



STARTUP









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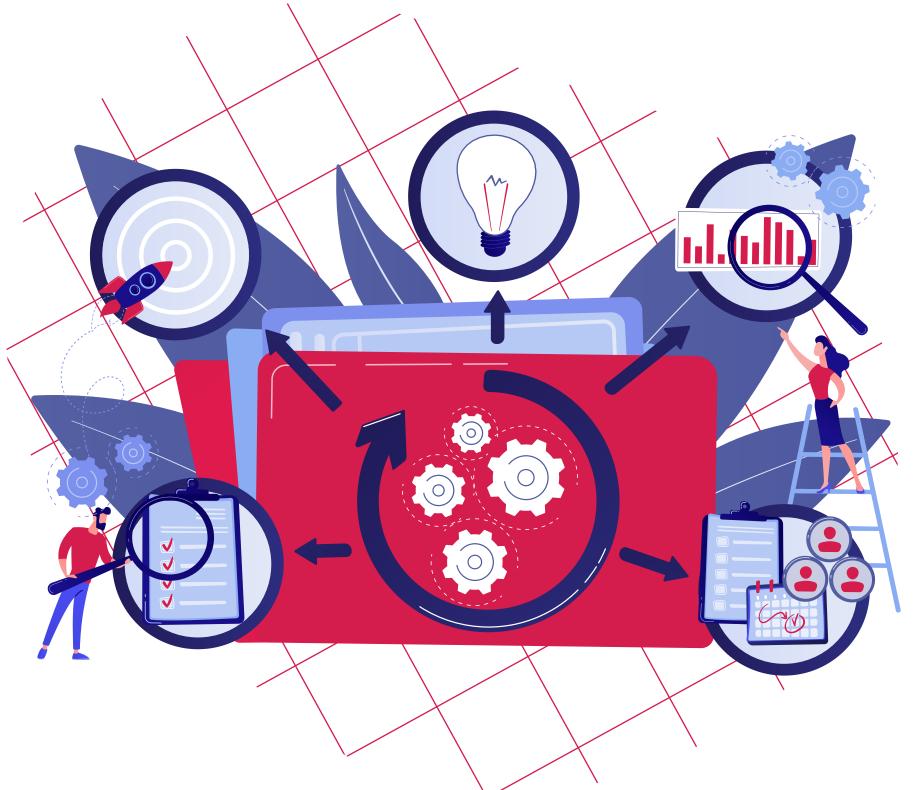
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KEY FINDINGS

Impressive growth of the Serbian innovation ecosystem continues, with over 300 new startups emerging in the past two years.

An unintended consequence of rapid growth is a reduction in ecosystem maturity, which emphasizes the need for the enhancement of existing startup support programs and the creation of new support organizations and frameworks. The three key challenges for Serbian startups include access to finance, customer acquisition, and the recruitment of skilled personnel, particularly in the sales sector. Key objectives for Serbian startups in 2024 encompass sales growth, product development, and user base expansion.

The fact that, as of early 2024, the Serbian startup ecosystem employs over 6,000 individuals -2,500 more than two years ago - is a reason for optimism among all stakeholders in the innovation ecosystem and reinforces the standpoint that knowledge and innovation are the right path for Serbia's further development.





FOUNDER PROFILE

Half of the founders (50%) embarked on entrepreneurial ventures to solve a problem or capitalize on a market opportunity. The average age of startup founders in Serbia is **35.2** years.

73% percent of founders acquired knowledge essential for founding and running startups through prior work experience.

Young founders, aged between 15 to 29 years, constitute over a quarter of those surveyed (28%), marking a significant increase from previous years (19%).

A considerable (33%) of founders had previously engaged in at least one startup venture.

STARTUP PROFILE

Over half of startups (58%) are preparing for market entry through MVPs and are acquiring first users, with a notable increase in new teams in the earliest stages of development, comprising 22% of the ecosystem.

The majority of startups (56%) were established between 2021 and 2023.

Two-thirds (64%) of startups do not have a single woman in the founding team. **36%** of startups are developing products in the field of applied artificial intelligence, and **19%** in the field of data processing and analytics, which reflects global trends and a growing interest in advanced technologies.

28% startapa koji su učestvovali u istraživanju razvija inovaciju u oblasti hrane, poljoprivrede, biotech-a ili medicinske tehnologije.

41% of startups have at least one founder coming from the business or finance sector.











FUNDING AND BUSINESS

Based on the research, it is estimated that around **1,350** new team members were employed in the Serbian startup ecosystem during **2023**, with over **3,000** new jobs planned for **2024**.

84% of startups plan (further) internationalization in 2024.	The majority of startups (70%) are not profitable yet.
A quarter of startups (24%) have an estimated value of 1 million EUR or more, indicating market pres- ence and initial successes.	37% of startups are offering their products in Europe, and 27% are on the US market.
In 2023 over half of start- ups (51%) planned to hire new sales team members in 2023, but less than 10% succeeded.	64% of startups are developing products with the intention of entering the global market.

SUPPORT FOR STARTUPS

The low presence of "smart money" in the ecosystem highlights the need for stronger support, such as incentives for business angels, new sources of funding, and the development of alternative financial mechanisms to stimulate innovation and growth of the ecosystem.

The three biggest challenges for startups in Serbia are financing, customer acquisition, and recruitment.

The three most important goals for Serbian startups are sales growth, product development, and user base expansion. Startup support organizations have been recognized, for the first time, as the most significant sources of assistance for the founding and development of startups, confirming their central role for the advancement of the innovation ecosystem.

Over half of all surveyed startups (51%), aside from grants and bootstrapping, didn't have any other source of funding. The majority of research participants as their biggest expectation from public policies see tax incentives for investments by business angels and VC funds, as well as an increase in transparency and financing options.



INTRODUCTION

The Startup Scanner is an annual survey and comprehensive report on the state of the startup ecosystem in the Republic of Serbia, conducted by the Digital Serbia Initiative as part of the "Venture an Idea" project, in cooperation with USAID and project partners. The fourth in a row,

Startup Scanner 2024 builds on the research of previous years, offering continuity in analyzing We must understand that the dynamic startup ecosystem that has developed in Serbia over the the ecosystem's development, understanding the challenges startups face, and opportunities for past few years is still in the early stages of development and is very delicate. The development of support and improvement of the ecosystem. the ecosystem goes hand in hand with numerous initiatives to create favorable conditions for startups, providing developmental support, and easier access to financing. Looking at the biggest challenges for startups in Serbia (access to finance, customer acquisition, and hiring) and their Unlike previous years, when the focus was on identifying startups and the basic factors of their success, Startup Scanner 2024 brings more in-depth analysis which, thanks to continuity with most important goals (sales growth, product development, and user base growth) help us better previous Startup Scanners, allows a deeper insight into trends, challenges, and needs of the understand how the ecosystem develops, what its needs are, and how to create new and improve innovation ecosystem, as the most dynamic segment of Serbian economy. existing support programs that will best support its further growth.

With the participation of 201 startups in the research, the Startup Scanner continues to be the primary source of empirical data, and a research that provides quality and comprehensive We hope this document will serve as a foundation for making informed decisions, both for the analysis of the Serbian startup ecosystem. startup community itself and for policymakers, investors, and everyone contributing to the development of innovation and entrepreneurship in Serbia. We invite you to work together with us in creating better conditions for the development of entrepreneurship in Serbia, overcoming The research findings indicate that the Serbian ecosystem continues to grow, which is evident not only by the increase in the share of "young" startup teams still in the earliest stages of challenges, and to invest extra effort to continue the accelerated growth of our innovation development, but also by the increase in the number of founders under 30 years of age in the ecosystem.

ecosystem. This good news also brings the need for more support in the earliest stages of development.

The Serbian innovation ecosystem follows global trends and growing interest in advanced technologies, best seen in the increased interest in developing innovations in the fields of food, agriculture, biotech, and medical technologies, as well as product development in areas of applied artificial intelligence, data processing, and analytics. Unfortunately, global trends also include harder access to funding, rising costs of capital, with a shift in focus for early investments from the MVP development stage to the seed stage. Startup Scanner 2024 also provides insight into how the ecosystem adapts and evolves in the context of global trends and challenges.

We owe special gratitude to the founders of more than 200 startups whose participation made this research successful. Their willingness to share their experiences and insights is key to understanding and improving the startup ecosystem in Serbia. We would also like to thank our project partners, as well as all organizations that supported this important research.

Additionally, we want to express our gratitude to all essay authors who contributed to a better understanding of the ecosystem, adding an extra dimension to our analysis.



Nebojša Bjelotomić Director of the "Digital Serbia" Initiative and Director of the Venture an Idea Project







CURRENT STATE AND FUTURE OF THE STARTUP ECOSYSTEM IN SERBIA

The Startup Scanner 2024 research has shown that the Serbian innovation ecosystem continues indicate that this is not enough and that these programs need to be more widespread, and new its impressive growth of 20-30% new startups annually, demonstrating vitality and resilience programs need to be created. In addition to the described bottleneck in the early development even in challenging global conditions and despite local challenges such as access to finance, phases, startups need special support to transition from the seed phase to the growth phase, and ultimately, the ecosystem needs to build capacities to assist startups in growing towards sales, customer acquisition, and hiring staff with adequate skills. internationalization of business and preparation for Series A funding.

Our estimate is the ecosystem grew by about 150 new startups in 2023, and employed 1,350 new team members across the ecosystem. Note that this is less than the planned 3,000 new jobs in Over the past year, the Serbian ecosystem has also been enriched by a new VC fund, 5th Quarter 2023, and more importantly, there were less new hires in the Serbian startup ecosystem in 2023 Ventures, and the Digital Serbia Initiative has organized a record number of office hours visits by than in 2022. Our last year's research indicated there were 1,600 new hires in 2022. Although international VC funds that came to Serbia and met 52 Serbian startups. In addition, over the past "annual plans" are often overly optimistic and it is expected for results to be somewhat weaker, two years, the Business Angels Network of the Digital Serbia Initiative has invested a total of one the fact that the ecosystem continued to grow in 2023 while employing fewer new people than in million EUR in ten startups, nine of which have also gone through the Katapult, the only 2022, indicates serious challenges that the Serbian ecosystem faced last year. accelerator program in Serbia, organized by the Innovation Fund for the third consecutive year. So far, 39 startups have passed through Katapult, and raised a total of 15+ million EUR in investments, to which the Fund added another 4 million EUR in co-investment grants.

One of the most serious challenges for the ecosystem is undoubtedly the lack of sales personnel. According to our findings, at the beginning of 2023 51% of startups planned to hire in the sales sector, but by the end of the year, less than 10% managed to employ new team members in sales. The Startup Scanner identified access to finance, customer acquisition, and hiring personnel with As costs of capital have risen and access to financing has become more difficult, acquiring the adequate skills as the three biggest challenges for startups in Serbia, while sales growth, first customers, testing product-market fit, sales activities, and marketing initiatives have product development, and user base growth are the most important goals. Adequately become key to the growth and development of startups. The importance of hiring in the sales responding to these challenges and helping startups achieve their goals is crucial for the sector for the Serbian startup ecosystem in 2024 cannot be overstated, as it will either be a key development of the innovation ecosystem in Serbia, and this is possible only through further driver of growth and business expansion or set a limit to further ecosystem growth. development of the support system where the collective knowledge of the ecosystem will be deposited. Startup support organizations are already clearly recognized as key sources of assistance, confirming their central role in the ecosystem's progress. The contribution of support A number of parameters, including an increase in the number of new teams in the earliest development stages, a rise in the number of founders under 30, a smaller percentage of non-tech organizations is not only recognized by the research participants, but also lays a good foundation founders and founders who lived abroad and returned to Serbia, indicate that the ecosystem as a for future strategies and policies for the development of the innovation ecosystem, emphasizing whole has become less mature compared to the previous year. For the rapid growth of the the need for continuous support and collaboration. When it comes to public policies, besides Serbian ecosystem to be sustainable in the long term, it is necessary to address key limiting further development of the support system, most respondents see tax incentives for factors. It is necessary to provide more support (financing, mentorship, connections) in the investments by business angels and VC funds, as well as increased transparency and financing earliest stages of development. There are already such programs, such as the Smart Start of the options, as their greatest expectations.

Innovation Fund, Raising Starts of the Belgrade Science and Technology Park, or intense learning, working, and networking programs like the ParkUP! program of the Belgrade STP and Startup Compared to developed innovation ecosystems, the share of startups coming from the academic Weekend organized by DSI / Venture an Idea, ICT HUB, Tenderly Garage, and PwC. Our findings community in Serbia is still low, but in the past year, we have seen several encouraging examples







of good practice. These are primarily programs implemented by the Faculty of Organizational Sciences (University of Belgrade) within the Venture an Idea project: Experts2Mentors, a program for improving mentoring skills through which more than 80 professors and assistants from 20+ faculties at the University of Belgrade and Kragujevac have passed, as well as the Route2Launch pre-incubation program through which 29 student teams have passed. Also, in late 2023 the Ministry of Science, Technological Development, and Innovation, through the program of awarding funds for academic incubator programs, supported projects of 14 consortia consisting of various faculties, institutes, and science and technology parks.

Regarding plans for 2024, the research indicates startups plan to employ 3,000 new team members, reflecting the strong optimism of all innovation ecosystem actors and great potential not only for generating new jobs but also for contributing to broader economic development. The success of the Serbian innovation ecosystem depends not only on the individual successes of startups but also on the ability of the entire community to create a sustainable and dynamic ecosystem that promotes innovation, entrepreneurship, and competitiveness on the global market. Through the synergy of the academic community, the private sector, state institutions, and international partners, the startup ecosystem in Serbia has the opportunity to position itself as a driver of economic development and innovation in the region. The strategy for the future should also include strengthening the international visibility and connectivity of the Serbian startup ecosystem to facilitate the internationalization of Serbianstartups' business and access to foreign markets. We believe that knowledge and innovation are Serbia's greatest opportunity and that the innovation ecosystem can be the engine of future development of the country's economy.



Tadej Kurepa, Program Director of the "Venture an Idea" project







METHODOLOGY







RESEARCH METHODS AND INSTRUMENTS SAMPLE

The Startup Scanner 2024 is envisaged as an annual research that aims to determine the state In the Startup Scanner research, we followed a methodological approach similar to that of of the Serbian startup ecosystem, and identify opportunities and challenges within the international studies, including the Startup Genome, and defined startups, i.e., companies with ecosystem that need to be addressed to increase startups' chances of success. The research is certain characteristics, as the unit of analysis for our research. conducted in a similar manner as relevant international studies of this subject.¹

The Startup Scanner is based on empirical research, namely systematically collected data on startups and the experiences of their founders. Quantitative methods were applied i.e. the collected data were analyzed using statistical methods. The results obtained were interpreted, and supplemented with qualitative data. This year, we aimed to achieve a deeper insight into the state of the ecosystem, and therefore, included expert essays in the Startup Scanner 2024. These essays provided additional perspectives on the ecosystem, adding another dimension to our analysis.

The study utilized both primary and secondary data. Primary data were collected through a survey using the Computer-Assisted Web Interviewing (CAWI) technique with startup founders. After processing, the collected data were analyzed using descriptive statistical methods and statistical software SPSS. The survey was conducted between December 2023 and January 2024, and the results of the Startup Scanner 2024 relate to the state of the ecosystem in 2023 and plans for 2024.

The questionnaire mainly consisted of closed-ended questions. It also included questions where respondents could choose multiple answers (the results for each possible answer are presented Startups are typically defined as being operational for 10 years or less. It is noted that there is a as a percentage of startups in the sample, with barcharts). Additionally, for certain questions, possibility that startup companies or startup teams began working on developing an idea before respondents had the option of selecting "Other," enabling them to specify an answer if they did registering as companies, just as some companies were registered but started developing not find an appropriate option among the provided responses, thus ensuring additional accuracy innovative products and services significantly later than the registration moment. in data collection. Secondary data — existing information about startups in Serbia and the startup ecosystem — were collected from relevant documents and other available sources.

WHAT IS STARTUP?

A startup is a newly established, innovative business entity with the potential for rapid and significant growth. It demonstrates the potential to develop a product, service, or process in the foreseeable future that is new or significantly improved compared to the best currently available solution in its industry and carries the risk of technological or market failure. More about the basic concepts in this field can be found on the **Startup portal**.









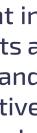
¹EU Startup Monitor https://www.europeanstartupmonitor2019.eu/EuropeanStartupMonitor2019_2020_21_02_2020-1.pdf, Austrian Startup Monitor https://austrianstartupmonitor.at/en/.

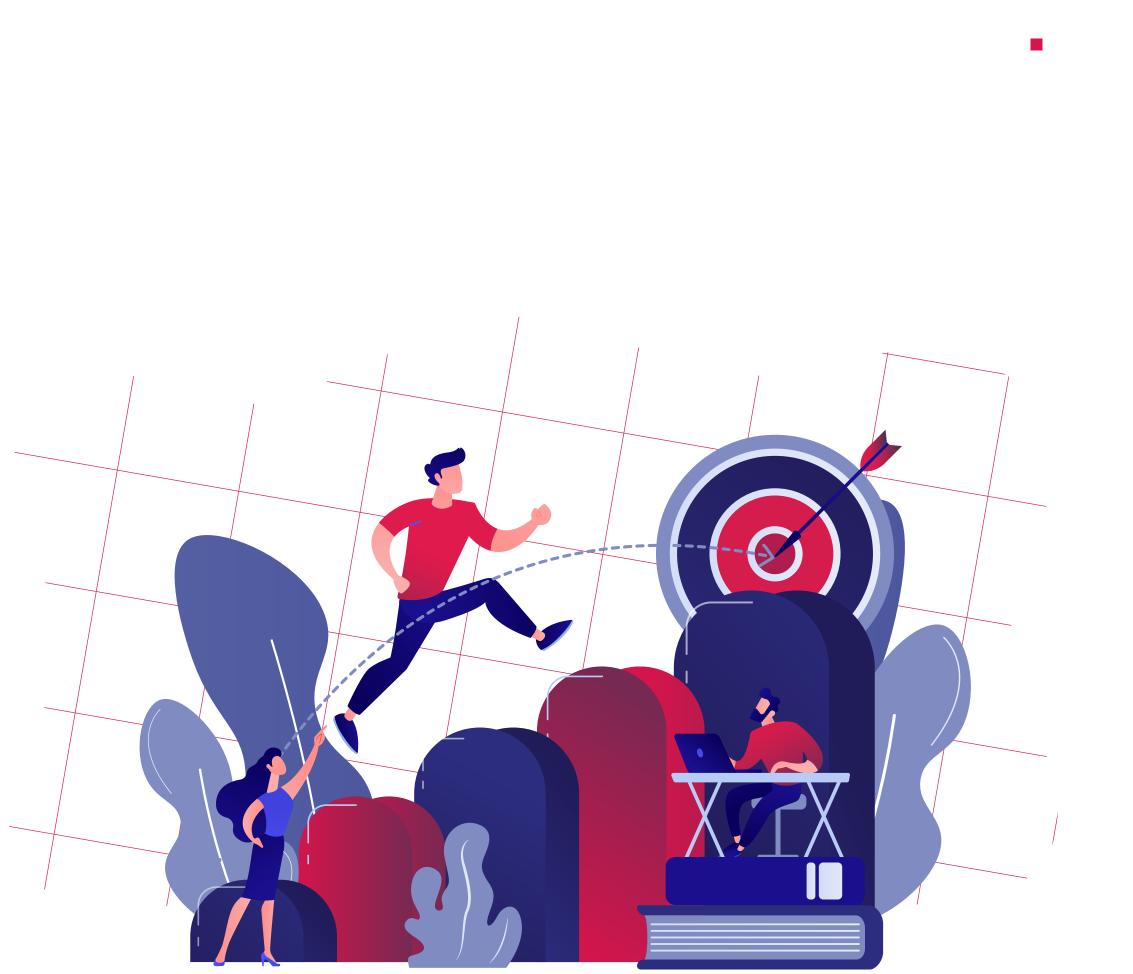
The sampling process faced challenges that are not unique to Serbia as they are also present in other ecosystems. Namely, determining the total number of startups in an ecosystem presents a significant challenge due to the dynamic nature of startups' creation, development, and closure/exit. Thus, the number of startups is often spoken of in estimates rather than definitive figures. Defining the number of startups is further complicated by the frequent need for teams to develop their product in secrecy before its launch, also due to registration and allocation of the startup team across multiple countries, operating under a single business name registered with the business registry, but present in the ecosystem under the product name, etc.

During the Startup Genome research conducted in 2019 in Serbia, it was estimated that there were between 200 and 400 startups in our ecosystem. As part of the ecosystem mapping, the Digital Serbia Initiative currently (as of February 2024) has just over 600 startups in its database, active during 2022 and 2023. However, this figure is not considered definitive; it is assumed that the database covers about 80% of the actual number of startups, meaning the startup ecosystem in the Republic of Serbia currently comprises about 750 startups.

Considering that not all startups wish to share information about their work and results, it was not realistic to achieve the ideal number of units in the sample. However, we aimed to have as large a portion of the estimated size of the startup ecosystem participate in the research as possible. Link to the online questionnaire was sent to all startups in the DSI startup database, as well as to support organizations and programs, relevant institutions, the scientific and research community, and experts, to be forwarded to startups participating in their programs or within their network of contacts. This approach aimed to reach a wide range of respondents from all parts of the ecosystem.

As a result of these efforts, a total of 201 startups completed the questionnaire, representing 26.8% of the estimated number of startups in Serbia. Considering all the above, the results presented in the Startup Scanner 2024 should not be viewed as absolute values but as indicators of the main trends in the startup ecosystem.







STARTUP ECOSYSTEM IN SERBIA

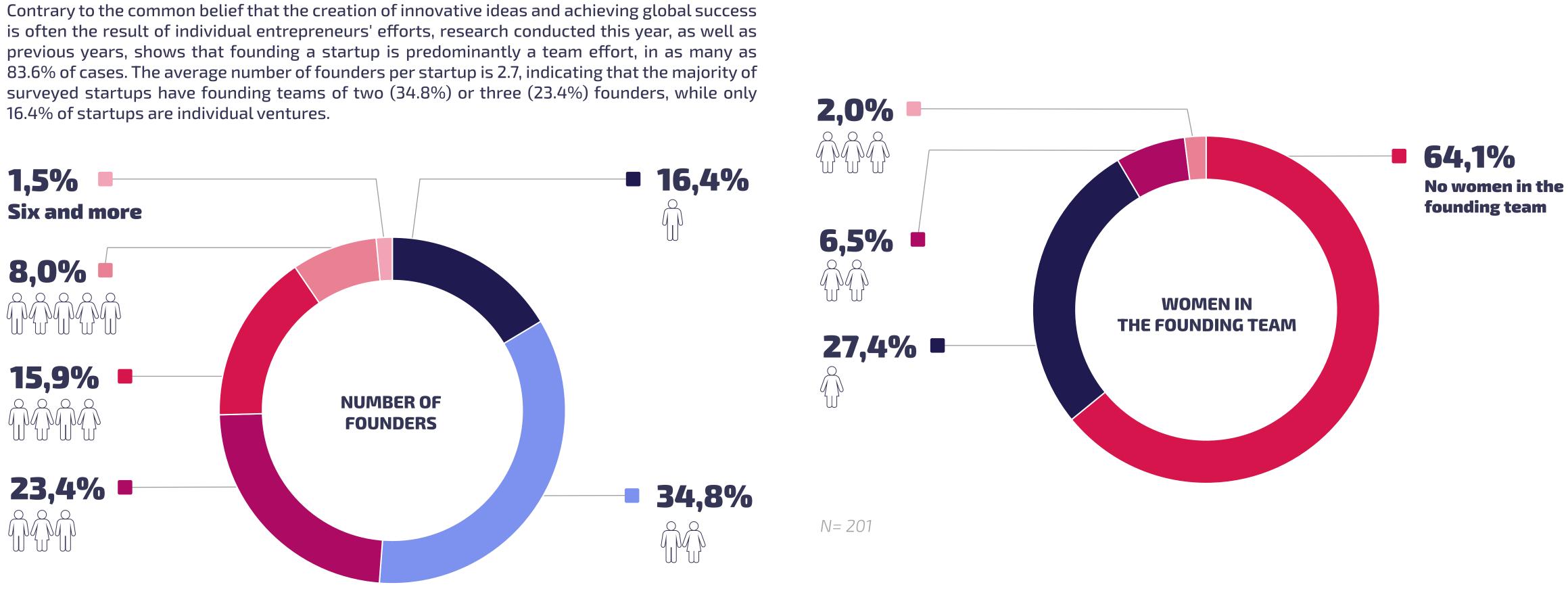








STARTUP PROFILE FOUNDING TEAM STRUCTURE



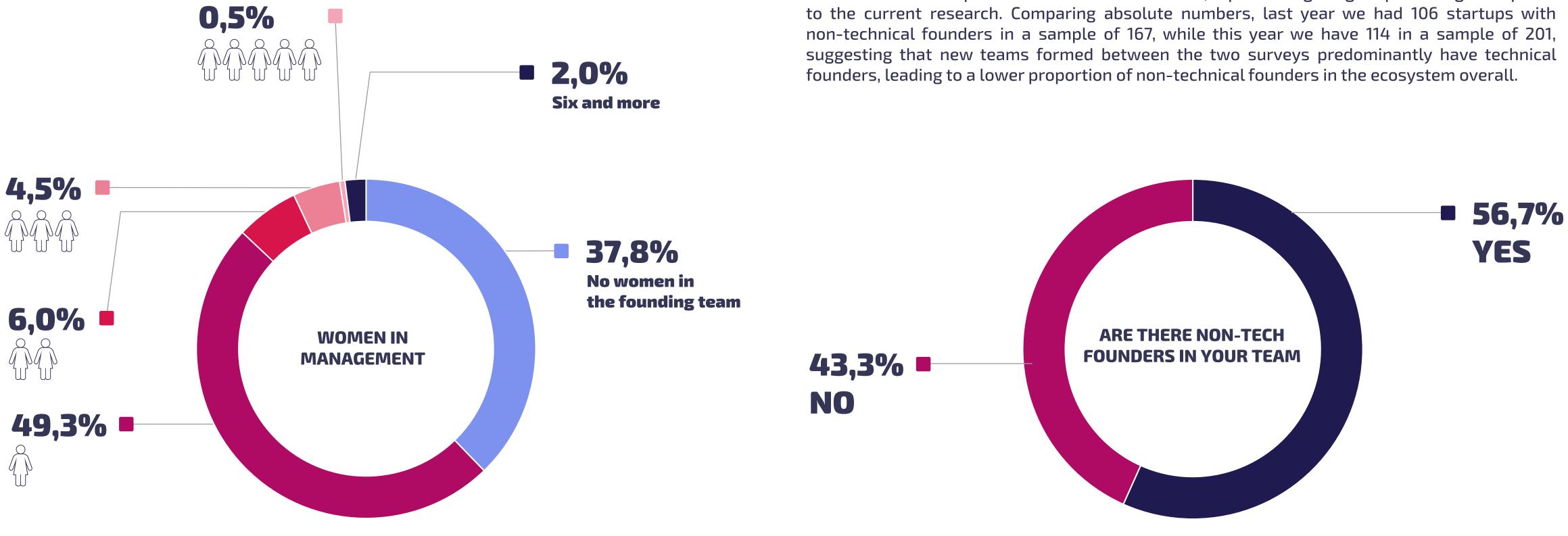
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Analyzing the composition of founding teams by gender, the trend of the ratio of male to female members from previous annual reports has been confirmed in this year's research as well. The majority of startup teams have exclusively male founders (64.1%), which aligns with the results of the European Startup Monitor², while 27.4% of startups have one woman in the founding team.



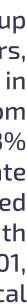


When analyzing the composition of startup management teams in Serbia, a significant gender Regarding the composition of startup founding teams, the general opinion is that startup imbalance is observed. A notable finding is that 37.8% of startups operate with exclusively male founders are predominantly individuals with technical knowledge and skills, such as engineers, management teams, while 49.3% of startups have only one female management member. Only programmers, and IT specialists. However, our research conducted on a sample of 201 startups in 4.5% of startups have management composed entirely of women. The average number of men in Serbia shows that slightly more than half (56.7%) of startups have non-technical founders from industries such as marketing, business, finance, and creative industries, while as many as 43.3% managerial roles per startup is 2.25, while the average number of women is 0.98. of startups do not have non-technical founders. Data from the 2023 Startup Scanner indicate that 63.5% of startups had non-technical founders, representing a higher percentage compared 0,5%



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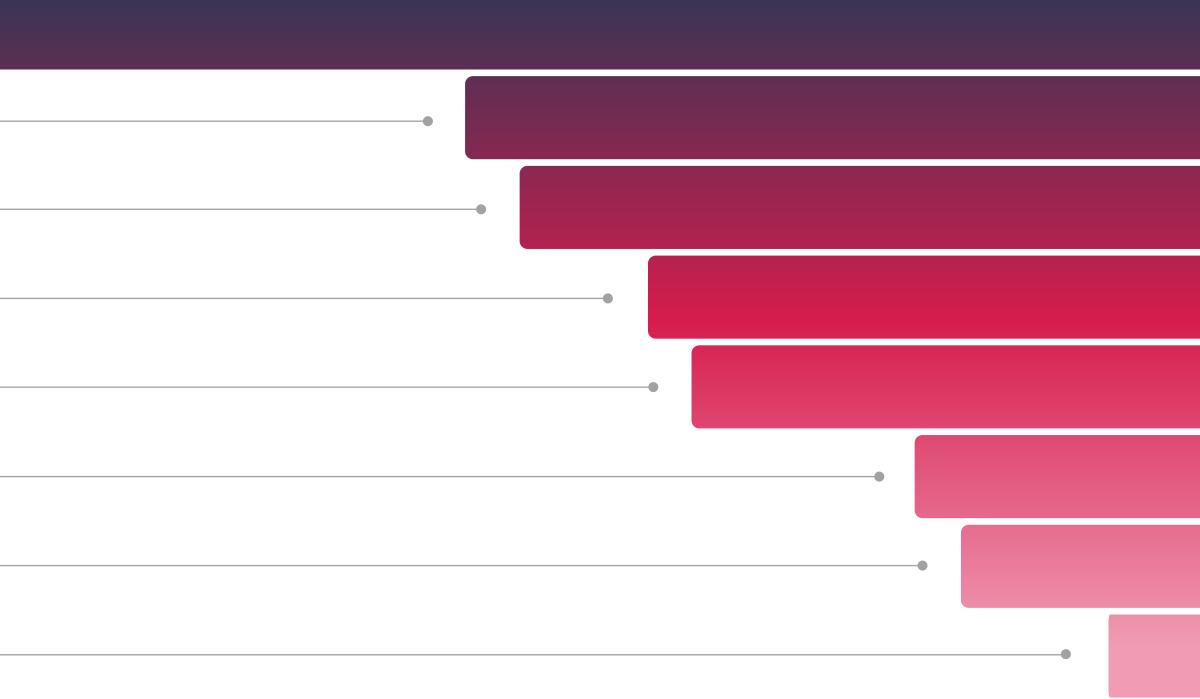
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Analyzing the professional fields from which non-technical startup founders come, we notice These areas are more represented than in previous years, and there is noticeable growth in that the largest number of them (49.1%) have expertise in management and economics. The next 2022/2023/2024, indicating that startups increasingly recognize the value of combining prominent fields are marketing and sales, with 30.4% and 27.7% of non-technical founders, business knowledge with technical skills to increase the chances of a startup idea's success. respectively (respondents could choose multiple options).

EXPERTISE AREAS OF NON-TECH FOUNDERS

Management and business	49,1%	•
Marketing	30,4%	•
Sales	27,7%	•
Social sciences	24,1%	•
Design and art	20,5%	•
Naturan sciences	15,2%	•
Finance and banking	11,6%	•
• Healthcare and medicine	3,6%	•



* Respondents had the option to select more than one answer

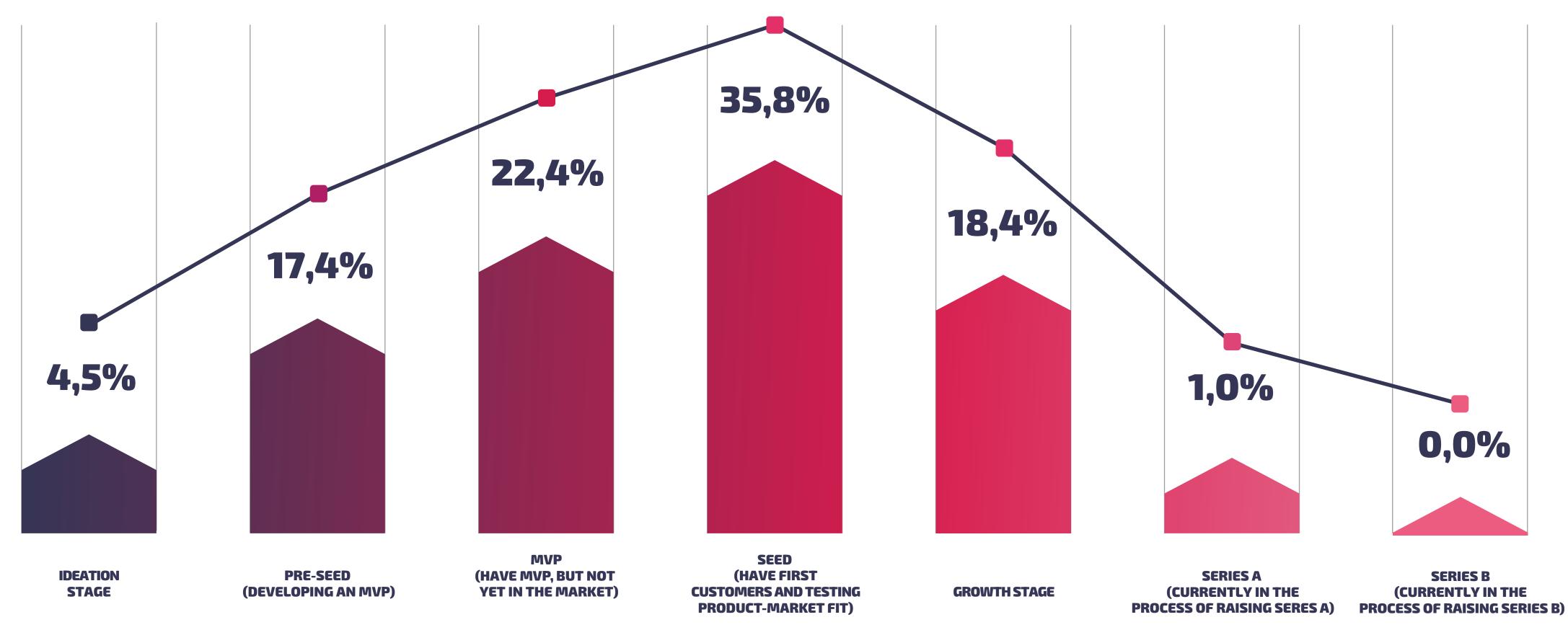






DEVELOPMENT PHASE

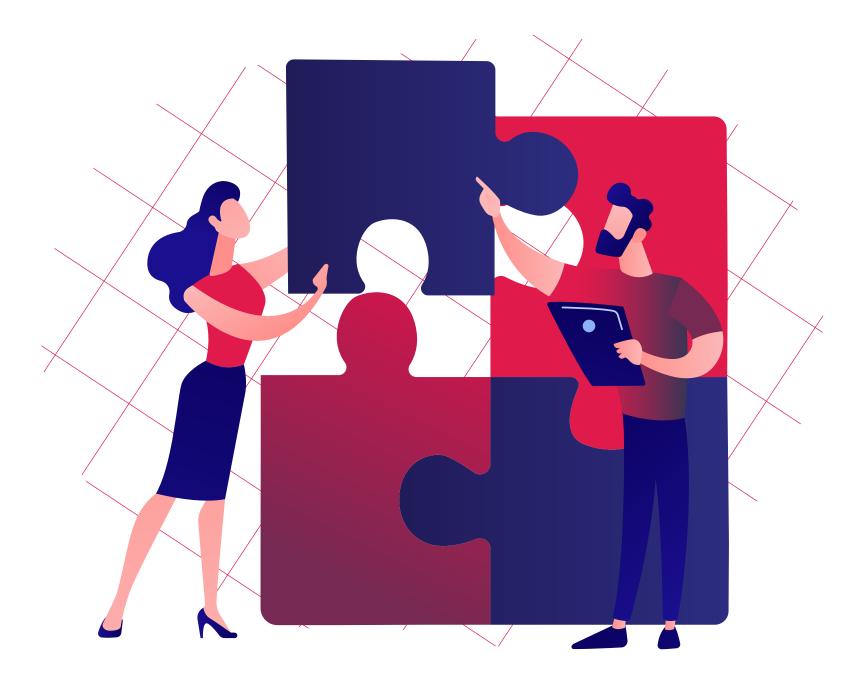
The Serbian startup ecosystem exhibits characteristics of intense growth, reflected in the increase in the number of startups in the ideation and pre-seed phases. Research data indicate that the largest number of startups (35.8%) is currently in the seed phase, working on aligning their products with market needs, while 22.4% are in the development phase of a minimum viable product (MVP) but have not yet entered the market. These phases are critical for validating business ideas and often represent a turning point towards scaling and further financing. 18.4% of startups are in the growth phase, while only 1.0% are in the process of raising Series A.

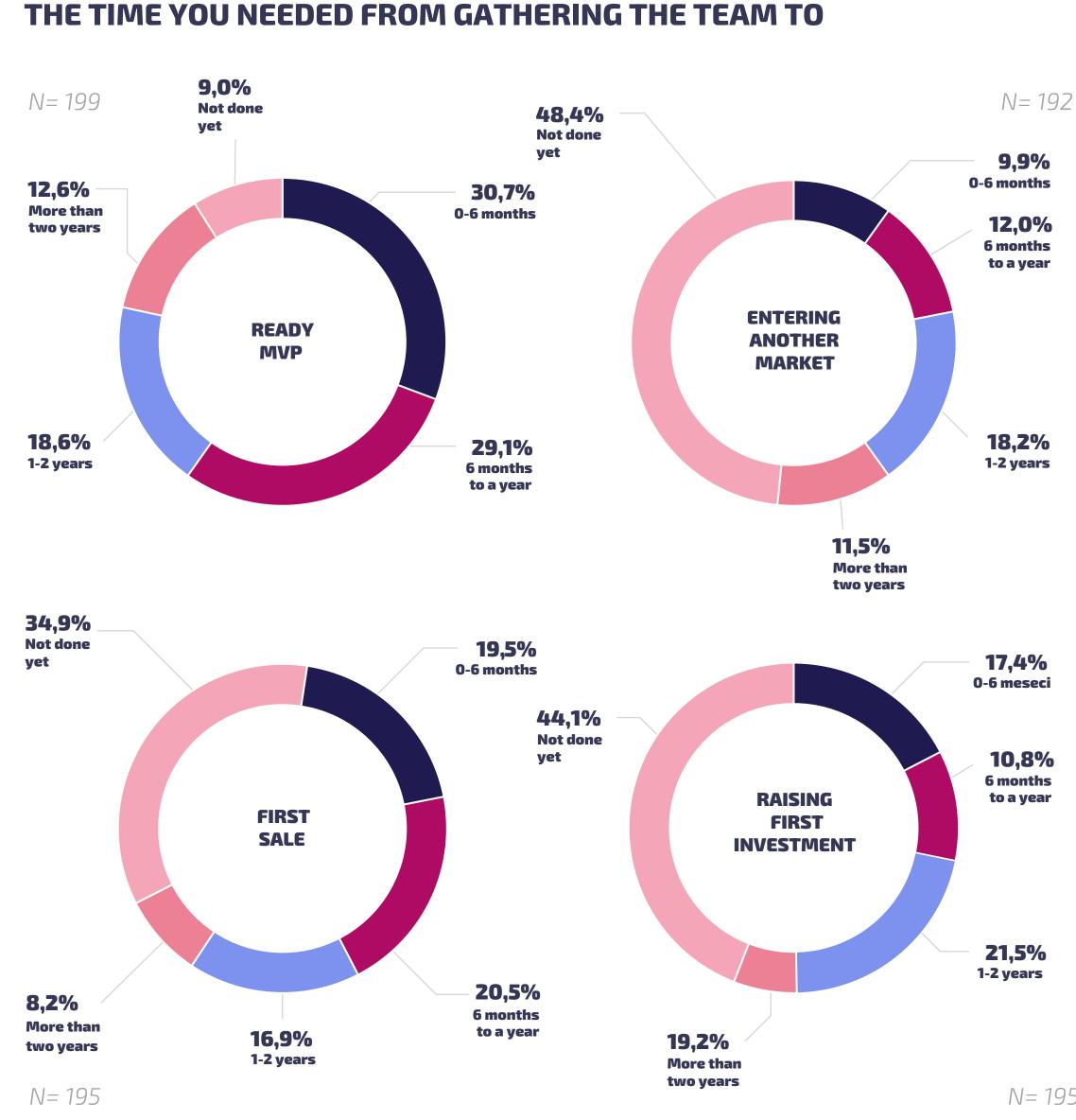


In absolute numbers, the 2023 research had 39 startups in the growth phase and 5 in the Series A phase, while this year's research shows 37 startups in the growth phase and 2 in Series A. As we can see, in both cases, there is a small number of startups, indicating slow maturation of startups already present in the ecosystem. According to the Startup Genome methodology, key parameters for transitioning from the activation phase (the first phase of ecosystem development) to the globalization phase (the second phase of ecosystem development) are the growth in the number of startups and the maturation of the first startups that can raise Series A. Therefore, we believe that in addition to continuing work on intensive ecosystem growth, additional attention needs to be paid to startups in the seed phase, especially those in the Series A phase.

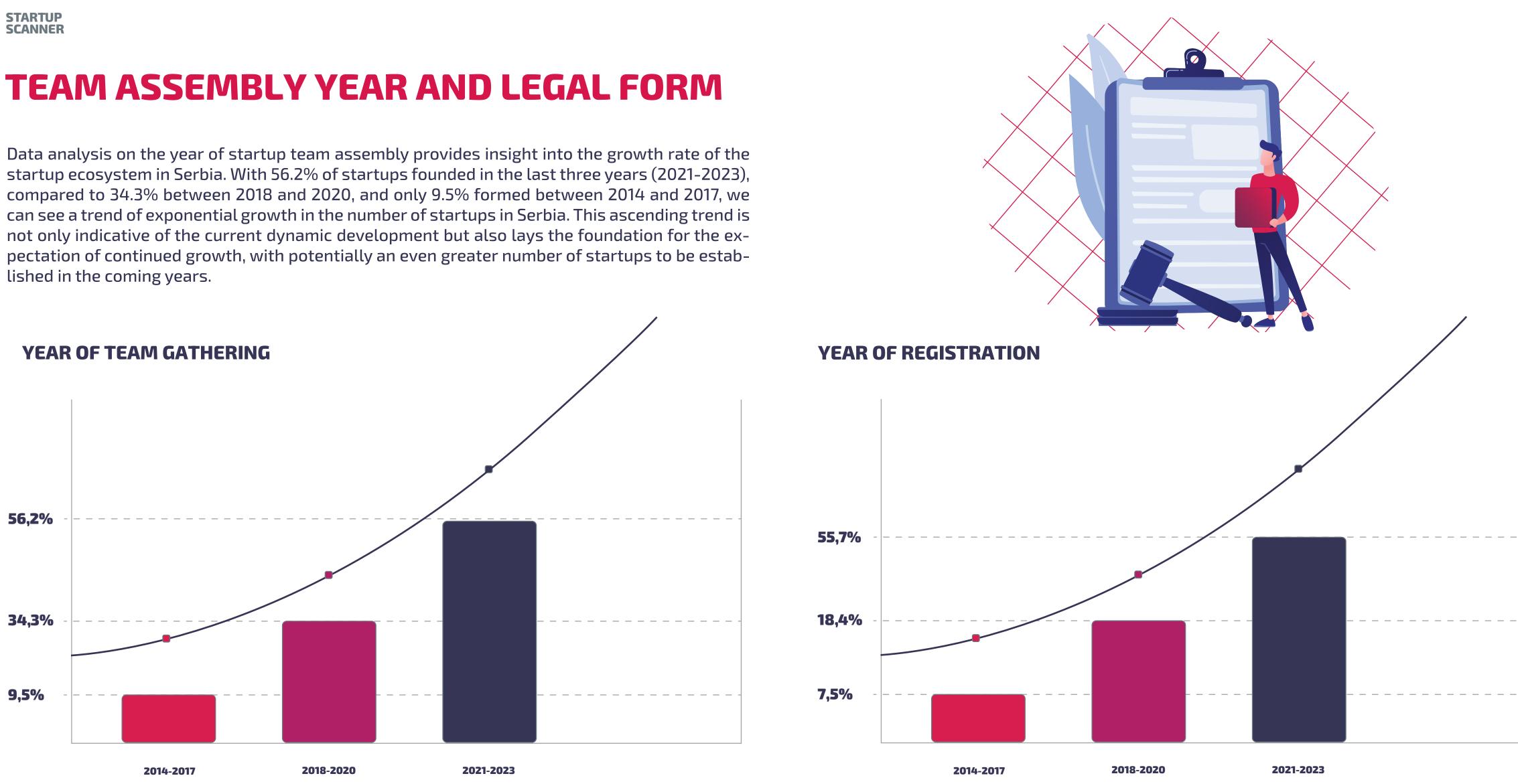


Research on the time frame necessary for startups to reach key development phases offers insight into the dynamics of startup progress in Serbia. Data shows that for most startups (30.7%), it takes less than six months to prepare their minimum viable product (MVP), while market entry and achieving the first sale take slightly longer, with half of the startups (48.4%) still not entering another market. A significant number of startups (34.9%) have not yet made their first sale, directly linked to the fact that 85.3% of startups that have not yet made their first sale were formed less than two years ago. This indicates that many of these startups are still in the early stages of development, where establishing the business and product development are priorities (also see the segment FROM TEAM ASSEMBLY TO REGISTRATION). Regarding expansion into new markets, it is notable that a smaller number of startups (9.9%) manage to make this step within the first six months of existence, yet almost half (48.4%) of all startups participating in the survey have not yet entered any other market. When it comes to raising the first investment, 17.4% of startups manage to achieve this within the first six months of founding. However, the majority of startups (44.1%) have still not attracted initial capital.





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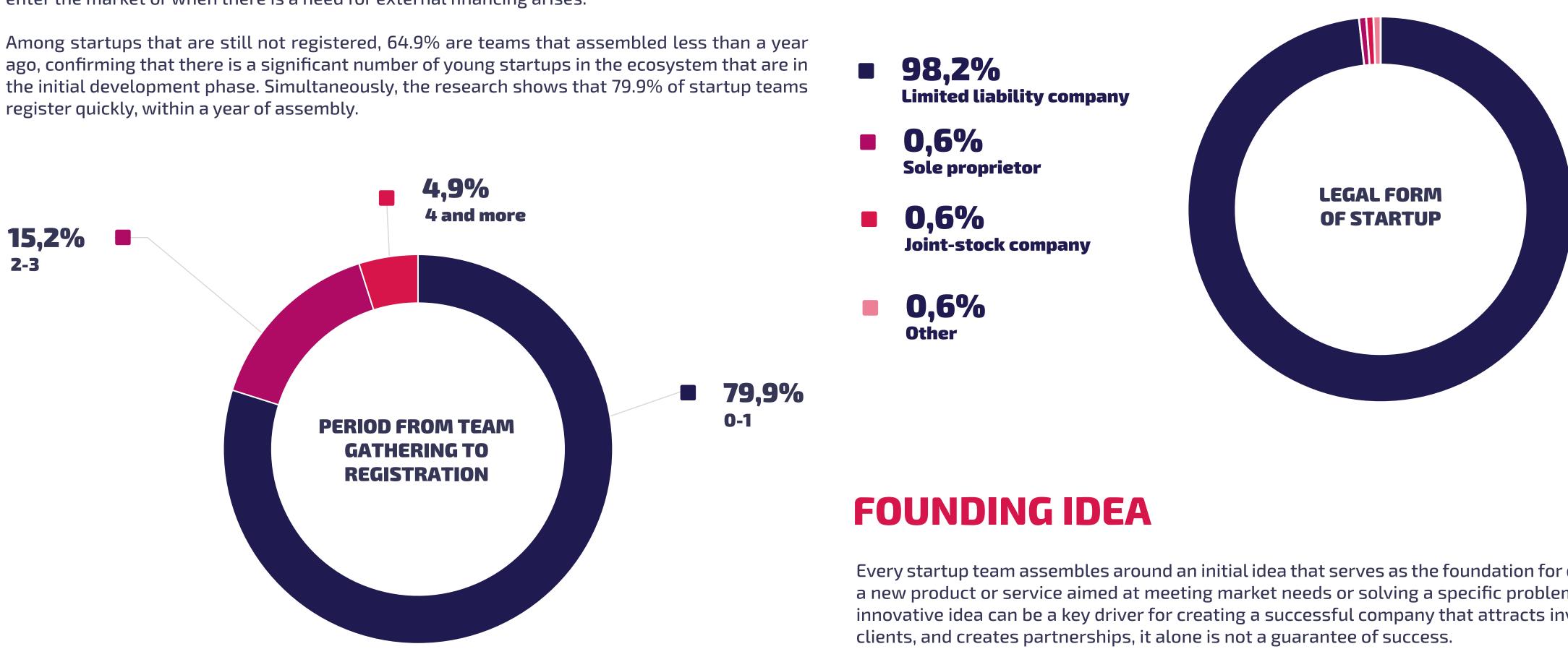
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STARTUP SCANNER

The analysis of the period from team formation to the official registration of startups shows that The dominant legal form among startups in Serbia is a limited liability company (LLC), with a the majority of startups, precisely 65.2%, are registered within two years after the initial team significant 98.2% of startups choosing this business form.³ assembly. On the other hand, there is a smaller percentage of startups that register between two and three years (18.4%), and those that wait four or more years, which may reflect the fact that teams often work informally on product development and business concepts until the moment to enter the market or when there is a need for external financing arises.



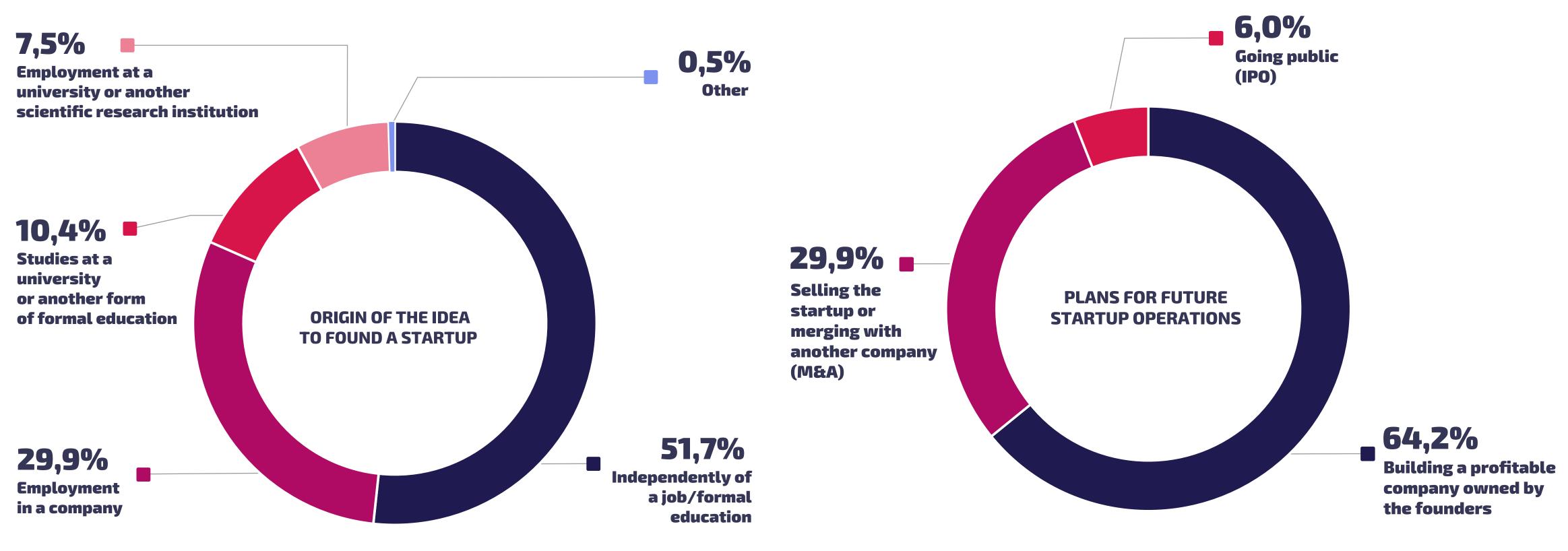
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Every startup team assembles around an initial idea that serves as the foundation for developing a new product or service aimed at meeting market needs or solving a specific problem. While an innovative idea can be a key driver for creating a successful company that attracts investments,

³ In Serbian regulatory framework, Limited Liability Company (LLC) equals to Društvo sa ograničenom odgovornošću (DOO).



Transforming an idea into a successful product or service requires a skilled team, financial **PLANS FOR FUTURE STARTUP OPERATIONS** resources, and time for development. Innovations can stem from various sources and inspirations. Our research showed that the largest number of startups (51.7%) came up with their idea independently of work or formal education, highlighting the importance of individual Nearly two-thirds of founders(64.2%) aim to build a profitable company in their ownership. This initiative and entrepreneurial spirit. Ideas that originated during work in companies account for aspiration remains at the heart of entrepreneurial ambitions and reflects a traditional approach 29.9%, reflecting the impact of professional experience on identifying market opportunities. to company founding. On the other hand, nearly a third of startups (29.9%), plan to sell or merge Formal education provided the idea for 10.4% of founders, and 7.5% through work in scientific with other companies. Only 6% of startups plan to go public (IPO), which aligns with previously research institutions, representing a slight increase compared to last year's Startup Scanner mentioned information that this step is usually taken in later stages of company development, results. Compared to developed innovation ecosystems, the share of startups coming from the when the business is already stable and has reached a certain size. This small percentage also academic community in Serbia is low and requires additional effort to more fully integrate reflects the current phase of the startup ecosystem development in Serbia. academia into the Serbian startup ecosystem.







REPUBLIC OF SERBIA INNOVATION FUND

PhD Ivan Rakonjac

Director of Innovation Fund

The Evolution of Serbia's Startup Ecosystem

In recent years, Serbia has become renowned for its growing entrepreneurial scene and enthusiasm of the startup community. In this context, the role of the Innovation Fund of the Republic of Serbia (IF) is crucial in supporting technological entrepreneurship as a driver of innovation development. Within the Serbian startup ecosystem, the IF is recognized as an essential partner and a real pillar for the development of young companies with the global market potential.

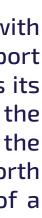
The IF's primary mission is to create a stimulating environment by providing financial support to The IF's success depends not only on investments in innovation development but also on synergy with other key actors in the startup ecosystem, including private investors, academic institutions, support innovative companies, while simultaneously strengthening the linkages between the academic and business communities. The focus is on developing new products, processes, technologies, and business organizations, and the startup community itself. By strengthening these linkages, the IF expands its models, following the highest ethical, financial, and business standards, as well as global business influence and contributes to creating a sustainable environment for further development of the domestic ecosystem. Serbia proudly stands out as a model for creating an innovative ecosystem in the norms. region. The IF's business model serves as an inspiration for other countries such as Georgia, North Macedonia, and Montenegro, which have adopted the same principle for successful creation of a Since its beginning of operations, the IF has been tasked to initiate development of innovative stimulating environment for development of innovations and technological entrepreneurship.

entrepreneurship, creating a bottom-up demand for innovation financing for creative solutions with market potential. By creating appropriate financial support mechanisms, a foundation has been laid for the dynamic development of the startup community, which is today distinguished by numerous support organizations, developed infrastructure, organized local and international competitions, and access to various sources of financing.

The IF's ability to identify and support promising teams and companies with potential for rapid growth at an early stage is essential for advancing Serbia's innovation ecosystem. Through financial support, mentorship, and networking with investors, startups are enabled to transform their innovative products, processes, technologies, and business models into successful global businesses. In addition to direct financial support, mentorship plays an extremely important role in shaping the business models of our startups. The valuable knowledge and experience of mentors significantly elevate the quality and potential of startups, providing them with the necessary support for successful development and market positioning.

It is well-known that startups are exposed to higher risks at the beginning of their development, which further highlights the need for state incentives. In this regard, for the past twelve years, with the support of the line ministry, the European Union, and the World Bank, the IF has been continuously adapting to the dynamic environment and rapid changes in the tech sector, effectively making efforts to reduce the risks of startups in their early stages of development.

Despite challenges, the IF has the potential to adequately respond to new trends and needs of the private and academic sectors, providing support in developing high-value-added products. However, complexity and delicacy of any startup ecosystem requires support through different growth stages of a startup, especially in the "valley of death" - the phase when a startup has commenced operations, but still hasn't begun making revenue to keep it afloat. To help startups develop their business capacities to a higher level and increase the possibility of attracting private investments, three years ago the IF, in addition to early-stage startup support programs, launched Katapult - Serbia's first accelerator, which has already gained a reputation as one of the most influential accelerators in the region. Furthermore, as part of long-term investment in the startup ecosystem, the Republic of Serbia empowered the IF to design and launch a mechanism for co-financing the establishment of venture capital funds, where investments will be primarily focused on the local ecosystem and the region. The long-term strategic goal of this mechanism is to increase the amount and type of private financing available to startups in Serbia, whose ambition is to create revolutionary solutions and seek to raise funds from "pre-seed" to Series A.





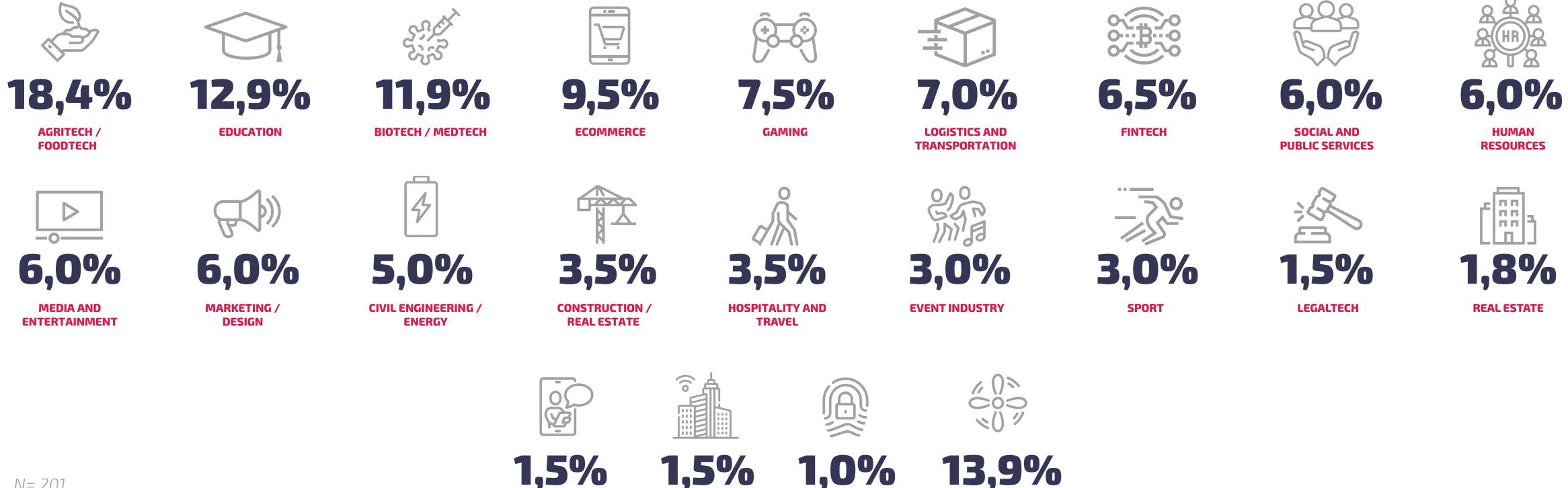




SECTORS

AgriTech and FoodTech stand out as leading sectors with 18.4% of startups, clearly showing potential for innovation in agriculture and food technology, which are traditionally strong in Serbia. Biotech and Medtech represent another key area with 11.9%.

INDUSTRY SECTOR IN WHICH THE STARTUP IS ACTIVE







* Respondents had the option to select more than one answer



SMART CITIES

In all these areas, we see sector growth compared to last year's research, and a particularly significant difference is observed in the education sector, which was represented by 1.8% in the Startup Scanner 2023 but this year 12.9% of respondents selected education as the industry in which their startup operates. The Startup Scanner 2024 does not analyze market size or the level of development of startups within different industries but aims to identify which industries have attracted the largest number of startups among the research participants.

CYBER SECURITY

OTHER















Besides the expected focus on software and app development, we notice a significant orientation towards artificial intelligence and machine learning, as well as databases / big data management. These areas represent key drivers of innovation within the ecosystem, reflecting global trends (Data is the New Oil)⁴ and growing interest in advanced technologies, especially AI. There is also significant interest in hardware development (21.9%), indicating an increase in initiatives focused on physical products. The technological orientation in the Serbian startup ecosystem clearly reflects a deeply ingrained focus on technological progress and innovation.



⁴ https://en.wikipedia.org/wiki/Clive_Humby

TECHNOLOGICAL FIELD OF STARTUP DEVELOPMENT

64,2%	Software development
61,7%	Application, platform, or other tool
34,3%	Artificial intelligence / Machine Learning (ML)
21,9%	Hardware development
11,9%	Big data management
10,4%	Databases
9,0%	Computer vision
8,0%	Robotics and automation
6,5%	Blockchain
6,0%	Internet of Things (IoT)
4,0%	Virtual Reality /Augmented Reality
2,0%	Biotechnology
3,0%	Other



ver **24**

Mladen Jovanović

Al Architect

Welcome to the era of generative artificial intelligence

The previous year will be remembered for the breakthrough of large language models (LLMs) onto the global stage, not just in the AI and startup domains but far beyond. ChatGPT, launched at the end of November 2022, reached its full maturity on March 14, 2023, with the market release of the still unbeaten GPT-4 model. The fierceness of the competition is highlighted by the fact that there are currently around 50k open-source models vying for the throne⁴. With a slightly smaller audience but no less significant, text-to-image models had their rise among the (not only tech) population a bit earlier.

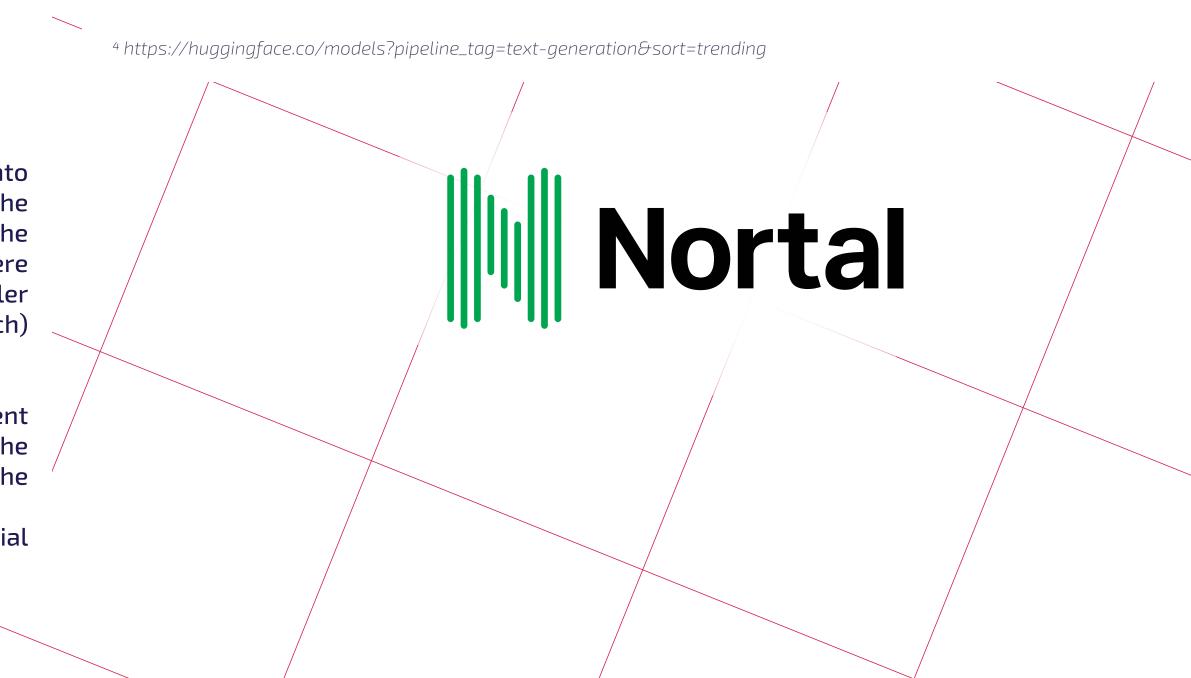
In a nutshell, we are in the era of generative artificial intelligence (Gen AI) where content generation is at hand's reach, whether it's text, images, videos, or code. Such a tectonic shift in the world of artificial intelligence hasn't been seen since 2012 when deep neural networks entered the scene and made a huge breakthrough in computer vision.

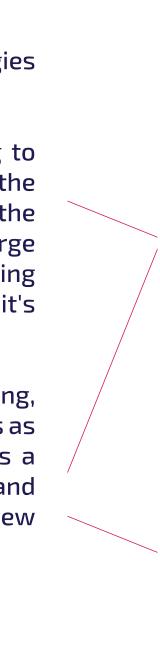
Why is this important? Unlike in 2012, when progress was most evident in academic and industrial circles, today we have a tool (ChatGPT) that anyone can use to enhance their productivity.

Additionally, from a business perspective, it's crucial to think about incorporating technologies that are just emerging and to prepare the ecosystem for such a scenario.

It's no secret that Gen AI is currently one of the key phrases for startup founders looking to attract investors. It's essential to devote a lot of attention to thoroughly understanding the technology, which then needs to be followed by a serious analysis of the current state of the product/service being developed. Regardless of the industry, there's a high chance that large language models can help. Language models are not just tools for summarization/generating text. They inherently hold the knowledge of all the data they were trained on. Likewise, it's important to understand that these data carry a lot of biases.

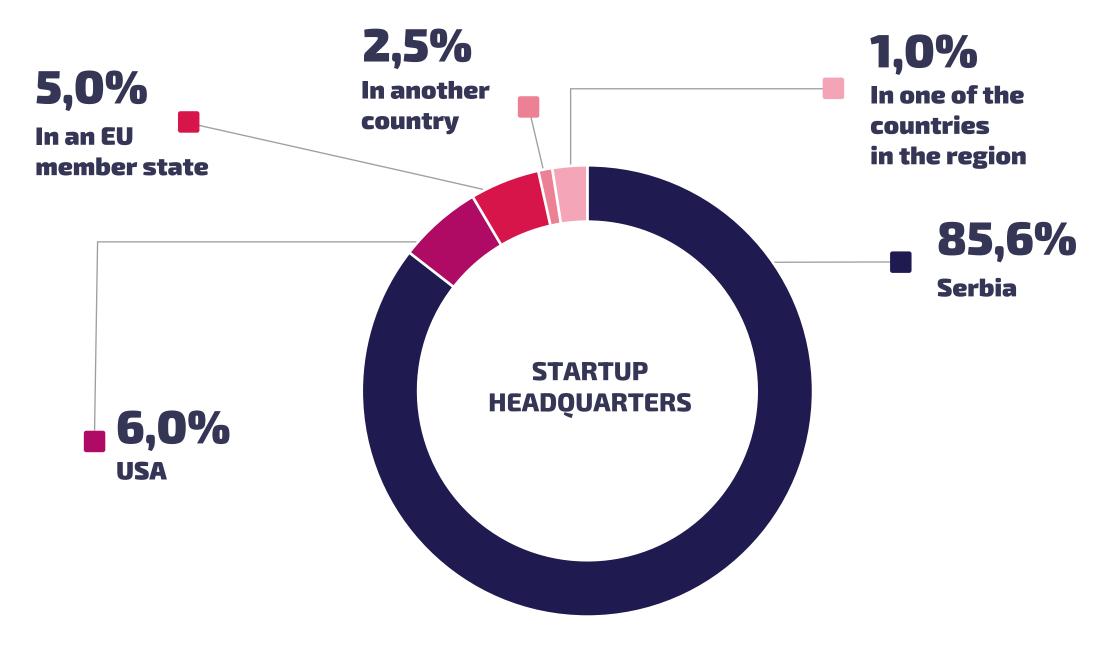
From a purely technical standpoint, a (arguably) new field is developing - Prompt Engineering, which represents a set of knowledge aimed at extracting answers from large language models as efficiently as possible. For some, this represents a fundamental skill, while for others, it's a passing fad that shouldn't be paid too much attention to. Either way, the implementation and integration of LLMs come with their own nuances. Doors are certainly opening to solve both new and old problems with this novel tool.



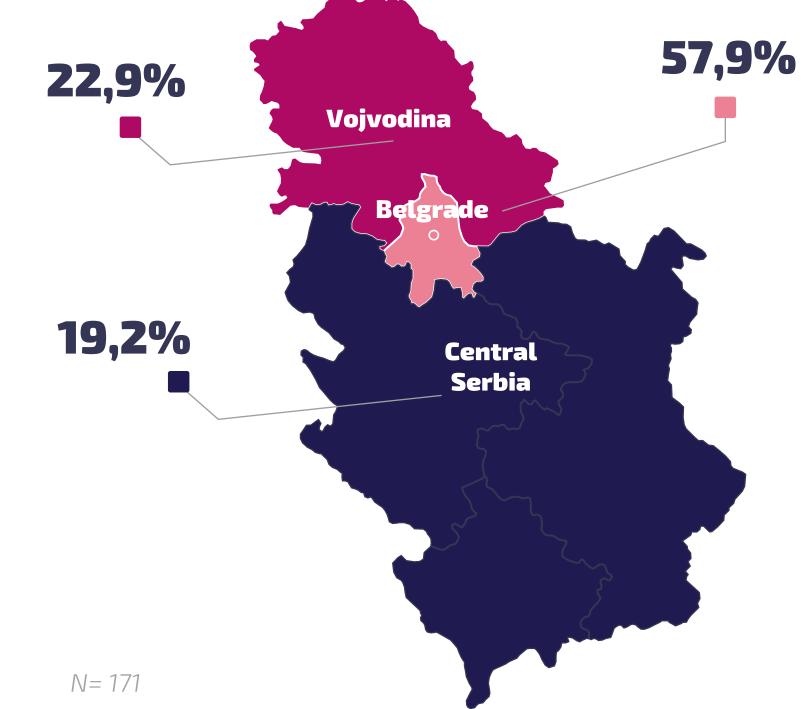


FOUNDING AND OPERATING LOCATION

Most Serbian startups choose to have their headquarters in Serbia, with a share of 85.6%. This Analysis of the distribution of startup headquarters by regions and cities in Serbia indicates a represents a slight increase compared to last year's 82.6%. It was also noted that a small number significant concentration in the Belgrade region, with 57.9% of startups choosing the capital for their headquarters. This reflects Belgrade's status as the business and technological center of of startups, 5.0%, have their headquarters in EU member countries, implying continuity in relation to the previous Startup Scanner. The assumption is that these are the same startups that the country, with the most developed infrastructure and the largest access to resources. were already registered in EU member states according to last year's Scanner, without a Startup responses are organized to show representation in accordance with the statistical significant influx of newly registered startups in the EU during 2023. A similar situation is with regions of Serbia, . Vojvodina, as the second largest region by the number of startups, has startups registered in the USA (6.0%), and the remainder of the startups, with a percentage of significant representation with 22.9%, while startups from Central Serbia account for 19.2% of 2.5%, chose registration in other countries, which may be motivated by various factors such as the sample, highlighting the growing interest in entrepreneurship and innovation. specific investor requirements, easier access to customers, or simplified and faster administrative processes.

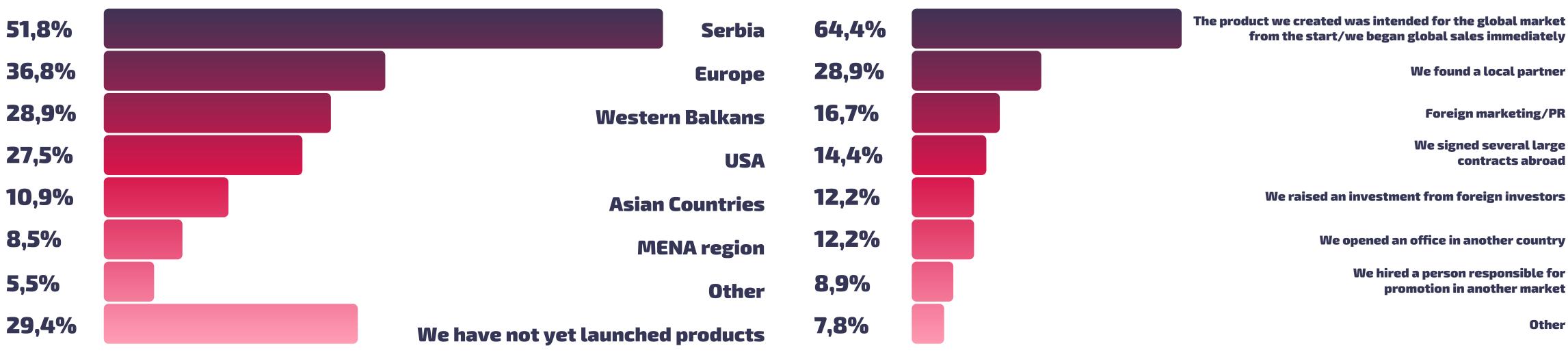


" Countries in the region" are North Macedonia, Montenegro, Bosnia and Herzegovina, Albania





Markets where Serbian startups operate show the tendency to test the product in a familiar The factors that have helped startups in Serbia enter the international market vary, but the data environment, hence half of the startups (51.8%) operate in the Serbian market, and a quarter point to several key aspects. Most startups, 64.4%, state that the product they were developing (28.9%) in other Western Balkan countries. Developed markets significant for Serbian startups was intended for the global market from the very beginning, implying a pre-planned strategy for building international business. Finding a local partner is also significant, with 28.9% of startups are Europe (36.8%) and the USA (27.5%). In addition, Asia and the MENA region with 10.9% and 8.5% reflect the global aspirations of Serbian startups. However, nearly a third of startups, highlighting this method of assistance in expanding to new markets. Opening an office in another country (12.4%), and securing several large contracts abroad (14.4%) were also 29.4%, have not yet launched their products, suggesting that a large number of startups are still in the earliest stages of development. important factors contributing to successful internationalization. Attracting investments, achieved by 12.2% of startups highlights the importance of financial support in this process. Less conventional methods, such as hiring a person responsible for promotion in a foreign market, were applied by 8.9% of startups, while international marketing and PR were beneficial for 16.7% of startups.



PRODUCT PLACEMENT MARKETS

ASSISTANCE WHEN ENTERING THE INTERNATIONAL MARKET

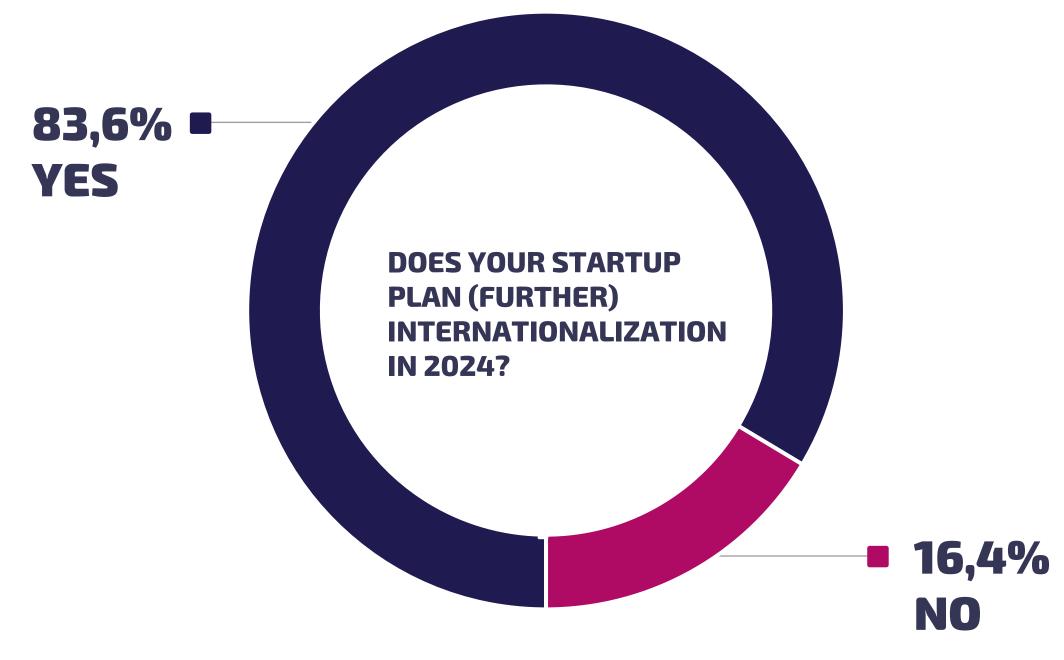
* Respondents had the option to select more than one answer

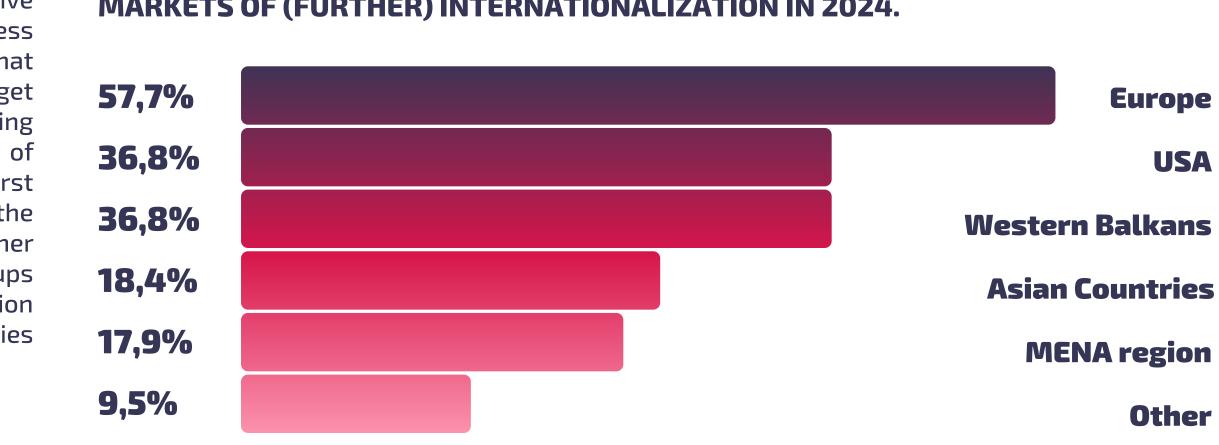
N= 90





A large majority of startups (83.6%) plan to (further) internationalize in 2024, giving a positive picture of the global ambitions of Serbian startups and the desire to expand their business beyond Serbia's borders. Respondents could choose multiple answers, considering that internationalization plans are often not directed at just one market. Looking at the target markets for the next 12 months, Europe remains the primary focus for 57.7% of startups planning internationalization, which is a noticeable decrease compared to last year when 70.8% of startups planning internationalization chose the EU market. Europe certainly remains the first choice for Serbian startups, considering geographical and economic proximity, as well as the existence of similar market structures. The USA is identified as a target market for further internationalization in 2024 for 36.8% of startups. The same percentage (36.8%) of startups shows ambitions to expand to markets of other Western Balkan countries. The MENA region attracts 17.9% of startups, while Asia is a target for 18.4%, which may indicate new opportunities for international cooperation and networking.

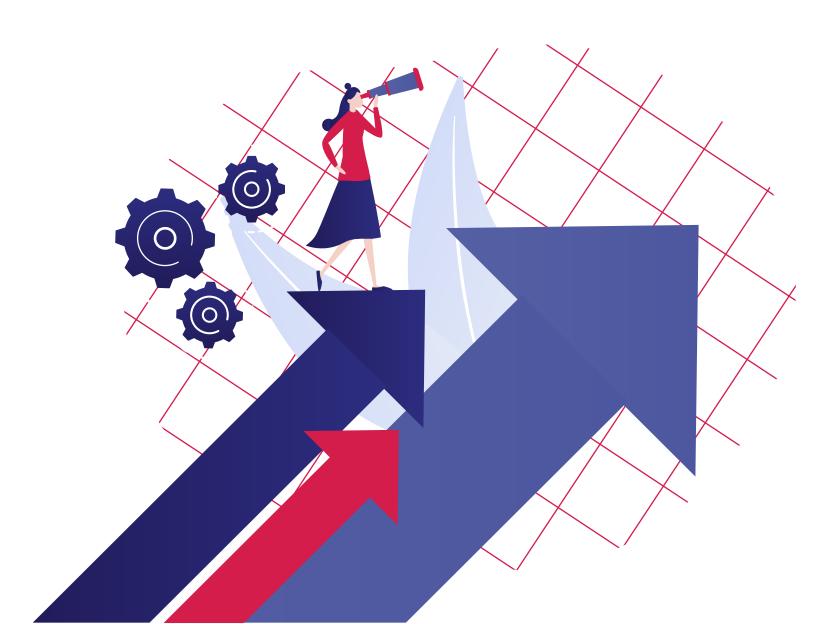




MARKETS OF (FURTHER) INTERNATIONALIZATION IN 2024.

* Respondents had the option to select more than one answer

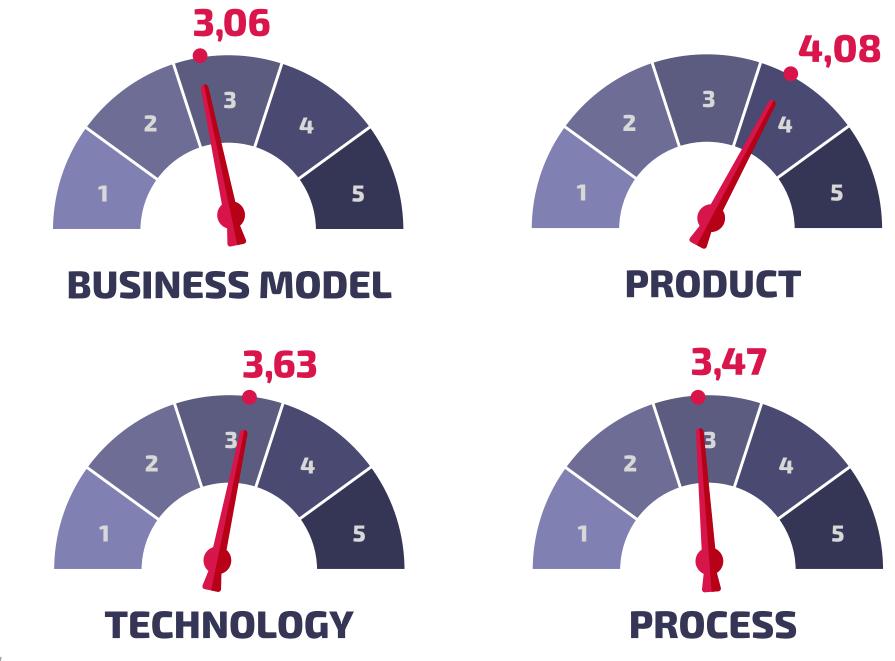
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INNOVATIONS

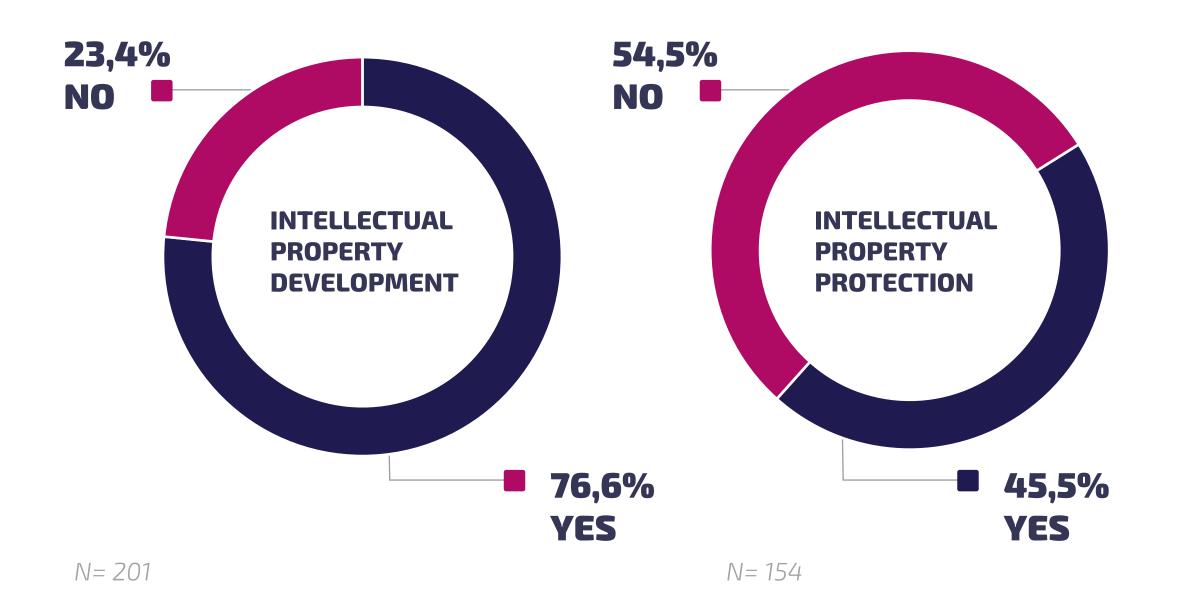
To better understand the degree of innovation within the startup ecosystem, startups were asked to self-assess their level of innovation. The ratings that startups could give themselves were on a scale from 1 to 5, where a rating of 1 indicated minimal innovation, while a rating of 5 indicated the highest level of innovation. Startups rated their products as the most innovative aspect of their business with an average score of 4.08, while business models received the lowest score of 3.06, indicating that it's easier to innovate a product than a business model. Technology and processes were also recognized as areas with a high degree of innovation, with scores of 3.63 and 3.47, respectively.



SELF-ASSESSMENT OF INNOVATIVENESS

Innovative ideas and solutions developed by startups often require protection using appropriate legal means in the field of intellectual property. Our research showed that 76.6% of startups develop intellectual property; however, when it comes to the formal protection of intellectual property, less than half of the startups (45.5%) have taken concrete steps.

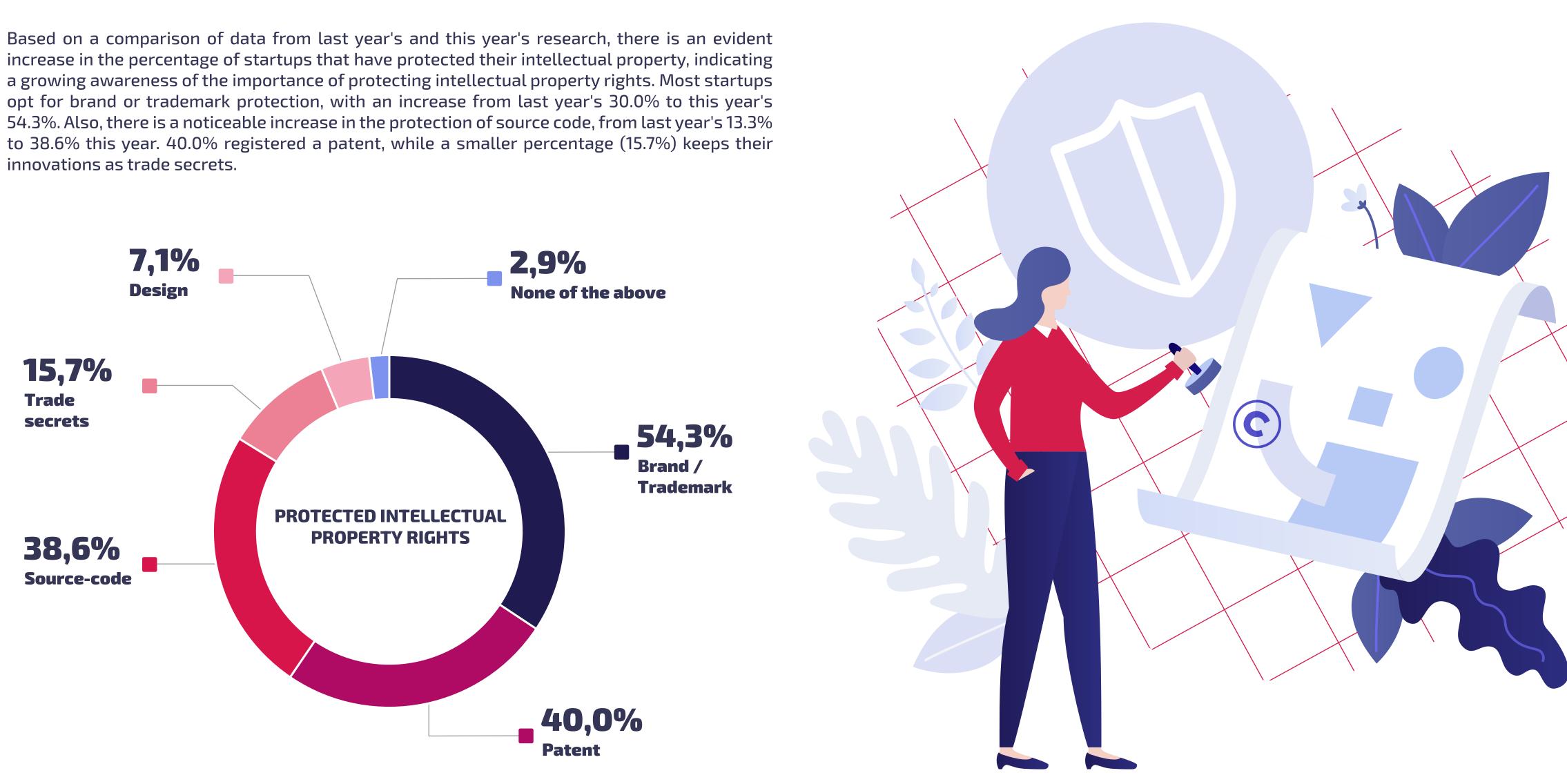
One of the most common reasons why startups decide to protect their intellectual property is to protect their product or service from being copied by competitors. Another frequent reason is attracting investors, who particularly consider the status of their intellectual property when evaluating the value of a startup, so protecting intellectual property can increase the startup's value and attract investments. The third reason for protecting intellectual property is the sale or licensing of intellectual property to other companies, used by startups to generate additional revenue and increase their value. On the other hand, a startup may decide not to protect intellectual property rights in order to keep a certain technology secret. This is particularly relevant when a startup wants to avoid the possibility of competitors learning details about the technology being developed, which is especially important in cases where the technology is new or revolutionary. In such cases, the startup needs to be mindful of regulations on the protection of trade secrets from unlawful acquisition, use, and disclosure.







innovations as trade secrets.





Ana Ninković

Innovation Manager, A1

Strategic Significance of Collaboration Between **Corporations and Startups in Fostering Innovation**

In today's rapidly evolving business environment, the importance of collaboration between corporations and startups, as well as young technology companies, cannot be overstated. This synergy between established giants and innovative newcomers has become imperative for maintaining competitiveness and relevance in a world driven by technological advancement. Corporations have long been pillars of economic stability and industrial progress. However, the pace of technological innovations is such that no company can afford to remain unchanged, and on the other hand, they lead an internal struggle where resistance to changes is very present. Collaborations between large companies and startups can indeed provide a new approach to market innovations, relying on one hand on the experience, strong expertise, and resources of the corporation and, on the other hand, on the agile approach to work of young firms that are just in the infancy of developing their products and are not strangers to managing changes.

Startups are known for their agility and creative problem-solving. By collaborating with them, corporations can introduce these qualities into their operations, fostering a culture of innovation. Also, joint ventures and partnerships with startups allow corporations to explore new markets and user segments, thereby diversifying their revenue sources.

There are many examples of successful collaboration between corporations and startups worldwide. For instance, in the automotive industry, Ford's investment in the electric vehicle startup - Rivian, and General Motors' partnership with Cruise Automation, clearly indicate that established companies support innovations. In the technology sector, companies like Google have acquired startups such as DeepMind to enhance their capabilities in artificial intelligence. This is a trend that has long been spreading in the world, while it is still in its infancy in our market, but its potential and the expansion that will follow are clearly visible.

A1 Group has globally recognized its role in supporting the entrepreneurial ecosystem and how essential it is for every market because it promotes economic growth and drives technological progress. Specifically, in the Austrian market, we have built the A1 Startup Campus and programs that deal with this topic. A1 Serbia launched the A1 Partnership Program at the end of 2023, systematically setting up a support and collaboration program with startups and young technology companies that have ready-to-scale products. A1 Serbia supports these companies through access to expertise, resources, experience, infrastructure, a network of sales channels, the credibility it carries, and the use of corporate networks for business development. On the other hand, we are aware that innovations mostly happen outside corporations, which is why the connection and collaboration with startups focused on developing digital products that provide additional value to end-users, whether in B2B or B2C solutions, are extremely important to us.

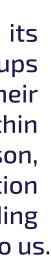
With this program, our goal was to position ourselves in the entrepreneurial ecosystem and through a systematic and transparent approach build strong relationships of trust with all participants who have supported us on this path. The collaboration and support we received from the European Bank for Reconstruction and Development (EBRD) in the process of creating the program, which will also be available to startups we partner with, are particularly significant for us.

Statistical data on the impact of collaboration between corporations and startups confirm its importance. According to a McKinsey report, corporations that actively collaborate with startups achieve better results in terms of revenue growth and innovations compared to their competitors. However, collaborations are not enough if a culture of innovation is not built within the corporations themselves and embedded in the very essence of their culture. For this reason, working on all the programs we internally do with our employees to build a culture of innovation and encourage an exploratory spirit through working on ideas, rapid testing, and understanding that failures are just as important as successes for further progress is especially important to us.

The importance of collaboration between corporations and startups is undeniable in today's dynamic business environment. It not only helps corporations keep up with innovations but also supports the growth of the entrepreneurial ecosystem that benefits the entire market. The opportunities for corporations and startups are vast., Successful examples and best practices worldwide highlight the strategic significance of these partnerships. Embracing these collaborations is not just an option but a necessity for long-term sustainability and success in the modern business environment.













Marko Jevtić

Director of the Top Eleven game at Nordeus and co-author of the book Design thinking

Digital World is Changing: **AI User Habits, and New Regulations**

There's no doubt that the future for companies engaged in the digital economy is bright. Yet, it's also full of various challenges. Starting a global business is easier than ever before, but scaling and maintaining such business is increasingly difficult.

Advancements in artificial intelligence and machine learning are opening new possibilities, causing disruptions across many industries. Instead of viewing this as a threat, we can accept that it will happen and look for opportunities. Opportunities to improve our products and services or to create new ones. Whether it's about personalizing products and services, or using these technologies to optimize processes, the popularity of ChatGPT has led many around the world to wonder about the future. Thus, technology will definitely be one of the reasons for new changes.

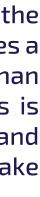
Another significant change comes from users. Over time, users change their behavior and the way they consume digital products. The average American checks their mobile phone 352 times a day, meaning they check their phone every 2 minutes and 43 seconds. This is 4 times more than in 2019, when Asurion conducted the same research.⁵ This means the number of sessions is increasing, but the average session on the phone is getting shorter. Also, the impact of TikTok and other social networks is noticeable, so the design of solutions and meeting user needs must take all this into account.

The third change concerns regulations in certain markets. For example, a significant event happened in April 2021, when Apple introduced a requirement on iOS 14 for apps to ask users' permission to track their behavior and attribution. Businesses relying on iOS apps, advertising, and their monetization undoubtedly faced the necessity to adapt. Additionally, moving away from the concept of a global village with uniform conditions facilitating global business operations, we are now navigating through an environment where regulatory frameworks differ across various markets. The latest example is the Digital Markets Act (DMA), a European Union regulation that will come into effect on March 6, 2024. This change will bring greater freedom for users in the EU market because, with consent, they will be able to choose which company services they want to use without the obligation to accept the whole package of their services. This situation presents risks for certain products while simultaneously offering fresh prospects for others.

All this indicates that changes are inevitable, suggesting that the ability to unlearn will be a critical skill for the future. If we are ready to quickly forget what we have learned, it will be much easier for us to view changes as new opportunities from a fresh perspective.

⁵ https://www.asurion.com/connect/news/tech-usage/









HUMAN CAPITAL

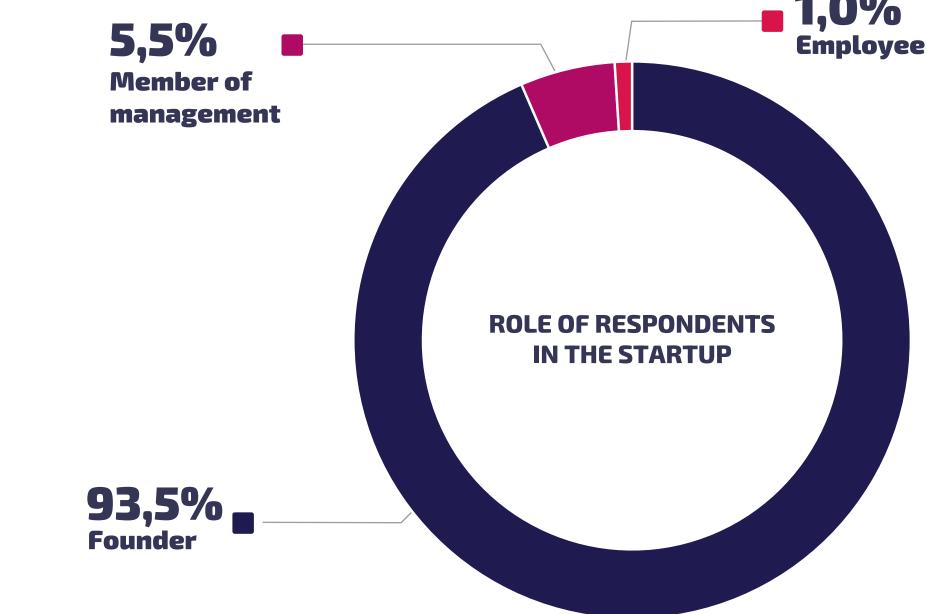
Human capital represents the sum of knowledge, skills, abilities, and characteristics embodied in The Startup Scanner 2024 confirmed previous years' findings that startup founders in Serbia are individuals, facilitating the creation of personal, social, and economic well-being⁶. This principle predominantly male, aged between 30 and 39, with a higher education degree, and currently rehighlights the importance of investing in human potential as a resource, not limited to material siding in Serbia, who have primarily acquired knowledge relevant for founding and leading a startup through previous work experiences. assets, as employees with the necessary knowledge and skills are a crucial element for the advancement of organizations and society. Investments in education, training, professional development, and the improvement of employees, along with maintaining a healthy working environment, are key to the advancement of human capital and the long-term progress of an AGE AND GENDER STRUCTURE OF FOUNDERS organization or community.

At the beginning of the survey, in order to obtain precise information, respondents were asked to Startups, with their innovations, business strategies, and creative ideas, initiate economic and define their primary role in the startup. structural transformations, and each employee represents strategic value. Thus, human capital becomes one of the key elements for the success of innovative endeavors. We asked startup founders about their current number of employees and plans for future hiring, and asked them to identify challenges and strategies they recognize in managing human resources.

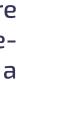
Both globally and in Serbia, there is an evident shortage of IT personnel, with formal education failing to meet the growing need for IT experts. However, we observe certain changes in labor market dynamics. Specifically, data from the website helloworld.rs⁷ show that after an upward trend in job advertisements in the IT sector during 2021 and 2022, the year 2023 brought a significant drop in the number of job ads in the IT sector, by 52% compared to the previous year. At the same time, interest in open positions is increasing, with 55% more applications registered for job ads. The imbalance between the reduced supply of ads and the growing demand for IT jobs can be an opportunity to attract new people to the startup ecosystem, both in the role of founders and as members of startup teams. In this way, the influx of talent into the ecosystem can simultaneously enrich the innovation ecosystem with new forces and provide people with the opportunity to enrich their experience and emerge themselves in the most dynamic sector of the industry.

Analyzing human capital in startups, we will first examine the founders, who are crucial for the success and sustainability of startups, as well as for attracting investments. At the beginning, founders are often only startup members. An ambitious, innovative, and experienced founding team can be essential for the success of a startup, sometimes even more than the initial idea itself.

FOUNDER PROFILE







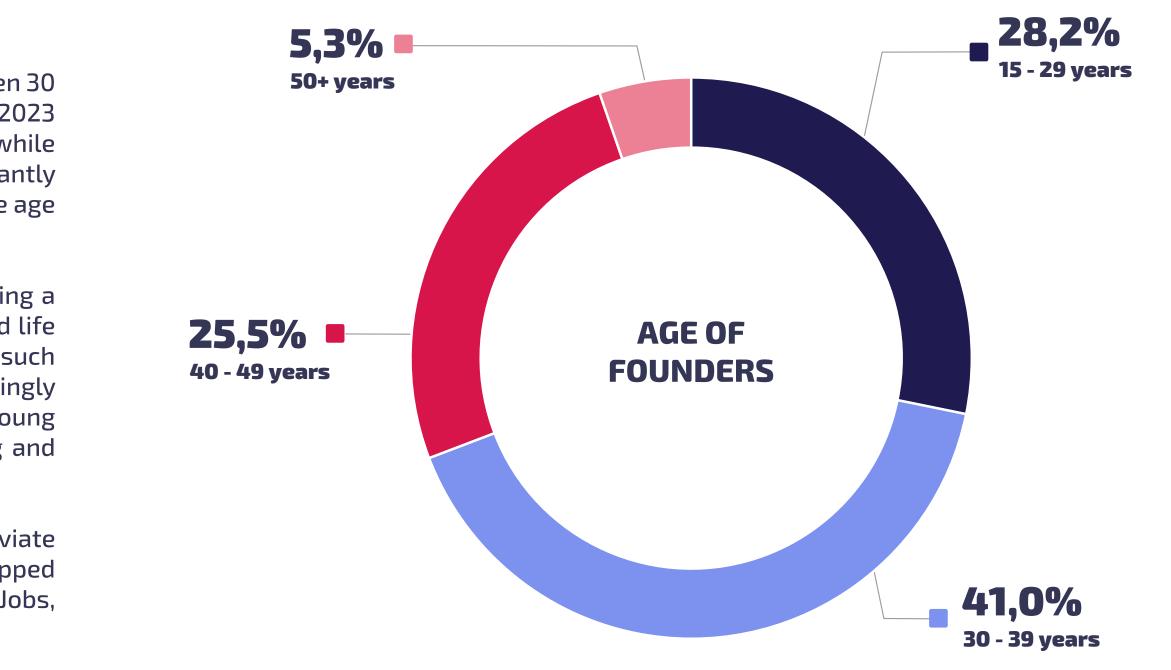


The survey shows that the most numerous age group of startup founders in Serbia is between 30 to 39 years, comprising 41% of respondents, a smaller percentage compared to 2022 and 2023 (49.0% and 47.9%, respectively). Founders aged 40 to 49 years make up 25.5% of the total, while young people between 15 and 29 years are founders in 28.2% of startups, which is significantly higher than in 2022 and 2023 (19.5%, respectively 19.2%). Only 5.3% of founders are over the age of 50.

It is recognized that founders in their thirties and forties have certain advantages in starting a business, including access to larger financial resources, a broader network of contacts, and life and professional experience that includes previous expertise, and possession of soft skills, such as communication or leadership. However, a growing trend of young people increasingly engaging in entrepreneurial ventures is also observed. The increase in the number of young founders indicates the success of programs aimed at enhancing entrepreneurial thinking and providing support in the earliest stages of development.

The results obtained from the survey largely align with global and European trends and deviate from the stereotypical view of a successful founder — a young male in his twenties who dropped out of college and started his business from a garage, popularized by examples like Steve Jobs, Bill Gates, or Mark Zuckerberg.⁸

THE AVERAGE AGE **OF STARTUP FOUNDERS IN SERBIA** *IS 35.2 YEARS.*



N= 188

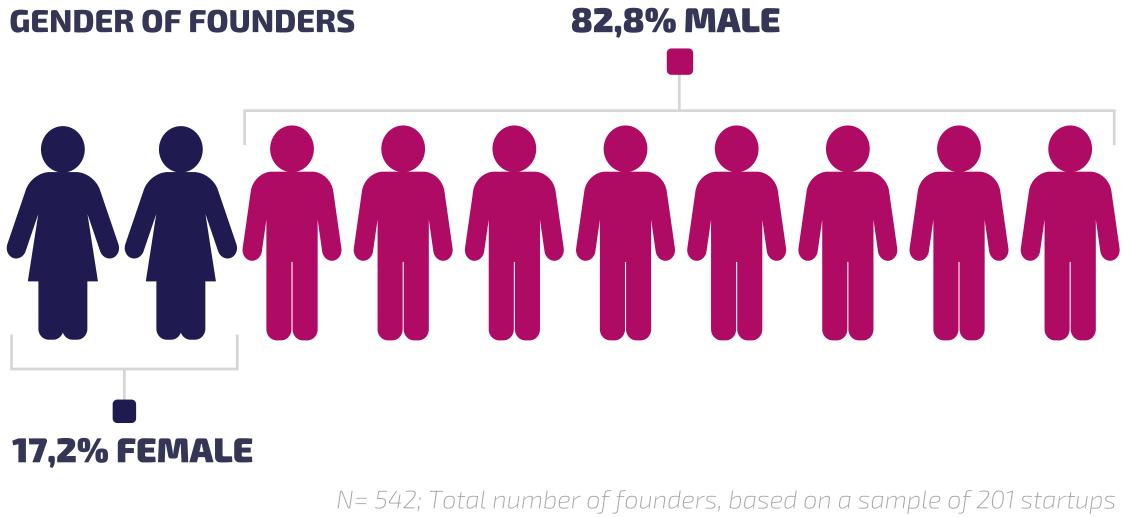
According to our findings, 82.8% of startup founders are male, while the share of women among startup founders in Serbia is 17.2%, a decrease from last year when the percentage was 19.0%. Considering that the European average of female founders is 15.5% and that top European ecosystems have 18% female founders⁹, it can be stated that Serbia follows a similar trend as EU countries in terms of the representation of female founders. This unfavorable picture is not a consequence of a lack of ability or talent among girls and women. On the contrary, according to global indicators, they achieve better results on international student assessments in STEM fields, and the business results of women-owned startups show that money invested in their teams and companies ultimately brings higher revenue - more than two dollars for every invested dollar¹⁰. ⁸ https://www.preduzmi.rs/ko-je-osnivac-startapa/



⁹ Report on Women Entrepreneurs in Europe, https://startupsandplaces.com/startup-heatmap-europe-report-on-women-entrepreneurs-in-europe/

¹⁰ https://www.bcg.com/publications/2018/why-women-owned-startups-are-better-bet

There is an undeniable need for significantly greater inclusion of women in the startup ecosystem and for developing specific support programs for female entrepreneurs. Investing additional efforts to include more women in the startup ecosystem can contribute to increasing Serbia's economic competitiveness on the global market, as female entrepreneurship is recognized as a key factor for economic development in many countries. A study by the Boston Consulting Group revealed that if women and men participated equally as entrepreneurs, it could double the global economy¹¹. Greater inclusivity and diversity in the startup community can lead to new ideas and business models that could bring both innovations and new markets¹².

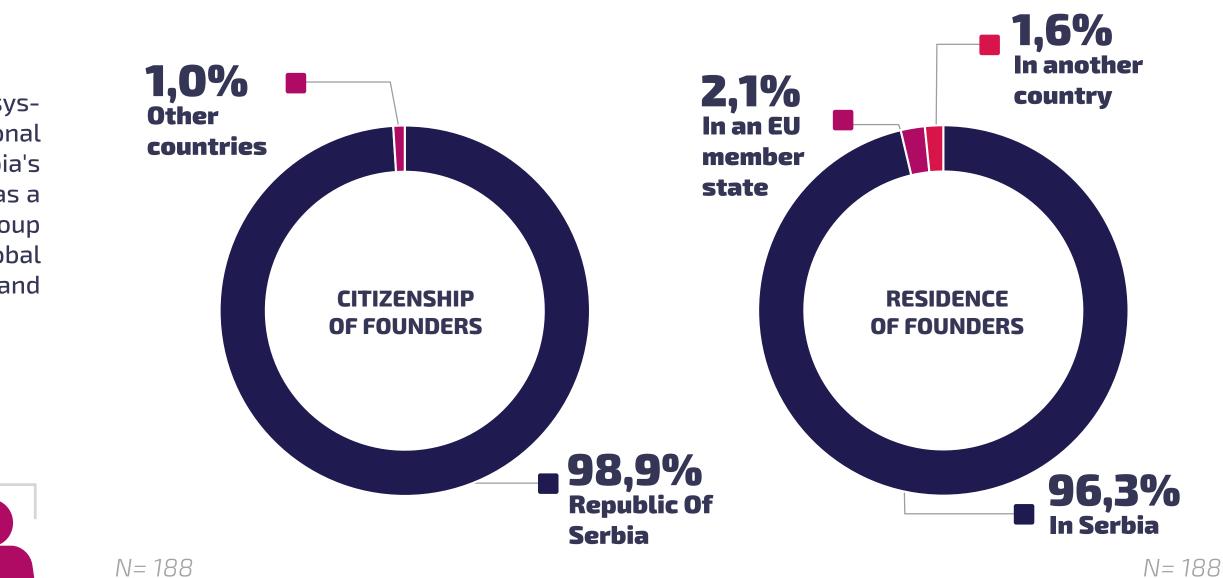


CITIZENSHIP

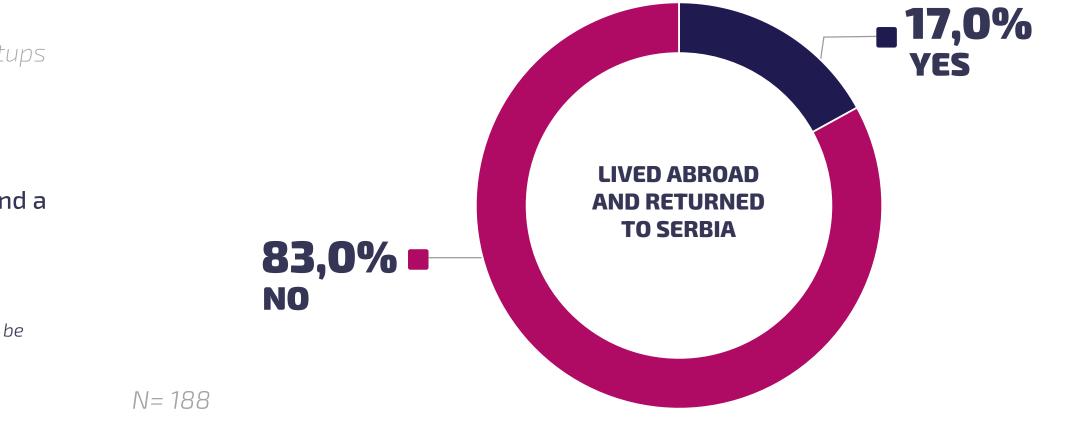
Regarding citizenship, the majority of survey participants, 98.9%, hold Serbian citizenship, and a similar percentage (96.3%) also reside in Serbia.

¹¹ https://hbr.org/2019/10/the-trillion-dollar-opportunity-in-supporting-female-entrepreneurs

¹² "Female creativity and entrepreneurial potential are an under-exploited source of economic growth and new jobs that should be further developed." https://ec.europa.eu/newsroom/growth/items/47992/en

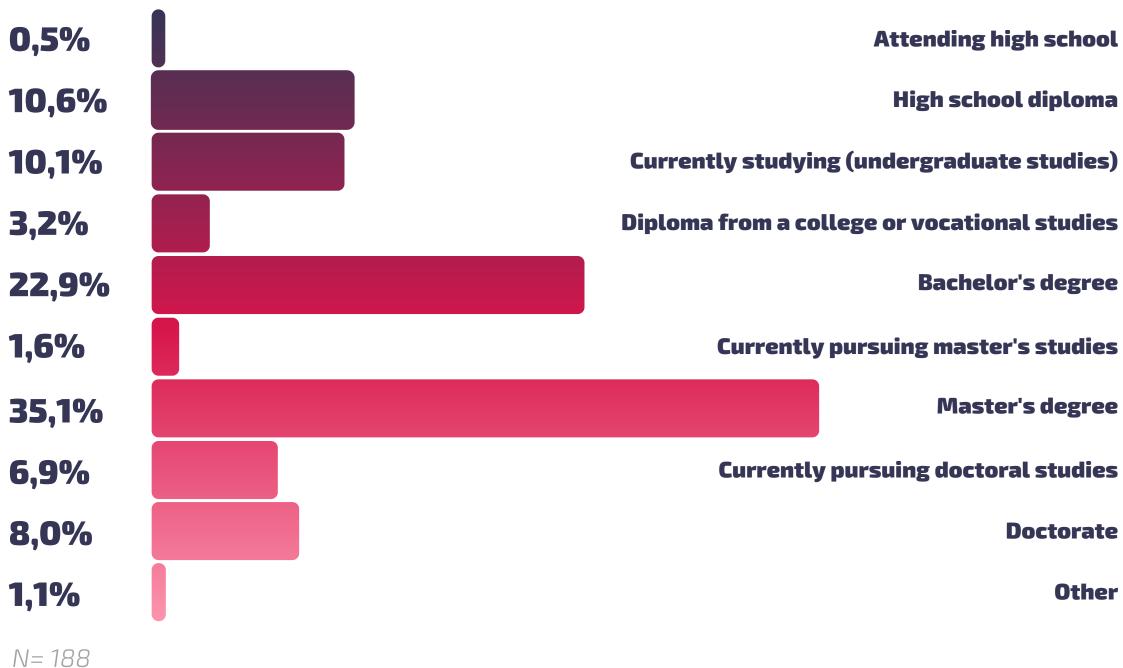


Among the survey participants, 17% lived abroad and returned to Serbia, which is slightly lower than last year's results. This group of people is important, as they bring back experience and skills acquired in foreign ecosystems, significantly boosting and enhancing the domestic ecosystem. Their contribution is not just in facilitating global connections or access to foreign investors and markets, but also in transferring knowledge and innovations, which increases the competitiveness of Serbian startups on a global market.





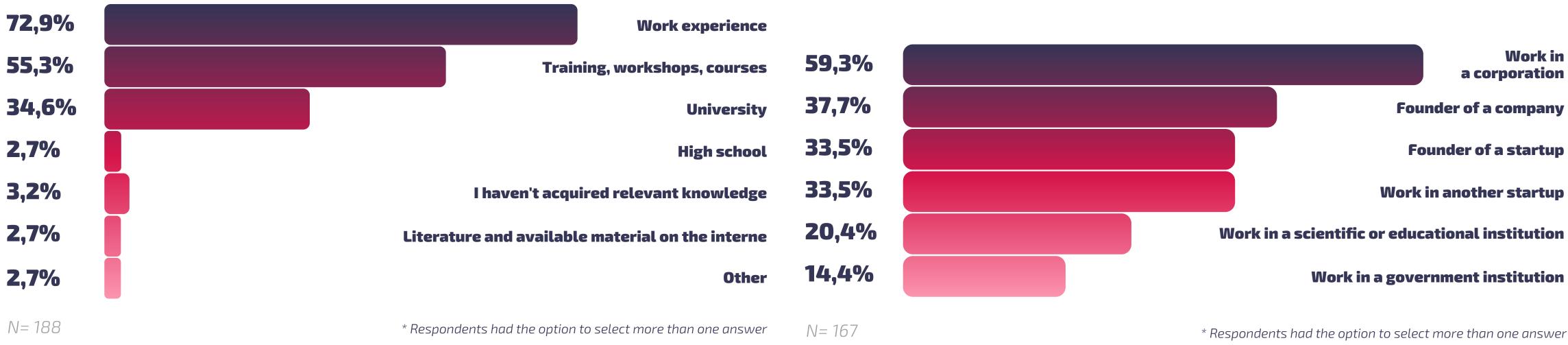
Research data shows that the largest number of startup founders (32.4%) have earned a degree **EDUCATIONAL STRUCTURE** in software engineering. Following closely are technical sciences (31.4%). Respondents had the option to select multiple answers, expressing the diversity of their educational achievements and degrees from various disciplines. The field of social sciences and humanities is represented The analysis of the educational structure of startup founders in Serbia shows that the majority by 21.3%, while natural sciences and mathematics are represented by 9.0% of founders. These have higher education degrees, with the largest number holding a master's degree (35.1%). A bachelor's degree is held by 22.9% of founders, while 8.0% have earned a PhD. A smaller results support the findings published in the Startup Genome research: "Serbia is known for its world-class engineers, partly thanks to the country's unique approach to computer science percentage, 10.6% of founders, have a high school diploma, and 10.1% are currently undergrad education. More than 3,300 software engineers graduate annually from computer science at 26 students, which is a slight increase from last year's report when this percentage was 7.8%, universities in Serbia, with the number of new graduates increasing every year. However, suggesting that the startup ecosystem attracts younger entrepreneurs. technical sciences are not limited to higher education; coding is introduced as a subject from the fifth grade of primary school, while over 35 high schools have specialized IT departments for students talented in computing and informatics. In addition, there is a significant number of **EDUCATION OF FOUNDERS** vocational schools in Serbia that teach computing and electrical engineering."¹³



EDUCATIONAL BACKGROUND OF FOUNDERS 32,4% Software engineering, ICT 31,4% **Technical sciences** 21,3% Social sciences and humanities 9,0% Natural sciences and mathematics 3,2% Culture, arts, and public information field 1,6% **Medical field** 8,0% Other Other N= 188 * Respondents had the option to select more than one answer

¹³ The Global Startup Ecosystem Report 2021, Startup Genome, https://startupgenome.com/reports/gser2021

PREVIOUS EXPERIENCE Results show that in Serbia 59.3% of founders have previous work experience in corporations, and a significant 37.7% of founders have experience in running their own business. Experience in founding a previous startup have 33.5% of respondents, while the same percentage had The majority of startup founders (72.9%) states they acquired key knowledge for founding and experience of working in another startup, suggesting that many founders come from an leading a startup through previous work experience, while training, workshops, and courses are entrepreneurial environment, but also that early support and the development of the second most common source of knowledge(55.3%). Academic education is the foundation for entrepreneurial thinking are very important for the future growth of the ecosystem. Respondents 34.6% of founders, which is less compared to practically acquired knowledge. This data confirms had the option to choose multiple answers that express the diversity of experiences and that in the startup world, alongside formal education, practical skills and experience are crucial knowledge relevant for leading their current startup endeavor. 20.4% of startup founders gained in developing entrepreneurial ventures. Only 3.2% of respondents consider they haven't acquired previous experience in scientific-educational institutions, while 14.4% of respondents have work relevant knowledge for leading a startup. experience in government institutions. This indicates the diversity of experiences and perspectives startup founders in Serbia bring to the ecosystem, especially highlighting the importance of previous entrepreneurial experiences for founding a startup. On the other hand, this data also indicates that startup founders often start their venture while still employed at another company.

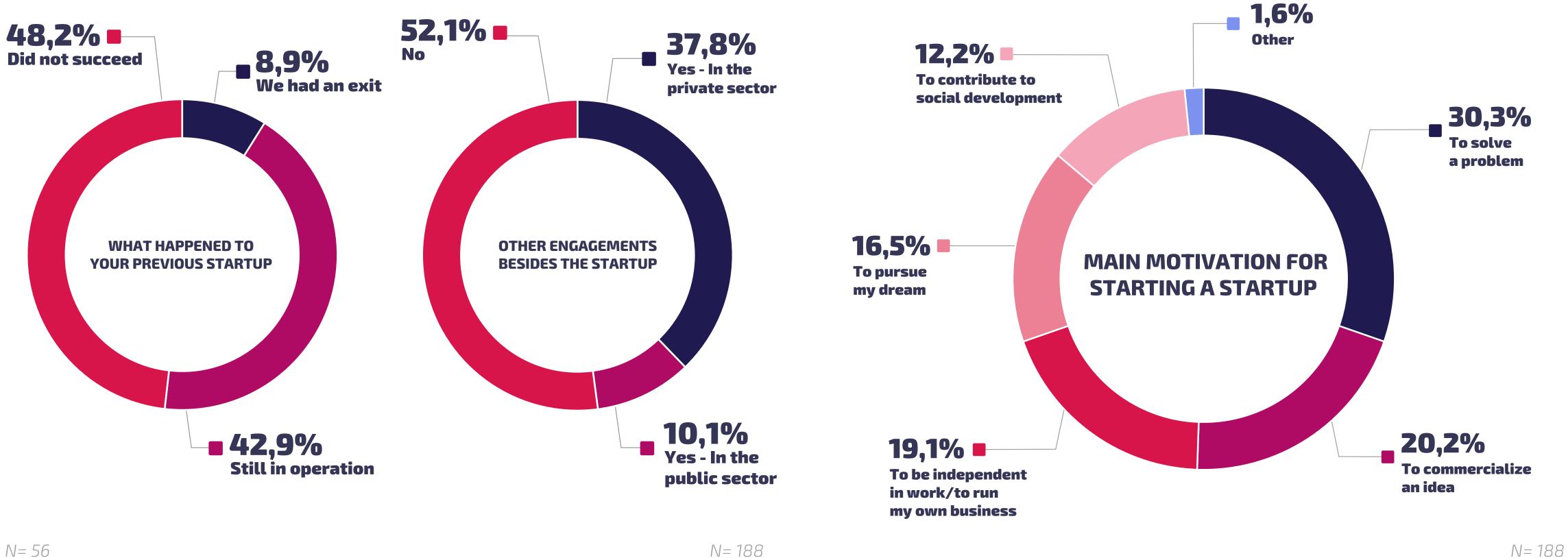


MANNER OF ACQUIRING RELEVANT KNOWLEDGE

PREVIOUS EXPERIENCE



Among respondents with previous startup founding experience (56 respondents), nearly half of the entrepreneurial ventures (48.2%) failed to sustain, which is a higher percentage compared to last year's research (20.0%), while a significant portion (42.9%) is still active and operating. A smaller share of startups experienced an exit, i.e., sale or merger with another company, an experience had by 8.9% of respondents, significantly less than last year when 28.3% of respondents stated they had this experience. Also, most founders (52.1%) are dedicated to their startups as their primary engagement, while 37.8% have parallel engagements in the private sector, and only 10.1% in the public sector.

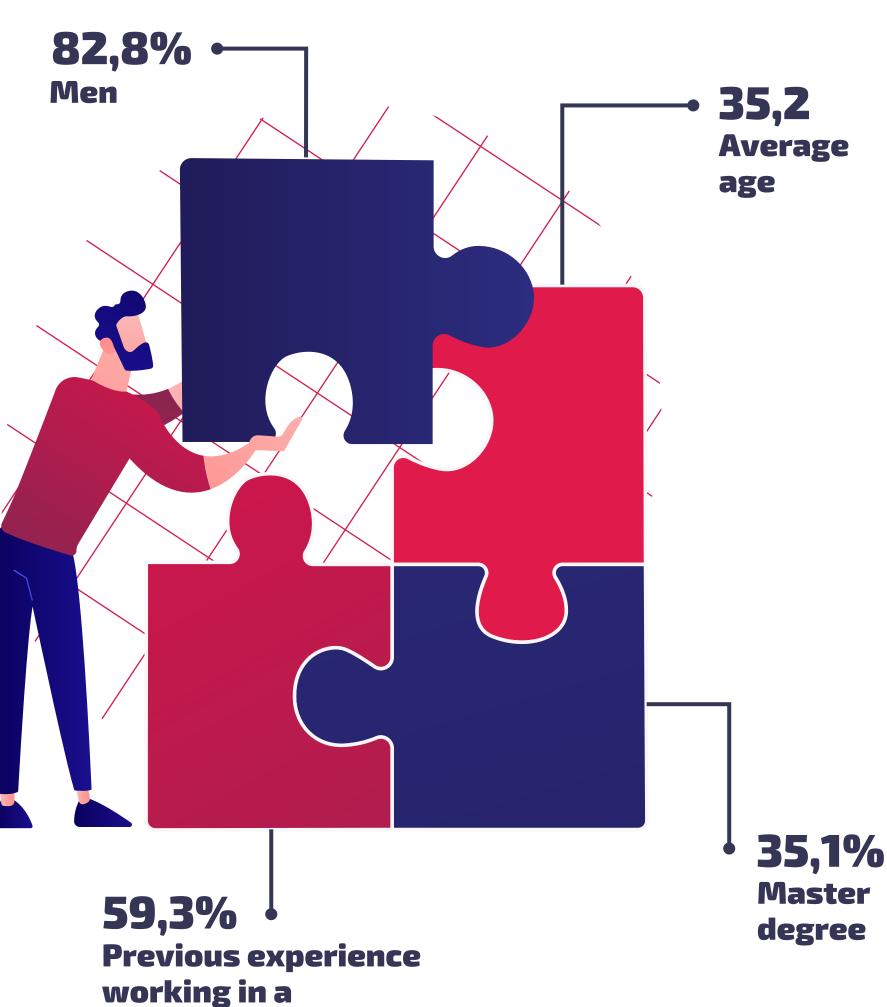


MOTIVATION FOR FOUNDING A STARTUP

The largest group of founders, 30.3%, state their main motivation for starting a startup is to solve a specific problem. The commercialization of an idea is the motivation for 20.2% of founders, indicating the significance of entrepreneurship and the creation of new products/services in the market. Considering that nearly one-fifth of founders (19.1%) chose the desire to be independent in their work and to manage the business themselves as their main motivation, we can see a connection with the question about plans for future business operations where 64.2% of respondents opted for the option "Building a profitable company owned by the founders."







corporation

The founders in Serbia are mostly men, aged between **30-39 years, with a master's** degree in education, and current residence in Serbia, who mostly gained their previous experience through working in a corporation.



-X-Nova Iskra

Nana Radenković

Co-founder/Education Manager

Top 5 Tips for Creating a Good Startup Team

Launching a startup is a complex endeavor that involves much more than an innovative idea.

An important, yet often unjustly overlooked aspect of a startup's success lies in the strength and cohesion of its team. Assembling a motivated, talented, and complementary group of individuals is crucial for creating a functional team foundation that can handle the numerous challenges common in business management.

Each startup is unique, both because of the product or service it develops and the market where it is launched, Creating a functional startup team involves aligning many diverse aspects of business. Beyond establishing but there are things common to all teams. a good base of co-founders, aligning their values and aspirations, it's important to understand the existing capacities of the team and map out those that are missing, keeping in mind the vision for growth that needs Here are several recommendations and tips to consider when creating, leading, and developing a successful to be strategically realized. A strong and stable team provides the necessary strength to navigate through startup team. the complex entrepreneurial process leading to success.

1. Understanding User Needs

The ability to make quick and efficient decisions is a trait of successful growing startup teams. As the process can be very stressful and frustrating, it often leads to conflicts and disagreements, both among co-founders and other team members. Understanding the real needs of users, for whom the product or service is created, is essential to maintain good team relationships. In this way, decisions are made in accordance with user needs and do not depend on the opinions and personal affinities of team members.

2. Capacities for Strategic Thinking and Action Phase

Management of the process, identifying priorities, understanding existing capacities and deficiencies in the team, are of crucial importance for the long-term growth of the startup. From creating a vision, through designing solutions and conquering the market, a strategic approach is key in making decisions that affect improvement, not only of 'product' aspects but also of internal processes and team capacities that should align with the company's growth.

3. Creating and Practicing Team Culture

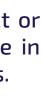
A good team culture contributes to maintaining a high level of motivation and engagement among employees. When team members feel a sense of belonging, they are more likely to be interested and committed to the startup's success. Team culture is a strategic imperative for success and sustainability of the startup; it sets the tone for how the team communicates, collaborates, and adapts to the changing landscape of the startup environment.

4. Planned Team Expansion

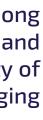
For a company's growth, accompanied by numerous challenges and opportunities, it's important to build a team structure that can support these changes and the complexity of processes. As the team grows, with the influx of different skills and knowledge, it is important that new members are able to adapt to the values and culture of the organization that supports collaboration, personal development, knowledge exchange, etc.

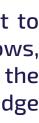
5. Strengthening Leadership Capacities

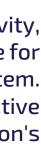
Leadership plays a key role in fostering a culture of innovation. Good leaders encourage creativity, support experimentation, and create a safe space for team members to share new ideas. Creating a space for experimenting and creative thinking is vital for maintaining competitiveness in the startup ecosystem. Strategic empowerment of team members' leadership capacities contributes not only to effective decision-making but also improves communication, coordination, and significantly boosts the organization's overall performance.



















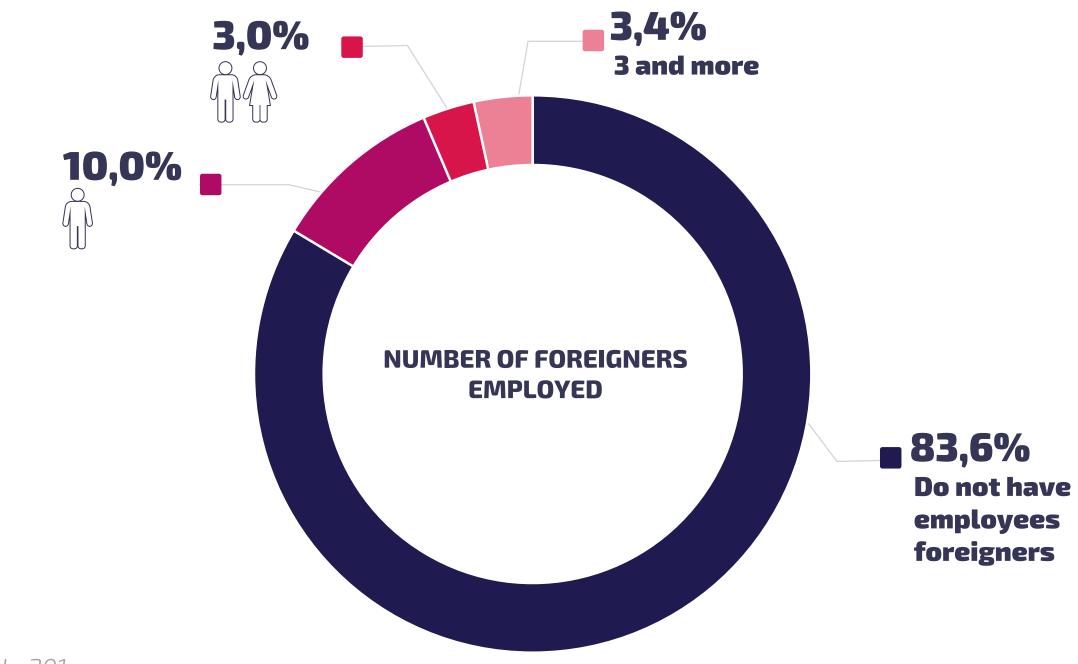
EMPLOYEE PROFILE CITIZENSHIP OF EMPLOYEES By creating innovative ideas, products, business models, multidisciplinary teams, as well as The study shows that 16.4% of startups have foreign nationals among their employees, a lower internationalizing and establishing global connections, startups initiate much more than percentage compared to last year's results when 24% of startups reported having foreigners economic changes. They not only create innovative products but also contribute to creating new among their employees. The study involved 201 startups, employing a total of 70 foreigners. The jobs and connecting the academic community and the private sector. In the study, respondents presence of expats and foreign professionals in the startup ecosystem can play a significant role in its further development, as they bring specific experience and different perspectives. provided quantitative and demographic characteristics of their employees, plans for team expansion, and primary challenges related to hiring new employees with specific expertise. International teams often play a key role in developing new products and services, have greater global competitiveness, and attract a wider range of users worldwide. Expats can also connect Considering all responses, the percentage of women among employees is 33.6%, and men is startups with their contacts and business connections from their home countries, contributing to 66.4%. It's noteworthy that 23.4% of startups have no female employees, while 5.5% have no better international connectedness and opening new business opportunities for startups. The male employees. The percentage of startups without any employees is 12%. internationalization of employees and the development of the startup ecosystem could be further increased if, among other things, conditions for employing foreign citizens were improved.

GENDER STRUCTURE OF EMPLOYEES

66,4% Men

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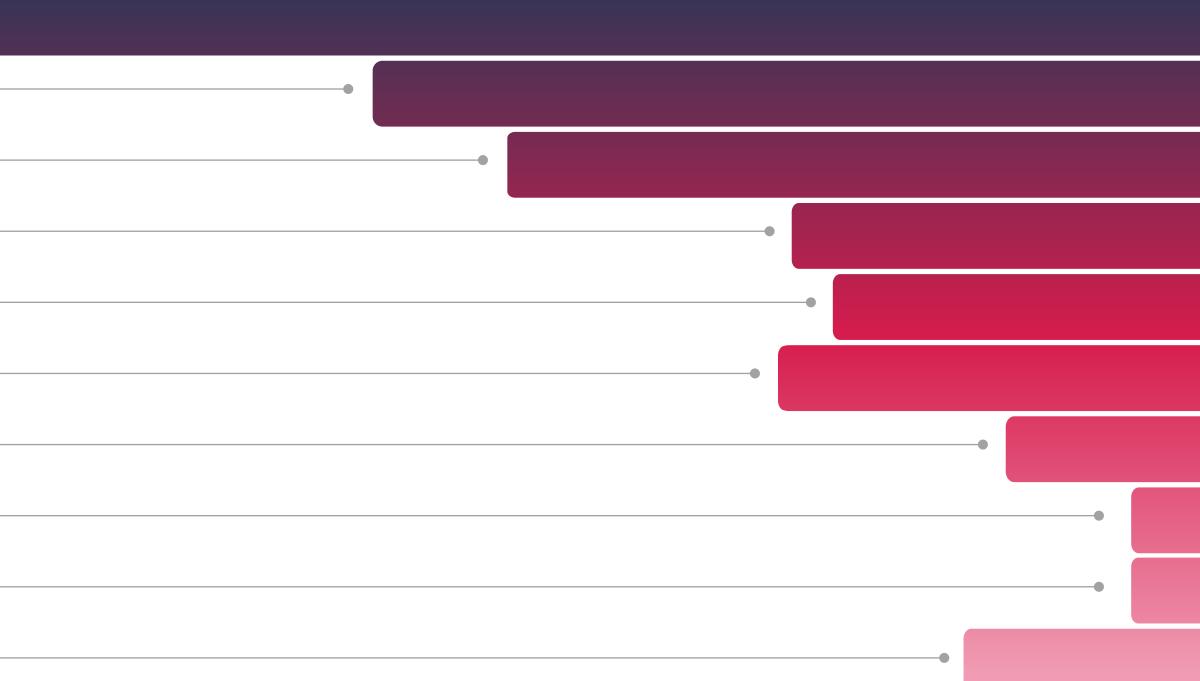
AREA OF EXPERTISE OF EMPLOYEES

It's not surprising that 75.1% of startups employ individuals in the field of information and (28.4%), and 16.4% employ experts with expertise in social sciences. Less representation in areas such as human resources and law (8.0% each) suggests a tendency to delay the development of communication technology (ICT) - it's actually more surprising that 24.9% of startups still have no employees with this expertise. these areas until later business stages but also speaks to the maturity level of the Serbian startup ecosystem. Respondents had the option to choose multiple answers to adequately Besides ICT, the largest number of startups employ experts in marketing (43.8%) and sales reflect the multidisciplinarity of teams and the diversity of employee expertise.

(37.3%), indicating that startups are focused on increasing sales and improving marketing strategies for more successful development. Other represented areas of expertise among employees include administration and finance (27.4%), design and art (24.9%), natural sciences

Information and Communication Technology (ICT)	75,1%	•
Marketing	43,8%	•
Sales	37,3%	•
Administration and Finance	27,4%	•
Design and Art	24,9%	•
Natural Sciences	28,4%	•
Social Sciences	16,4%	•
Human Resources	8,0%	•
Law	8,0%	•
Other	18,4%	•

N=201



* Respondents had the option to select more than one answer





Sanja Savić

Marketing Specialist

Strategic Support to Startups through the Sweat Equity Model

In the dynamic world of startup ecosystems, the application of the Sweat Equity model is highly important for encouraging innovation and sustainable growth.

It represents a type of investment that involves not just financial support and consideration of ownership stakes, but also intense collaboration and commitment to the project. This collaboration entails investing knowledge from various business areas for mutual success.

When you're in the early stages of developing an idea - in the ideation phase, searching for investors and partners is a challenge where you're essentially looking for a company that understands your vision and is ready to be a part of it. It's important that all participants are aligned and operate within a framework of common values, and that mutual expectations and the scope of work are clearly and transparently defined.

Choosing the Sweat Equity model is a strategic move for partners. Beyond the financial aspect, it

brings additional value expressed through expertise, networking, and professional guidance. Often, it's precisely this non-monetary aspect that can significantly contribute to the project's development.

More than a decade of experience in investing in startups has helped us, as a company, define a unique process for identifying projects with exceptional potential, respecting sweat equity principles.

When applying for investment or partnership, startup teams share significant information about the current project phase, strategy, business model, and technical requirements with us. Based on this information, we conduct a feasibility analysis and evaluate the justification for investment. We strive to get to know the startup team well, their motivation, and commitment to the long-term development of the project. The decision to invest is considered by an experienced team of experts who are well-versed in market trends.

Once the partnership is established, our involvement doesn't end with the investment. We offer strategic leadership, mentorship, and access to the Quantox team of experts from various business areas. Over the years, we've supported many startup stories - Unifi from the UK, OtaSync, Outpostchess, Benefiti, Smartsy, Easypass, etc. They are all a testament to our deep belief in striving for innovation, and these projects showcase the diversity of industries and sectors in which we create digital solutions.

Our commitment to strategic support for startups is also evidenced by the QLab Accelerator program we launched in 2022. Designed to encourage individuals and teams to work on their ideas and projects, the program offers selected startups mentorship from business development experts, lectures and workshops, and technical development with the help of our programmers and designers. It culminates in the creation of an MVP - a product ready for presentation to judges and potential investors.

The startup ecosystem will always be a source of potential in the IT industry. Turning to the Sweat Equity model can be a strong motivation and encouragement for people to advance further with their projects. Our long-standing experience in the IT market has shown us that this model can uncover brilliant ideas and give them the much-needed boost for further development stages.





Ivana Kappenmann

Partner & Chief Financial Officer

ESOP - Employee Stock Option Plan or Employee Success & Opportunities Plan

Employee Stock Options are a means of granting ownership (equity) to employees. They represent a financial tool enabling employees to purchase company shares at a discounted rate, typically after a vesting period of no less than 2 years. In essence, they afford employees a share in the equity pie.

The advantages of this mechanism are manifold. Foremost among them is its ability to attract talent through Employee Stock Option Plans (ESOPs). It's widely acknowledged that startups often face financial constraints, making it challenging to offer competitive salaries to attract top talent. By leveraging ESOPs, startups can sweeten compensation packages with enticing equity incentives, thereby compensating for slightly lower cash remuneration. This strategy is equally effective for rewarding startup advisors and early-stage developers. Impress them with your concept and compensate them with equity. Once you've attracted talent, the next challenge is retaining it. Stock options typically come with vesting periods, incentivizing employees to stay with the company until their options fully vest. This dynamic is often referred to as "sweat equity"

because team members must invest their time and effort to reap the rewards. By both attracting and retaining talent, your company secures the resources needed for future growth, thereby maximizing the potential for value creation. Moreover, ESOPs cultivate a team-oriented culture by aligning employees' interests with the company's success – everyone shares the same objectives. These plans also enhance employees' sense of value and recognition, leading to increased engagement, motivation, and reduced turnover rates. This, in turn, boosts productivity. And let's not forget the tax benefits that ESOPs can offer.

How does it work? The company creates an 'Option pool,' setting aside stock options that can be allocated to employees. Consider this one slice of a pie, from which smaller nibbles are then allocated. Usually, the pool size is between 5% and 30%. The option pool doesn't need to be allocated immediately. In fact, it's often better to leave unallocated stock options to use for later hires or to top-up remuneration packages. It is a three-step process – grant, vest, exercise. The employer grants stock options. If the employee complies with the rules, the stock options vest. Then they can exercise their options to purchase stocks. The employee gets shareholder agreement (SHA)- it's a legal document that binds an employee and employer to a set of terms. The SHA provides full transparency, helps avoid disputes and gives the company peace of mind that it is protected in various scenarios. Five elements the SHA should cover are the following: share transfer provisions, drag & tag rights, deadlock provisions, reserved matters, and dividend policy.

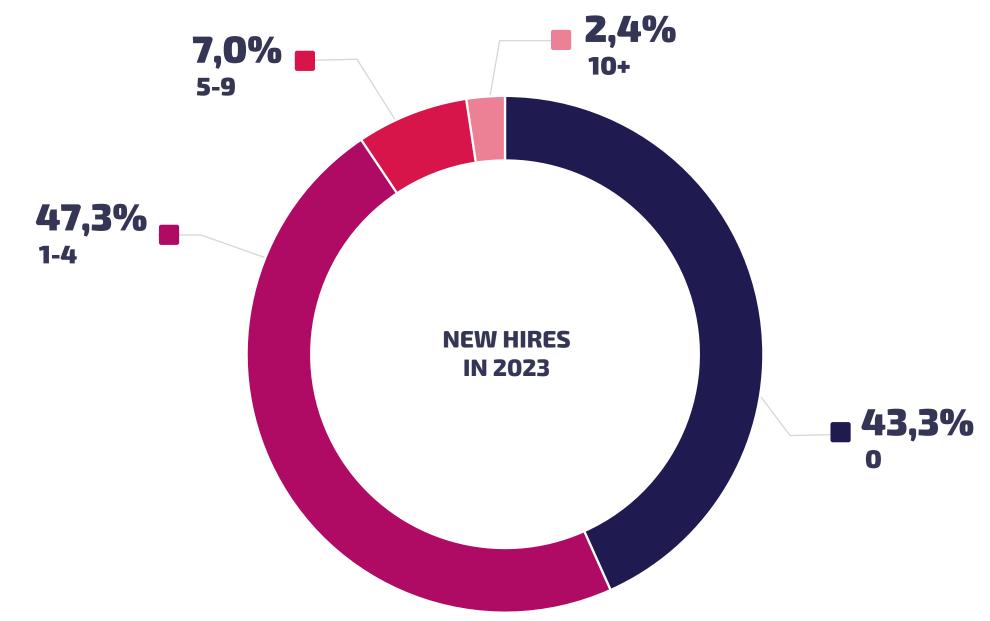
The list of pros regarding ESOP is long. However, there are cons as well. Setting up ESOP can be costly, and the process is highly structured. Thus, it must be a well thought through decision of the company owners to go down this road. Again, it is an investment which sets up a healthy, highly motivated, transparent and talent driven environment which substantially increases the probability of a company's success. It is an essential ingredient of a strong company culture. According to Harvard Business Review companies with a strong culture see a 4x increase in revenue growth. A strong culture isn't luxury. It is a necessity for thriving in today's business world.

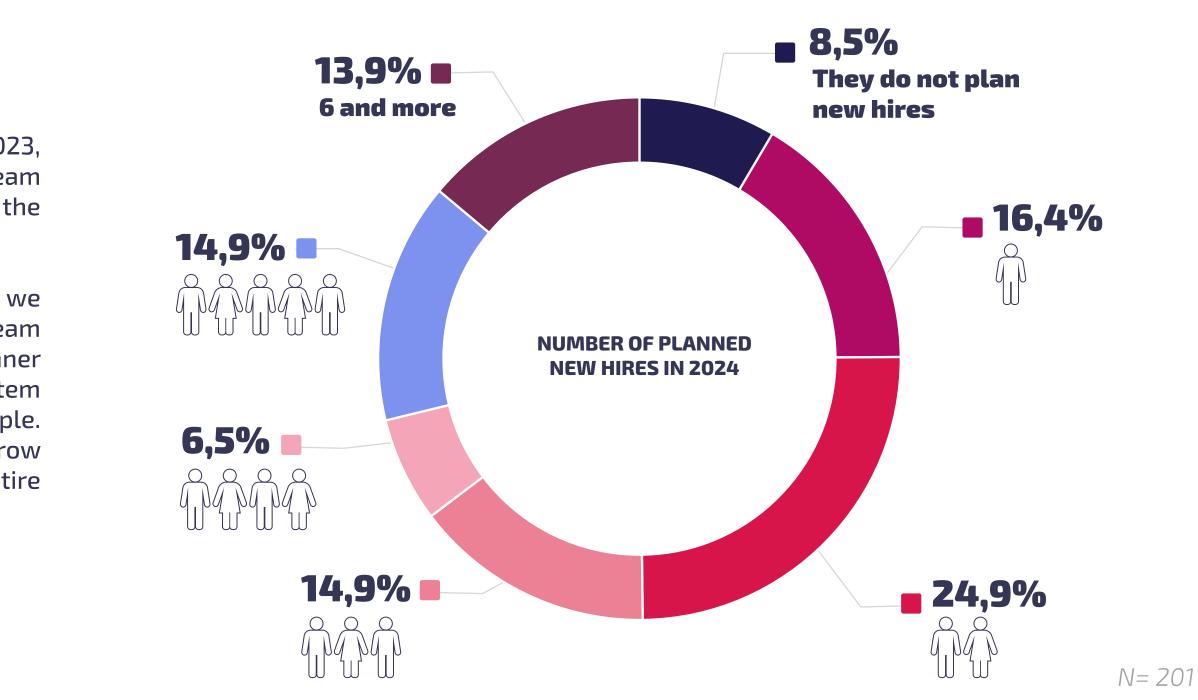
STARTUP SCANNER

EMPLOYMENT

Out of the surveyed 201 startups, 56.7% (total of 114) hired a total of 358 new employees in 2023, averaging 1.8 new hires per startup. This means that 43.3% of startups did not hire any new team members in 2024, and another 47.3% hired 1-4 people, indicating that 90.6% of startups in the ecosystem were unable to significantly increase their team in the previous year.

Comparing the employment data for 2023 with the hiring plans from Startup Scanner 2023, we find that 167 startups who participated in last year's survey planned to hire over 958 new team members. Comparing the estimated size of the ecosystem at the time of the Startup Scanner 2023 and the current research, we can conclude that startups in the Serbian Startup ecosystem planned to hire over 3000 new team members in 2023 but ended up hiring less than 1500 people. Although "annual plans" are often too optimistic, the fact that the ecosystem continued to grow in 2023 while employing fewer people than in 2022 indicates serious challenges the entire ecosystem faced last year.





Most startups, 91.5%, plan to hire new team members in 2024. Comparing this year's data with last year's, there's a noticeable decrease in the number of planned new hires among Serbian startups. While last year startups planned to expand their teams by an average of 5.7 new members, resulting in approximately 958 new job positions, this year that number has dropped to an average of 3.95 new team members per startup, with a predicted 794 new employment positions.

Considering that this research covers only a portion of the Serbian startup ecosystem, estimated to currently comprise about 750 startups, it can be concluded that the ecosystem as a whole engaged around 1350 new hires in 2023 and plans to open 3000 new job positions in 2024.

Despite the decrease in the number of planned new positions from 5.7 in 2023 to 3.95 in 2024, the fact that over 90% of startups plan to hire new team members shows they have retained ambitions and optimism, despite the objective challenges they face.











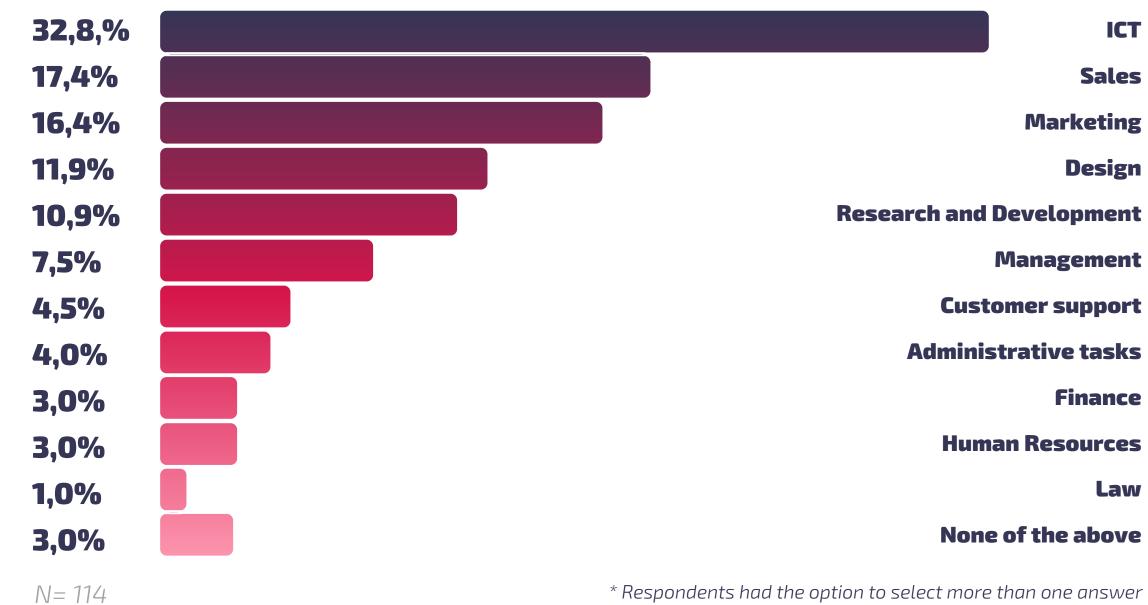
The table listing hiring needs and plans in sales and marketing reveals that, throughout 2022, most startups in the ecosystem realized the importance of sales. At the beginning of the year, only 11.3% of startups had plans for hiring in the sales sector, but by the end of 2022, 29.1% hired new team members to focus on sales. This increased awareness of the importance of sales coincided with a period when capital costs rose, access to financing became more challenging, and the focus for early investments shifted from the MVP development stage to the seed stage. Acquiring first customers, testing product-market fit, sales activities, and marketing initiatives became key for the growth and development of startups.

Of the startups that created new jobs in 2023, one-third (32.8%) strengthened their team with new members with IT expertise. When we look at other expertise needed by startups, it's important to highlight sales and marketing, which stand out among the positions startups planned to fill in 2023. According to last year's research: 51.5% of startups planned to hire in the sales sector, and 49.1% in the marketing sector. However, only 17.4% of startups hired new team members in sales, and 16.4% in marketing, which is drastically lower not only from their plans for 2023 but also from hiring in these areas in 2022, when 29.1% of startups hired new colleagues in sales, and 32% in marketing.

Therefore, it's significant that at the beginning of 2023, 51.5% of startups planned to hire in sales, but by the end of the year, only 17.4% managed to hire new team members with this expertise. A table shows trends in hiring in marketing and sales within the Serbian startup ecosystem from This gap between planned and actual is even more drastic when we look closely at the sample: 2021 to 2024. Based on the Startup Scanner 2022, data for 2021 and employment plans for 2022 51.5% is the result from the entire sample of last year's research, while 17.4% is the percentage are listed. Based on the Startup Scanner 2023, data for 2022 and employment plans for 2023 are from fraction of this year's sample that hired at least one new team member in 2023. When viewed in relation to the entire sample, we see that less than 10% of the 201 startups provided. This year's research provided data for 2023 and employment plans for 2024. participating in the research hired new team members in sales.

NEEDS AND HIRING IN THE SALES AND MARKETING FIELD

YEAR	2021	2022	2023	2024
THEY HAVE EMPLOYEES WITH EXPERTISE IN MARKETING	45,7%	44,3%	43,8%	
THEY HAVE EMPLOYEES WITH EXPERTISE IN SALES	38,4%	43,7%	37,3%	
PLANNED HIRING IN MARKETING		50,3%	49,1%	44,3%
PLANNED HIRING IN SALES		11,3%	51,5%	56,2%
EXPANDED THE TEAM IN THE MARKETING FIELD		32%	16,4%	
EXPANDED THE TEAM IN THE SALES FIELD		29,1%	17,4%	
CONSIDERS THAT IT'S HARDEST TO FILL POSITIONS IN MARKETING	17,2%	16,2%	17,9%	
CONSIDERS THAT IT'S HARDEST TO FILL POSITIONS IN SALES	30,5%	44,3%	44,3%	

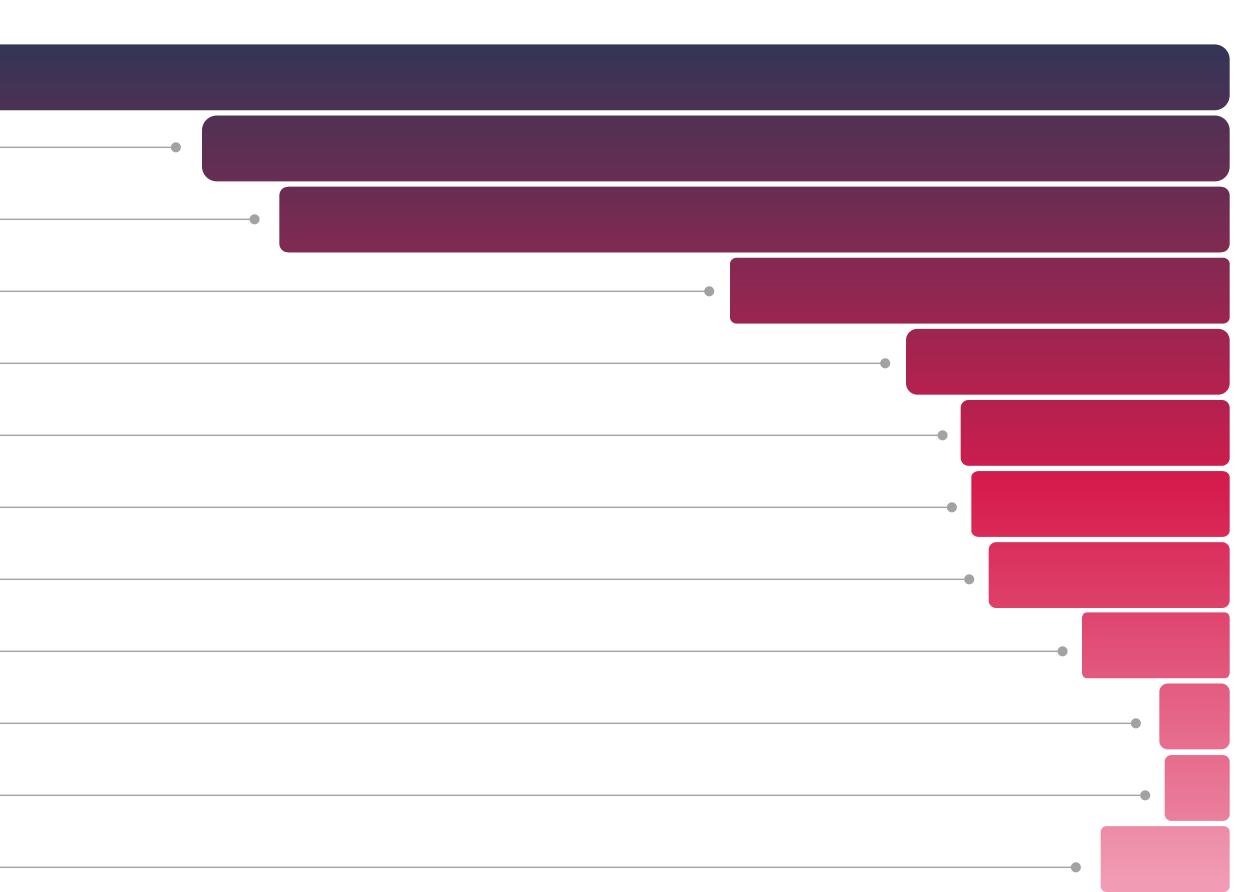


SECTORS OF TEAM EXPANSION IN 2023

For 2024, the most sought-after sectors for hiring are sales (56.2%), followed by marketing The importance of hiring in the sales sector for the Serbian startup ecosystem in 2024 cannot be (44.3%) and ICT (42.8%). With significantly lower percentages, other areas include research and overstated, as it will either be a key driver of growth and business expansion or will set the limit development (20.9%), design (13.9%), administrative tasks (10.4%), and customer support for further growth of the ecosystem. (10.0%). These data match last year's research, where the same sectors were most in demand, aligning with the key goals for 2024: sales growth (see the GOALS section).

TEAM EXPANSION SECTORS IN 2024

Sales	56,2%	•
Marketing	44,3%	•
ICT	42,8%	•
Research and Development	20,9%	•
Design	13,9%	•
Administration	10,4%	•
Customer support	10,0%	•
Finance	9,5%	•
Management	6,5%	•
Human Resources	2,5%	•
Law	2,0%	•
None of the above	5,0%	•



* Respondents had the option to select more than one answer

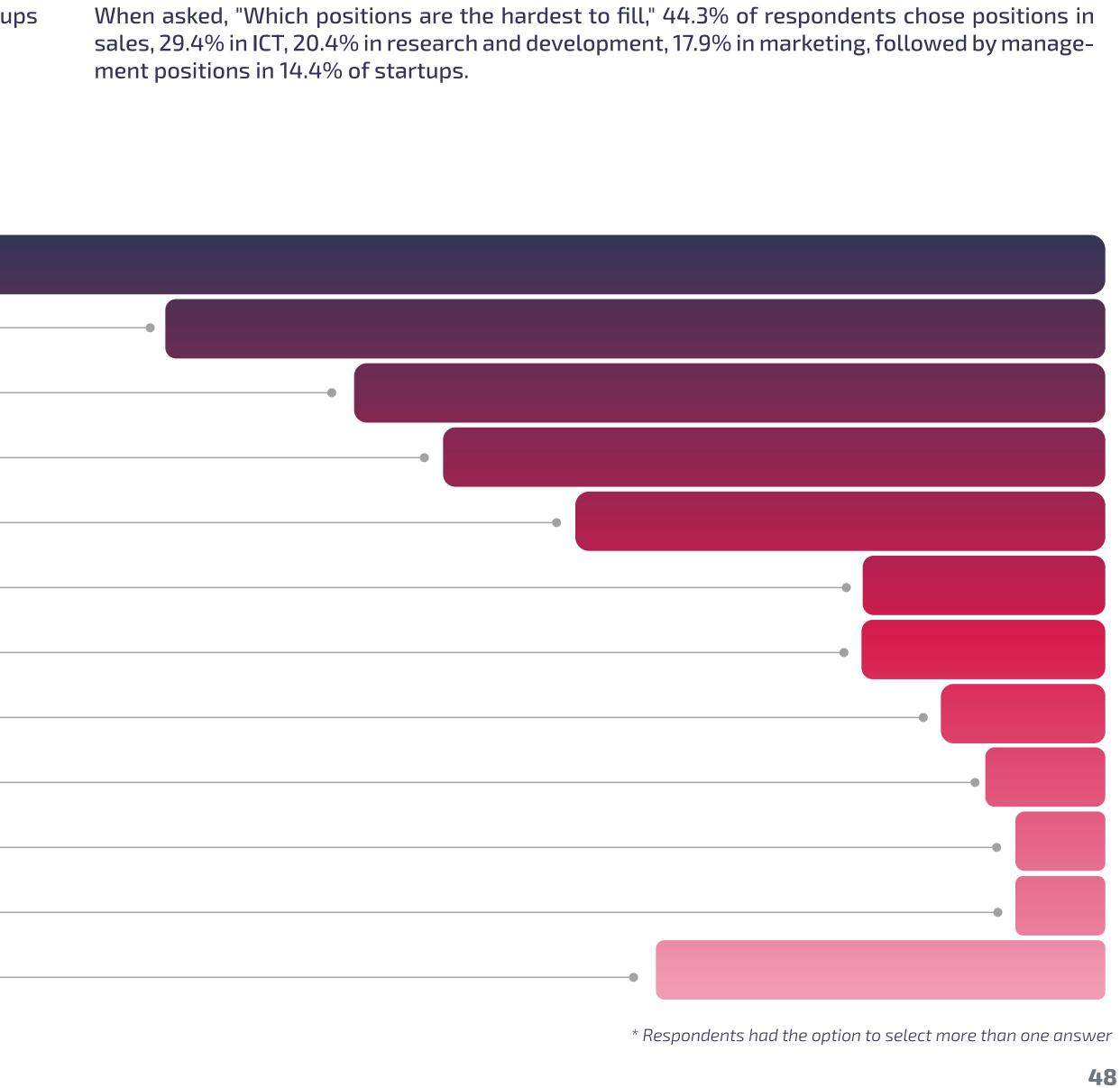




As the third biggest challenge in business, right after financing and acquiring customers, startups see the hiring of qualified team members (see the CHALLENGES section).

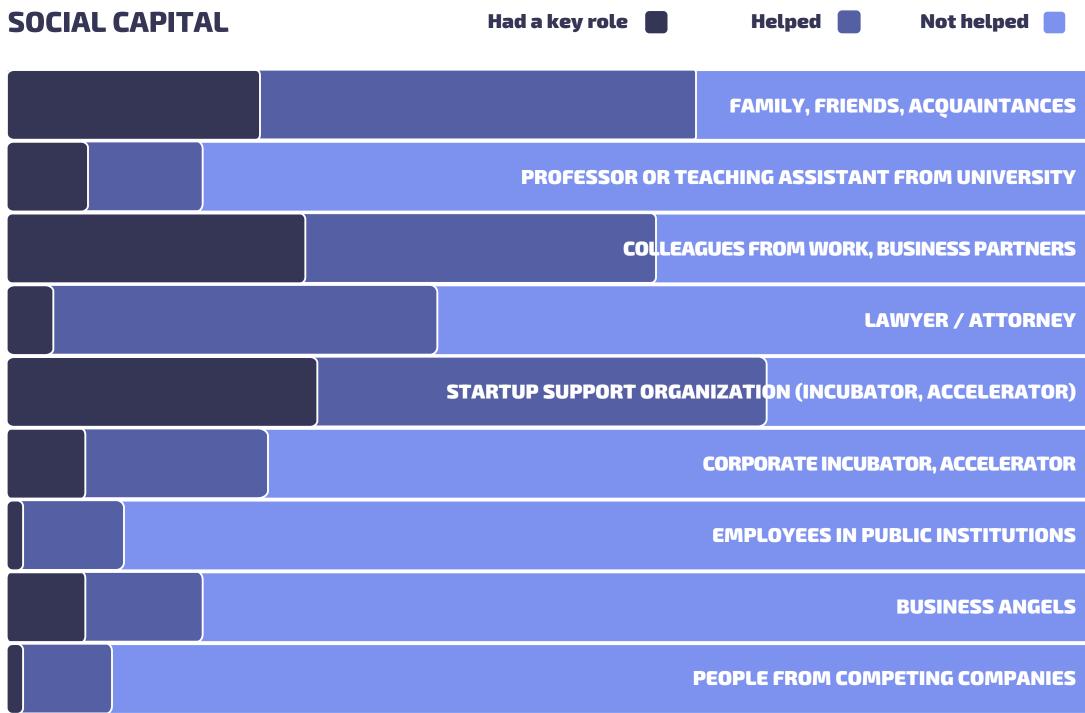
MOST DIFFICULT POSITIONS TO FILL

Sales	44,3%	••
ICT	29,4%	•
Research and Development	20,4%	•
Marketing	17,9%	•
Menagement	14,4%	•
Design	5,5%	•
Finance	5,5%	•
Customer support	3,5%	•
Human Resources	2,5%	•
Administrative tasks	2,0%	•
Law	2,0%	•
None of the above	11,9%	•



SOCIAL CAPITAL **OF THE STARTUP ECOSYSTEM**

which social networks (networks of social connections) provided the most significant help in Startup ecosystem social capital consists of networks of connections and relationships among founding and developing startups¹⁵, respondents could choose one of the following options — did actors who share common norms, values, and understandings that facilitate cooperation within not help, helped, played a key role. or between groups¹⁴. Actors, whether individuals or groups, gain easier or more favorable access Based on the distribution of responses, this year we see for the first time that startup support organizations are at the top both in the "played a key role" segment and in the "helped" segment. to necessary resources through their social connections (in this context, social networks do not Data clearly indicate the growing importance of support organizations, highlighting their key role refer to social media networks such as LinkedIn, Instagram, etc.). To identify the social capital of and the assistance they provide in the development and success of startups. Their contribution is startups in Serbia, we explored who constitutes the social network of startups and their not only recognized by respondents but also lays a good foundation for future strategies and contribution to the establishment and development of startups (local connectedness). policies for the development of the innovation ecosystem, emphasizing the need for continuous Considering the tendency of startups to market their products and services globally, we also support and collaboration. Furthermore, many founders received support for the establishment and development through investigated the global connectedness of the startup ecosystem. their informal social networks — colleagues from work, as well as family, friends, and acquaintances.



LOCAL CONNECTEDNESS

Local connectedness indicates the level of connection among actors in the local startup ecosystem. Considering existing indicators of local connectedness (according to the Startup Genome methodology) and social capital theory, this aspect can be viewed as informal and formal networks of connections of local startup ecosystem actors. In an effort to determine

HELP NOT	NOT HELPED		HAD A KEY ROLE
INFORMAL NETWORKS			
FAMILY, FRIENDS, ACQUAINTANCES	37,3%	39,3%	23,4%
PROFESSOR OR TEACHING ASSISTANT FROM UNIVERSITY	82,1%	10,4%	7,5%
COLLEAGUES FROM WORK, BUSINESS PARTNERS	40,8%	31,8%	27,4%
FORMAL NETWORKS			
LAWYER / ATTORNEY	60,7%	34,8%	4,5%
STARTUP SUPPORT ORGANIZATION (INCUBATOR, ACCELERATOR)	30,8%	40,8%	28,4%
CORPORATE INCUBATOR, ACCELARATOR	76,1%	16,4%	7,5%
EMPLOYEES IN PUBLIC INSTITUTIONS	89,1%	9,5%	1,5%
BUSINESS ANGELS	82,1%	10,4%	7,5%
PEOPLE FROM COMPETING COMPANIES	90,0%	9,0%	1,0%

HELP OF FORMAL AND INFORMAL NETWORKS

¹⁴ Human capital, OECD, https://www.oecd.org/insights/37966934.pdf

¹⁵ Social Networks in Entrepreneurial Startups Development, Durda L., Ključnikov A., Economics and Sociology, 12(3), 192-208. doi:10.14254/2071-789X.2019/12-3/13

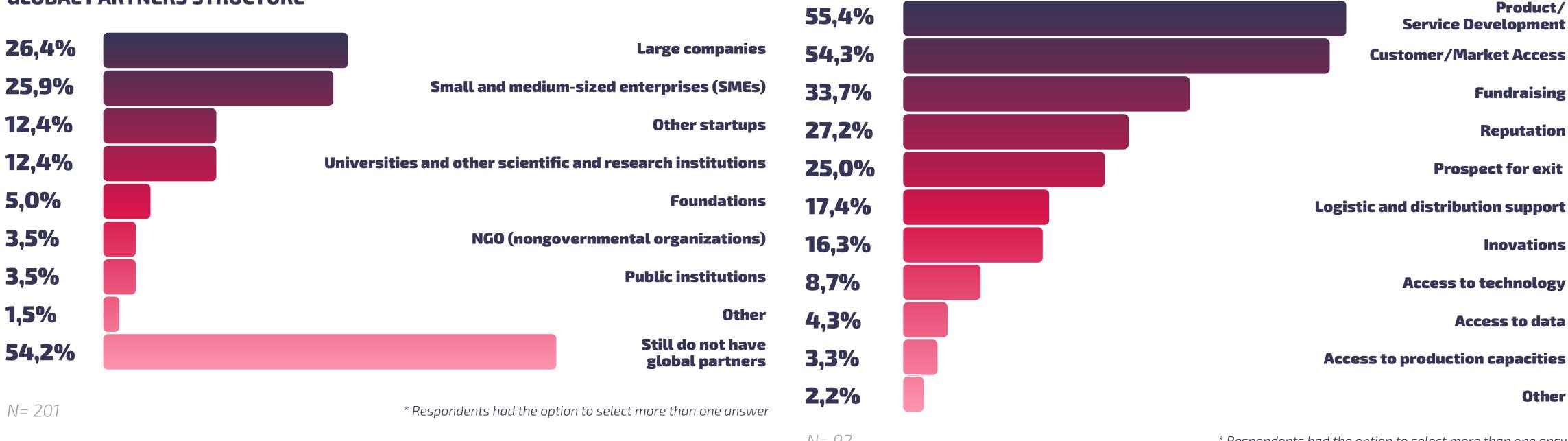




GLOBAL CONNECTEDNESS

An analysis of the structure of startups' global partners shows that other businesses are the most represented, with large companies accounting for 26.4%, small and medium-sized enter-Global connectedness can be measured in various ways. Following the methodology of Startup prises (SMEs) 25.9%, and other startups 12.4%. Universities and scientific research institutions, Genome, global connectedness refers to the number of business connections startup founders as international partners of Serbian startups, are represented in 12.4% of startups. The orientahave with the highest-ranking ecosystems, which serve as sources of experience and knowledge tion towards business entities is not surprising, considering that large companies often have a for creating business models and startups with the potential to become global leaders¹⁶. From global presence and connections with other large companies, while SMEs are often linked to the the perspective of social capital, the essence of global connectedness lies in how well Serbian local community, making them good partners for startups looking to enter a specific market. startups are connected with players in developed startup ecosystems. International connections and the flow of information and knowledge exchange are significant because they enable Regarding the objectives of cooperation with the most important global partners, startups startups to enhance their knowledge, development potential, and success in the global market. mostly indicated product or service development (55.4%), access to customers and markets

The research shows that more than half of the startups still do not have any global partners (54.2%), which is a higher percentage compared to last year's Startup Scanner, when 44.3% of startups had no global partners. Considering that most startups are in the early stages of development, such results are not surprising, but they also highlight the necessity of developing stronger global connections for both startups and the entire ecosystem.



GLOBAL PARTNERS STRUCTURE

¹⁶ Startup Scanner 2019, How Startups doing in Serbia?, Digital Serbia Initiative, p. 48.

(54.3%), fundraising (33.7%), reputation (27.2%), and the possibility of an exit (25.0%). By comparing the results on the objectives of global cooperation and goals that are particularly important for startups (also see the GOALS segment), we can conclude that the primary significance for startups lies in increasing sales and product development.

GOALS OF GLOBAL COOPERATION

N= 92

* Respondents had the option to select more than one answer 50

Blanka Šupe

Founder of Haos Community Space

Building Startup Culture in Serbia: Between Local Challenges and Global Opportunities

Having recently transitioned to Serbia after two decades in Russia and more than 10 years in San Francisco I'm thrilled to witness the country's burgeoning startup scene. Over the last 2-3 years, Serbia has seen a surge in interest, investment opportunities, and a growing number of accelerators and events tailored for founders. Despite this progress, for the startup ecosystem to truly thrive, it's essential to confront the challenges holding us back. The main issues are not necessarily the lack of investment money or government support, but rather the state of entrepreneurial mindset, community, local and global connectedness.

Right now we have a very top-down approach to building a startup ecosystem and nurturing innovation. That is very similar to lots of European countries, but I don't think it is the most successful way to do it. In my opinion, there is a very simple reason why Silicon Valley and the world's biggest and most successful businesses (IT or not) have come out of the US.

Yes, the US offers supportive infrastructure, and government policies and places a strong emphasis on entrepreneurial education and R&D. But the secret sauce of why all of the above exists, in the first place, is the culture of innovation and entrepreneurship. The entrepreneurial spirit runs deep in the USA, fostering a culture that celebrates innovation and risk-taking and embraces failure as a learning opportunity. This

cultural aspect as the foundational block of the entrepreneurial community is a significant factor in the success of the US startup ecosystem.

So what does this have to do with the Serbian startup ecosystem?

Here are the main issues I've spotted:

Playing it Safe: If we are to ever be on the same level as Silicon Valley startups we need to encourage founders to take risks and shoot higher when choosing what problems to solve or businesses to start.

Lack of market research and customer development: Not enough founders are doing in-depth market research or customer development before building their product. Many don't know who their competitors are, or what are their TAM/SAM/SOM and rarely do any potential customer interviews. It's like going into a game without knowing the rules.

Community Disconnect: This one's a big one. Currently, the Serbian startup ecosystem needs a strong sense of community that fosters collaboration, shared learning, and support among founders. And this is actually the fastest way to start building that entrepreneurial culture in Serbia.

So, how can a strong community help?

Idea Validation and Growth: Having a tight-knit community plays a pivotal role in validating business ideas, getting those first customers and achieving product-market fit.

Recruitment: Finding the right talent is tough, but startups that are connected to the ecosystem and well-known in the community are always more successful at it.

Financial backing: An interconnected network offers founders access to potential investors, mentors, and partners, creating opportunities for financial backing and strategic guidance.

Knowledge transfer: A community shares experiences, so you don't have to reinvent the wheel. Learn from the wins as well as failures.

Global Connectedness: Global Connectedness gives startups the ability to engage with global customers from their earliest stages: global connections allow founders, and the entire ecosystem, to tap into a global fabric of ideas, talent, capital, and know-how. Access to this fabric helps startups become scaleups, driving regional economic growth and job creation.

Mental Boost: Being a founder can get lonely. You can not underestimate how much community support can help lift you and help when you're feeling down or stuck.

My advice for founders is to focus less on only building the product and get out more and talk to other founders, and potential customers. Check out events, and networking opportunities and start building relationships with the community that shares your values.

I believe that higher local and global connectedness is both the foundation for any successful startup ecosystem and the growth accelerator. If we want to have more successful startups, more skilled talent, more VC and angel investments and more government support we need to prioritize community building.



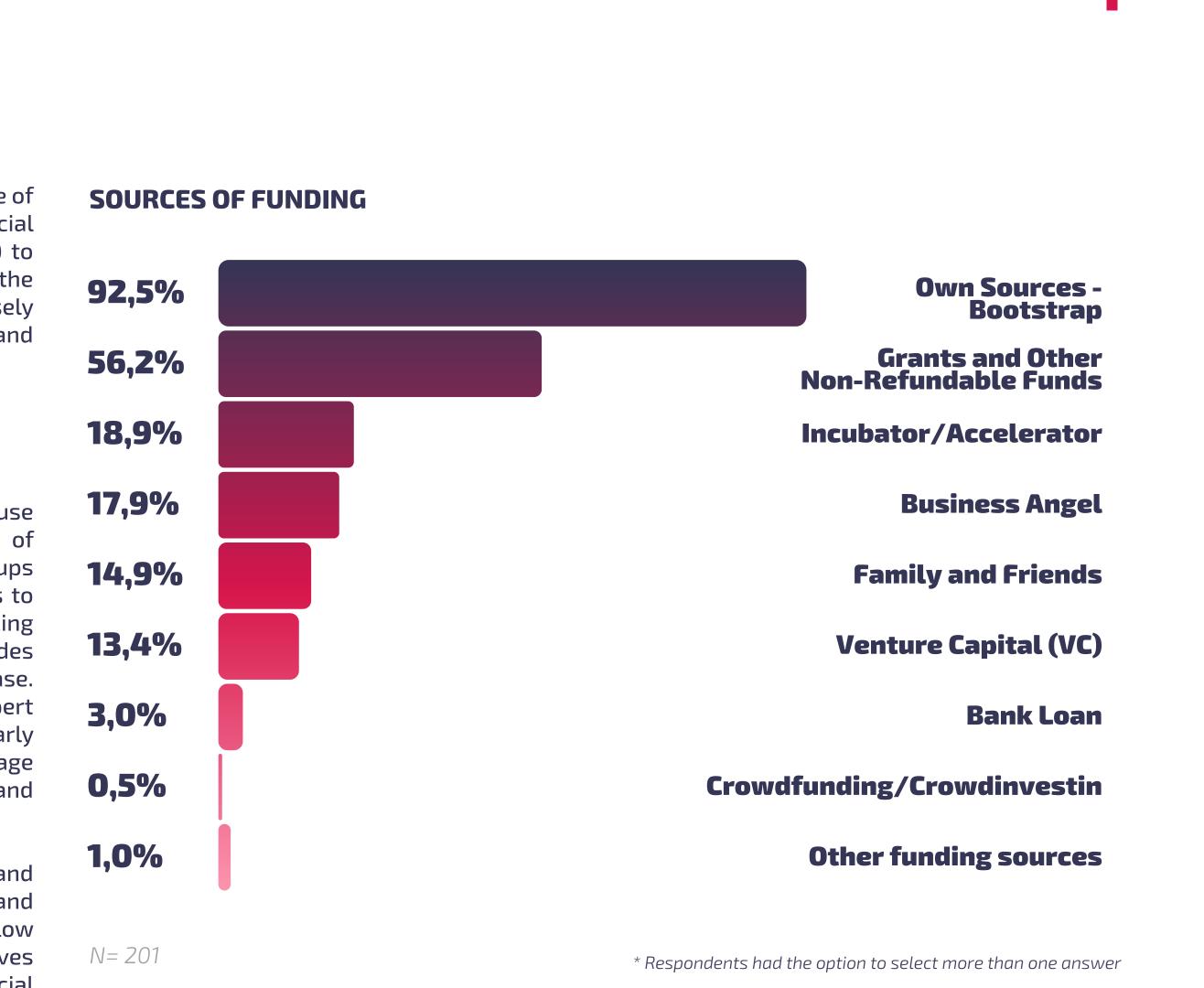
FINANCING

When discussing startups, financial capital can be viewed through two dimensions: the source of initial financial capital and how successful the startup is in generating financial capital. Financial capital sources can vary from grants, angel investments, and venture capital funds (VCs) to bootstrapping, which means the startup is financed through its own business operations and the founders' funds. The success of a startup and the development of the ecosystem are closely linked to financing opportunities. It's particularly crucial that funding is secured adequately and swiftly in the early stages of a startup's development.¹⁷

SOURCE OF FINANCIAL CAPITAL

Based on collected data, it's observed that a vast majority of startups (92.5%) to some extent use their own funds. This might suggest a preference for self-financing in the early stages of business development. However, our research shows that for nearly one-third of startups (29.35%), this has been the sole source of funding so far, clearly indicating limited access to capital. Grants and other non-repayable funds are the second most common form of financing (56.2%). Over half of all surveyed startups (51.2%) have not had any other funding source besides grants and self-financing, highlighting grants as the primary funding source in the early phase. For the Serbian startup ecosystem, further development of support programs combining expert support and education, with grants as a component to overcome financial challenges in the early stage, is essential. Otherwise, we face slower growth and a higher failure rate among early-stage startups facing the "valley of death," the gap between not yet being attractive to investors and needing funds for technology and business development.

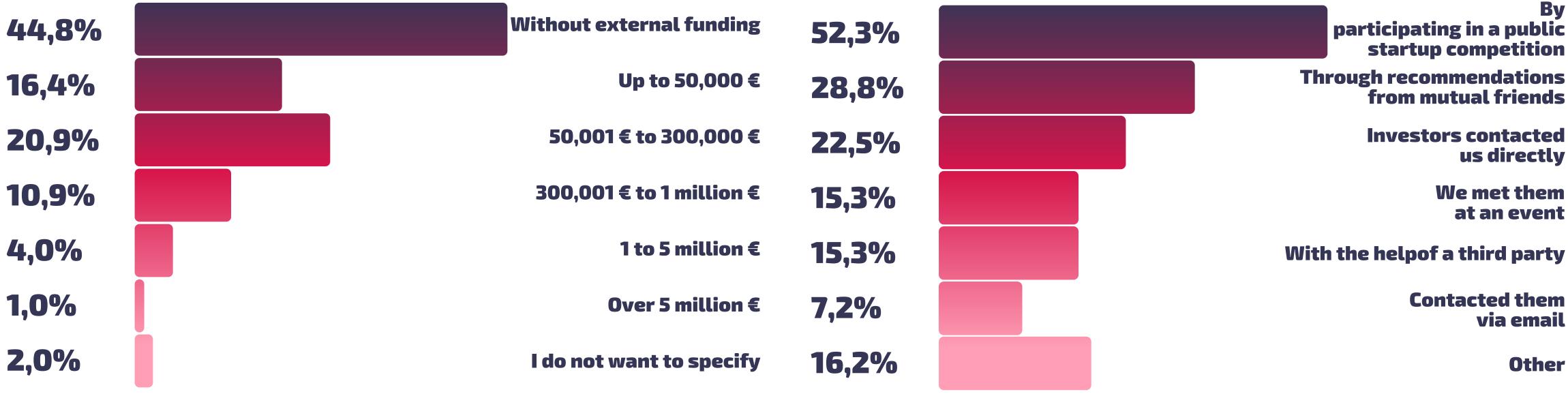
Options considered "smart money," providing not only access to funding but also mentorship and a network of contacts, both locally and globally, are represented below 20%: incubators and accelerators (18.9%), business angels (17.9%), and venture capital (VC) (13.4%). Relatively low representation of "smart money" underscores the need for stronger support, such as incentives for business angels, new funding sources, and the development of alternative financial mechanisms to stimulate innovation and growth in the ecosystem.



¹⁷ Startup Scanner 2019, How Startups doing in Serbia?, Digital Serbia Initiative, p. 61.



Much like last year, generating capital through sales or attracting external investments remains Among startups that have attracted external investments, the most common way of meeting a primary challenge and key goal for startups in Serbia. Nearly half of the startups, 44.8%, investors is participating in public startup competitions (pitches) with a significant 52.3%. haven't secured any external investments to date, while 16.4% of startups raised a total of less Recommendations from mutual friends are second (28.8%), confirming the importance of than €50,000. This is another indicator of limited access to external capital, relying on personal networking and illustrating the effectiveness of the pay-it-forward principle in securing funds and grants within our ecosystem. Only 5.0% of startups have managed to raise external investments that might otherwise be inaccessible. There's a correlation between the degree of local connectedness and the ecosystem's overall success (also see the LOCAL CONNECTEDNESS investments of more than one million euros total, not necessarily in a single round. segment).



EXTERNAL INVESTMENTS

N= 201

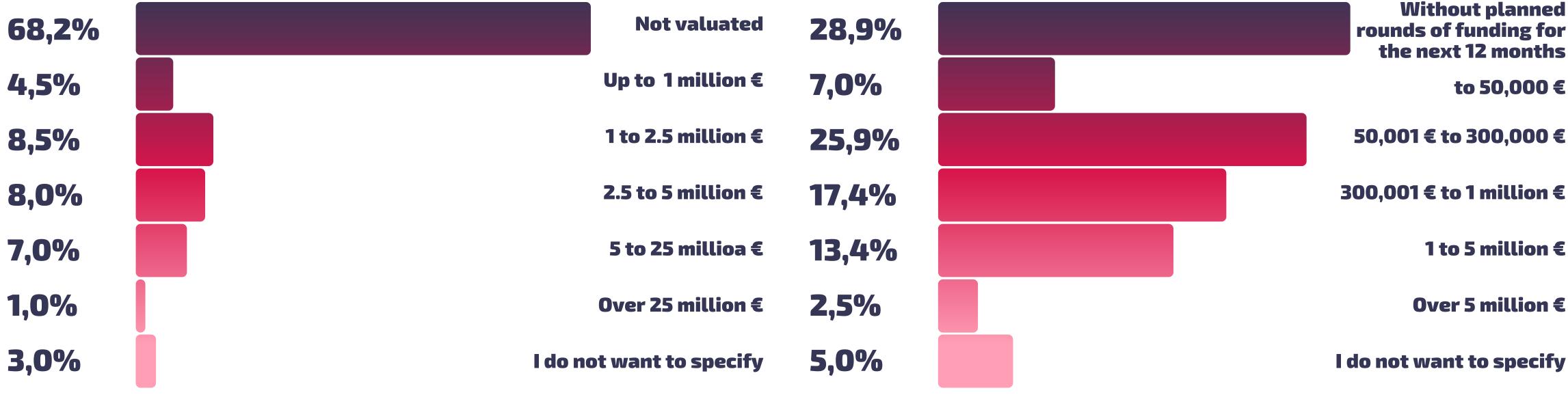
WAYS TO REACH INVESTORS

* Respondents had the option to select more than one answer

N = 111



Valuation of startups is one of the most challenging steps in financing due to the diversity and Regarding future financing plans, data shows that 28.9% of startups do not foresee raising complexity of methods used. Also, startups often refrain from publicly disclosing their valuation, external capital in the next 12 months, significantly higher than in previous years, when this making it possible to only estimate the overall ecosystem's value. Year after year, the Startup percentage was 18.6% in the Startup Scanner 2023 and 13.2% in the Startup Scanner 2022. Scanner shows that the value of over two-thirds of startups (68.2%) in Serbia is not assessed. On Overall, compared to last year, startups are planning to raise smaller amounts of capital next the other hand, nearly a quarter (24.5%) of startups are valued at €1 million or more, suggesting year, as the focus has shifted from amounts of €300,001 to 1 million euros (last year 30.6%, this market presence and initial results. Data would likely look different if more startups went year 17.4%) to amounts of €50,001 to 300,000 euros (last year 17.4%, this year 25.9%). These data through the valuation process. When interpreting these results, we need to take into account the reflect startups' awareness of the more difficult access to external capital due to objective honesty and accuracy of startup responses and the number of startups participating in the external factors, such as the rising cost of capital and interest rates, slowing global economic growth, and geopolitical tensions. research.



VALUATION IN THE LAST ROUND OF FINANCING

N= 201

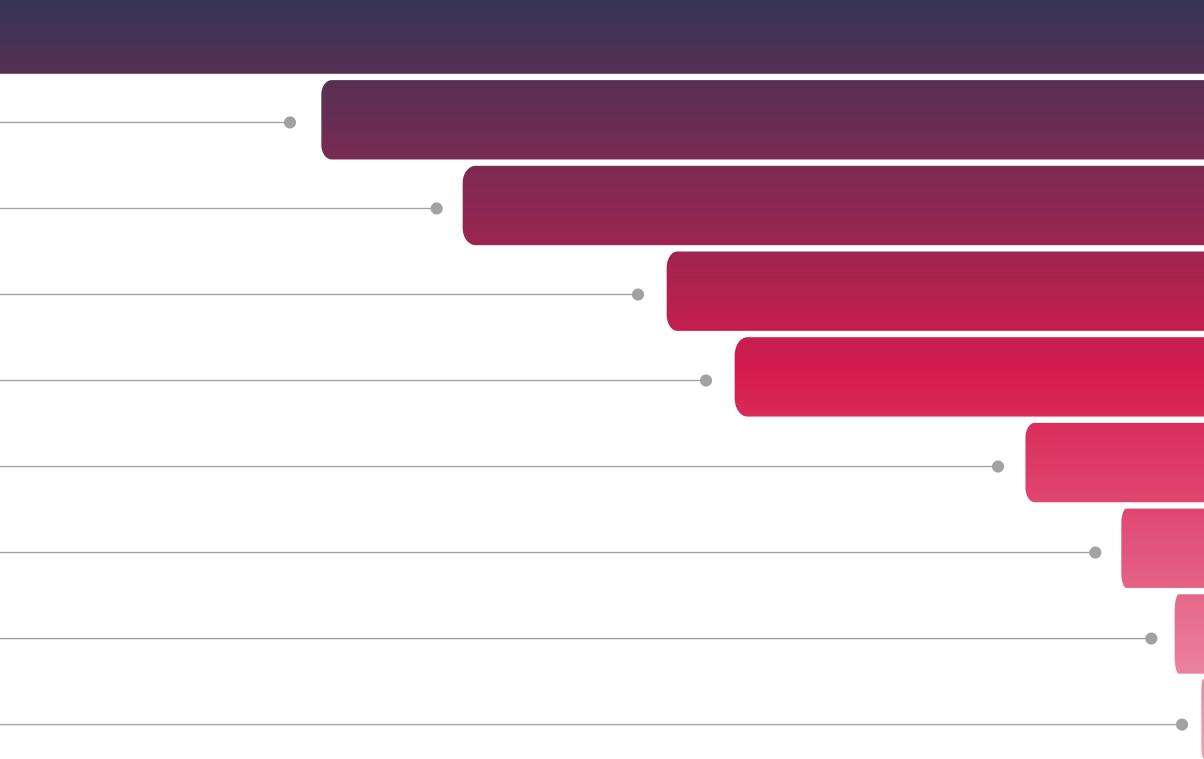
FUNDING PLAN FOR 2024

N= 201

Regarding the sources from which startups plan to raise capital in the coming year, most plan to apply for grants and other non-repayable funds (67.2%), and rely on their own funds (49.8%). It's indicative that 28.9% of startups participating in this year's research do not plan any other financing sources besides grants and bootstrapping. Despite the increased presence of VC funds and more active business angels, the percentages of startups planning to rely on these capital sources are slightly lower than last year - venture capital (VC) is in third place with 43.8% (last year it was 52.7%), and business angels are in fourth place with 32.3% (last year it was 39.5%).

PLANNED SOURCES OF CAPITAL FOR 2024

Grants and Other Non-Refundable Funds	67,2%	••
Own Sources - Bootstrap	49,8%	•
Venture Capital (VC)	43,8%	•
Business Angel	32,3%	•
Incubator/Accelerator	27,9%	•
Crowdfunding/Crowdinvesting	10,0%	•
Family and Friends	5,5%	•
Bank Loan	2,5%	•
Other sources of funding	1,5%	•



* Respondents had the option to select more than one answer





kat_pult

Maja Anđelković

Katapult team lead, World Bank

Paving the Runway: Finding the Right Early Stage Investors for Your Company

Katapult, implemented by the Serbia Innovation Fund and the World Bank, and also supported by the EU, is now in its third year and it seems fitting to share one of our three secret sauces: the "Katapult trust."

This trust does not come out of nowhere but is closely connected to the selection process of everyone involved in Katapult. This includes the sometimes overlooked process of the way founders find, qualify, and accept investors into their companies. In a resource-constrained environment such as Serbia, it can be tempting for founders, who may be struggling to make payroll or other obligations, to accept funds from investors they haven't thoroughly vetted. This has the potential to create significant risks down the line. Accepting an investor who is not a good fit onto your cap table can create: 1) questions about your maturity and judgment abilities for any later stage investors, 2) governance and management issues if they get a board seat, and 3) opportunity risks by crowding out the right investors. Many types of investors could be a bad fit, some more obvious than others. At one end of the spectrum is a wealthy individual whose sources of capital are unknown. Needless to say, knowing where the funds for your company come from is a basic requirement for building a solid foundation for your business. Less obvious may be the investor who is an enthusiastic customer of the company, but has no experience with investing and no industry networks. What is a founder to do?

When evaluating potential investors, think not only of the short term, but also of your next funding round, and ask the questions your follow-on investors will ask. Each subsequent round requires a more detailed level of due diligence. By being prepared and transparent, you maximize your chances of securing future investment. Follow this checklist and get to know your potential investors as people and as professionals.

Reputation and Transparency:

• **Track record:** Research their past investments and business activities. Did they generate successful exits? Are there any red flags in their history?

• **References:** Ask for and contact references from other founders they've invested in. What was their experience like?

• **Publc presence:** Do they have a strong online presence? Are they involved in industry events or publications?

• Legal and financial history: Check for any legal or financial issues on record.

Relevance and Expertise:

• **Industry specialization:** Do they have experience and expertise in your specific industry? Can they offer valuable insights and connections?

• Investment focus: Do they typically invest in companies at your stage and size? Their expectations and risk tolerance should align with yours.

• **Portfolio:** Analyze their past investments. Are they similar to your company? Is there a strategic fit?

Honesty and Work Ethic:

• Investment process: Is their process clear and transparent? Do they answer questions directly and honestly?

• **Terms and expectations:** Are the terms of the investment fair and clearly communicated? Are their expectations realistic for your company?

• **Commitment level:** Are they genuinely interested in your company's success? Are they willing to provide ongoing support and guidance?

Additional Information:

• Exit strategy: What are their preferred exit strategies? Do they align with your long-term goals?

• **Conflicts of interest:** Do they have any conflicts of interest with your company or competitors?

• **Decision-making style:** Are they collaborative and easy to communicate with?

• **Red flags:** Be wary of investors who pressure you, make unrealistic promises, or avoid answering your questions directly.

Don't be afraid to ask tough questions and walk away if something doesn't feel right. Accepting an investment means accepting new people into the company. Treat this process with as much care as you would picking co-founders.

By the same token, when you do find a reputable and experienced investor with whom you get along, don't let your ego stand in the way. Good investors will evaluate your business from a commercial point of view and will use their time, knowledge and funds to secure future growth of your company.











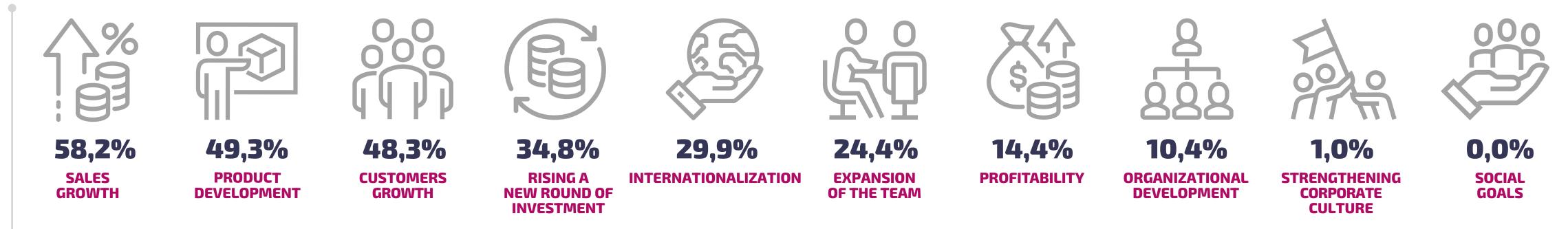
BUSINESS MODEL

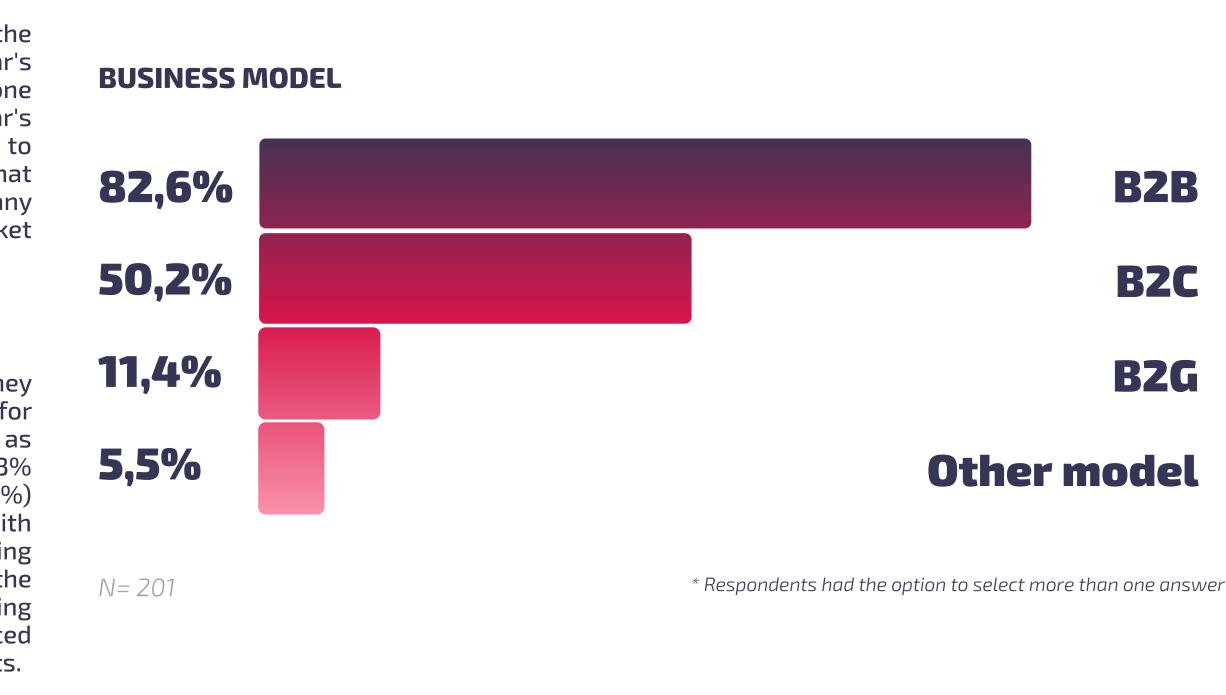
From the analysis of the business models of startups in Serbia, a significant increase in the number of startups operating on a B2B - business to business model is noted, from last year's 67.3% to this year's 82.6% (noting that respondents had the option to choose more than one option). There was also an increase in the B2C - business to consumer segment, from last year's 27.7% to 50.2%. Unlike last year when no startup indicated operating on a B2G - business to government model, this year 11.4% of startups stated they operate in this manner. Given that most founders have work experience in the private sector, this trend suggests that many founders use their prior work experience and contact network for easier MVP testing and market entry.

GOALS

Understanding the current goals of startups provides insight into the development phase they are in and allows for better targeted support for their growth. The survey results indicate that for most startups, the most important goal is sales growth, as 58.2% of startups highlight this as their priority, while 48.3% prioritize user base growth. Product development is crucial for 49.3% of startups, and 34.8% aim to raise a new investment round. A smaller percentage (24.4%) focuses on team expansion, and 29.9% on internationalization. These data are consistent with the current development phase of the ecosystem and the fact that most startups are going through developmental phases characterized by acquiring first customers and testing the product-market fit. Other goals, such as organizational development and strengthening corporate culture, are far less represented because they are set by companies in more advanced stages of development, when they are making a profit or have received significant investments.

IMPORTANCE OF GOALS





* Respondents had the option to select more than one answer

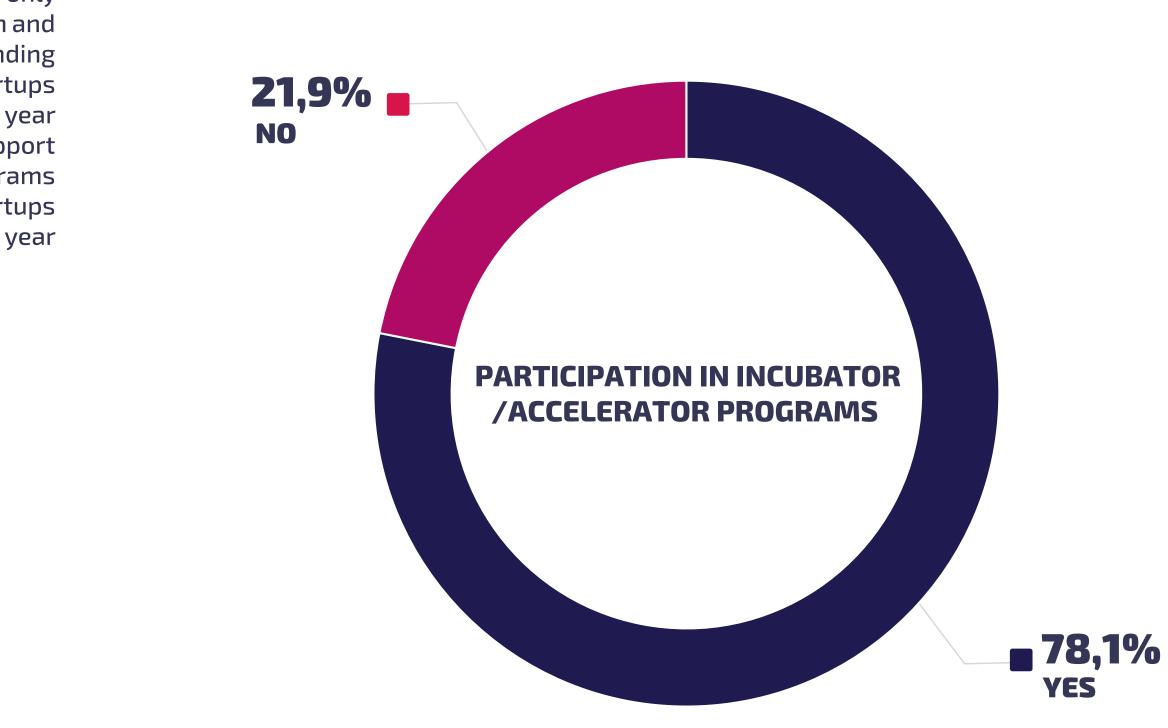


SUPPORT SYSTEM FOR STARTUPS

SUPPORT ORGANIZATIONS, INCUBATORS, ACCELERATORS

Incubators and accelerators play a crucial role in the startup development, offering not only financial but also mentorship support, and access to a network of contacts crucial for growth and scaling. Support organizations, incubators, and accelerators have been key actors in the founding and development of startups. It's encouraging to see that a vast majority of Serbian startups participate in these programs (78.1%), marking a significant increase compared to last year (56.9%). This, alongside the increased orientation of startups towards organizations and support programs, speaks to the greater availability and the rise in the number of support programs within the Serbian startup ecosystem. Additionally, it's important to remember that startups highlight incubators and accelerators among the top five planned sources of capital for the year 2024.





N=201



Nevena Janković Borozan

Coordinator of the support program for early-stage startups

Startup Support Organizations, Incubators, Accelerators

Startup Ecosystems in the Activation Phase¹⁸ often face "chicken-egg" challenges in various segments of development. For support organizations to deliver key values to the ecosystem, they must align their support mechanisms with the community's development level, to avoid doing the right things at the wrong time. It's also important for them to act in mutual coordination, especially in identifying gaps and opportunities for improvement, and accordingly, developing new support programs and adjusting existing ones.

Generating a larger number of startup companies in the activation phase is recognized as a major step from the experience of more advanced ecosystems. Recognizing this gap, we developed the Raising Starts program with the support of the Swiss government, to which 770 applications have been received in the past 3 years, giving quite an optimistic signal about the further development of our ecosystem. In a community where startup experience is limited, while waiting for more successful stories of founders who have gone through the process of raising investments in later stages or selling the company, incubators and accelerators provide a vital function through mentorship and access to international experience. The concept of mentorship needs to be understood more deeply and special attention should be paid to developing the methodology of matching startups and mentors, as well as providing continuous support and monitoring of this process. This is precisely the main role of accelerators. Networking of people is the driving force and one of the most significant values of support programs.

On the other hand, the experiences of more advanced ecosystems show us that too much free money can produce a negative effect, and there, as support organizations, we must recognize our role is also to educate. The founding of the Business Angels Group within the Digital Serbia Initiative is particularly significant and contributes to bridging the lack of 3F¹⁹ financing. Last year, our ecosystem gained more visibility and found itself on the map of European VC funds, and the first Serbian VC was established. History shows that crises are often fertile ground for creating successful companies, and cooling in the VC world often favors early-stage communities. To develop successful startup companies, financing is necessary, and to attract funds, we need attractive companies ready to raise money. At this stage of development, the significant role of incubators is crucial, fighting on two fronts - preparing companies to be ready for fundraising and attracting venture capital funds.

Through three generations of Raising Starts, 54 startups have been supported, which have so far raised \$4.5 million in additional financing, while the results of support at such an early stage of development are yet to be seen. A positive impulse also comes through monitoring the success of startups supported through the Katapult accelerator.

Where do we need to make additional effort?

• Technology transfer from science to business is a huge potential where we can make a significant shift with more initiatives

• Discovering new markets for startups that have the momentum to show rapid growth is also an area for improvement. The increase in initiatives to support domestic startups visiting world conferences and other ecosystems is positive; we follow a deeper understanding of establishing business abroad.

• Integration of entrepreneurship into education, encouraging a larger number of business angels and their education, as well as visibility of these stories, are certainly fields for progress.

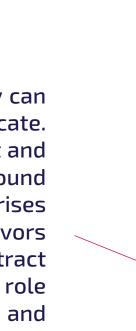
• Let's not forget the decentralization and development of a support network in all parts of the country, with mandatory adaptation to local conditions to meet needs and encourage the establishment of new startups.

¹⁸ According to the life cycle of the startup ecosystem according to the Startup Genome research, the activation phase is the first stage of development characterized by limited startup experience (knowledge and experience of founders, investors, mentors and support systems), as well as a low number of startups (less than 1,000).

¹⁹ The acronym 3F refers to "friends, family and fools" and indicates funding at a very early stage of startup development when financial support comes from family, friends and investors who, usually due to personal relationships or belief in the idea, take the investment risk even though they generally have no previous experience in investing in startups.



NAUČNO-TEHNOLOŠKI PARK Beograd



















STARTUP SCANNER

PUBLIC POLICIES AND REGULATIONS – CREATING A FAVORABLE ENVIRONMENT FOR THE DEVELOPMENT AND FUNCTIONING OF THE STARTUP ECOSYSTEM

The research also revealed expectations regarding public policies and regulations relevant to innovative entrepreneurial ventures. The most common expectations relate to introducing tax incentives for investments by angel investors and venture capital (VC) funds in startups (38.8%), increasing transparency and financing options (38.8%), the necessity for faster adaptation of regulations and laws to new business models (32.3%), and a greater number of support programs (31.3%).

Less frequently mentioned were the promotion of entrepreneurial thinking and skills in the education system (18.9%), eased use of digital platforms for international payments and transfers(18.4%), improving the status of entrepreneurship in society (17.9%), more opportunities for employee participation in the company ownership structure (11.9%), and greater support for technology transfer (11.4%). Other expectations were represented by less than 10%.







PROGRAMS



IMPROVING THE STATUS OF ENTREPRENEURSHIP IN SOCIETY





INCREASING TRANSPARENCY AND FINANCING OPTIONS



PROMOTION OF ENTREPRENEURIAL THINKING AND SKILLS IN THE EDUCATION SYSTEM



MORE OPPORTUNITIES FOR EMPLOYEE **PARTICIPATION IN THE COMPANY OWNERSHIP STRUCTURE**



FASTER ADAPTATION OF REGULATIONS AND LAWS TO NEW BUSINESS MODELS

18,4%

EASED USE OF DIGITAL PLATFORMS **FOR INTERNATIONAL PAYMENTS AND TRANSFERS**

11,4%

SUPPORT FOR TECHNOLOGY TRANSFER

7,5%

EASED HIRING

OF EXPERTS FROM ABORAD

8,5%

SPECIAL RULES FOR ESTABLISHING SPECIAL PURPOSE VEHICLES (SPVS) FOR INVESTING IN STARTUPS



5.0%

OTHER EXPECTATIONS

* Respondents had the option to select more than one answer

N=201





Above all, we emphasize that the startup community is entering the next year of implementing Alongside the adopted set of tax incentives for the development of the knowledge economy and The Startup Ecosystem Development Strategy of the Republic of Serbia for the Period from 2021 innovations, DSI continues to work on introducing new tax incentives, of which the most important to 2025, while the Government of the Republic of Serbia has adopted the Action Plan for 2024. are those related to financing startups in their early stages. The general goal of this year's plan is to increase the number of registered startups by 300, with specific goals including boosting startup entrepreneurial capacity through educational Regarding one of the key problems cited by startup founders — restrictions imposed by foreign programs, improving infrastructural and programmatic support, and enhancing the financing exchange regulations — DSI has advocated and will continue to publicly advocate for the liberalization and simplification of this regulation. mechanisms for startups.

Good news is the initiation of the new The Registry of Subjects in the National Innovation Furthermore, other goals and plans of DSI in the regulatory sphere are in line with the expressed System managed by the Innovation Fund. The register can include all innovative entities needs of the startup community, which can continue to count on the support of the Digital Serbia (startups, spin-offs, research and development centers, technology transfer centers), Initiative. innovation infrastructure (support organizations, science and technology parks), as well as investors (angel investors). The register will contribute to better connectivity of the innovation ecosystem and facilitate the use of tax incentives and other benefits for innovative entities registered in the register.

Regarding new models for raising capital, the Digital Serbia Initiative (DSI) advocates the possibility of tokenization of shares in limited liability companies. This model will primarily contribute to efficient crowdfunding of startups, as well as easier and faster secondary trading of such shares, without excessive bureaucratization. Besides tokenization of shares, another new model for efficiently raising capital for startups is concluding SAFT agreements (Simple Agreement for Future Tokens), whose advantages are detailed in the SAFT Agreement Guide published on the Startup Portal.²⁰

DSI also continues efforts to improve the regulatory framework for financing startups, with financing through convertible loans and SAFE agreements (Simple Agreement for Future Equity) being a priority. Additionally, if adopted, further easing for angels would be the new rules regarding the establishment of special investment funds, which will facilitate and accelerate investment by a larger number of investors in startups (SPV for investment).









Ivan Nonković

Partner / Lawyer in cooperation with Karanovic & Partners

Startups in Serbia: Progress and obstacles on the road to innovation

TLDR - Much has been done, but more is needed.

In recent years, the economy, the government, and the civil sector have recognized the importance of startups for the Serbian economy and have made great efforts to create an environment in which startups can more easily progress and develop.

The state, in its jurisdiction, has adopted the Strategy for the Development of the Startup Ecosystem 2021-2025, the Law on Innovation Activity, and a series of other regulations that facilitate the establishment and operation of startups. Through institutions founded by the government (for example, the Innovation Fund), significant financial, professional, and other means of assistance were also provided. A series of tax incentives have also been introduced, not only for startups but for the IT industry as a whole.

The private sector has also made significant investments - some companies have created their own incubators and accelerators, and many have entered into partnerships with startups to innovate their own business. The non-governmental sector is also involved through various programs in partnership with international institutions through which startups are provided with mentoring and financial support. Significant groups, or networks of business angels, have been created, which help not only financially but also through mentoring and networking (smart money).

However, some old problems remain. First of all, there is the "red tape," namely the overly extensive regulations especially in the field of foreign exchange regulations and payment services, which more or less completely prevent the development of fintech startups in Serbia. But not only them, any other startup that has intensive payments in its business model, for example, charges on behalf of and for the account of others, encounters many problems in daily operations.

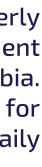
The work of the state administration is also often a problem. Namely, although there are numerous tax incentives, there are many inconsistencies in practice in the application and interpretation of incentives by the tax administration, which creates a lot of uncertainty. It's not just the state administration that is unadapted to the speed of startup operations - the Serbian banking sector is also very rigid and slow to react (which is largely a consequence of the strict control that prevents innovation).

Access to capital is significantly better than it was a few years ago but still far from the level of more mature ecosystems. An important reason for this is still the relatively poor economy and the low level of surplus capital that would go to startups, but there is also a lot of room for a better institutional framework. For example, the tax regime for alternative investment funds is still not great, and the process of founding and operating is quite complicated.

Some of these challenges cannot be solved overnight (for example, further strengthening the economy that will create surplus capital for financing startups). But what can be done relatively quickly and would help a lot is the amendment of regulations that would further facilitate business and better coordination of state bodies for the more uniform application of existing facilities. This is significant not only for startups but for the economy as a whole.

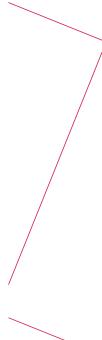
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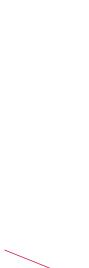














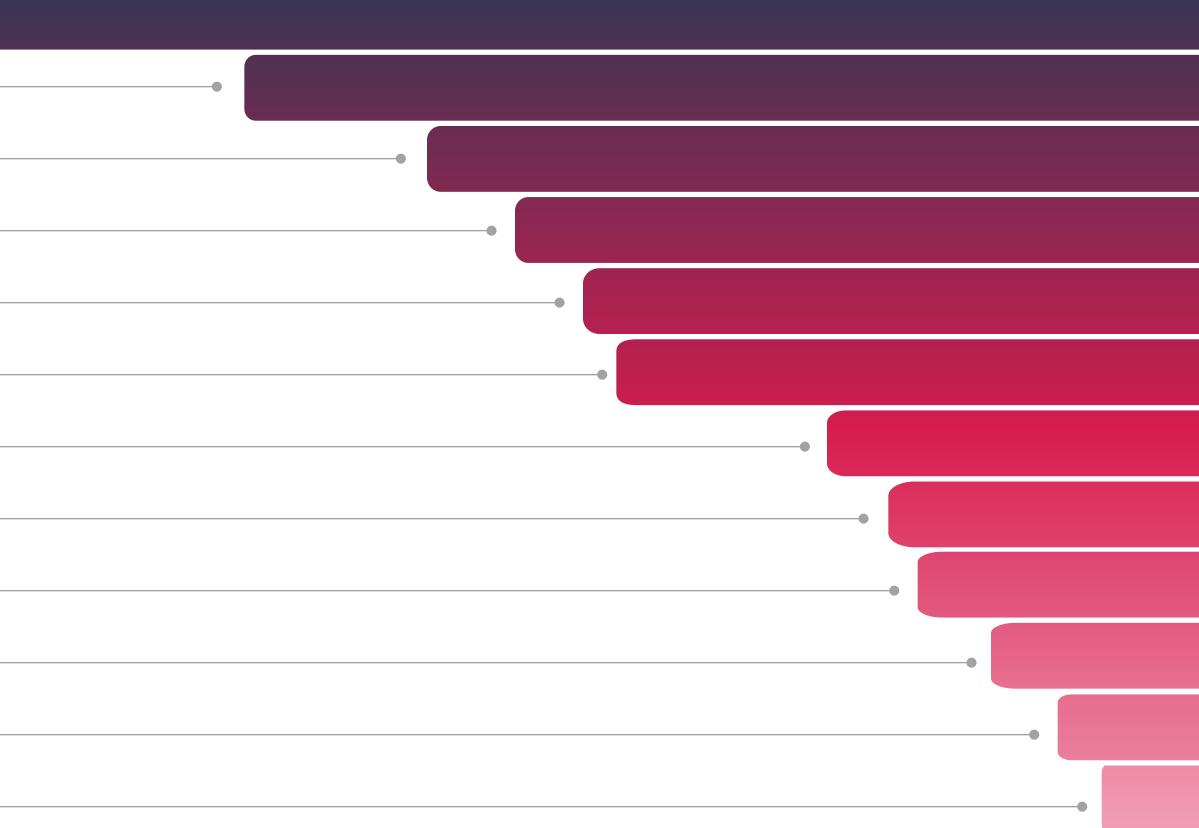


CHALLENGES FOR STARTUPS IN SERBIA

hiring staff with the necessary knowledge and skills. These three key challenges were also listed Within the context of the Serbian startup ecosystem, which is still in the activation phase according to the Startup Genome methodology, the lack of collective experience and knowledge in the Startup Scanner for 2022 and 2023, with customer acquisition moving up to second place in this year's research, indicating an increased market focus of Serbian startups. In addition, as in within the community further complicates overcoming existing challenges. The analysis of challenges faced by startups shows that financing remains the main challenge for startups in previous years, a significant number of respondents (24.9%) cite Serbia's invisibility on the global Serbia (59.7%). This is followed by customer acquisition (39.3%), while 28.4% face challenges in market as a challenge. It is necessary to pay special attention to further analysis of these challenges and develop targeted support programs that directly address the current needs of startups, thus contributing to the accelerated progress of the ecosystem.

THE BIGGEST CHALLENGES

Financing	59,7%	• • •
Customer acquisition	39,3%	•
Hiring staff with adequate skills	28,4%	•
Serbia's invisibility on the global market	24,9%	•
Sales concept	21,9%	•
Product development	20,4%	•
Understanding the legal framework	14,9%	•
Availability of adequate support programs	12,9%	•
Team development	11,4%	•
Finding an adequate	8,0%	•
Choosing a business model	6,5%	•
Creating a business plan	4,5%	•



* Respondents had the option to select more than one answer





STARTIT

Nevenka Rangelov

Director of Entrepreneurship Development at Startit

Overcoming Three Key Challenges for Startups in Serbia

The past two years have been among the toughest for startups globally in the last decade — with dramatic drops in valuations, harder access to capital, cost-cutting, and layoffs. These trends, albeit with a slight delay, also reached Serbia and were somewhat felt in our ecosystem. However, given the early stage of our ecosystem, many startups likely did not experience significant impacts of these economic changes.

Said, of course, does not mean that local startups haven't faced their own set of challenges. Three challenges, Startups need to iterate quickly based on market feedback, and while not impossible when you hire an through both ecosystem research and anecdotal insights, emerge as the most relevant year after year. external developer, it's significantly harder, slower, and more expensive. Therefore, it seems our ecosystem Funding is always at the forefront, closely followed by sales and finding staff with the right skills. is ripe to encourage the merging of technical and non-technical talents to work together on startups, knowing how much they need each other.

Show me the money

For the majority of startups, funding is often the most elusive asset, making it a prevalent challenge across the board. Yet, as an ecosystem, we have reasons to be satisfied in this regard.

A significant barrier to further startup development in Serbia has long been the early-stage funding gap once a promising startup received a grant from the Innovation Fund, it lacked additional funding sources until it's ready for more mature funds like South Central Ventures. While this gap hasn't completely closed, there's been significant progress with new programs by the Innovation Fund, Start Tech, and others, as well as the activation of angel investors.

However, startups still lack funds, leading us to the second, and perhaps key challenge: where are the clients?

Always be closing!

The significant shortfall of sales in our ecosystem has been loudly declared, but it needs to be pointed out again. A lack of clients and traction are actually the root problem for those startups identifying funding as their main challenge. You won't catch investors' attention without a solid business case, and even grants are harder to secure now than a few years ago without one.

Startups recognize this, as evidenced by data shown in Startup Scanner, where founders cite sales as the hardest area to recruit new team members, yet where there's the greatest need for reinforcement. The ecosystem is simply impoverished when it comes to this knowledge, posing a huge task both for founders who must develop this expertise and for support organizations that need to help create such personnel.

A key step in this effort is connecting and exchanging knowledge with foreign markets traditionally strong in sales, primarily North America.

You complete me

Through the discussion on sales, we've already touched on the third challenge — finding staff with the right expertise. However, an interesting insight related to this topic emerged from my work with very early-stage startups last year: the noticeable increase in non-technical founders in the ecosystem.

This is great news because non-technical founders often bring domain knowledge, business skills, and contacts (often with a better eye for identifying problems worth solving), but this positive trend also has its downside when technical co-founders are missing from the story (which, at least anecdotally, has shown to be a very common case). This situation arises when startups without a technical co-founder apply for grants to hire someone or a team to develop their MVP and to start validating their concept in the market.

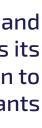
To conclude, while this discussion highlights the hurdles our startups face, it simultaneously points to untapped potential and guides us in seeing the future trajectory of our ecosystem. I am optimistic that reflecting on these challenges will ignite inspiration and motivate us to redouble our efforts in overcoming them.























SERBIA -MACROECONOMIC INDICATORS





MACROECONOMIC INDICATORS

According to official data, Serbia has a population of 6,641,197.²¹

Looking at total (not just government) spending, according to SORS data, Serbia allocated 68 As estimated by the Statistical Office of the Republic of Serbia (SORS) at the end of 2023, the real billion RSD or 0.97% of GDP³¹ to scientific research and research and development (R&D) GDP grew by 2.5% compared to the previous year²². The value of goods and services exported activities in 2022. In the EU during 2022, expenditures for research and development amounted from January to November 2023 amounted to \$40.57 billion (an increase of 11.92% compared to to 2.23% of GDP³². Of all the Union members in 2022, the highest spenders on research and the same period last year), while the value of imports was \$43.74 billion²³. The trade deficit in development were Belgium (3.44%), Sweden (3.40%), Austria (3.20%), followed by Germany goods and services amounted to \$3.17 billion. From January to November 2023, Serbia achieved (3.13%) and Finland (2.95%)³³. For comparison, the expenditures of the USA (3.46%) and Japan exports worth \$3.3 billion in the ICT services sector (an increase of 34% compared to the same (3.34%), or China $(2.41\%)^{34}$, while the two countries that allocate the largest part of GDP to R&D period last year), while imports of ICT services were valued at \$780 million. are South Korea (4.93%) and Israel $(5.56\%)^{35}$.

The total number of registered employees in 2023 was 2,360,588, an annual increase of 2.2%²⁴. In the structure of organizations engaged in research and development in Serbia, the business Of this number, the largest part (80.2%) was employed by legal entities, 17.5% were sector participates with 54.9%, higher education with 29%, the government sector with 15.6%, and the non-profit sector with 0.5%.³⁶ The business sector invested 61% of its funds, while state entrepreneurs and individuals employed by them and those conducting independent activities, and local government funds were used by the government sector (71.7%) and higher education and the remainder were registered individual farmers²⁵. In the field of Computer programming, (62.2%). consultancy, and related activities, 64,900, or 2.81%, of the total employed in 2023 were registered. In the third quarter of 2023, the employment rate for those over 15 years old was 50.7%, and the unemployment rate was 9%²⁶. The NEET rate, i.e., the percentage of young people neither working nor in education or training, was 12.8% for the age group 15-24 years and 15.8% for the age group 15-29 years.

²¹ Republički zavod za statistiku (RZS), 29/01/2023, https://www.stat.gov.rs/. In November 2023, the average monthly net salary in Serbia was 89,956 RSD(\$832), while half of ²² Ekonomska kretanja 2023 - Procena, RZS, https://publikacije.stat.gov.rs/G2023/Pdf/G20231354.pdf. the employees (median salary) in November received a net salary of up to 69,088 RSD(\$639)²⁷. In ²³ Statistika ekonomskih odnosa sa inostranstvom, NBS, 29/01/2023, https://nbs.rs/sr/drugi-nivo-navigacije/statistika/platni_bilans/ ²⁴ Регистрована запосленост, 2023. 30.01.2024. https://www.stat.gov.rs/vesti/statisticalrelease/?p=15000&a=24&s=2402 the field of Computer programming, consultancy, and related activities, the average net salary ²⁵ Регистрована запосленост, 2023. 30.01.2024. https://www.stat.gov.rs/vesti/statisticalrelease/?p=15000&a=24&s=2402 was still 3 times (3.1) higher than the average and 4 times higher than the median net salary in ²⁶ Анкета о радној снази, III квартал 2023. Саопштење број 327 - год. LXXIII, 30.11.2023. https://publikacije.stat.gov.rs/G2023/Pd-Serbia, amounting to 281,991 RSD(\$2611). According to data available on the website Helloworld, f/G20231327.pdf in Serbia, the average net salary for a junior position in the last 12 months was 886 euros, and for ²⁷ Просечне зараде по запосленом, новембар 2023. https://publikacije.stat.gov.rs/G2024/Html/G20241017.html ²⁸ HelloWorld, Kolike su IT plate?, 29/01/2023, https://www.helloworld.rs/plate/junior?time_span=2; https://www.hela senior position, 2220 euros²⁸. The results of the 2023 survey on salaries in the IT sector showed loworld.rs/plate/senior?time_span=2. that within the software engineering profession, median salaries range from 1150 euros (junior), ²⁹ Anketa o platama - Transparentnost zarada u IT industriji, Fishingbooker, https://inside.fishingbooker.com/anketa-o-platama/. 3030 euros (senior), to 3650 euros (lead) and 4500 euros (principal), while the salary for ³⁰ Upotreba informaciono-komunikacionih tehnologija u Republici Srbiji, 2023.. https://publikacije.stat.gov.rs/G2023/Pdmanagerial positions (e.g., Head of Engineering and CTO) was higher than these²⁹. f/G202316018.pdf ³¹ Научноистраживачка и развојна делатност, 2022, https://publikacije.stat.gov.rs/G2023/Pdf/G20231238.pdf, Podaci za 2023. godinu će biti objavljeni tokom 2024. According to the annual survey by SORS, in Serbia in 2023, 75.9% of households owned a ³² R&D expenditure, Eurostat, 29/01/2024, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=R%26D_expenditure computer, 94.4% a mobile phone, and 55% a laptop³⁰. Differences in data exist by region, type of ³³ R&D expenditure, Eurostat, 29/01/2024, https://ec.europa.eu/eurostat/statistics-explained/index.php?settlement, and household income level. Significantly fewer households living outside urban title=R%26D_expenditure#Gross_domestic_expenditure_on_R.26D ³⁴ R&D expenditure Bar chart, Eurostat, 29/01/2024, https://ec.europa.eu/eurostat/statistics-explained/index.php?areas use a computer (66.1% compared to 81.5% in cities). In the category of households whose title=R%26D_expenditure#Gross_domestic_expenditure_on_R.26D incomes do not exceed 30,000 RSD, only 30.9% own a computer, 57.7% of households with ³⁵ Prema podacima World Bank iz 2021, videti https://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS?most_recent_value_desc=true. incomes between 30,000 and 50,000 RSD, while as many as 99.3% of households with incomes ³⁶ Statistički godišnjak Republike Srbije 2023, str. 379, https://publikacije.stat.gov.rs/G2023/Pdf/G20232056.pdf.

over 90,000 RSDhave a computer. In Serbia, the majority of households (85.6%) have broadband internet connection, 89.3% fixed and 76.9% mobile. This survey also showed that 100% of all companies have internet access, 85.1% have their own website, while 28.2% sold products online.



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