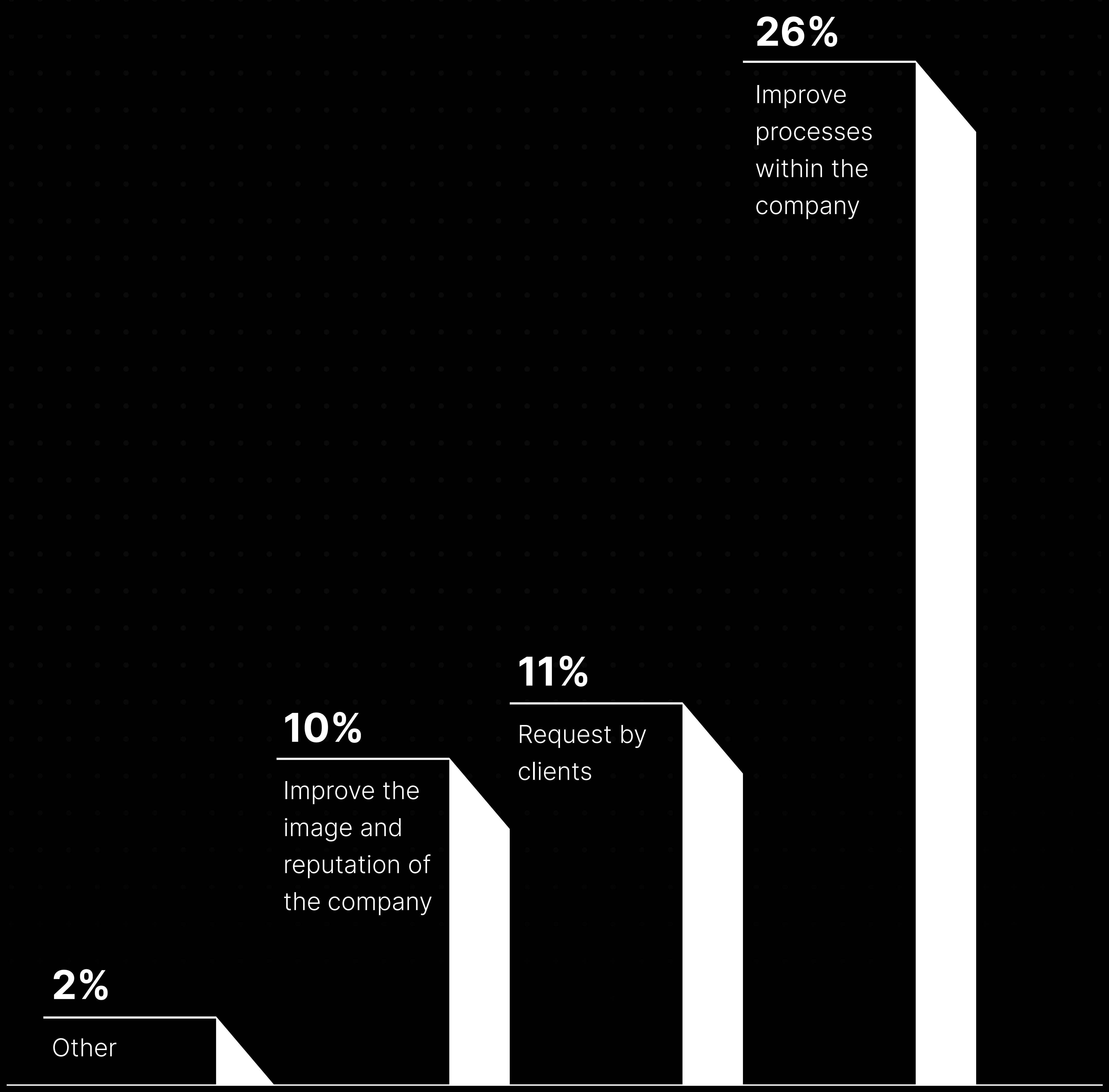
Understanding the motivations behind companies' decisions to pursue quality standards is crucial for evaluating the perceived benefits and impacts of these certifications.

Among the companies that provided responses, the most common reason for obtaining quality standards is to improve processes within their organizations, cited by 26% of the respondents. This indicates a recognition of the importance of structured and efficient workflows, which can lead to increased productivity and customer satisfaction. Another notable reason is the request by clients, motivating 11% of the companies to pursue quality standards. Meeting clients' requirements and demonstrating a commitment to delivering high-quality products and services are critical factors in maintaining strong business relationships.

It is worth mentioning that a significant percentage of companies (10%) did not provide a response regarding their reasons for obtaining quality standards. This highlights the need for further exploration and dialogue to better understand the motivations behind certification decisions within the ICT sector. Additionally, 10% of the companies expressed a desire to improve their image and reputation, recognizing the positive impact that quality certifications can have on their brand perception and market positioning.

The subsequent sections of the report will delve into the main profiles of companies operating in the sector and the horizontal markets in which they provide IT products and services. This analysis will shed light on the diverse capabilities and expertise present within the ICT landscape in Kosovo, facilitating targeted recommendations for ICT companies, educational institutions, and state institutions.

Reasons for obtaining quality standards



Market Presence and Export Activities

The market presence and export activities of companies within the ICT sector in Kosovo are essential indicators of their reach and competitiveness. In this section, we will explore the main profiles of the participating companies and their presence in various horizontal markets, shedding light on their areas of expertise and potential avenues for expansion.

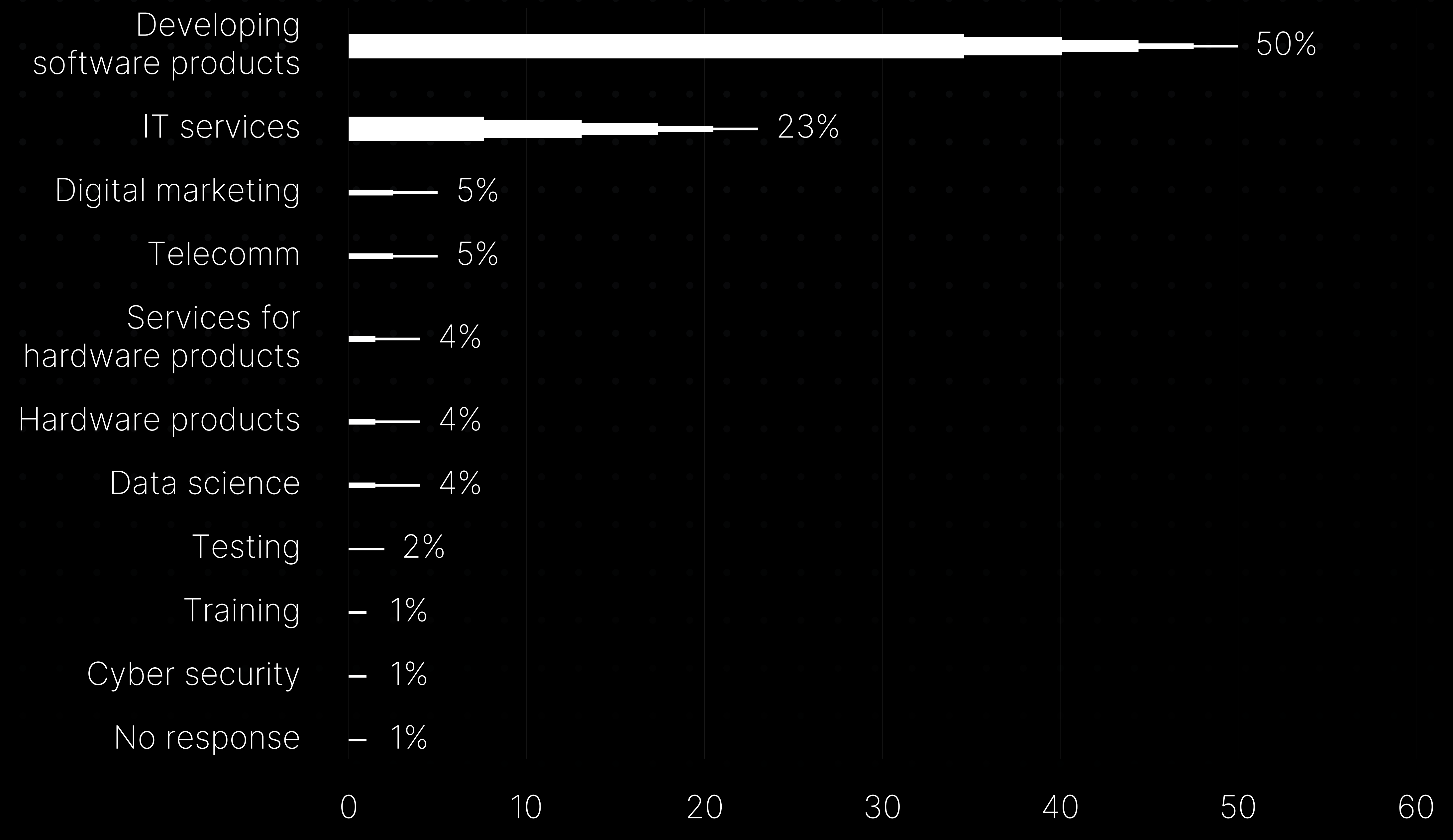
Main Profile of Companies

The main profile of companies in the ICT sector reflects their primary focus and specialization. Among the surveyed companies, 50% identify as software product developers, underscoring the significance of software development as a core competency within the industry. This finding aligns with the growing demand for innovative software solutions in today's digital landscape.

IT services represent another significant segment, accounting for 23% of the companies. This category encompasses a wide range of services, such as IT consulting, project management, and support, catering to the diverse needs of clients across different sectors.

While each profile represents a smaller percentage of companies, they contribute to the overall diversity and expertise within the ICT sector in Kosovo.

Main profiles of ICT Companies in Kosovo



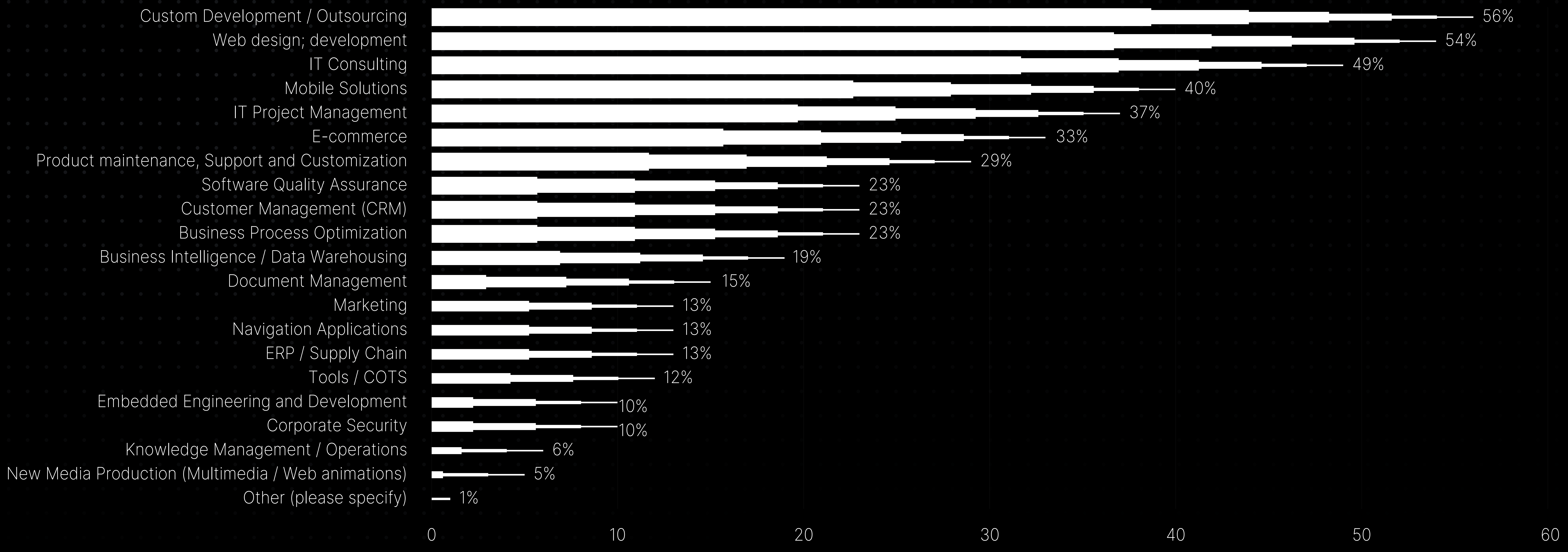
Horizontal Markets Served by Companies

The most commonly mentioned horizontal markets include web design and development, custom development and outsourcing, IT consulting, and mobile solutions. These areas demonstrate the focus on web-based solutions, custom development projects, consulting services, and mobile application development.

E-commerce and IT project management also hold a significant presence, indicating the growing importance of online commerce and the need for efficient project management practices within the ICT sector.

These findings emphasize the dynamic nature of the ICT sector in Kosovo, with companies specializing in various areas and catering to different industries and market segments. The presence of specialized profiles and a broad range of horizontal markets provides a solid foundation for companies to expand their market presence and explore export opportunities.

Horizontal markets where products/services are provided

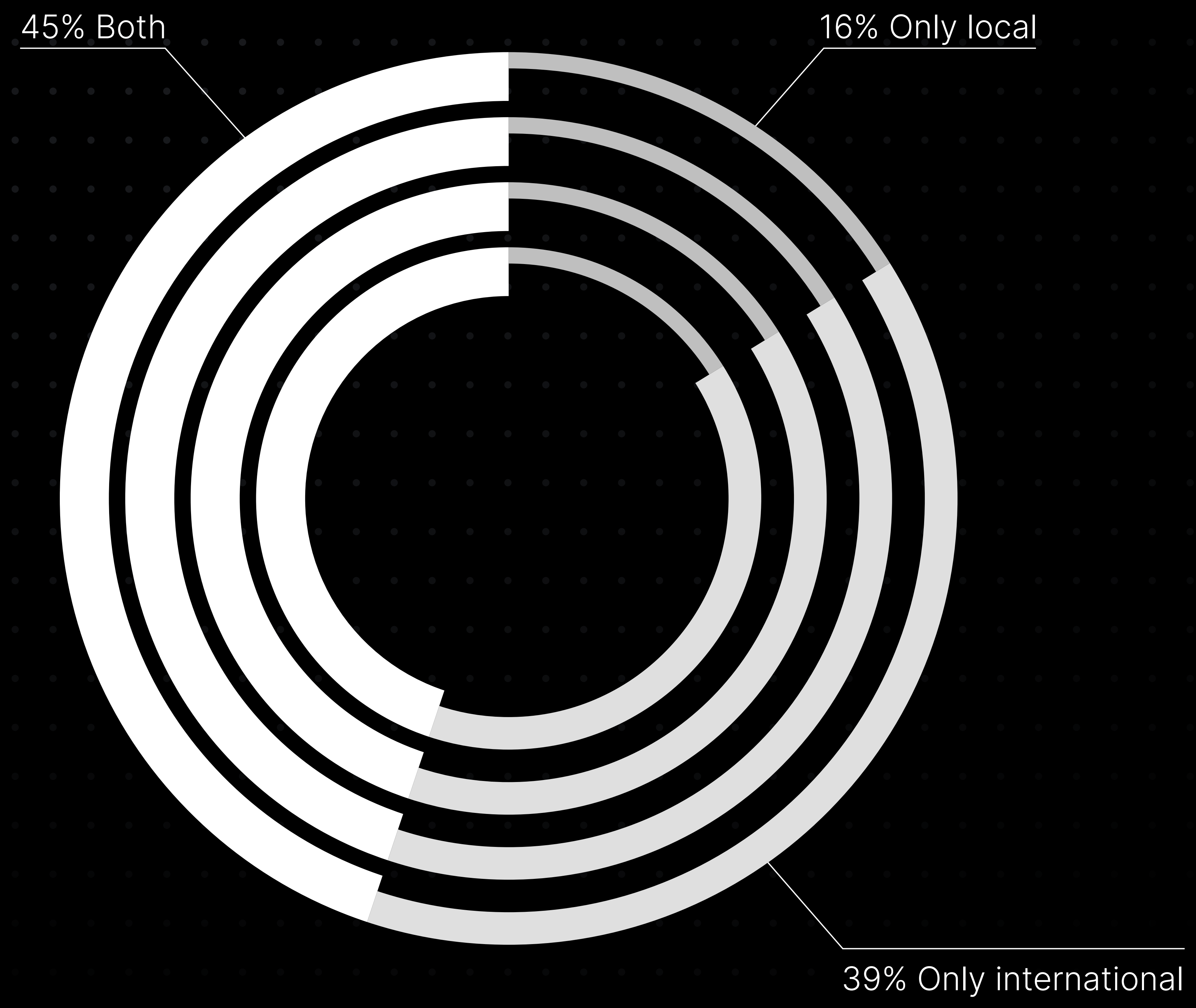


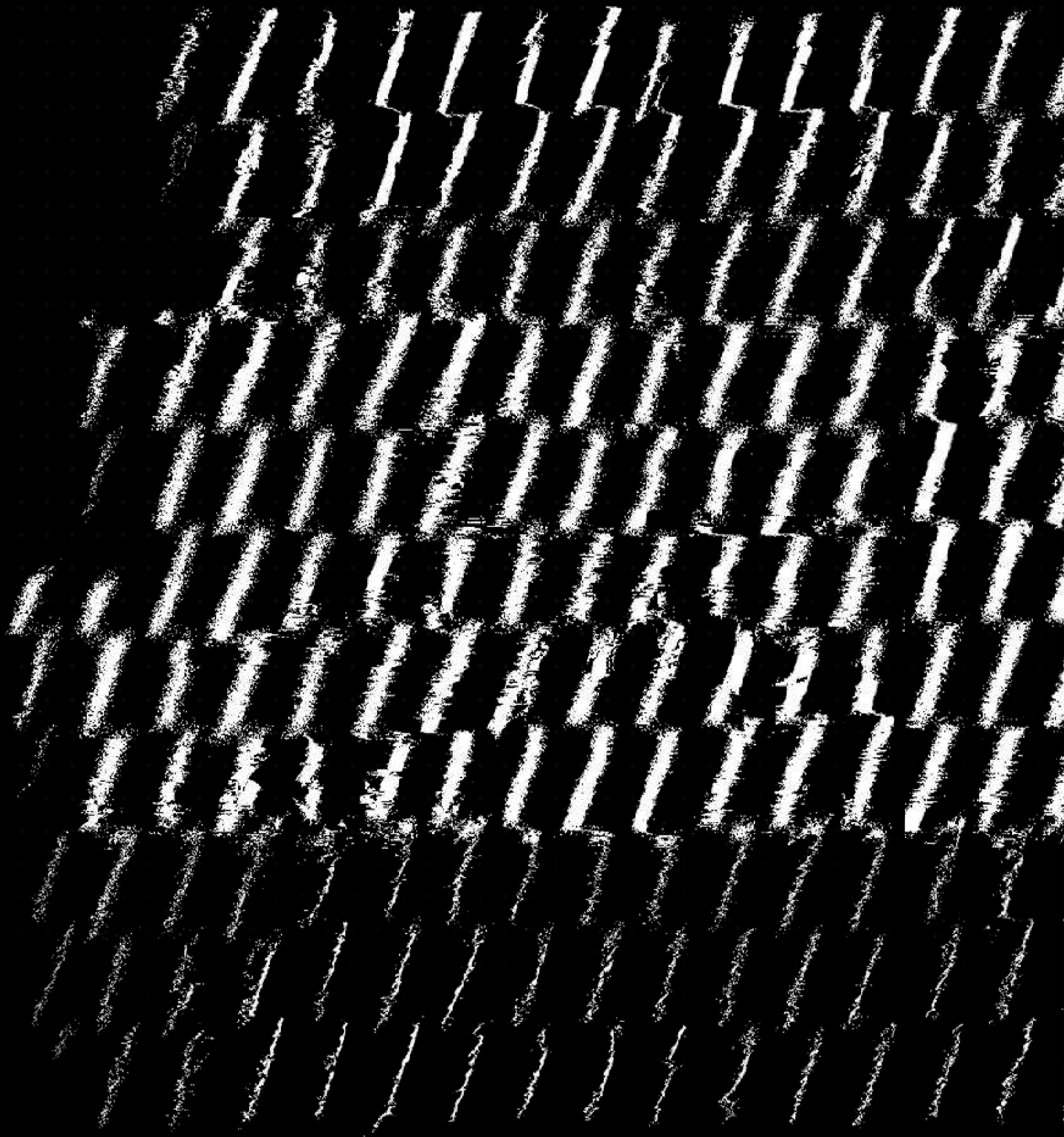
Markets for Services/Products

Companies within the ICT sector in Kosovo have adopted various market strategies to expand their customer base and increase turnover. Of the surveyed companies, 44% reported selling their services/products both locally and internationally. This dual approach demonstrates a balanced strategy, leveraging both domestic and international markets.

Meanwhile, 38% of companies focus solely on international markets, emphasizing their commitment to expanding beyond national boundaries and capitalizing on global opportunities. Conversely, 16% of companies concentrate solely on the local market, catering specifically to the domestic customer base.

Markets for Services/Products Sold





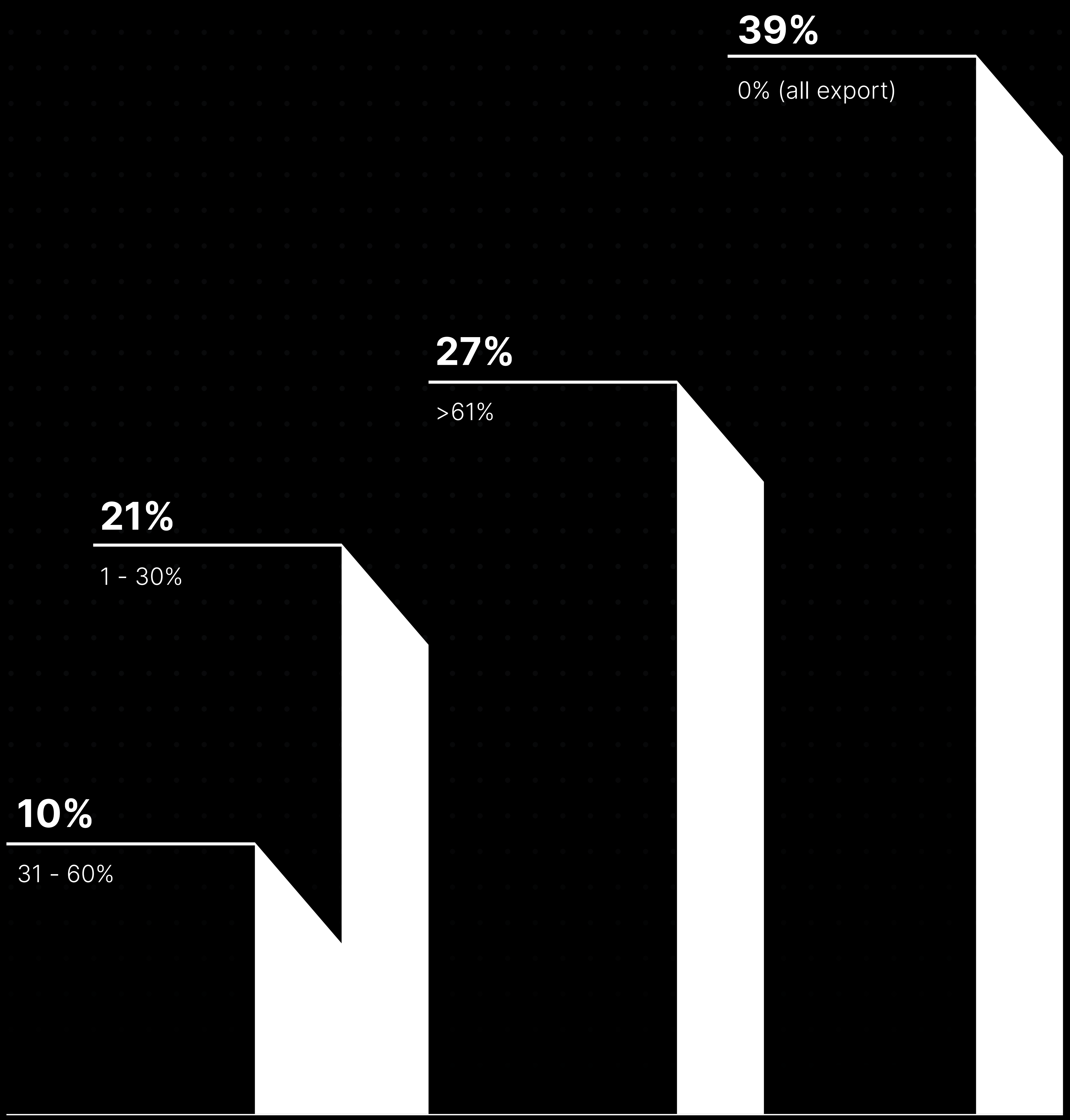
Out of the surveyed companies, 39% reported that their market base in Kosovo accounted for 0% of their total sales, indicating that their sales were entirely focused on export markets. This suggests that a significant portion of these companies has successfully expanded their operations beyond the local market, capitalizing on international opportunities.

On the other hand, 21% of the companies indicated that Kosovo constituted a market base of 1-30% of their sales. This signifies that these companies have established a certain degree of presence and customer base within the country while also actively engaging in export activities. It is noteworthy that capturing a substantial market share in the domestic market while simultaneously exporting their products/ services can contribute to a more diversified and resilient business model.

Interestingly, 27% of the companies revealed that more than 61% of their sales originated from the Kosovo market. This indicates a high level of reliance on the local market for their business turnover. These companies are likely deeply entrenched in the Kosovar business ecosystem and have cultivated a loyal customer base, benefiting from the stability and growth opportunities provided by the domestic market.

Overall, the data suggests a diverse landscape in terms of market presence in Kosovo among the participating companies. While some companies have adopted a predominantly export-focused approach, others have strategically leveraged the local market to drive their sales growth. This variety of market strategies reflects the dynamic nature of the business environment and highlights the adaptability and resourcefulness of the companies operating in the IT sector in Kosovo.

Market Base Distribution in Kosovo

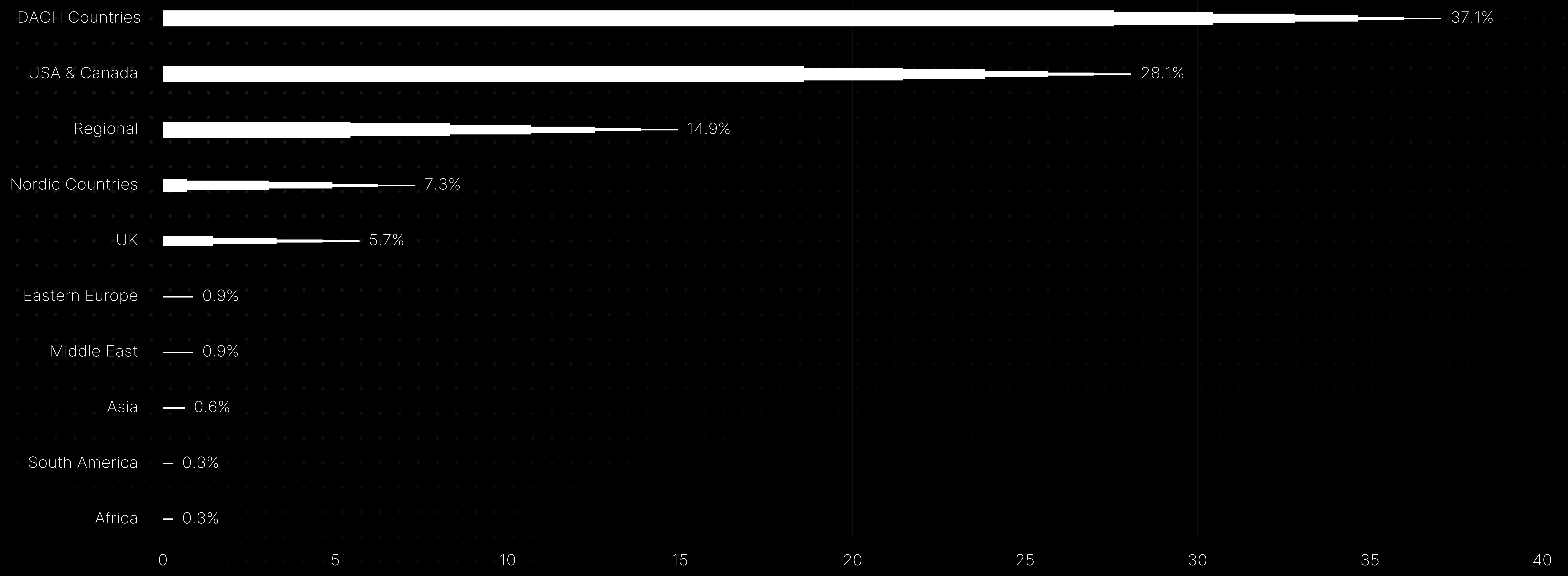


Export Percentage by Country

Companies within the ICT sector in Kosovo actively engage in export activities to a diverse range of countries worldwide. The most prominent export destinations for these companies include the DACH countries (Germany, Austria, Switzerland), followed by the USA and Canada and the Balkan countries. These regions reflect the strategic focus on technologically advanced and economically developed markets, offering substantial business opportunities.

Other countries to which companies export their products/services include the Nordic countries, the UK, Eastern Europe, the Middle East, Asia, Africa, South America, and Australia. This distribution signifies the global reach and diversification of the participating companies' export activities, aiming to tap into emerging markets and establish a broader customer base.

Specify the export percentage by country



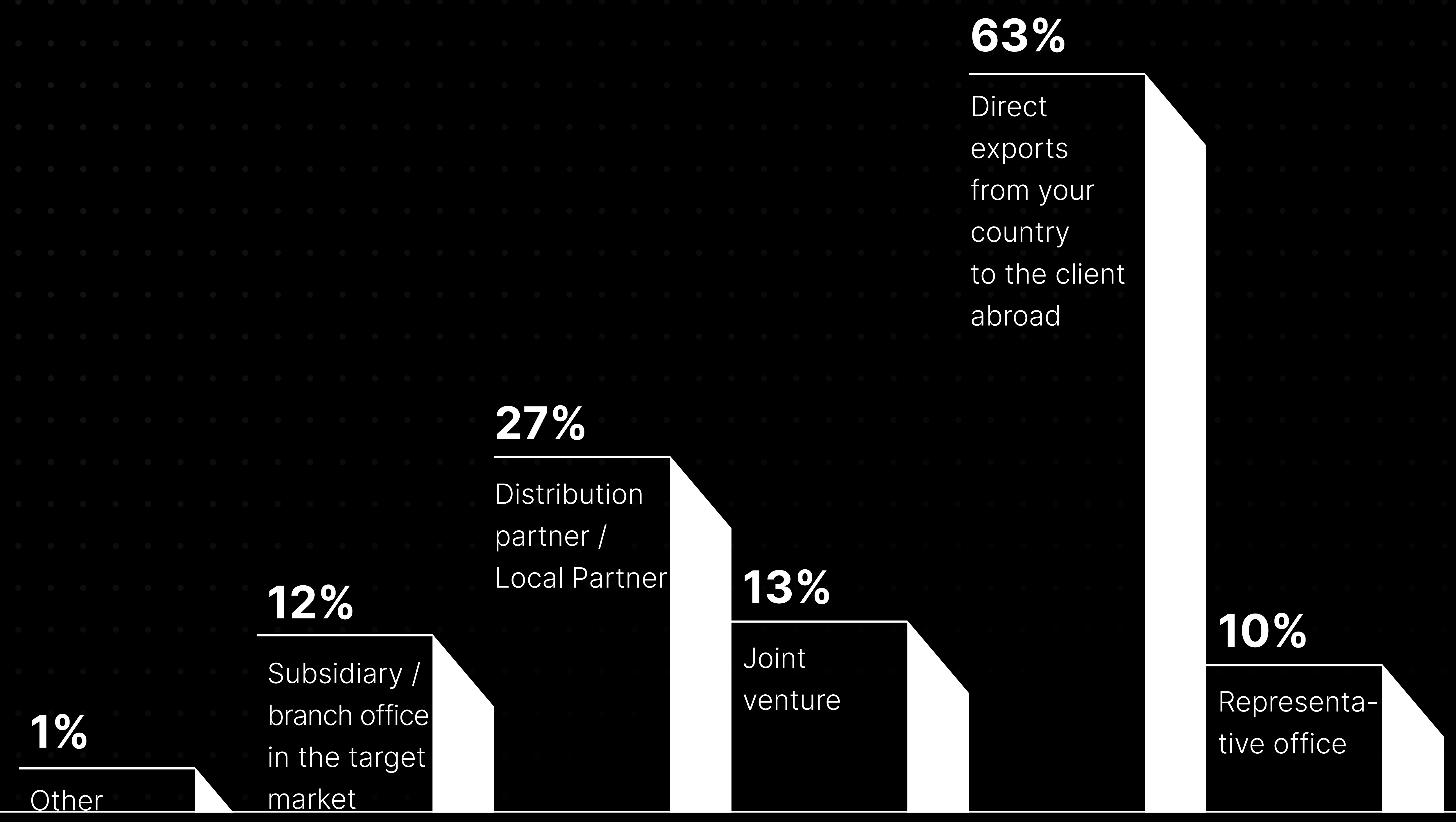
Business Approach in Export Markets

When it comes to conducting business in export markets, companies employ various strategies and channels to reach international clients. The majority (63%) of companies engage in direct exports from Kosovo to their clients abroad. This approach allows companies to maintain direct relationships with their international clients, ensuring better control over the export process and fostering a deeper understanding of customer needs.

Furthermore, 27% of companies utilize distribution partners or local partners, such as sales agents, sales representatives, or sole distributors, to expand their reach in export markets. Collaborating with local partners enables companies to leverage their networks, market knowledge, and established customer relationships, facilitating market penetration and growth.

Other strategies employed by companies include joint ventures (13%), establishing subsidiary/branch offices in the target market (12%), and setting up representative offices (10%). These approaches demonstrate the willingness of companies to invest in market expansion and establish a physical presence in export markets.

Business strategy in export markets



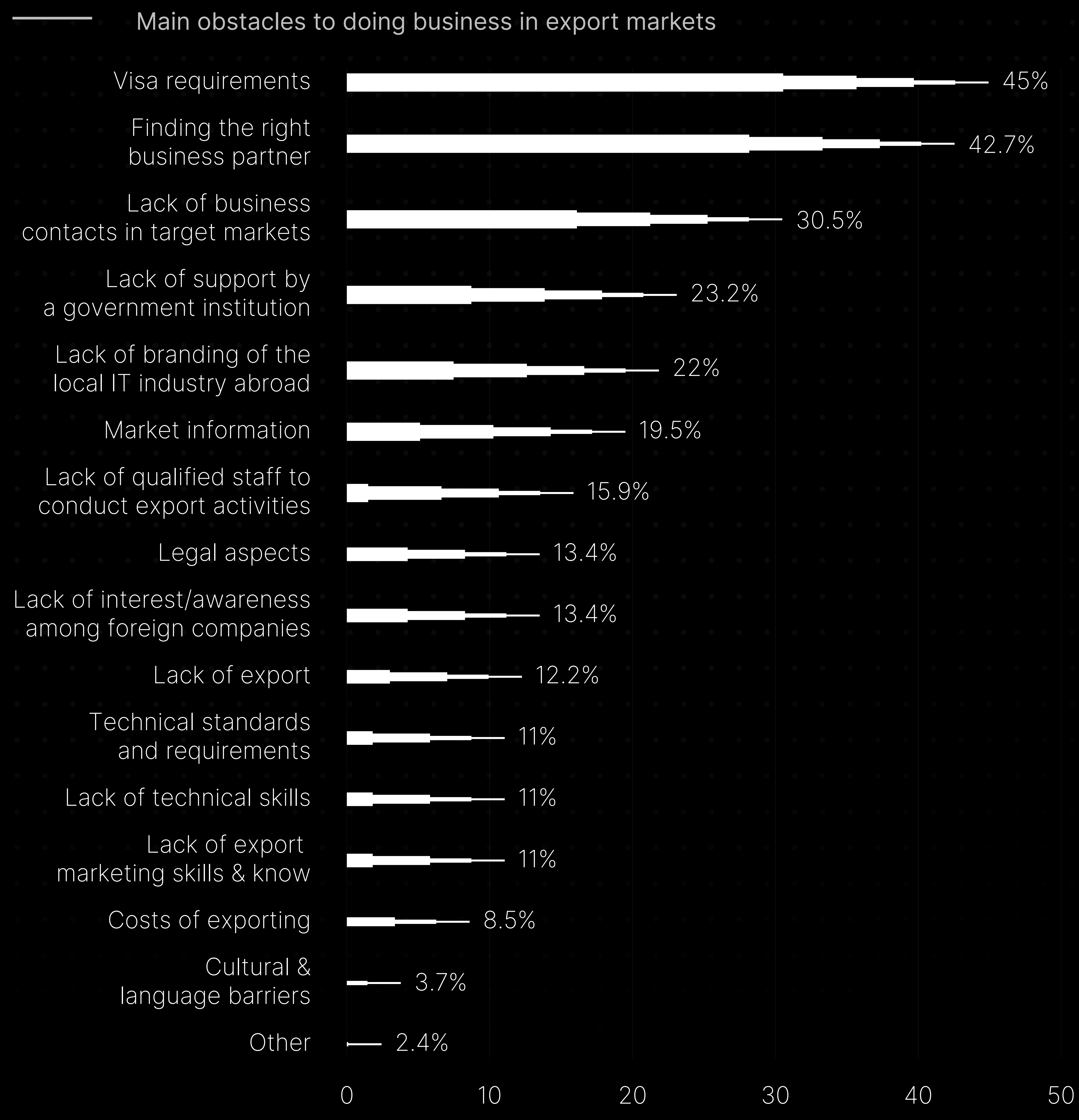
Obstacles to Doing Business in Export Markets

Understanding the challenges and obstacles faced by companies when venturing into export markets is crucial for devising effective strategies and policies to support their international growth.

The survey reveals several significant obstacles that companies encounter when venturing into export markets. The top three obstacles identified are:

1. Visa requirements (45%): This obstacle highlights the bureaucratic challenges related to obtaining visas, which can impede international business activities.
2. Finding the right business partner (42.7%): Building strong partnerships in target markets is crucial for success, and the difficulty in finding suitable partners is a significant concern for companies.
3. Lack of business contacts in target markets (30.5%): Establishing a robust network of contacts is vital for market entry and expansion, and the absence of such contacts poses a hurdle forcompanies.

Other notable obstacles include the lack of support by government institutions (23.2%), the lack of branding of the local IT industry abroad (22.0%), and insufficient market information (19.5%). These challenges point to the importance of governmental support, industry promotion, and access to reliable market data in facilitating export activities.



Variations by Company Size: When examining the distribution of obstacles based on company size, some noteworthy variations emerge:

- Visa requirements: Companies with fewer than 10 employees report this obstacle at 44%, while companies with 11 to 50 employees and those with more than 50 employees face higher percentages of 54% and 60%, respectively. This suggests that smaller companies may encounter relatively fewer visa-related challenges compared to their larger counterparts.
- Finding the right business partner: Companies with 11 to 50 employees have the highest percentage (54%) in identifying this obstacle, indicating the increased complexity of partner acquisition for companies in this size range.
- Lack of business contacts in target markets: Companies with fewer than 10 employees report the highest percentage (44%) in facing this obstacle, followed by companies with 11 to 50 employees (27%) and those with more than 50 employees (10%). Smaller companies may experience more difficulty in establishing initial business contacts abroad.

Variations by Annual Turnover: Analyzing the distribution of obstacles based on annual turnover reveals additional insights:

- Visa requirements: Companies with an annual turnover between 100,000 and 500,000 EUR report the highest percentage (84%) in encountering visa-related challenges. This suggests that mid-sized companies face more significant obstacles in this area compared to companies with lower or higher turnovers.
- Finding the right business partner: Companies with a turnover between 100,000 and 500,000 EUR face the highest percentage (58%) in finding suitable business partners, indicating the potential difficulties in securing partnerships for companies in this turnover range.
- Lack of branding of the local IT industry abroad: Companies with a turnover between 100,000 and 500,000 EUR report the highest percentage (47%) in perceiving this as an obstacle. These companies may face challenges in establishing a strong brand presence for the local IT industry in international markets.

The variations by company size and annual turnover underscore the importance of understanding the specific challenges faced by companies based on their scale of operations and financial capacity. Tailoring support mechanisms and initiatives to address these variations can contribute to the growth and success of companies across different segments of the IT sector in export markets.

Furthermore, it is interesting to note that cultural and language barriers are perceived as a relatively minor obstacle, with only 3.7% of respondents identifying them as a challenge. This suggests that the participating companies have developed strategies or possess the necessary language skills to navigate cultural differences effectively.

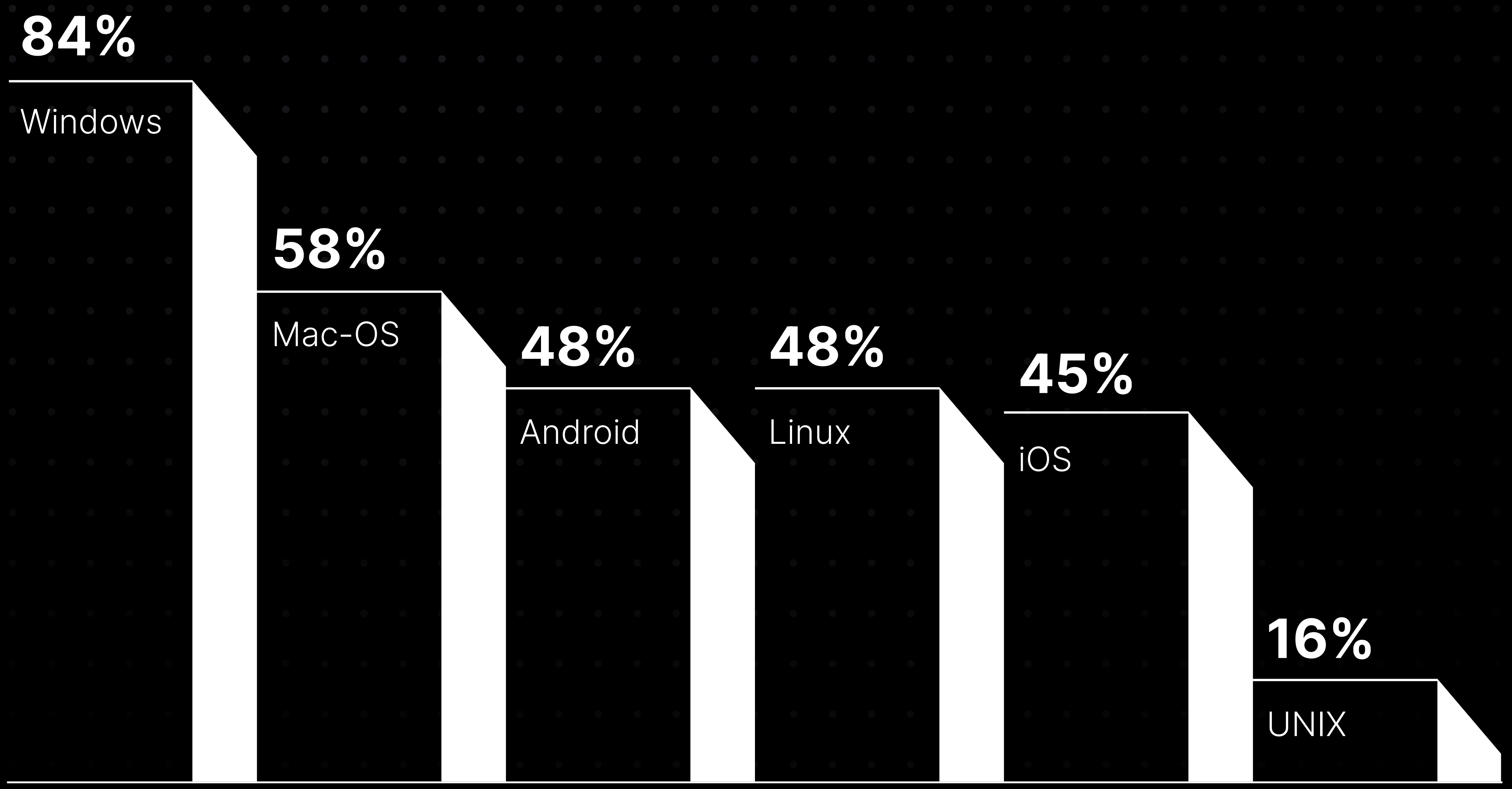
In conclusion, the market presence and export activities of ICT companies in Kosovo reveal a dynamic and globally oriented industry. Companies actively sell their services/products both locally and internationally, with a notable focus on software development, IT services, and digital marketing. While export activities play a significant role, some companies maintain a strong market base in Kosovo. The DACH countries, USA, and Canada are major export destinations. The ways in which companies conduct business in export markets highlight the importance of direct exports and partnerships in expanding their international reach. Overcoming obstacles related to visas, finding suitable business partners, and establishing business networks are crucial for companies to thrive in export markets. Government support, industry branding efforts, and access to market information are vital for companies to navigate these challenges successfully.

Technology Usage in ICT Companies

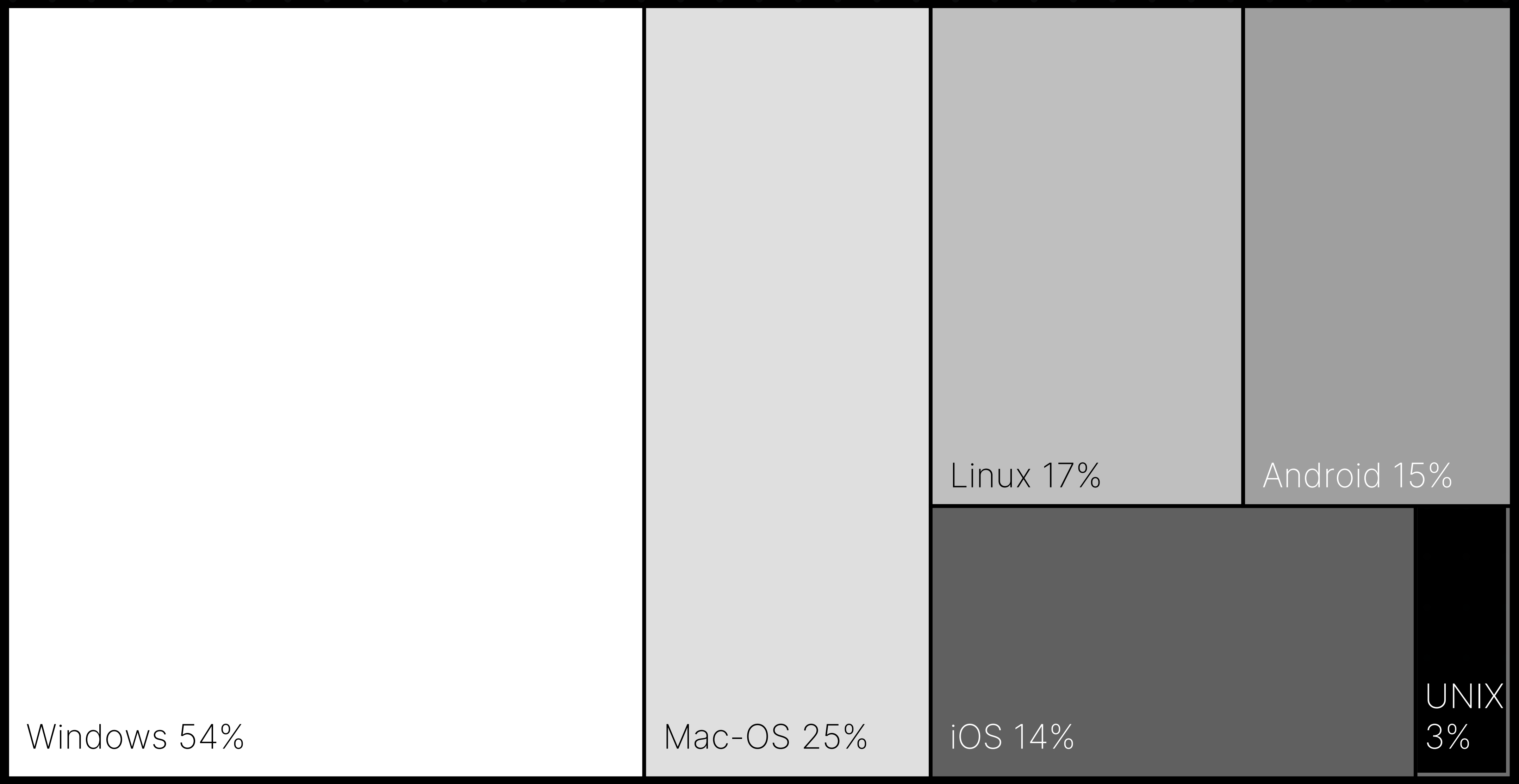
Operating Systems and Platforms

The surveyed companies primarily utilize Windows as their operating system, with 84% of companies using it. This indicates a strong prevalence of the Windows platform within the Kosovo ICT industry. MAC-OS is also popular among the companies surveyed, with 58% of them utilizing it. When considering mobile platforms, iOS and Android have comparable usage rates at 45% and 48%, respectively. Linux and UNIX are less commonly used, indicating a lower adoption of these platforms among the surveyed companies.

The use of operating systems in ICT companies in Kosovo



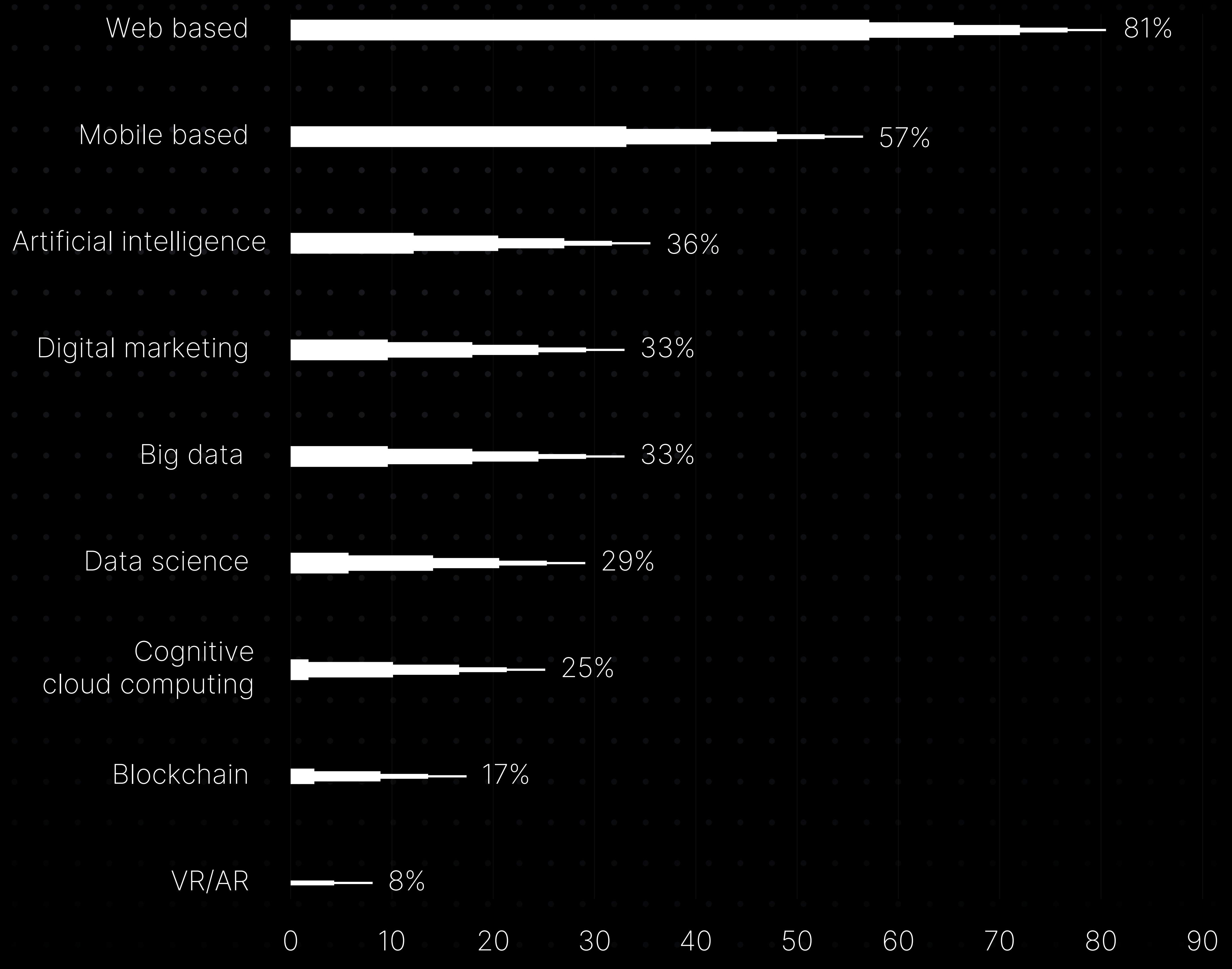
Distribution of the use of operating systems in the company



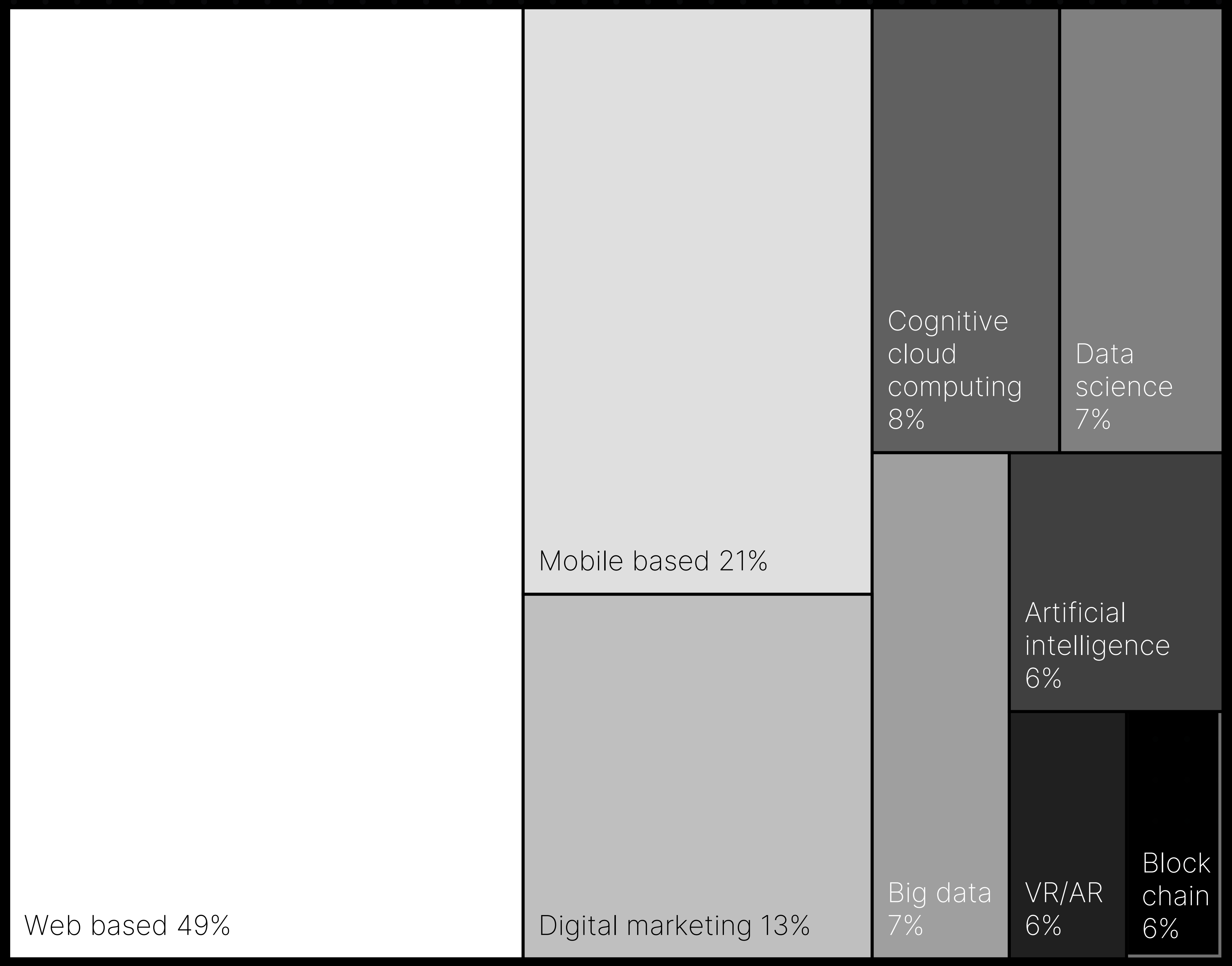
Technologies for Service/Product Development

When it comes to development technologies, the survey results reveal a diverse landscape. The most widely adopted technologies include web-based development (81%), followed by artificial intelligence (36%), big data (33%), and data science (29%). However, emerging technologies such as virtual reality/augmented reality (8%) and blockchain (17%) are less commonly used, indicating potential areas for growth and exploration within the industry.

Technologies used to develop services/products



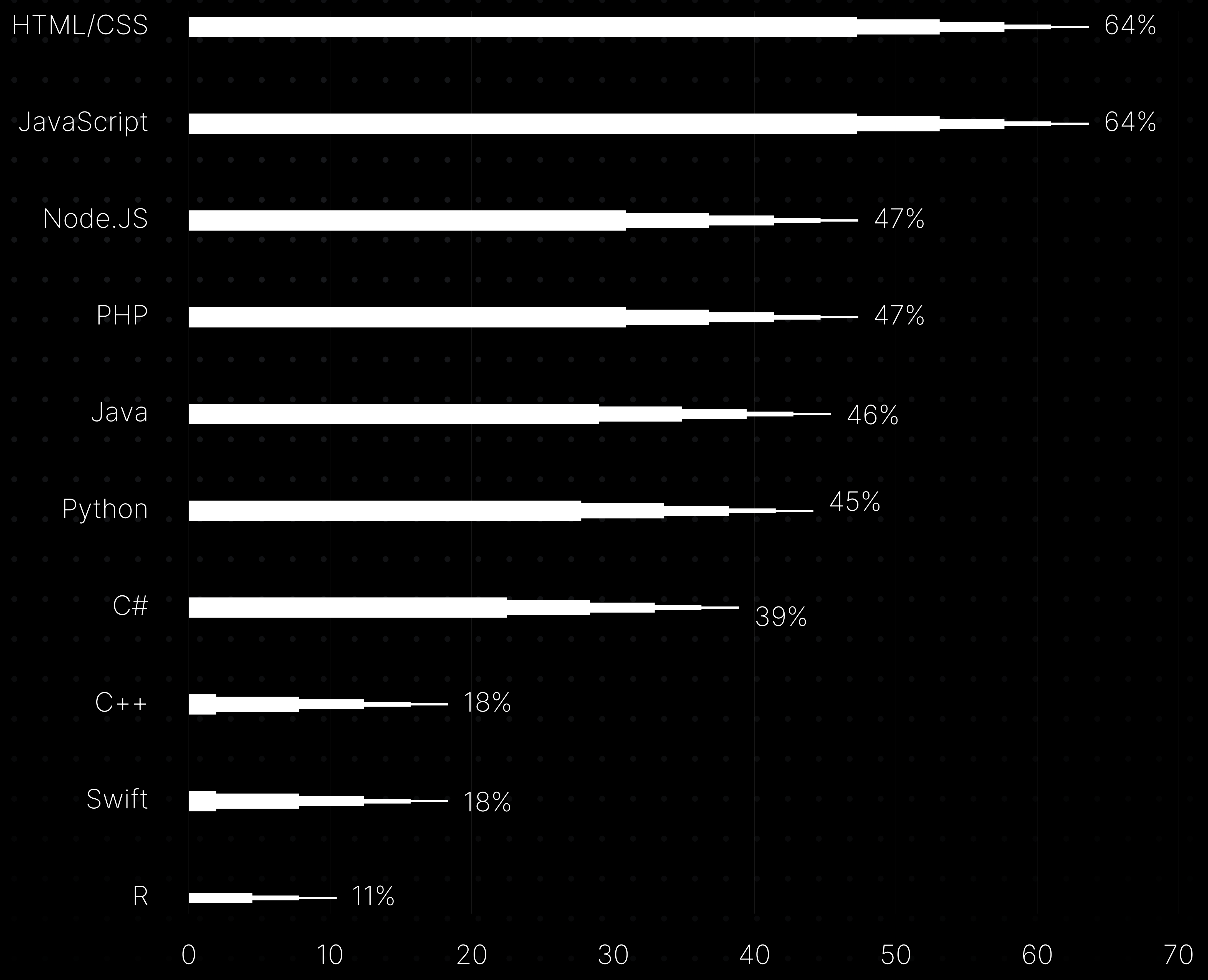
Distribution of technologies used to develop services/products in companies



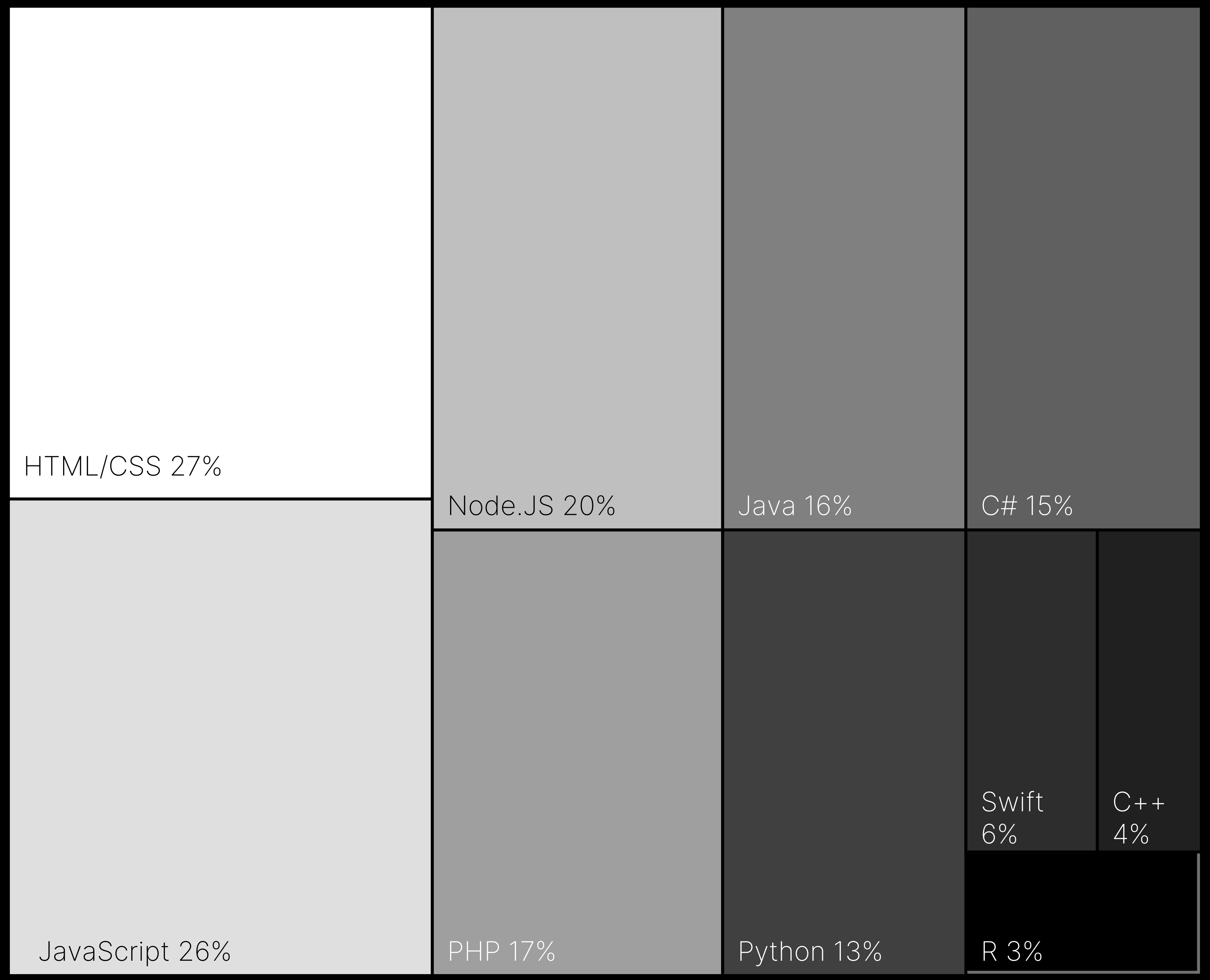
Programming Languages

In terms of programming languages, JavaScript and HTML/CSS are the most prevalent, with 64% of companies utilizing them. The results highlight the dominance of web development technologies within the surveyed companies, as well as the utilization of versatile programming languages for various development purposes.

Programing Languages used by companies



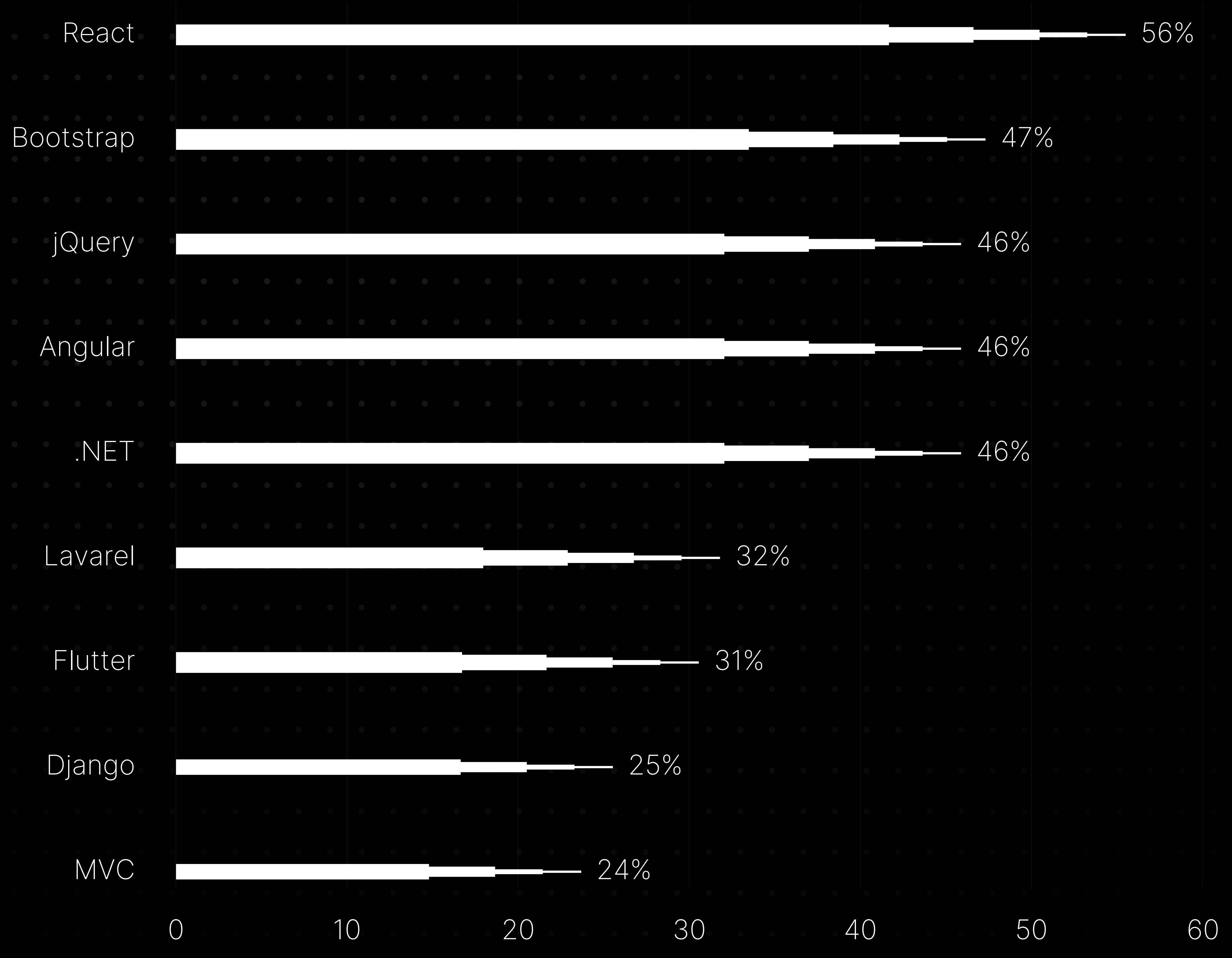
Distribution of programing language usage inside companies



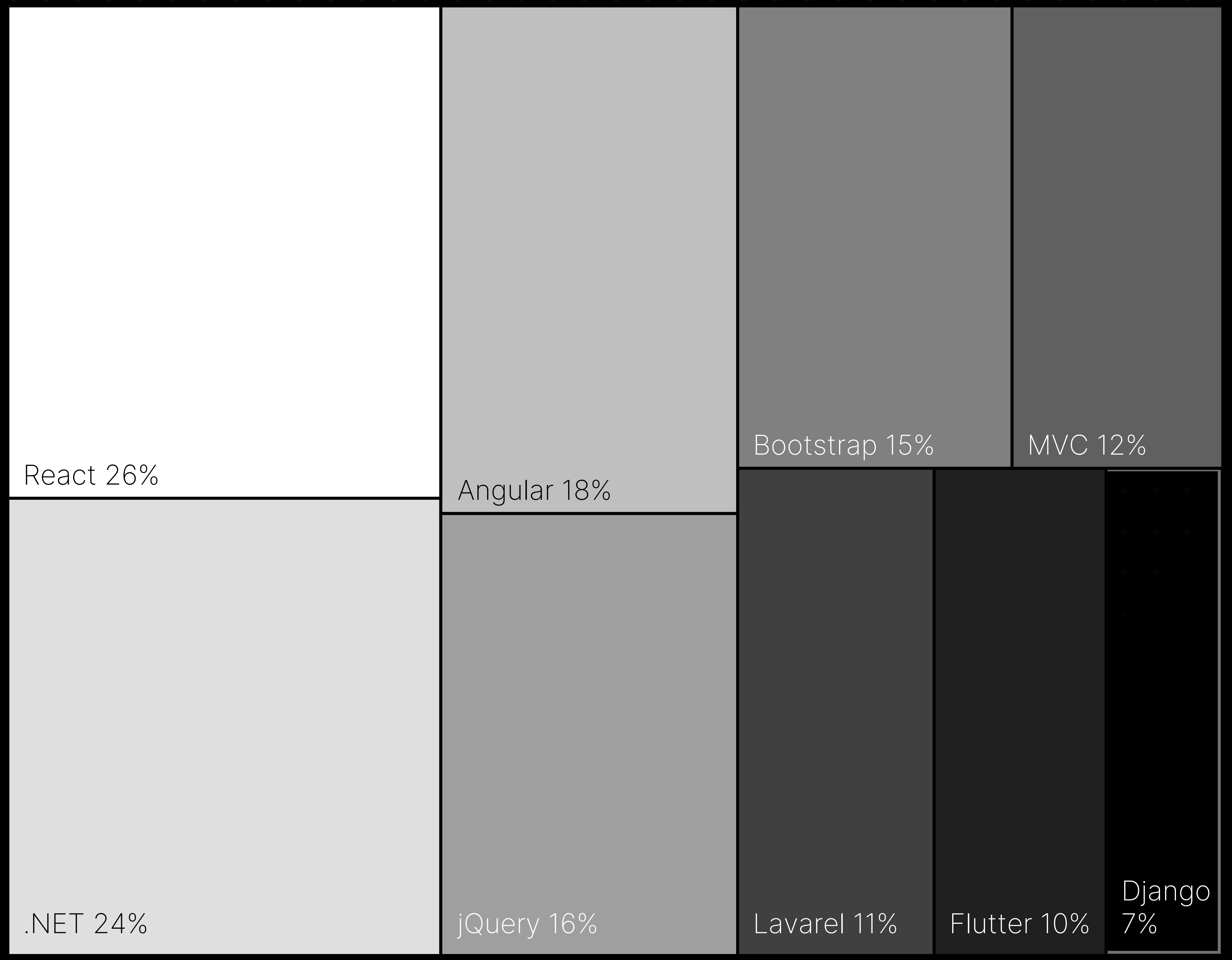
Programming Frameworks

Among the programming frameworks used by the surveyed companies, React (56%) and Bootstrap (47%) stand out as the most widely adopted. Angular, .Net and jQuery also have notable usage rates at 46%. These frameworks enable efficient and streamlined development processes, supporting the companies in creating robust and interactive applications.

Programing Frameworks used by companies



Distribution of programing language usage inside companies



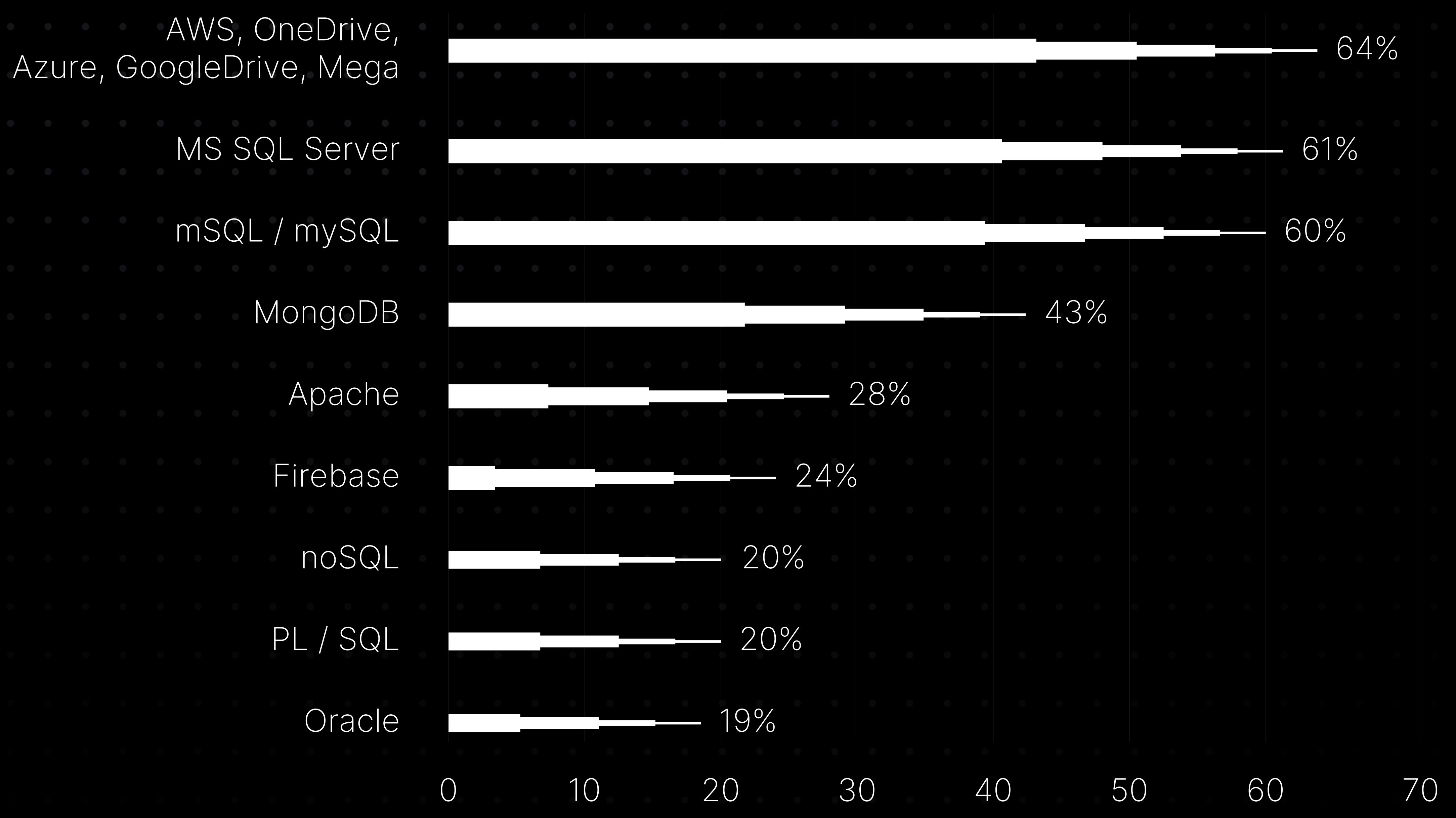
Data Storage & Database Technologies

The majority of companies (64%) utilize cloud-based storage solutions such as AWS, OneDrive, Azure, GoogleDrive, and Mega. MS SQL Server (61%) and mSQL/mySQL (60%) are the most commonly useddatabase technologies. MongoDB (43%) and Firebase (24%) also have notable usage rates. However, PL/SQL, Oracle, and noSQL are less frequently used, suggesting otential areas for companies to explore alternative database technologies.

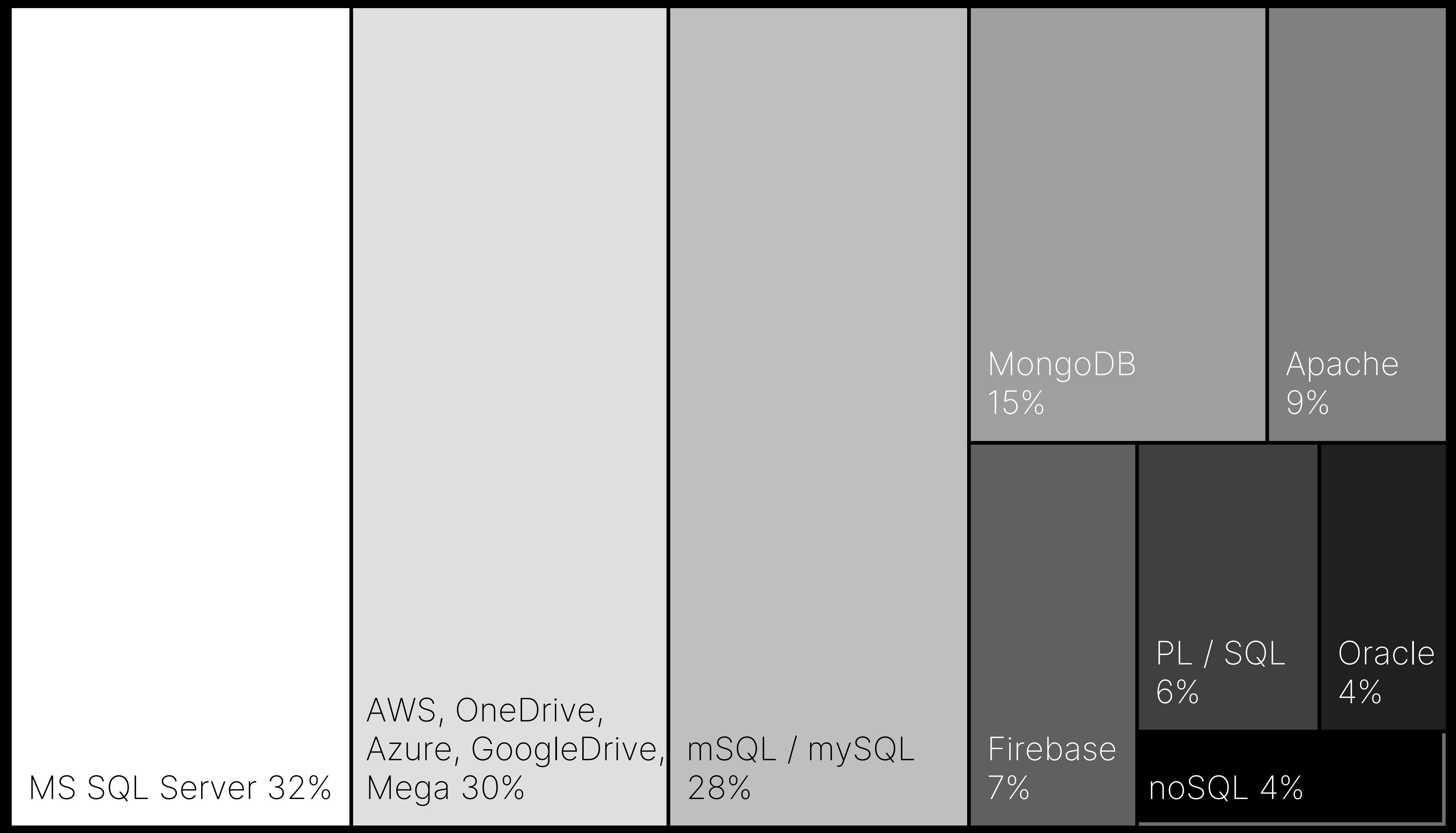
Overall, the ICT companies in Kosovo demonstrate a strong reliance on Windows and a growing adoption of MAC-OS and mobile platforms. Web-based development is prevalent while emerging technologies such as virtual reality/augmented reality and blockchain have yet to gain widespread adoption. JavaScript is the dominant programming language, and frameworks like React, Bootstrap, and Angular are highly favored. Cloud-based storage solutions and popular database technologies such as MS SQL Server and mSQL/mySQL are widely utilized.

Based on the findings, it is recommended that companies continue to explore and invest in emerging technologies such as virtual reality/augmented reality and blockchain to leverage their potential for innovation and competitive advantage. Furthermore, companies should consider diversifying their database technology choices and expanding their knowledge in PL/SQL and Oracle for specific use cases.

Data storage & database technologies used by companies

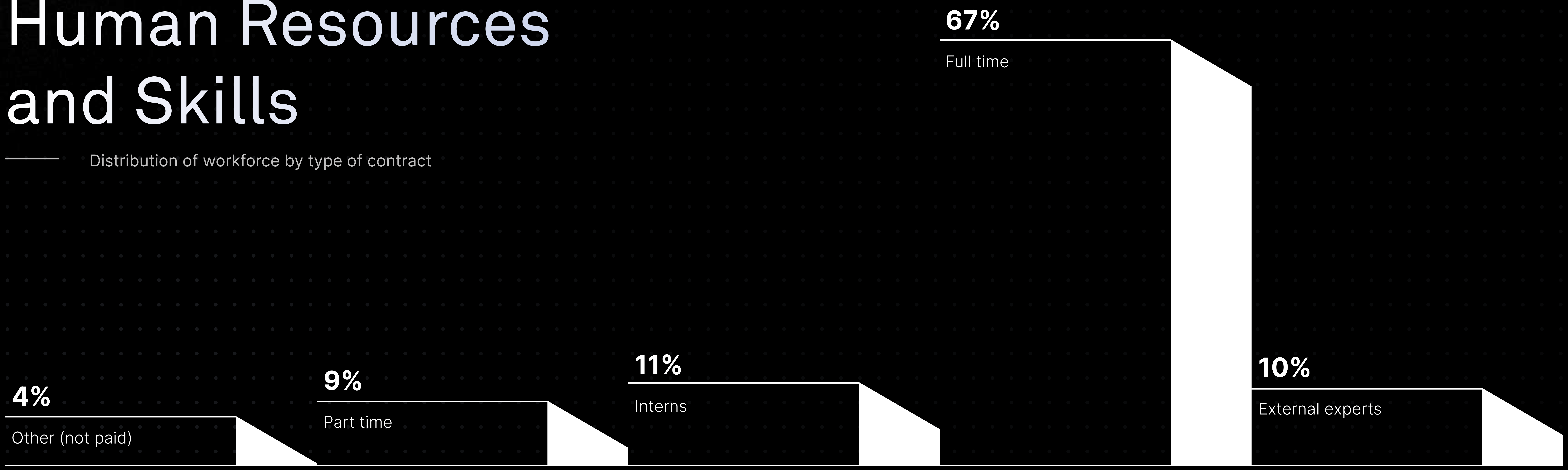


Distribution of data storage & database technologies used usage inside companies



Human Resources and Skills

Distribution of workforce by type of contract



As previously analyzed, we have observed that the ICT industry in Kosovo is comprised of a variety of company sizes. The majority of companies fall within the small category, with 1-10 employees. Additionally, a significant portion of companies consists of 11-50 employees, indicating the existence of more established and growing organizations. This diversity in company sizes reflects the dynamic nature of the ICT sector in Kosovo, with a combination of both small and medium-sized enterprises contributing to its overall development and growth.

Turning our attention to the composition of the workforce, it is evident that full-time mployment dominates the industry, with approimately 67% of employees working on a full-time basis. This emphasis on full-time employment signifies a concerted effort by companies to build a stable and committed workforce to support their operations and growth.

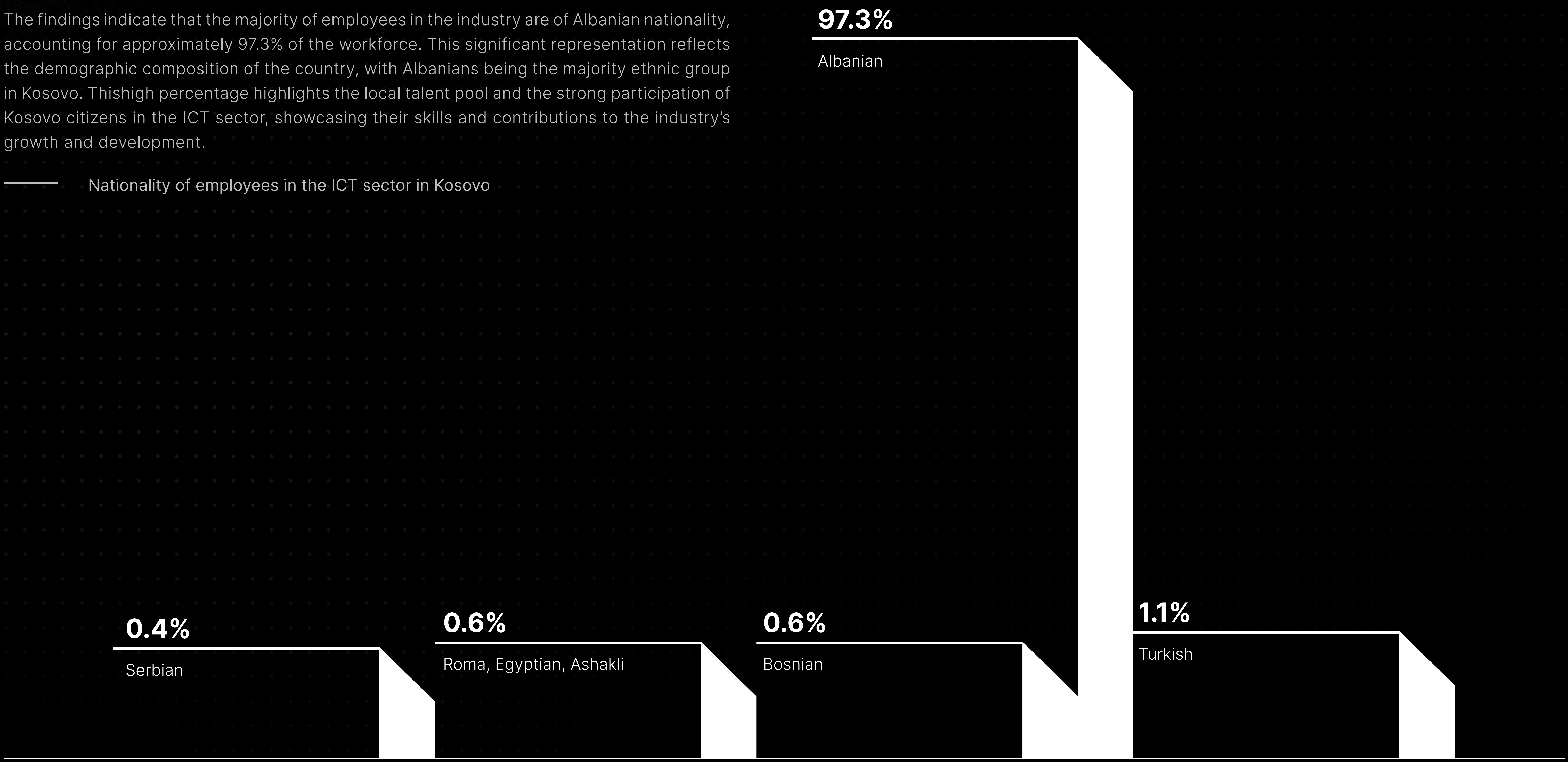
Furthermore, the presence of interns and external experts within the workforce highlights the industry's commitment to acquiring specialized skills and knowledge. The allocation of 11% of employees as interns demonstrates a proactive approach in nurturing talent and fostering learning opportunities within the ICT sector. Moreover, the inclusion of external experts, accounting for 10% of the workforce, suggests a recognition of the importance of accessing external expertise to drive innovation and enhance the quality of services and products.

However, it is worth noting that the percentage of part-time employees in the industry is relatively low, at approximately 9%. This suggests that part-time employment arrangements are less common among ICT companies in Kosovo. While this indicates a focus on building a core, dedicated orkforce, it may also imply a potential area for exploration and expansion in terms of providing flexible work options and accommodating a diverse range of employment preferences.

Employee Nationality Distribution

The findings indicate that the majority of employees in the industry are of Albanian nationality, accounting for approximately 97.3% of the workforce. This significant representation reflects the demographic composition of the country, with Albanians being the majority ethnic group in Kosovo. Thishigh percentage highlights the local talent pool and the strong participation of Kosovo citizens in the ICT sector, showcasing their skills and contributions to the industry's growth and development.

Nationality of employees in the ICT sector in Kosovo



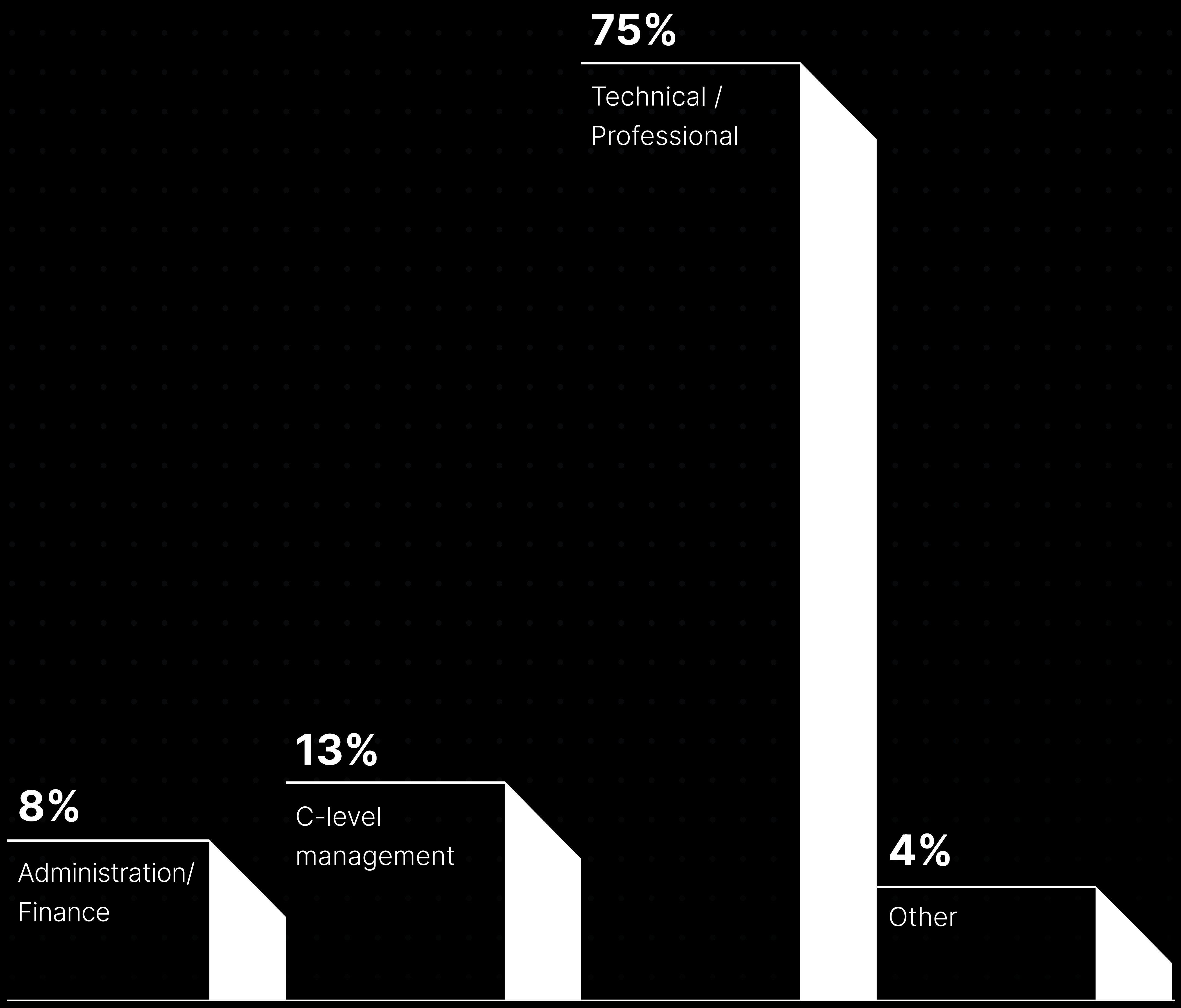
Languages for Customer Communication

The findings reveal that English is the most widely spoken foreign language among the ICT companies in Kosovo, with an impressive 93.6% indicating proficiency in English communication. The strong English language skills within the industry position Kosovo companies favorably in terms of engaging with international clients and expanding their reach in the global market. German emerges as the second most prevalent language for communication, with 46.2% of companies indicating proficiency in German. This finding showcases the significance of the German-speaking market for the Kosovo ICT industry and highlights the efforts made by companies to cater to clients from German-speaking countries.

Additionally, Serbian and Croatian languages are notable in terms of communication capabilities, with 12.8% and 7.7% of companies, respectively, indicating proficiency in these languages. Other languages, including Italian, Turkish, and French, also demonstrate a moderate level of proficiency, ranging from 3.8% to 5.1%.

Employee Structure and Gender Distribution

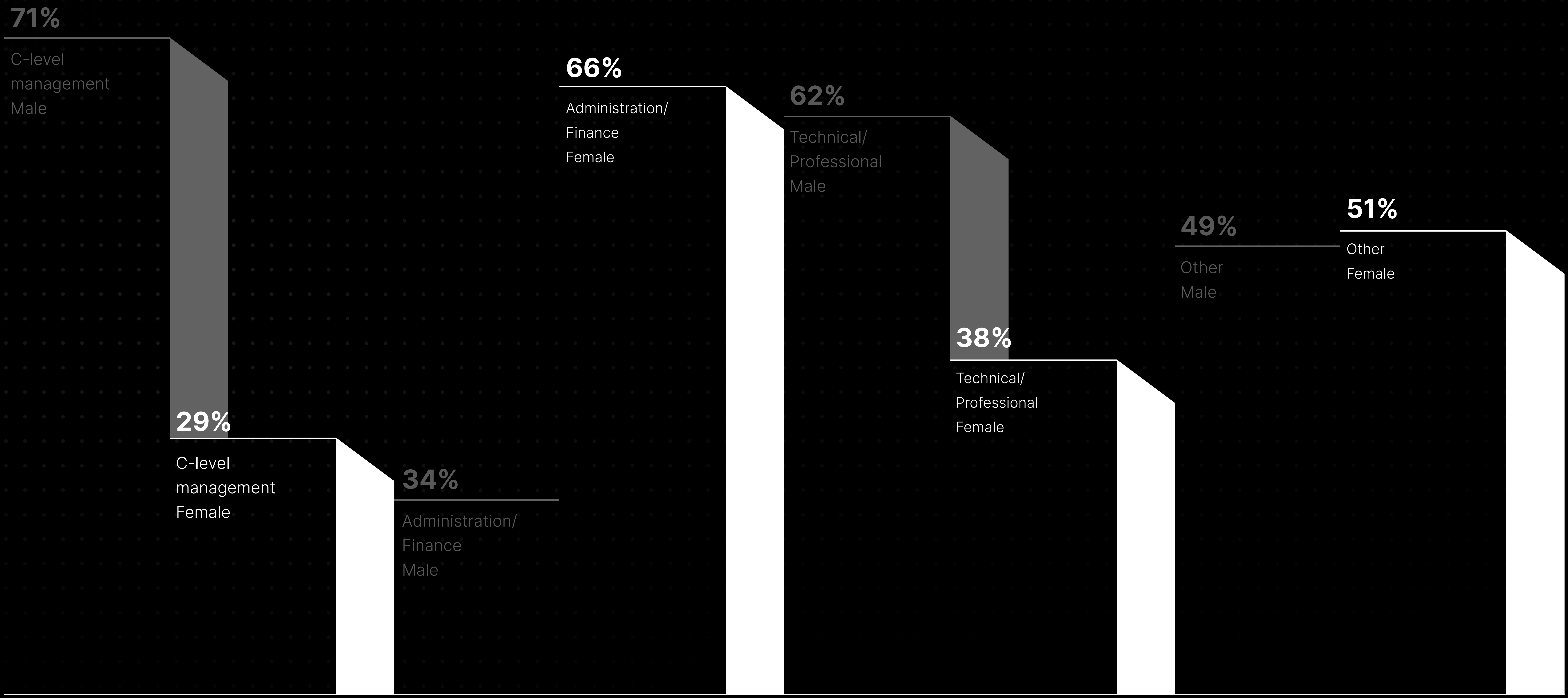
Structure of companies



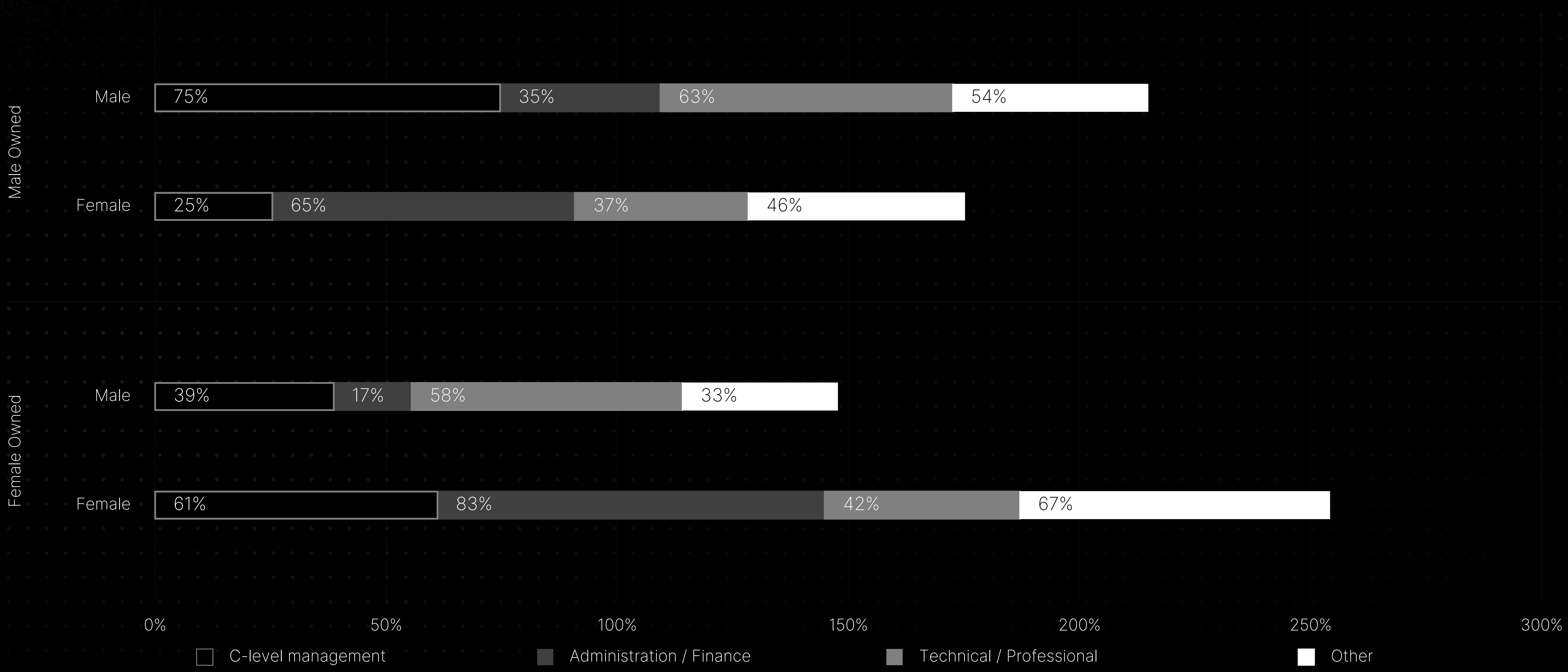
In terms of the overall structure of companies, the majority of employees (75%) are engaged in technical and professional roles. This emphasizes the technical expertise and skill requirements within the industry.

When considering the gender breakdown within each position category, interesting variations emerge. In companies with male owners, there is a higher representation of male employees across all positions. In contrast, female-owned companies exhibit a higher proportion of female employees in various positions.

Structure of companies by gender



Distribution of gender representation by gender of the owner of the company

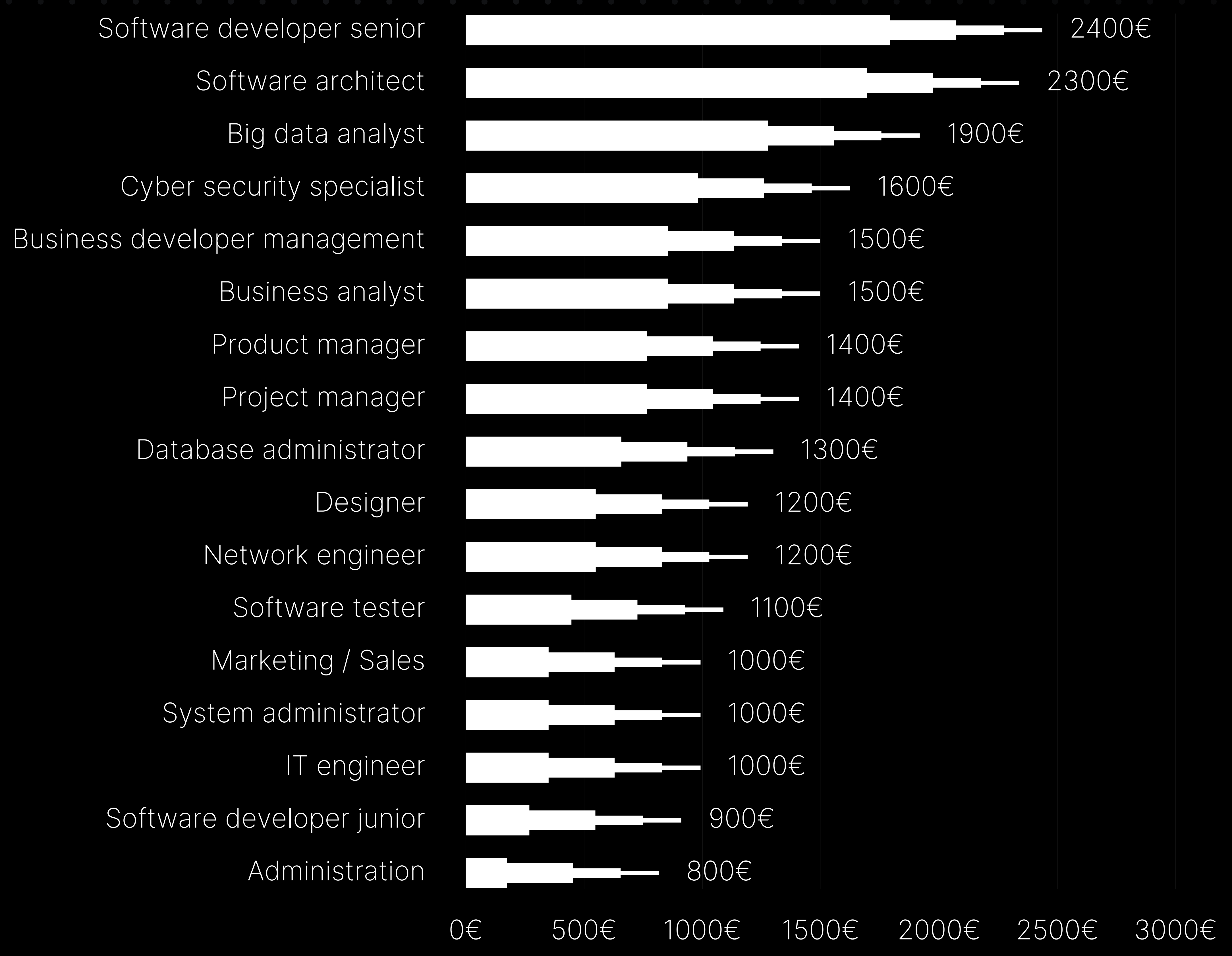


These findings indicate that companies with female owners generally demonstrate a higher proportion of female employees across different positions compared to male-owned companies. While there are still variations and room for improvement, the data suggests that female-owned companies are making strides in promoting gender diversity and representation within the Kosovo ICT industry.

Salaries

Based on the data provided, it is evident that the salaries in the ICT sector in Kosovo are generally competitive and offer attractive compensation for professionals in various roles. The average monthly salaries range from 900 EUR for junior software developers to 2,900 EUR for software architects, indicating a diverse salary range that aligns with the levels of expertise and experience required for each position.

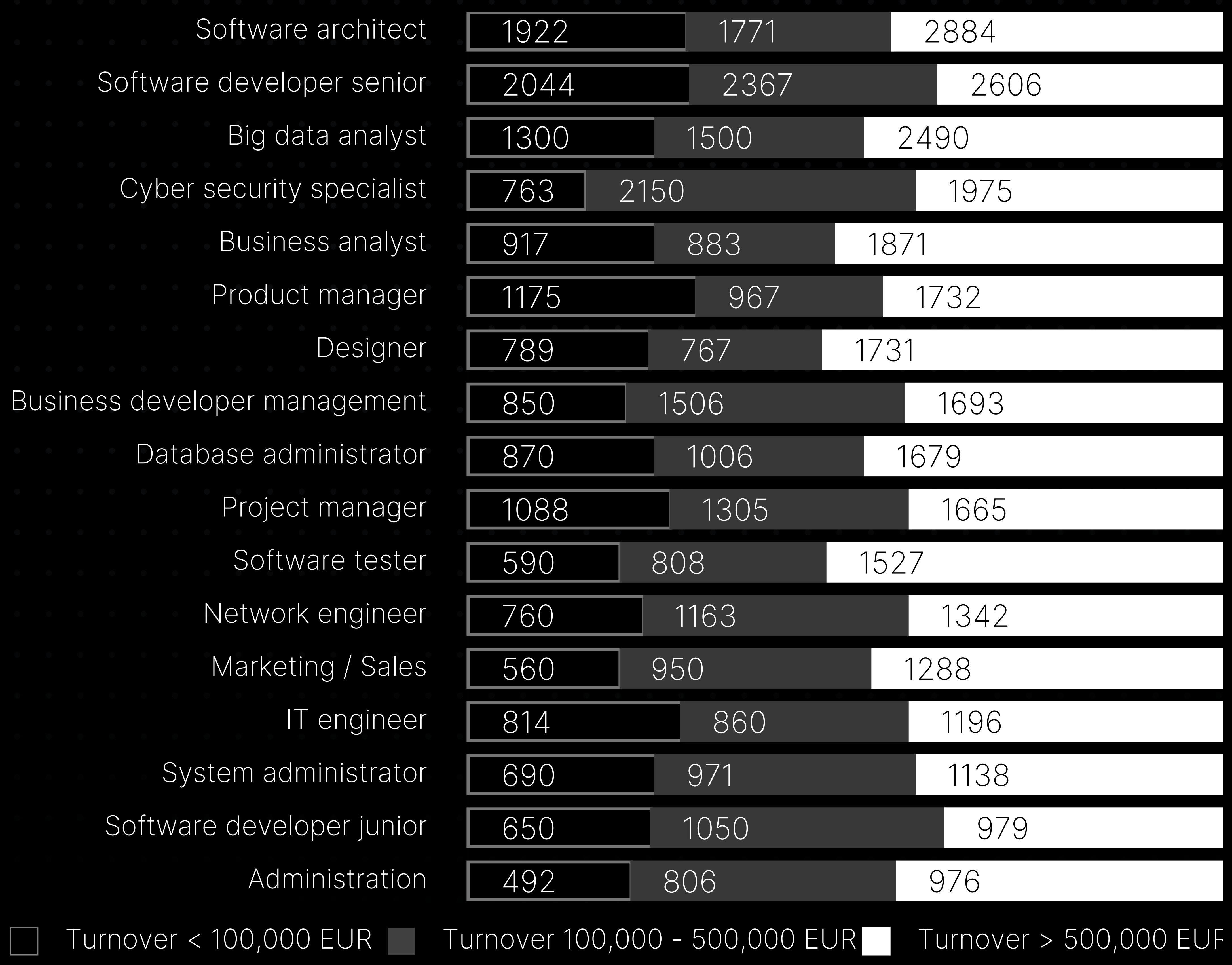
Monthly Salary (adjusted)



Variation in companies with different characteristics

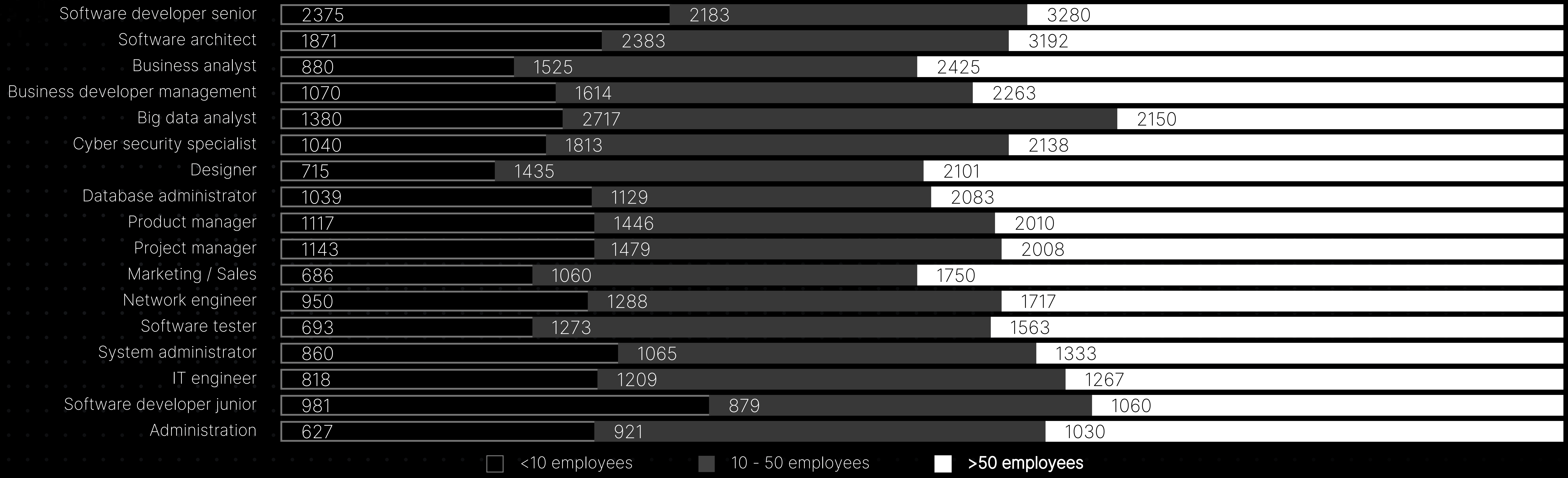
Turnover: Companies with higher annual turnover tend to offer higher salaries across most positions. This suggests a positive correlation between a company's financial performance and its ability to provide more competitive remuneration. As companies grow and generate higher turnover, they have the capacity to invest more in employee salaries, attracting and retaining top talent.

Salary distribution by annual turnover



Number of Employees: The size of an ICT company also plays a significant role in salary distribution. Generally, as the number of employees in a company increases, the average salaries tend to rise. Larger companies with over 50 employees consistently offer higher salaries across multiple positions compared to smaller companies. This can be attributed to the increased responsibilities, specialization, and expertise required in larger organizations.

Salary distribution by company size



When comparing the salaries in the ICT sector to the general labor market in Kosovo, it becomes apparent that the ICT sector offers more attractive compensation. The average monthly salary in the ICT sector ranges from 800 EUR to 3,200 EUR, depending on the position and company characteristics. In contrast, the average monthly salary in the public sector is 604 EUR, public enterprises offer 789 EUR, and the private sector offers 473 EUR[3]. These findings highlight the relatively higher earning potential and competitiveness of the ICT sector in Kosovo, making it an appealing career choice for individuals with relevant skills and qualifications.

The salary situation in the ICT sector in Kosovo demonstrates a positive outlook for professionals in the industry. The sector offers competitive salaries that are higher than those found in the general labor market. The correlation between salaries and company characteristics, such as turnover and number of employees, indicates the impact of financial stability and company growth on salary levels. As companies achieve higher turnover and expand their workforce, they have the ability to provide more competitive compensation packages.

[3] Statistics Agency of Kosovo: https://askdata.rks-gov.net/pxweb/sq/ASKdata/ASKdata__Labour%20market__Niveli%20i%20Pagave/tab01.px/

Incentives for Excellent Employees

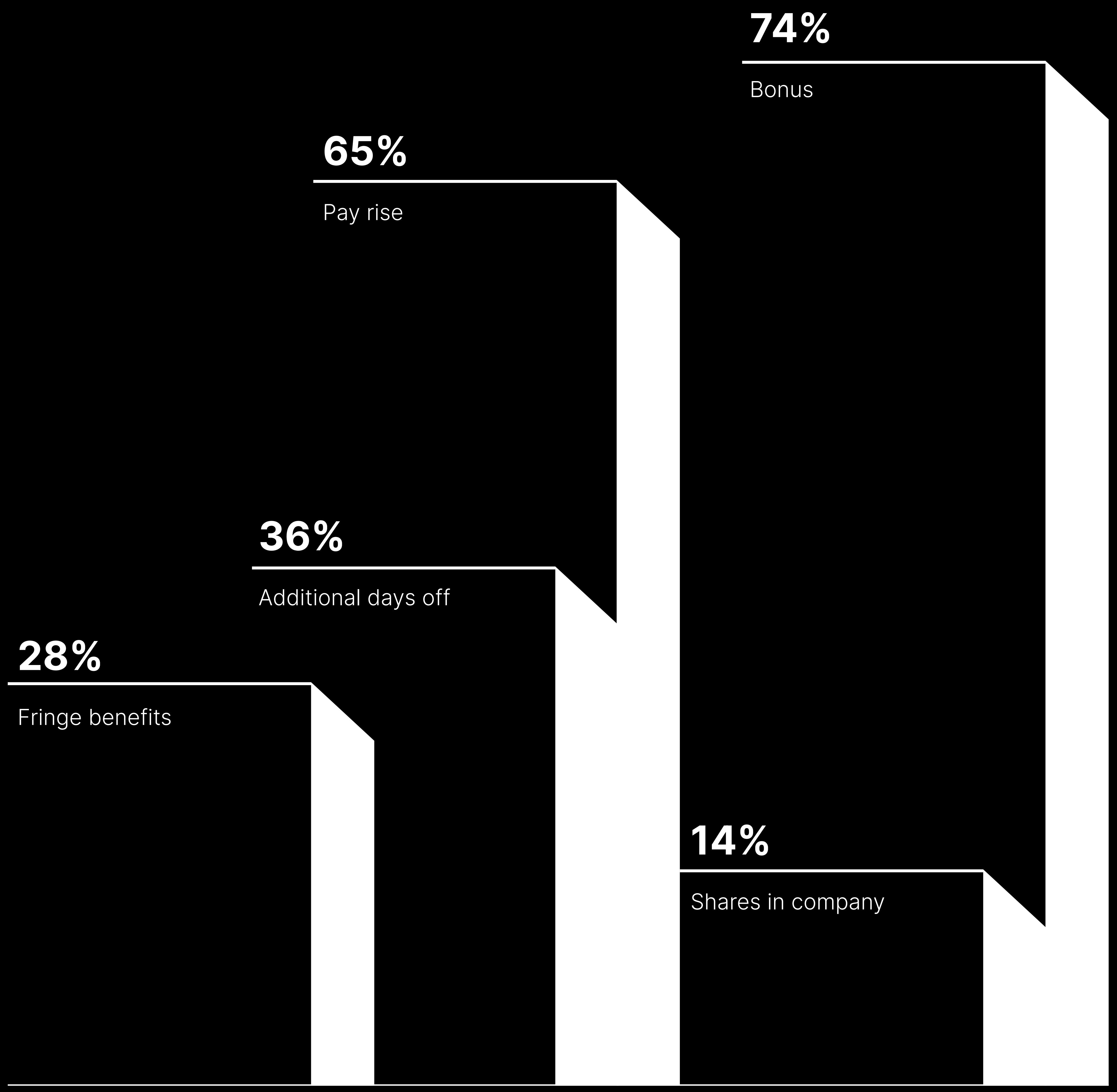
The survey respondents were asked to indicate the types of incentives they provided to excellent employees, and the results shed light on the prevailing practices within the companies surveyed.

It is noteworthy that a significant majority of companies, approximately 74%, reported offering bonuses to their excellent employees. The provision of bonuses can serve as a tangible recognition of exceptional work and can be a powerful tool in encouraging continued high performance.

Bonuses and pay rises are widely adopted incentives for recognizing excellent employees, with a significant majority of companies employing these methods. Additional days off and fringe benefits are also commonly provided, indicating a focus on employee well-being and work-life balance. While the survey did not specify the exact nature of these fringe benefits, they can include a wide range of offerings such as flexible work arrangements, wellness programs, professional development opportunities, and other perks that enhance the overall employee experience.

The provision of shares in the company appears to be less prevalent among the surveyed companies. These findings underscore the importance of recognizing and rewarding exceptional performance in fostering employee motivation, engagement, and satisfaction within the ICT sector in Kosovo.

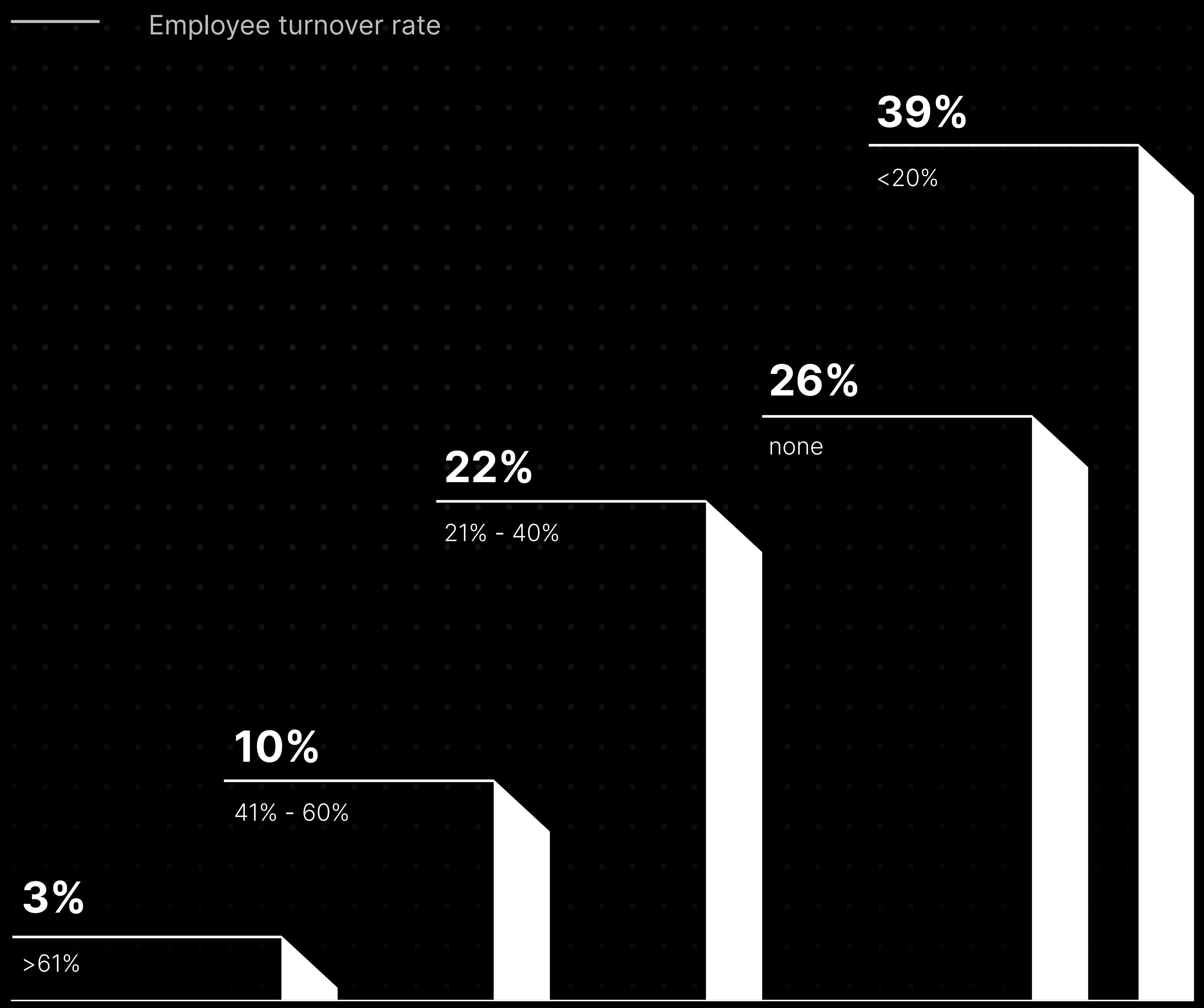
Incentives provided to employees

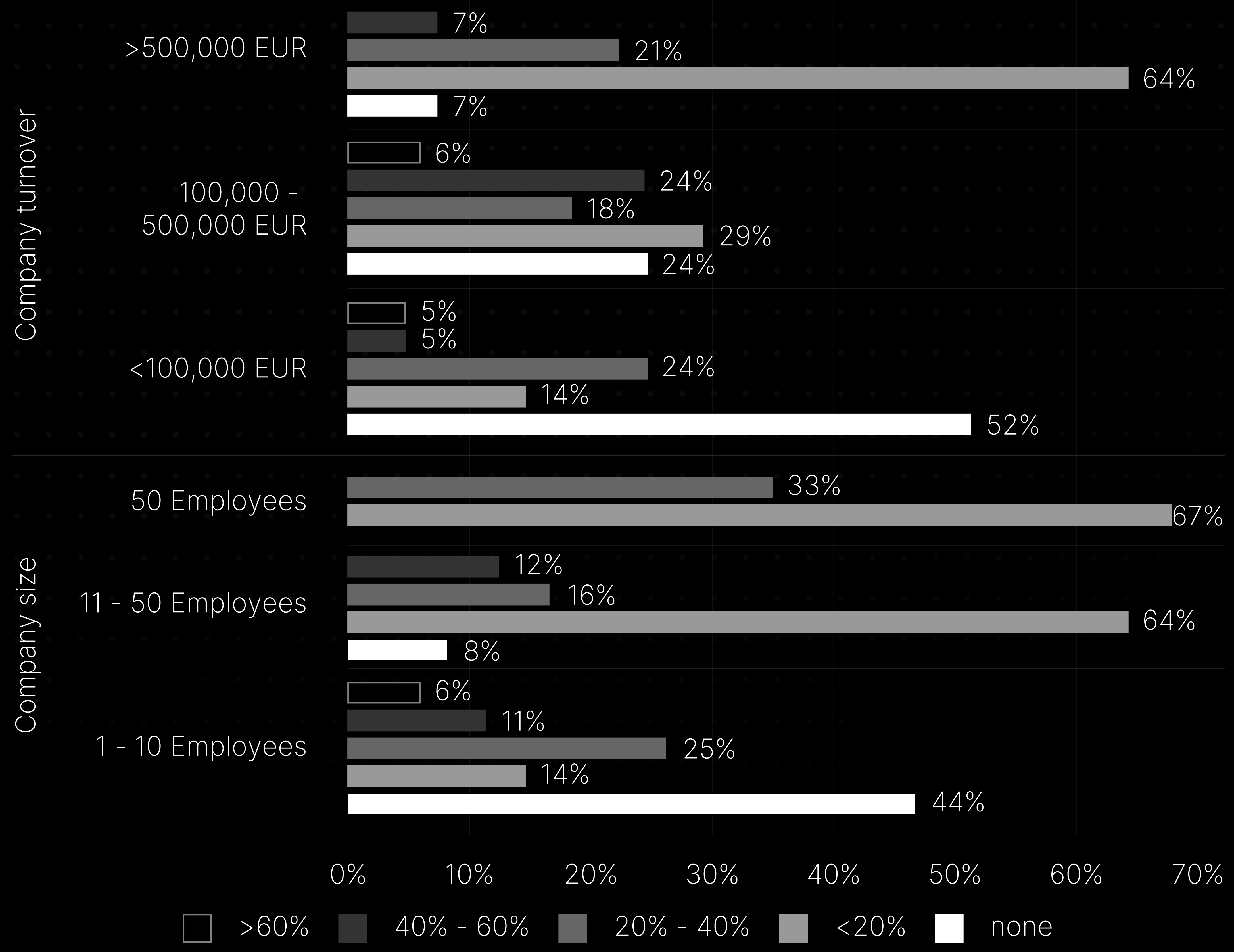


Employee Turnover Rate and Reasons for Leaving

Salary is a crucial factor in attracting and retaining employees. According to the data, the majority of companies in the ICT sector in Kosovo offer competitive salaries, with some positions even exceeding the average gross monthly salary in the general labor market. However, despite the favorable salary landscape, employee turnover rates within the ICT sector in Kosovo are still a concern.

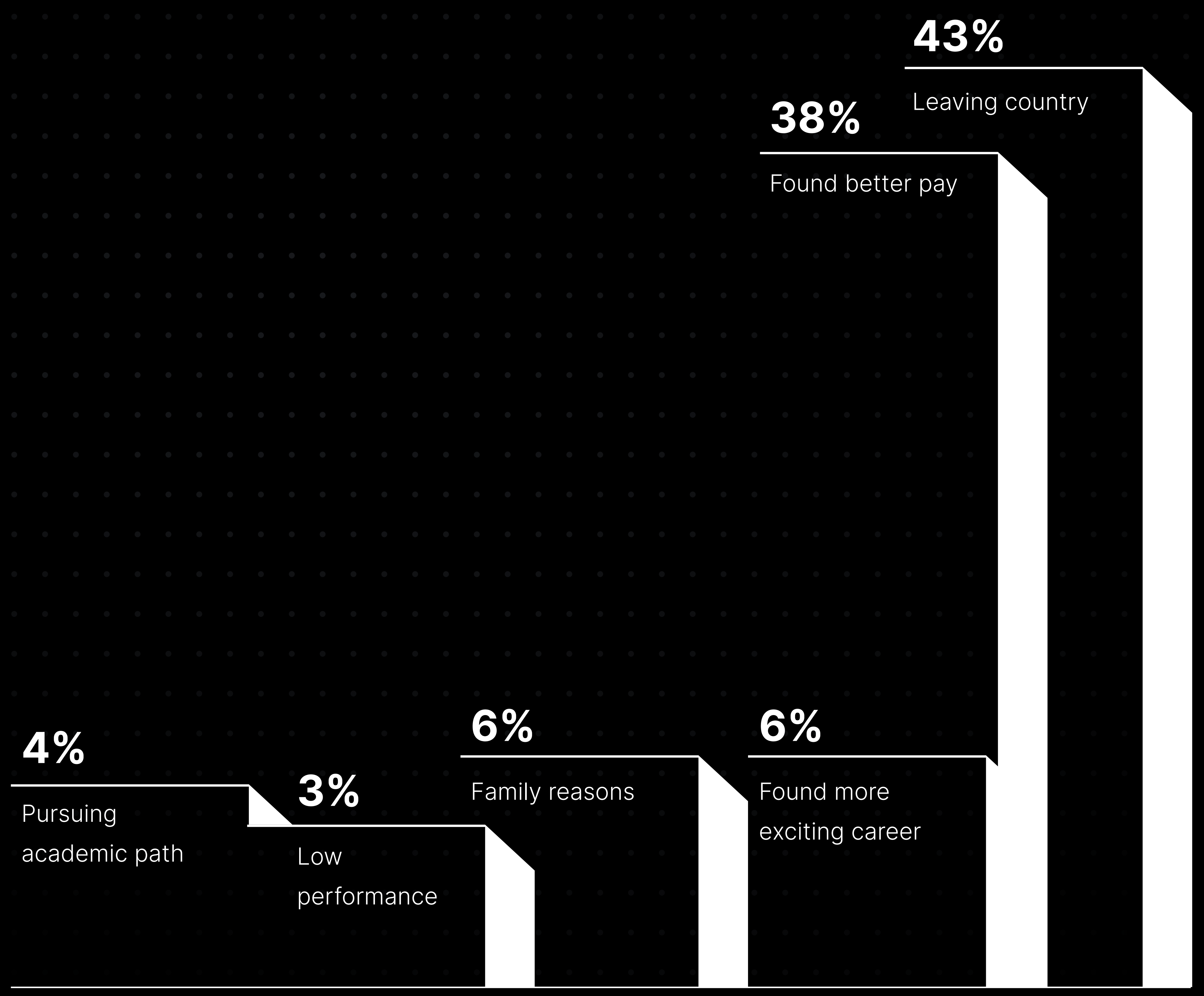
The turnover rates vary across different categories, such as the number of employees and annual turnover of companies. Companies with fewer than 10 employees experience higher turnover rates, while companies with higher turnovers tend to have lower turnover rates. This suggests that smaller companies may face challenges in retaining talent, potentially due to factors such as limited growth opportunities or resources for employee development.





To further understand the reasons behind employee turnover, we turn to the data obtained by asking companies for the most common reason that their employees leave. The most common reason cited for employees leaving is leaving the country, followed closely by finding better pay.

Why employees leave



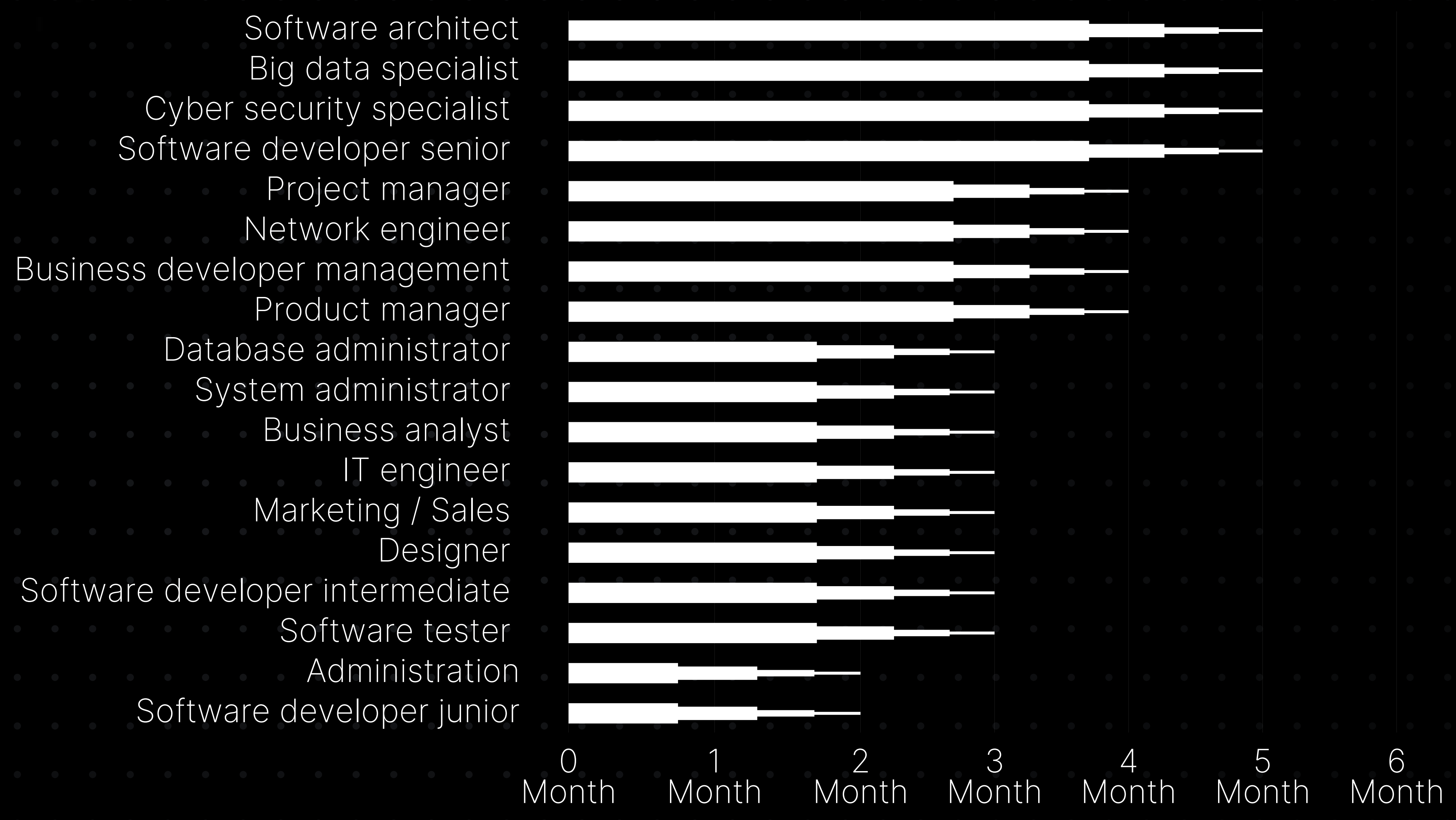
This indicates that employees in the ICT sector in Kosovo are attracted to opportunities abroad or are enticed by higher remuneration in other organizations. It is worth noting that finding more exciting career opportunities is also mentioned, albeit to a lesser extent. This implies that employees value professional growth and may seek opportunities that offer more challenging and fulfilling roles.

Despite competitive salaries and various incentives offered by companies, the turnover rates remain a challenge within the ICT sector. This could be attributed to factors beyond remuneration, such as limited career growth opportunities or a desire for international exposure. The higher turnover rates in smaller companies may indicate the need for additional support, resources, and strategies to retain talent and foster a conducive work environment.

Time to Replace Exiting Employees

Considering the time it takes to replace exiting employees, we observe variations across different positions within the ICT sector.

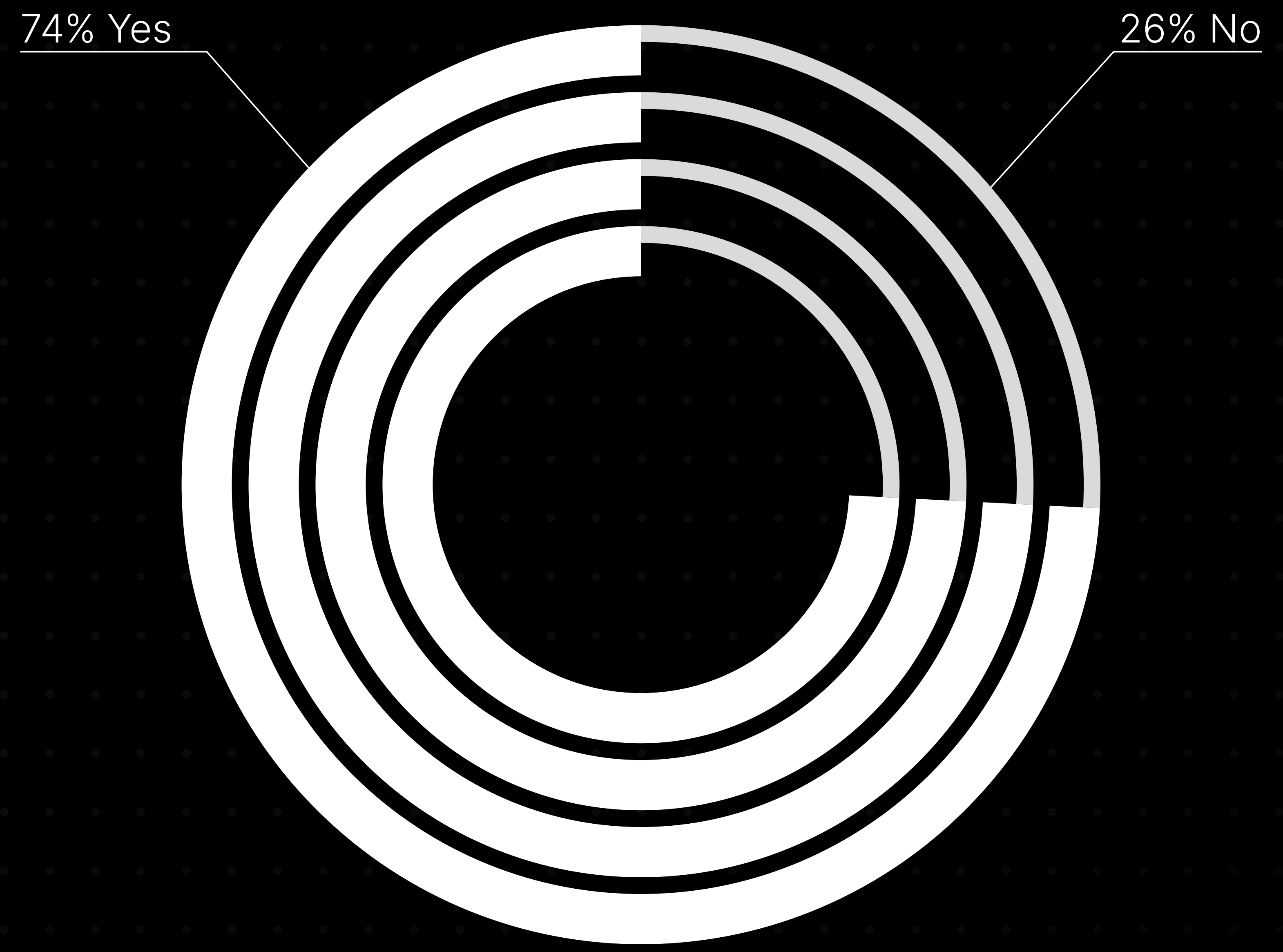
Time needed to replace an employee



Positions such as Software Developer Junior and Administration have relatively shorter replacement times, while roles such as Software Developer Senior and Software Architect have longer replacement times. This suggests that positions requiring higher levels of expertise and specialization take longer to fill, potentially due to a smaller pool of qualified candidates. The time taken to replace exiting employees can impact both individual companies and the labor market as a whole. Prolonged replacement times can result in productivity losses, increased workload on existing employees, and potential disruptions to project timelines. Moreover, longer replacement times for specialized positions may indicate a skills gap in the local labor market, where there is a shortage of qualified professionals in certain areas.

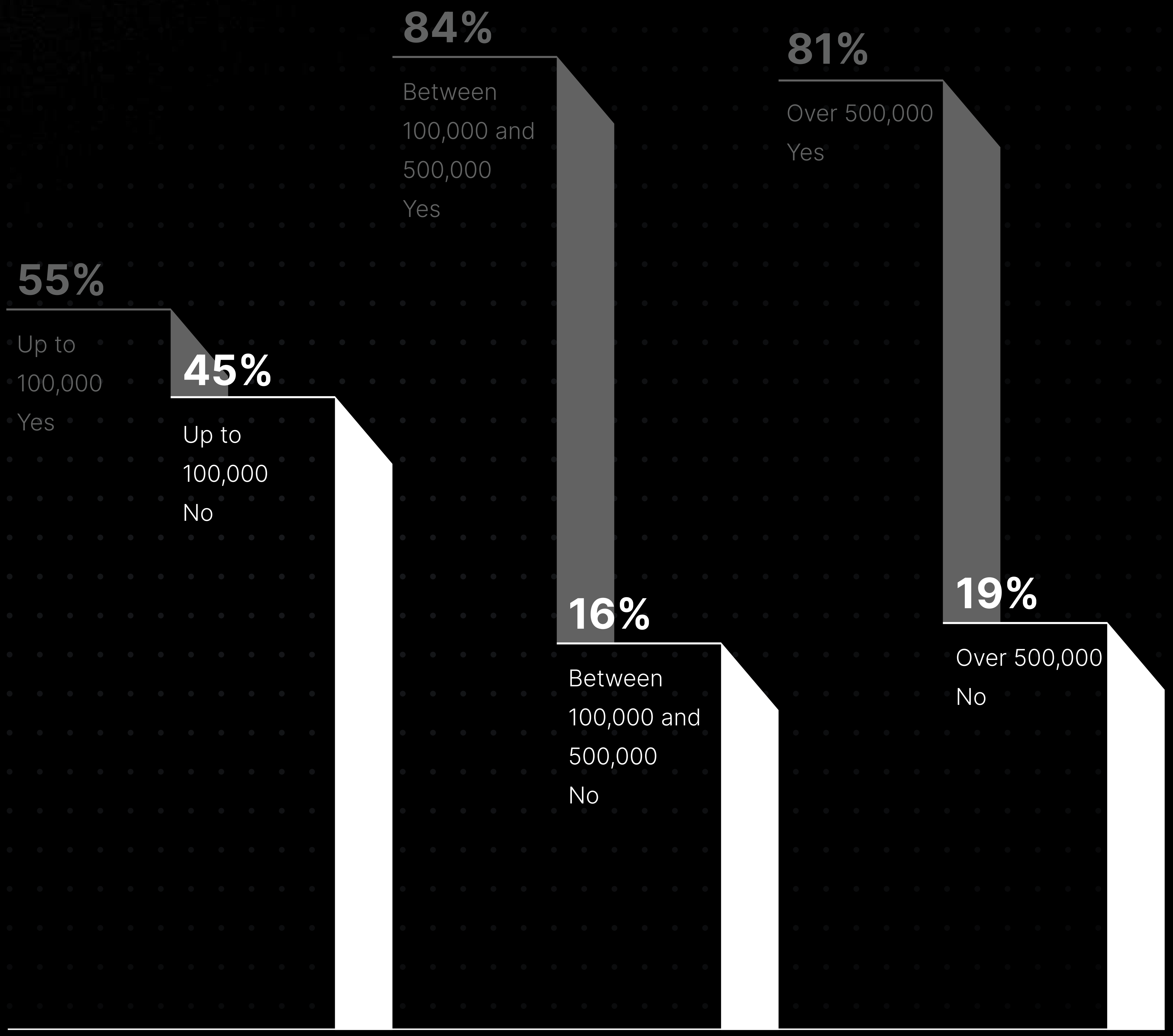
Deficit of Skilled/Qualified Workforce

Deficit of skilled/qualified workforce

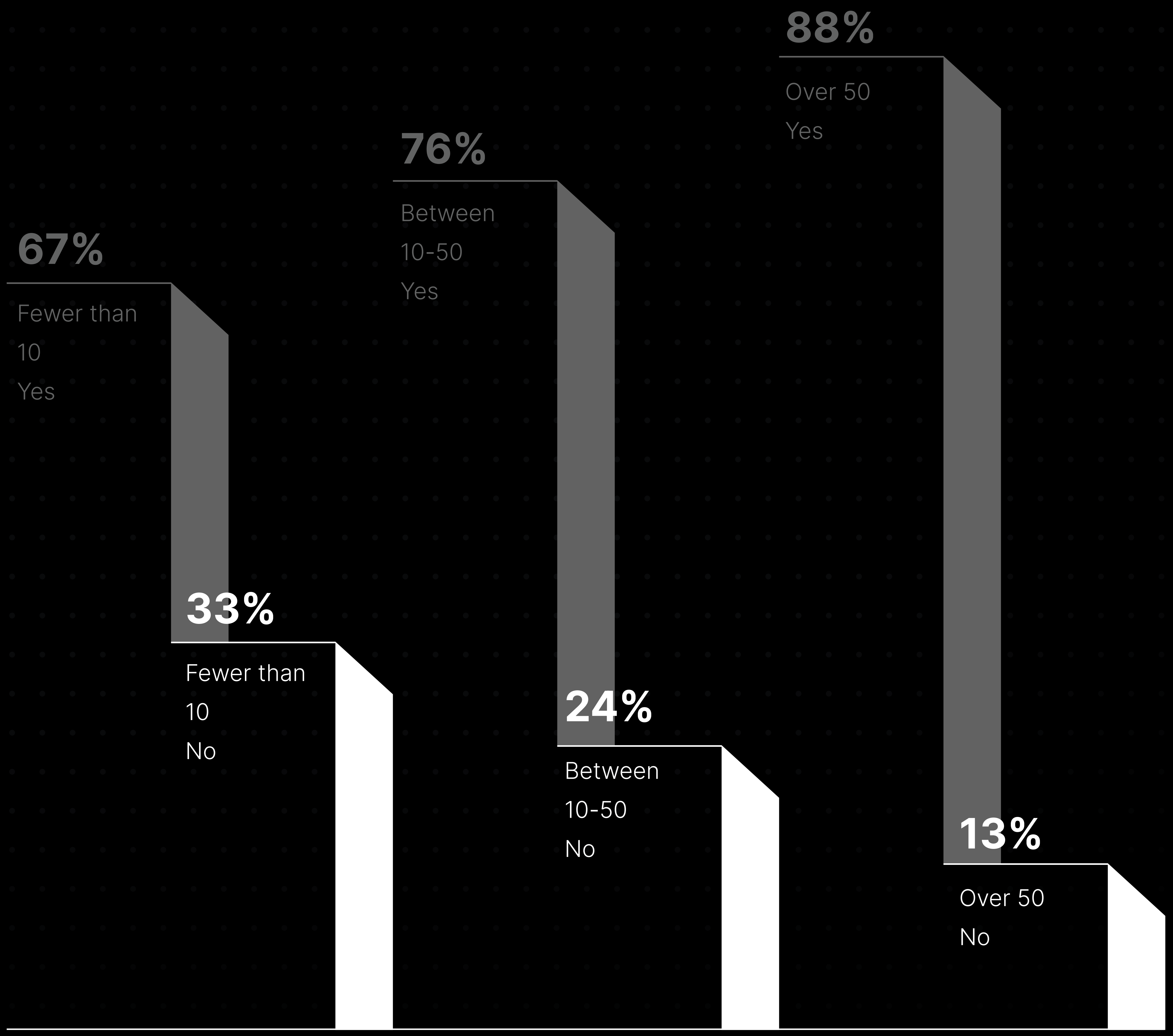


According to the data a significant majority (74%) of companies reported facing a deficit of skilled/qualified workforce. This indicates a gap between the demand for skilled IT professionals and the available supply in the labor market. The workforce deficit can be attributed to factors such as rapid technological advancements, a shortage of relevant educational programs, and the emigration of skilled professionals seeking better opportunities abroad.

Work Deficit and Anual Turnover



Work Deficit and company size

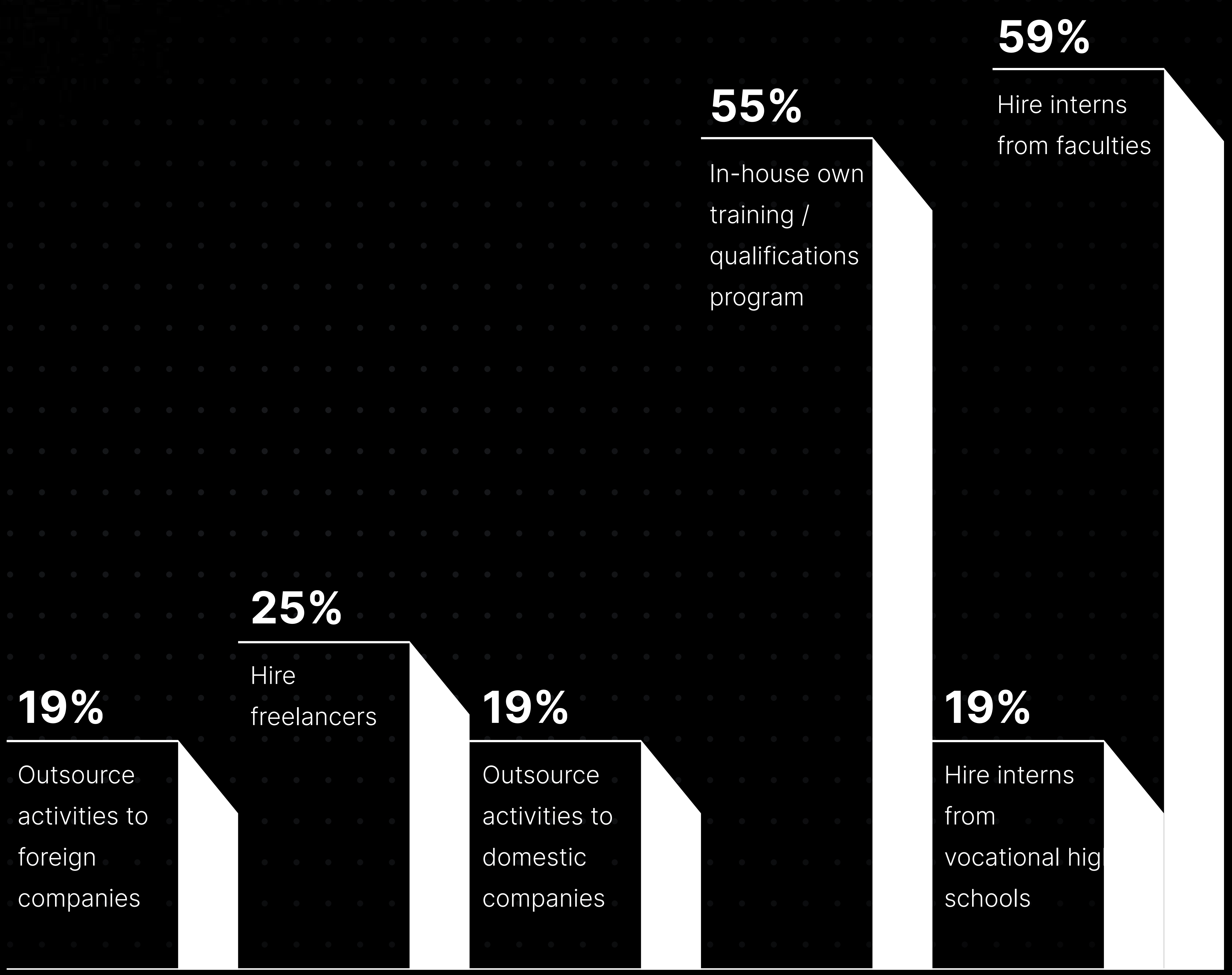


Companies with higher turnovers report a higher prevalence of workforce deficits (84% and 81% respectively). This suggests that larger companies, with more significant financial resources, may have greater expectations and requirements for skilled IT professionals, contributing to the higher deficit.

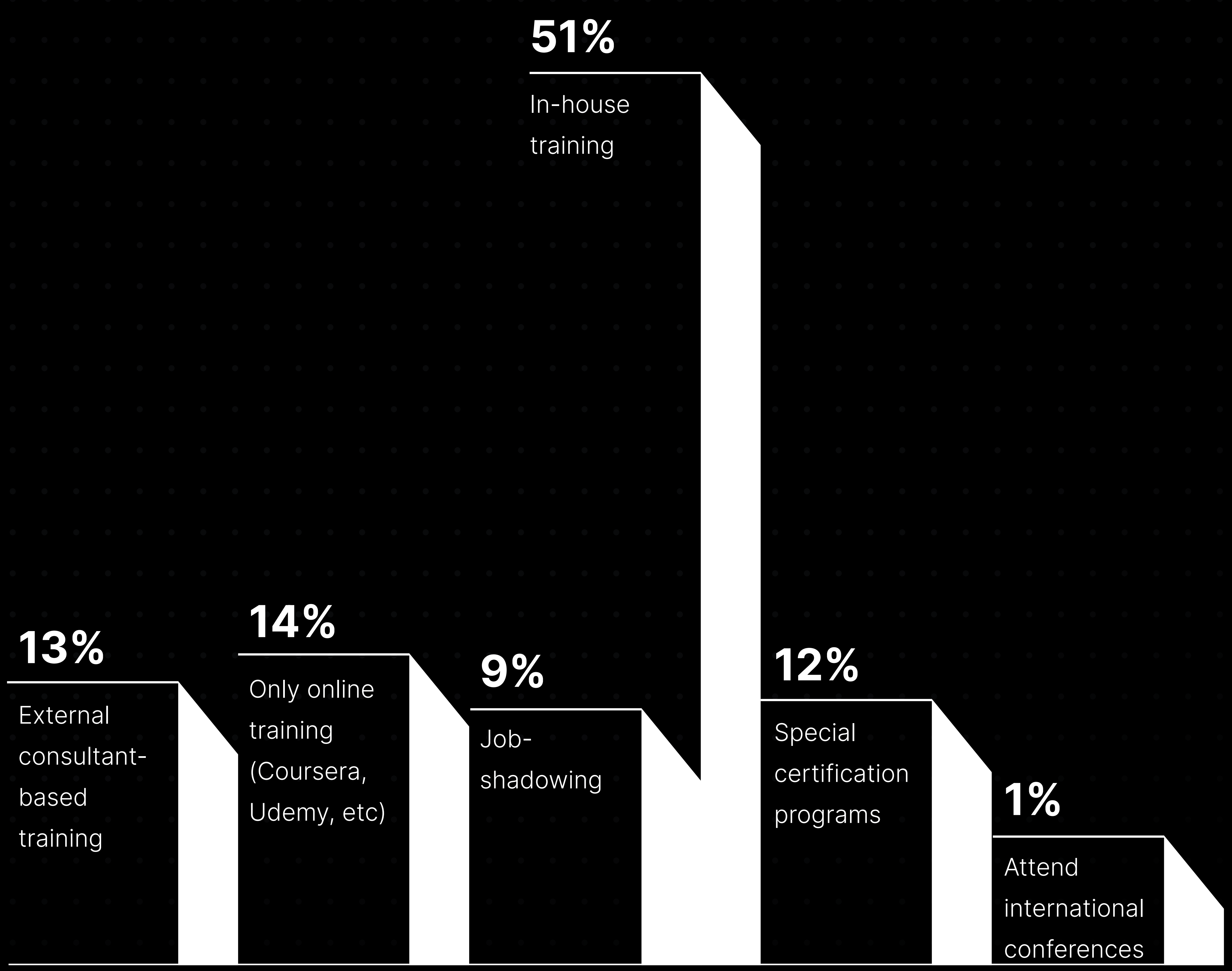
Similarly, when considering the number of employees, companies with larger workforces show a higher prevalence of workforce deficits. This correlation indicates that as the scale of operations and the need for specialized roles increase, companies face greater challenges in finding qualified personnel to meet their workforce needs.

Strategies for Managing Lack of Skilled IT Professionals

Strategies to adress workforce deficit



Strategies to increase internal staff capacities

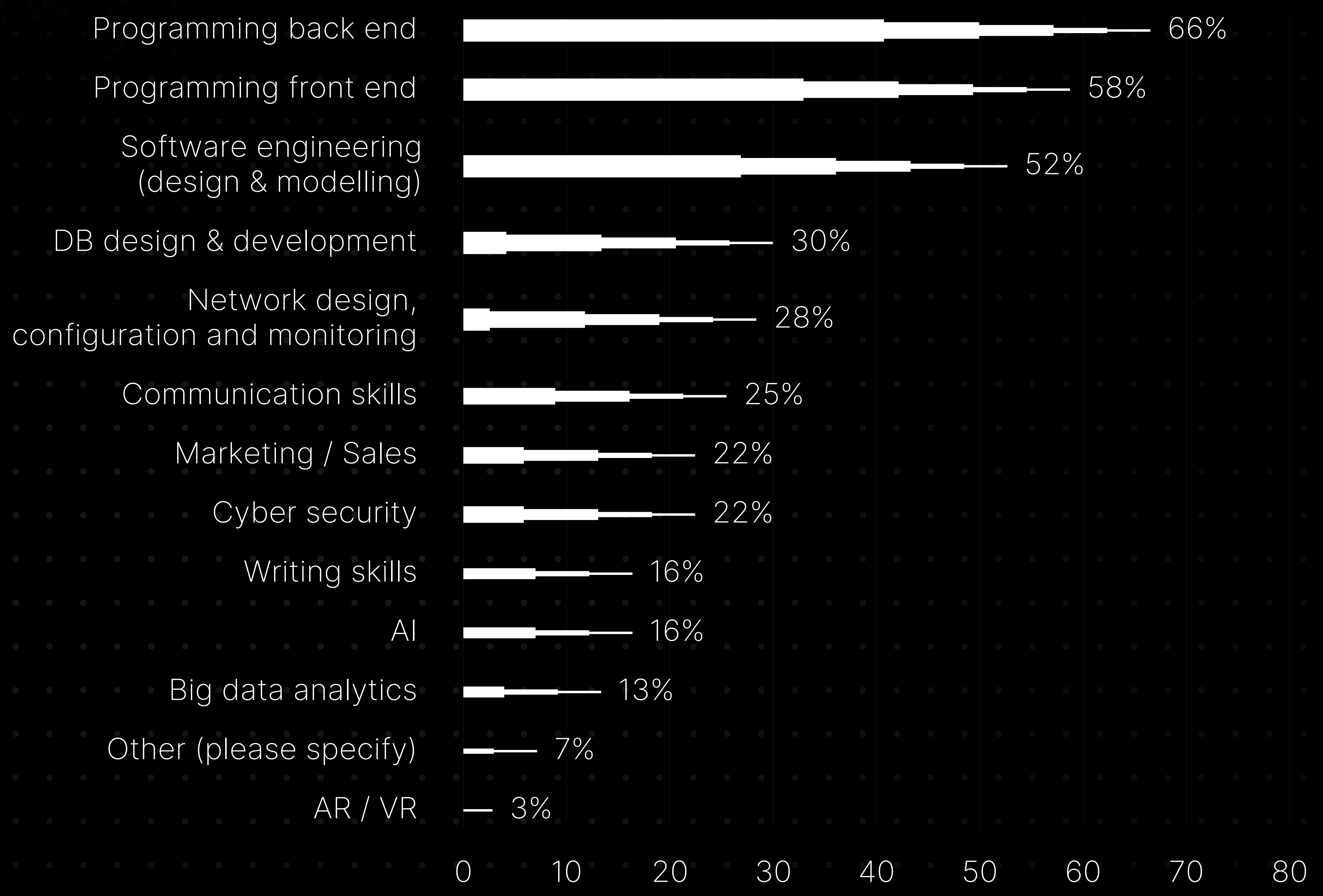


To address the deficit of skilled IT professionals, companies employ various strategies. Most common approaches include taking interns from faculties (59%) and having their own training/qualification routes (55%). Additionally, hiring freelancers (25%) and outsourcing activities to other domestic (19%) or foreign (19%) IT companies are alternative strategies to access external expertise when faced with a workforce deficit.

When exploring how companies increase internal staff skills/capacities, we find that in-house training is the most prevalent approach (51%). It suggests that companies aim to tailor the development programs to their specific needs and foster a culture of continuous learning and skill enhancement.

Training Investments and Courses Attended

Most frequent trainings attended by employees of ICT companies



Regarding the most frequent training courses attended by staff, programming-related courses dominate the list. Programming back end (66%), programming front end (58%), and software engineering (52%) are highly prioritized areas of training. This aligns with the demand for technical skills in software development and reflects the industry's emphasis on staying up-to-date with programming languages and frameworks. Other prominent training areas include network design, configuration, and monitoring (28%), DB design & development (30%), and cyber security (22%), indicating the importance of infrastructure management and data security in the ICT sector.

The ICT sector in Kosovo faces a notable deficit of skilled/qualified workforce, which is particularly evident in companies with higher turnovers and smaller workforces. This deficit poses challenges to the growth and competitiveness of the sector. To address these challenges, companies adopt various strategies, such as collaborating with educational institutions, offering internships, and developing their own training programs. However, despite these efforts, the deficit persists, necessitating further actions to bridge the skills gap.

The emphasis on technical training, software development, and software engineering aligns with the demands of the industry. Companies recognize the importance of equipping their workforce with the necessary technical expertise to meet client requirements and drive innovation. However, it is also crucial to emphasize the development of other essential skills, such as communication, cyber security, and marketing/sales, to ensure a well-rounded and versatile workforce.

The consequences of the workforce deficit and the skills gap in the ICT sector extend beyond individual companies. The scarcity of skilled IT professionals limits the sector's overall growth potential and hampers the development of a robust and competitive digital economy in Kosovo. It also contributes to increased competition among companies for talent, potentially leading to higher recruitment costs and talent retention challenges. Moreover, the deficit of skilled IT professionals may drive some companies to outsource activities to other domestic or foreign IT companies, impacting the local job market and hindering the development of domestic expertise and capabilities.

Differences observed between companies of different sizes and turnovers indicate that tailored approaches may be necessary to address the specific workforce challenges faced by these companies. Smaller companies, in particular, require targeted interventions and support to access and develop the skilled talent they need to thrive.

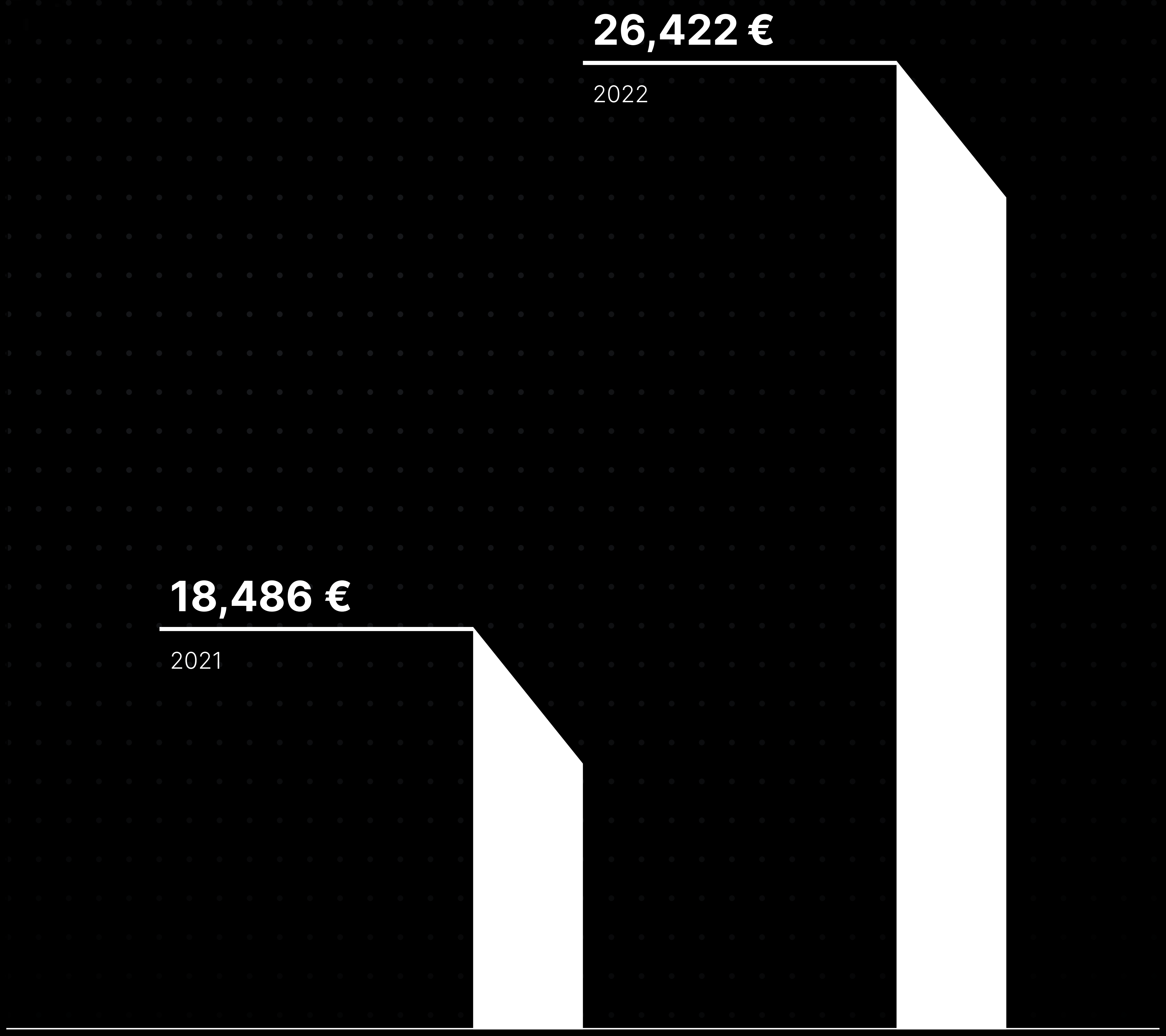
Spent by one ICT company on trainings during 2022

20,422 €

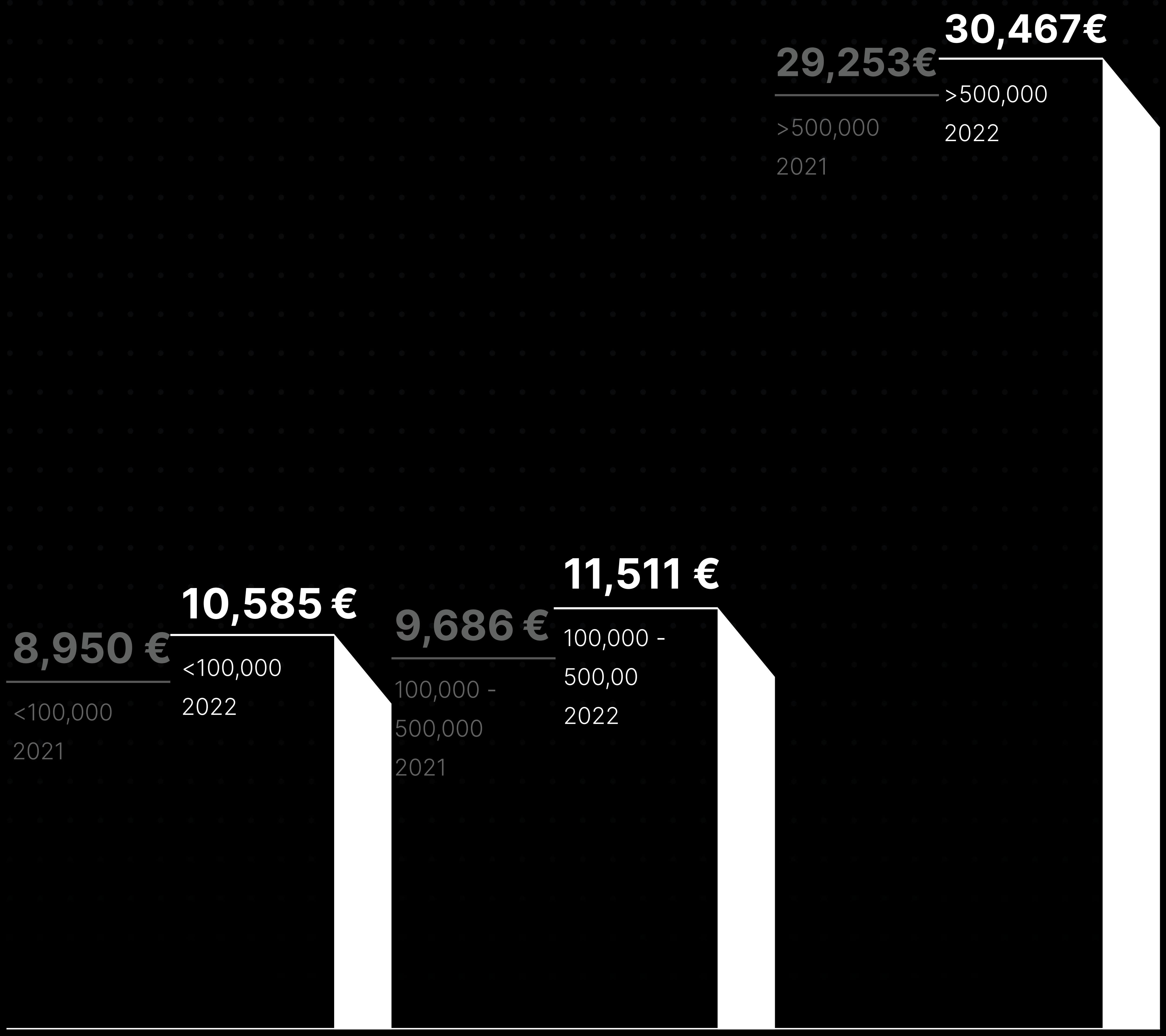
The investment in employee training by ICT companies in Kosovo has witnessed substantial growth (43%) from 2021 to 2022, reflecting the industry's emphasis on developing skills and expertise.

When considering the correlation between turnover and training investment, we observe that companies with higher turnovers tend to invest more in employee training. This suggests that companies with greater financial resources prioritize employee development and recognize the benefits of investing in training to improve productivity and competitiveness.

Average Annual Expenditure for Trainings



Average Annual Expenditure for Trainings by Companies' Turnover

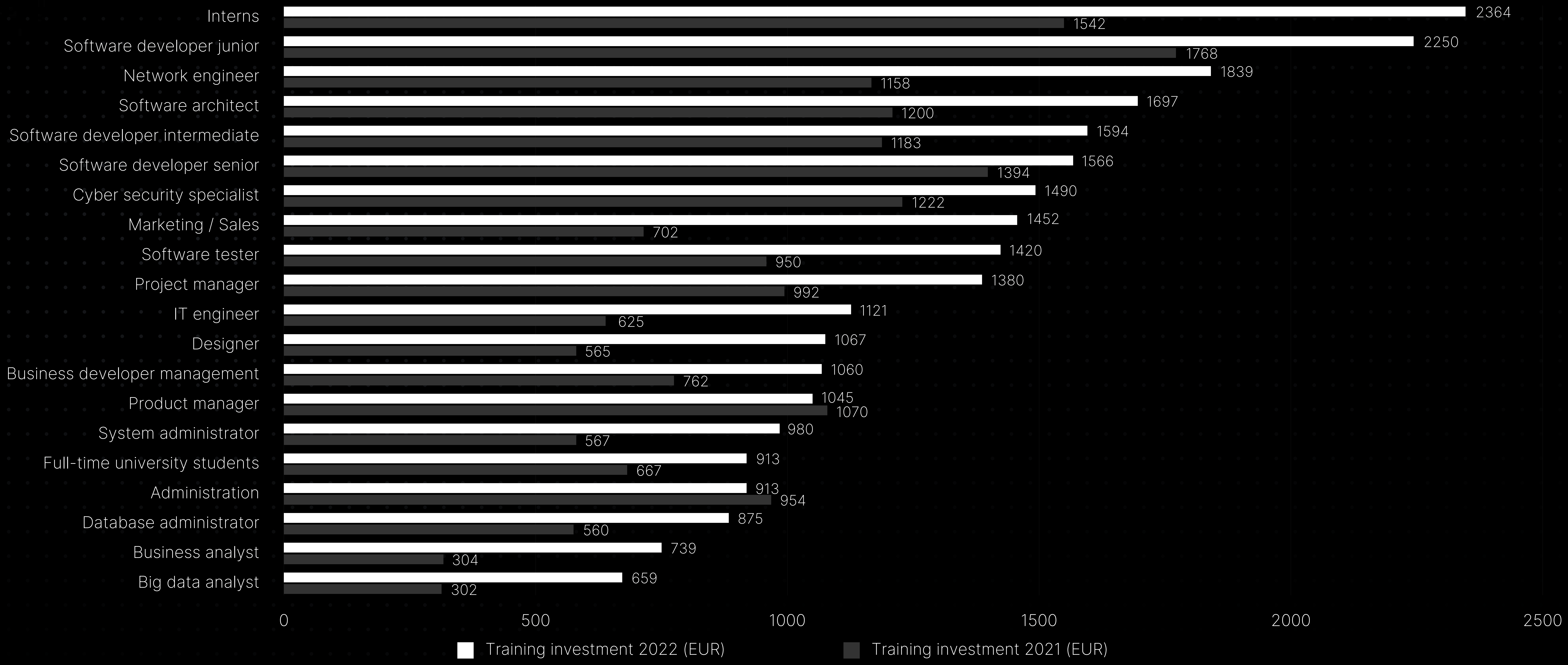


Similarly, the correlation between the number of employees and training investment reveals that companies with larger workforces allocate more resources to training. This may be attributed to the need for a skilled and knowledgeable workforce to support the company's operations and growth.

Average Annual Expenditure for Trainings by Size of Companies

Analyzing the positions that received higher training investments, we observe a consistent focus on certain roles. Interns, software developer juniors, network engineers, and software architects received notable investments in both 2021 and 2022. This highlights the significance of nurturing young talent, as well as the demand for skilled software developers and network engineers in the industry. The increased training expenditure for software architects suggests the growing importance of architectural expertise within ICT companies.

Average Annual Expenditure for Trainings by positions



On the other hand, positions such as business analysts and big data analysts received relatively lower training investments, indicating potentially less emphasis on skill development or different training strategies for these roles. Companies should consider the implications of such discrepancies and assess the training needs of these positions to ensure a well-rounded skill development approach across the industry.

Analyzing the changes in training investments from 2021 to 2022, we note significant increases in certain positions. Interns experienced the highest increase, reflecting the industry's commitment to fostering young talent. Software developer juniors, network engineers, and software architects also witnessed notable growth in training investments, emphasizing the importance of specialized skills in these roles.

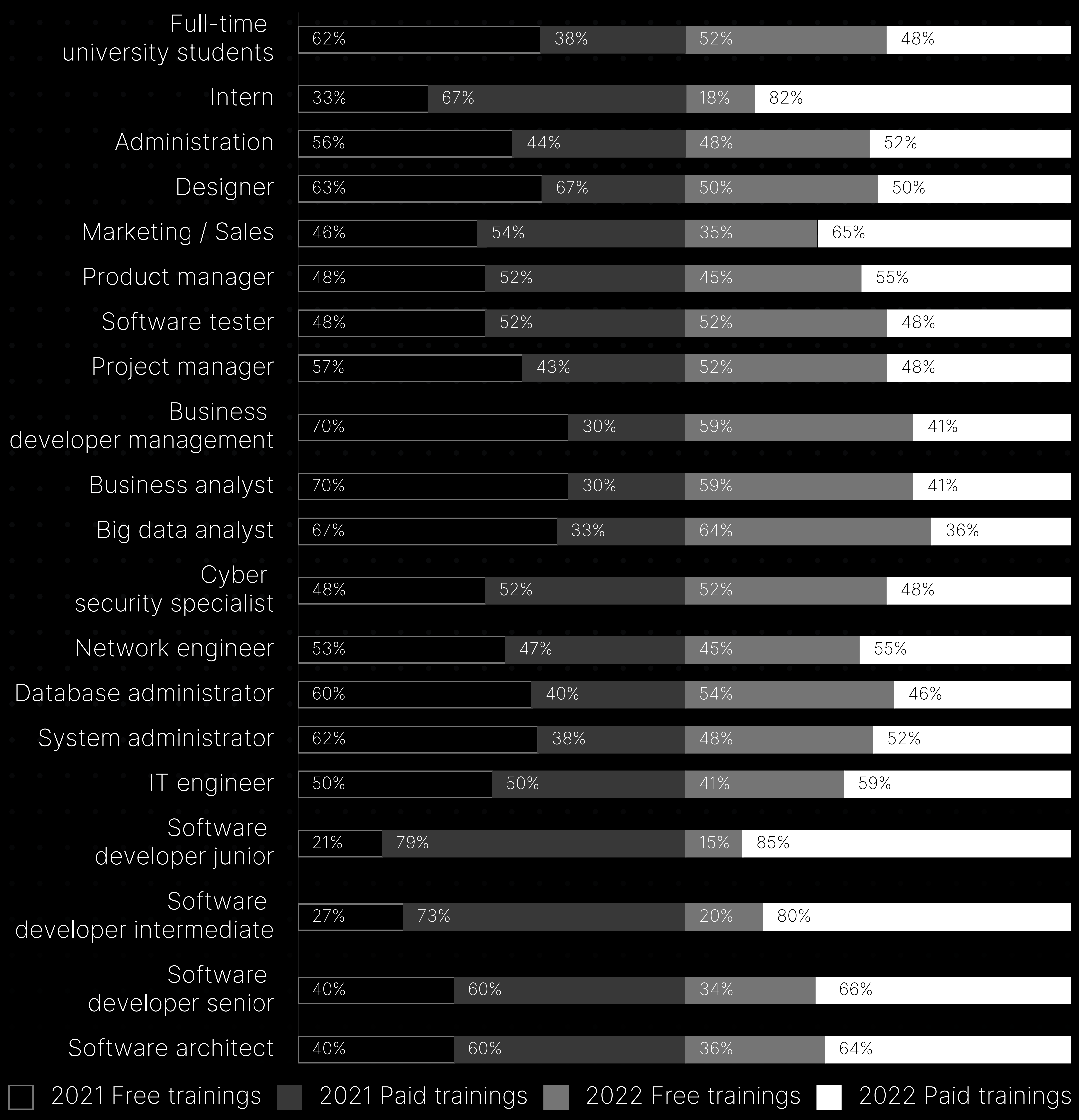
In contrast, business analysts and big data analysts experienced reduced training investments from 2021 to 2022. This suggests a potential shift in priorities or a decrease in training opportunities for these positions, which could have implications for their skill development and career growth.

Analyzing the distribution between paid and unpaid trainings, we observe variations in focus across different positions. Companies increased their focus on paid training for software architects, senior software developers, and intermediate software developers. This indicates a recognition of the value and specialization required in these roles. The shift towards paid training for junior software developers, IT engineers, system administrators, and designers also suggests an industry-wide acknowledgment of the need for investment in these positions.

Project managers, marketing/sales professionals, and full-time university students saw an increased focus on paid training. This indicates the industry's recognition of the importance of developing managerial, marketing, and sales skills, as well as providing opportunities for students to acquire practical knowledge.

Notably, interns experienced a significant increase in paid training, reflecting the industry's willingness to invest in their development. The positions of business analysts and big data analysts, however, witnessed a decrease in both free and paid trainings, potentially indicating a decrease in training investments for these roles.

Distribution of Unpaid and Paid Trainings

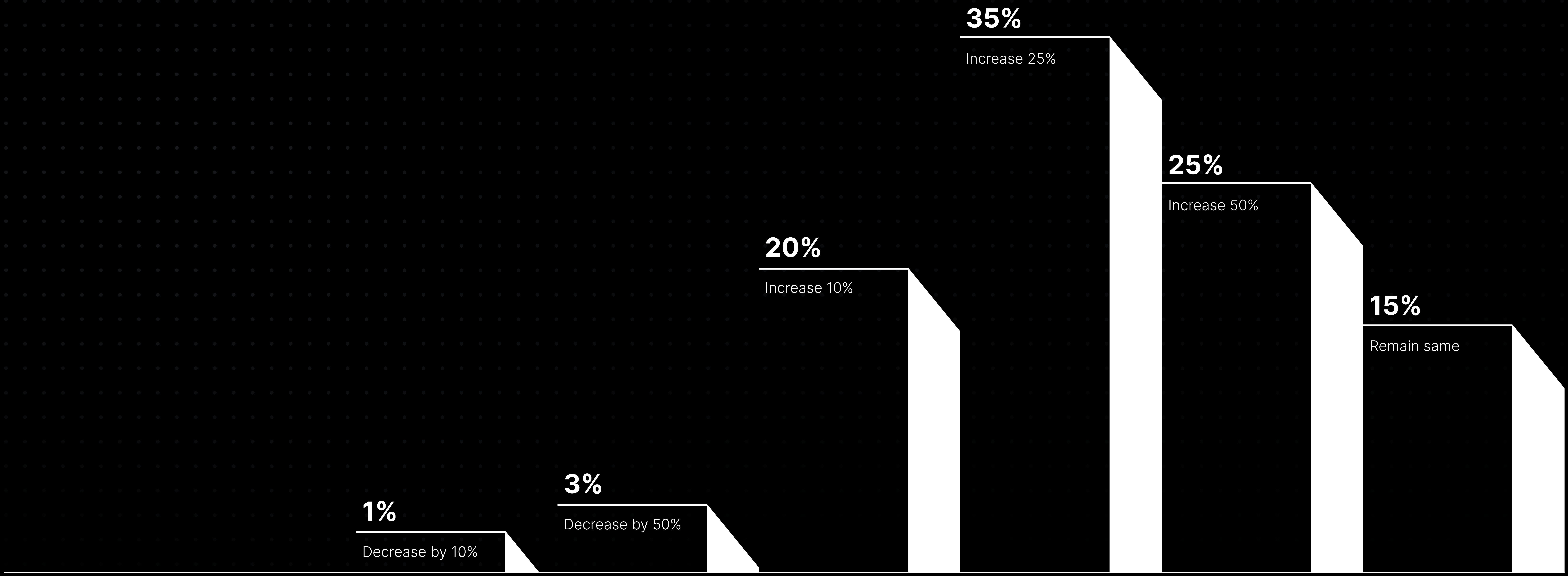


Employee Prediction Needs and Required Skills

The employee prediction needs for the next year in the ICT companies in Kosovo indicate a predominantly positive outlook, with a focus on growth and expansion. A majority of companies foresee an increase in their workforce, with 35% expecting a 25% growth and 25% anticipating a significant 50% increase.

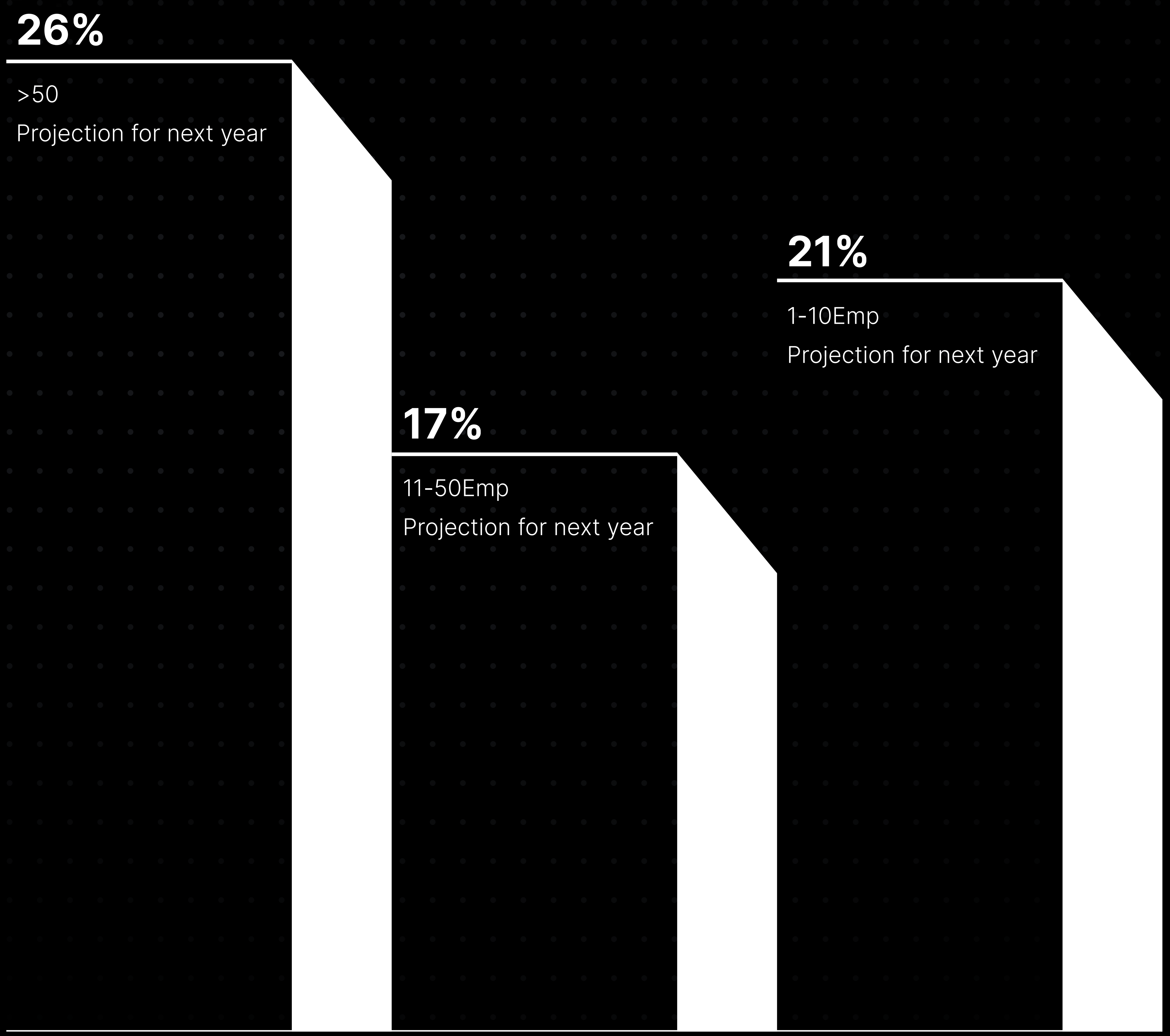
When correlating the employee prediction needs with the number of employees and turnover, a consistent pattern emerges. Smaller companies show moderate to high growth projections, indicating their readiness to invest in expanding their teams. Larger companies and those with higher turnovers exhibit stronger growth expectations, reflecting their market dominance and capacity to pursue aggressive expansion strategies.

Employee Projections for next year

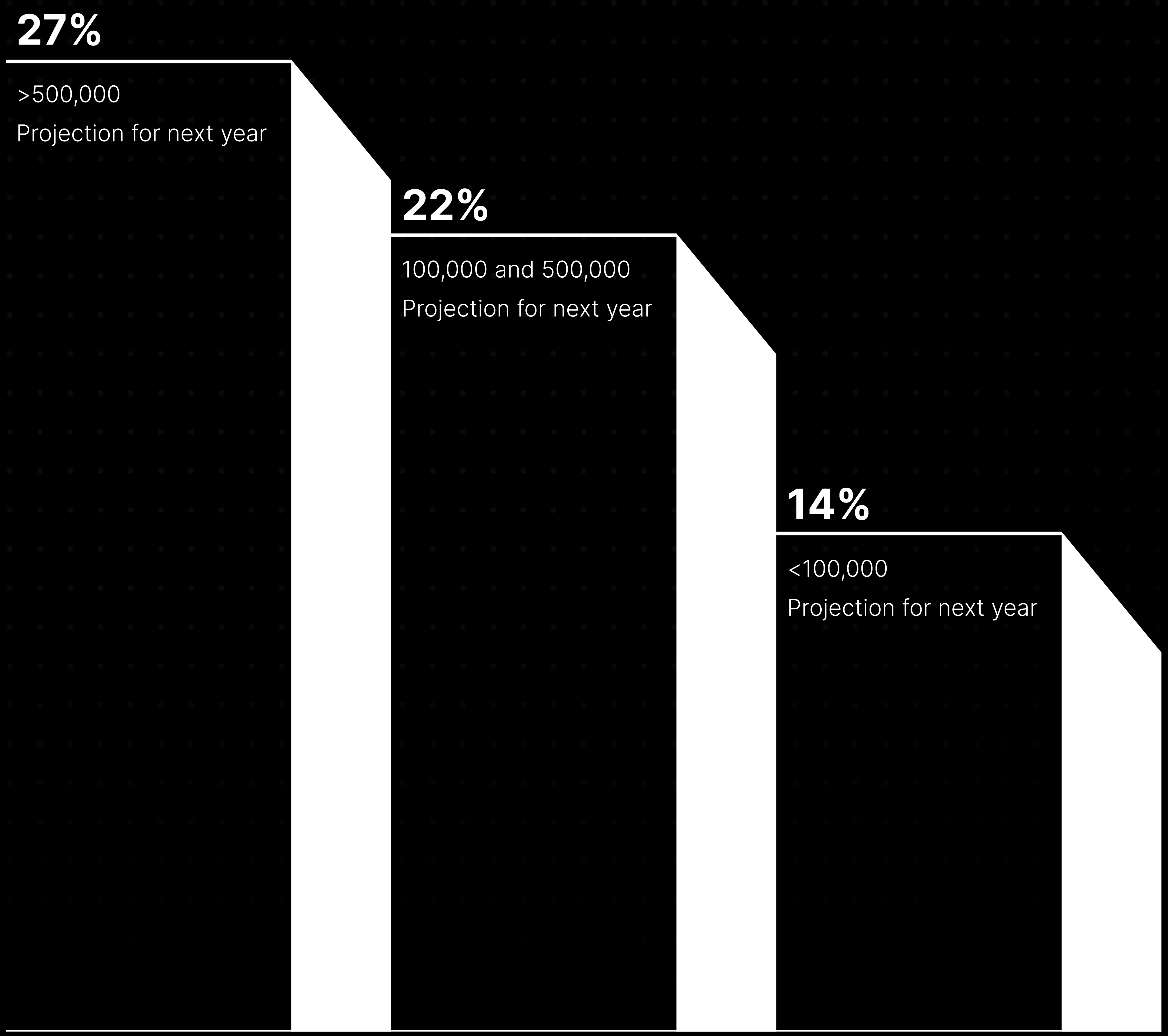


The positive employee prediction needs indicate a growing demand for skilled professionals in the ICT sector in Kosovo. This aligns with the skills identified in the previous analysis, emphasizing the importance of technical expertise, communication skills, problem-solving abilities, and leadership qualities.

Projection for next year by company size

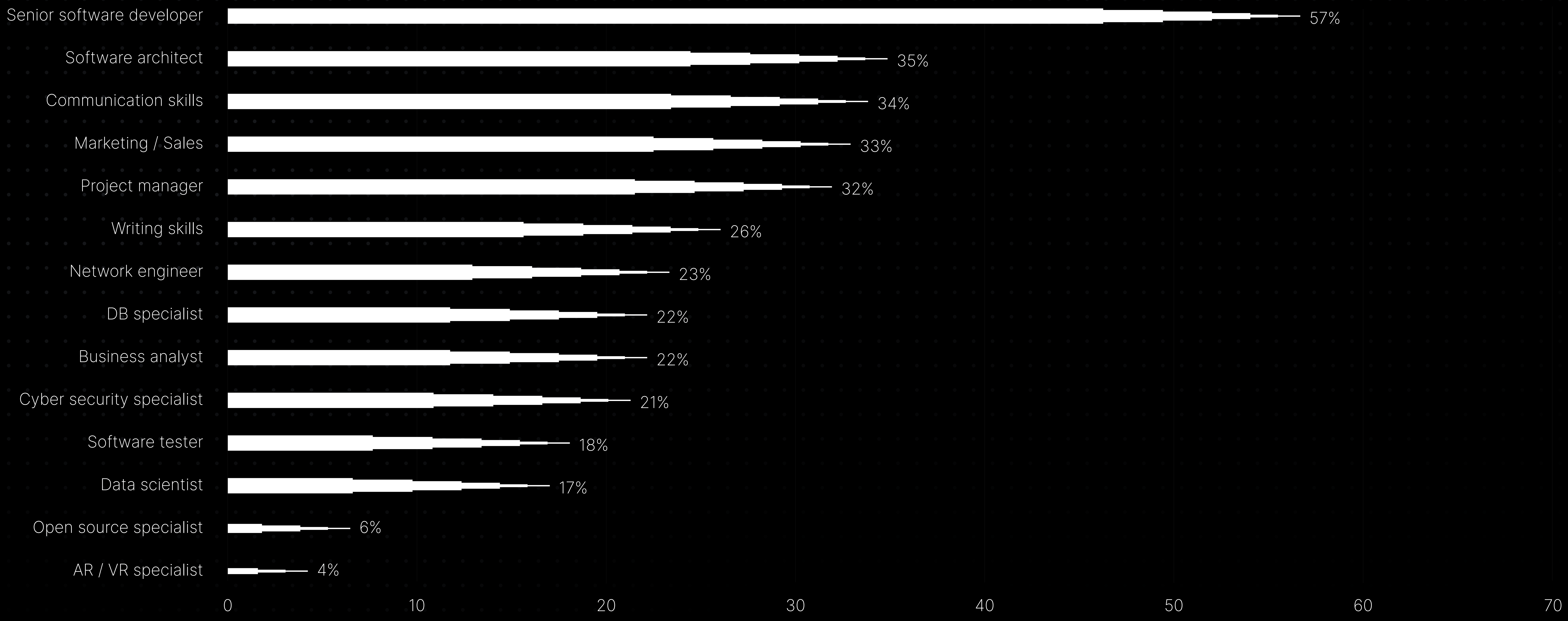


Projection for next year by company size



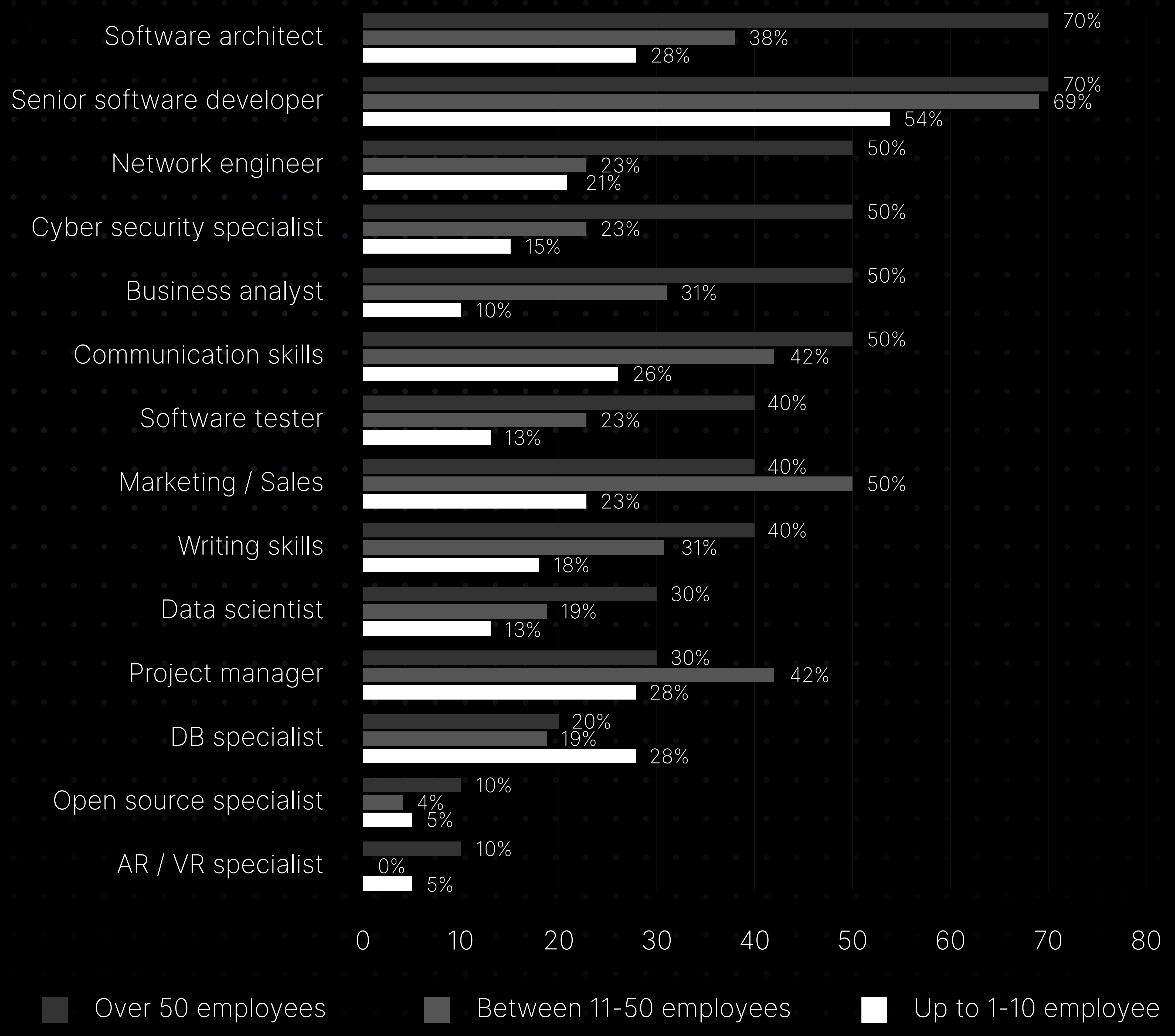
The analysis of employee skills needed for the next year provides valuable insights into the specific skill requirements within the ICT sector in Kosovo. The overall responses highlight the demand for Senior Software Developers, Software Architects, and strong communication skills. However, it is important to consider the skill distribution based on company size and annual turnover to gain a more comprehensive understanding.

Most required skills

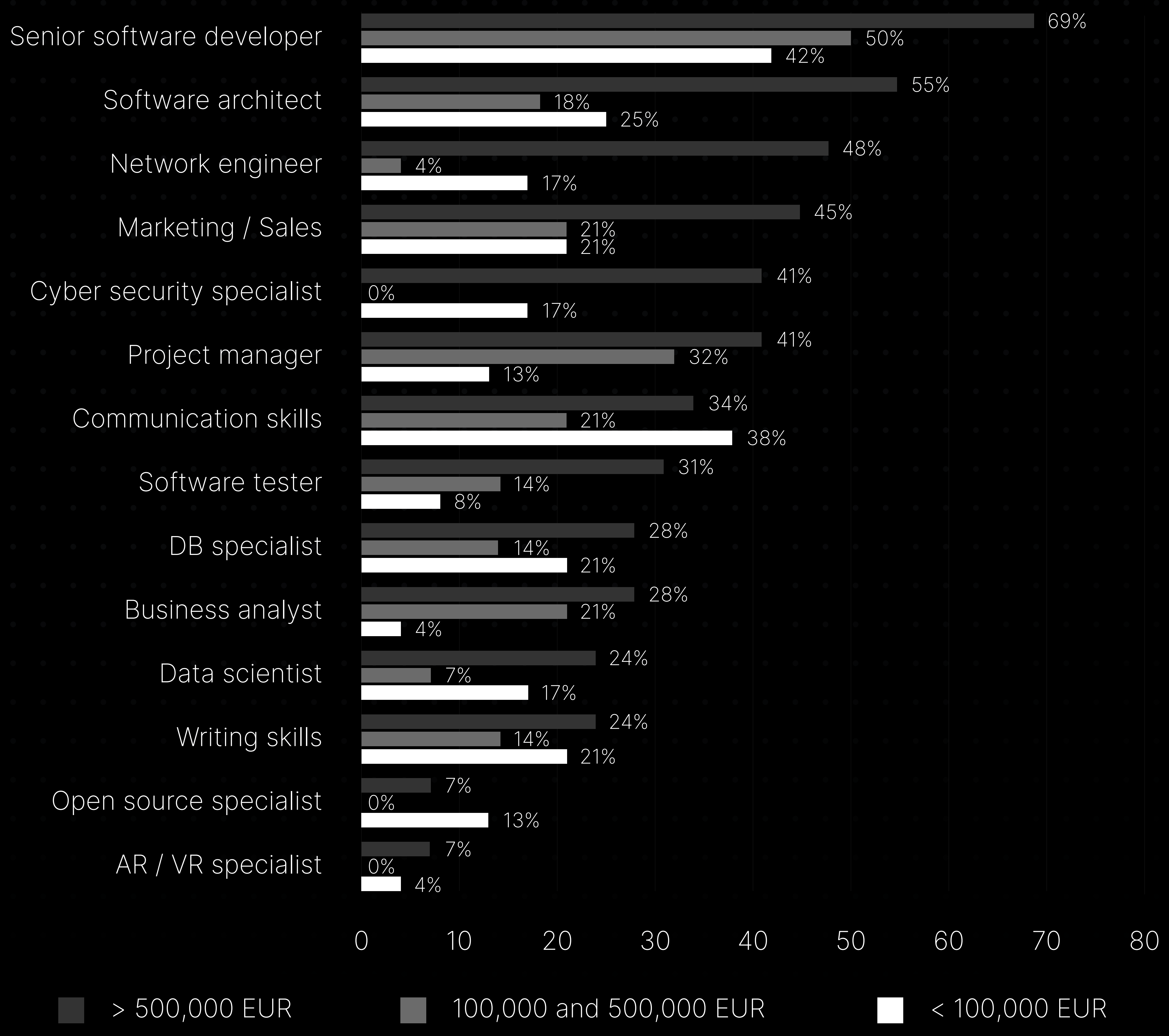


Smaller companies prioritize technical expertise and effective communication, while larger companies seek a broader range of skills, including specialized roles such as Business Analyst, Cybersecurity Specialist, and Network Engineer. Similarly, companies with higher turnovers focus on strengthening their development capabilities and network infrastructure.

Distribution of skills required by company size



Distribution of skills required by turnover

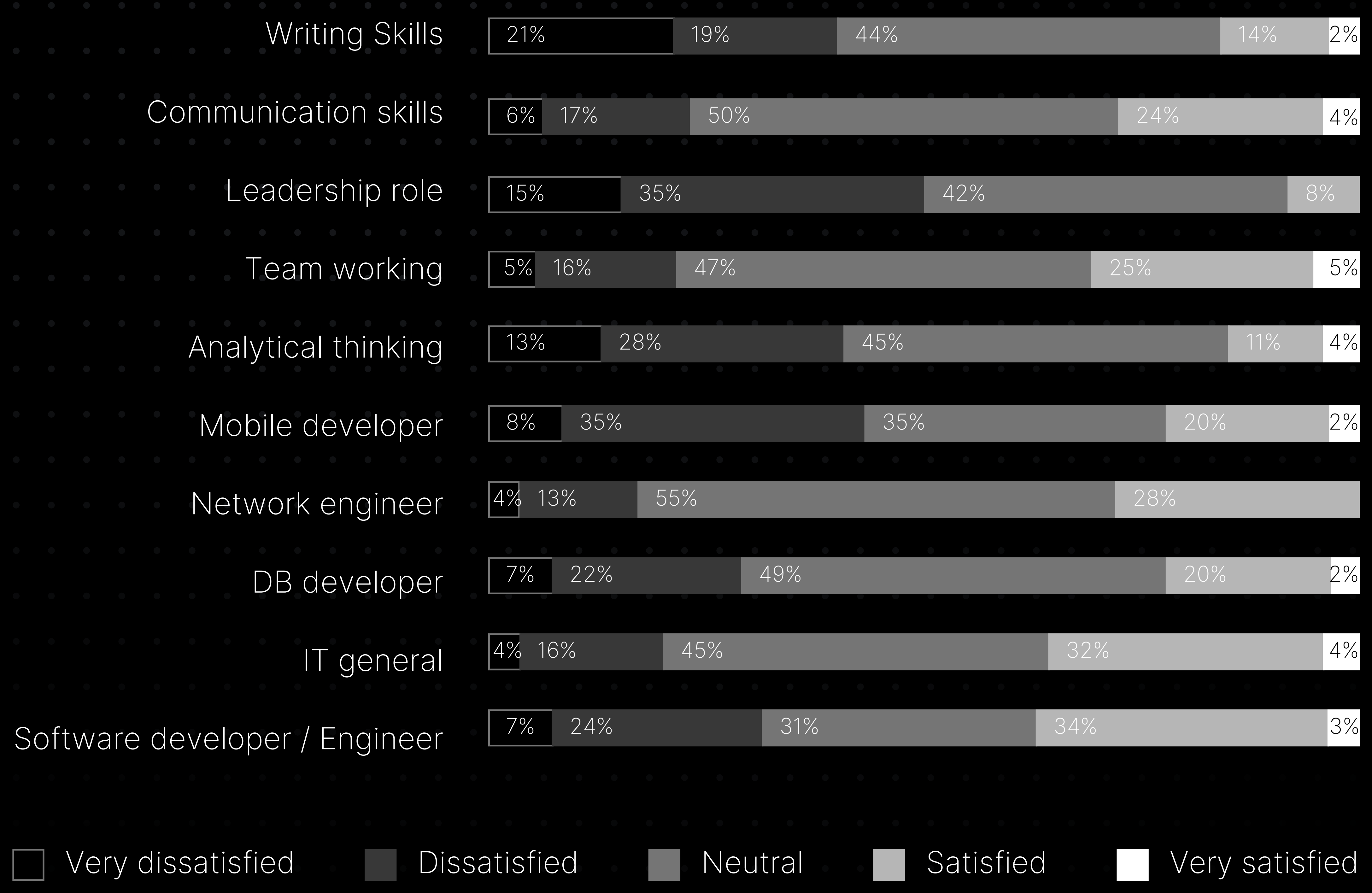


Improving Students' Skills from the Formal Educational System

The data obtained from the survey provides valuable insights into the satisfaction levels of employers with the skills of students coming directly from the formal educational system in Kosovo. Analyzing the results allows us to assess the strengths and areas for improvement in the education system and its alignment with the needs of employers in the ICT industry.

The overall satisfaction levels vary across different skills. While some skills receive higher satisfaction ratings, others show room for improvement. It is important to note that no skill category has a significant majority of very satisfied responses, indicating a scope for enhancing the skills of students entering the workforce.

Satisfaction with student skills coming straight from formal educational system



In terms of technical skills, satisfaction levels are relatively higher. Skills like Software Developer/Engineer, IT General, DB Developer, and Network Engineer receive satisfactory ratings, with a majority falling into the satisfied and very satisfied categories. This indicates that the formal educational system in Kosovo is equipping students with the necessary technical foundations to pursue careers in the ICT industry.

On the other hand, satisfaction levels with soft skills show a mixed picture. Skills like Analytical Thinking, Team Working, Leadership Role, Communication Skills, and Writing Skills exhibit a more diverse range of responses. While a significant portion of employers falls into the satisfied and very satisfied categories, there is still a notable percentage expressing dissatisfaction or neutrality. This suggests that there is room for improvement in developing and nurturing these soft skills among students in the formal education system.

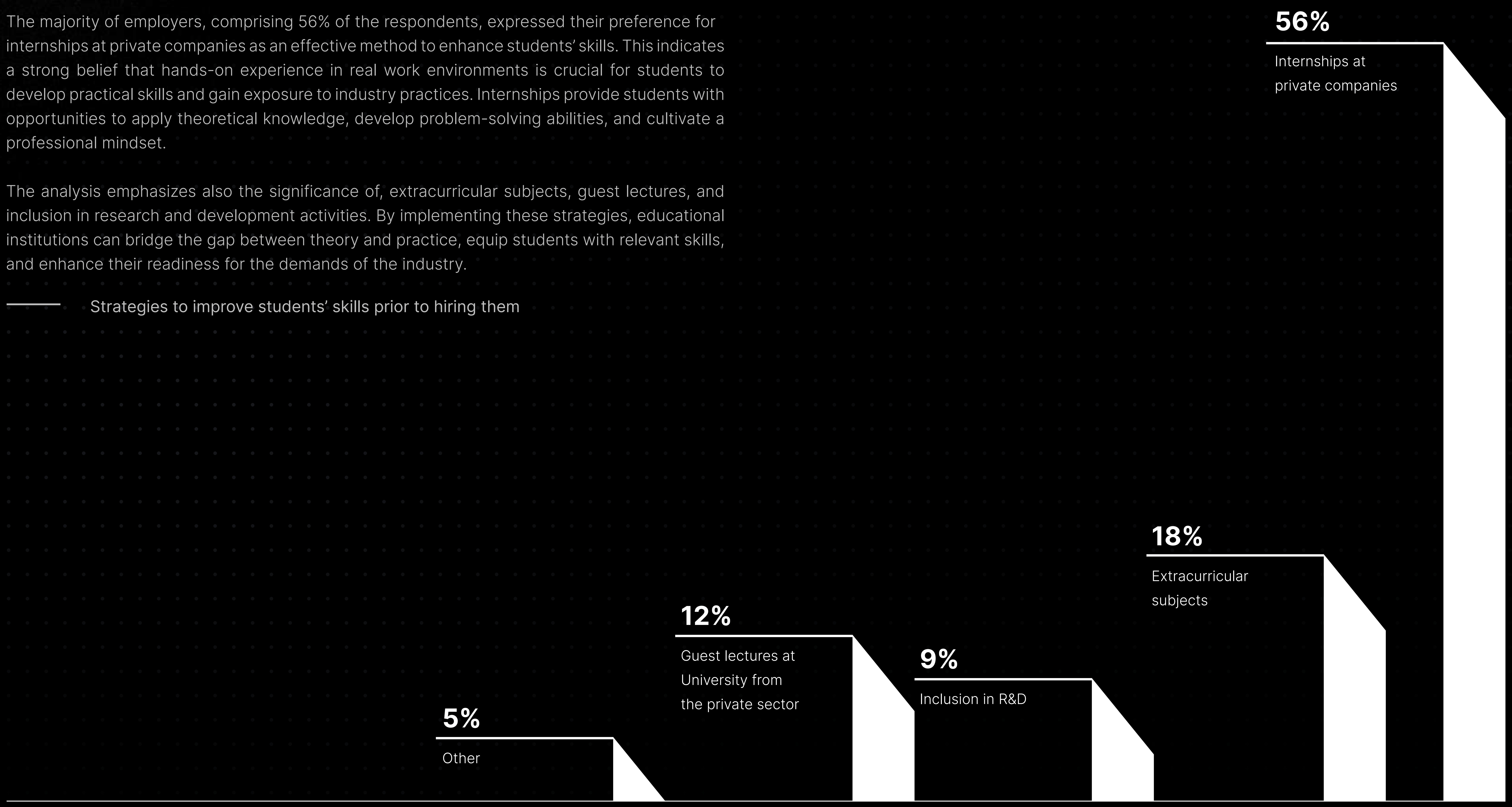
The analysis underscores the importance of continuous collaboration between educational institutions and the industry to bridge the gap between academic training and industry requirements.

The survey data provides valuable insights into the strategies that employers in the ICT industry in Kosovo believe would effectively enhance students' skills before they are hired.

The majority of employers, comprising 56% of the respondents, expressed their preference for internships at private companies as an effective method to enhance students' skills. This indicates a strong belief that hands-on experience in real work environments is crucial for students to develop practical skills and gain exposure to industry practices. Internships provide students with opportunities to apply theoretical knowledge, develop problem-solving abilities, and cultivate a professional mindset.

The analysis emphasizes also the significance of, extracurricular subjects, guest lectures, and inclusion in research and development activities. By implementing these strategies, educational institutions can bridge the gap between theory and practice, equip students with relevant skills, and enhance their readiness for the demands of the industry.

Strategies to improve students' skills prior to hiring them



Recruitment Channels

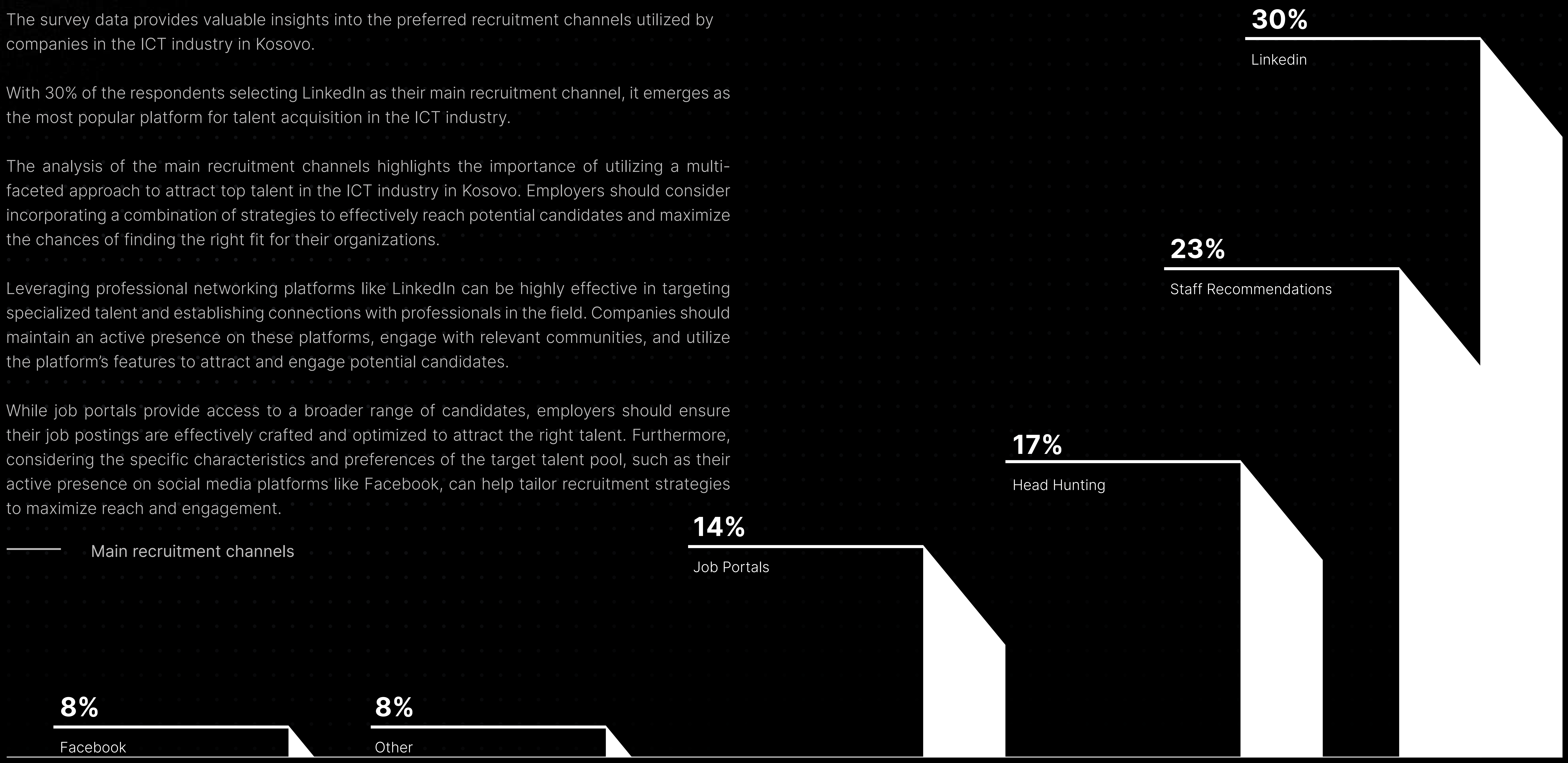
The survey data provides valuable insights into the preferred recruitment channels utilized by companies in the ICT industry in Kosovo.

With 30% of the respondents selecting LinkedIn as their main recruitment channel, it emerges as the most popular platform for talent acquisition in the ICT industry.

The analysis of the main recruitment channels highlights the importance of utilizing a multi-faceted approach to attract top talent in the ICT industry in Kosovo. Employers should consider incorporating a combination of strategies to effectively reach potential candidates and maximize the chances of finding the right fit for their organizations.

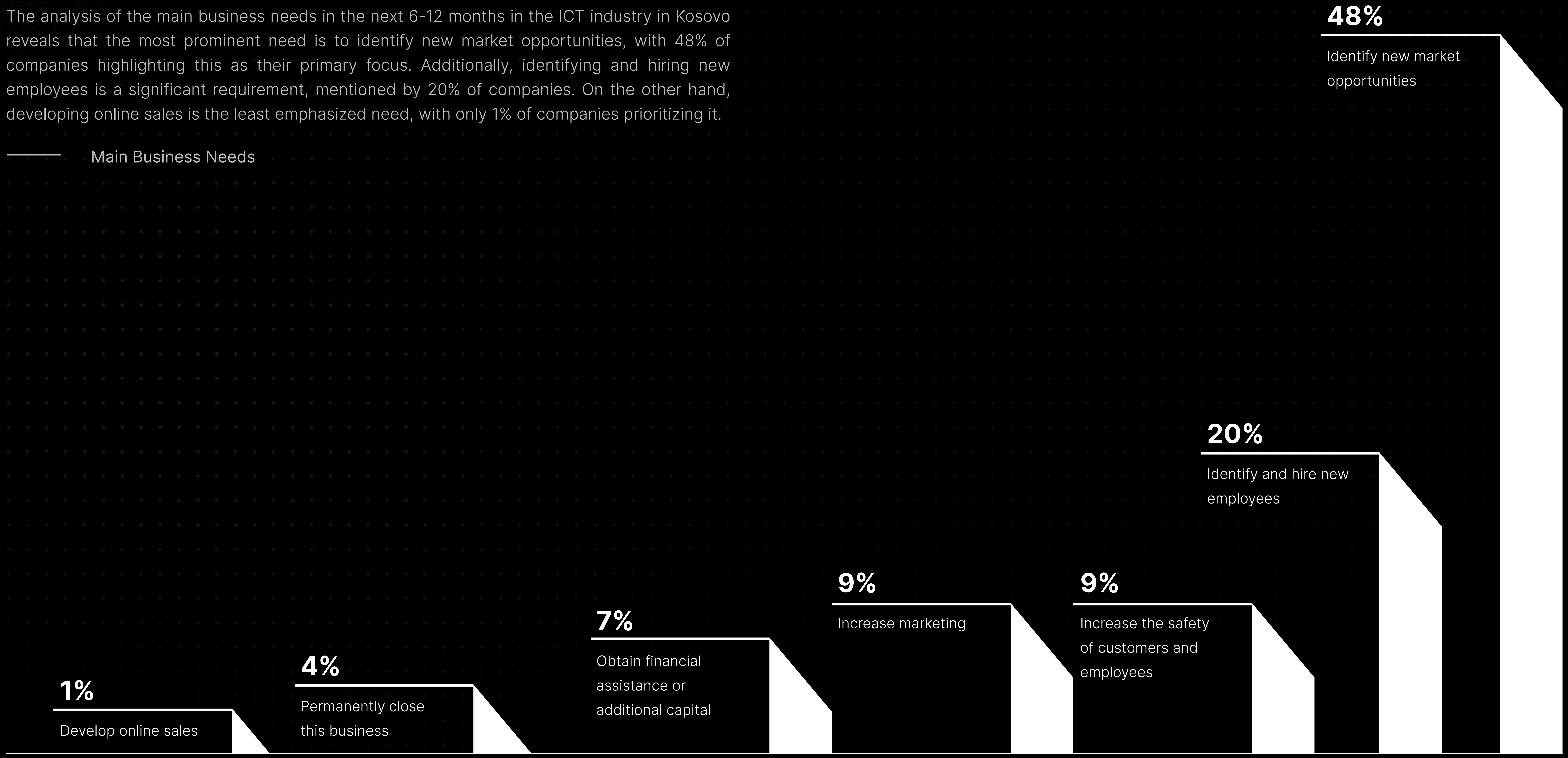
Leveraging professional networking platforms like LinkedIn can be highly effective in targeting specialized talent and establishing connections with professionals in the field. Companies should maintain an active presence on these platforms, engage with relevant communities, and utilize the platform's features to attract and engage potential candidates.

While job portals provide access to a broader range of candidates, employers should ensure their job postings are effectively crafted and optimized to attract the right talent. Furthermore, considering the specific characteristics and preferences of the target talent pool, such as their active presence on social media platforms like Facebook, can help tailor recruitment strategies to maximize reach and engagement.



Business needs in the next 6-12 months

The analysis of the main business needs in the next 6-12 months in the ICT industry in Kosovo reveals that the most prominent need is to identify new market opportunities, with 48% of companies highlighting this as their primary focus. Additionally, identifying and hiring new employees is a significant requirement, mentioned by 20% of companies. On the other hand, developing online sales is the least emphasized need, with only 1% of companies prioritizing it.

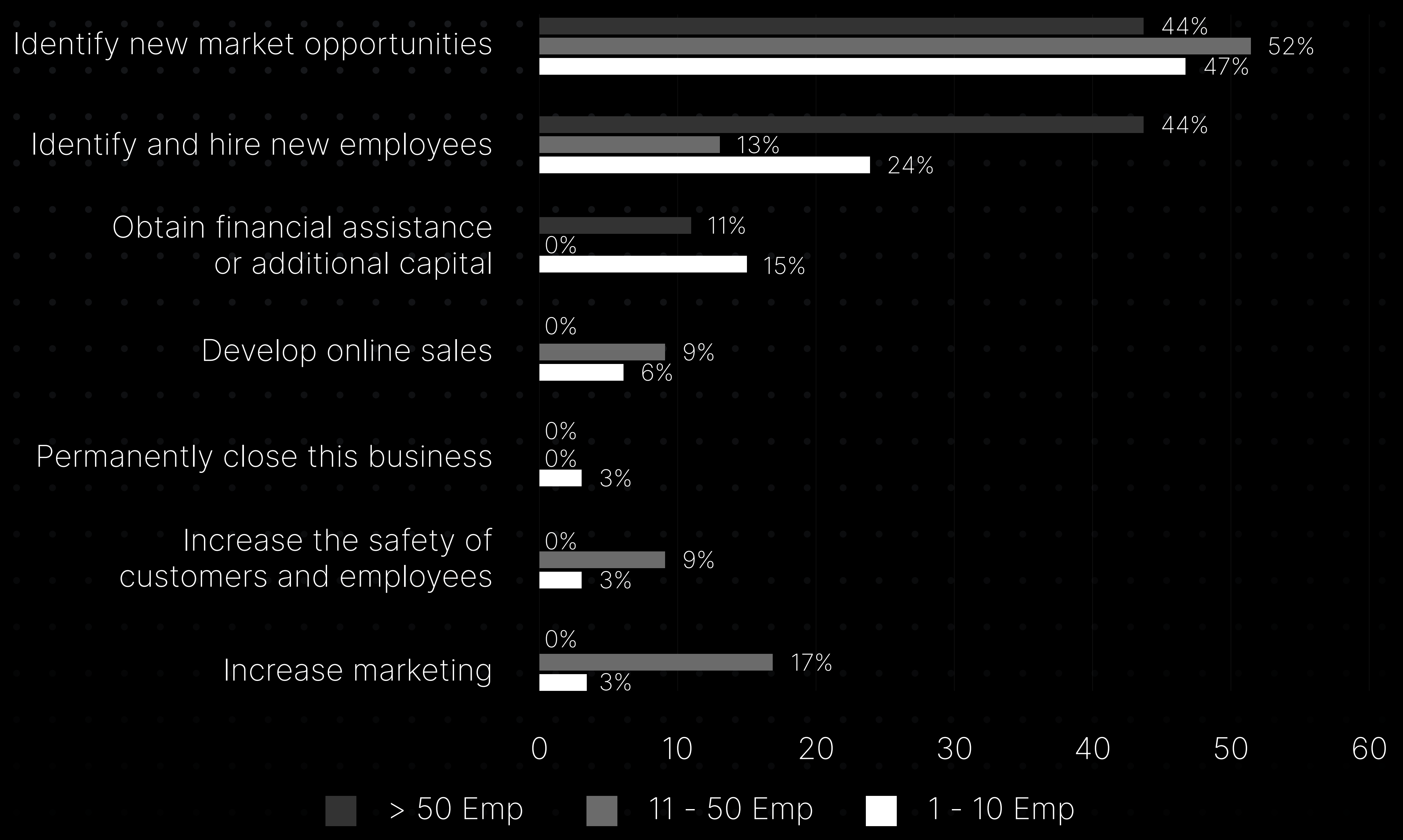


When considering the distribution of the main business needs based on the number of employees, it becomes apparent that companies with fewer than 10 employees and those with over 50 employees share similar priorities. Both groups place a high emphasis on identifying new market opportunities, with 47% and 44% respectively highlighting it as their main need. However, the need to identify and hire new employees is more pronounced among companies with over 50 employees, while smaller companies focus more on developing online sales.

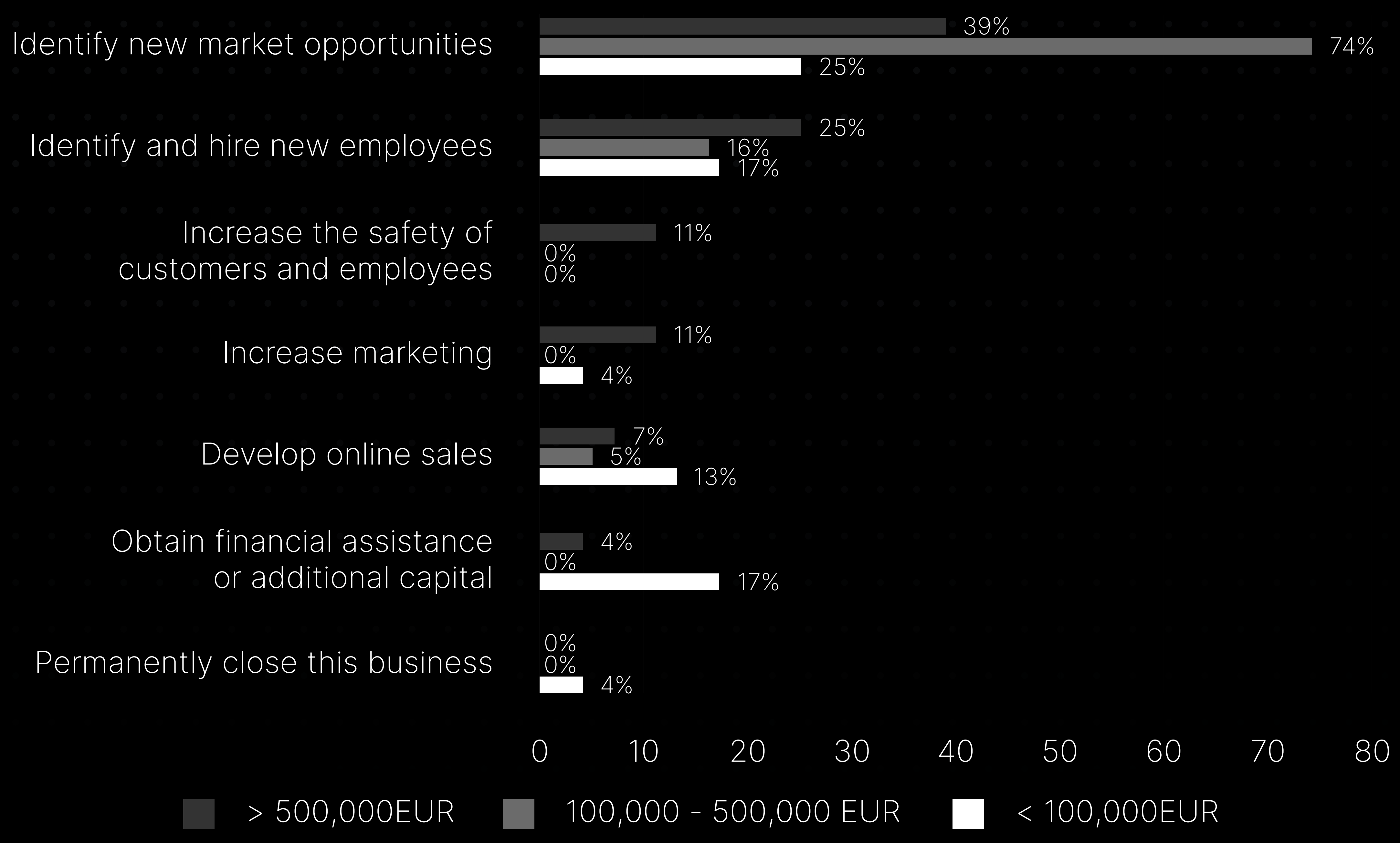
In terms of turnover, companies with a turnover of 100,000 to 500,000 EUR stand out as the group with the strongest emphasis on identifying new market opportunities, with a significant 74% of them prioritizing this need. Companies with a turnover of less than 100,000 EUR also prioritize this need to a notable extent, with 25% focusing on it. Obtaining financial assistance or additional capital is more important for companies with a turnover of less than 100,000 EUR, while companies with a turnover exceeding 500,000 EUR show a higher inclination towards increasing marketing and the safety of customers and employees.

Based on these findings, it is evident that identifying new market opportunities is a common need across different company sizes and turnover levels. This indicates a proactive approach by companies to explore growth opportunities in the dynamic ICT industry. Additionally, the variation in priorities based on company size and turnover highlights the diverse challenges and strategic directions pursued by different segments of the industry.

Main Business Needs by number of employees



Main Business Needs by annual turnover

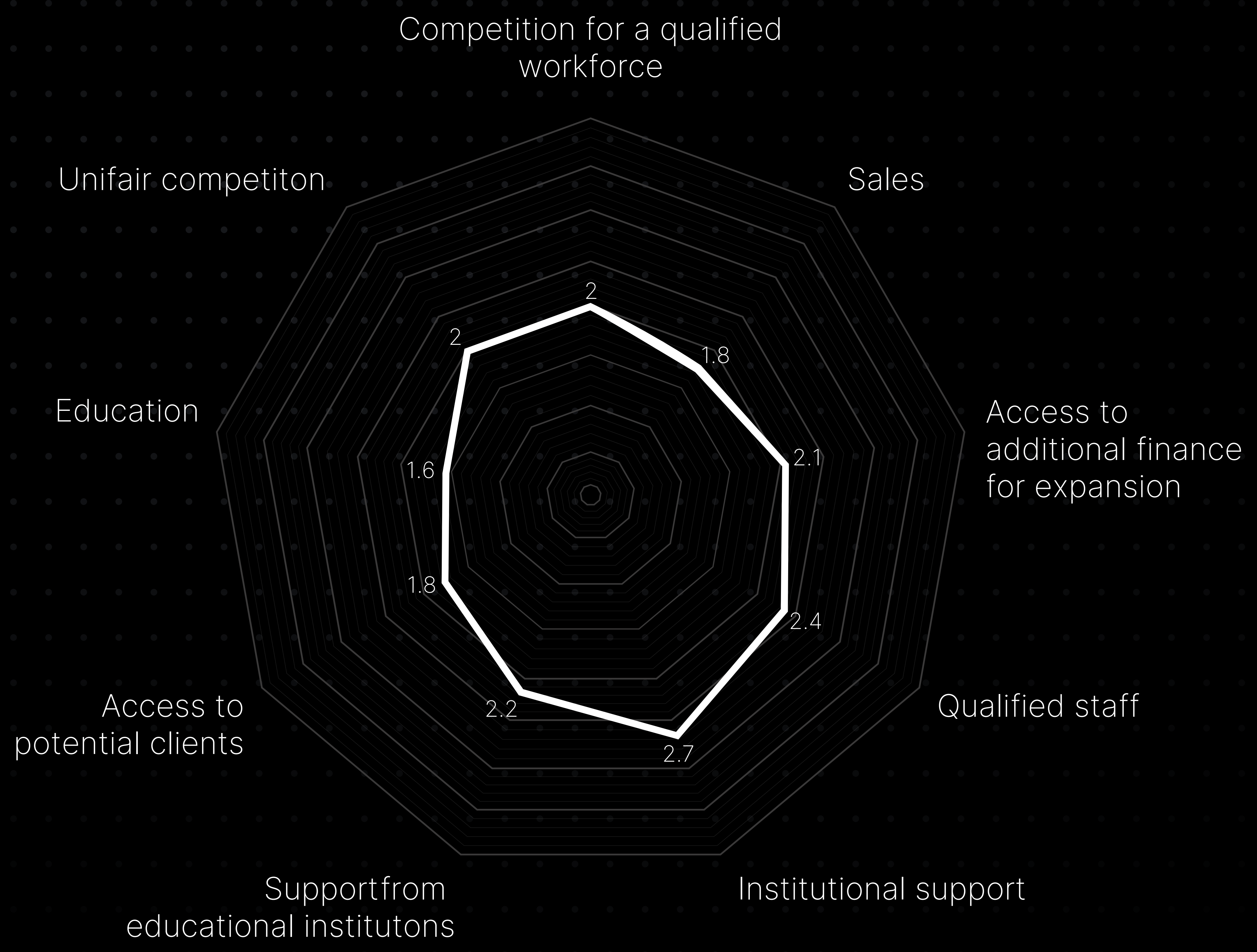


Challenges and problematic aspects

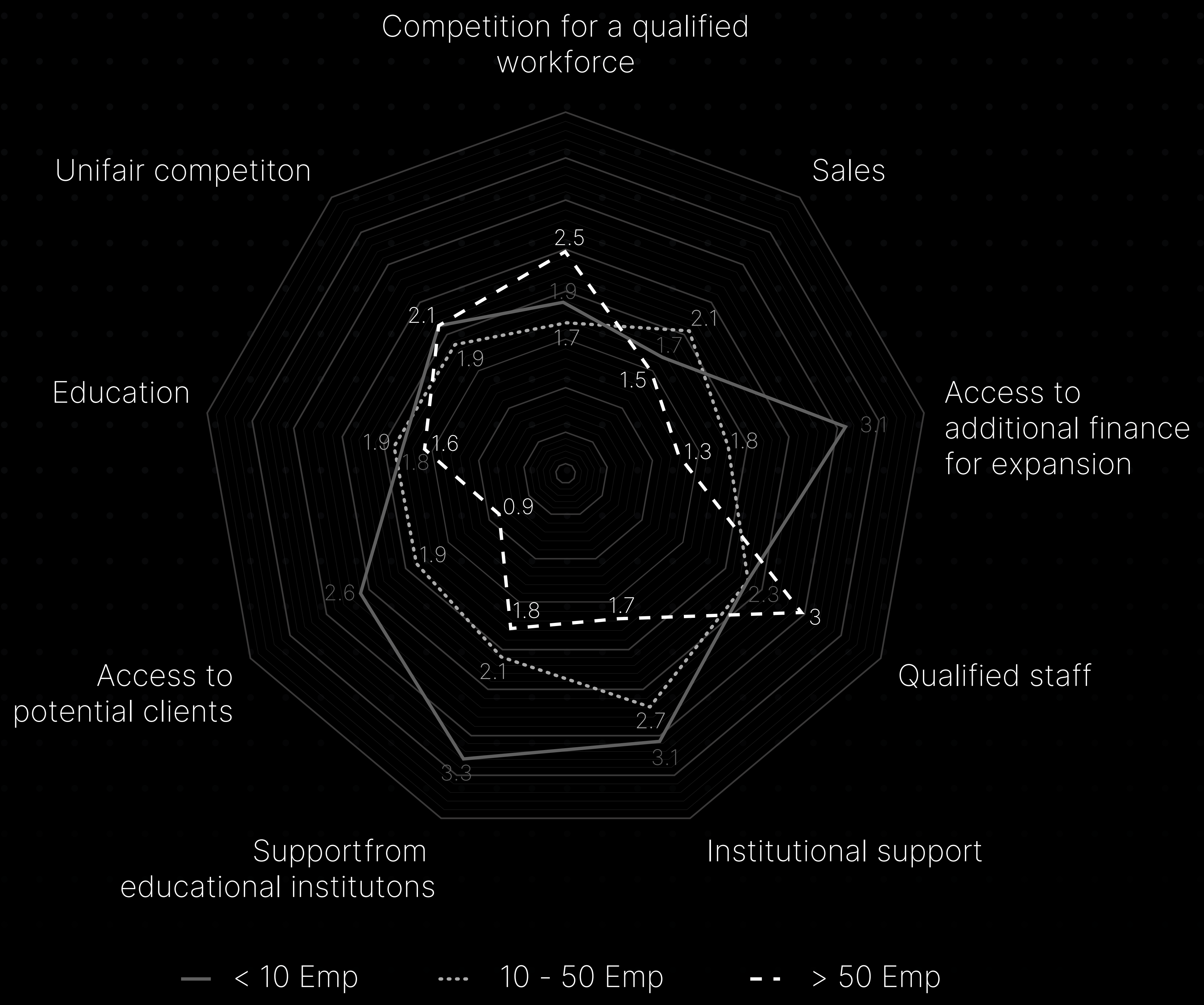
The analysis of the ratings given by ICT companies in Kosovo regarding various aspects of their business provides valuable insights into the challenges they face. Overall, the most problematic aspect identified is "Institutional Support". This is followed closely by "Qualified Staff" and "Support from educational institutions," both rated as problematic. On the other hand, "Education" and "Access to potential clients" are viewed as less problematic, indicating they are relatively less challenging for these companies.

When considering the distribution of ratings based on the number of employees, several interesting patterns emerge. Smaller companies with less than 10 employees tend to find "Access to additional finance for expansion" as the most problematic aspect, suggesting that accessing financial resources for growth is a significant challenge for these businesses. On the other hand, larger companies with over 50 employees highlight "Qualified Staff" as the most problematic aspect, indicating the difficulties they face in recruiting and retaining highly skilled professionals.

Rating of business aspects: 0 - not problematic, 4 - very problematic



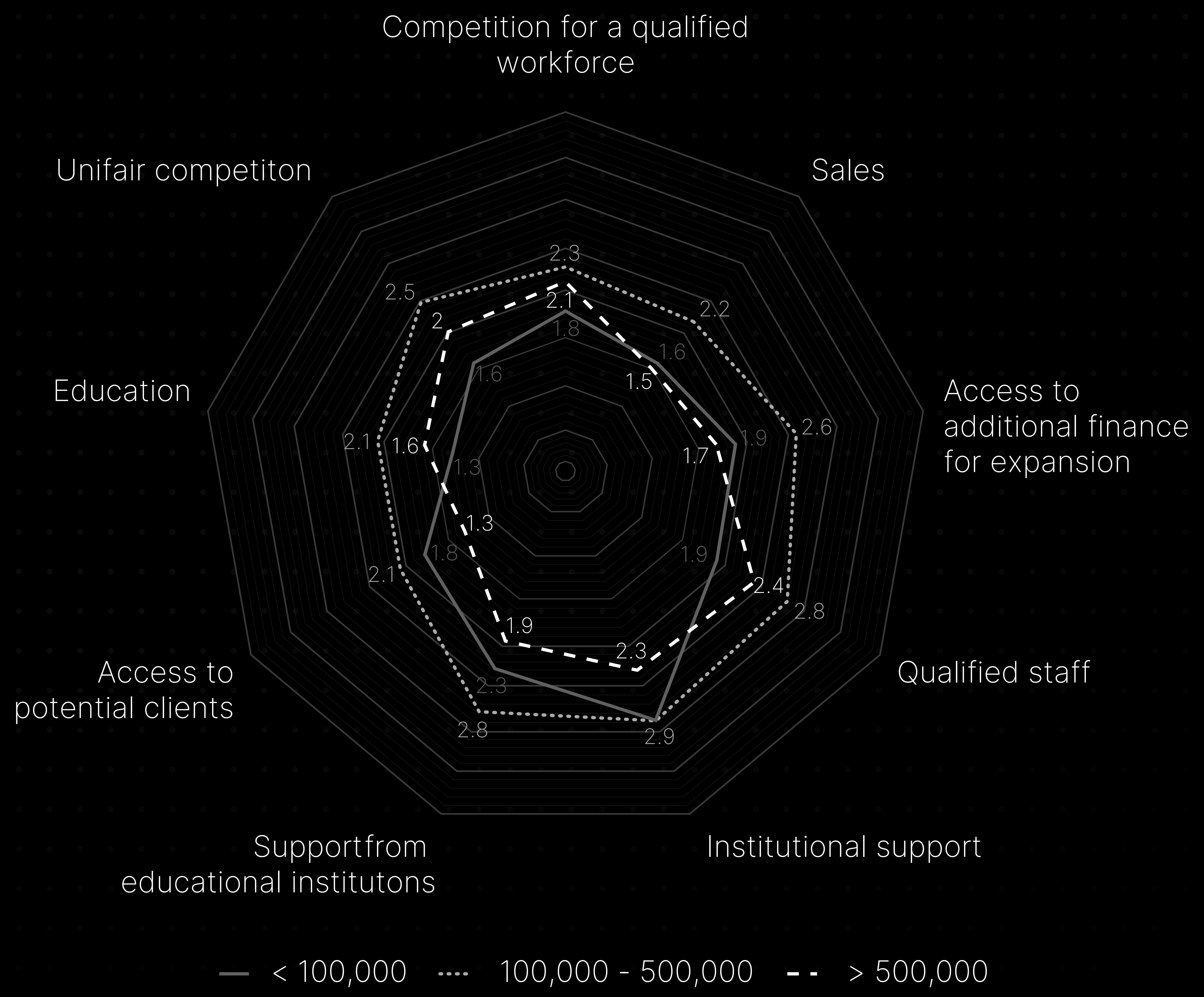
Rating of business aspects by company size



In terms of turnover, companies with a turnover between 100,000 and 500,000 EUR rate “Qualified Staff” as the most problematic aspect, emphasizing the need for a skilled workforce to support their business growth. Companies with a turnover over 500,000 EUR also rate “Qualified Staff” highly, but they also identify “Institutional Support” and “Support from educational institutions” as significant challenges, both considered problematic. This suggests that as companies grow and achieve higher turnovers, they face additional complexities related to institutional support and collaboration with educational institutions.

Overall, the results highlight the critical role of qualified staff and institutional support in the ICT industry in Kosovo. The ratings indicate a need for improved support from institutions and educational establishments to address the challenges faced by ICT companies. Additionally, the variations observed based on company size and turnover demonstrate the unique challenges and priorities of different segments within the industry.

Rating of business aspect by annual turnover



Main findings

The IT Barometer report provides a comprehensive overview of the ICT sector in Kosovo, shedding light on various aspects of participating companies. By analyzing data from question several key findings and conclusions emerge:

1. **Characteristics of ICT Companies in Kosovo:** The majority of ICT companies in Kosovo are small to medium-sized enterprises. These companies predominantly operate in the software development and IT services sectors, focusing on web and mobile applications. The ownership structure is largely private, with a significant number of companies being domestically owned. The industry is predominantly male-dominated, with a higher representation of male employees compared to female employees.

2. **Market Presence and Export Activities:** ICT companies demonstrate strong market diversification by providing IT products and services across various horizontal markets. They also display a clear focus on international markets, with a significant percentage exclusively targeting overseas clients. Export sales play a crucial role, as a substantial portion of the market base for these companies is derived from international markets. The geographic distribution of exports shows a diverse range of destinations, including prominent regions like DACH countries, USA & Canada, and Regional countries. Direct exports from Kosovo to clients abroad are the preferred approach for the majority of companies, enabling them to maintain control over business operations and client relationships. However, several challenges exist when doing business in export markets, including visa requirements, finding suitable business partners, and limited government support. Overcoming these obstacles is crucial to maximizing the potential of the ICT sector in Kosovo and further expanding export activities.

3. **Technology Usage:** ICT companies in Kosovo demonstrate a strong reliance on open-source technologies, with a substantial proportion of companies utilizing open-source software and platforms. Additionally, cloud computing is gaining prominence among these companies, enabling them to leverage scalable and cost-effective solutions.

4. **Human Resources and Skills:** The availability of qualified and skilled professionals is a critical concern for ICT companies in Kosovo. The demand for senior software developers, software architects, and professionals with strong communication and marketing skills is particularly high. However, there is a perceived dissatisfaction with the skills of students coming from the formal educational system. To address this gap, internships at private companies and extracurricular subjects are seen by companies as effective ways to enhance students' skills.

5. **Challenges and Problematic Aspects:** ICT companies in Kosovo face several challenges, including competition for a qualified workforce, access to additional finance for expansion, and institutional support. These challenges vary based on company size and turnover. Smaller companies highlight the need for financial resources, while larger companies emphasize the difficulty in recruiting and retaining qualified staff. Institutional support and collaboration with educational institutions are also identified as areas requiring improvement.

6. **Salaries:** The salaries offered by ICT companies in Kosovo demonstrate a clear trend of being higher than the average monthly salaries in the country. Positions such as software architects and senior software developers command average monthly salaries of around 2300-2400 EUR, significantly surpassing the average monthly salary in Kosovo's private sector. Similarly, IT engineers, system administrators, database administrators, network engineers, and cybersecurity specialists within ICT companies receive above-average salaries ranging from 1000 to 1600 EUR. Even positions like junior software developers, software testers, designers, and marketing/sales professionals within the ICT sector enjoy higher average monthly salaries compared to the private sector. This salary disparity highlights the strong demand for technical proficiency and experience within the ICT industry and underscores the potential for higher earnings in the sector compared to other sectors in Kosovo.

Recommendations

The IT Barometer report has provided invaluable insights into Kosovo's ICT sector, illuminating its current landscape and shedding light on the opportunities and challenges that lie ahead. Building upon these findings, we present a comprehensive set of recommendations for companies, education institutions, and state institutions to unlock the full potential of Kosovo's ICT industry.

Recommendations for Companies:

1. **Embrace collaboration and internationalization:** The report highlights the strong market diversification and international focus of ICT companies in Kosovo. Building strategic partnerships, exploring new markets, and actively participating in trade fairs can fuel business expansion and turnover growth. Companies should leverage these findings to foster collaborations and tap into the vast opportunities available beyond national borders.

2. **Invest in human capital development:** With the demand for qualified professionals at an all-time high, companies must prioritize investing in the continuous development of their employees. Training programs, workshops, and certifications should be implemented to enhance technical expertise and keep pace with rapidly evolving technologies. By nurturing a skilled workforce, companies can elevate their competitiveness and solidify their position as leaders in the industry.

3. **Harness the power of innovation and R&D:** The report underscores the significance of innovation in driving the ICT sector forward. Companies should allocate resources for research and development initiatives, encouraging employees to think creatively and contribute to technological advancements. Embracing innovation will not only yield cutting-edge solutions but also foster a culture of entrepreneurship, stimulating further growth and market differentiation.

Recommendations for Education Institutions:

1. **Foster industry-academia collaboration:** The report emphasizes the importance of aligning educational curricula with the needs of the ICT industry. Education institutions should actively engage with ICT companies to understand the evolving skill requirements and adapt their programs accordingly. By fostering stronger ties between academia and industry, graduates will possess the knowledge and skills necessary to excel in the job market.

2. **Enhance practical training opportunities:** To bridge the gap between theory and practice, education institutions should incorporate practical training programs within their curricula. Internships, cooperative education, and hands-on projects will empower students with real-world experience, preparing them for the demands of the ICT sector. By nurturing a talent pool equipped with practical skills, education institutions can contribute significantly to the growth and success of the industry.

3. **Cultivate an entrepreneurial mindset:** The report highlights the potential for entrepreneurship and innovation within the ICT sector. Education institutions should promote entrepreneurship courses, establish startup incubators, and encourage students to explore their entrepreneurial aspirations. By instilling an entrepreneurial mindset, institutions can inspire students to think creatively, take risks, and contribute to the development of a vibrant ICT ecosystem.

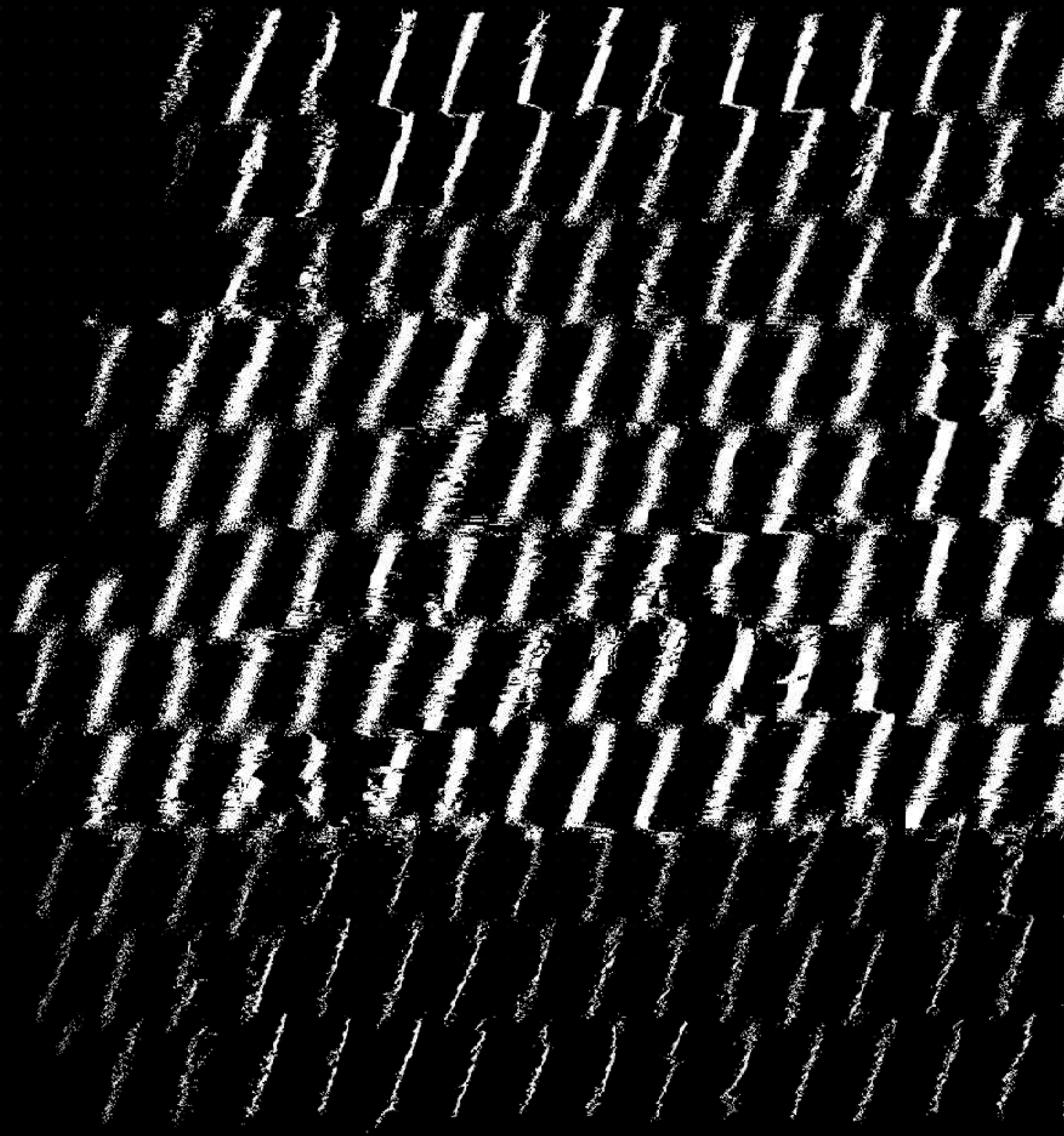
Recommendations for State Institutions:

1. **Strengthen policy and institutional support:** The report identifies various challenges faced by ICT companies, including access to finance, institutional support, and market information. State institutions should enact policies that foster an enabling environment for the ICT sector, providing targeted support programs, simplifying administrative procedures, and offering financial incentives. By bolstering institutional support, the government can catalyze the growth of the ICT industry and attract more foreign direct investment.

2. **Foster collaboration between stakeholders:** To ensure the effective implementation of ICT policies and programs, state institutions should enhance collaboration with both companies and education institutions. Regular consultations, joint initiatives, and shared platforms for knowledge exchange can facilitate a coherent and holistic approach to the sector's development. By fostering a collaborative ecosystem, state institutions can leverage collective expertise and resources to address challenges and seize opportunities.

3. **Invest in research and development:** Recognizing the critical role of research and development in driving innovation, state institutions should allocate resources to promote ICT-focused research activities. Establishing research centers, providing grants, and supporting research projects will incentivize companies, academia, and professionals to engage in groundbreaking research. By nurturing a culture of innovation, the government can position Kosovo as a hub for cutting-edge ICT solutions and attract international attention.

The IT Barometer report has provided a wealth of insights into Kosovo's ICT sector, showcasing its strengths and highlighting areas for improvement. By acting upon the recommendations derived from this comprehensive analysis, companies, education institutions, and state institutions can collectively shape the future of the ICT industry in Kosovo. Through collaboration, investment in human capital, innovation, and strategic policy measures, Kosovo can unlock its true potential and emerge as a thriving ICT destination in the global arena. The time for action is now, and by embracing these recommendations, Kosovo can pave the way for a prosperous future driven by the transformative power of ICT.



Thank You!

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