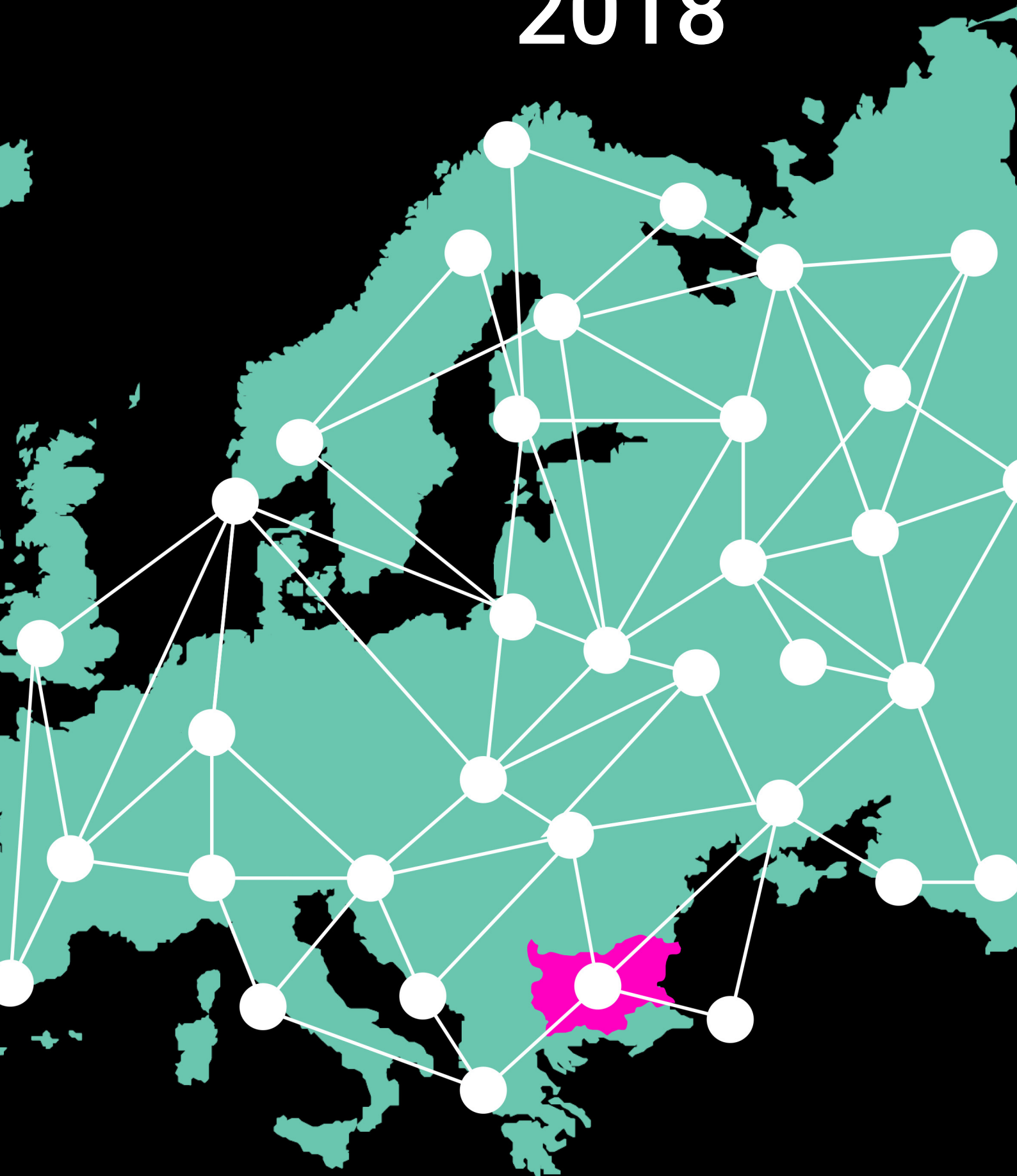


INNOVATION SHIP
BULGARIA | Digital
2018



2018 **EDIT** national report on digital micro, small
and startup business in Bulgaria by **MOVE.BG**

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The authors would like to express their gratitude
to all participating national and local partners
for their crucial role in the conducting of
InnovationShip| Digital 2018 survey in their
respective economies.

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MOVE.BG

is a think and do tank and a platform for value creators. **MOVE.BG** is looking for innovative solutions for social transformation, working for sustainable development, affirming a culture of constructive dialog, participating leadership, and shared values. Since its establishment in 2013 **MOVE.BG** has partnered with over 50 Bulgarian and foreign organizations and has worked with more than 2,000 volunteers. The founders of **MOVE.BG** launched **EDIT** - a program which aims to support digital innovation as a driving factor in the local economy.

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EDIT

EDIT stands for Economic Development via Innovation and Technology and was initiated in 2016 by the **MOVE.BG** Foundation in partnership with a broad coalition of startup ecosystem stakeholders in Bulgaria. **EDIT** was created to address the needs of the micro, small and startup businesses in the information technology industry forming the fastest growing and most innovative economic sector of Bulgaria. **EDIT** conducts the annual national survey measuring economic data of Bulgaria's top digital and innovative businesses. **EDIT**'s program includes variety of activities such as online trainings, topical researches, reports, policy recommendation papers, conferences, and field work across the country in support of the innovative economy in Bulgaria.

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CENTER FOR MODELING SOCIOECONOMIC SYSTEMS

The Center for Modeling Socioeconomic Systems is a unit within Sofia University "St. Kliment Ohridski" that aims at leveraging innovative and interdisciplinary approaches to solve concrete economic and business problems. The major focus of activity is the processing, analysis, and modeling of economic data using advanced scientific tools and methodologies. The major research fields of the Center are business analytics, risk management, digital industry, and economic and managerial decision-making.

DIGITAL DIRECTIONS FROM BULGARIA



SASHA BEZUHANOVA

Founder and board chair of
MOVE.BG & Initiator of **EDIT**

In 2018 Bulgaria has been established as one of the leading innovation centers in Europe.

With the recognition of the vitality of our digital ecosystem, our country hosted strategic forums, tracing the road for the modern and competitive European economy. The digital assembly of Europe 2018, EBAN 20th anniversary congress, Innovative Enterprise week SOFIA 2018, SHEleader@digital and Startup Europe Summit 2018 are among the key events that have gathered in Sofia leaders from the business, academics, investors and international experts, entitled with the key policy-making activities.

Over the past year, we recognize a clear tendency for a change in the outsourcing investments in Bulgaria. KPO (knowledge process outsourcing) are becoming prominent together with BPO (business process outsourcing) and ITO (IT outsourcing) which position Bulgaria as the leader in the CEE region and 15th in the world and 2nd in Europe as a preferred destination for the development of near-shore centers of global companies.

Aligned with the crucial role of a strategic partner in the delivery value chain of the global corporations, we monitor an increasing number of companies developing technological product and system solutions targeted towards the global shared economy. Talented engineering teams are developing a new generation of FinTech, BioTech, RegTech companies and products, based on Artificial Intelligence, Machine Learning, Blockchain and Internet of Things. Those innovative enterprises are the focus of the InnovationShip survey for a third consecutive year, and their growth as mature companies is vital for the economic competitiveness of Bulgaria and Europe.

A crucial factor in the development of the digital economy and key capital of the digital ecosystem in Bulgaria is the environment for knowledge exchange within the ecosystem. Leaders in the technology industries share their knowledge in constantly upgrading educational formats. The Telerik academy, the practical educational forums by DEV.BG, Software University, Founder Institute, the monthly online program The Innovators, Women Who Code, the Programmers' Club society for knowledge exchange and the communities including Crypto Meetups, Design Drinks, Legal Hackers, together with the growing number of co-working spaces serve as the fuel for the digital entrepreneurs and shape the leaders in tomorrow's innovative economy in Bulgaria.

The investment community plays a significant role in the development of the innovative economy. The Angel Investors and Venture Capital funds participate in the development of startup businesses, not only as a source of capital but also as active mentors leveraging on their experience and networking contacts. Five new funds have emerged in 2018, which has increased access to investment capital but the essential benefit for numerous small enterprises, their market expansion abroad and successful exits of Bulgarian companies in less than five years after their founding, came precisely because of the close participation of the investors in the market positioning.

InnovationShip 2018 confirms that the formula for success is in the shared efforts of the key players in the digital ecosystem. **EDIT** will continue to unite the drivers for the innovative development in Bulgaria and to establish our country as a leading digital hub in Europe.

A stylized handwritten signature in black ink.



TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
METHODOLOGY	3
PROFILE	4
UP AND COMING	4
INNOVATIVE SERVICES ALL THE WAY	5
NOTHING TO LOSE BUT YOUR BLOCKCHAINS	7
THE IMPACTFUL BUNCH	8
FINANCE	9
MONETIZATION CHALLENGES	9
PUTTING YOUR MONEY WHERE YOUR MOUTH IS	10
MAYBE RAISING	11
AN EVEN BRIGHTER FUTURE	12
INTERNATIONALIZATION	13
SELL LOCALLY, PLAN GLOBALLY	13
COMPETING WITH THE BEST	14
HUMAN CAPITAL	15
STILL LOOKING FOR PEOPLE	15
HIRING NETWORKS	15
FOUNDERS ARE FROM VENUS, CO-FOUNDERS ARE FROM MARS	16
CHALLENGES & SOLUTIONS	19
NOBODY SAID IT IS EASY	19
A HELPING HAND	19





EXECUTIVE SUMMARY

The InnovationShip 2018 survey presents the most comprehensive and detailed mapping of the Bulgarian digital ecosystem for the third time in a row. This year's data contains 213 different companies that filled the detailed questionnaire prepared and administered by **MOVE.BG**'s digital platform **EDIT.BG**. This sample is almost evenly split between established companies (50%) and startups (45%), with 5% of the respondents comprising other players in the ecosystem – NGOs, public units, academia.

The geography of the digital ecosystem broadly follows the geography of the overall economy, with high concentration in larger cities. In the case of the digital companies, there is massive over-concentration in Sofia – around 71% of all respondents report being located in the city of Sofia.

SMALL AND LEAN INNOVATORS

■ By their very definition, SMEs and startups are small in size, and we observe mostly very lean teams – 27% of all companies have 3 or less employees, and another 34% employ up to 10 people.

■ Only a minority of the companies we asked (25%) offer only products. The rest three quarters either combines product and service offering (39%) or have offer exclusively services (35%).

■ About two in three companies report that the unique selling proposition contains an innovative component. Of these 21% provide an innovation specific to the local market, 7% - to the regional, and 6% - to the European. A total of 29% of the companies offer a global innovation and seem ready to disrupt the international markets with it.

■ The largest number of company offerings are in the field of machine learning and big data analytics, closely followed by platform building.

■ For the first year, the Innovationship survey probes how important the social impact is for the digital SMEs and startups. 45% of all asked responded that having a social impact is important for their organization.

■ Companies are mostly involved in platform building (46%), big data analytics (25%), machine learning and AI (23%), and cloud computing (19%). Those fields of specialization underlie the foundational technologies for a burgeoning fintech cluster. The

largest growing type of technological specialization is now in the blockchain field up 25% from 2017.

GOOD AND IMPROVING FINANCIALS

■ 59% of the companies have a positive cash flow. Among those, service companies perform better than product ones.

■ An encouraging result is that an overwhelming proportion of our respondents believe enough in their dreams so finance them – in 40% of the companies the major source of initial capital is founders' savings.

■ A large proportion of the studied companies are optimistic about the future – fully 85% of them expect positive revenue growth, sometimes pretty significant.

■ More than half of the companies (51%) have revenue from international markets. 13% of companies have a quarter or less of their income from abroad, and an additional 10% have between a quarter and a half. 36% of all companies surveyed derive the majority of their revenue from international markets.

THE PEOPLE MAKE THE PLACE

■ **InnovationShip 2018** largely replicates the trend for tech talent scarcity – 59% of the companies are struggling to find software engineers or developers. 29% of the respondents report difficulty finding employees with specialized skills such as data analysis, legal or research, and 28% struggle to find good salespeople.

■ There still remains a relatively large number of companies that are started only by male founders – this is about 77% of our sample. In around one in five companies, the founding teams is comprised of both male and female entrepreneurs, and in those rare 2% there are only female founders.

■ Despite some impressive successes small digital companies face numerous challenges. Companies in our sample overwhelmingly identify the shortage of qualified personnel as a major difficulty. This is reported by 44% of companies as their greatest obstacle.

IN NEED OF GOOD POLICY

■ Companies identify administration (30%) and lack of institutional support (27%) as important barriers.

■ Digital startups and SMEs are not looking for state handouts or subsidies but rather for measures that aim to improve the whole ecosystem – horizontal initiatives such as better regulation (taxes and financing), less bureaucracy (e-government), support for investors, improved labor policies (education and immigration).





METHODOLOGY

The methodology for data collection is based on an online survey composed of 60 questions which cover aspects such as the main business activity, desire for social impact, financial indicators, markets, the founders and the team structure, and challenges that participating companies face.

Between August and October 2018, 213 companies which met the criteria for micro, small or medium enterprise or a start-up offering a digital product or service participated in the survey. A number of questions in the survey include the option for multiple answers, therefore some of the visualised results exceed 100%. Initial analysis includes descriptive statistics of key questions of the survey, thus providing a high-level overview of key features of the ecosystem. Additional analysis on open-ended questions leveraged Natural Language Processing (NLP) methods in order to enable a deeper understanding of companies' business goals and motivations.

The design of the survey allows for automatic skipping of questions depending on their relevance for the particular company. As a result, some of the conclusions are valid for fewer than the total number of respondents. The design of this study, the development of the questionnaire and the preparation of this report are a product of **MOVE.BG**. The Center for Modeling Socioeconomic Systems at Sofia University processed the data collected through the survey. The analysis of open-ended questions was done in cooperation with HyperAspect, leveraging their innovative NLP solution.





PROFILE

The **InnovationShip 2018** survey presents the most comprehensive and detailed mapping of the Bulgarian digital ecosystem for the third time in a row. This year's data contains 213 different companies that filled the detailed questionnaire prepared and administered by **MOVE.BG's** digital platform **EDIT.BG**. This sample is almost evenly split between established companies (50%) and startups (45%), with 5% of the respondents comprising other players in the ecosystem – NGOs, public units, academia.

UP AND COMING

The companies surveyed are young, and fully 15% of all participants were established this year. Their average age is less than 6 years. The geography of the digital ecosystem broadly follows the geography of the overall economy, with high concentration in larger cities. In the case of the digital companies, there is massive over-concentration in Sofia – a total of 71% of all respondents report being located in the city of Sofia. Plovdiv, Varna, and Veliko Turnovo are the other Bulgarian cities with high concentration of IT startup activity.

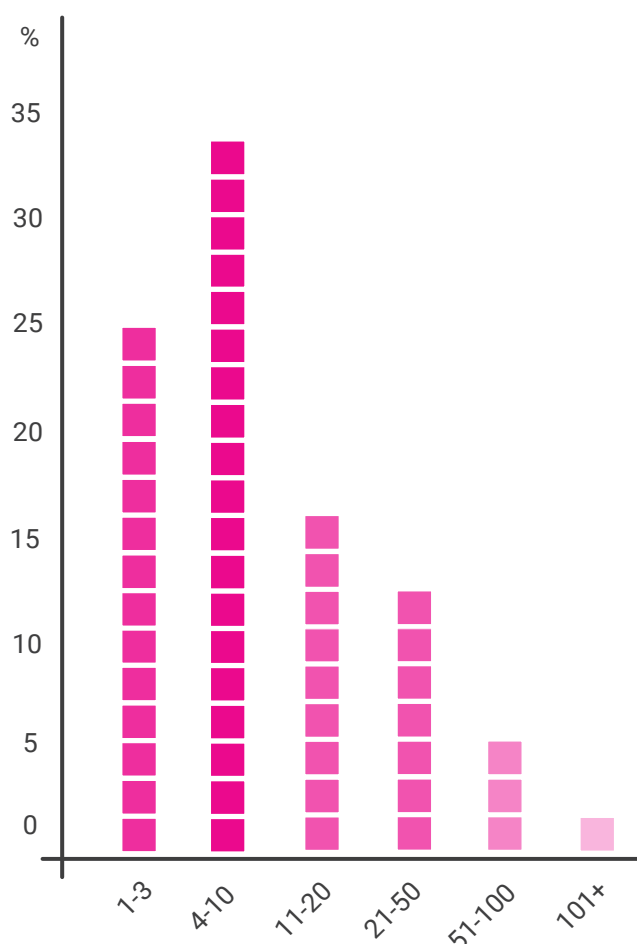


Figure 1: How many people work in your company?

Massive overconcentration in Sofia – fully **71%** of respondents based there.

Companies in the sample embrace new trends – 19% of them work remotely and have no physical space, and 10% work out from co-working space. The classical office arrangement characterizes 65% of them, 2% are located in an incubator or accelerator, and 3% operate from multiple global locations.

19% of companies work remotely and **10%** - out of a co-working space.

By their very definition, SMEs and startups are small in size, and we observe mostly very lean teams – 27% of all companies have 3 or less employees, and another 34% employ up to 10 people. Larger companies are much rarer, and only 3% of the firms have reached size beyond the 100 threshold. This roughly corresponds to the 2% of respondents that report themselves as being a late stage company with revenues above 10 Million.

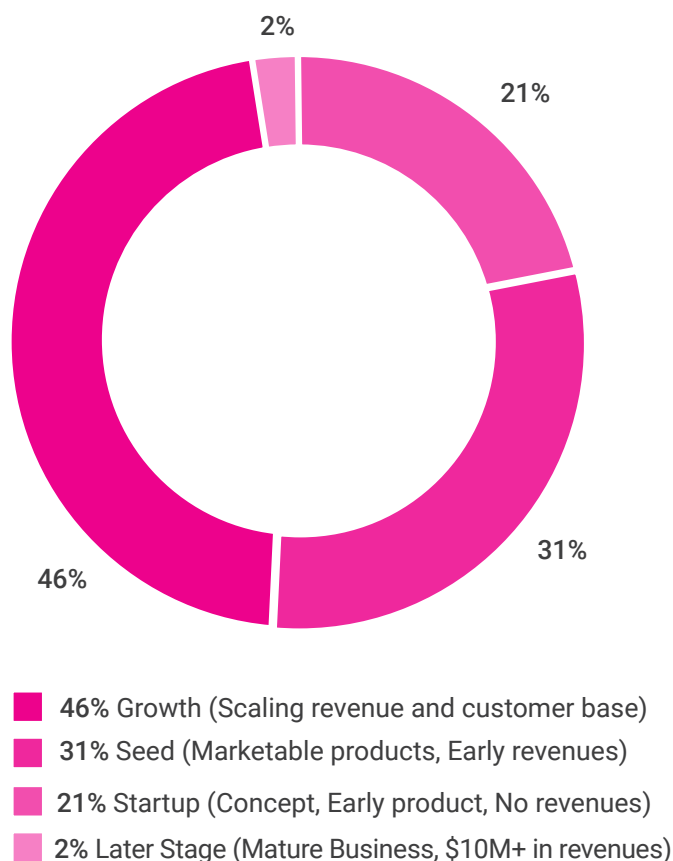


Figure 2: Stage of development of the company

The sample covered a large number of companies at different stages of development and thus allows a unique peek into the specific problems of diverse players – from the startups to mature businesses. The startups comprise 21% of the sample, and together with the seed companies (31%) form the majority of respondents. There is also a relatively large number of companies in the growth stage with scaling revenues and increasing customer base – 46%. The rest 2% are later stage businesses with solid revenue of over 10 Million USD.

INNOVATIVE SERVICES ALL THE WAY

Only a minority of the companies we asked (25%) offer only products. The rest three quarters either combines product and service offering (39%) or have offer exclusively services (35%). This is probably due to the fact that initial entry into the market is easier for services, and this first foothold can then enable the startup to develop a product of their own.

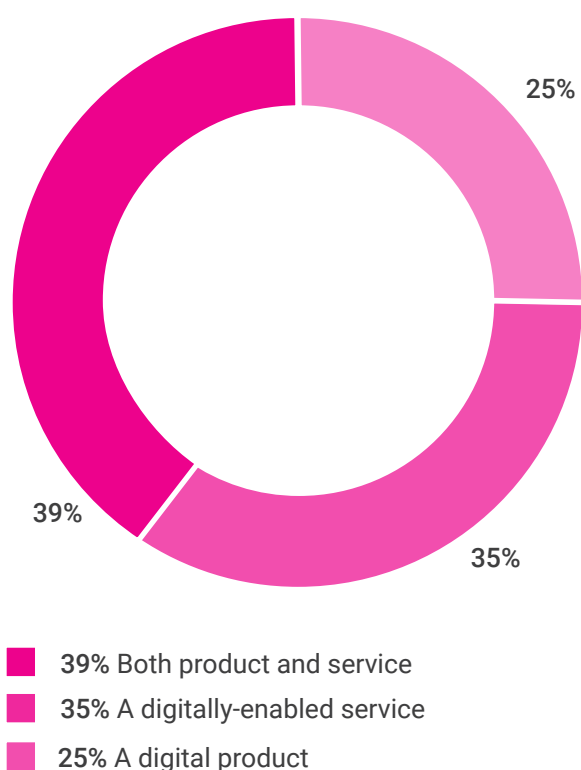


Figure 3: Which mostly describes your core business?

74% of companies have a service offering.

Irrespective of the offering, Bulgarian digital companies are overwhelmingly innovative. About two in three companies report that the unique selling proposition contains an innovative component. Of these 21% provide an innovation specific to the local market, 7% - to the regional, and 6% - to the European. An impressive 29% of the companies offer a global innovation and seem ready to disrupt the international markets with it. Such numbers show the growing maturity of the ecosystem, where companies realize the crucial role that novel products and approaches have for their competitive positioning.

29% of the companies offer a global innovation.

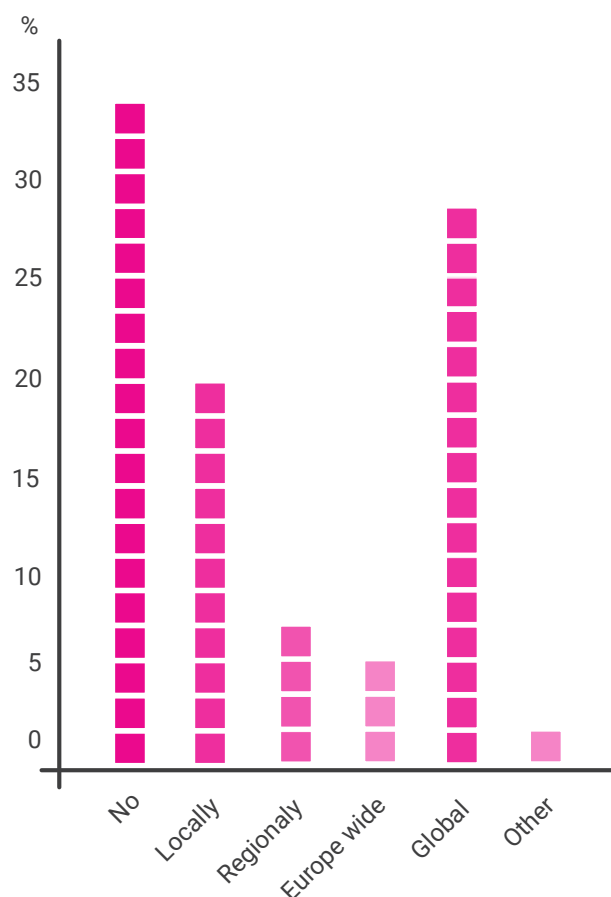
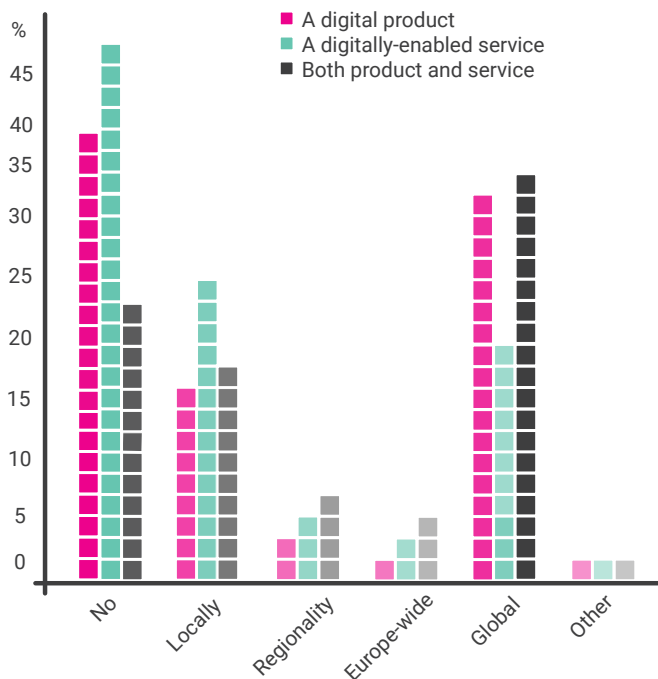


Figure 4: Are you offering an innovative product or service?

Data shows that the level of innovation in the Bulgarian digital ecosystem follows a clear U-curve – a large group of companies either offer no innovation, and a large group of companies offer global innovations. The middle is hollowed out.



Company offerings are in the field of **machine learning** and **big data**, followed by **platform** building.

Figure 5: Percentage of innovative offering across business models

Data shows that 41% of product companies, 43% of service companies and 24% of mixed ones compete in already established markets with known business models and offer little in terms of novelty. This means that those companies rely on operational excellence and superior marketing, together with robust overall market growth to turn profitable. A smaller sub-sample of the companies in our sample (about a fifth) offer local market innovations, likely transferring concepts and business models to the national market. Finally, about a third of product (33%) and mixed (35%) companies have an innovative global offering. This is true for only 20% of service companies.

1/3 of product companies and a fifth of service companies offer global innovations

Technological trends in the Bulgarian ecosystem broadly follow the global trends in Europe and the US. The largest number of company offerings are in the field of machine learning and big data analytics, closely followed by platform building. Cloud computing and blockchain/API integration are the next largest areas of concentration. Less attention is received by offerings in IoT, virtual reality, and information security. The least popular areas of specialization in the ecosystem seem to be biometric solutions and automation. Both fields require solid talent, as well as subject matter expertise but seem well-positioned to profit from a globally growing market.

NOTHING TO LOSE BUT YOUR BLOCKCHAINS

Looking at the type of specialization and technologies that Bulgarian digital companies used, we see a clear picture with persistent trends across both the 2017 and 2018 waves of the **InnovationShip** survey. Companies are mostly involved in platform building (46%), big data analytics (25%), machine learning and AI (23%), and cloud computing (19%). Those fields of specialization underlie the foundational technologies for a burgeoning fintech cluster. Across the sample, 45% of the companies target other IT companies, thus providing technological expertise and products to vendors, 7% target retail companies, 4% target directly the financial sector, and 10% - other service activities. Across all those we see innovative products and services connected to payments.

The points of specialization provide the foundational technologies for a burgeoning fintech cluster

To this we also add the fact that the largest growing type of technological specialization is now in the blockchain field – there are 25% more companies specializing in it than in 2017. The numbers hint at the increasing number and sophistication of the small digitals in advanced technologies that could be of services to financial sector institutions.

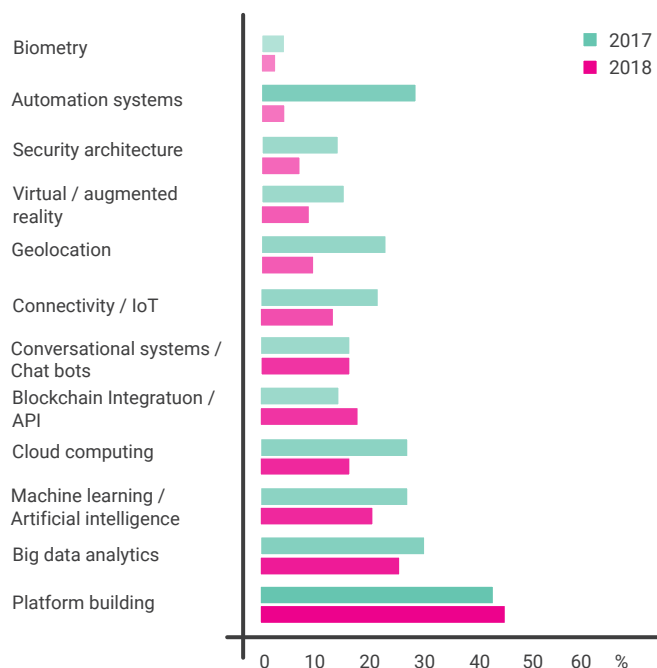


Figure 6: Tech companies are mostly focusing on



THE IMPACTFUL BUNCH

For the first year, the **InnovationShip** survey probes how important the social impact is for the digital SMEs and startups. While 95% of the respondents are for-profit companies, more and more of them find ways of employing technology to bring social change in a financially sustainable way. This comes against the backdrop of global trends such as the rise of social entrepreneurship and the proliferation of civic tech, and it seems that the Bulgarian startups are riding this wave. Fully 45% of all asked responded that having a social impact is important for their organization.

A natural question is whether the impactful organizations start idealistic, or develop this goal only later as the organizational resources and maturity allow such a shift. This essentially boils down to the question of whether social entrepreneurship is possible, or it is only larger companies that can afford to devote resources to help society.

Looking at the data, it seems that there is almost no difference in terms of what growth stage organizations are located. While socially impactful companies tend to dominate in the startup and later stages, they are relatively less in the growth stage. Overall, it does not seem that organizations who want to contribute to society need to be big to survive.

Socially impactful organizations don't need to be big to survive.

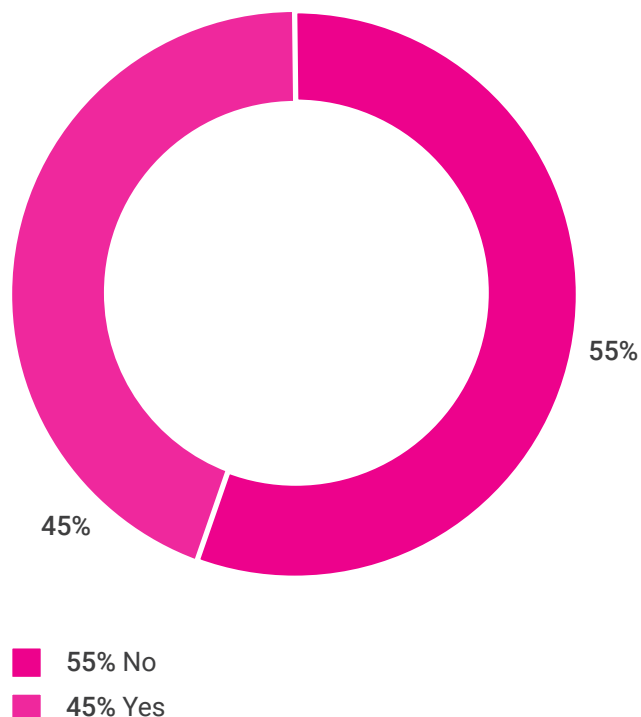


Figure 7: Is having a social impact a major focus of your organization?

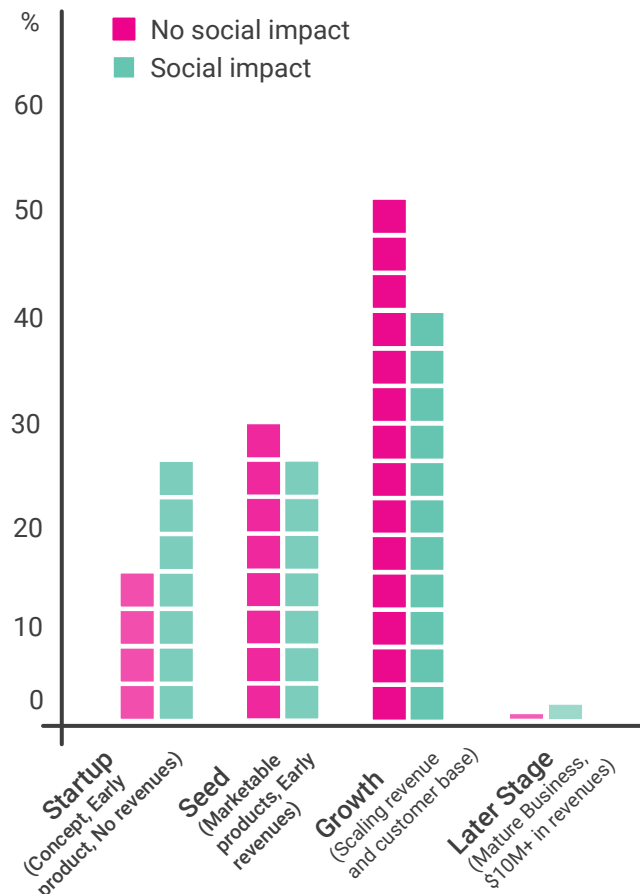


Figure 8: Social impact of companies per their stage of development



FINANCE

Apart from the ability to ideate and deliver a top-notch innovation, startups and the small digitals need to show an excellent product-market fit, demonstrate traction, and ultimately deliver financially sustainable results. Previous waves of **InnovationShip** have shown that reaching the financial break-even may be quite challenging for some. This edition of the survey shows that while difficulties persist, there are some spectacular achievers, as well.

MONETIZATION CHALLENGES

Typically, one expects new and innovative companies to start off with little or no revenues until they validate the market hypothesis and perfect their business model. This expectation is borne out in this year's **InnovationShip** data with 22% of the companies having no revenue, and an additional 17% - revenue of just under 25,000 EUR.



Figure 9: Distribution of revenue across the sample

The largest part of the sample registers annual income of between 151,000 and 500,000 EUR, which showcases their potential and may be utilized to scale further. The big winners in this year's survey are still few – only 9% of the responding companies have broken the glass ceiling of 1 Million EUR, and only 0.5% report revenue above 10 Million EUR.

21% of the ventures have annual income 151-500 thousand euro

This result comes against the backdrop of a still very high number of companies that register losses. While 22% of the companies report no revenue, an additional 19% do have revenue, but they fail to cover the costs of operation.

59% of the companies have a positive cash flow.

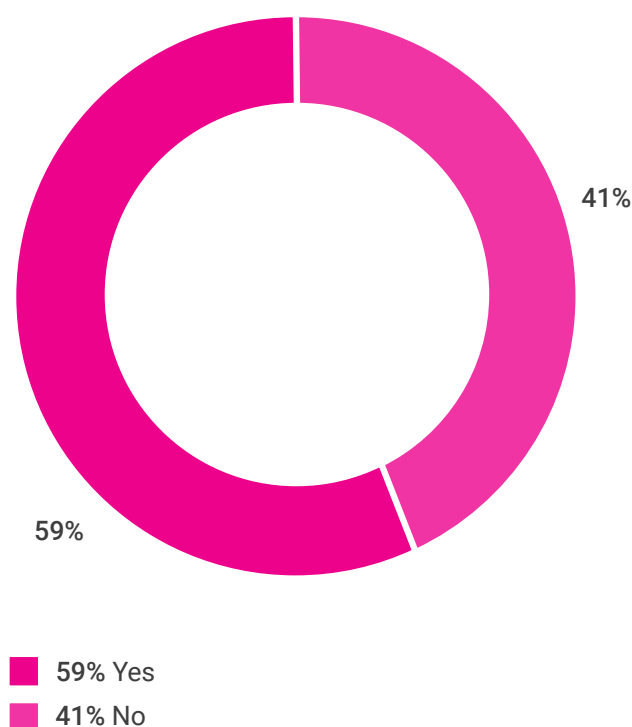


Figure 10: Was the company cash flow positive in the last fiscal year?

This paints a clear picture of four in ten firms in the sample that have a negative cash flow. The rest – 59% of the companies have a positive cash flow.

There is a clear trend among different business models – companies that offer services or have a service component are much more likely to be profitable. Looking at product companies, 50% have a negative cash flow, while among purely service companies this figure stands significantly lower at 35%. Companies with both a service and a product component in their offering stand between those extremes – among them 41% are not profitable, and 59% are.

65% of service companies are profitable contrasted with **50%** of product companies.

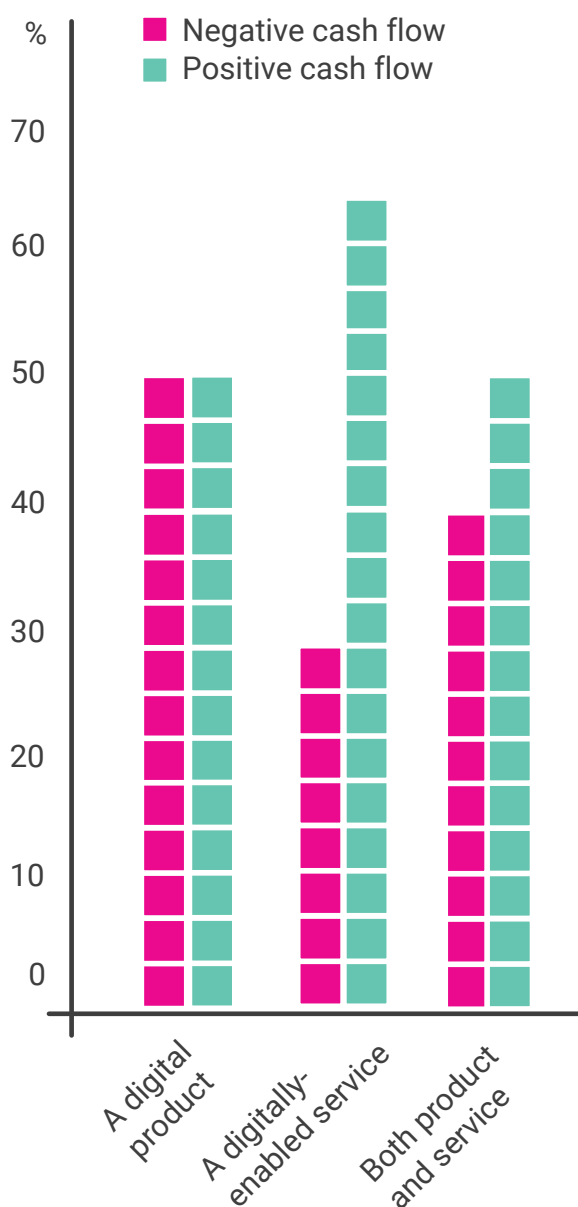


Figure 11: Financial results across business models

PUTTING YOUR MONEY WHERE YOUR MOUTH IS

Previous editions of the survey asked for all possible sources of starting capital, and we observed a large variety of financing opportunities. This year, however, we decided to focus on the largest source of starting capital to assess the relative importance of those possibilities in the Bulgarian digital ecosystem. An encouraging result is that an overwhelming proportion of our respondents believe enough in their dreams so finance them – in 40% of the companies the major source of initial capital is founders' savings.

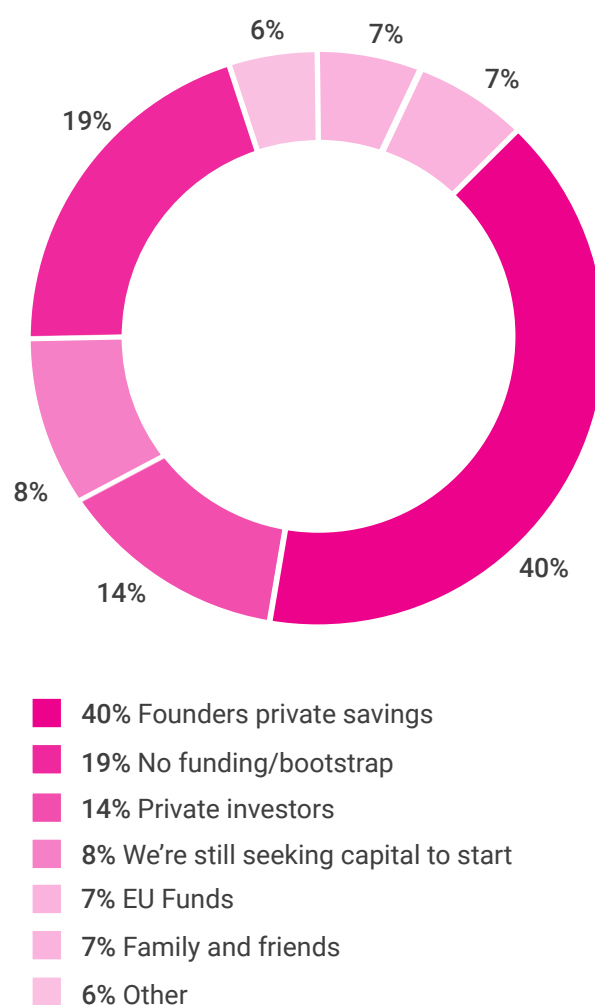


Figure 12: What was the major source of your starting capital?

The second largest group – 19% - are those companies that seek no external funding the finance themselves through the operations of the company or simply invest their time. An additional 7% have counted on family and friends for financial support. This makes a staggering 66% of all companies within the ecosystem that have no recourse to institutionalized forms of startup funding like private or public investors, state help, or EU funding. Even when startups look to investors, they are twice as likely to prefer pri-

vate investors (14%) in comparison to state-aid and EU-funded programs and investing vehicles such as Eleven or Launchhub (7%). This trend may be caused by a growing distrust in the public sector and its ability to produce fair and efficient results. The attitude also seems to spill over to all ventures powered by public sector funding. As a final note, we observe the encouraging trend of only 8% of companies that are still seeking financial support. This shows that the relative abundance of small early-stage startup investment possibilities in the ecosystem leads to the financing of a large proportion of seekers.

66% of all companies have not used institutionalized forms of startup funding

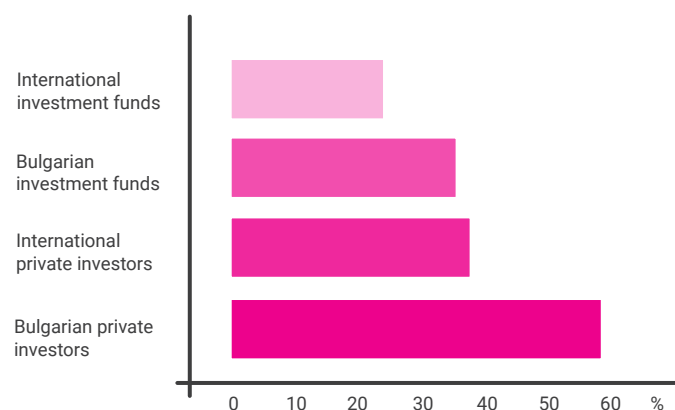


Figure 13: Sources of additional external capital raised

Some 18% of the companies in our sample have successfully completed additional rounds of raising capital, thus showcasing their market viability. Those additional rounds are still largely dominated by national investors – Bulgarian private investors have participated in 59% of those, and Bulgarian investment funds have participated in 36% of those. The participation of international investors is almost as high (38%), but significantly fewer non-Bulgarian funds are involved (15%). This underlines the preference for private investors as opposed to funds, and the home-bias that we see in investments.

MAYBE RAISING

A large proportion of the companies in the sample are currently planning another round of fund-raising over the next 12 months – around 44% of all respondents. While this number may seem high, it likely reflects the usual dynamics of startups and innovative companies that obtain successive rounds of financial support as they prove their product-market fit, demonstrate traction, and validate their ability to grow and scale-up.

44% of all companies are planning to raise funds over the next 12 months

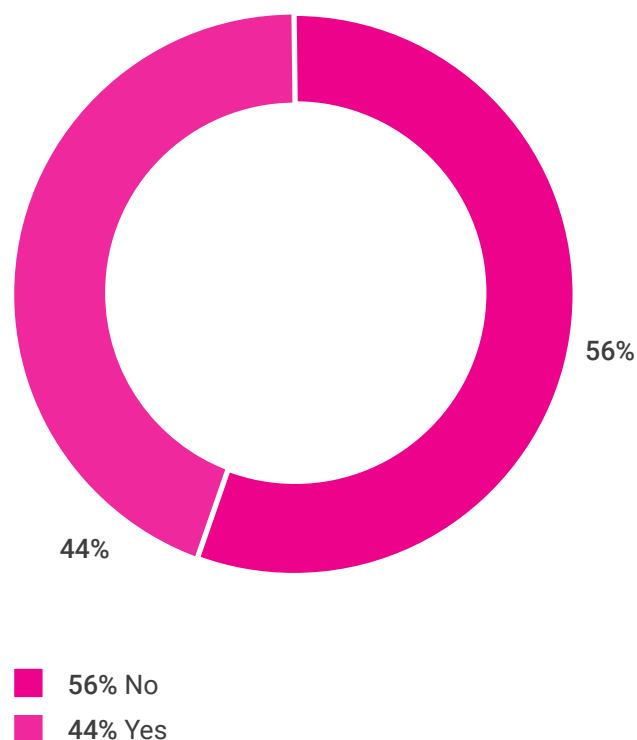


Figure 14: Are you planning fundraising in the next 12 months?

It is therefore little surprise that the overwhelming proportion of companies planning to raise need this additional financing to expand and strengthen their teams (73%). An encouraging result is that more than half of the startups and digital SMEs plan to invest part of the proceeds into Research & Development activities, probably aiming to strengthen their competitive offering. About half of the companies plan to use the additional funds to either enter new markets (54%) or to support their marketing activity (50%).

More than half of the startups plan to invest in R&D.

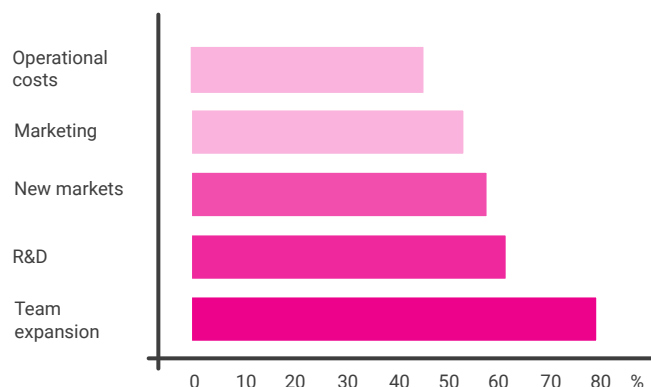


Figure 15: Uses for the additional capital to be raised

AN EVEN BRIGHTER FUTURE

A large proportion of the studied companies are optimistic about the future – fully 85% of them expect positive revenue growth, sometimes pretty significant. This figure is somewhat lower than the 90% in Inovationship 2017 but still serves to underline the predominantly upbeat mood in the ecosystem.



85% of companies expect revenue growth this year.

There is an additional trend in data that merits further attention. We asked what is the profile of companies that expect to grow exponentially in contrast to the more modest growers. It seems that product companies are the stellar growers – they lead the pack in the triple-digit expectations. 9% of all product companies expect revenue growth of above 200%, and an additional 13% of them expect their income to grow above 100%. A successful product seems to scale spectacularly, but the dark side of this is a longer period of finding the proper market and first paying customers. This period is usually characterized by no revenue growth, and 17% of product companies find themselves in this situation – higher than those with service or mixed offering. On the other hand, service and mixed product-service companies expect robust, if not impressive, growth. About 57% of service and 49% of mixed companies forecast positive revenue increases of less than 25%.

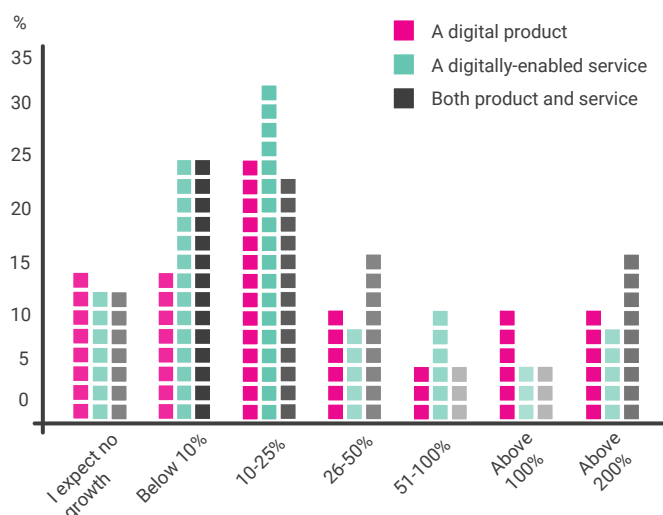


Figure 16: Revenue growth expectations per core business type



INTERNATIONALIZATION

In this year's survey, the trends identified in **InnovationShip 2017** persist. Innovative companies are extremely interested in export markets, and some of them compete successfully there. However, there seems to be a slight return to the national market as a test case or home base from which the international expansion can proceed.

SELL LOCALLY, PLAN GLOBALLY

The overwhelming trend of this year's companies is that they sell in Bulgaria much more. Fully 81% of all respondents reported that the country is one of their current markets. This is a sharp rise compared to last year's results, and we hope that it is indicative of an improved perception of the local market. To add further to that, of the 19% that currently do not sell in Bulgaria, 15% plan to do so over the next 12 months. This points to the archetypal innovative success story, whereby a small company establishes itself locally before it proceeds to the international markets. An alternative interpretation to that may be that currently growing clusters of activity and support within the ecosystem make it easier or even desirable to also offer the product to the local market. **The InnovationShip 2017** mentioned the lack of interest in the home market as an inconvenient topic as it prevents innovation spill lovers into other sectors of the economy. It seems that this trend is reversing.

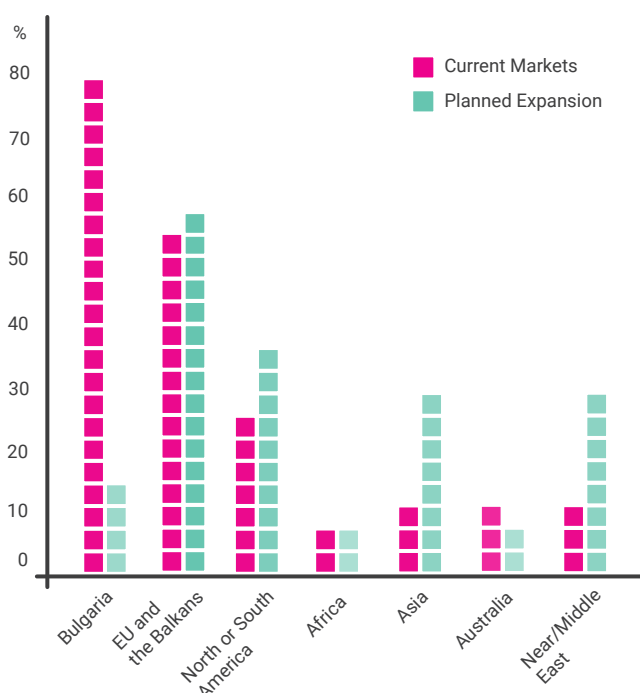


Figure 17: Current markets and planned expansions over the next year

81% of companies sell in Bulgaria, and **56%** - in Europe.

Large markets for the companies in our sample remain the countries from the region and the European Union, which is natural given the geographic, legal, and business proximity. Currently, 56% of the asked companies sell in Europe. The third largest current market is the Americas with around a quarter of the firms competing there. Africa, Asia, and Australia are of less interest to the small digitals – a trend that persisted from last year. Interestingly, a significant proportion of companies reported last year that they plan expansion in Asia, but this year's results show that this initiative was either unsuccessful or not attempted at all as only 9% of the companies currently sell to the Asian market.

The routes for expansion are also clear. Virtually everyone who is not selling to other European countries intends to do so, and some companies plan to expand in further markets on the continent. Overall, 60% will expand to one or more countries in the EU that they do not currently cover. Around a third of companies plan to expand to the Americas (37%) or Asia (30%). As a new trend that we have observed before is a rising interest in Middle Eastern markets, with 28% of the respondents saying they plan to expand in this direction.

International expansion is naturally a significant challenge for smaller companies, and they seem to follow a multitude of strategies to achieve a foothold abroad. The two most successful strategies for expansion abroad are to use business networks (24%) and to leverage personal networks (22%). By a large margin, the third one is to attend conferences, reported as most useful by only 6% of respondents.

Using business and personal networks are best for expanding abroad

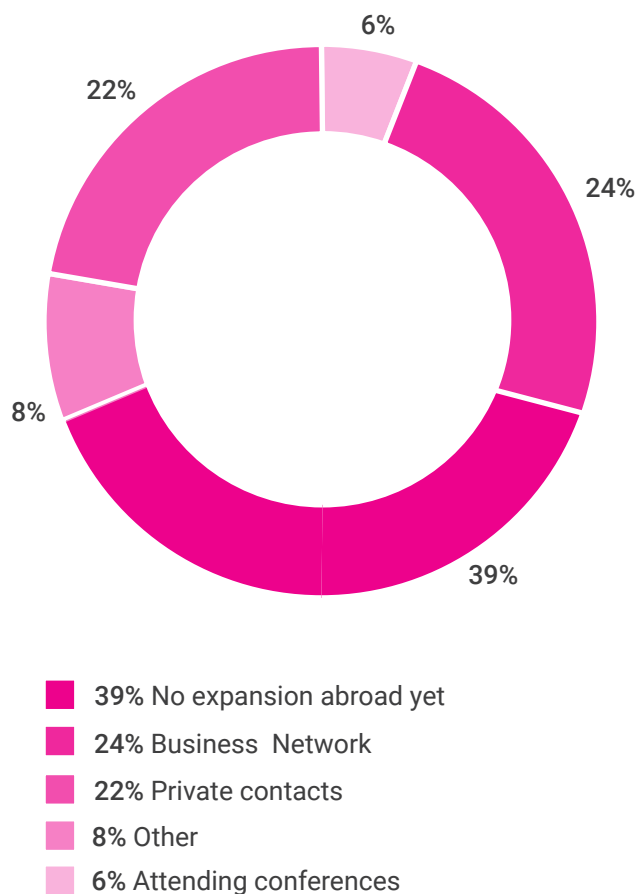


Figure 18: What has helped / is helping you most to expand abroad?

It is worth noting that some of the classic strategies for international expansion do not seem to be very useful. Only one company reported that an initiative from the Ministry of Economy or another state agency was most helpful, and two additional companies reported academic networks as helping them most. Contrary to expectation, investors' contacts play a very minor role. Only one company cited those as a key factor for their expansion.

COMPETING WITH THE BEST

Finally, a successful global market strategy is eventually reflected in the company's bottom line. It is clear that a lot of Bulgarian startups and digital SMEs have executed successfully, as more than half of them (51%) have revenue from international markets. 13% of companies have a quarter or less of their income from abroad, and an additional 10% have between a quarter and a half. 36% of all companies surveyed derive the majority of their revenue from international markets.

In addition to that, there seems to be a non-linear dynamic at work here. Among the export-oriented companies, there is a large proportion of those highly-focused on foreign markets – 60% of the companies that sell on foreign markets have them as a primary revenue source. Essentially, once they gain a foothold, companies try to position their offerings mostly on the international market. Their ability to derive revenue from that effort shows that they are not only competing with the best, but also winning.

60% of the companies that sell on foreign markets have them as a primary revenue source.

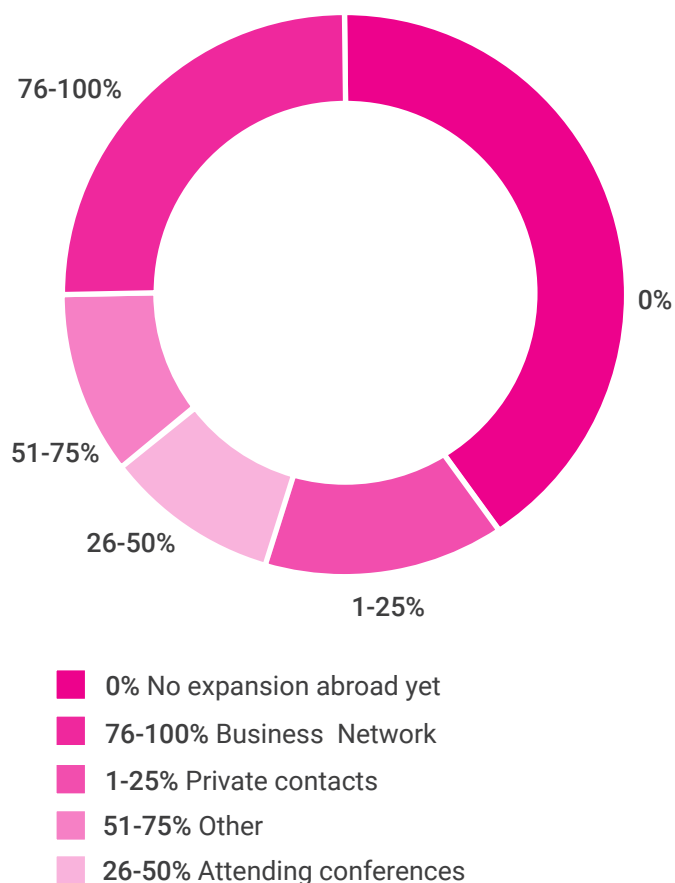


Figure 19: Share of revenues coming from exports



HUMAN CAPITAL

Within the overall labor market in the country, the one for talents with digital skills is particularly tight. We see this both in overall economic data and business statistics (4.2% unemployment in the region of Sofia as of Q2.2018), as well as hear it anecdotally from founders and executives. Like previous waves of the survey, we dig a little deeper into the specific problems young digital companies face.

STILL LOOKING FOR PEOPLE

Finding the right mix of people with adequate skills is crucial to fuel innovative and deliver sustainable business performance. While initially founders invest a large amount of their own time into their product or service, eventually successful companies grow and meet the harsh realities of the labor market. **InnovationShip 2018** largely replicates the trend for tech talent scarcity – 59% of the companies are struggling to find software engineers or developers. 29% of the respondents report difficulty finding employees with specialized skills such as data analysis, legal or research, and 28% struggle to find good salespeople.

59% of the companies are struggling to find software engineers or developers.

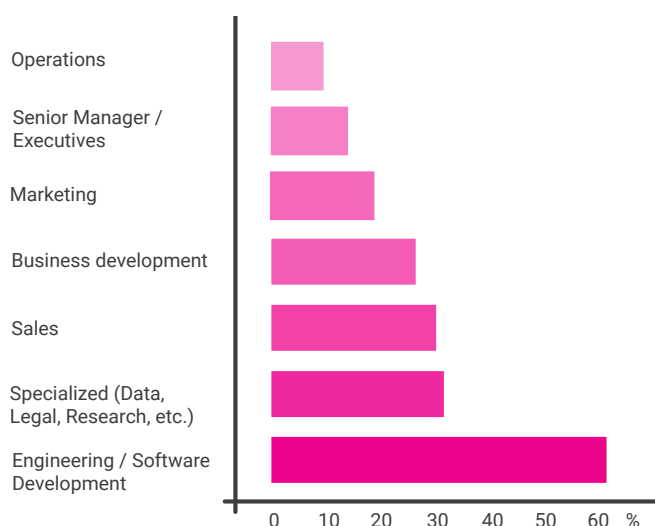


Figure 20: What talent is hardest to find?

On the business side, there are also problems to find business development (25%) or marketing (17%) talent. It seems easiest to find excellent operational people – only one in ten companies reports difficulties finding senior managers (14%) or operations experts (10%). This may presumably be due to the fact that young startup companies and digital SMEs need to hire relatively less among those.

On the business side, companies are looking for sales, marketing and business development experts.

Those numbers come at the backdrop of a constantly increasing demand for new people. 52% of the companies have already decided that they will hire more people over the next 12 months, and an additional 40% might here in case their development allows that. It is therefore little surprise that our small digitals are starting to tap into foreign talent – now 29% of companies report that they have foreign nationals on the team, and 13% have foreigners as founders or co-founders.

29% of companies report that they have foreign nationals on the team.

HIRING NETWORKS

In this situation of labor shortage, companies have found many ways to fill their ranks with top people, and most of them are not what would be expected. The overwhelming majority of the sample participants – 54% – reported that they rely on referrals in their hiring process thus leveraging the networks of their founders, current employees, friends and acquaintances.

Most companies – 54% – rely on referrals when hiring.

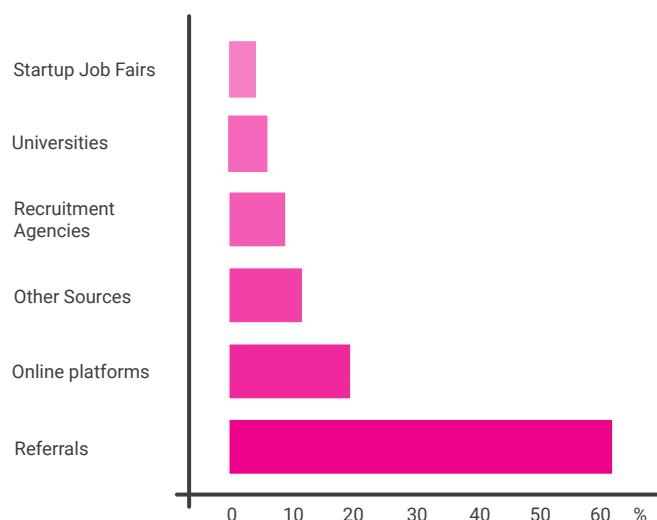


Figure 21: What is the main talent source for the company?

The second most popular option, by a wide margin, is online platforms – 17% of the companies used them to find talent. Traditional sources of potential candidates seem largely ignored. Only 8% of the companies rely on recruitment agencies, 6% go to universities, and as few as 4% count on startup job fairs. Young companies seem wary of traditional methods of recruitment and likely see referrals as additional validation for job candidates. However, the low usage of agencies, university career centers, and job fairs also underlines opportunities to leverage these channels as well for HR purposes.

FOUNDERS ARE FROM VENUS, CO-FOUNDERS ARE FROM MARS

The heroes of the startup narrative are definitely the founders and the early employees who have believed in the dream of disruption. It is therefore important for the overview of the ecosystem to have a clear idea of who sparks new companies. Overwhelmingly, startups are founded by a few people. In 31% of the cases this is just one individual, and in 38% - two. An additional 20% of young companies have 3 founders, and only 11% - four or more.

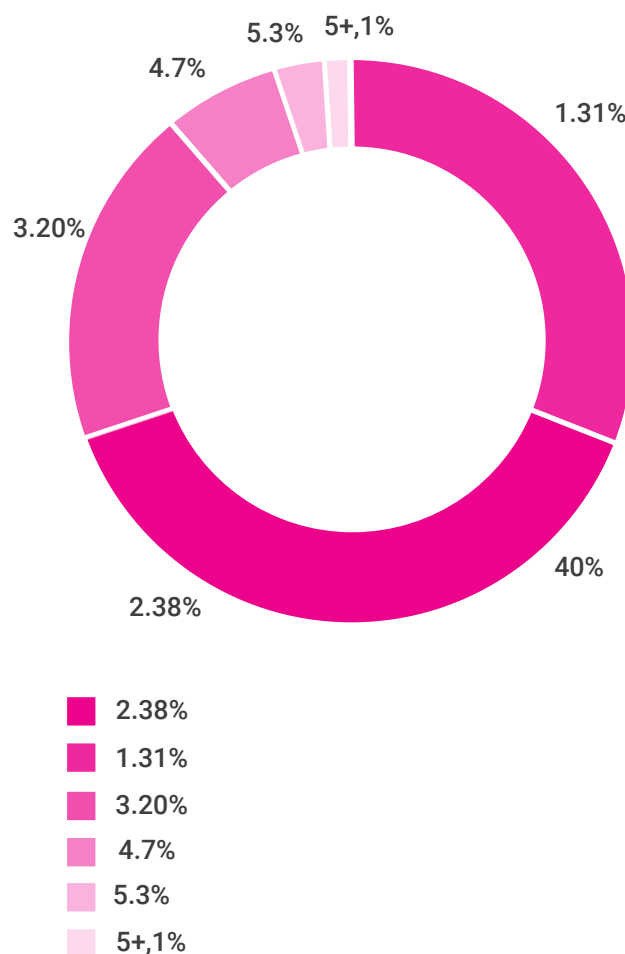


Figure 22: How many founders have started the company?

This year's **InnovationShip** shows a clear continuation of the trends for professionalization and internationalization of the founders, outlined in last year's edition of the survey. A staggering 46% of them have had previous startup experience, and 11% of the teams boast both Bulgarian and foreign co-founders. In addition to that, five of the companies in our sample have only foreign founders.

46% of founders have previous experience as entrepreneurs.

While Bulgaria boasts most women in tech in the European Union, there are still some gender differences in startup involvement that persist. **InnovationShip 2018** continues the trend from the last years and investigate this issue again.

There still remains a relatively large number of companies that are started only by male founders – this is about 77% of our sample. In around one in five companies, the founding teams is comprised of both male and female entrepreneurs, and in those rare 2% there are only female founders.

In 77% of companies there are only male founders.

The gender diversity is much higher when it comes to the team's composition – only 24% of companies report having no female team members onboard, and 26% report that less than a quarter of the workforce is female. However, 36% of the companies have up to half of their teams comprised of women, and 11% have a female majority of between half and three quarters. In five companies we asked, women were more than 75% of the team.

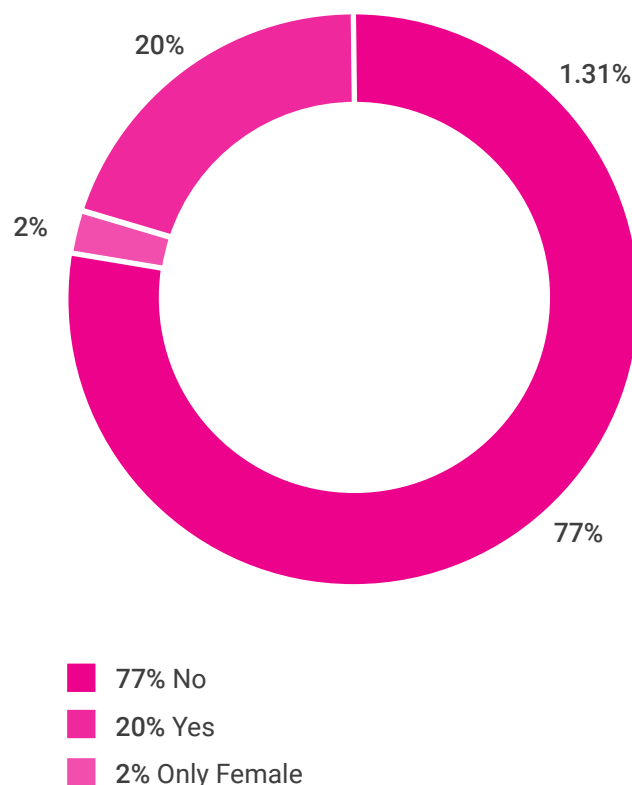


Figure 23: Are there female co-founders in the company?

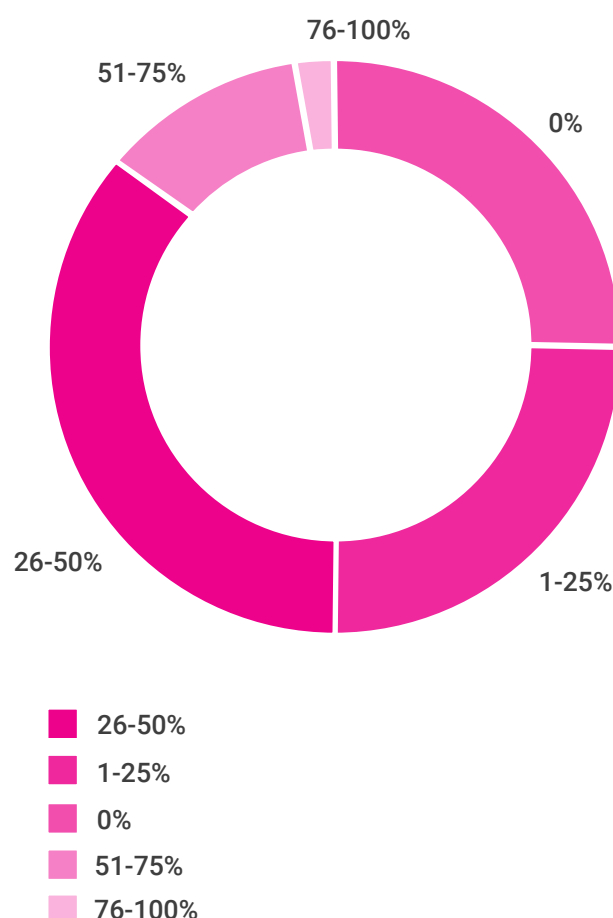
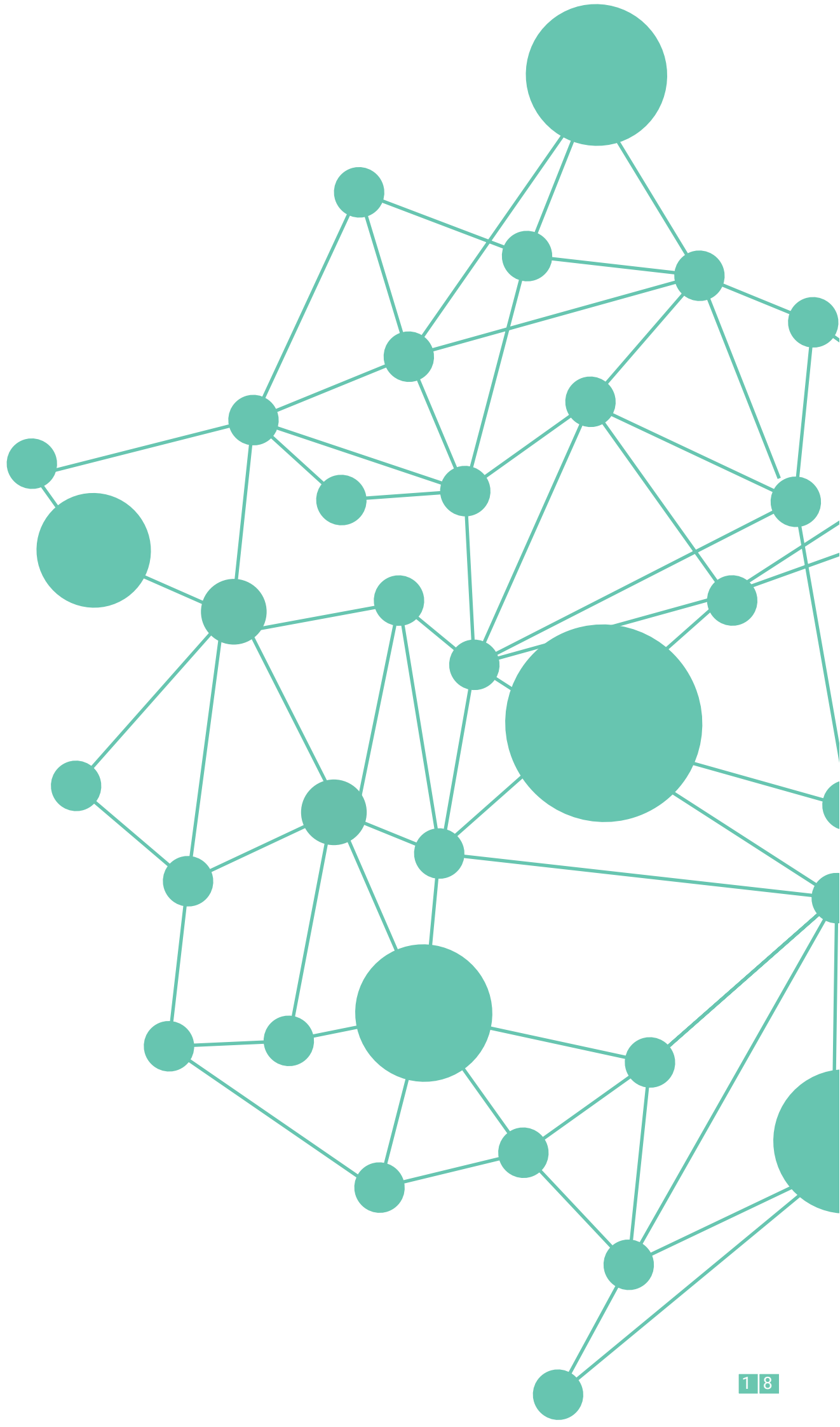


Figure 24: What is the percentage of female team members/employees?





CHALLENGES & SOLUTIONS

Despite some impressive successes small digital companies face numerous challenges. These can be addressed either through the community itself or via targeted public policy. Either way, the first step is to outline and prioritize the concerns of the ecosystem. Here we draw data from both the current wave, as well as the previous edition of **InnovationShip** to track the dynamics.

NOBODY SAID IT IS EASY

Companies in our sample overwhelmingly identify the shortage of qualified personnel as a major difficulty. This is reported by 44% of companies as their greatest obstacle. While grassroots training initiatives such as software academies, courses, and bootcamps partially address this, it seems that this is a major area of intervention where public policy in the field of education and re-qualification will crucially help. In a similar vein, companies identify administration (30%) and lack of institutional support (27%) as important barriers. Both of those fields lie exclusively with the public sector, and a more focused initiative to further decrease administrative burden, roll-out e-services, and make regulations more startup friendly will likely help in this context.

For **44%** of companies finding the right talent is their biggest difficulty.

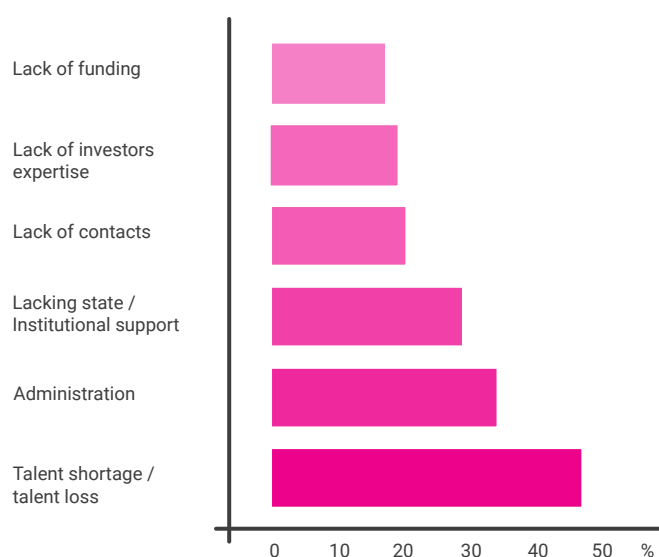


Figure 25: Biggest obstacles the company has faced in Bulgaria

Interestingly, the common perception that startups need help in contacts, experienced investors or funding is not borne out in the data. Those are the three least important obstacles with less than one in five companies mentioning them. Only 16% of the participants had difficulty finding funding, 18% mentioned lack of investor expertise, and 19% - lack of sufficient contacts. These results are encouraging, showing that the fundamentals of the environment are largely conducive to business activity, with the possible exception of sufficient public sector involvement.

A HELPING HAND

While data reveals that there are some public sector initiatives that will help startups and young companies, it is also interesting to see what measures are perceived as the best, and how this perception is changing over time. As a benchmarking exercise, we compared what companies reported in 2017 to what their response was in 2018. Since the sample is different small differences in percentage points do not necessarily mean a shift in attitudes. The first major conclusion is that the top four measures from last year directly carry over to this year's results. The companies in the sample will be most helped by the following initiatives:

- Predictability of tax policy, that will allow both investment and ease financial planning (39%).
- Startup-friendly legislation (38%) that takes into account the specifics of very young innovative companies.
- Preferential tax treatment for angel investment into new companies (34%) that can support financing at early (pre-seed and seed) stages.
- A further improvement of e-government services (34%) that likely aims to make transactions with state authorities faster, easier, and rarer.

Key institutional measures are stable taxes, better regulation, and more e-services.



Figure 26: Proposed institutional measures for supporting digital SMEs and startups

The dynamics of those results are also clear-cut. There are some persistent problems for the ecosystem that need solutions, and then there are some emergent trends. The predictability and sustainability of the tax system is high on the companies' agenda this year (39%) compared to last year (25%). This is very likely due to the hike in social security contributions for the highest earners that the government announced during data collection. Digital companies are particularly sensitive to such policies as their employees are among those high earners that will be affected by the change, and due to the tight labor market the companies will have to bear the price.

Our companies want an improvement in the business environment at home so that they can excel abroad.

Collective financing regulations is the topic with greatest increase in mentions for the last year. It rose from 18% in 2017 to 33%, likely reflecting the increasing importance in collective financing schemes, and the need to buttress national legislation to accommodate those better. It is showing that the digital startups and SMEs are not looking for state handouts or subsidies but rather for measures that aim to improve the whole ecosystem – horizontal initiatives such as better regulation (taxes and financing), less bureaucracy (e-government), support for investors, improved labor policies (education and immigration). Essentially, the companies from sample want an improvement in the business environment and competitive conditions at home so that they can excel abroad.

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