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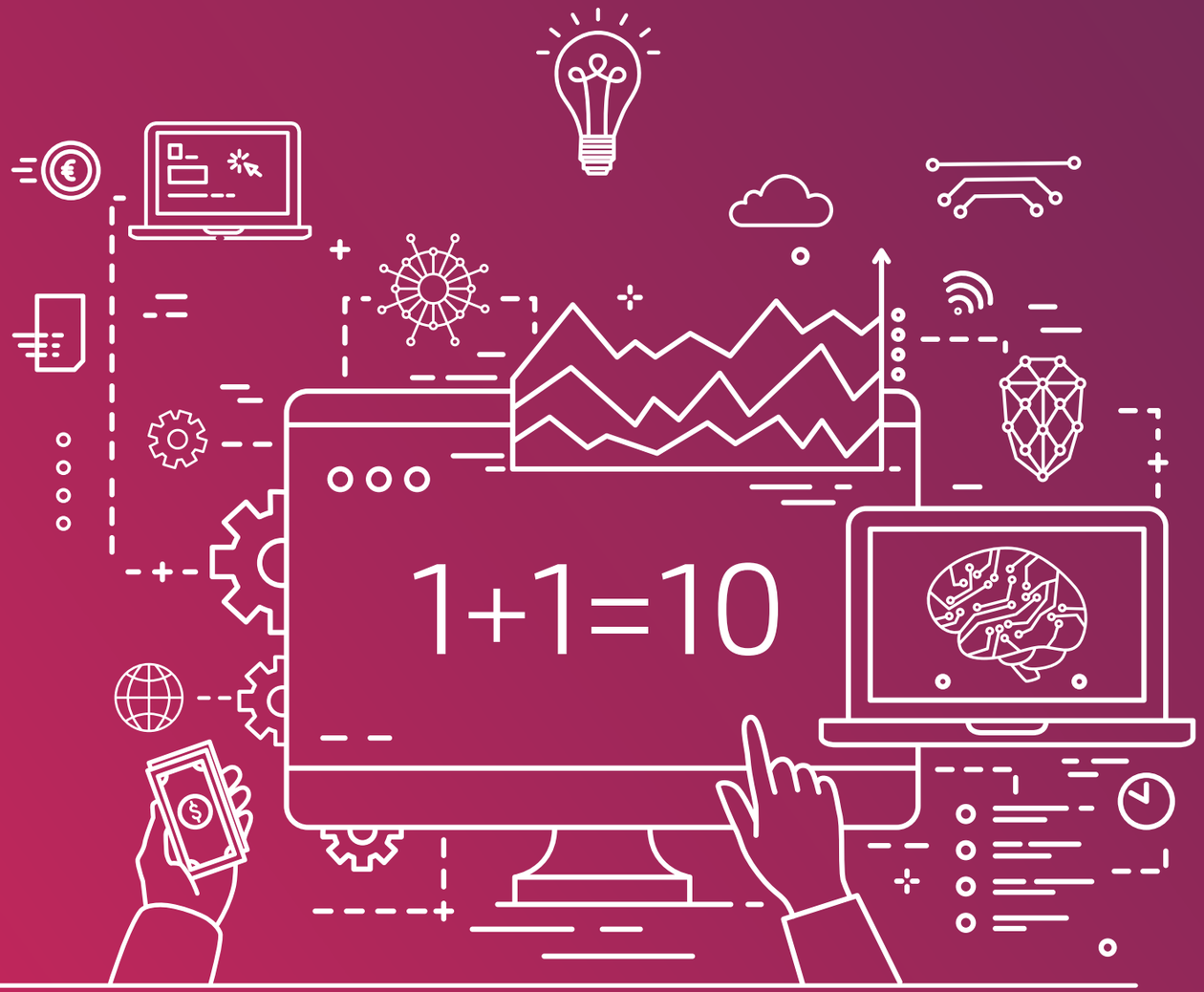
STARTUP SCANNER 2022



STARTUP SCANNER 2022

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This research has been made possible with the support of the American people through the United States Agency for International Development (USAID). The contents of this research shall be the sole responsibility of the Digital Serbia Initiative and can in no way be taken to reflect the views of USAID or the US Government.

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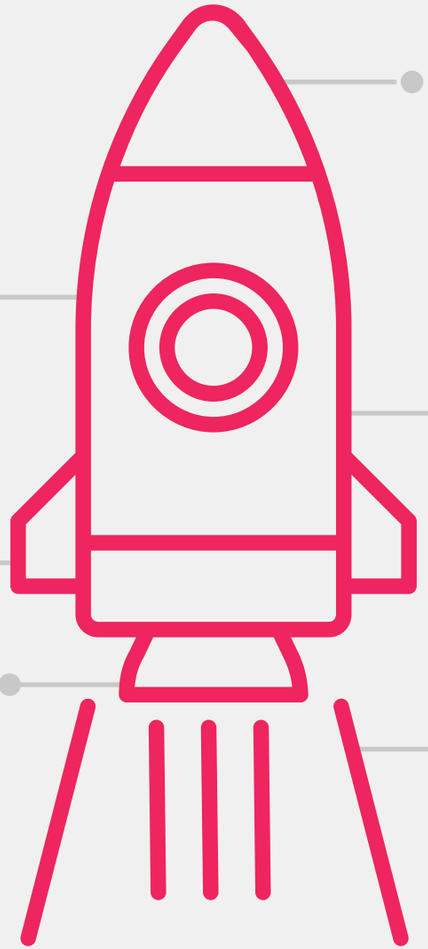
KEY FINDINGS



64,2%
OF STARTUPS HAVE FOUNDERS FROM NON-TECHNICAL FIELDS

in 90%
OF CASES, A STARTUP IS A TEAM EFFORT

68,9%
OF STARTUPS ARE STILL NOT PROFITABLE

69,1%
OF STARTUPS TEAMS ESTABLISHED BETWEEN 2019 AND 2021

3
ACCORDING TO THE RESULTS, 3 BIGGEST CHALLENGES FOR SERBIAN STARTUPS ARE ACCESS TO FINANCE, CUSTOMER ACQUISITION AND EMPLOYMENT

50,3%
PLACE THEIR PRODUCTS ON THE EU MARKET

36,4%
OF FOUNDERS HAVE A MASTER'S DEGREE

20,5%
OF STARTUP FOUNDERS ARE WOMEN

35,8%
HAVE BEEN FOUNDERS BEFORE

20,5%
OF FOUNDERS HAVE LIVED PART OF THEIR LIFE ABROAD

82,1%
OF FOUNDERS SAY THEY HAVE ACQUIRED KNOWLEDGE ESSENTIAL FOR THE ESTABLISHMENT AND OPERATION OF STARTUPS THROUGH WORK EXPERIENCE

over 800
NEW JOBS PLANNED IN 2022

FOUNDERS RECEIVED KEY HELP FOR THE ESTABLISHMENT AND DEVELOPMENT THROUGH INFORMAL SOCIAL NETWORKS SUCH AS COLLEAGUES, FRIENDS, AND FAMILY

INTRODUCTION

The importance of startups for a country's economy cannot be expressed in simple numbers. Knowledge, innovation, entrepreneurship and business skills needed for a startup to achieve global success and create an innovative product that disrupts the market and improves the economy, is greater than a simple sum of employees or income that the startup generates. Startups are often considered to be power-horses of technological and economic development, creating the economy of the future and having a non-linear impact on a country's development and global competitiveness. Additionally, startups and their success can contribute to the change of the atmosphere in a society, bringing optimism and being a source of pride in a society in the best sense of the word. Success of a startup is an inspiration for everyone with good ideas and it creates the feeling that it is possible to make products in Serbia that can change the world for the better. An economy known for the success of its startups and their innovations they create can also change the way the Serbian economy is perceived on a global market.

However, in order to better understand our ecosystem, the possibilities and challenges, opportunities for its promotion and improvement, we in the Digital Serbia Initiative have decided to conduct this research and analysis of Serbian startup ecosystem through the project »Venture an Idea«, and thus »measure« it in numbers so that through our further activities we can all together create better support programs, proposals for improvement of the business environment, and together pave the way for future startups and their development, as well as their global success.

Startup scanner 2022 provides answers to some of the key questions, such as: Who are founders of startups in Serbia? What motivates them? What are some of the main challenges they are currently facing? What would they change in the business environment? What type of support do they need the most? What are their plans for the future? In this research you can find answers to these and many more questions, as well as, key findings and recommendations we present herein. We believe that the information from the Startup Scanner 2022 will be useful to those who want to set up a startup but feel they have to figure it out on their own, to potential investors, to those who want to make informed decisions about ways to support startups, as well as to those who are considering getting involved in the startup ecosystem.

We would like to thank our project partners, numerous organizations that supported this research, but above all, we want to thank the founders of over 150 startups who contributed to the successful implementation of this research: WE REALLY APPRECIATE IT!

We hope you will enjoy reading this research and look forward to achieve even more this year as the ecosystem, attract new investments, present new successes of our entrepreneurs and witness further growth of our ecosystem.

Bojana Tomić-Brkušanin,
Project Director "Venture an idea"

METHODOLOGY

RESEARCH METHODS AND TOOLS

Startup Scanner 2022 was conceived as baseline research, whose aim was to determine the state of Serbian startup ecosystem and identify the elements that need to be improved in order to maximize startups' chances of success. The research was conducted following the standards set by relevant and similar international researches.[1]

Startup Scanner is based on empirical research, i.e, systematically collected data on startups and experiences of their founders. Quantitative data collected in this study have been analyzed using statistical methods. In addition, the content analysis method was used for qualitative processing of relevant strategic documents and reports, as well as answers to open-ended questions.

The term startup refers to informal startup teams and startup companies (see section BASIC TERMS below). Although the methodology of Startup Genome and similar organizations recognizes startups as companies established no earlier than 10 years ago, certain companies had been registered earlier but began developing their own products later. Also, certain teams had started working on developing innovative products and services much before their official registration date.

In this research, primary and secondary data have been used. A survey conducted using the computer-assisted web interviewing (CAWI) was used to collect primary data. The survey was conducted in the period from December 2021 to January 2022 and it included 151 startups. The questionnaire primarily contained closed-ended questions answered by the startup founders (the total sample of respondents was 151; on some graphs a smaller sample is indicated, as some respondents left certain questions unanswered). The questionnaire also contained a number of multiple-choice questions where respondents could choose more than one answer (for these questions, the results for each option are presented as % of the sample, and in the graphs it is emphasized these were multiple-choice questions). Secondary data – (already existing data on startups in Serbia and the startup ecosystem) have been collected from relevant documents and other available sources.

SAMPLE

Determining the number of startups in an ecosystem is a great challenge given the dynamics of creating, developing and closing startups. Therefore, the number of startups has often been discussed in estimates rather than in definitive figures. Determining the number of startups is further complicated by the often practice of teams to develop a product in secret before launching it, registering and organizing a startup team in multiple countries, operating under a registered business name and appearing in the ecosystem under a product name, etc.

The Startup Genome research conducted in Serbia in 2019 estimated there were between 200 and 400 startups. In the process of mapping the ecosystem during the preparation of Startup Scanner, the Digital Serbia Initiative conducted additional research on startup teams and companies that have been active during 2021 and 2022. The research mapped a total of 334 startups by the day the Scanner was published, but this figure is not considered as definitive and it has been assumed that at least 20% of startups have not been mapped through this research.

Total of 151 startups participated in the survey used to create the Startup Scanner 2022. The participation in the research was based on invitation only, in order to limit the number of respondents who don't meet the startup criteria.

BASIC TERMS

STARTUP in terms of this Scanner includes startup companies and startup teams.

STARTUP COMPANY is a newly established, innovative business entity that has the potential for rapid and exponential growth, or which could, in the foreseeable future, develop a product, service or process that is new or significantly improved compared to the best currently available solution in its industry. Startup company inherently has a risk of technological or market failure.

STARTUP TEAM is a group of people who are developing an innovative product or service but are not registered as a business entity in the relevant registry.

UNICORN is an internationally recognized term for a startup whose estimated value is more than one billion dollars.

STARTUP ECOSYSTEM is an environment in which startups are developing, consisting of individuals, teams, startups in different development stages, and various types of organizations and institutions, interacting as a system with a purpose to create new startups and accelerate their development.

INCUBATION PROGRAM covers a wide range of activities designed to support developing startups and growth through learning about business processes and opportunities.

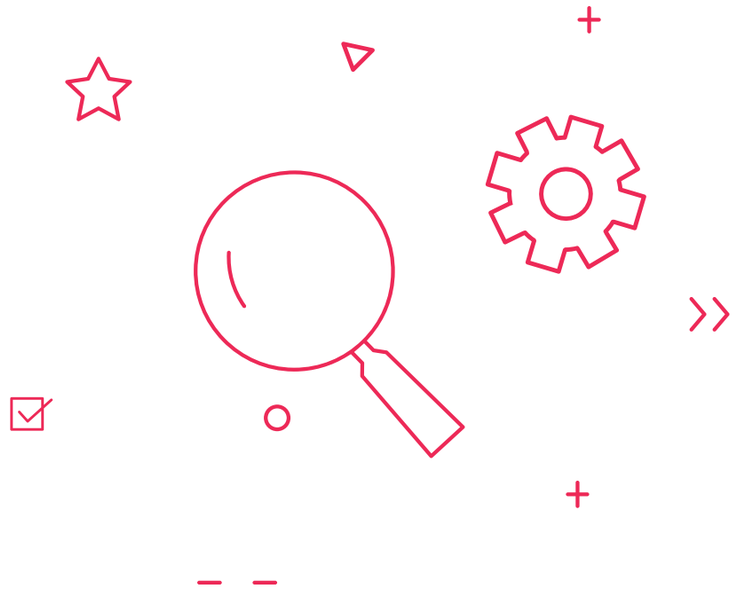
ACCELERATION PROGRAM is a short and intensive program created for startups that have passed the earliest stage of development, and in most cases have already created a minimum viable product (MVP) that has been validated in some way. Accelerator programs support startups in market research, developing a business model, preparing the pitch for investors, etc.

SPIN-OFF is a startup established by an existing legal entity with the aim of commercial exploitation of innovations. A spin-off of a scientific research organization is a startup founded with the aim of commercial exploitation of innovations derived from scientific research.

BUSINESS ANGELS are wealthy individuals who support innovative business ventures, primarily with lucrative goals. They are individual investors who decide to invest part of their own funds in startup companies, as a personal investment. In addition to providing funds in the earliest stages of development, angel investors can further contribute to startups by actively participating in their development.

VENTURE CAPITAL FUND is an alternative investment fund whose assets are mainly invested in new businesses or those in the initial stages of operation, but which show the potential for growth and expansion of business.

EXIT is the sale or cashing-in startup capital by the founder and/or investor.



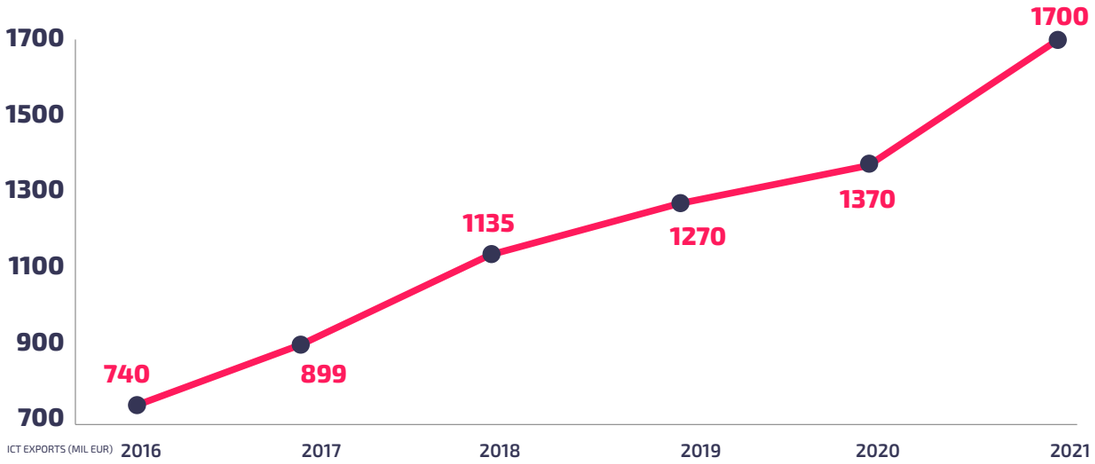
SERBIA – MACROECONOMIC INDICATORS

According to available data, Serbia has a population of 6,871,547.[2] The year-over-year growth of gross domestic product in the third quarter of 2021 amounted to 7.7%.[3]

Foreign trade amounted to $ 59,360.5 million in 2021 (the year-over-year increase of 29.8%).[4] Total value of exports amounted to $ 25,563.5 million (an increase of 31.1% compared to 2020), while imports totalled $ 33,797 million. The foreign trade deficit amounted to $ 8,233.4 million, which is an increase of 22.3% compared to the same period last year. The main foreign trade partners were the EU and CEFTA countries.

When it comes to the exports of ICT products and services, the National Bank of Serbia data indicate that it had been on an uptrend for several years. In 2021 it exceeded $ 1.7 billion, surpassing agriculture, traditionally the main export sector of the Serbian economy.

GROWTH OF ICT PRODUCTS AND SERVICES EXPORTS



The official employment data indicate that the number of employees in Serbia was 2,273,591 in 2021.[5] Most of them were employed in the processing industry and trade. The ICT sector, i.e, the companies involved in programming and related service activities, employ 42,759 people. In the field of computer programming, the average net salary amounted to RSD 220,601[6] which is 3 times the average net salary in Serbia. The median net salary in Serbia for November 2021 amounted to RSD 51,782 which means that 50% of employees were paid an average salary less than this amount.

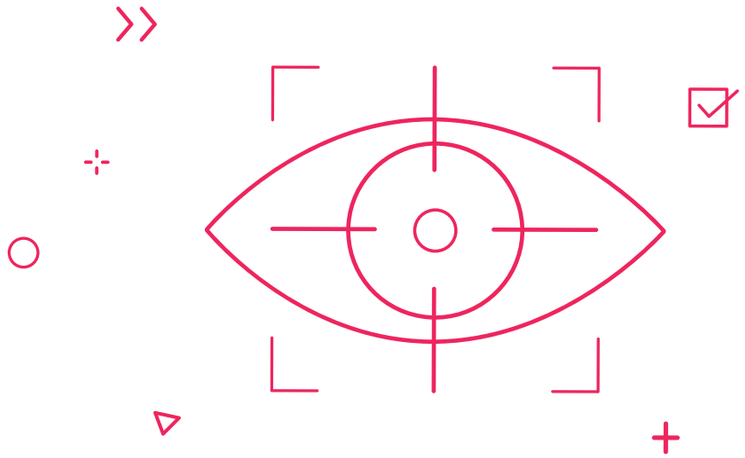
Budget allocations for science and research in Serbia were RSD 23,755,647 in 2021 (RSD 25,237,240 or 0.46% of total GDP in 2020).[7] In 2019, these allocations in the EU were 2.19% of GDP[8], in the USA they totalled 3.06% of GDP, 3.19%, in Japan, and 2.23% in China.[9] In accordance with the socio-economic goals, the highest allocations were planned for industrial production and technologies, research and development, the improvement of knowledge at the universities, and for transport, telecommunications and other infrastructure. Statistics on the usage of ICT in Serbia in 2021 indicate that 76.7% of households owned a desktop computer, 53.9% had a laptop, and 94.6% had a mobile phone.[10] A survey by the Statistical Office of the Republic of Serbia (SORS) found that these numbers varied depending on the region, and especially on the type of settlement in which a household lived and the level of household income.[11] Namely, a significantly smaller percentage of households that did not live in urban areas (67.2%) as well as households with income below EUR 300 (48.7%) owned a computer. The same SORS research showed that there was an uptrend in the number of households in Serbia that have access to the Internet. In 2021, 81.5% of households had the Internet connection, but these figures also vary by the settlement type and the amount of income. A smaller percentage of households from rural areas and those with incomes of less than EUR 300 have the Internet connection. When it comes to the type of the Internet connection in 2021, 91.7% of households had a fixed and 73.3% had mobile broadband Internet connection.

ECOSYSTEM OVERVIEW

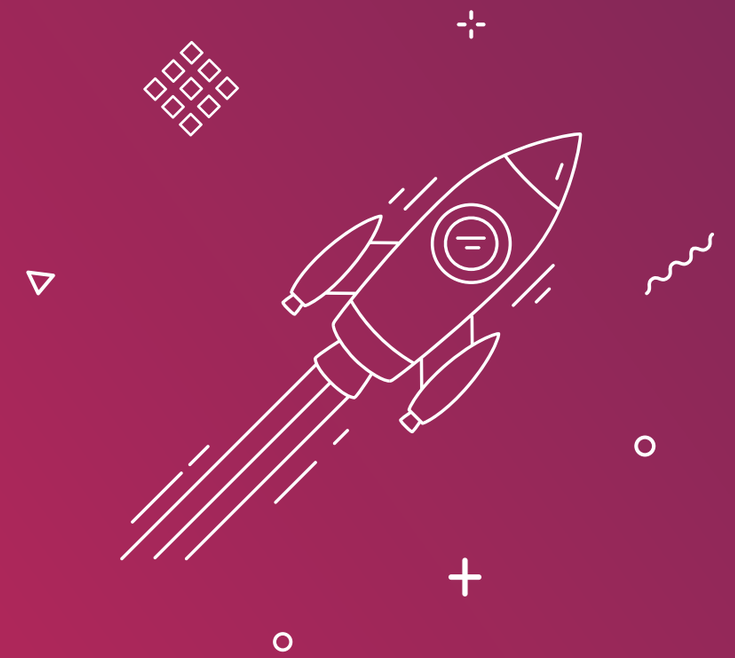
In recent years, there is a noticeable increase in the number of startups but also an increase in their visibility in the Serbian economy and educational system. Domestic startups achieved global success, managed to attract large investments and often got acquired by leading global companies. High-schools and universities are increasingly interested in implementing programs in fields relevant to the startup ecosystem and the number of informal events and workshops within the ecosystem has been on an uptrend as well.

Blockchain and gaming are leading verticals in the Serbian ecosystem, with the Serbian Blockchain Initiative and the Serbian Games Association standing out as focal points for their communities. This is supported by the fact that blockchain startups raised over $ 100 million in investments in 2021 alone, while Serbian teams, together with co-founders from some of the most vibrant global ecosystems, developed world-renowned projects in blockchain.[12] Biotech and agritech have also been recognized as industries with great potential, and specialized organizations are actively working on their development. In order to support and realize the existing potentials, the Innovation Fund announced the beginning of its first acceleration program Katapult, which will by 2025 support not only companies in the early stages of development but those in the scale up phase as well. In addition to accelerators, science and technology parks in Serbia implement pre-incubation programs. But despite the existence of several support programs, a number of startups need additional programs that are in line with their stages of development.

The ecosystem achieved notable results in 2021, thanks to the joint efforts of the community. The first National Strategy for the Development of the Startup Ecosystem (2021-2025) was adopted, thus recognizing startups and investor angels for the first time in domestic legislation. In addition to the setting up the first domestic venture capital fund, there has been a growing number of foreign VC funds investing in Serbia, and showing interest in domestic companies. In order to further encourage the creation of VC funds in Serbia, the Strategy for the Development of the Startup Ecosystem defines the measure of co-financing new domestic VC funds through Serbia Ventures program. With the tax incentives introduced by the Serbian Government in the previous year, startups have at their disposal tax reliefs for founders' salaries, for team members working on R&D projects, as well as a special incentive for registering intellectual property. In addition to regulatory and strategic innovations, the startups themselves gave the most significant contribution to the development of the ecosystem by exceeding previous limits in terms of levels and sources of investment. The most notable startup achievements in terms of investments in 2021 were the following: Tenderly secured $ 58.6 million in three investment rounds[13], Orgnostic raised $ 5 million in the seed round 14, All.Art startup raised $ 4.5 million in venture capital, while Anari AI received $ 2 million to produce AI chips in the cloud15. Our ecosystem did not stop there, so Trickest secured an investment of $ 1.4 million, and it is important to mention that Tempus earned $ 27.9 million by selling tokens. A particularly good sign for the ecosystem is the greater visibility of business angels who have followed-up some of the mentioned investments but also made some of the first public angel investments. Domestic Joberty raised $ 350,000, and Tapni secured the first round of 200,000 EUR17. None the less important is the fact that domestic teams, together with co-founders from around the world or as technical teams, developed some of the most prestigious projects in the blockchain sector in the previous year, so several domestic founders have their name on global products such as Polygon and Celsius Network.



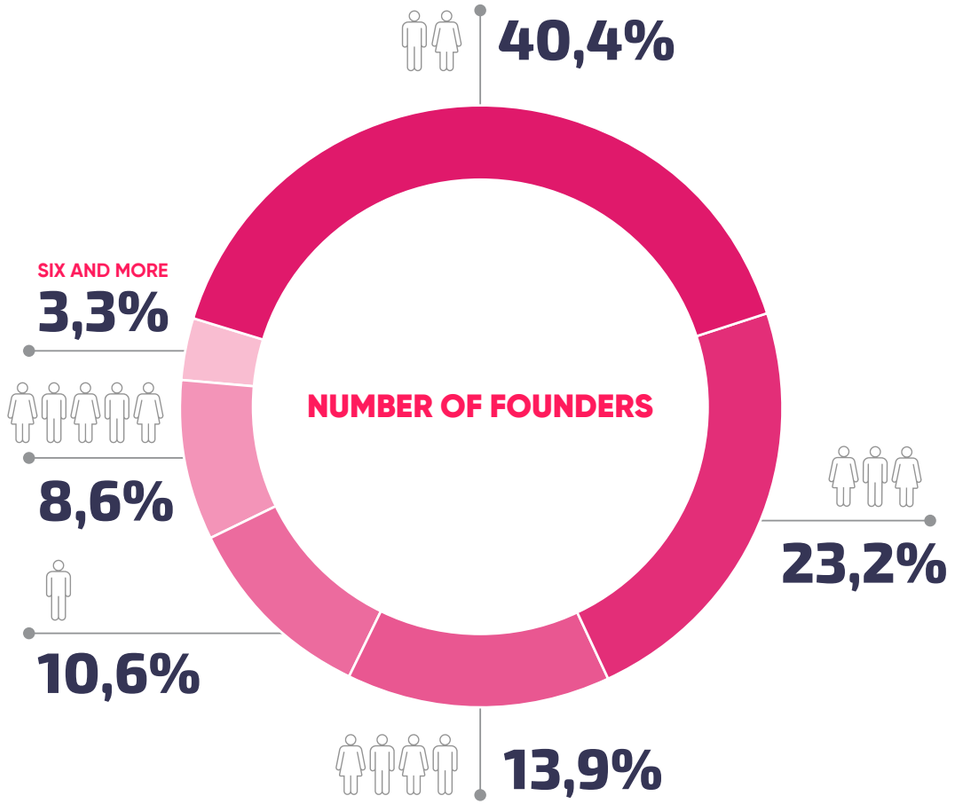
STARTUP ECOSYSTEM IN SERBIA

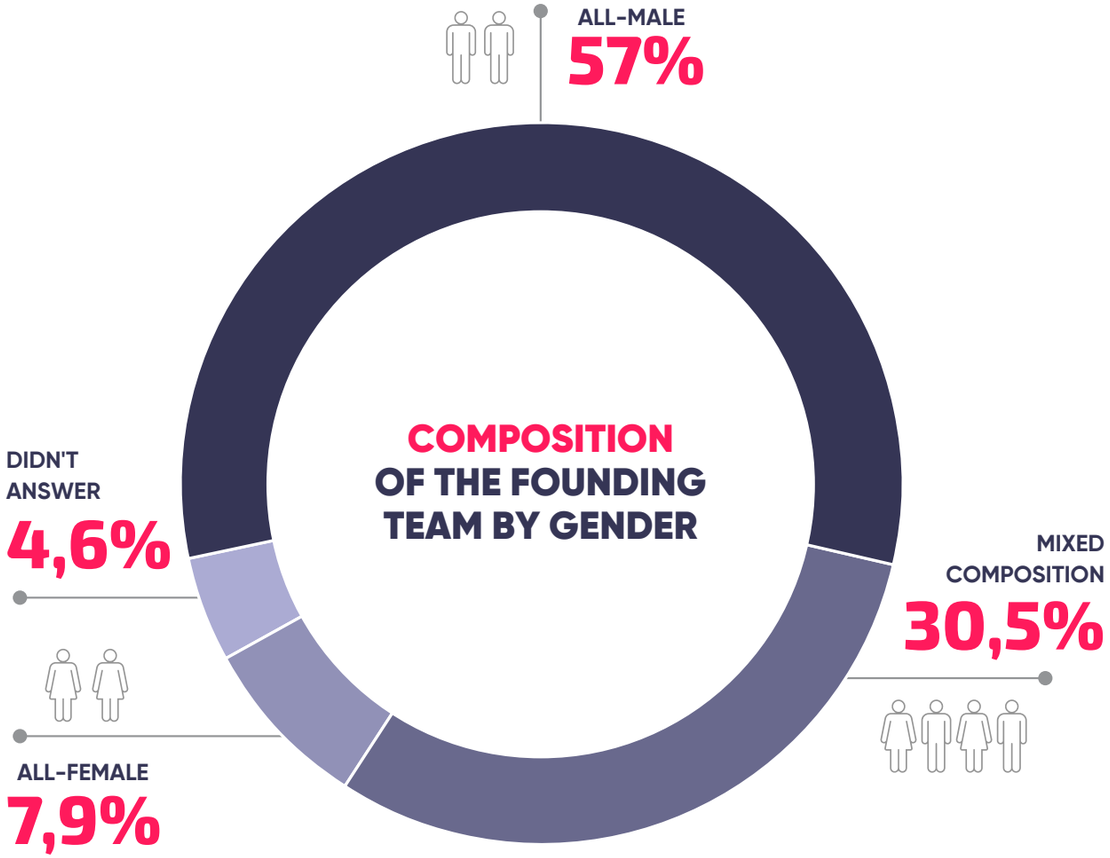


STARTUP PROFILE

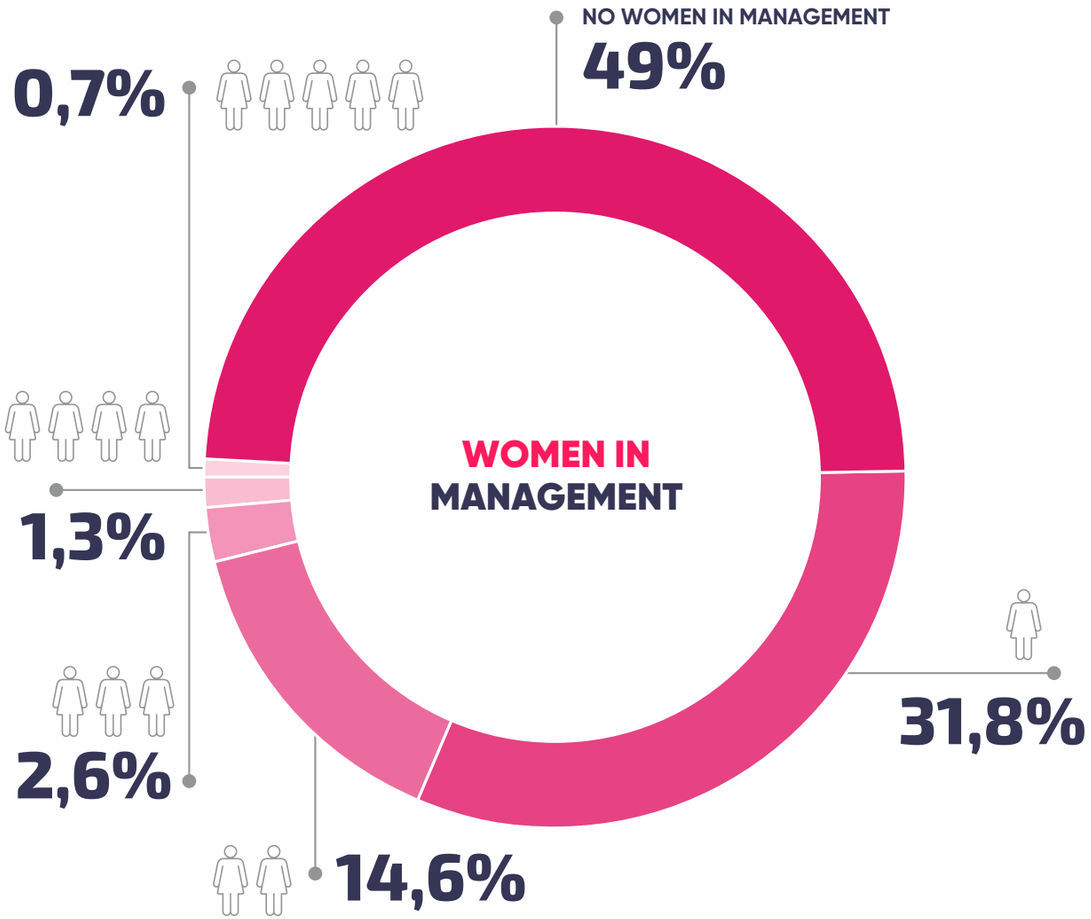
STRUCTURE OF THE FOUNDING TEAM

Contrary to the popular stereotype of a successful entrepreneur who independently realizes his innovative idea and achieves global success, the results of this research clearly show that establishing a startup is a team effort in the vast majority of cases (about 90%). The average number of founders is 2.84, with most of the surveyed startups (40.4%) being founded by two founders, while only 10.6% have one founder.



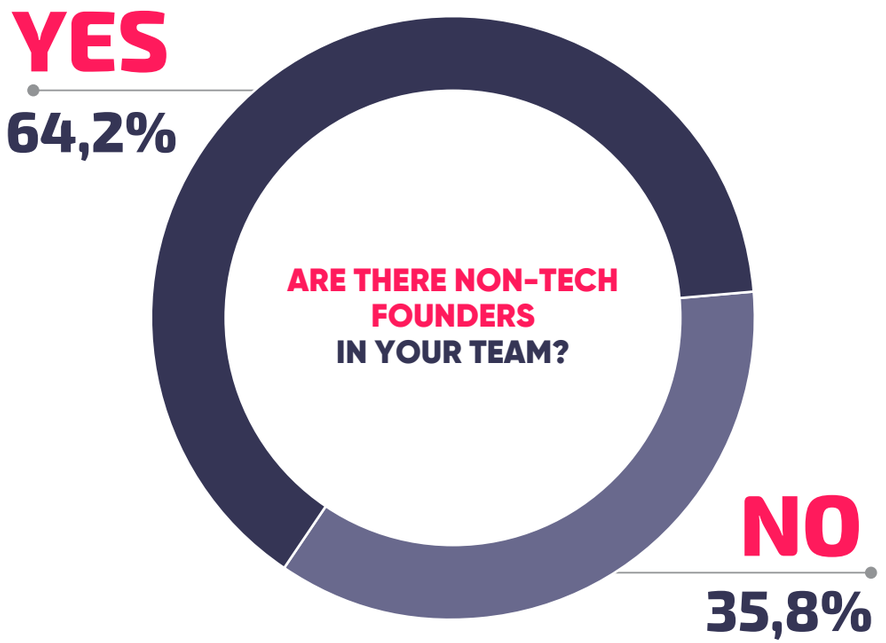


When we look at the gender structure, most startups were founded by male teams, 57%, while 7.9% of startups were founded by exclusively female teams, which is in line with the results of the European Startup Monitor18. The remaining 30.5% of start-ups have both men and women in the founding teams, which is above the European average of 25%.

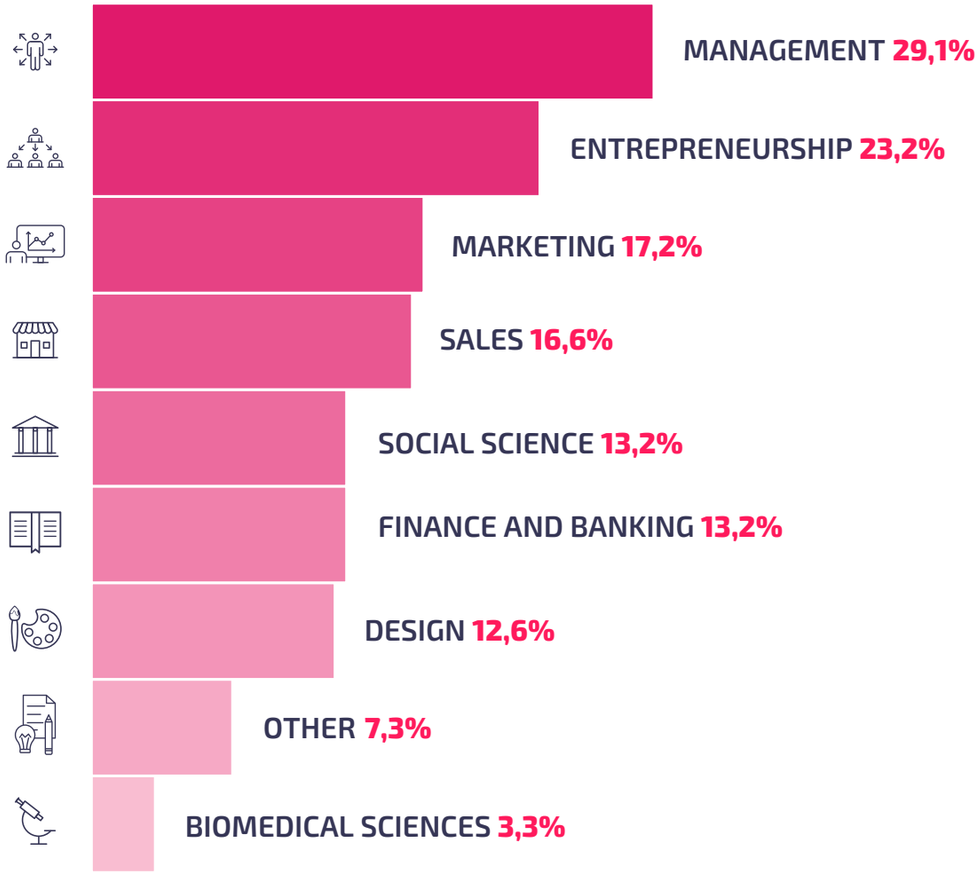


At the same time, only 50% of startups that participated in this study have at least one woman in management, so the average number of women managers per startup is 0.77, while the average number of men in management is 2.29. In other words, there are usually at least 2 men in the management.

It is a common prejudice that startups are always founded by people with tech background, like engineers and programmers. However, there are a large number of successful startups such as Airbnb, Alibaba, StitchFix whose teams have people with non-technical backgrounds as founders or co-founders, showing the great importance of synergy of diverse expertise and creating multidisciplinary teams. When we look at the founders' background, an interesting fact is that 64.2% of startups in our research have founders that came from non-technical fields of expertise, which also underlines the importance of multidisciplinary teams for the success of innovations.



PROFESSIONAL FIELDS OF NON-TECH FOUNDERS



* Respondents had the opportunity to mark multiple answers

Growth and scaling of a startup is a great strategic challenge, and the talent and skills of founders who come from different backgrounds are enabling them to look at everything from different angles, significantly increasing their chances of success. When we talk about the fields from which non-technical founders come, the largest percentage of surveyed startups have non-tech co-founders from the field of management 29.1%, followed by entrepreneurship 23.2%, while marketing and sales account for a little more than 16% each.

DEVELOPMENT STAGES

During their development, startups go through several stages. The survey offered several statements for respondents to describe the stage they are currently undergoing. The highest percentage of the startups 37.7%, agreed with the statement that they have an MVP ready, that they have entered the market and already have the first users; 31.8% are currently at the stage of creating a prototype, 27.8% are looking for the first investment, while 24.5% are looking for a new round of investment. When looking at the development stages in individual sectors, it is notable that most startups have been active in the software development sector and are currently in the prototype creation stage, followed by those looking for the first investment and forming a team.

19,2%
29 STARTUPS
WE HAVE AN IDEA

19,9%
30 STARTUPS
WE ARE FORMING A TEAM

31,8%
48 STARTUPS
WE ARE CREATING A PROTOTYPE

21,2%
32 STARTUPS
WE ARE PREPARING TO ENTER THE MARKET

37,7%
57 STARTUPS
WE HAVE MVP, ENTERED THE MARKET AND HAVE FIRST USERS

7,3%
11 STARTUPS
WE ARE ON THE MARKET

20,5%
31 STARTUPS
WE HAVE STABLE GROWTH OF USERS ON A MONTHLY LEVEL

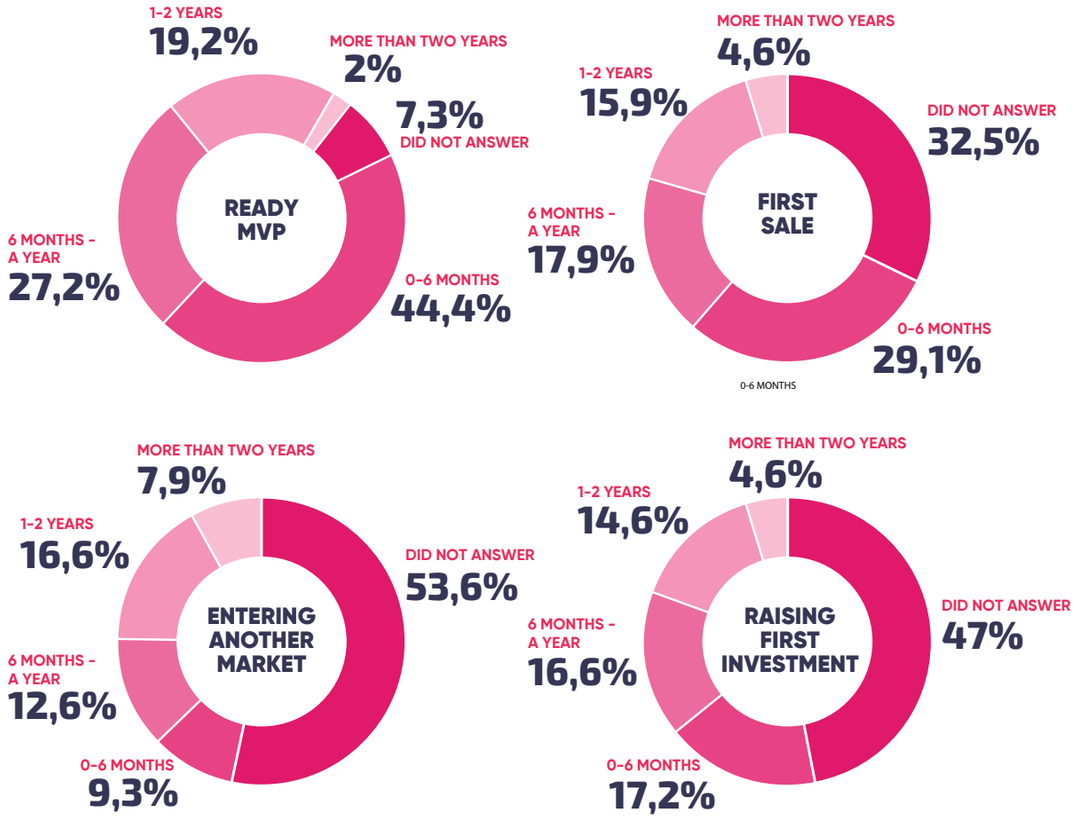
27,8%
42 STARTUPS
WE ARE LOOKING FOR A FIRST INVESTMENT

24,5%
37 STARTUPS
WE ARE LOOKING FOR A NEW INVESTMENT ROUND

* Respondents had the opportunity to mark multiple answers

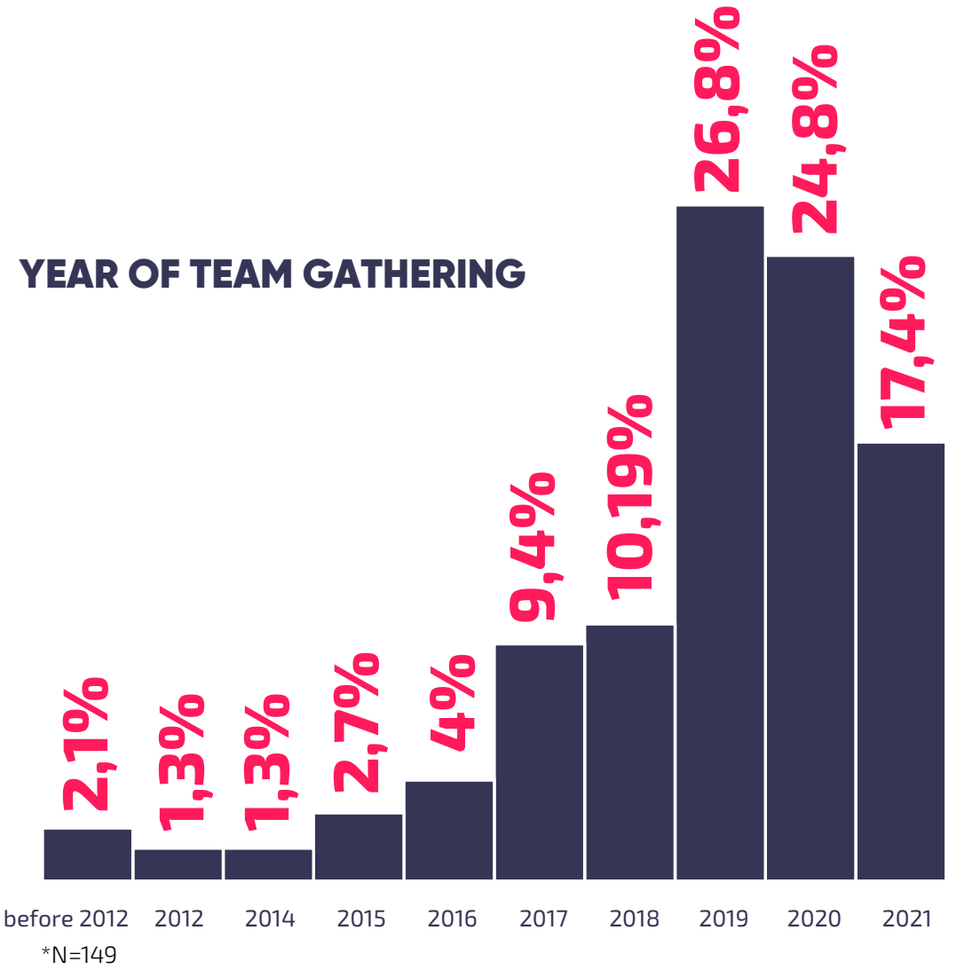
When asked about the time it took them to create an MVP, make the first sale or attract the first investment, the startups answered that they usually needed 0-6 months to prepare the MVP, and the same amount of time is needed for the first sale and raising the first investment. As for entering new markets, most startups needed 1-2 years (see the section Location of registration and running business below).

THE TIME YOU NEEDED FROM GATHERING THE TEAM TO

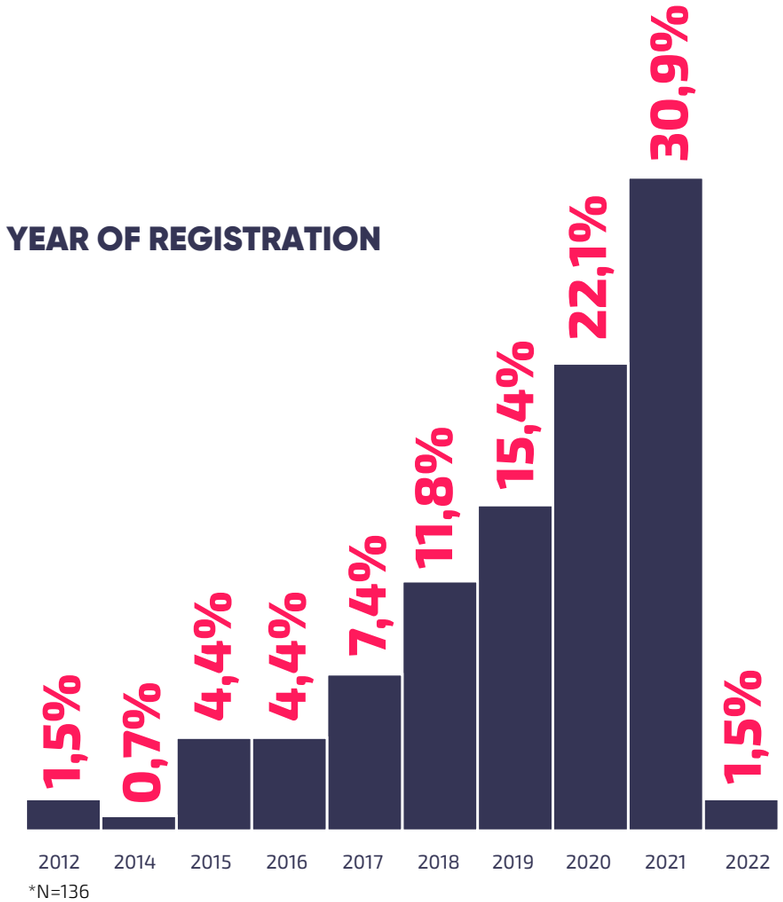


YEAR OF ESTABLISHING TEAM AND LEGAL FORM

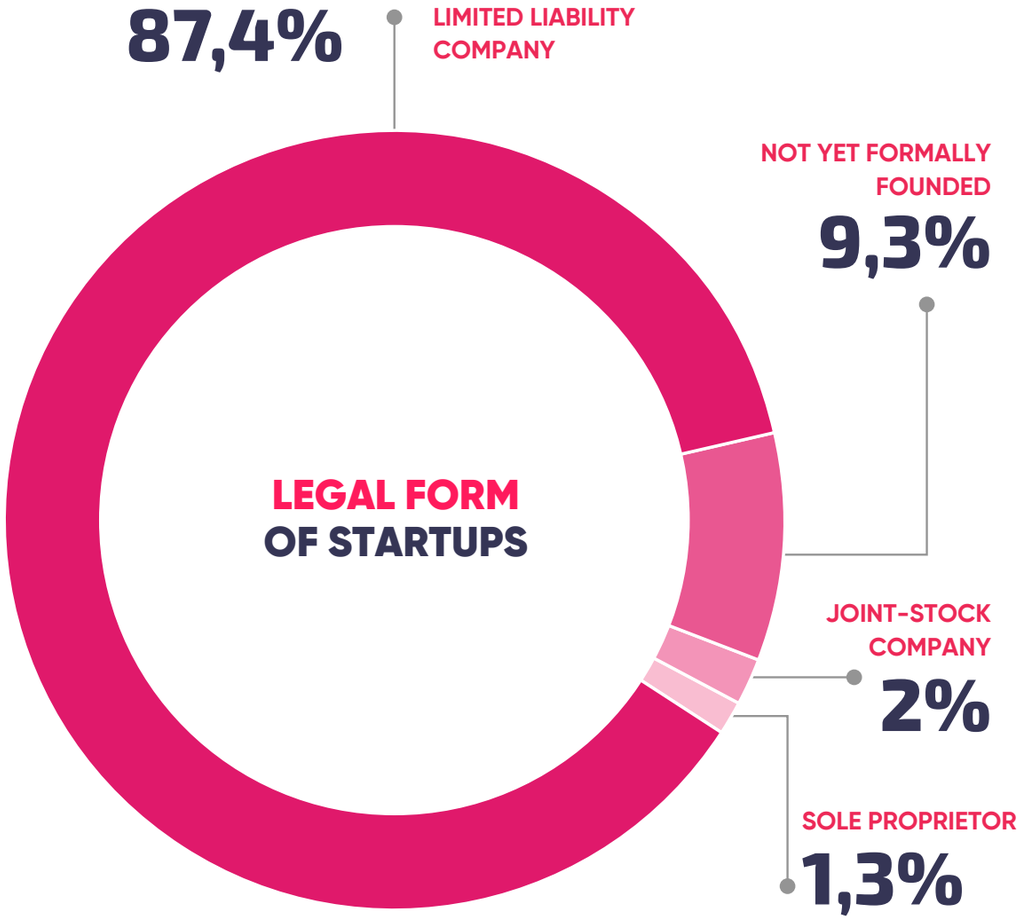
The results of this research show that 26.8% of startups gathered as a team and started developing the idea in 2019, 24.8% gathered in 2020, while 17.4% of startups gathered as a team in 2021. The remaining 30.9% of surveyed startups gathered as a team and began developing their idea before 2019.



It is typical for startups that teams work together informally on the development of a product and business approach, and then just before the market entry or receiving a grant or investment they formally register their business. It is interesting to point out that the majority of startups in our research, 69.9%, have been formally registered since 2019. The legal form that predominates among startups is a limited liability company (LLC), with 87.4%, while a mere 1.3% were registered as sole proprietors.

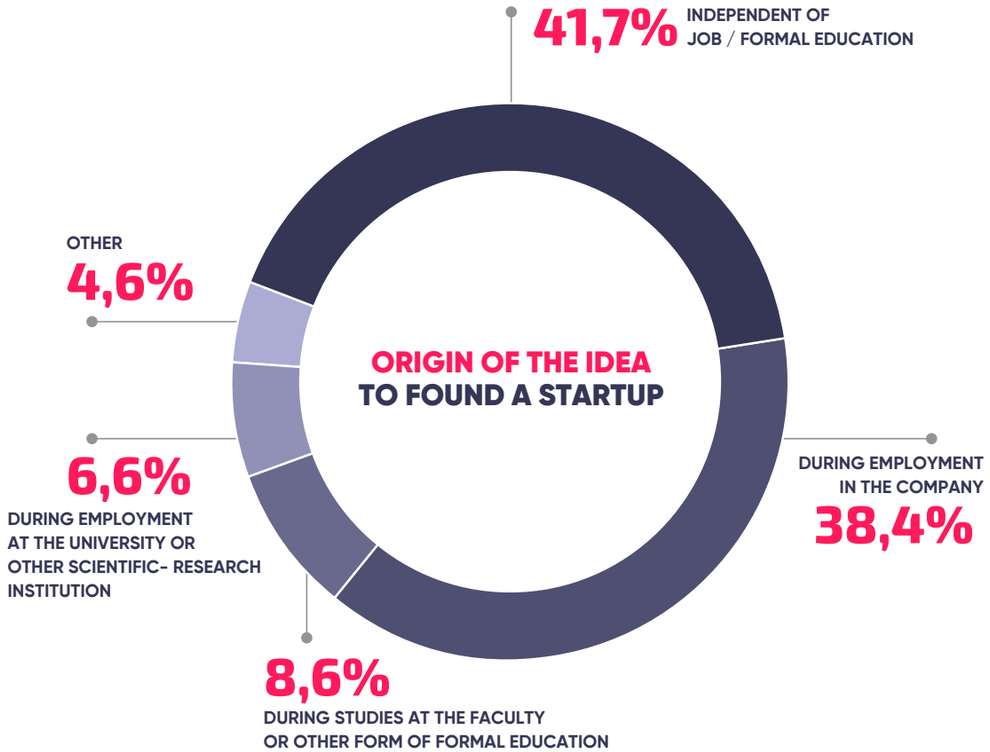


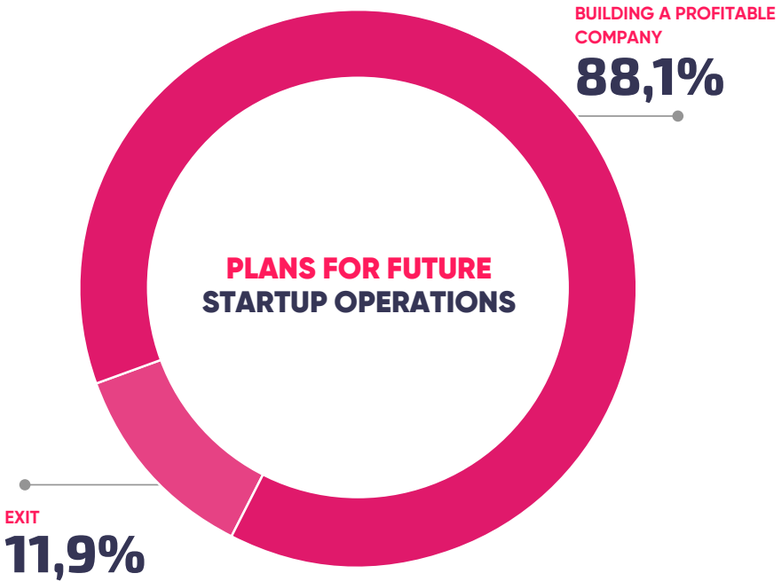
*N=136



IDEA FOR FOUNDING

According to the Forbes magazine, "Startups are young companies founded to develop a unique product or service, bring them to market and make it irresistible and irreplaceable for customers. Rooted in innovation, a startup aims to remedy deficiencies of existing products or create entirely new categories of goods and services, disrupting entrenched ways of thinking and doing business for entire industries."[19]. The idea for innovation can occur in different ways. The research has shown that the largest number of founders in Serbia got the idea independently of their current work or formal education (41.7%), followed by those who got the idea that prompted them to establish a startup during their employment in a company (38.4%).





PLANS FOR FUTURE

Most founders aim to build a profitable company (88.1%), while 11.9% are already planning to sell their startup, so it can be easily concluded that most founders have a long-term vision of growth for their startups. When these results are compared with the results regarding founders' previous experience, it can be seen that most of the founders worked in the corporation and that their plan is to build a profitable company, followed by those who already founded a company in the past and who are planning to build a profitable company as well. These results coincide with those regarding motivation for venturing into the startup world, most of the respondents stated that the main motive was the fulfillment of their dream and bringing their idea to fruition (see the section Founder Profile below). The least number of founders cited work in another startup as their previous experience and intent to sell their startup as a future plan.

SECTORS

The analysis of sectoral distribution of startups that participated in the survey shows that 63.6% are engaged in the software development sector, 14.6% in hardware development, followed by the sectors of marketing, 9.9%, and creative industries and media, finance and consulting with 9.3%.

INDUSTRY / SECTOR IN WHICH THE STARTUP IS ACTIVE

63,6%
IT SOFTWARE DEVELOPMENT

14,6%
HARDWARE DEVELOPMENT

13,9%
OTHER

9,9%
MARKETING

9,3%
MEDIA AND CREATIVE INDUSTRIES

9,3%
FINANCE

9,3%
CONSULTING

8,6%
FOOD INDUSTRY

8,6%
AGRICULTURE

7,3%
EDUCATION

6,6%
TRANSPORT, TRAFFIC AND LOGISTICS

6,6%
COMMUNICATIONS

6%
TRADE

6%
CONSTRUCTION

4,6%
MEDICINE

3,3%
ENERGY

3,3%
BIOTECHNOLOGY

3,3%
PHARMACY

2,6%
TOURISM

2,6%
ELECTRICAL ENGINEERING

2,6%
MANUFACTURE OF CONSUMER GOODS

2,6%
BIOMEDICAL SCIENCES

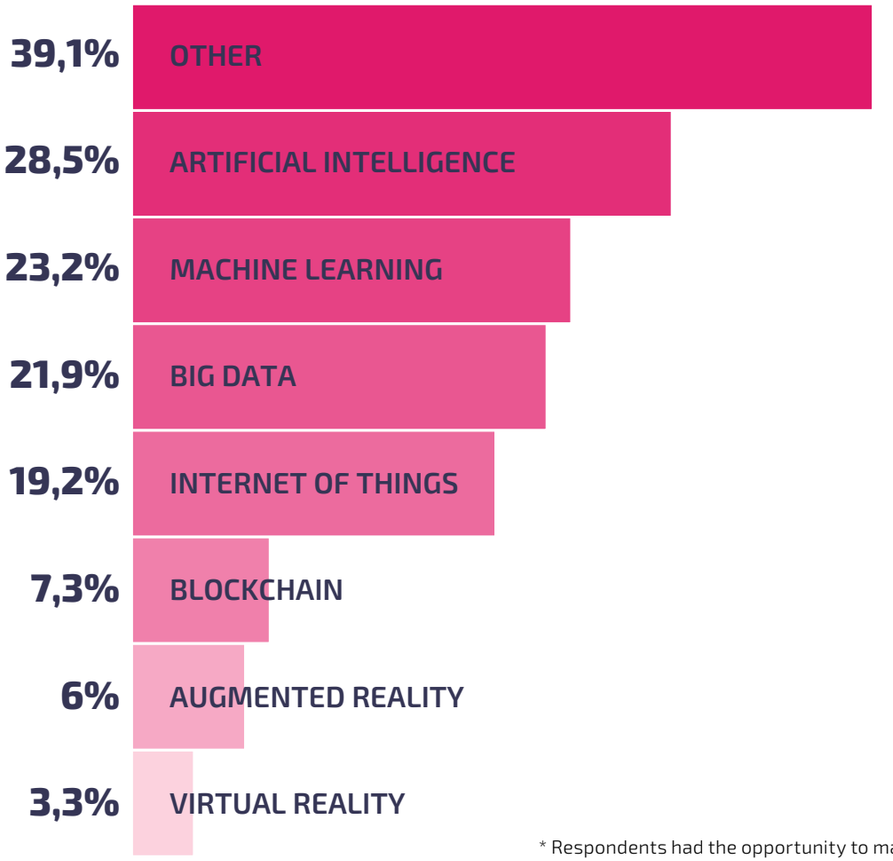
2,6%
CHEMICAL INDUSTRY

0,7%
TEXTILE INDUSTRY

* Ispitanici su imali mogućnost da označe više odgovora

The dominance of the software and hardware development sector has been expected, given that startups typically introduce high-tech innovations in certain areas. When looking at the technological areas of startup development, the largest number of respondents are engaged in artificial intelligence (28.5%), followed by machine learning with 23.2% and big data management with 21.9%, while the remaining respondents stated that they created their products using other technologies.

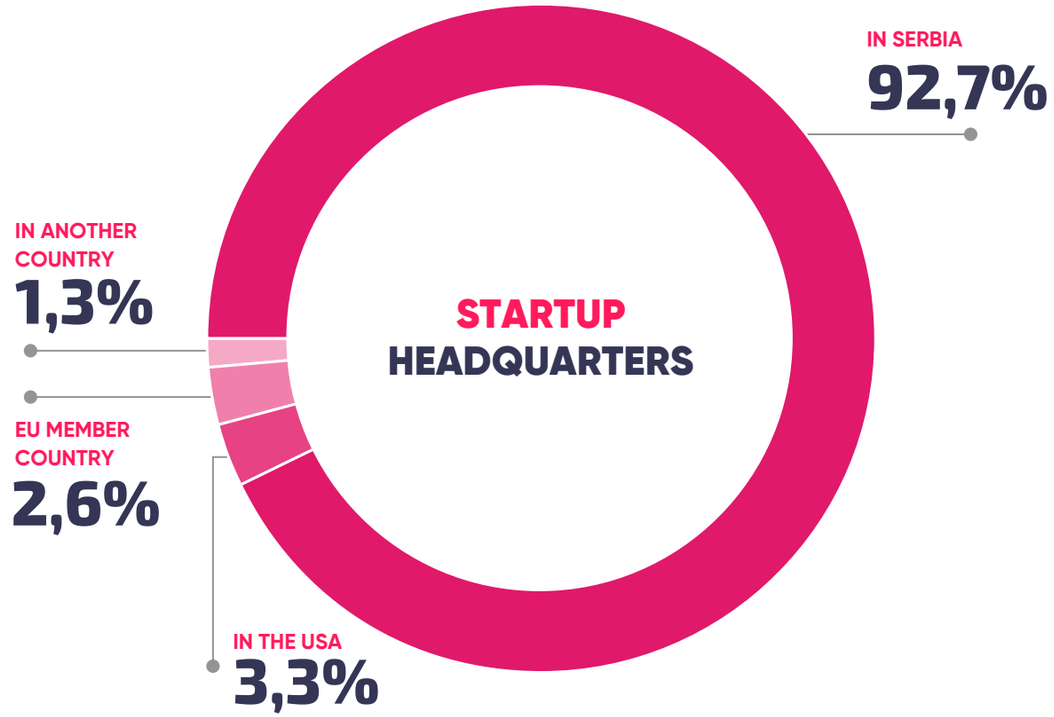
TECHNOLOGICAL AREA OF STARTUP DEVELOPMENT



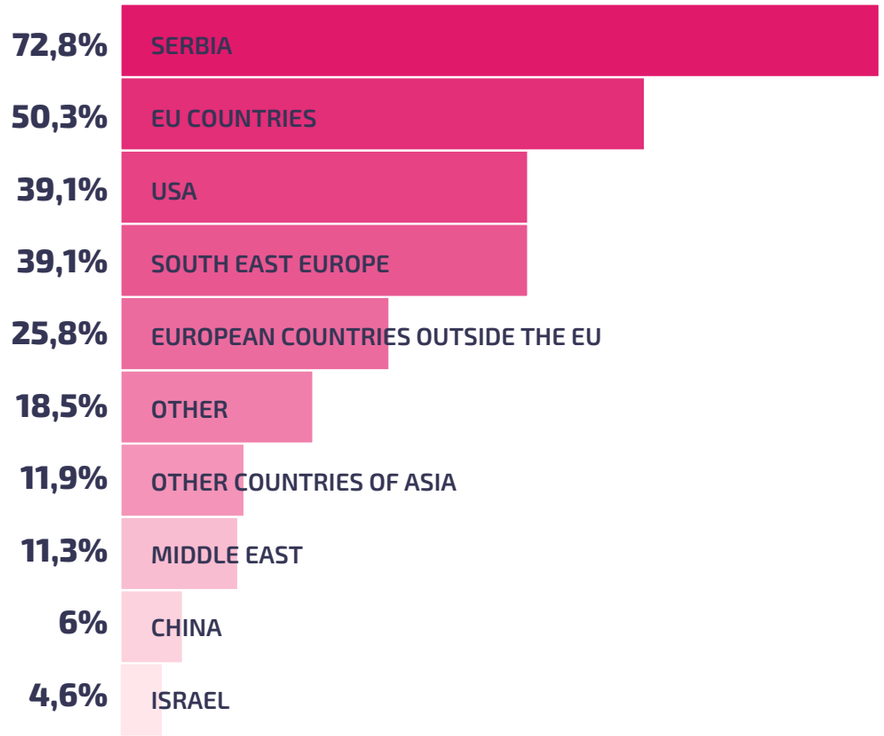
* Respondents had the opportunity to mark multiple answers

LOCATION OF REGISTRATION AND RUNNING BUSINESS

The vast majority of surveyed startups (92.7%) are based in Serbia. A small number of respondents whose startups are established outside of Serbia made such a decision mostly due to legal and financial reasons and less often due to the administrative reasons. Another reason for establishing a startup in another country is often the consequence of the fact that, until recently, foreign VC funds insisted that companies in their portfolio are registered in the jurisdiction they are familiar with, and other reasons include easier customer acquisition, easier conduction of business and foreign exchange.



MARKETS ON WHICH THEY PLACE PRODUCTS

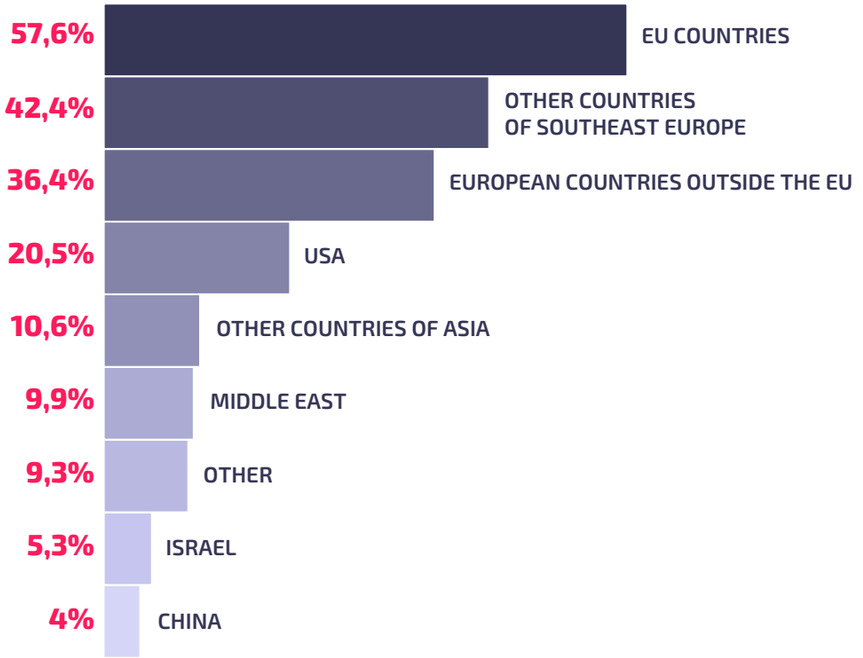


* Respondents had the opportunity to mark multiple answers

The majority of startups sell their products and services on the domestic market (72.8%); with other markets in focus being: the EU (50.3% of 151 startups in the sample), the United States, Southeast Europe, and other European countries. The Asian and the Middle Eastern markets are much less represented. The research has shown that 13.9% of startups do not plan further internationalization of their business or new market entry.

However, most startups choose at least one of listed markets for further internationalization, which gives a positive picture of the global ambitions of domestic startups. Respondents were able to choose more than one option, bearing in mind that internationalization plans are often directed on more than one market. Plans to enter or further expand to foreign markets are most often focused on the European market so 57.6% of the sampled startups plan to (further) expand to the EU market, 42.4% to the markets of Southeast Europe, and 36.4% to other European countries, while 20.5% of plan to expand their business to the US market. When we compare results of Startup Scanner with data from the EU, we can draw parallel, because most of EU startups focus on the EU market (76%).[20]

MARKETS OF (FURTHER) INTERNATIONALIZATION IN THE NEXT 12 MONTHS

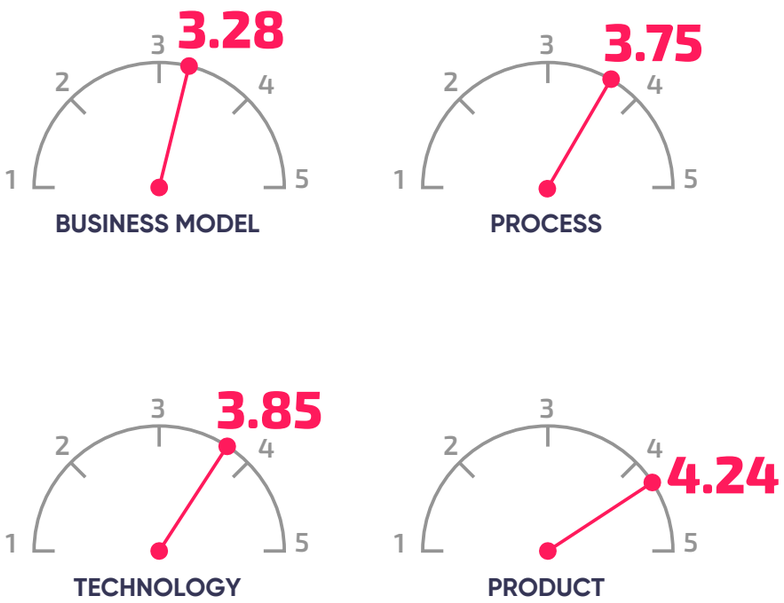


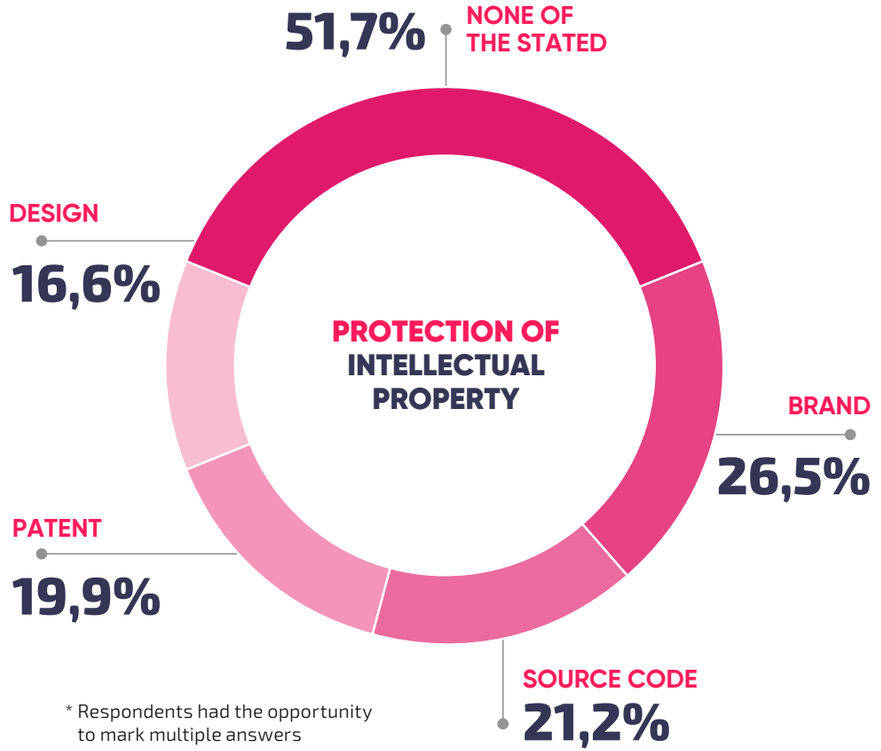
* Respondents had the opportunity to mark multiple answers

INNOVATIONS

Innovation is a cornerstone characteristic of startup teams and companies. It can be observed in several dimensions, so we investigated how startups evaluate the innovativeness of their processes, products, technology and business models. The respondents could choose on a scale from 1 to 5, where 1 is the negative end of the scale meaning not at *all innovative*, and 5 being the positive end of the scale meaning *very innovative*. Startups rated product innovation with the highest average score of 4.24, rating technology with a slightly lower average of 3.85, and process innovation being rated with a 3.75 average, while business model innovation average score was the lowest, 3.28.

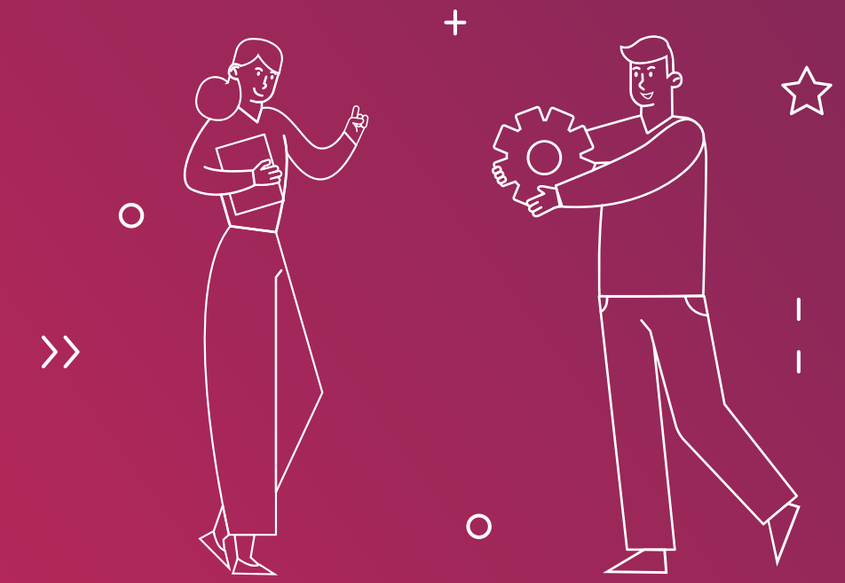
SELF-ASSESSMENT OF INNOVATION





The innovativeness of the idea and the solutions developed by a startup create a need to protect intellectual property through available legal mechanisms. The research showed which form of intellectual property rights protection is most often used by startups. Half of the startups in the sample did not choose any of the offered answers, which can be interpreted in several ways: the protection of intellectual property is not a priority for them, they do have insufficient knowledge about protecting IP, they are in the early stages of development, or they use other protection mechanisms. Those who did protect their IP most often ensured legal protection of their brand (26.5%) and source code (21.2%), and fewer patented their innovation or protected the design.

FOUNDERS
AND EMPLOYEES



HUMAN CAPITAL

Human capital encompasses knowledge, skills, abilities and traits embodied in individuals and it facilitates the creation of personal, social and economic well-being[21], and it's one of the crucial factors for the success of a startup.

With their innovative products, business models and ideas, startups drive economic and structural changes, and each employee represents a key strategic advantage. We asked the founders about their current and planned number of employees and asked them to specify what challenges and measures they can identify in the field of human capital management.

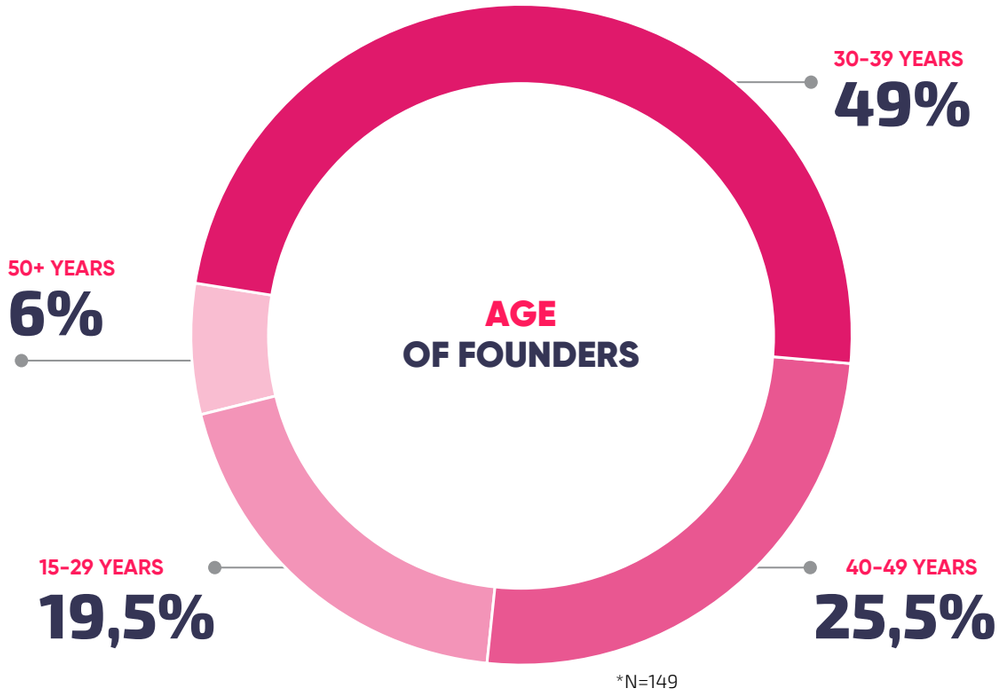
Same as elsewhere in the world, there is a noticeable shortage of talent in the IT sector in Serbia and the formal education system alone cannot compensate for the staff shortage. According to Microsoft estimates, the number of employees in Serbian IT industry could reach 120,000 by 2025.[22]

FOUNDER'S PROFILE

The research enables us to get a better insight into the profile of a founder of a startup in Serbia. The founders of startups are one of the most important elements which determine success of startups, their perspective and ability to raise investments. It has been said that the founding team is sometimes more important than the idea itself and that a dedicated, creative and experienced founder is one of the crucial factors for achieving success. Especially at the onset of business when the founder (founding team) is actually the whole startup. As can be seen below, an average startup founder in Serbia is between 30 and 39 years of age, holds a higher education degree, resides in Serbia, and has gained most of their previous experience working in a corporation.

AGE AND GENDER STRUCTURE OF FOUNDERS

The results obtained from the research largely coincide with both global and European trends and, at the same time, largely differ from the stereotypical notion of a successful founder - a young male in his early twenties who dropped out from college to start his own business from a garage, like Steve Jobs, Bill Gates, or Mark Zuckerberg. The results of the research have shown that the majority of respondents (49%)are between 30 and 39, 25.5% are from 40 to 49 years old, 19.5% are from 15 to 29 years old, while 6% of them are older than 50.



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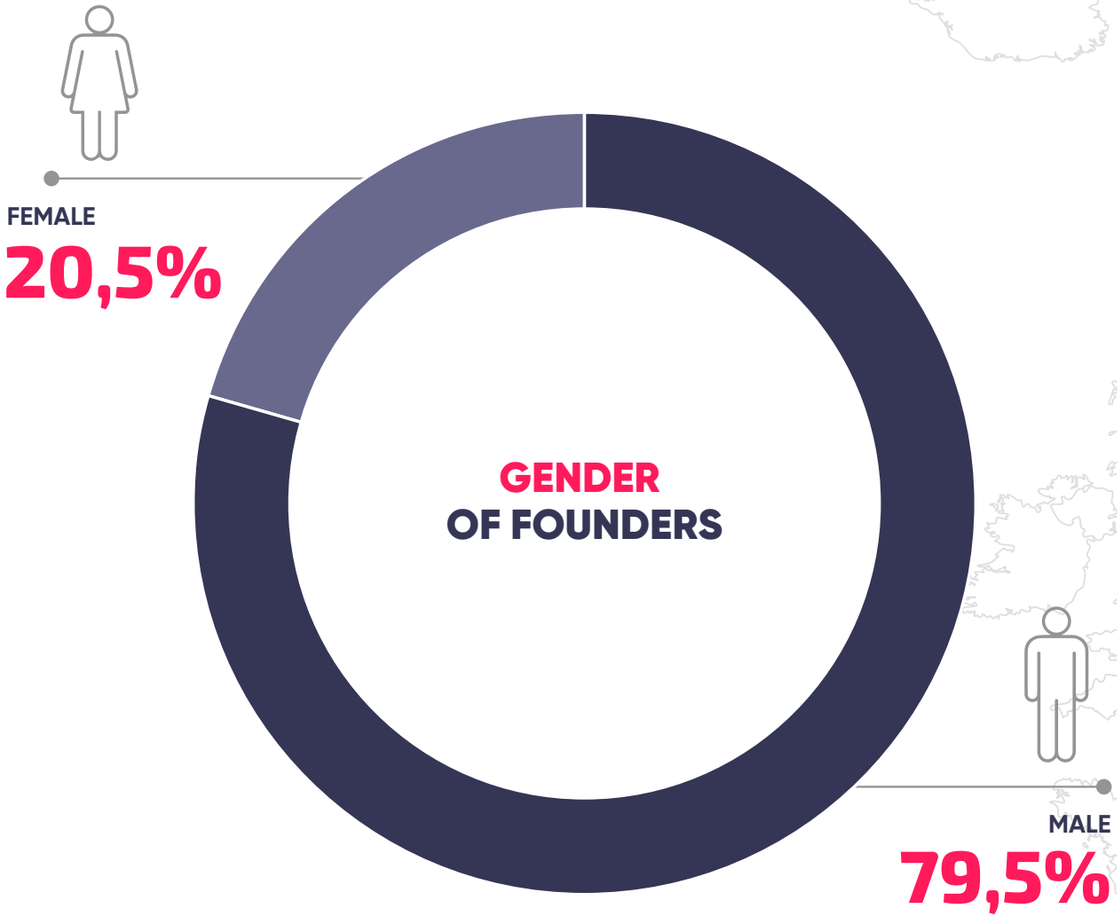
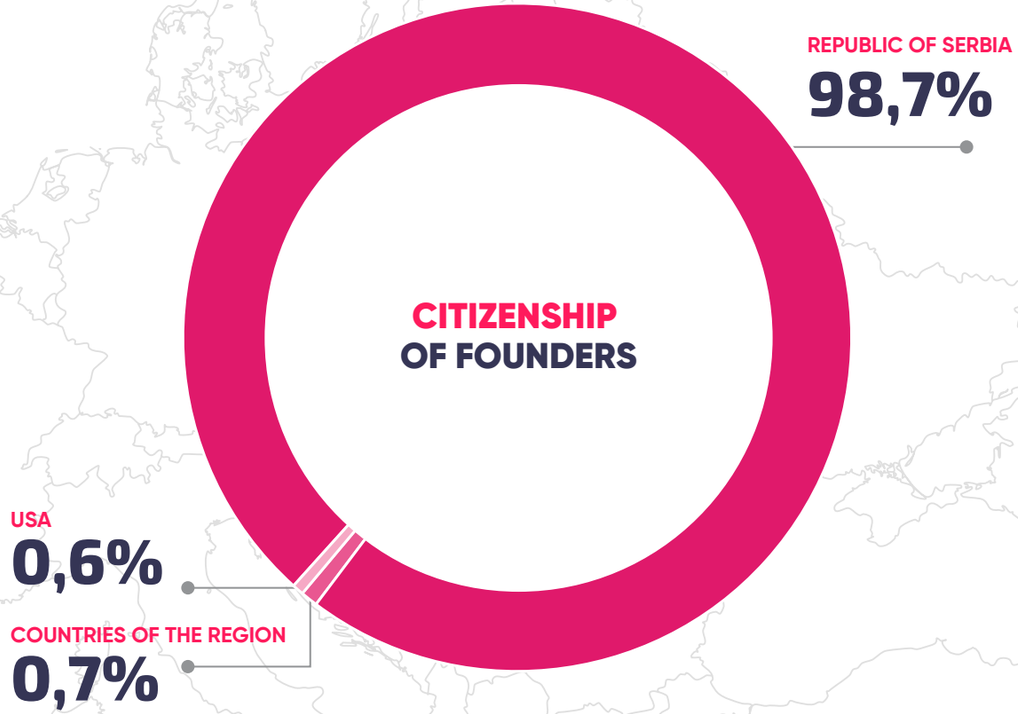


Some 79.5% of startup founders are men and 20.5% are women, the latter being above the European average of 15.6%. Such results put Serbia side by side with France and among the top five European countries by the number of women startup founders.[23] While these data sound promising, there is still an indisputable need for significantly greater involvement of women in the startup ecosystem as well as for the creation of instruments of assistance and support that will contribute to that objective.

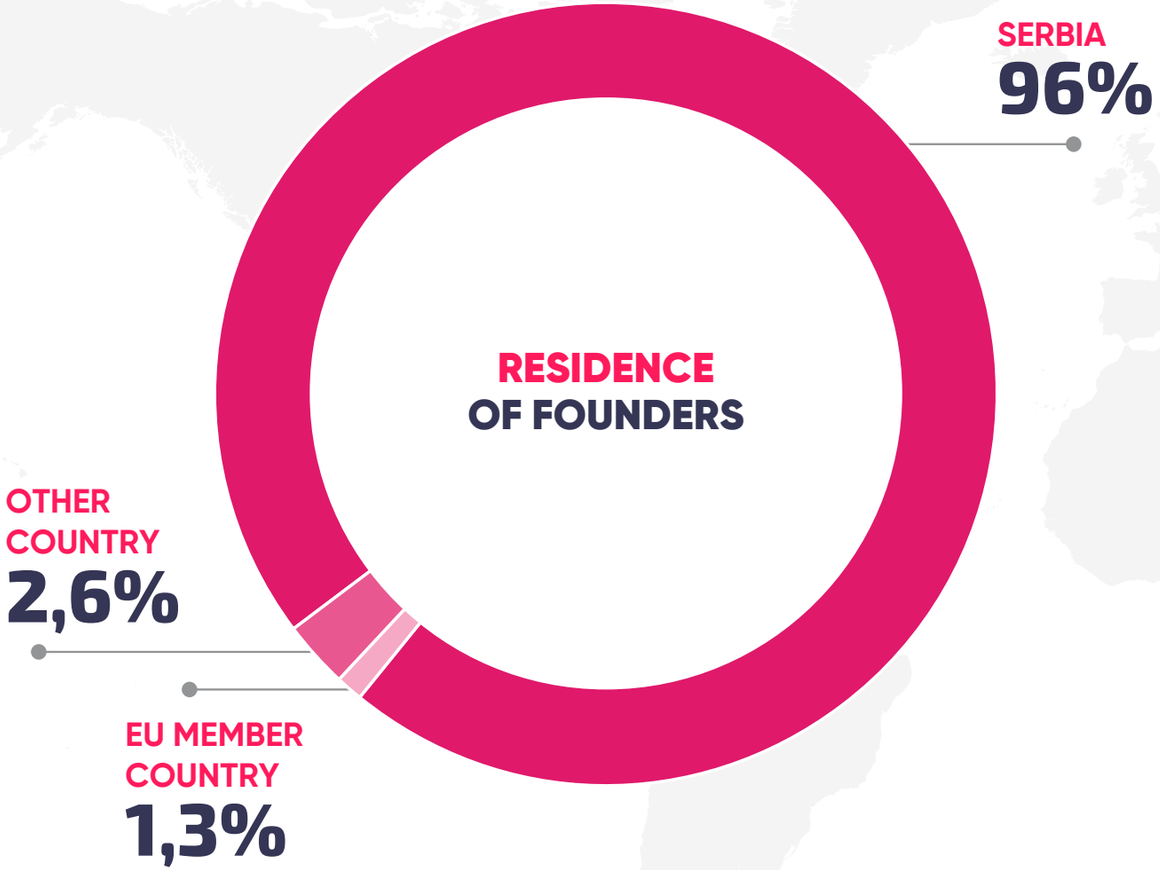
Survey data stratification by gender and age show that most of the respondents are men aged 30 to 39, followed by men aged 40 to 49, followed by men aged 15 to 29, while women aged 30 to 39 represent the fourth largest category. These results are slightly below the average from the 2018 US Census Bureau survey, which indicated "42 years as a magical age for successful startup founders"[24], but it is in line with the findings of the European Startup Monitor, which states that a significant majority of startup founders are male and the average age for both male and female founders is 38.[25]

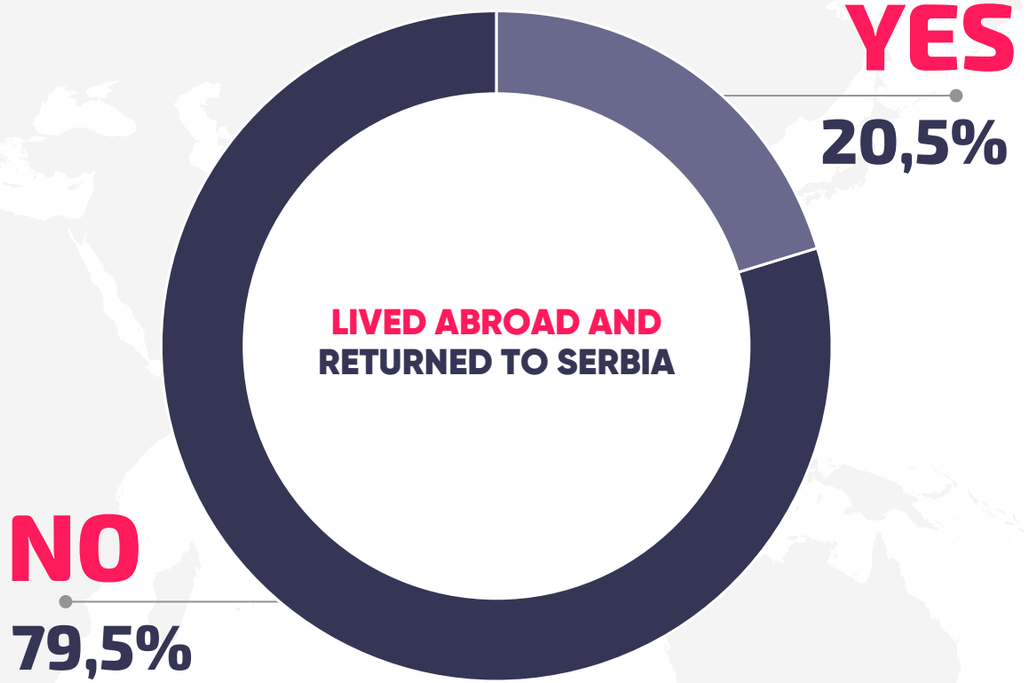
CITIZENSHIP

When it comes to citizenship, the majority of surveyed participants (98.7%) are citizens of the Republic of Serbia and the largest number of respondents (96%) live in Serbia.

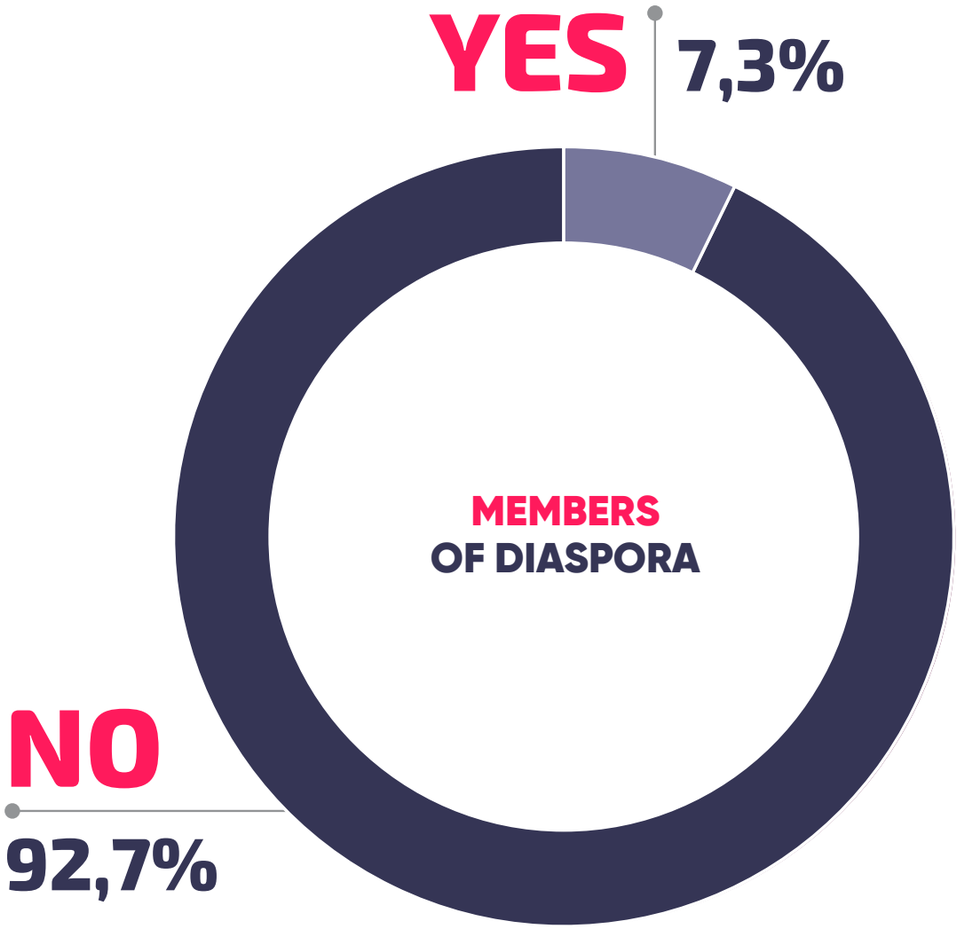


One fifth of respondents (20.5%) lived abroad part of their lives, before returning back to Serbia, three quarters of them are men and one quarter women. Startup founders who lived abroad and returned to Serbia have a positive impact on the further development of ecosystems, both in terms of creating global connections, as well as in terms of innovation, following trends and increasing maturity of the ecosystem.

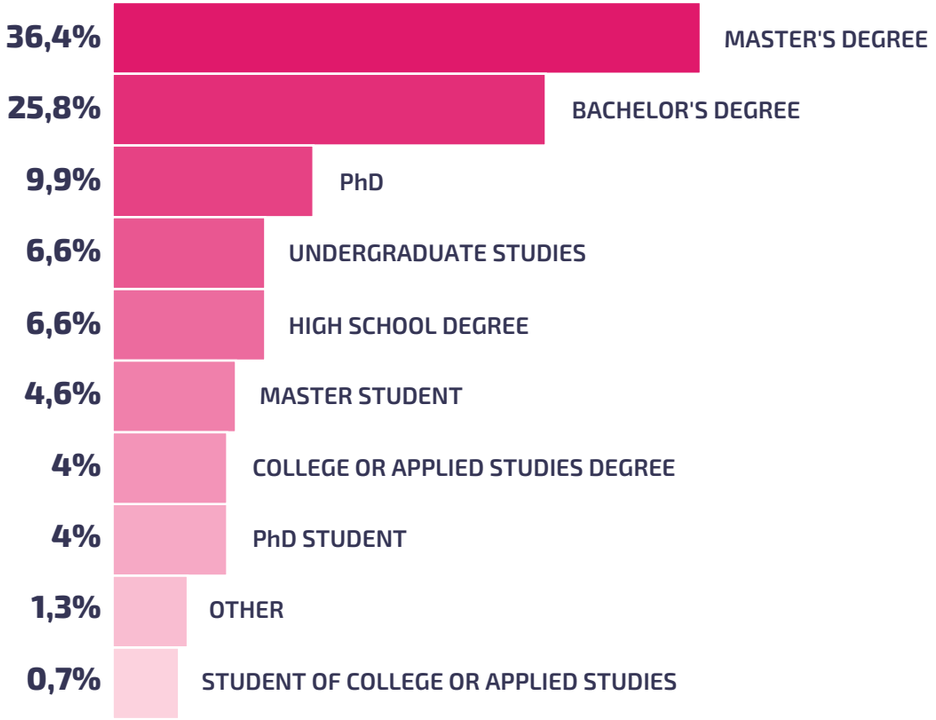




Although only 7.3% of startup founders who participated in this research are members of the diaspora (people of Serbian origin permanently living abroad), there is no doubt that the diaspora provides great support to domestic startups, both through mentoring and by providing connections with potential investors and other sources of finance, facilitating access to foreign markets and clients, as well as sources of knowledge and innovation both in the Silicon Valley and in other ecosystems, such as London, Berlin, New York, etc.



EDUCATION OF FOUNDERS



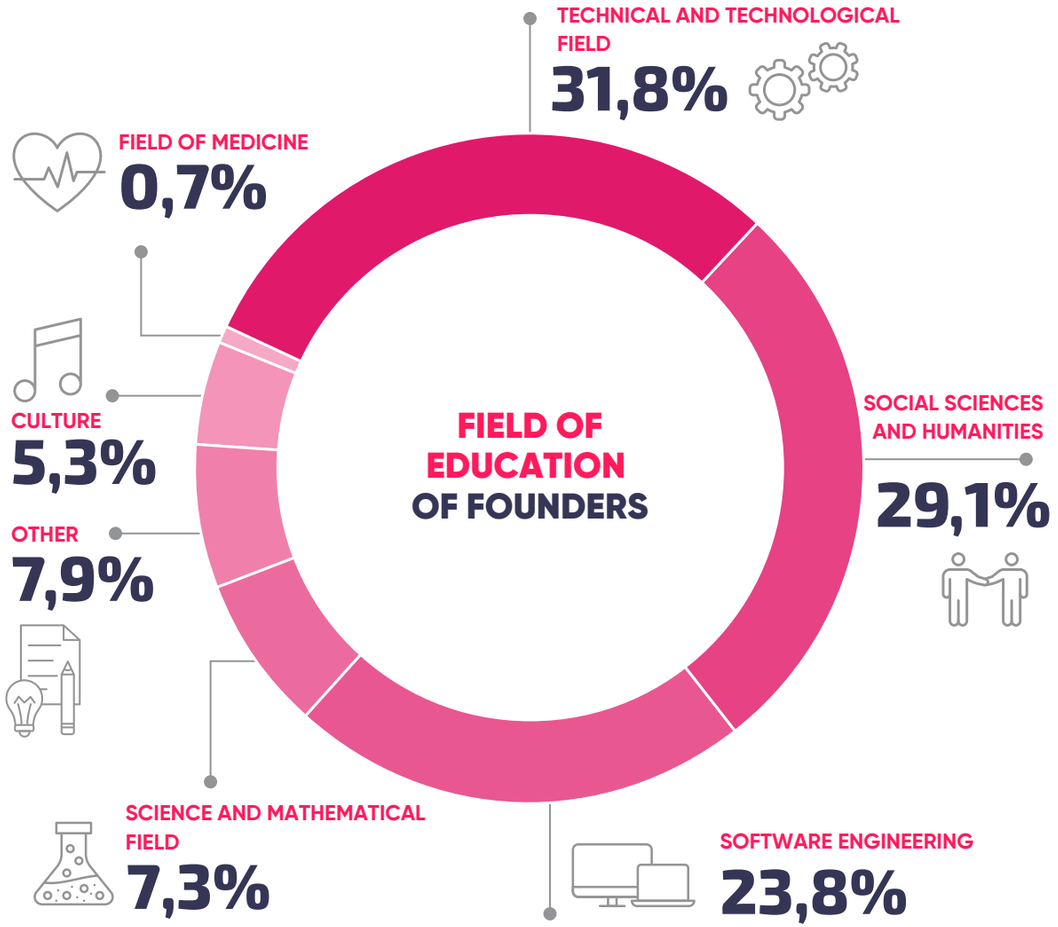
EDUCATIONAL STRUCTURE

The analysis of the research results has shown that the average founder of a startup in Serbia has a higher education degree. Out of more than half of the respondents with a higher education degree, the most have a master's degree (36.4%), followed by founders with a bachelor's degree (25.8%), and about 10% of respondents have PhD. Only one founder answered he had left the studies, which supports busting the myth of a successful startup founder who is a college dropout in his early twenties. Also, the gender comparison shows there are more founders with a higher education degree among female founders compared to male founders.

Most respondents obtained a university degree in technical and technological fields (31.8%), followed by social sciences and humanities (29.1%), then software engineering (23.8%), while other fields together make up about 21%. These results coincide with the findings published in the Startup Genome Report which states "Serbia is well known for its world-class engineering excellence thanks, in part, to the country's unique approach to teaching computer science. More than 3,300 software engineers graduate every year from Serbia's 26 colleges, with the number of new graduates rising each year. But tech education isn't confined to tertiary education: coding has been a mandatory subject since fifth grade of elementary school, over 35 grammar schools now teach specialized CS classes and talented high school students can pursue a 4-year program dedicated specifically to CS. "[26] Despite the large number of freshly graduated engineers, if we look at the areas listed as the most challenging for hiring, highly qualified IT talent is high on the list, leading to the conclusion there is enough room for additional focus on IT education and increasing its output (see the Challenges section below).

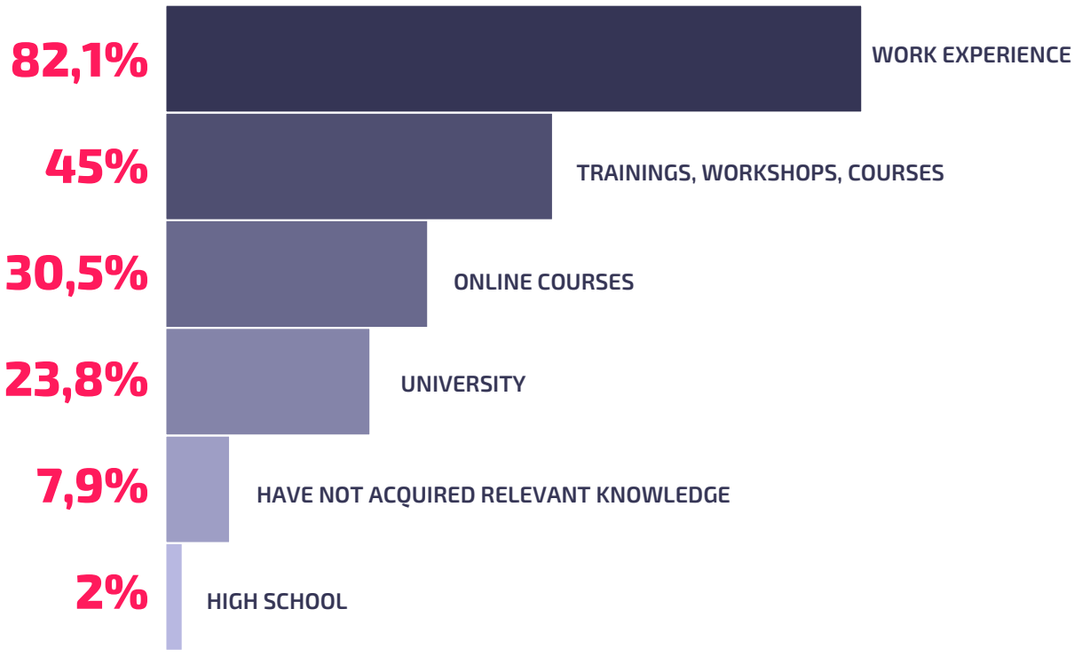
PREVIOUS EXPERIENCE

If we look closely at the surveyed group, the largest percentage of respondents (82.1%) agreed with the statement that they acquired relevant knowledge through work experience; 45% agreed with the statement that they acquired relevant knowledge in trainings, workshops, and courses, 30.5% in online courses, 23.8% in college, and only 2% in high school. Only 7.9% responded that they did not acquire relevant knowledge in any of the listed ways.



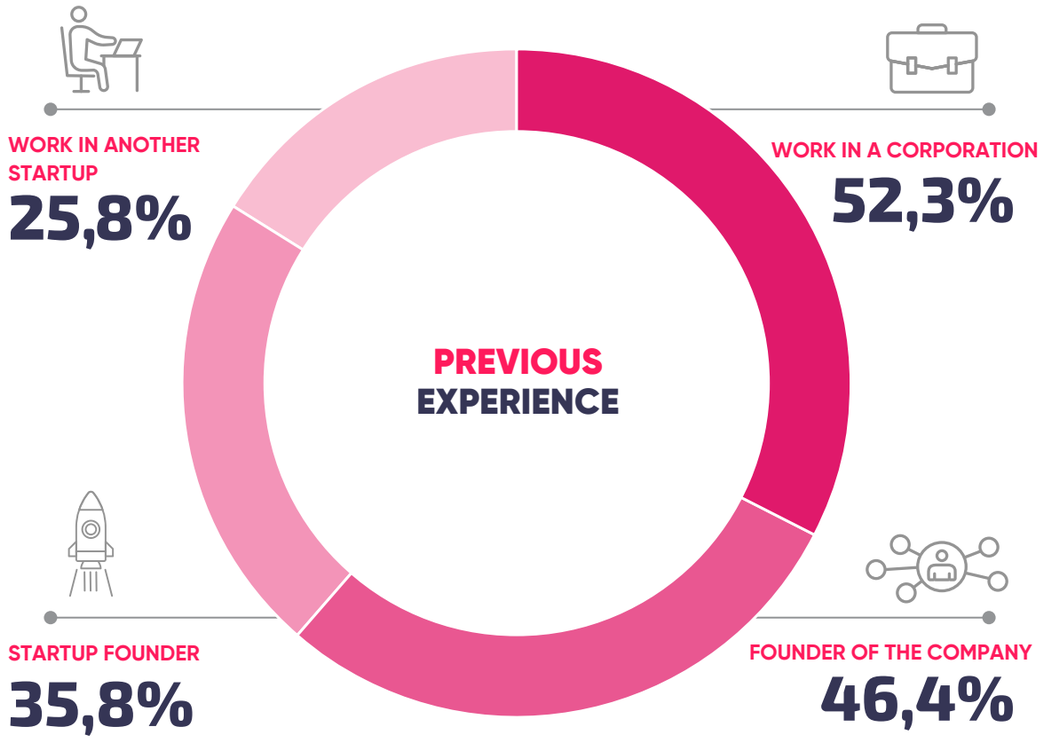
* Respondents had the opportunity to mark multiple answers

MANNER OF ACQUIRING RELEVANT KNOWLEDGE



* Respondents had the opportunity to mark multiple answers

Looking at previous experience, 52.3% of the total number of respondents had previously worked in a corporation, 46.4% were founders of another company, 35.8% had a startup before, while 25.8% of them worked in startup, thus an interesting conclusion can be drawn about the existence of an increasing number of "serial entrepreneurs", given the fact that half of the respondents had previous experience in founding a company or startup before their current startup. If we take into account the fact that most founders are in the 30-39 age group, it can be concluded that there are some specific advantages related to starting a business later in life: greater access to financial resources, more social connections, and more life and business experience, which includes both previous work experience and expertise, as well as soft skills, especially communication and leadership skills, self-confidence, etc. "Super talented people are going to do great things even when they're young," said author Pierre Azoulay, a professor at the Sloan School of Management of the Massachusetts Institute of Technology. "That doesn't mean they are not going to do even better things when they're older."[27]



* Respondents had the opportunity to mark multiple answers

MOTIVES FOR FOUNDING STARTUP

62,3%

TO REALIZE MY DREAM

58,3%

TO COMMERCIALIZE AN IDEA

56,3%

TO USE THE MARKET OPPORTUNITY

51%

INDEPENDENCE IN THE WORK

41,1%

TO GAIN MATERIAL PROFIT

29,1%

TO SOLVE A SOCIAL PROBLEM

20,5%

TO FOLLOW SUCCESSFUL ROLE MODELS

6,6%

TO BE RECOGNIZED IN SOCIETY

2%

NONE OF THE ABOVE

* Respondents had the opportunity to mark multiple answers

MOTIVATION FOR FOUNDING A STARTUP

The largest number of respondents (62.3%) cited the desire to realize their dream as their main motive for founding a startup, followed by the motive to commercialize their idea (58.3%), seize the market opportunity (56.3%), be independent in their work (51%), and gain profit. Other motives are less present. An interesting fact is that the male founders indicated that they were more willing to size the market opportunity than women. Also, it can be said that there is a statistically significant relation between males and the motive to follow the example of successful people who served as a role model for founding a startup.

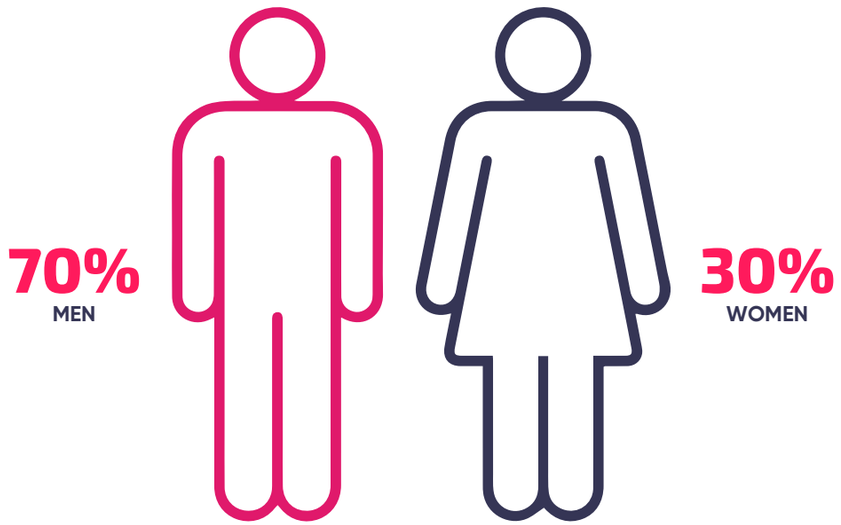
EMPLOYEE PROFILE

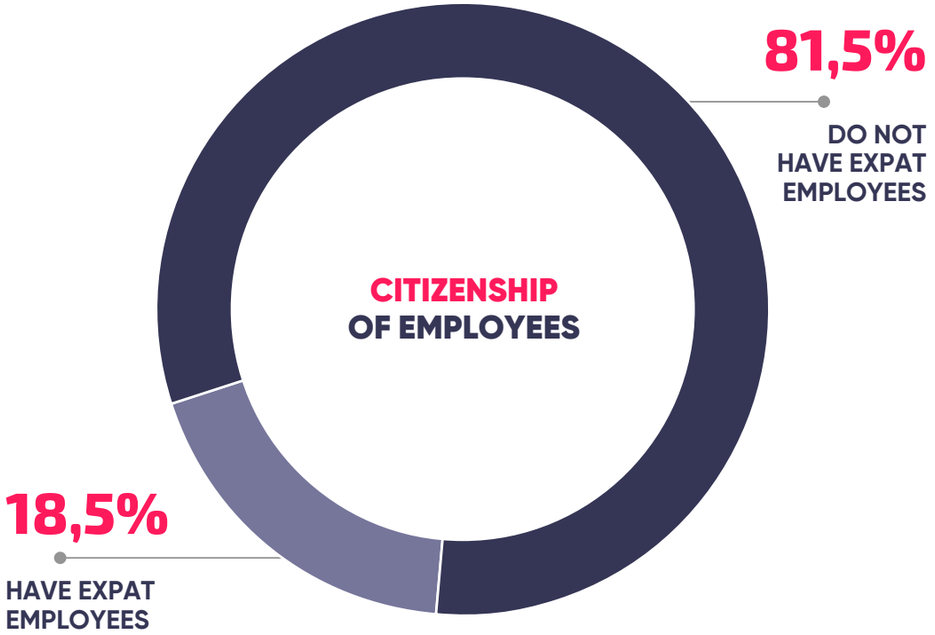
By creating innovative ideas, products, business models, multidisciplinary teams, but also by internationalizing and establishing global connections, startups drive much more than economic change. They create new businesses, produce innovative products, and establish new links between science and the private sector. The founders were asked not only about their current and planned employees - number, age structure and gender, but also about the main challenges and plans related to hiring new team members. Males, aged 15 to 29, make up 70% of the surveyed start-ups' workforce.

AGE AND GENDER STRUCTURE OF EMPLOYEES

When we look at the gender structure of employees in startups, the results of the research are in line with global trends. A survey conducted by McKinsey in 2020 indicates that companies with better gender balance work better, employ more talented people, have more engaged employees and retain workers more successfully than companies that do not focus on diversity and inclusion. But despite this, women are still underrepresented in IT roles." 28 The gender ratio among employees in startups is 2:1. On average, 70% of employees are men and 30% are women. Startups have, on average, two to three employees from the age group of young people (15 to 29 years old), and have the same average number of employees in the age group 30 to 39 years old, while less than one employee on average is from older age groups.

GENDER STRUCTURE OF EMPLOYEES

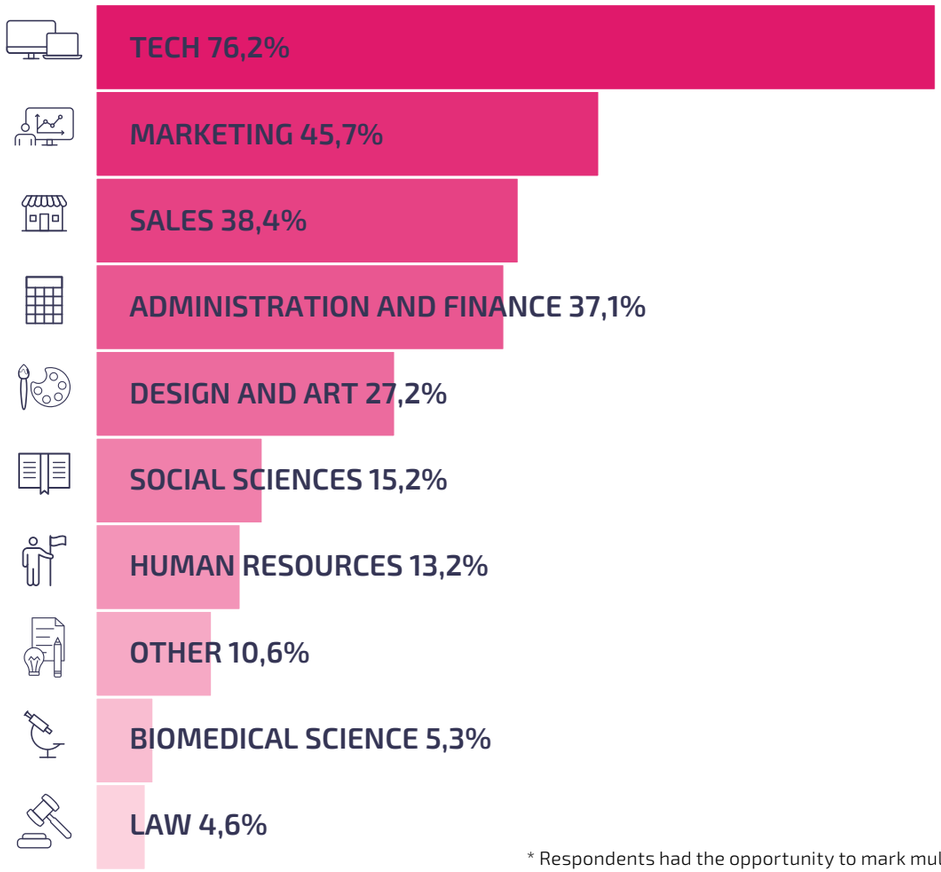




CITIZENSHIP OF EMPLOYEES

When asked whether they have foreigners among their employees, 81.5% of surveyed startups answered that they have no foreigners employed, while 18.5% have foreigners among their employees. A total of 72 foreigners are employed in the 151 startups that participated in the research. These data suggest that the internationalization of employees could increase significantly if, inter alia, the conditions for employment of foreign nationals would improve. This would contribute to better global visibility of the entire ecosystem as well as greater exchange of ideas, experiences and opportunities for innovation and increase the sophistication of ecosystem products, which would result in increased profits that startups are making.

FIELDS OF EMPLOYEE EXPERTISE



* Respondents had the opportunity to mark multiple answers

FIELD OF EXPERTISE

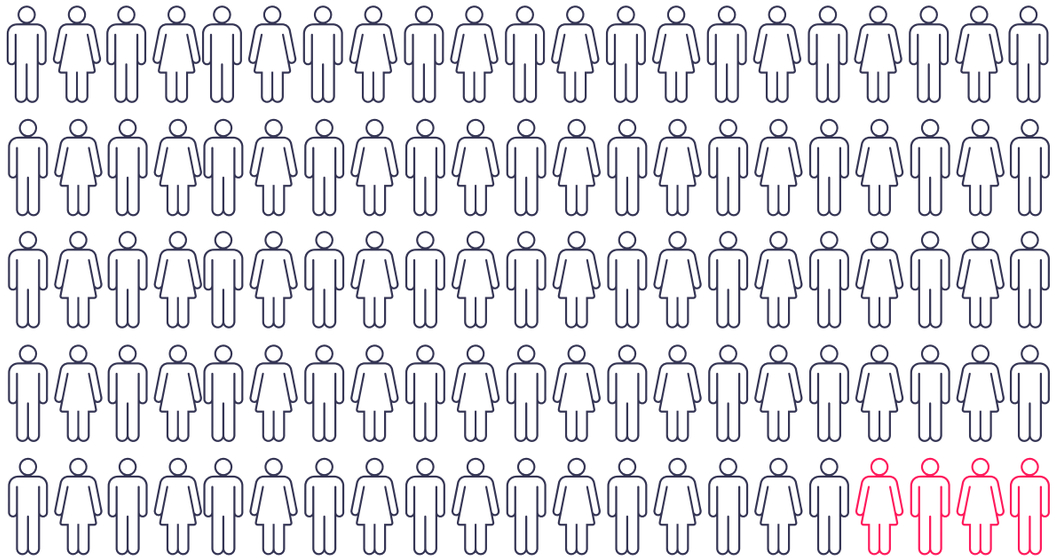
Most startups have employees educated in the ICT field - 76.2% of startups selected this option as a field of expertise of their employees. This is followed by 45.7% educated in marketing, 38.4% in sales, and 37.1% in administration and finance. Design and art have been chosen by 27.2% of the respondents, while less than 20% chose other areas.

TEAM EXPANSION PLAN

In the next 12 months, over 95.2% of startups plan to create new jobs. One of the significant economic contributions which startups and the innovation and knowledge-based economy can make is the creation of new jobs. The 151 startups that participated in the research plan to hire over 800 new team members in 2022, i.e to create new jobs intended primarily for educated young people. The fact that the vast majority of them strive to employ a single-digit number of employees is in line with the level of development of the startup ecosystem and the fact that the majority of startups have just begun internationalization and growth.

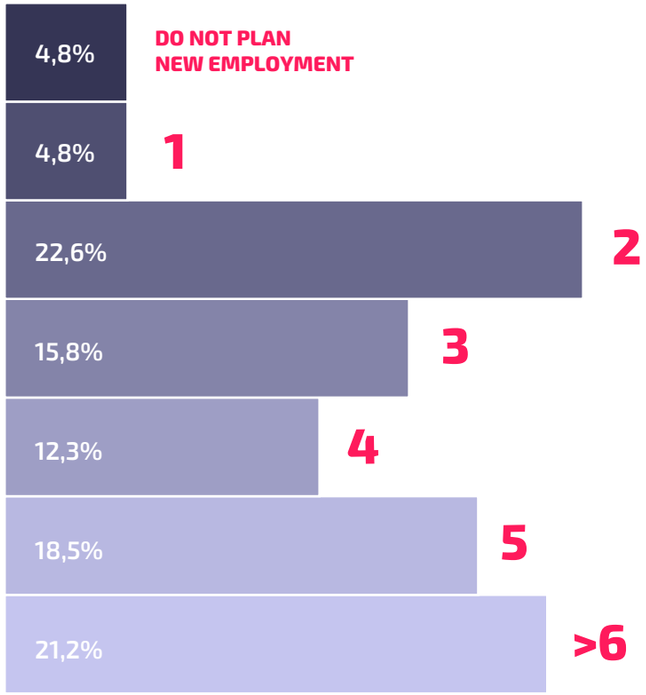
NEW EMPLOYEES IN THE NEXT 12 MONTHS

PLANNED BY
95,2%

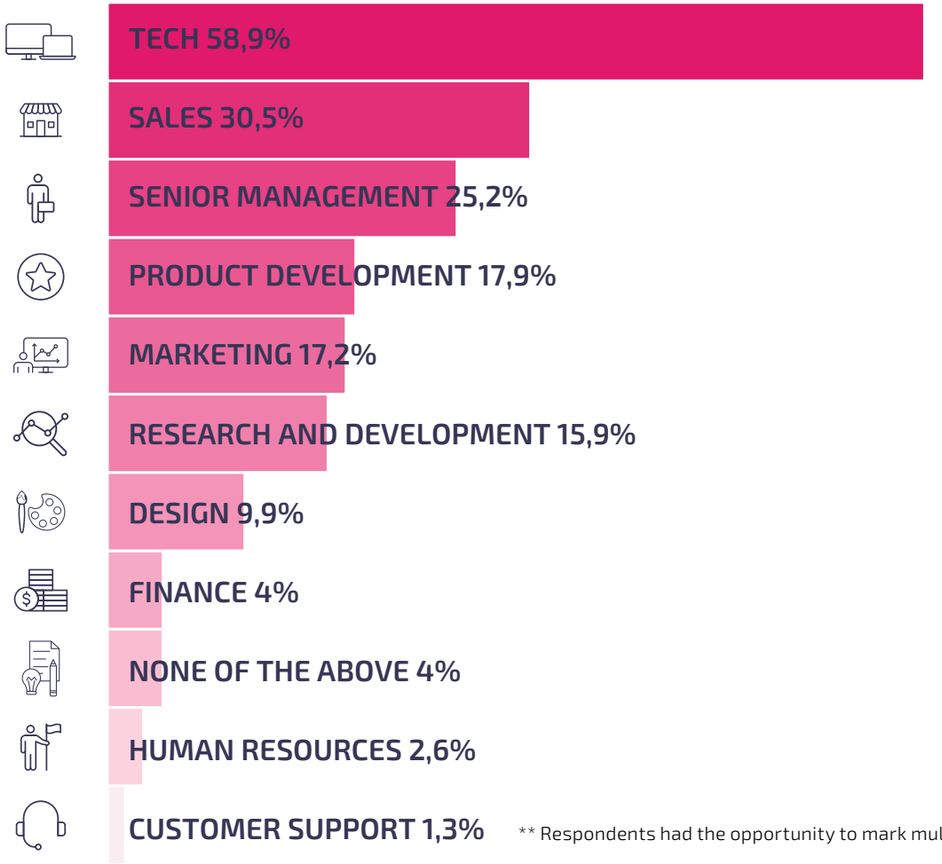


NOT PLANNED BY
4,8%

NUMBER OF PLANNED NEW EMPLOYEES IN THE NEXT 12 MONTHS



POSITIONS THAT ARE THE MOST DIFFICULT TO FILL

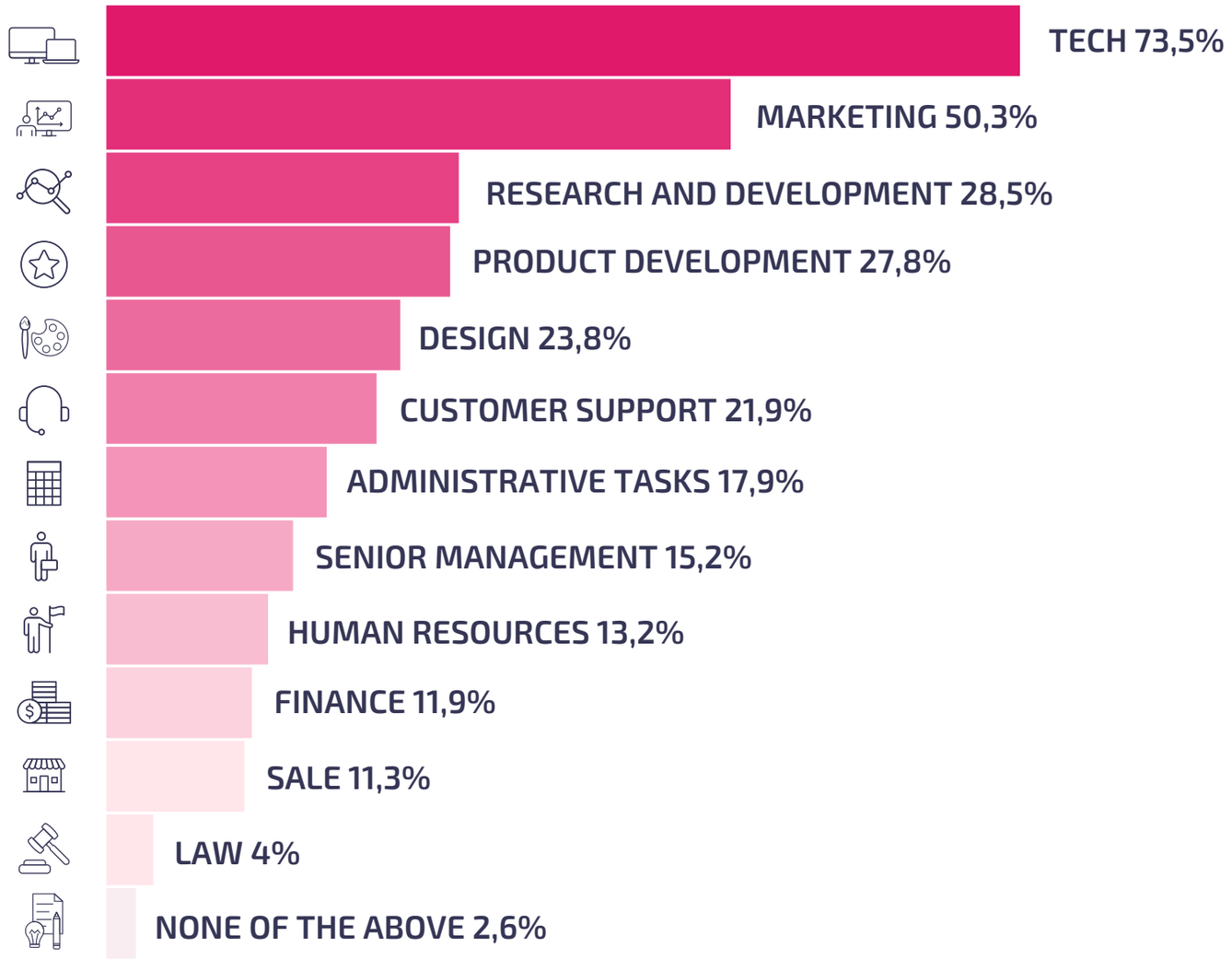


*N=146
** Respondents had the opportunity to mark multiple answers

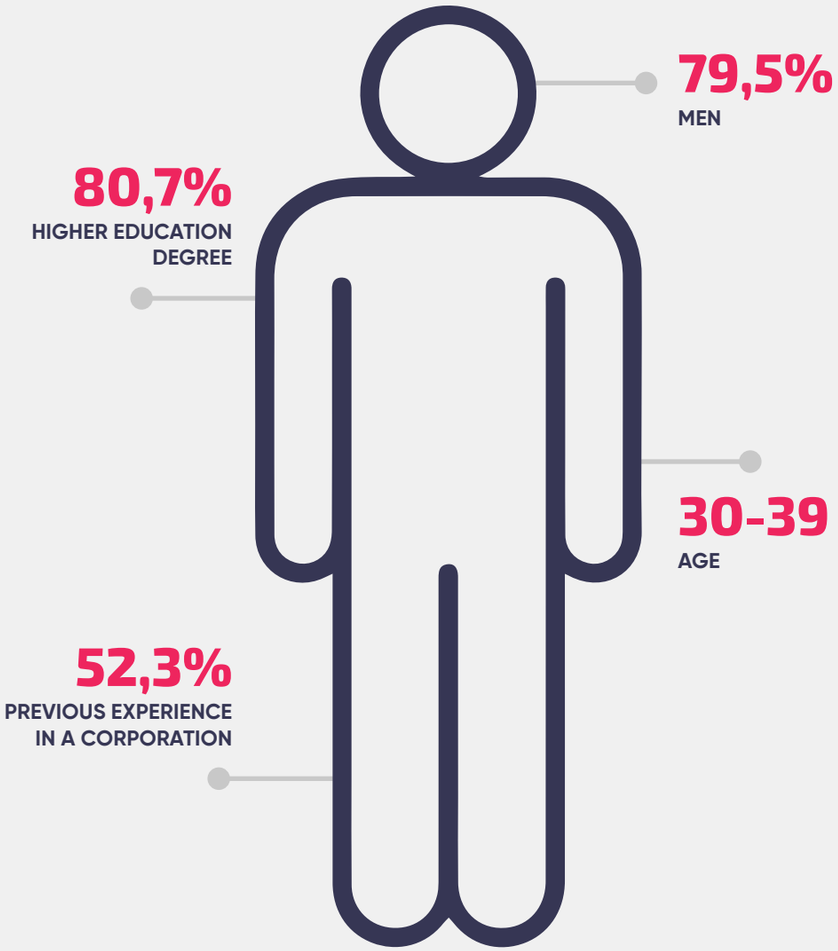
Startups see the employment of qualified team members as one of the three biggest challenges in their business (see the section Challenges below). According to the results, 58.9% of startups in the sample believe that engineering positions are hardest to fill, 30.5% believe sales to be the most difficult field for talent acquisition, 25.2% think that to be the positions in senior management, followed by positions in product development, research and development and marketing. Positions perceived as the least difficult to fill are human resources and customer support.

Startup founders plan to hire new staff from the following areas: 73.5% will hire employees from tech, 50.3% from marketing, 28.5% from research and development, 27.8% from product development, 23.8% from design, and 21.9% from customer support, while less than 20% of respondents opted for new employees from other areas. These results can certainly be considered as one of the indicators of their goals and future plans, which will also be presented in the continuation of the research, because “product development” and “sales growth” are currently two key goals of the surveyed startups.

TEAM EXPANSION SECTORS IN THE NEXT 12 MONTHS



* Respondents had the opportunity to mark multiple answers



Founders in Serbia are mostly men aged between 30-39, holding a university degree and currently residing in Serbia, and most of them have experience of previously working in a corporation.

COOPERATION
AND CONNECTEDNESS

SOCIAL CAPITAL OF STARTUP ECOSYSTEM

Social capital consists of networks of connections and relationships of participants "with shared norms, values and understandings that facilitate cooperation within or among groups".[29] Stakeholders individuals or groups, get easier or more favorable access to the necessary resources owing to their social connections (in this context, social networks do not refer to social media networks such as Instagram, Twitter, etc.).

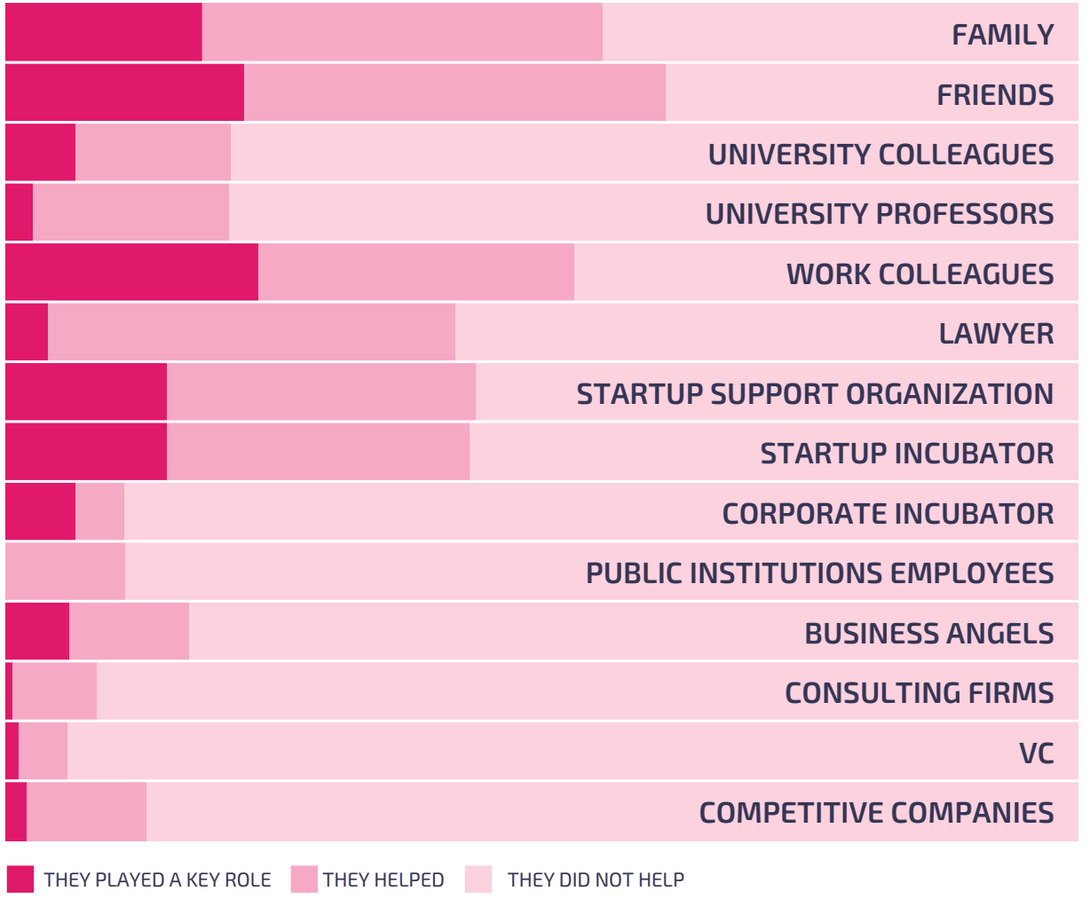
In order to identify the social capital of startups in Serbia, we investigated who makes up the social network of startups and what is their contribution to the founding and development of startups (local connectivity). Having in mind the tendencies of startups to place products and services on the global market, we also investigated the global connectivity of startup ecosystems.

LOCAL CONNECTEDNESS

Local connectivity is an indicator of the level of connectivity of participants in the local startup ecosystem. Taking into account the existing indicators of local connectivity (according to the Startup Genome Report) and the theory of social capital, this aspect can be viewed as informal and formal networks of connections of local startup ecosystem participants.

In an effort to determine which social media networks provided (the most notable) assistance in founding and developing startups, 30 respondents were able to choose one of the following options — *they did not help, they helped, they played a key role*. The results of the research have shown that startups use mainly resources and information that they receive through their informal social networks - friends, colleagues, and family. As for the formal networks, they most often rely on startup support organizations and startup incubators. Based on the distribution of positive responses, it can be seen that they have received support primarily from friends, family, work colleagues, support organizations, incubators, and lawyers. When we analyze only the answers about the actors who played a key role in the founding and development, the results indicate that these were primarily colleagues and friends, followed by family, support organizations, and startup incubators, and, finally, corporate incubators, university colleagues, business angels, and others.

SOCIAL CAPITAL



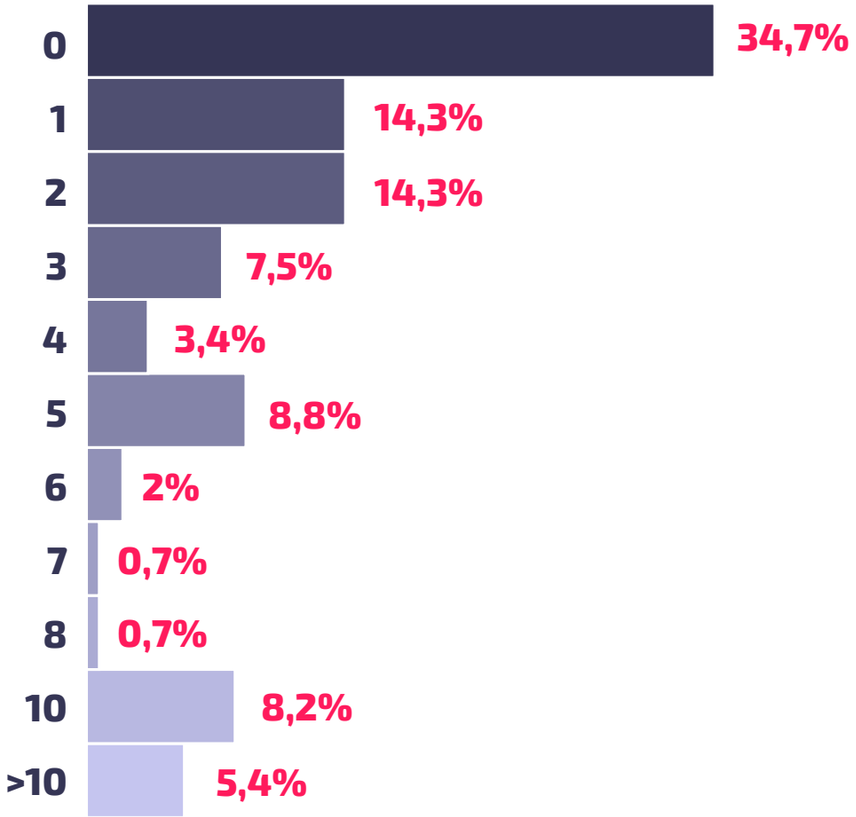
ASSISTANCE	HELPED	HAD A KEY ROLE	TOTAL
INFORMAL NETWORKS			
Family	37,7	18,5	56,3
Friends	39,7	22,5	62,3
University colleagues	14,6	6,6	21,2
University professors	18,5	2,6	21,2
Work colleagues	29,8	23,8	53,6
FORMAL NETWORKS			
Lawyer	38,4	4,0	42,4
Startup Support Organization	29,1	15,2	44,4
Startup incubator	28,5	15,2	43,7
Corporate incubator	4,6	6,6	11,3
Public Institutions employees	11,3	0	11,3
Business angels	11,3	6,0	17,2
Consulting firms	7,9	0,7	8,6
VC	4,6	1,3	6,0
Employee at Competition Company	11,3	2,0	13,2

Within the local connectivity, we also investigated whether startups had business cooperation with corporations operating in Serbia. There is approximately the same percentage of respondents who have (47%) and who do not have (46.4%) a corporation from Serbia among their clients (6.6% did not want to answer).

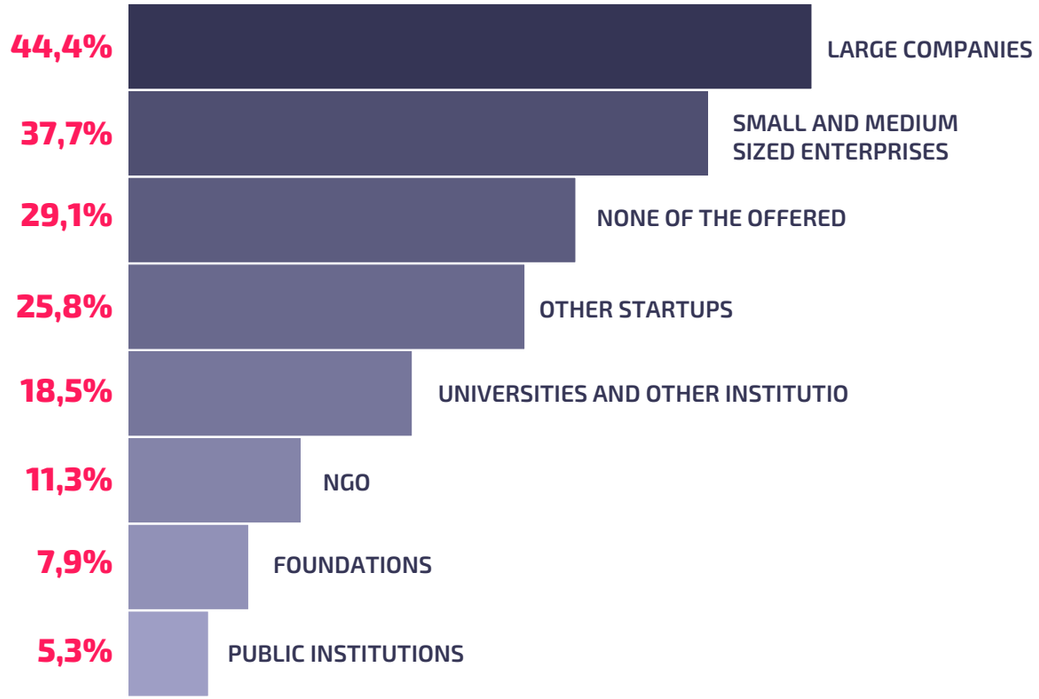
GLOBAL CONNECTIVITY

Global connectivity can be measured in several ways. For Startup Genome, for example, global connectedness represents the number of business connections of startup founders with top-ranked global ecosystems, which are a source of experience and knowledge for creating business models and startups that have the potential to become global leaders.[31] Viewed from the aspect of social capital, the essence of global connectivity is how well the domestic startups are connected with players in the global ecosystem or in developed startup ecosystems. Those connections and/or flows of information and knowledge are important because they help domestic startups achieve success in the global market or improve their development potential, which can also have a positive impact on the development of the startup ecosystem in Serbia. The results of the research have shown that as many as one third of startups do not have global partners at all and the rest usually cooperate with only one or two global partners. Given that most startups are in the early stages of development, such results are not surprising. However, having in mind that most startups strive for further internationalization, the necessity for developing stronger global connections of both startups and the entire ecosystem is rather obvious.

NUMBER OF GLOBAL PARTNERS



GLOBAL PARTNERS STRUCTURE

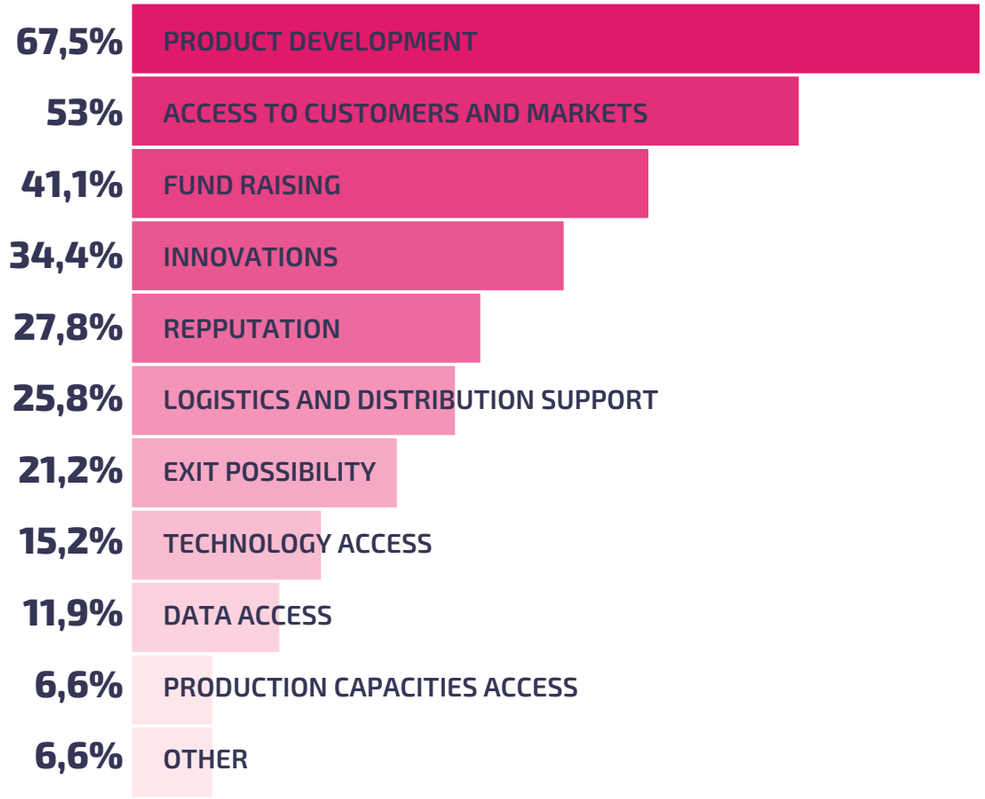


* Respondents had the opportunity to mark multiple answers

The analysis of the structure of global partnerships indicates that Serbian startups mostly cooperate with corporations (44.4%) and SMEs (37.7%). If we exclude those who don't have global partners, the next group of partners are other startups, as well as universities and scientific research institutions.

When it comes to the goals of cooperation with global partners, startups mostly opted for goals related to product development (67.5%) and access to customers and markets (53%), followed by fundraising (41.1%) and innovation (34.4%). By comparing the results regarding global cooperation goals and the goals that are especially important for startups, we see that product development is of primary importance for startups.

GOALS OF GLOBAL COOPERATION



* Respondents had the opportunity to mark multiple answers

FUNDRAISING
AND BUSINESS

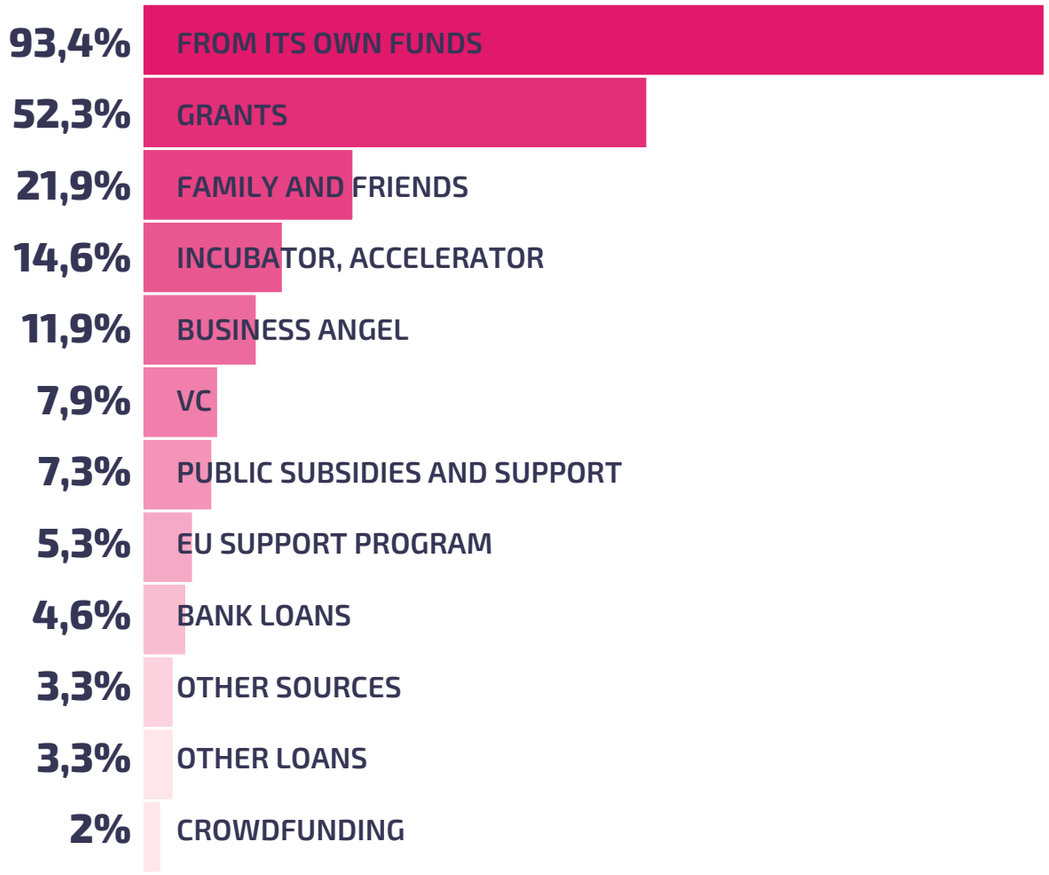
FUNDING AND OPERATION

When it comes to startups, financial capital can be viewed through two dimensions – the origin of the initial capital and how successful a startup is in generating financial capital. Sources of financial capital can vary from grants, angel investments and VC funds to bootstrap, which means starting and generating capital from your own business. The success of startups and the development of ecosystems are closely linked to opportunities for access to finance. It is especially important that funding is secured in the shortest possible time in the early stages of startup development. [32]

SOURCES OF FUNDING

Startups are mostly financed from their own funds (93.4%) and grants (52.3%), followed by family and friends (21.9%). A smaller share of startups indicated that their sources of funding were incubators/accelerators (14.6%) and business angels (11.9%). Other sources (entrepreneurial capital, public subsidies, EU programs, bank loans, crowdfunding) accounted for less than 10%, while no startup used IPOs, ICOs and foundations as a source of financing. The high percentage of bootstrapped startups can affect the slower growth and internationalization of startups in the early stages, given that many of the goals depend on the amount of available capital.

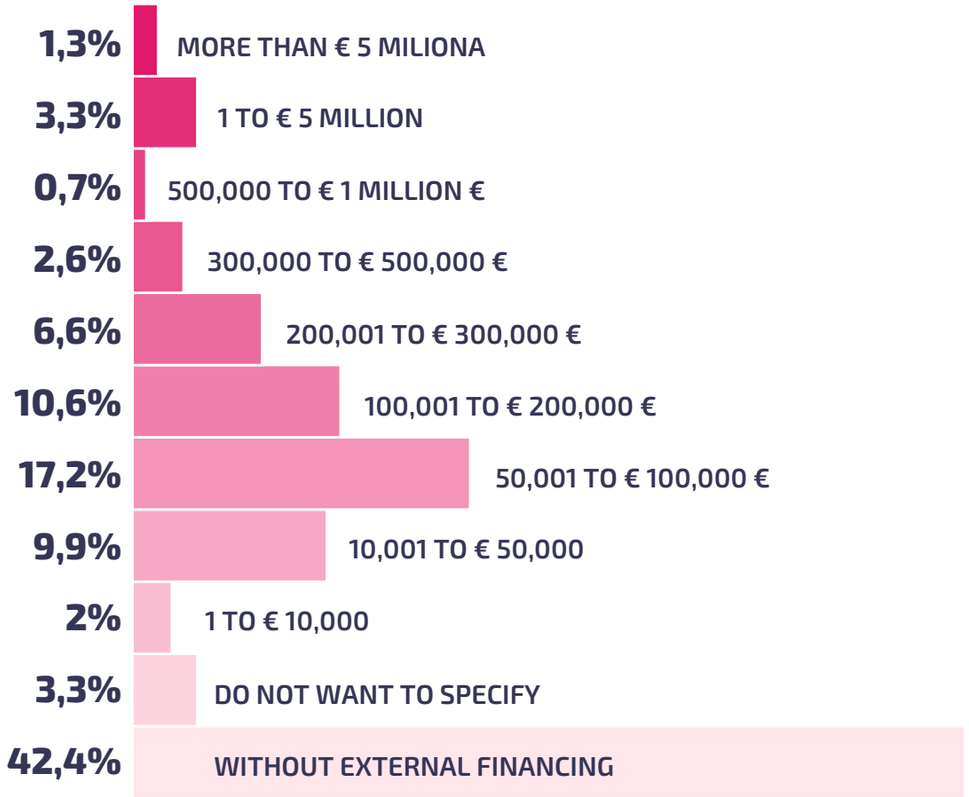
SOURCES OF FUNDING



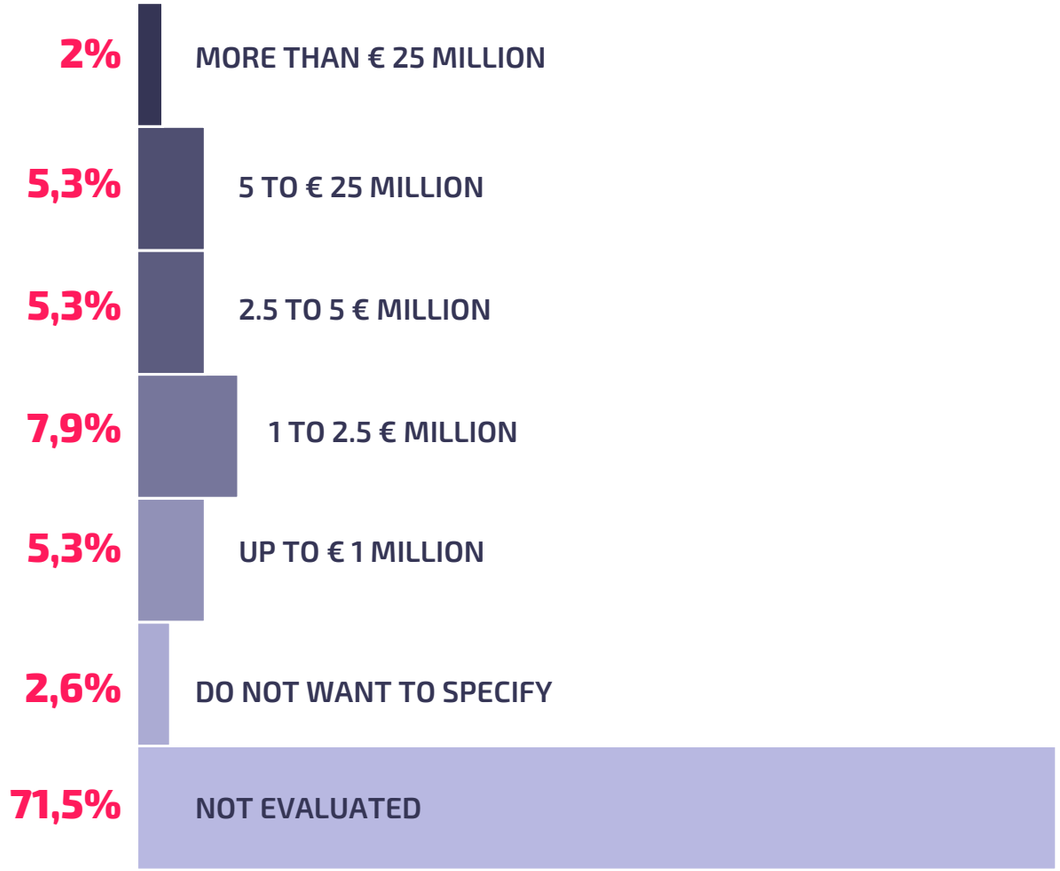
* Respondents had the opportunity to mark multiple answers

A significant number of startups, 42.4% or 64 of them, have not received any external investment so far. This percentage is followed by 17.2% of those who received between 50,000 and 100,000 euros, 10.6% received between 100,000 and 200,000 euros, and 9.9% received between 10,000 and 50,000 euros. Sums between 1 million and 5 million euros in external investment were raised by 3.3% (5 startups) and 1.3% (2 startups) received more than 5 million euros. The lack of external funding, especially in the form of investment, may be a consequence of the lack of available sources, but also lack of information about their availability and the ways in which such finances can contribute to the growth of startups.

EXTERNAL INVESTMENT



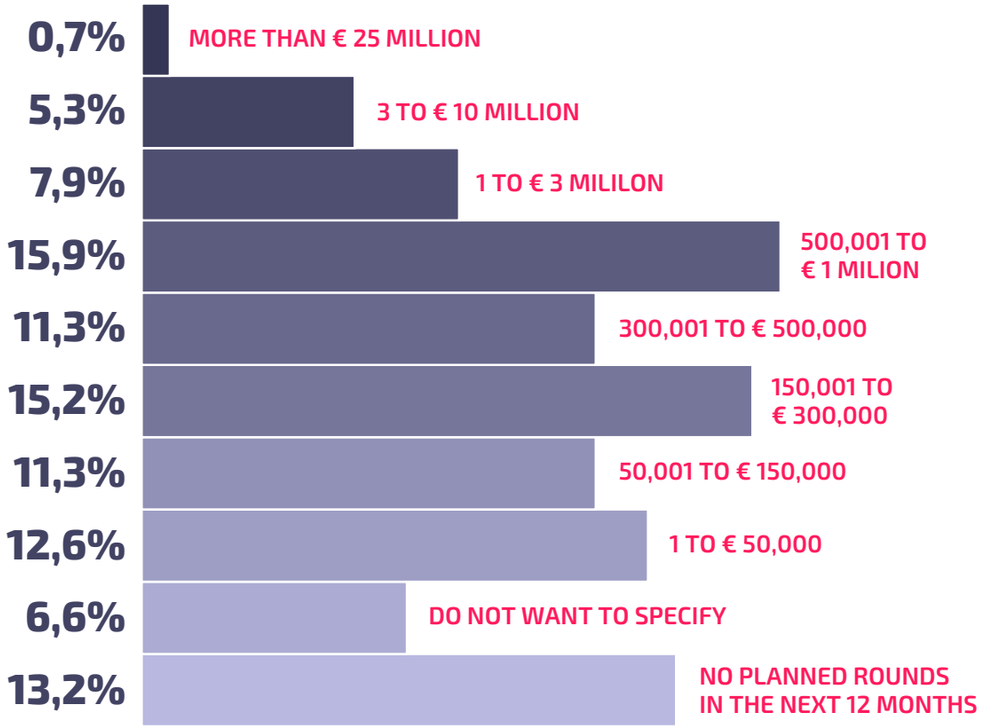
ESTIMATED VALUE IN THE LAST ROUND OF FINANCING



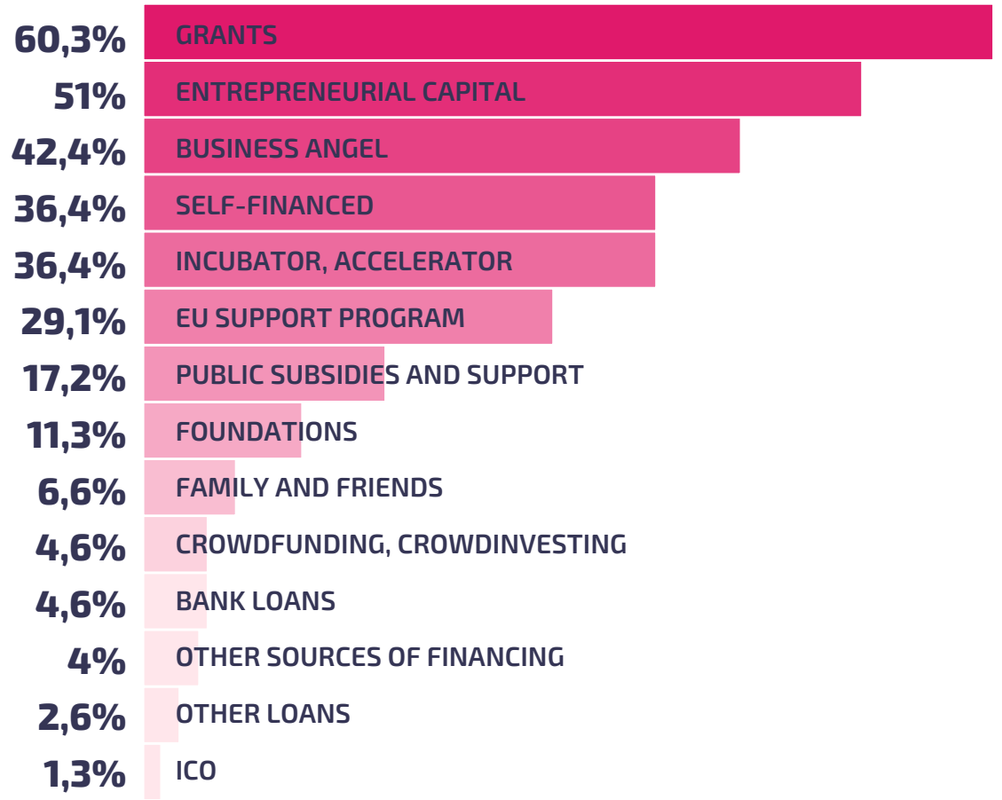
Assessing the value of startups is one of the most challenging steps in funding given the diversity and complexity of the methods used. Also, startups themselves often refrain from publicly announcing their business valuation so the value of the ecosystem can only be assessed and not precisely determined. The value of more than two thirds of startups has not yet been estimated (71.5%). Among those estimated, most are estimated at 1 million euros to 2.5 million euros (7.9%), and startups estimated over 25 million euros make up 2% (3 startups).

Most of the startups plan to raise between 500,000 and 1,000,000 euros (15.9%) in the next year, and almost the same number plan to raise between 150,000 and 300,000 euros (15.2%). This is followed by 13.2% of startups without planned rounds of funding in the next year. On the other hand, only 0.7% (1 startup) stated that they plan to raise more than 25 million euros of external capital in the next year. Having in mind the stated stages of development and the goals of startups, such answers are in line with expectations.

FINANCING PLAN FOR THE NEXT 12 MONTHS



PLANNED SOURCES OF CAPITAL IN THE NEXT 12 MONTHS



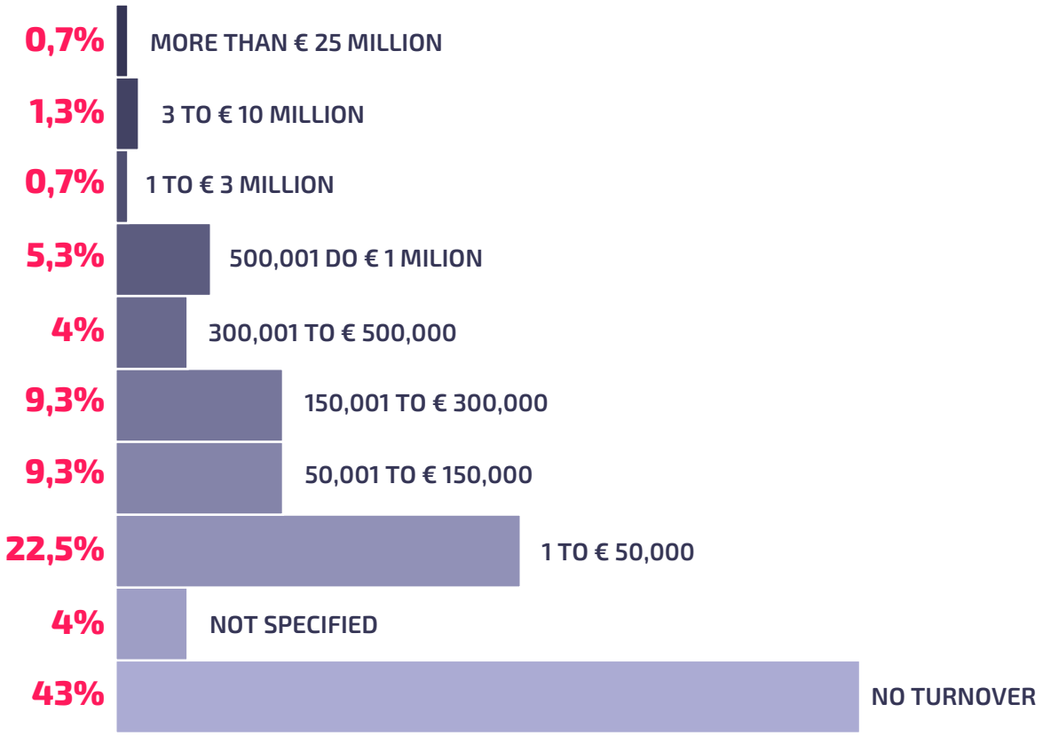
* Respondents had the opportunity to mark multiple answers

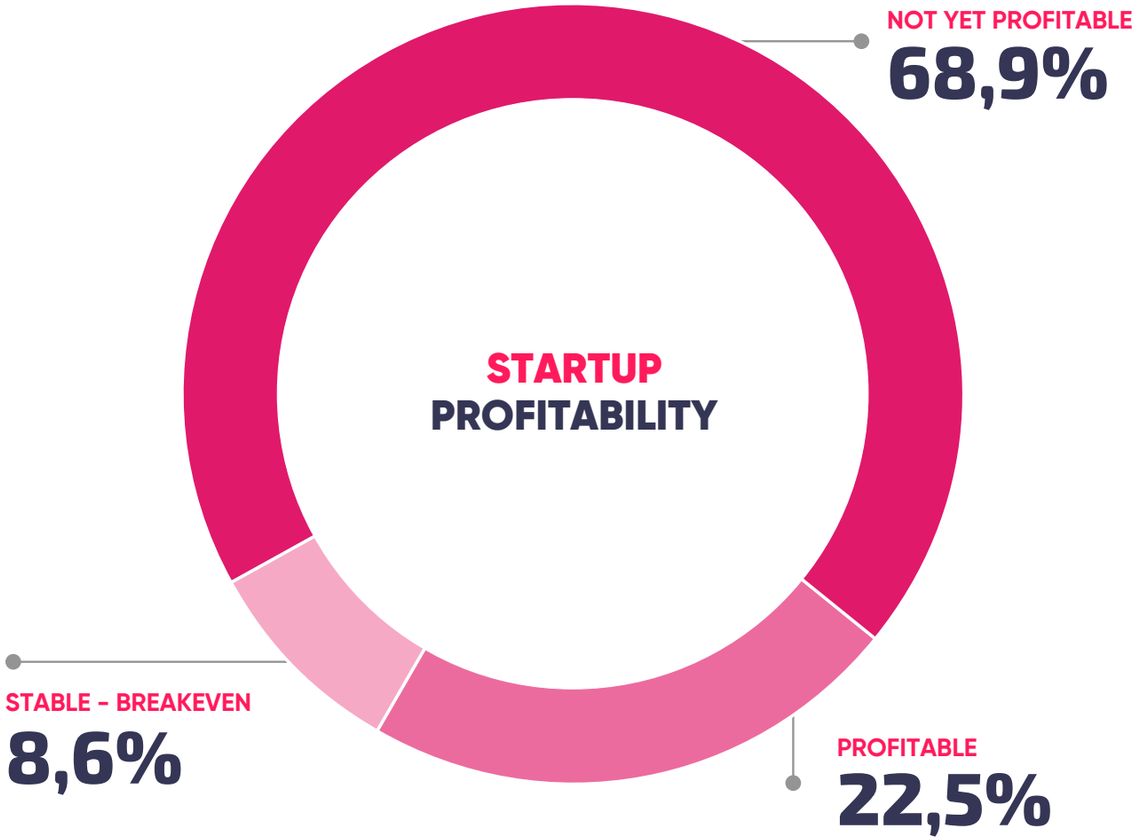
When it comes to the sources from which startups plan to raise capital in the next year, data shows that the largest number of startups plan to raise money from grants (60.3%) and venture capital funds (51%). Slightly fewer intend to rely on sources of financing such as business angels (42.4%), startup incubators/accelera-tors, and their own sources. Other means of financing are less present in the plans for the next year. Some startups plan to raise funds through foundations (11.3%) and ICOs (1.3%).

SALES

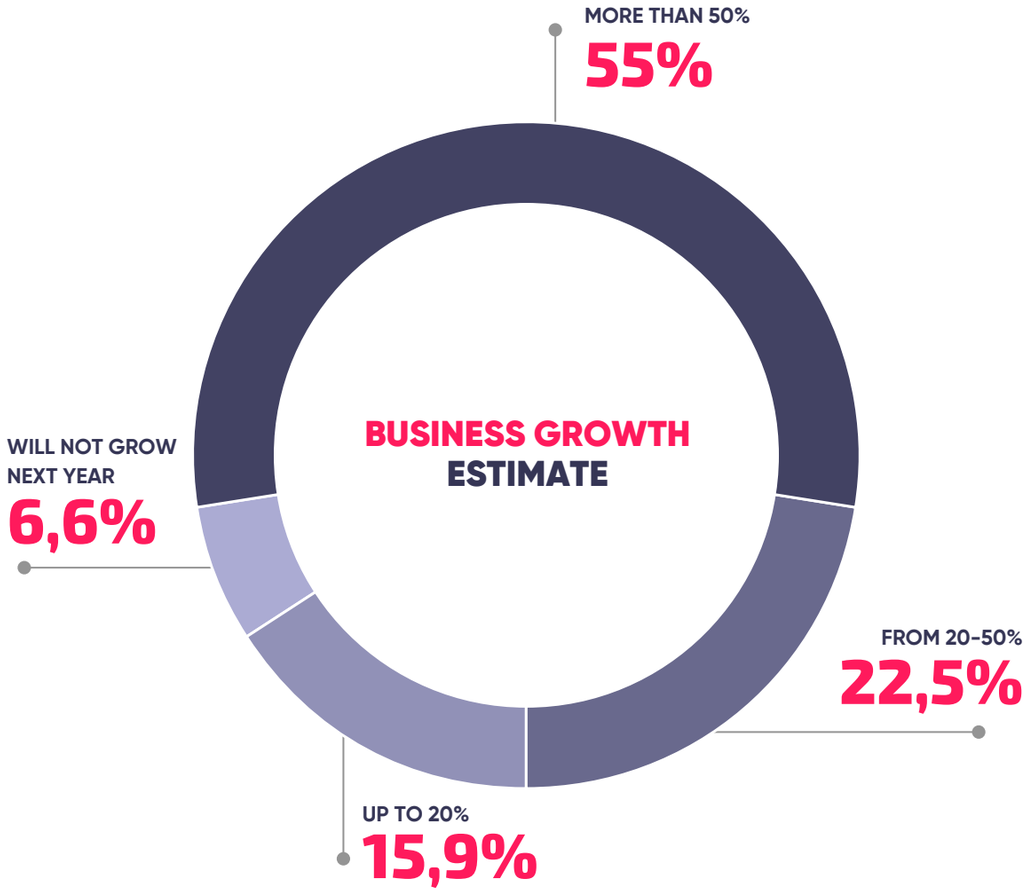
In most cases, startups face challenges of generating first revenue and achieving profitability, which is why it is not surprising that a significant portion of start-ups (43%) had no turnover in the previous period, and those with turnover mostly achieved turnover up to 50,000 euros (22.5%). This result is nothing short of expected given the stage of development of most startups in the ecosystem. When it comes to profitability, more than two thirds (68.9%) stated that they are not profitable yet, while 22.5% are profitable or break-even (8.6%).

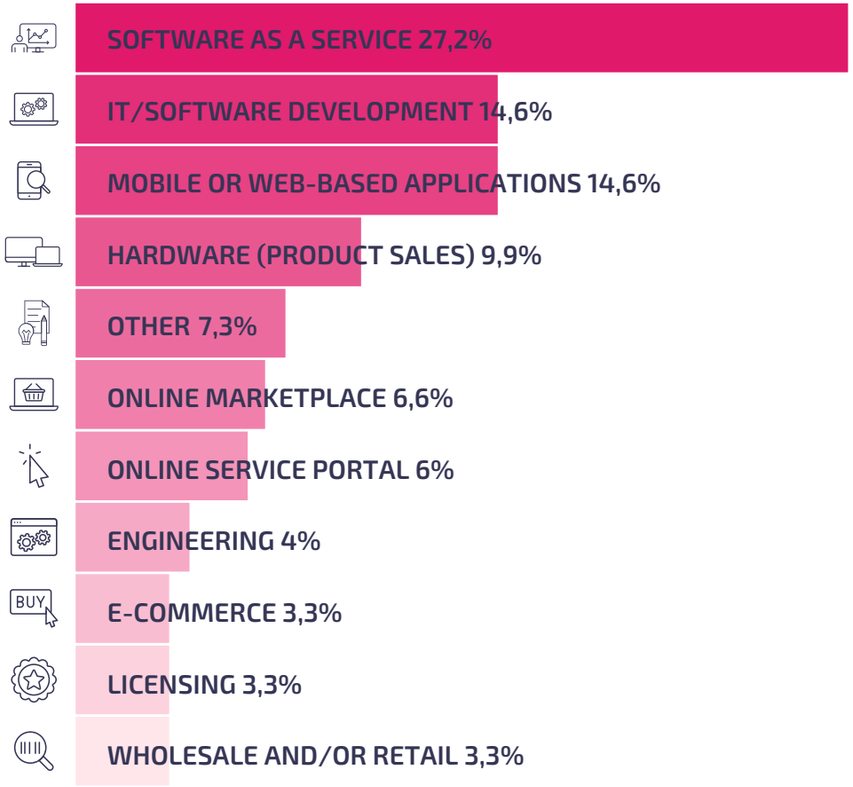
TURNOVER IN THE PREVIOUS FINANCIAL YEAR





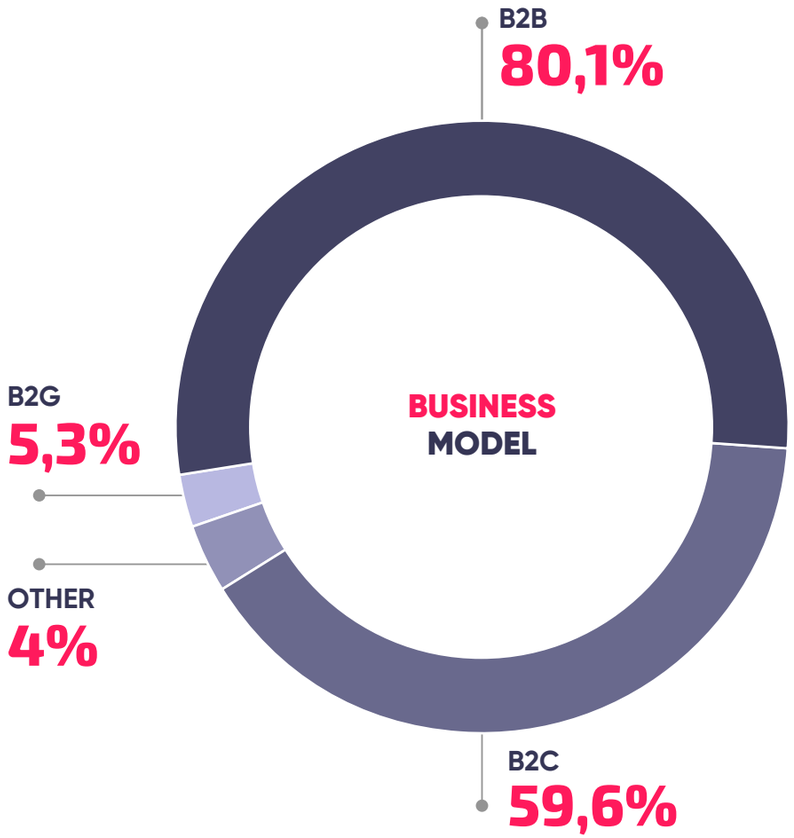
Given that one of the main characteristics distinguishing startups from SMEs is the desire to grow and the potential for scaling up, these are one of the key indicators of the ambition and potential of a startup. More than half of startups (55%) estimated that they will achieve a growth of 50% or more in 2022, and slightly less than a quarter expects to grow between 20% and 50%. The number of startups that plan to grow below 20% is 15.9%, while 6.6% estimated that they will grow this year.





BUSINESS MODEL

The most common business model (27.2%) is software-as-a-service, followed by the model of IT/software development (14.6%) and mobile and web applications (14.6%). Every tenth startup utilizes hardware sales model (9.9%), while 7.3% indicated that they operate according to some other model (eCommerce, hardware as a service, development services, marketing platform, research and development, etc). Online marketplace and online service portal have 6% each. Other business models are much less represented.



* Ispitanici su imali mogućnost da označe više odgovora

The research has also shown who are most common customers for products or services created by startups. Startups mostly utilize the B2B (business to business) 80.1%, and slightly less use B2C (business to customer) 59.6%. Only 5.3% of startups offer their services and products according to the B2G model (business to government), and the remaining 4% operate according to other models (B2B2C, B2C2B, B2B2B). If we take into account the result which shows that the largest percentage of founders cited work in a corporation as their previous work experience, it is not surprising that many startups have other businesses as their clients.

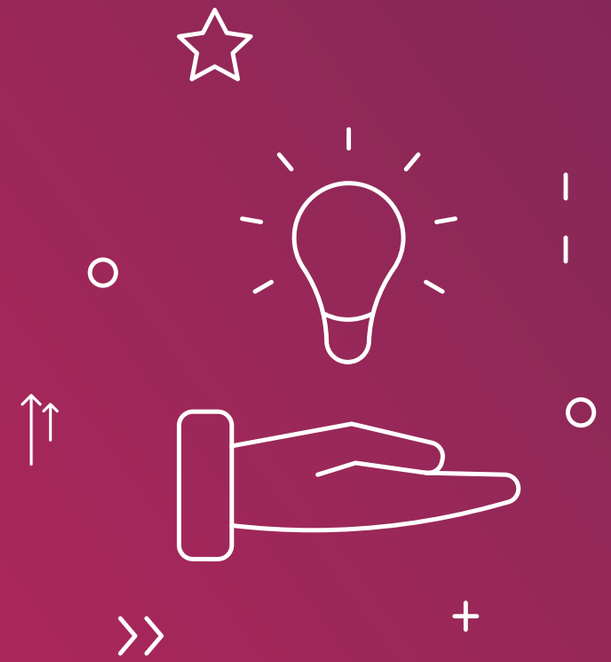
GOALS

In order to better understand the current state of startups and the ways in which their development can be supported, the research also assessed startups' development priorities. The distribution of respondents' answers to the question regarding the goals that are currently particularly important for their startup shows that these are mainly product development (78.1%) and customer growth (67.5%), followed by sales growth, internationalization and profitability. These results are in line with the fact that a large number of startups that participated in the research are still developing their product or are still planning the internationalization and improvement of the MVP. In the early stages of startup development, customer growth and profitability are a top priority, while the focus of management of profitabile startups or those who raised significant funding is on corporate culture and employee development.

IMPORTANCE OF GOALS

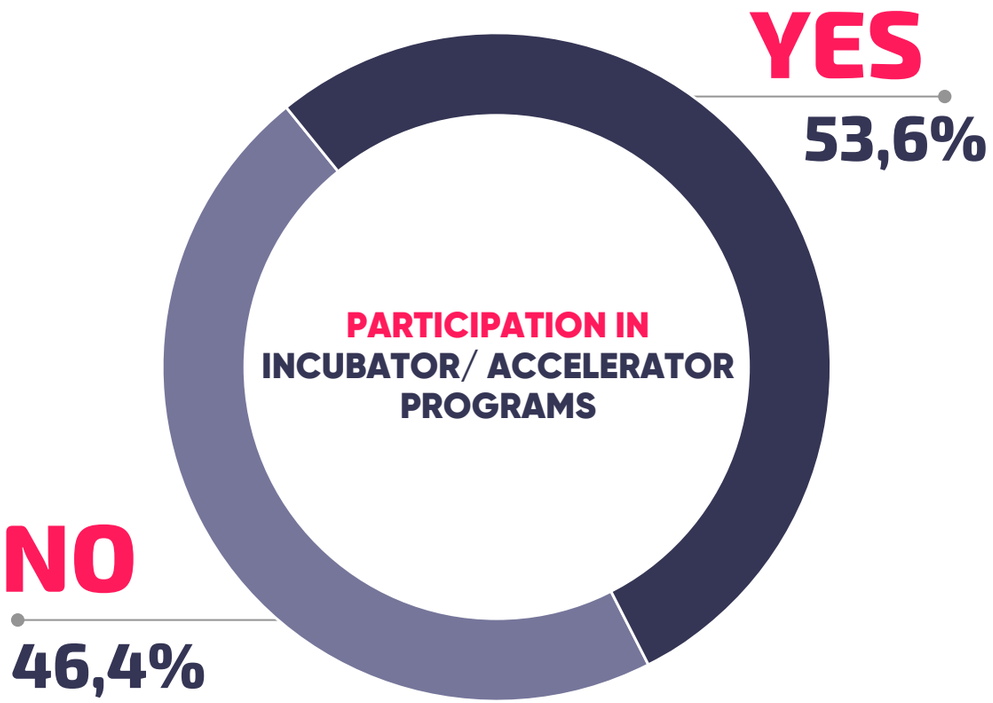
* Respondents had the opportunity to mark multiple answers

STARTUP SUPPORT SYSTEM



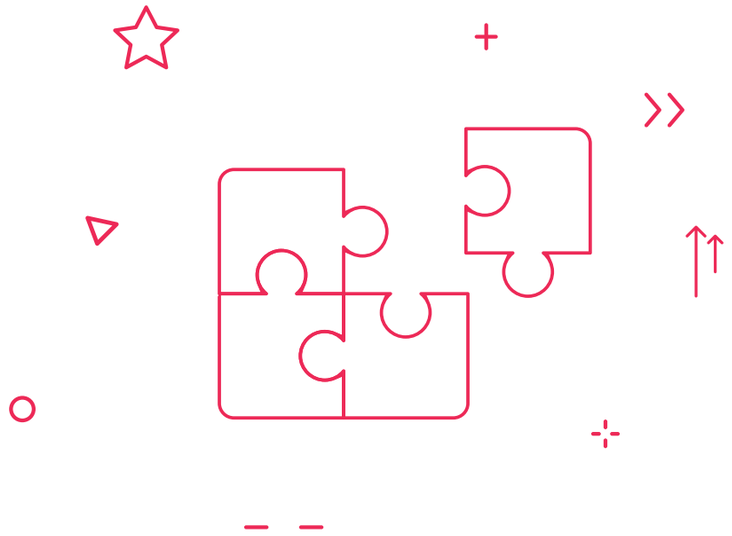
SUPPORT ORGANIZATIONS, INCUBATORS, ACCELERATORS

In developed ecosystems, startup incubators and accelerators are a natural place to raise the first investment and get initial support in the form of knowledge and contacts. In that sense, domestic startups recognizing such organizations as relevant is encouraging. Startup support organizations and incubators are actors that, after informal social networks, played a key role in founding and developing startups. More than half of startups participated in at least one incubation or acceleration program (53.6%). Also, startup incubators and accelerators are among the top five sources from which startups plan to raise capital in the next year.



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

The research has also shown what the expectations are when it comes to public policies and legal regulations, relevant to innovative entrepreneurial ventures. The majority of startups have expectations in terms of tax reliefs, especially those related to cost of labor (70.9%). A slightly smaller number expects faster adjustment of regulations and laws to new business models (47%) and new forms of fundraising (41.1%). Startups also expect incentives for opening VC funds in Serbia (36.4%), as well as promotion of entrepreneurial thinking and developing digital skills from preschool age (32.5%) and improving the position of entrepreneurship in society (35,1%). In addition, 25.8% of startups expect more opportunities to involve employees in the ownership structure of the company, and the same number expect a better overview and a higher level of flexibility and transparency in financing and promotion of startups. It is important to mention that the respondents expect special support for female and mixed startup teams (23.2%).



EXPECTATIONS FROM PUBLIC POLICIES AND LEGAL REGULATIONS

70,9%
TAX REDUCTIONS/RELIEF, ESPECIALLY LABOR COSTS

47%
FASTER ADAPTATION OF REGULATIONS AND LAWS TO NEW BUSINESS MODELS

41,1%
NEW FORMS OF STARTUP FOUNDING

36,4%
INCENTIVE SYSTEMS FOR OPENING A RISK CAPITAL INSTITUTION IN SERBIA

35,1%
IMPROVING THE POSITION OF ENTREPRENEURSHIP IN SOCIETY

32,5%
PROMOTING ENTREPRENEURIAL THOUGHT AND DIGITALIZATION SKILLS AS A BASIS FOR MODERNIZATION (EDUCATION) BEGINNING FROM PRESCHOOL AGE

25,8%
MORE OPPORTUNITIES FOR INCLUSION OF EMPLOYEES IN THE OWNERSHIP STRUCTURE OF THE COMPANY

25,8%
BETTER OVERVIEW AND HIGHER LEVEL OF FLEXIBILITY AND TRANSPARENCY IN FINANCING AND PROMOTION

23,2%
SPECIAL SUPPORT FOR WOMEN AND MIXED TEAMS STARTING A BUSINESS

17,9%
SIMPLIFICATION OF STARTUP FOUNDING PROCESS

14,6%
SPIN-OFF SUPPORT

9,3%
ASSIGNMENT OF REGULATORY SANDBOXES

6,6%
MORE FLEXIBILITY REGARDING WORKING HOURS AND RECORDING THEM

6%
FACILITATING THE EMPLOYMENT OF EXPERTS FROM EU COUNTRIES

2,6%
OTHER EXPECTATIONS

* Respondents had the opportunity to mark multiple answers

It can be said that the startup community and Digital Serbia Initiative (DSI) have recognized the same group of challenges and, in 2021, DSI also worked on proposals and implementation of various solutions in several parallel tracks. Certainly, the greatest achievements include the adoption of the national Strategy for the Development of the Startup Ecosystem (2021-2025), coordinated by DSI 33 and subsequent adoption of the new Law on Innovation for which DSI had proposed a set of amendments that have been largely adopted.

With these regulatory changes, startups and business angels have been recognized for the first time within our legal system and a mechanism has been prescribed to provide registered startups with easier access to incentives, tax reliefs and streamlined administrative procedures. Also, in December 2021, a set of tax incentives proposed by DSI was also adopted, and the most important ones are:

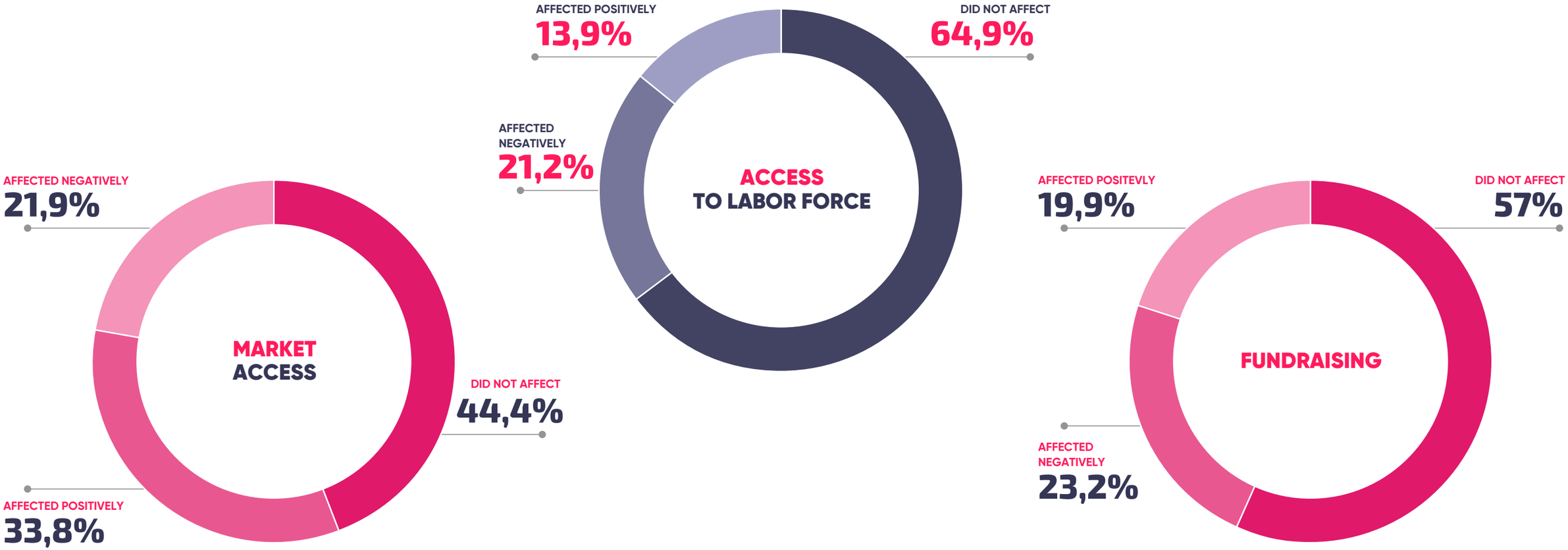
- tax exemption related to taxes and contributions to the earnings of startup founders has become a permanent measure.
- the company engaged in research and development activities is entitled to a tax relief in respect of taxes and contributions for salaries of employees performing research and development.
- young professionals under the age of 40 can reduce the annual personal income tax - in a way which means that, in practice, most of them will not even pay this tax;
- an individual who subscribes copyright and related rights and industrial property rights as a non-monetary contribution to the capital of a company is exempt from capital gains tax for that transfer.

When it comes to the key problem underlined by the founders, the restrictions imposed by the regulations on foreign exchange, DSI has advocated and will continue to publicly advocate the liberalization and simplification of these regulations. Also, other goals and plans of DSI in the regulatory field are in line with the expressed needs of the startup community, which can continue to count on the support of Digital Serbia Initiative.

IMPACT
OF COVID-19

IMPACT OF COVID-19

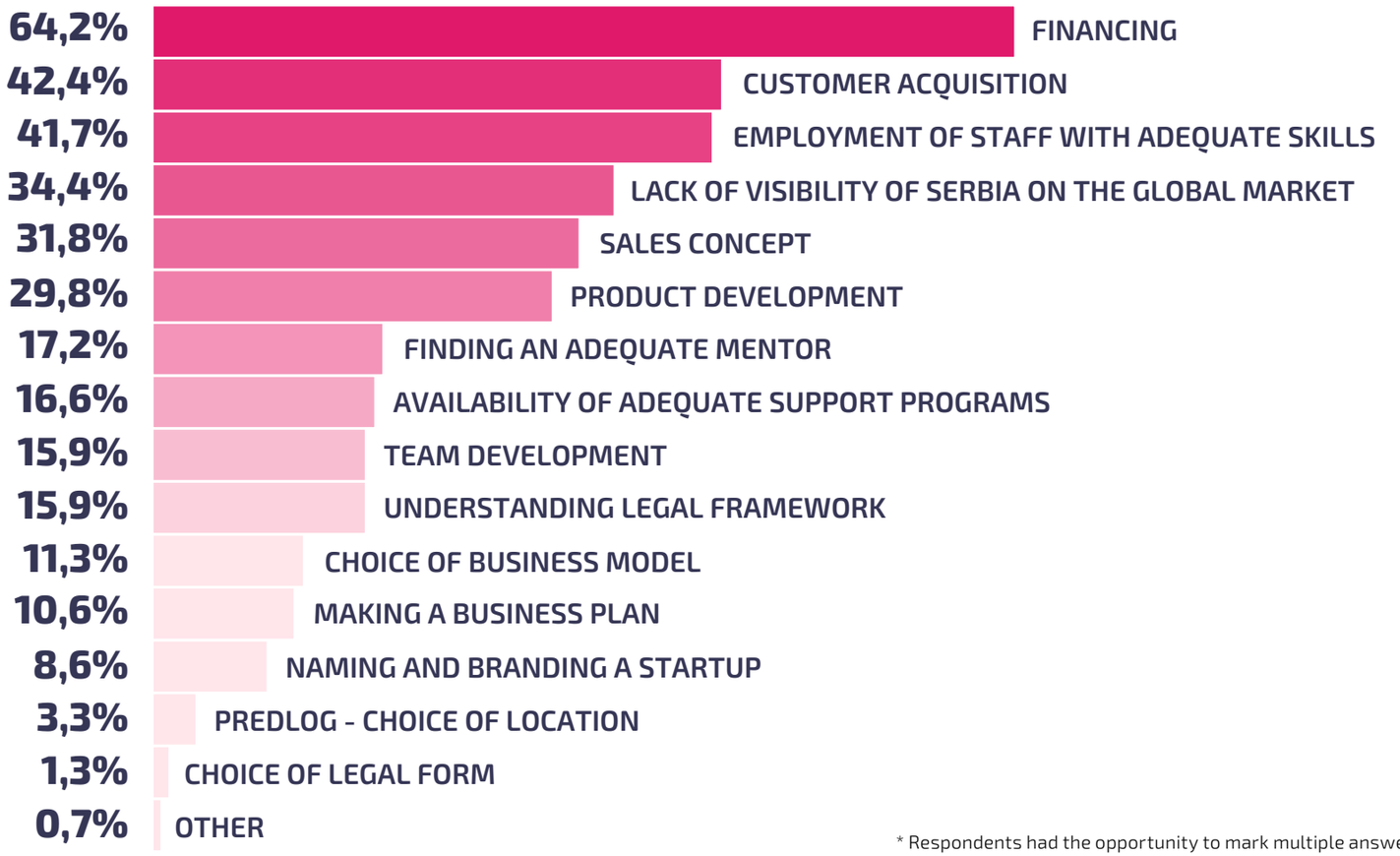
The results of the research have shown that the pandemic did not affect access to market (44.4%), access to the labor force (64.9%) and funding of startup activities (57%). However, when we look at the distribution of the remaining two options, whether it had negative or positive impact, we notice that in terms of access to labor and funding the pandemic had a negative impact, while the opposite was the case with access to market. Namely, the COVID-19 pandemic had a positive impact on 33.8% of startups. Observed by industry sectors, it can be seen that these were mostly startups active in the software industry, followed by those engaged in other industries and marketing.



CHALLENGES FOR STARTUPS IN SERBIA

Given that startups are new teams which develop new products or services, it is clear that there is a number of challenges they face every day. In addition, startup culture in Serbia is still developing and the lack of collective experience and knowledge of the community makes it difficult to overcome some of these challenges. Funding (64.2%), customer acquisition (42.4%), and hiring talent with relevant knowledge and skills (41.7%) have been recognized as the prevailing challenges for the operations and development of startups. Based on the answers of 34.4% of respondents, insufficient visibility of Serbia on the global market appears to be a significant challenge too. Since the main goal of a large number of startups is further growth, it is important to recognize that just over a third of startups have identified the concept of sales as an important challenge. In-depth consideration of these challenges would enable the development of support programs that are in line with the actual needs of startups and thus faster development of the ecosystem.

THE BIGGEST CHALLENGES



* Respondents had the opportunity to mark multiple answers

THE FUTURE OF STARTUP ECOSYSTEMS IN SERBIA

– CONCLUSIONS AND RECOMMENDATIONS

Looking back at the last few years, we can clearly see that there have been many positive developments in the startup ecosystem in Serbia, both in terms of the number and success of startups and the ecosystem as an environment that positively affects them. That is why the domestic startup ecosystem is beginning to attract great attention and interest of the general public, both domestic and international. On the one hand, several programs have been created in the public sector in order to support innovation activities, while on the other hand, we are witnessing an increased influx of investments and support from the private and non-governmental sectors. Startup Scanner 2022 provides a realistic picture of the current state of the domestic ecosystem and lays a good foundation for further creation of support programs, promotion of the startup ecosystem, fundraising, public policy improvement, changes of the regulatory framework, and involvement of the private sector in ecosystem development. The research revealed some surprises, showing both shortcomings and advantages of the startup ecosystem, but it also confirmed some of the previous findings of the Startup Scanner 2019 and the Startup Genome ReportWhen it comes to room for improvement, we would like to single out several main findings: (1) lack of information on intellectual property rights protection, (2) weak impact of formal education on creating and motivating employees and founders, and (3) support programs not meeting the needs of startups.

Intellectual property rights protection in all its forms is often not in the forefront of startups that develop great solutions in small teams, but intellectual property issues are very common when negotiating investments and they give special weight to products and brands in relation to customers. Whether it is a trademark, source code or patent, it is necessary to work on raising awareness about the relevance of this topic.

The findings that are not surprising, but which certainly raise concern are that formal education and support programs are not the main sources of support and education for domestic startups. The consequences of these problems are multifold. The education system does not motivate or prepare students for future entrepreneurial ventures, nor does it create talent in the areas necessary for the development of the digital economy. Thus, research has shown that startups face challenges in hiring team members in many areas that are crucial to their growth and emphasize that they have gained very little relevant knowledge during the formal education process.

On the other hand, although the list of registered startup support organizations has been growing over the years, startups do not recognize these organizations as crucial or very useful for their development and/or success. The founders usually rely on their private contacts (family, friends, and colleagues), which puts those lacking such contacts in a very challenging position.

Taking into account the fact that over 70% of startups that participated in the research are at a very early stage of development (from prototyping to seeking the first investment), support organizations should be the first go-to address for those in need of support when it comes to education, mentoring and funding. Such a large number of startups at an early development stage is a reason for optimism regarding the development of the ecosystem, but also an opportunity to systematize, improve and thus contribute to the realization of opportunities and benefits those startups offer to the domestic economy. The 151 startups that participated in the survey currently employ 1,114 people and plan to employ over 800 more in 2022. Sustainable creation of new jobs in the ecosystem can only continue if the education system creates talent and support organizations uphold the development of startups.

A large number of investments attracted by domestic startups in 2021 is a clear sign that there is great potential in the ecosystem. However, it is only when we have systematized and improved our efforts that we can expect to see constant growth and development of the domestic startup ecosystem.

Nataša Škrbić
Program Director for Startup Ecosystem in the Digital Serbia Initiative

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34. ODNOSI SE NA ZARADU U IZNOSU DO 150.000 DINARA, I MOŽE DA SE KORISTI U PERIODU OD 36 MESECI OD DANA OSNIVANJA PRIVREDNOG DRUŠTVA.

35. POSLODAVAC JE OSLOBOĐENPLAĆANJA 70% OBRAČUNATOG I OBUSTAVLJENOG POREZA IZ ZARADE LICA KOJA SU NEPOSREDNO ANGAŽOVANA NA POSLOVIMA ISTRAŽIVANJA I RAZVOJA, SRAZMERNO VREMENU KOJE TAKVA LICA PROVEDU NA POSLOVIMA ISTRAŽIVANJA I RAZVOJA U ODNOSU NA PUNO RADNO VREME, KAO I 100% DOPRINOSA ZA PIO. ODNOSI SE SAMO NA POSLODAVCE KOJI SU PRAVNA LICA.

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