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THE POLISH TECH SCENE. 5 YEARS



Startup Poland
The Polish Tech Scene. 5 years.
Warsaw 2019

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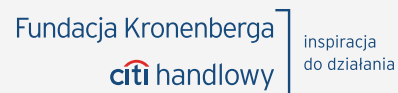
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Top 10 conclusions from 2019

1. Twice as many startups as 5 years ago

The number of tech companies that responded to the survey in 2019 (1,235 total) increased by 12% on last year, and by 290% compared to the first survey in 2015. We estimate the current number of technology startups in Poland to be between 4,300 – 4,700 companies, with 60% being exclusively IT/ICT companies.

2. If there is a *silicon valley* in Poland, it is in Lower Silesia

The highest concentration of tech entrepreneurs is in Wrocław and its environs in the region of Lower Silesia, in the south-west of Poland. Statistically, it takes just 4,500 Lower Silesians to form one tech company, a strong sign of how rich the region is in highly skilled, entrepreneurial tech talent. Two universities from Wrocław have attained a ranking of top rated academic institutions cooperating with startups, which proves how the collaboration between science and business fosters prosperity and entrepreneurship.

3. 65% of all startups in 5 hubs

Warsaw, Wrocław, Kraków, Lublin and Tri-City, in that order, are the largest startup ecosystems, being home to over half of all Polish tech companies. Disappointingly, the entrepreneurial potential of some of the biggest Polish metropolitan areas, such as Poznań, Łódź and Katowice, has been consistently declining over the years.

4. About 130 startups with a solid business model and consistent growth rate

From the whole survey sample, only 44 startups (3% of the sample) have an average monthly revenue of over EUR 125k and have been growing on average 7% or more per month, in the last 6 months. Most of these champions work in the space of Artificial Intelligence, although AI is generally the hottest field for all the tech startups in Poland. If our estimations are correct, it could mean that all the VC funds which are looking for series A+ deals are fighting over a pool of around just 130 startups.

5. Polish techies still sell cheap

Polish techies must simply have no idea how to price their services, or they really underestimate their revenues. Out of 70 teams that have declared themselves to be busy mostly with tech consulting, and base business model on time-and-materials, over 60% make at most EUR 25k a month – can you imagine? In the most optimistic case, namely of a one-man-software-company, this means an hourly rate of less than EUR 156, a very competitive rate compared to the US or Western European developers.

For those out there who want to craft valuable entrepreneurial education programs, this means they should put much greater emphasis on teaching future entrepreneurs how to design a rate card.

6. Exports consistently falling: over 60% of startups have no foreign clients

Just 39% of startups surveyed have any customers outside of Poland. This is a 7pp decrease on last year, and an alarming 18pp decrease compared to 5 years ago! The downward trend goes hand in hand with a declared eagerness to expand the business internationally: 75% of all startups plan to do so within 12 months. This willingness has been stable over the years, but apparently going abroad takes more than just a wish.

7. It is twice as easy to get a state grant than a term sheet from a VC

Of any three startups looking for some kind of funding, one will get a term sheet, and two will get a state grant, provided they have been meeting VCs or applying for grant instruments. Statistically speaking, 32% is the success ratio for startups looking to raise a venture round and 69% – for public grant applications. However, half of the grants are less than EUR 125k, so we are not talking about an amount of capital that is enough for world class R&D.

8. 10% of VC-backed startups have raised more than EUR 2.5 million

While 5 years ago an EUR 2.5 million round was something all Polish business media outlets would have covered with flashy headlines, such an amount today is more mundane. Even so, 75% of VC-backed startups have raised less than EUR 1M.

9. Corporations get an A from startups

30% last year, and this year almost 40% of startups have been cooperating with corporations, with 75% rating this cooperation as good or very good. The share of cases where a corporation acts as a strategic client for startups has increased by 3pp, as has the co-development of innovative technologies. It seems that the corporate world in Poland is increasingly ready to drive the growth of startups.

10. Weak faith in traditional exits

Just 50% of startups believe their company might ever get acquired, and just 40% that it might list on a stock exchange. The most probable scenarios for most founders are: to become a key industry player, expand internationally, and stay with the company as the founder. 15% believe they're very likely building the next unicorn, so perhaps that strategy makes a lot of sense ;)



Julia Krysztofiak-Szopa

President of the Board, Startup Poland

30 Years of a Free Market Economy: What makes successful Polish startups successful?

While we celebrate the 30th year of a free economy in Poland, CD Projekt, the first Polish tech company valued at over \$1 billion, has been listed by Bloomberg among the **50 Companies to Watch in 2020**.¹ The company, something of a role-model for many tech entrepreneurs in CEE, has proven that tech talent in this part of the world is perfectly capable of building world-class products.

With over 260,000 software engineers, Poland has a reputation of being the software house of Europe. It is indeed quite a talent pool: just slightly less than half of the number of software engineers in California, the same population size as Poland, and home to all the tech giants of Silicon Valley.

Yet while California has a long tradition of pioneering new technologies and growing tech enterprise, entrepreneurship in Poland only started to put down roots 30 years ago, when the country finally broke out from behind the Iron Curtain and when running a company finally became legal.

And about 10-15 years ago, building a startup started to become a fashionable option for techies in Poland.

Today, Poland has more than an estimated 4,000 startup companies, ranging from typical IT and software to startups in the fields of energy, biotech, nanotech or industry 4.0. Polish tech entrepreneurs, most in their 20s and 30s, have been working hard to catch up with the more developed tech ecosystems elsewhere in the world.

This year, 1,235 tech companies responded to Startup Poland's **fifth annual Polish Startups survey**, which is 12% more than last year. Thanks to the growing body of startup data we have been consistently gathering since 2015, this time we would like to show you **what makes the successful Polish startups successful**, and **what makes the struggling startups struggle**. For the purpose of the report we have distinguished between two clearly identifiable groups:

The champions are startups that:

- have average monthly revenue over EUR 125k, in the last 6 months, and
- have been growing on average 7% or more per month, in the last 6 months.

¹ Bloomberg Businessweek, Oct 22 2019: <https://www.bloomberg.com/features/companies-to-watch-2020>

The pretenders, on the other hand, are startups that:

- are over 2 years old (established in 2017 or earlier), and
- have not yet reached the product – market fit, and
- have no regular revenue or an average monthly revenue of under EUR 12.5k.

Being entrepreneurs ourselves, and permanently struggling to build value with limited resources, we know how much easier it is to think about your business when you can benchmark yourself against others in the same space. Welcome to the fifth annual report on Polish tech startups. We hope the conclusions you draw from the data we've put together for you will help you design a startup business that can successfully compete for customers, investors and talent.



6 differences between startups that succeed and those that struggle

The Champions:

1. Have founders who have built startups before
2. Build international teams: 75% have foreign employees
3. Are obsessed with growth as the biggest challenge, even though they grow at 22% per month
4. Sell to enterprise
5. Recurring revenue from subscriptions is their business model of choice
6. More than half of their revenue comes from abroad

The Pretenders:

1. Have founders who come directly from academia
2. Hire only Polish locals: 90% have no foreign employees
3. Are obsessed with product development, and seldom perceive growth as a challenge
4. Direct product sales is their business model of choice
5. Sell to SMEs and consumers, but most often to... no one
6. Less than half of their revenue comes from abroad

5 years of Startup Poland – achievements unlocked

There comes a time in the life of every organization for summing-up. Since 2015, Startup Poland has gone the distance and developed into the leading technology think-tank in the CEE region. How did it happen and what have we actually achieved during this period?

Several things were clear for the founders of Startup Poland back in 2015. First of all, there was a significant lack of an entity on the Polish market that might represent the needs and the voice of the decentralized startup ecosystem in dialogue with the government and big business. Secondly, knowledge about the ecosystem's condition and its numbers were mostly based on personal points of view and assumptions. Therefore, it was necessary to conduct research on Polish startups that would provide solid answers and resolve any lingering doubts. That is how our annual survey and the Startup Poland's flagship report were born. With each of its five editions, the number of respondents has increased, from the 423 founders in 2015 to the 1,235 we reached this year. Apart from its main annual reports, Startup Poland has also published seven industry-focused reports, such as "The Golden Book of Polish Venture Capital", in which we take a closer look at venture capital market in Poland; "Blockchain Compass", "Visegrad Startup Report", "Visa Policy for Startups" or "Startup Handbook" with the legal advice for the founders. You may ask why do we make all those reports? First and foremost, the aim has been to make Poland and Polish startups more visible abroad and to overthrow

all of the stereotypes that have dogged Poland from the outset. Only when Poland appears as one of the strongest countries in CEE region can we drive the change and draw attention of foreign investors and capital to our market. The data that we collect is our weapon in this challenge, therefore every startup that took part in any of our researches has a real chance to influence Polish startup ecosystem on a bigger scale.

However, we do not focus solely on the reports. Throughout all those years, Startup Poland has been in constant dialogue with startup founders and the ecosystem representatives. Based on the knowledge collected from the market, we've managed to take part in hundreds of meetings with the politicians, both at the national and European levels. The standpoints and needs of startup founders were also presented in nearly 30 official statements addressed by Startup Poland to the governmental decedents. The voice of the organization was taken under consideration by taking many strategic decisions, such as the implementation of Simple Joint-Stock Company, GDPR, patent law changes, Employee Capital Plans, ePrivacy (EU), Copyright Reform in the Single Market (EU) or Text and Data Mining (EU).

"When you're not at the table, you're on the menu". We strongly believe this saying and so we have also represented Polish ecosystem during numerous international conferences, meetings spreading the word about the Polish startup ecosystem (e.g. in the

USA, France, Germany, Belgium, Portugal, Romania, Israel, Taiwan or Thailand). In Poland alone, since the beginning of 2018 we gave over 70 public speeches and our reports were quoted nearly 500 times by the media. Much effort has been made by the local ambassadors of the organization, thanks to whom Startup Poland has organized 30 Startup Poland Camp events over the last two years. The main idea of these was to bring the entrepreneurial knowledge to smaller ecosystems all over Poland. The camps took place both in cities like Bielsko-Biala, Plock or Gostynin and in voivodships capitals like Wrocław, Poznań or Olsztyn.

Last, but definitely not least, during its 5 years Startup Poland has organized over a dozen of B2B tailored meeting events during leading tech conferences like Impact CEE or Kongres 590 and with cooperation with the corporations (e.g. Ericsson, ING, Roche or Grupa Azoty). Thanks to our help, startups met with their potential business partners and investors over 1,700 times.

The last 5 years have been both extremely challenging and rewarding for us at the same time. We hope that together with all members of Polish startup ecosystem we have built solid foundations for the existent and future innovators in Poland to grow their businesses in a favourable environment and soon we will hear about first Polish unicorns.



CHAPTER 1

STARTUP FOUNDERS

Legal forms of Polish startups

Are founders opening up to registering companies abroad?

Foreigners and their revenues

Are startup founders getting older?

Women less likely to run a startup

Education drives innovations

Social sciences or engineering – what comes in handy?

What did the founders do before their startup?

Serial entrepreneurship as an indicator of success?

Does having an expat experience pay off?

Cities with the highest startup
concentration

1

Wrocław

2

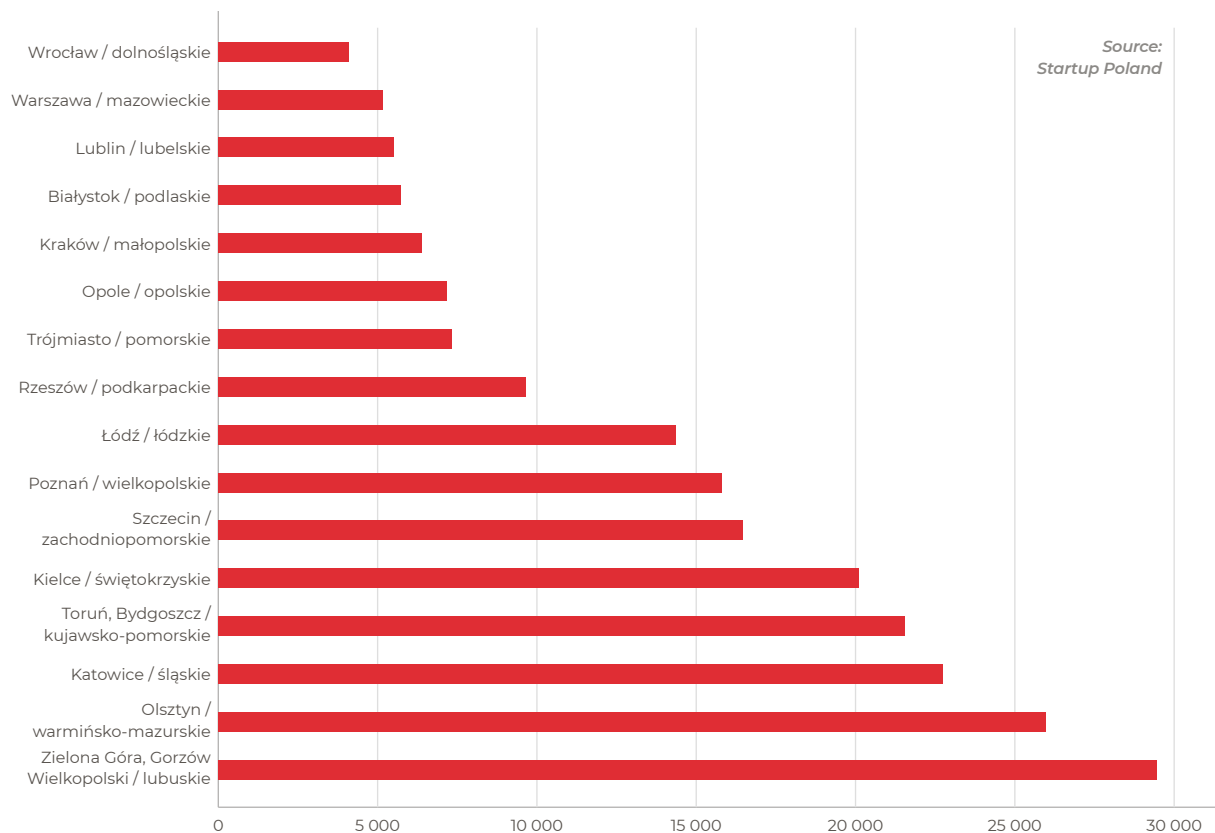
Warsaw

3

Lublin

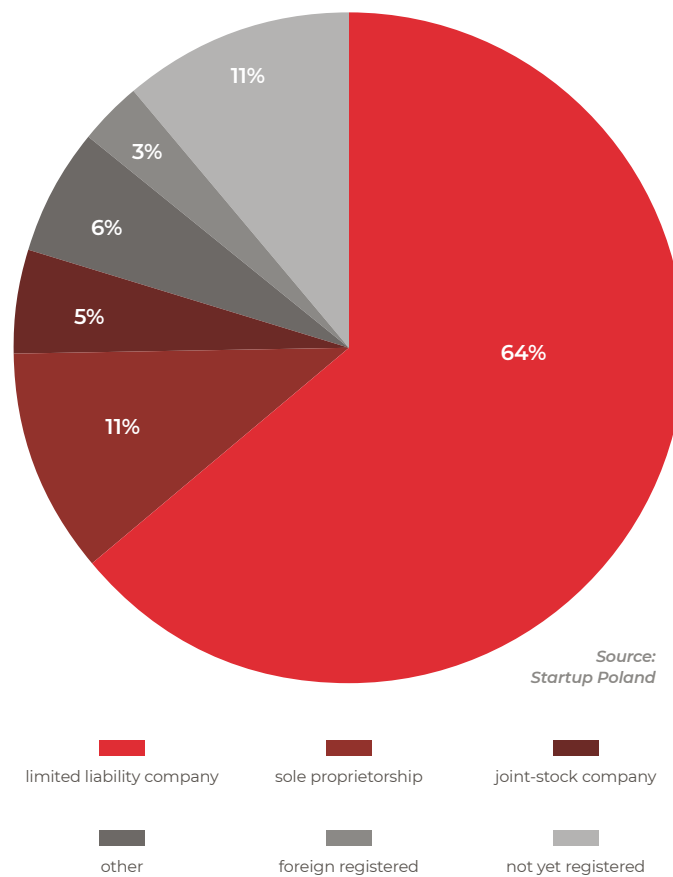
Startup density in Polish regions

How many inhabitants are there in each region per one startup company?
regional population / estimated number of startups in the region, 2019



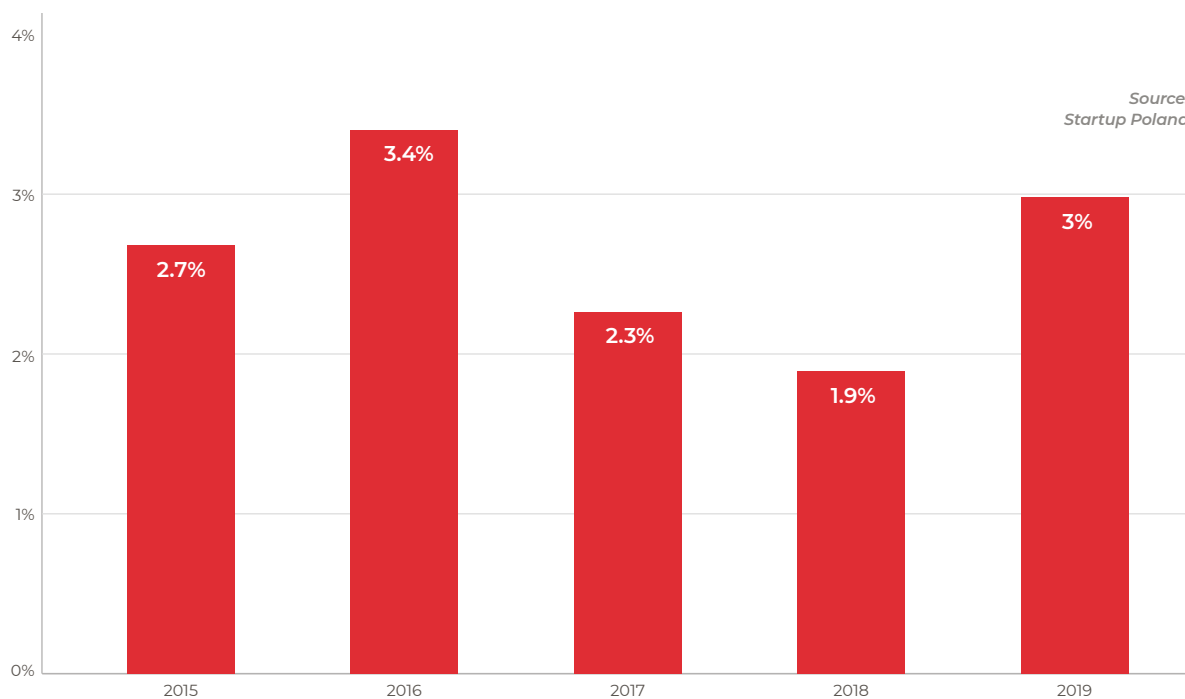
Legal forms of Polish startups

What is the legal form of your startup?
% of all respondents, n=672, 2019



Are founders opening up to registering companies abroad?

Startups registered outside of Poland
% of all survey respondents per previous annual surveys



EXPERT COMMENTARY



Agnieszka Skala

Professor, Warsaw University of Technology

Observation of the 5-year characteristics of founders leads to three conclusions:

- startups are increasingly a field for experienced people,
- teams with balanced competences achieve success,
- running startups is a new art of management.

First – the startup ecosystem has recently been maturing: competitive pressure has increased, marketing channels have narrowed. The moment for applying for external financing has been delayed in time, despite the increasing pool of available funds. More and more startups have decided to bootstrap, and the “startup world” is migrating to professional co-work spaces. In my opinion, this is due not only to the inflow of capital to the ecosystem, but also to the expectations of those who are feeding this ecosystem in growing numbers: mature professionals. On the one hand, such founders clearly increase the chances of a startup enjoying success. On the other hand, it potentially isolates startups from “ordinary” Polish companies and inhibits the exchange of knowledge and experience to each other.

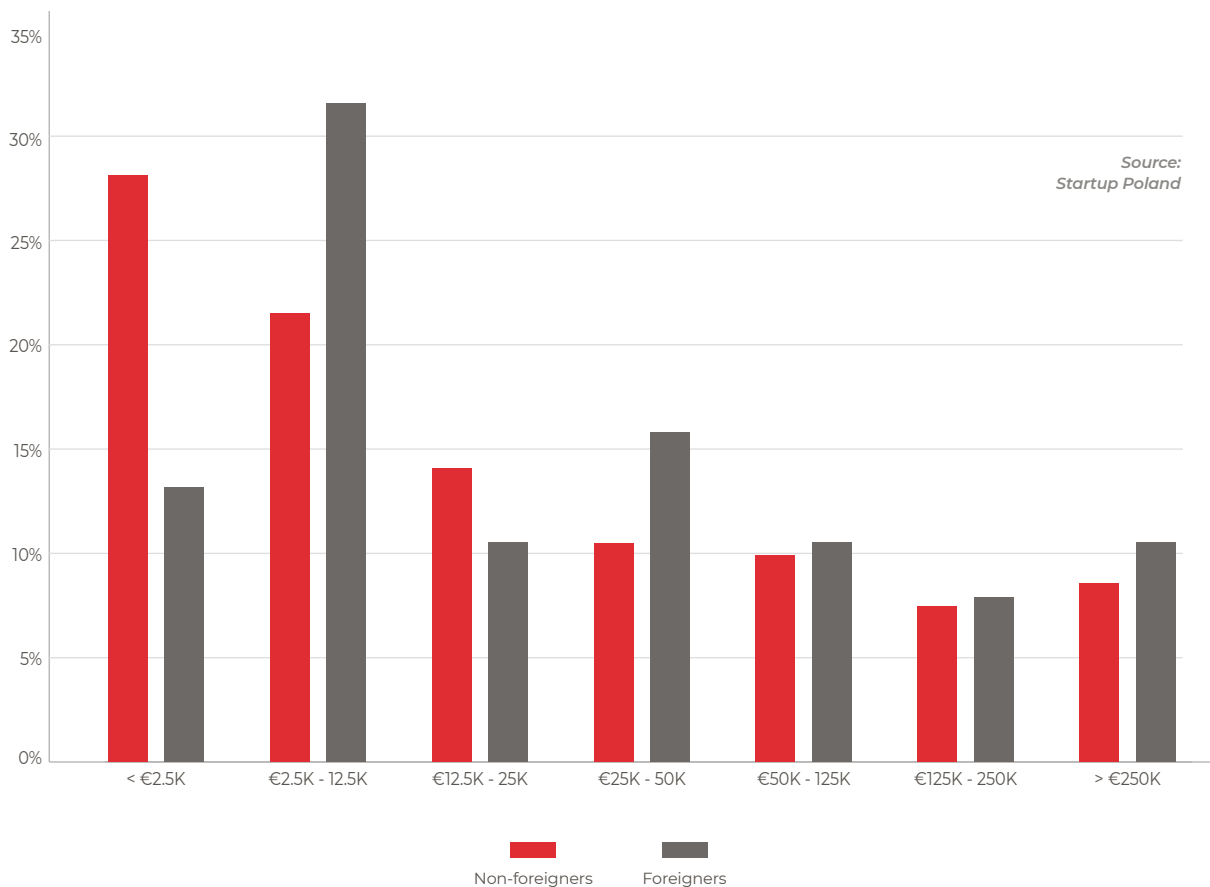
Second – organizational, relational and emotional competences are gaining in importance at the advanced stages of startup development. That is why among champions, most CEOs have a business background rather than a technical one. This year’s results confirm a trend which we noticed a year ago. This is an important tip for boosting startup education: you should prepare technical founders to transfer or split control over the company as it grows.

Third – “startup recidivists” have the greatest chance of success:

- the first startup is the learning stage (exceptions confirm this rule),
- previous experience in a company or corporation does not always help – startups are a completely different challenge and require a new philosophy for doing business.

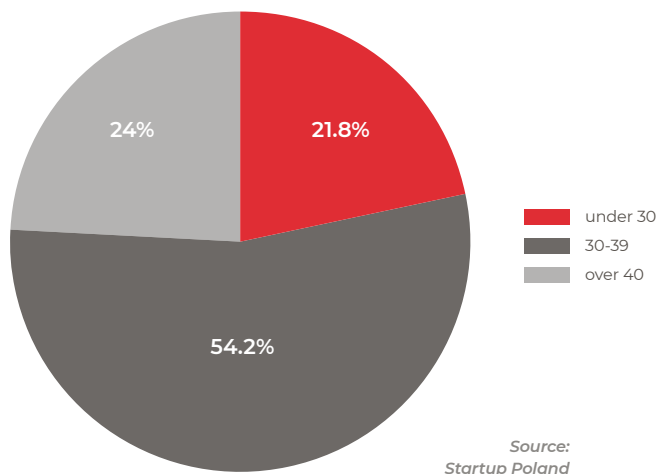
Foreign founders and their revenues

What is your average monthly revenue?
comparison between startups with non-foreign vs foreign founders, 2019

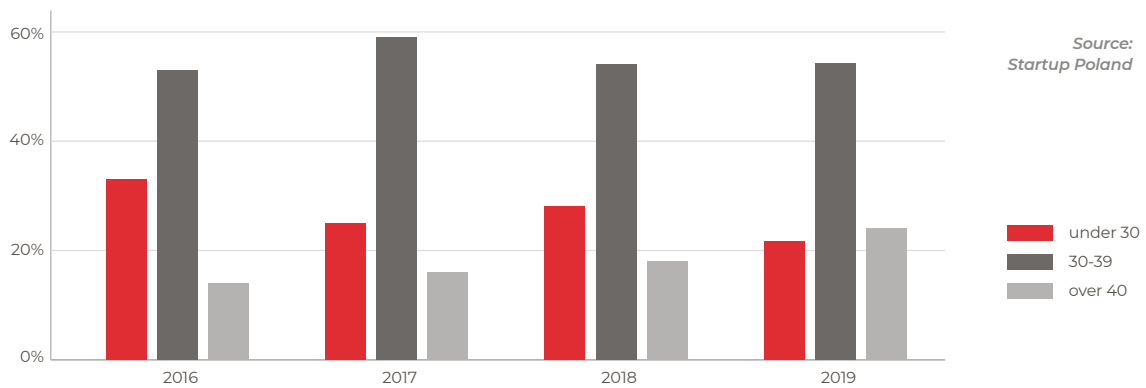


Startups come with age

What is your age?
% of all responders, 2019

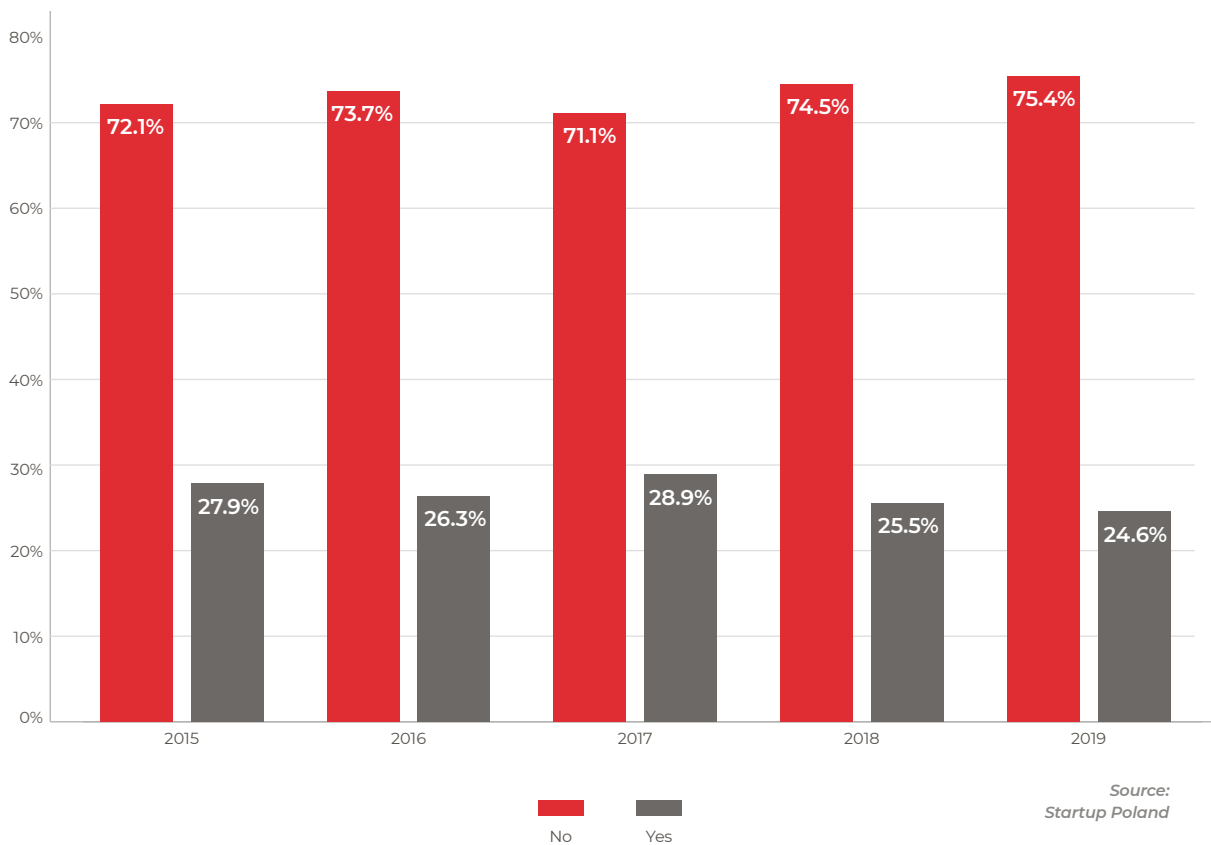


What is your age?
% of all survey responders per previous annual surveys



Women less likely to run a startup

Does your company have a female co-founder?
% of all survey respondents per previous annual surveys



EXPERT COMMENTARY



Eliza Kruczkowska

Polish Development Fund

Limited liability companies are still the most popular legal form for startups in Poland. This is the perfect form of starting and running a business for most investors who wish to limit their liability. We can clearly see a decrease in one-person business activities – there were 17% in 2015 and 10% in 2019. On the other hand, one in every ten startups in Poland in 2019 had not yet chosen to register a company. The situation may change to an even greater extent next year, as the Polish parliament has passed an act amending the Polish Commercial Companies Code. When this comes into effect on 1 March, 2020, it will introduce the simple joint-stock company (P.S.A.). Among the advantages of this fledgling legal form will be a simplified process of registration, high flexibility in the management of the company and its operation, and a simplified liquidation of P.S.A. This new type of the capital commercial company is intended to ensure the market development of startups in Poland as such projects are characterized by innovativeness, relatively short period of their implementation, greater risk of failure, but also higher returns on investment when they are successful. I'm very curious as to how common and widespread this will become among tech entrepreneurs and how the statistics will change next year.

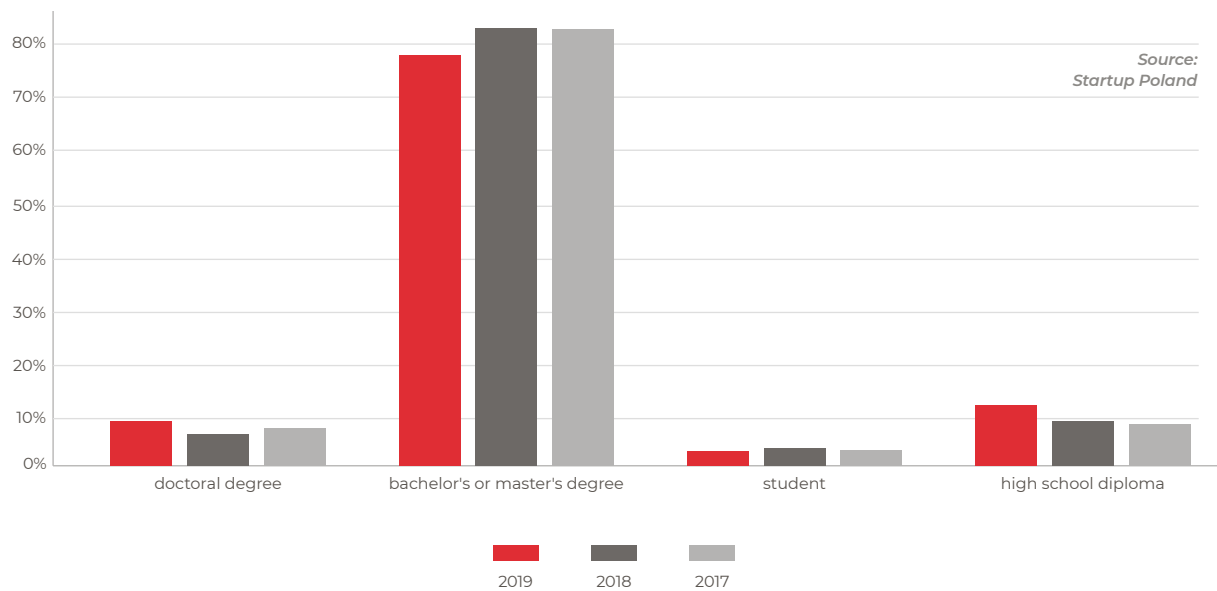
Company founders can be as young as in their teens or as old as in their 60s. But is there an ideal age you

should be when you start a company? It turns out there is, and it may appear to be older than you may think – **startups in Poland definitely come with age.** Over half of startups are funded by people aged 30-39. When comparing data taken over the last 4 years, we can see a 10% increase among founders over 40 (14% in 2015 – 23,99% in 2019) and a 12% decrease of founders under 30. The next set of graphs show that they're likely to be more experienced (one third previously had a startup) and are university graduates – the higher number of founders with a doctoral degree in 2019 shows that there might be greater interest in setting up a business among scientists.

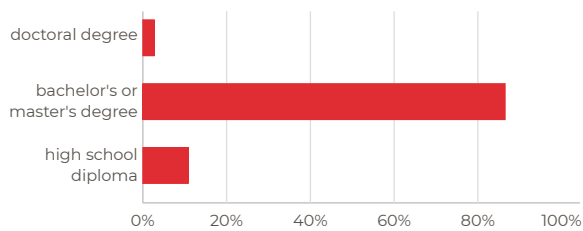
What worries me the most is the **steady decrease in female co-founders.** According to PitchBook, fewer than 10 percent of venture-backed companies in the US have a female founder. With this figure standing at 24.6% in Poland, this may not seem such a bad result, although we don't know how many of them were backed by VC. A lack of female founders may lead to fewer women in leadership roles and we are in need of more role models to encourage women to believe in themselves and take risks. I strongly believe in the balance between work and private life and can imagine that questions of maternity leave and childcare might discourage women who are running an early-stage company – the budget is usually tight, and company policies are undefined.

Education drives innovation

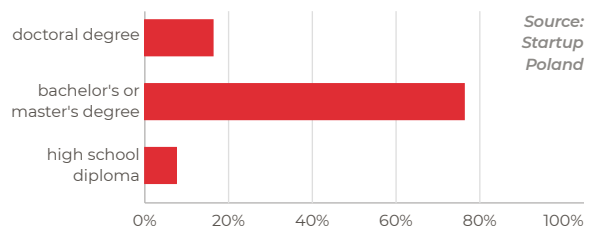
What is your highest educational qualification?
 % of all survey respondents per previous annual surveys



among champions, n=37, 2019



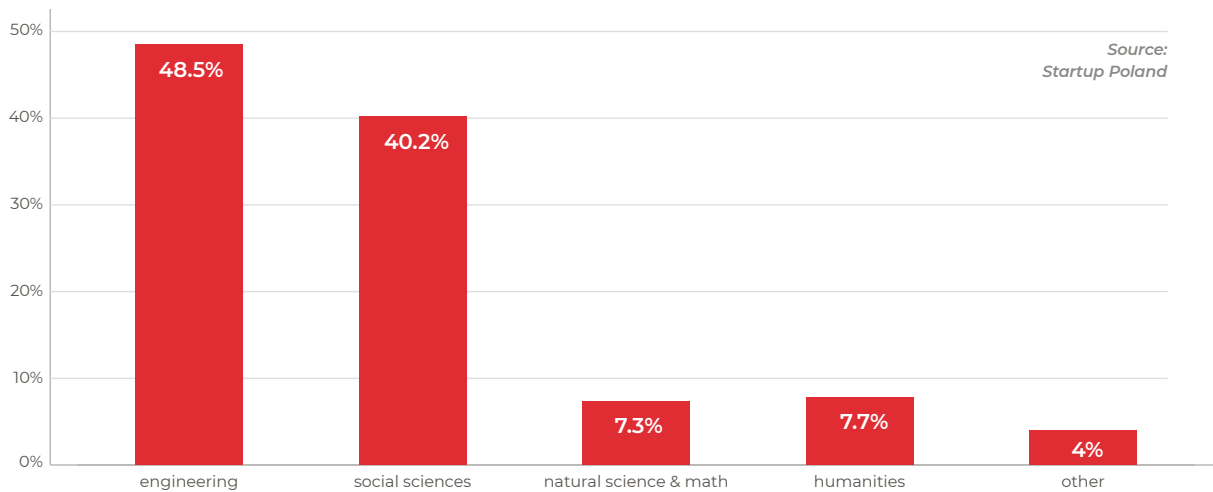
among pretenders, n=80, 2019



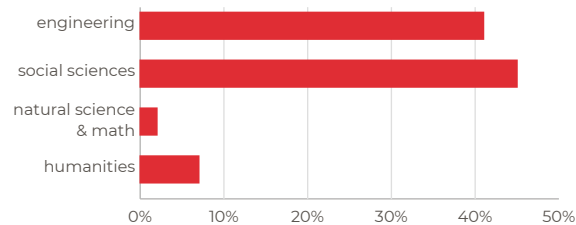
Social sciences or engineering – what comes in handy?

What did you study?

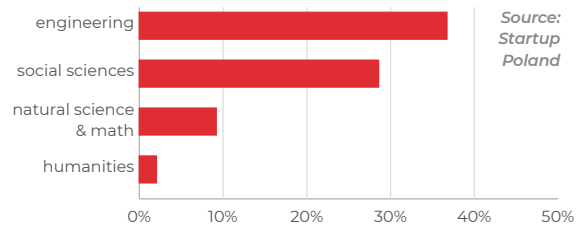
% of all respondents, n=724, 2019



among champions, n=42, 2019



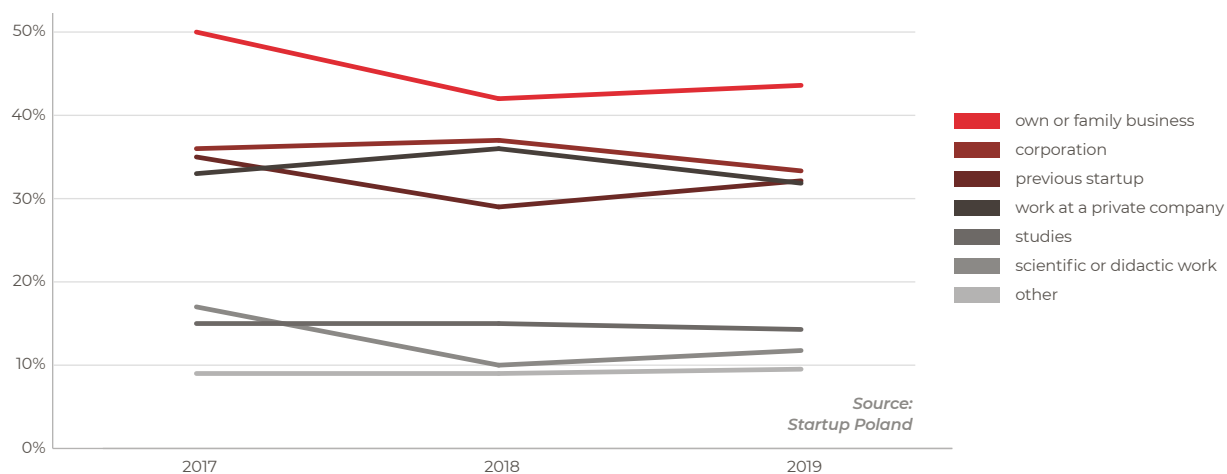
among pretenders, n=81, 2019



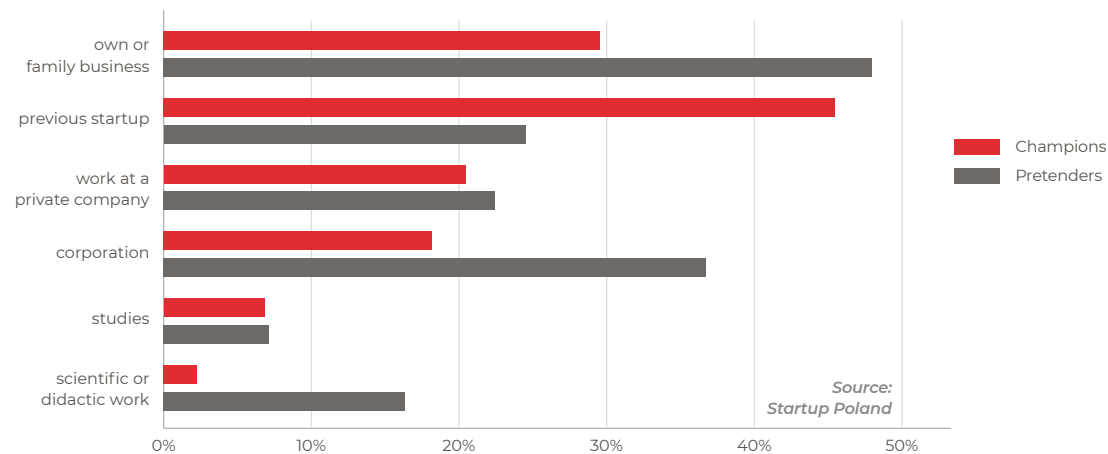
What did the founders do before their startup?

What did the founders do before creating their startup?

% of all startups, including previous annual surveys, multiple choice



pretenders vs champions, 2019



EXPERT COMMENTARY



Agata Kwaśniewska

CEO, Reaktor Warsaw

An interesting trend is discernible in the age structure of entrepreneurs. Five years ago, 33 percent of all CEOs/founders were under 30 but now this figure is less than 22 percent. Year on year, the percentage of the oldest group of founders has increased substantially, from 14 percent five years ago to almost 24 percent today. These days, more and more experienced professionals are growing bored with their current work and are choosing to establish their own companies.

This significant change in the age structure is definitely a positive sign, since people who are experts in their field are those most likely to develop a successful startup. Thanks to their knowledge, they can better predict results and prepare potential solutions to problems they know all too well. They often invest their own savings into product development, providing greater opportunities to build the MVP and find an investor. Obviously, it does not mean that younger founders cannot set up a successful company, but they are less likely to do so and it requires even more effort.

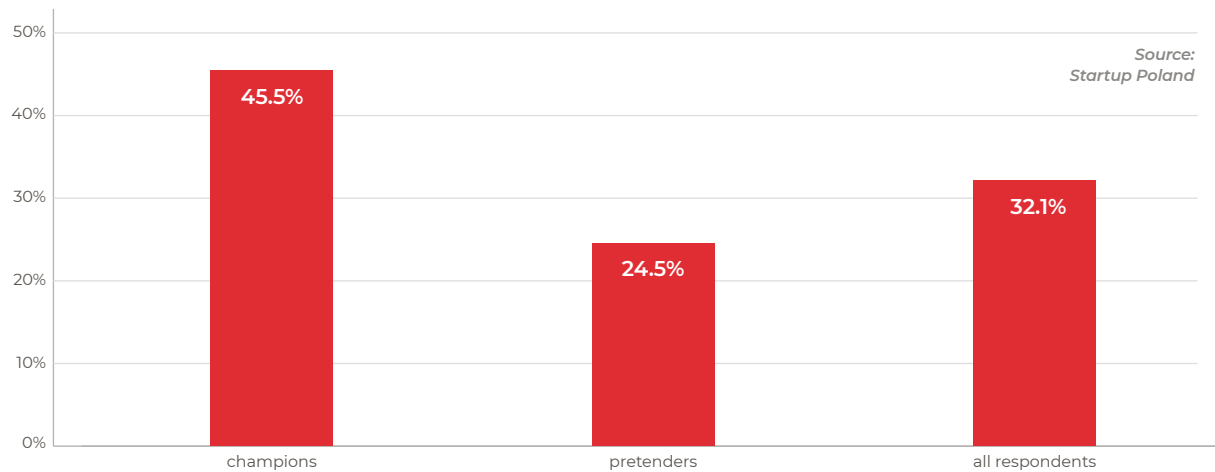
This trend is present in our pre-accelerator, ReaktorX as well. 3 years ago, around half of the projects that we accepted to the program were run by students. Now the situation has changed – we still take in “first time founders” but these are the people with experience in the corporate world, freelancers or traditional business owners. And the results we can achieve with them are fantastic, also thanks to their life experience!

Unfortunately, the situation is not quite so great in terms of the percentage of females amongst all founders. For the last five years, the percentage of female founders has remained at between 24 and 29, and does not show the kind of significant increase we might expect. It is also interesting to note that the most common form of registered startups is that of the limited liability company. It is unsurprising that this form was chosen by nearly double the number of respondents than all the other forms together, but this situation is likely to change next year with the advent of the simple joint stock company, providing entrepreneurs with an excellent alternative. All we can do is to wait and see what changes the PSA (*prosta spółka akcyjna – simple joint stock company*) will mean for innovators.

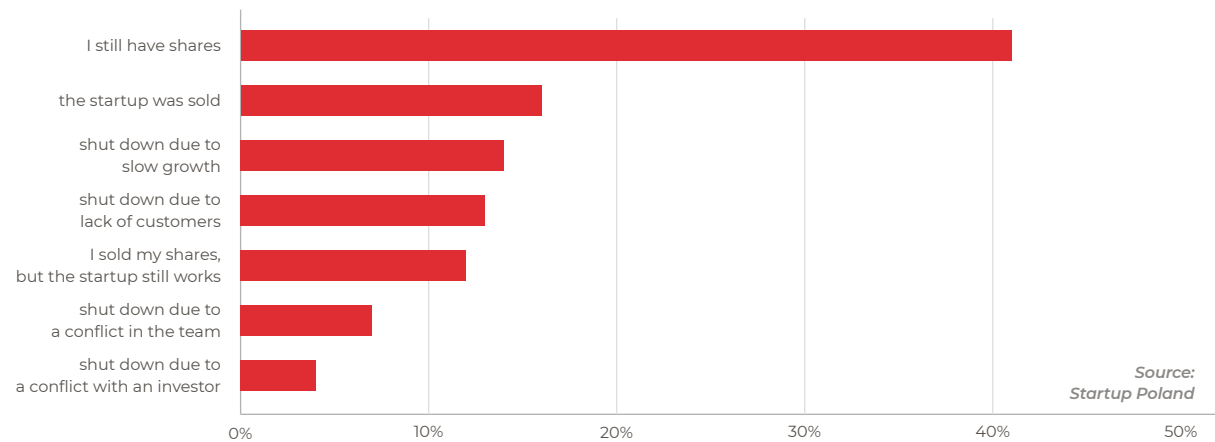
Serial entrepreneurship as an indicator of success?

Have you run a startup before?

% of founders who had startups in the past, 2019

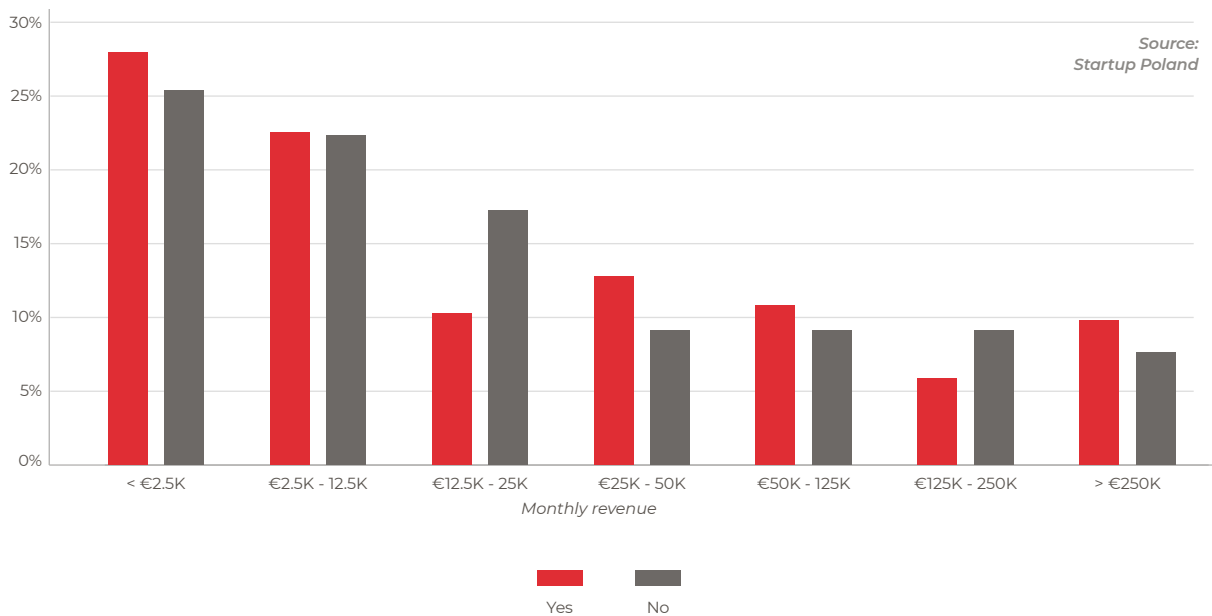


What happened to your previous startup?

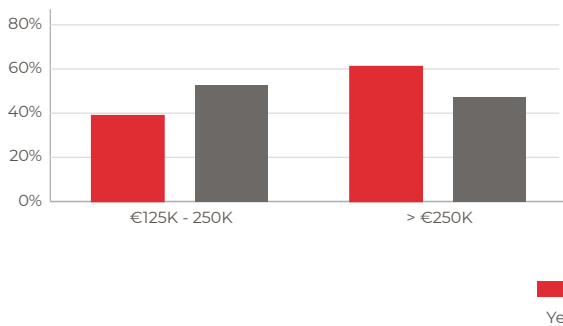


Does having an expat experience pay off?

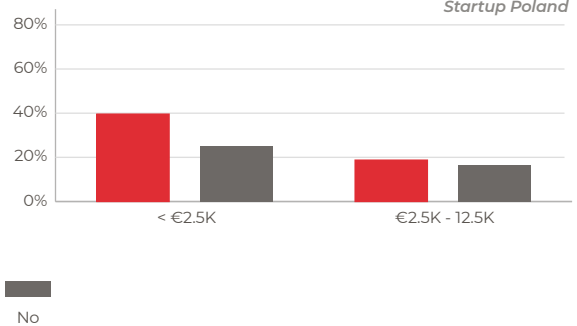
Average monthly revenue vs have you lived abroad for at least 3 consecutive months?
n=401, 2019



among champions, n=37, 2019



among pretenders, n=81, 2019



CHAPTER 2

VERTICALS & BUSINESS MODELS

Which verticals are hot and where?
SaaS, apps, or custom software? How the businesses are built
What brings money: software consulting, or building a product?
It's the recurring revenue, stupid! How startups make money.
Who pays the bills? Customer groups worth chasing.

Top 3 industries



Which verticals are hot and where?

Which keywords describe best your company?
n=805, 2019

Startups in each field in each Polish region as % of all the respondents in the field Source: Startup Poland

Top 10 fields that account for 50% of all startup responses	% of a field in the total population	Polish Regions															
		Białystok / podlaskie	Katowice / śląskie	Kielce / świętokrzyskie	Kraków / małopolskie	Łódź / łódzkie	Lublin / lubelskie	Olsztyn / warmińsko-mazurskie	Opole / opolskie	Poznań / wielkopolskie	Rzeszów / podkarpackie	Szczecin / zachodniopomorskie	Toruń, Bydgoszcz / kujawsko-pomorskie	Trójmiasto / pomorskie	Warszawa / mazowieckie	Wrocław / dolnośląskie	Zielona Góra / lubuskie
Artificial Intelligence / Machine Learning	22%	4%	1%	2%	14%	3%	7%	2%	2%	4%	6%	1%	1%	9%	23%	17%	0%
Analytics / Research Tools / Business Intelligence	14%	3%	3%	3%	12%	3%	5%	3%	2%	3%	1%	1%	0%	8%	24%	25%	2%
Fintech / Insurtech	11%	3%	2%	0%	9%	7%	3%	3%	4%	5%	4%	0%	0%	5%	33%	13%	1%
Big Data	11%	1%	0%	2%	17%	2%	6%	0%	2%	2%	2%	1%	5%	8%	28%	18%	1%
Productivity / CRM / ERP	11%	9%	5%	0%	9%	2%	7%	2%	0%	2%	4%	3%	3%	6%	24%	15%	1%
Internet of Things	11%	7%	3%	1%	17%	3%	7%	1%	3%	5%	9%	2%	3%	7%	17%	13%	0%
Martech / Marketing Technology	10%	2%	3%	0%	10%	5%	2%	1%	1%	5%	3%	2%	2%	6%	37%	14%	0%
Industry 4.0	10%	8%	4%	3%	13%	3%	3%	1%	6%	4%	8%	1%	5%	8%	15%	18%	0%
Edutech	9%	8%	5%	4%	19%	1%	8%	1%	5%	5%	7%	1%	3%	3%	16%	11%	1%
Robotics / Electronics	8%	9%	4%	0%	9%	0%	7%	0%	7%	6%	7%	6%	3%	7%	14%	19%	0%

Eg. 33% of all Polish Fintech / Insurtech startups are located in Warszawa, while there are none in Kielce, Szczecin or Toruń.

EXPERT COMMENTARY



Michał Wojczyszyn

Science and Technology Park in Opole,
Startup Poland Ambassador

Opole is an academic city, with thousands of students and scientists, dozens of purpose built educational facilities, entire academic communities, and all combined with its surrounding natural beauty. During the academic year, one in four people in Opole is a student. Students work, live and study in every district in the city. All this adds up to an exceptional atmosphere that reinforces the uniqueness of Opole on the academic map of Poland.

Opole also has dozens of entities devoted to the promotion of scientific activity. The Science and Technology Park and the Fraunhofer Project Center work for the benefit of students in Opole, promoting science and helping them to make the transition from university to the world of work.

The results of this year's report reveal that the largest percentage of startups from the Opole Voivodeship are involved with automation / robotics and work in the field of industry 4.0, that is the result of actions taken in the local ecosystem. Responding to the constant market demand, the Science and Technology Park in Opole has created a didactic base

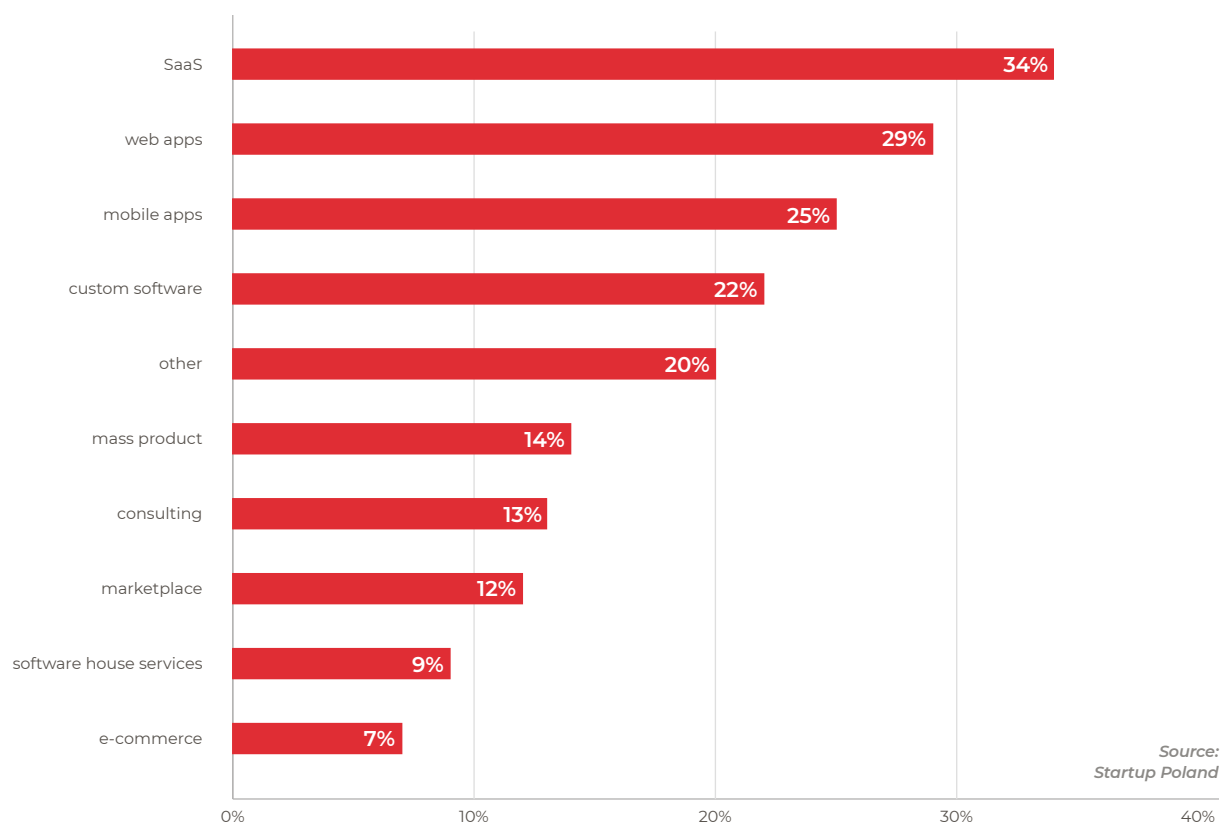
enabling the education of students in mechatronic, automation and robotics. The laboratories it has created allow students to gain the necessary knowledge and skills for their future careers. The cooperation of STP with companies in Opole has resulted in the acquisition of industrial robots and packaging machines. Thanks to such devices, classes in programming robots and PLC drivers are conducted using industrial automation components. In my opinion, 2019 was a year of very positive changes in the context of the development of the startup ecosystem in the Opole Voivodeship. The expansion of the STP infrastructure in Opole by means of a certified server room (ANSI / TIA 942) meant that companies such as DANONE or ifm Ecolink have started cooperation with the implementation of Industry 4.0 solutions.

In the context of future trends, I believe that automation / robotics and industry 4.0 will continue to be the leading themes of startups in the region. I expect that more startups will focus on machine learning and artificial intelligence.

SaaS, apps, or custom software? How the businesses are built

What category best describes your product or service?

% of all startups, multiple choice, n=805, 2019



EXPERT COMMENTARY



Wiktor Schmidt

Executive Chairman & Co-founder, Netguru

When asked about their recipe for success, experienced entrepreneurs often say that you need to find a gap in the market which your business can fill. With new technology being created almost every day, there are also revolutionary ideas and problems that come along and need to be solved. Thanks to this, there'll always be enough space for new businesses and enterprises to meet a need or provide a sought-after value for the market.

When founding Netguru, our goal was not to become a startup or a tech company. Back in 2008, we expected that technology would play a major role in how businesses grow and deliver their services, so our goal was to become part of that.

It took some time before we decided which path to take. In the beginning, we wanted to build interesting tech projects, so we designed and developed the first products of our own. One of them was a relative success, and that's when we realized that Netguru could become a partner to other companies, aiding them in their digital transformation efforts. The key was to focus on delivering professional services and combining them with the clients' domain knowledge, in order to create meaningful digital products. As we continued to grow, this vision became clearer and clearer each year, and we gained a better understanding of what these organizations needed. It was crucial to build a suitable offering and, as a result, to define ourselves.

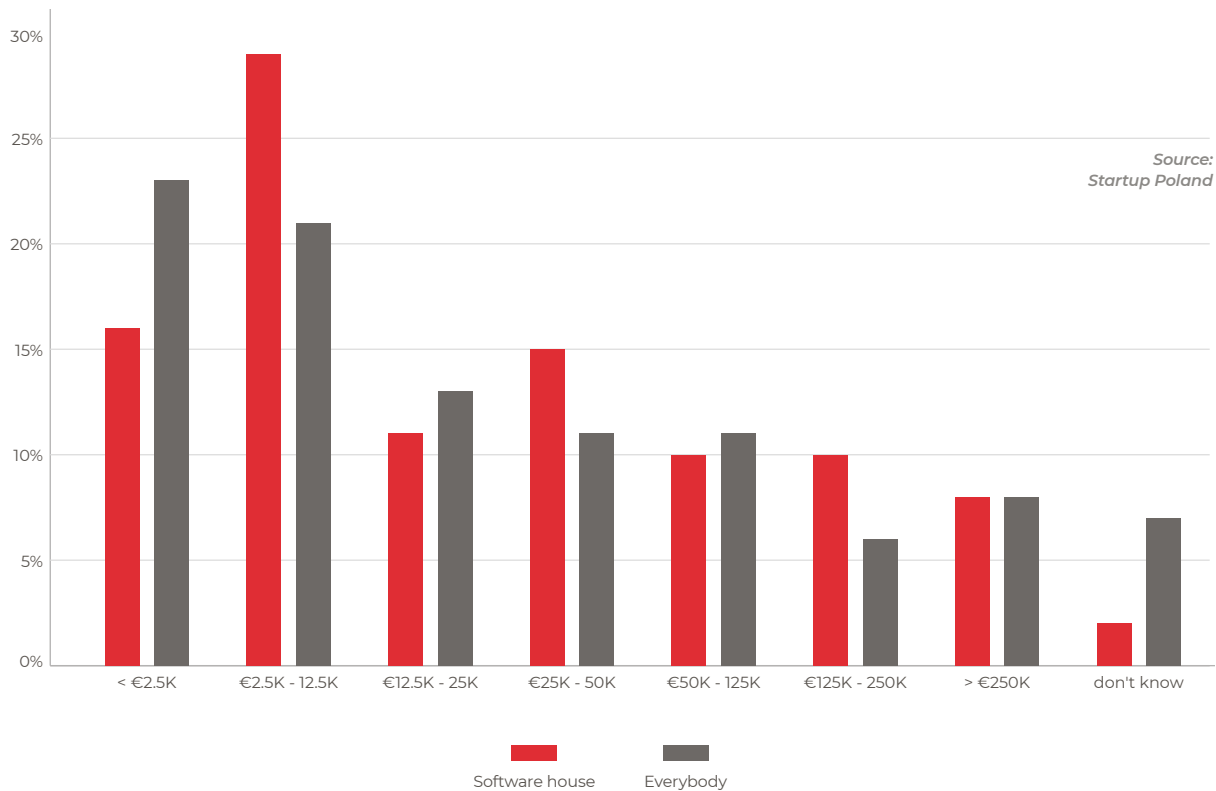
We've come a long way from a product-focused "startup factory" to being a digital consultancy firm that aims to advise their clients all along their digital journey. Organizations face various challenges that need to be solved before they can start thinking of building an actual product. And that's where we want to be: by adding our services to their domain knowledge, and then solving these challenges together, we can actually have an influence on how such products make the world a better place.

One of the key factors behind growing Netguru to a 600+ strong organization was that we never expected to be successful here and now. Building a successful business is a long-term endeavor, and as such requires time and effort before one's goals can be achieved. There are many successful startups and consultancies, and one thing they have in common is that they are focused on a certain area they want to deliver to their clients, users, partners, etc. We focused on Netguru, strengthening its team and looking to find our place on the market. We're constantly growing and scaling up, looking for the new paths of development, and there's still a lot of hard work ahead as we're just getting started.

What brings money: software consulting, or building a product?

What is your average monthly revenue in the last 6 months?

% of all (n=533) vs % of software houses (n=70)



EXPERT COMMENTARY



Alina Prawdzik

Managing Partner CEE, Head of Smart&Connected
innogy Innovation Hub

What are the differences in the pitch decks of Polish startups vs. foreign startups?

Pitch decks are a reflection of entrepreneurs' current thinking - they emphasise what they think is the most important and leave out what they don't consider to be crucial. In that sense, Polish pitch decks mirror our startups' strengths and weaknesses. They tend to focus too much on technology solutions and forget to explain the problem-solution area or specify what the technology can actually deliver to a potential customer. Also, they are often too modest to fully present the experience and skills of their team, which is a key part of convincing investors to engage further with a given startup. At the same time, startups coming from more developed ecosystems, Israel in particular, put a lot of emphasis on building the credibility of the people behind the idea. What is more, they support their business plans with a real, in-depth market understanding, creating a picture of a mature and serious business idea developed by people who are worth investing in.

One more difference is that Polish decks are typically not customer nor business plan oriented. This is a general observation, but while strong on explaining innovative technology they are not equally good at attaining a true understanding of customer needs – who will be the target customer for a given startup solution, and why?

Can a pitch deck be an indicator of startup maturity?

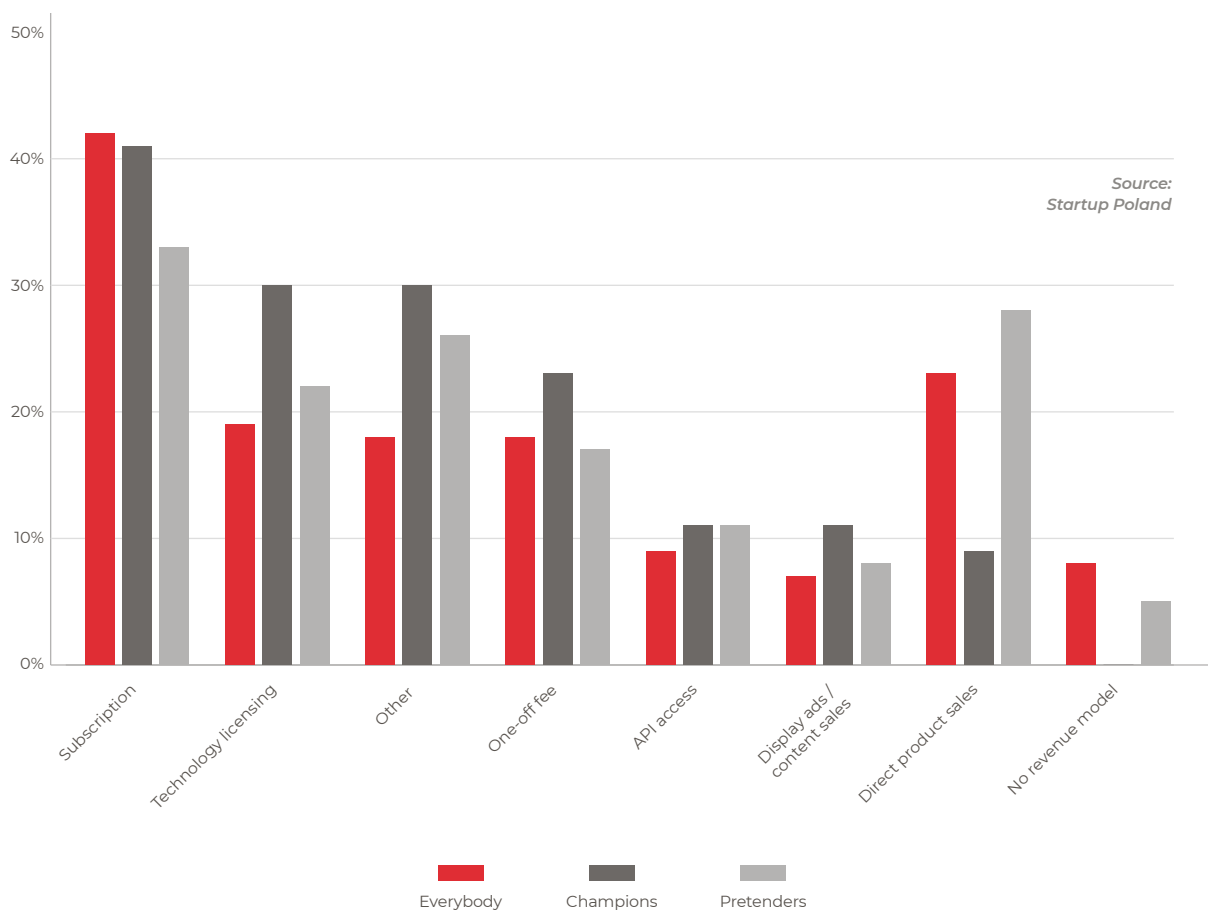
Absolutely, yes. The more mature the startup, the more they tend to focus on customers and have more detailed business plans. This is natural, since the more mature a startup is, the more validated its solution has been with customers. A well thought through, detailed (yet still relatively short) document describing the path of a development and commercialization of a product or service will certainly catch the interest of an investor. Being an investor, I expect to talk to founders about the specifics of their business idea, having hard numbers and the right business expertise to hand.

However, having a well-prepared pitch deck is only the starting point. The second step is to pitch it to the investors. Unfortunately, our Polish startups still have some catching up to do. Talking to founders here in Poland, I often get the impression that they are not that well prepared to talk to VCs in comparison to their colleagues from more advanced startup ecosystems. What I mean here is the actual "homework" ahead of the meeting, including research on VCs key fields of interest and investment areas, round sizes etc. Lack of preparation, even with the best pitch deck in hand, can ruin the startup's chances of getting a business partner and a potential investment. Do your homework. Get ready, ask questions, be ready to say what you expect from an ideal VC and don't be too shy but also not arrogant if you want to be an interesting candidate for an investor.

It's the recurring revenue, stupid! How startups make money

Which revenue model has brought the most revenue?

% of all startups, n=805, 2019

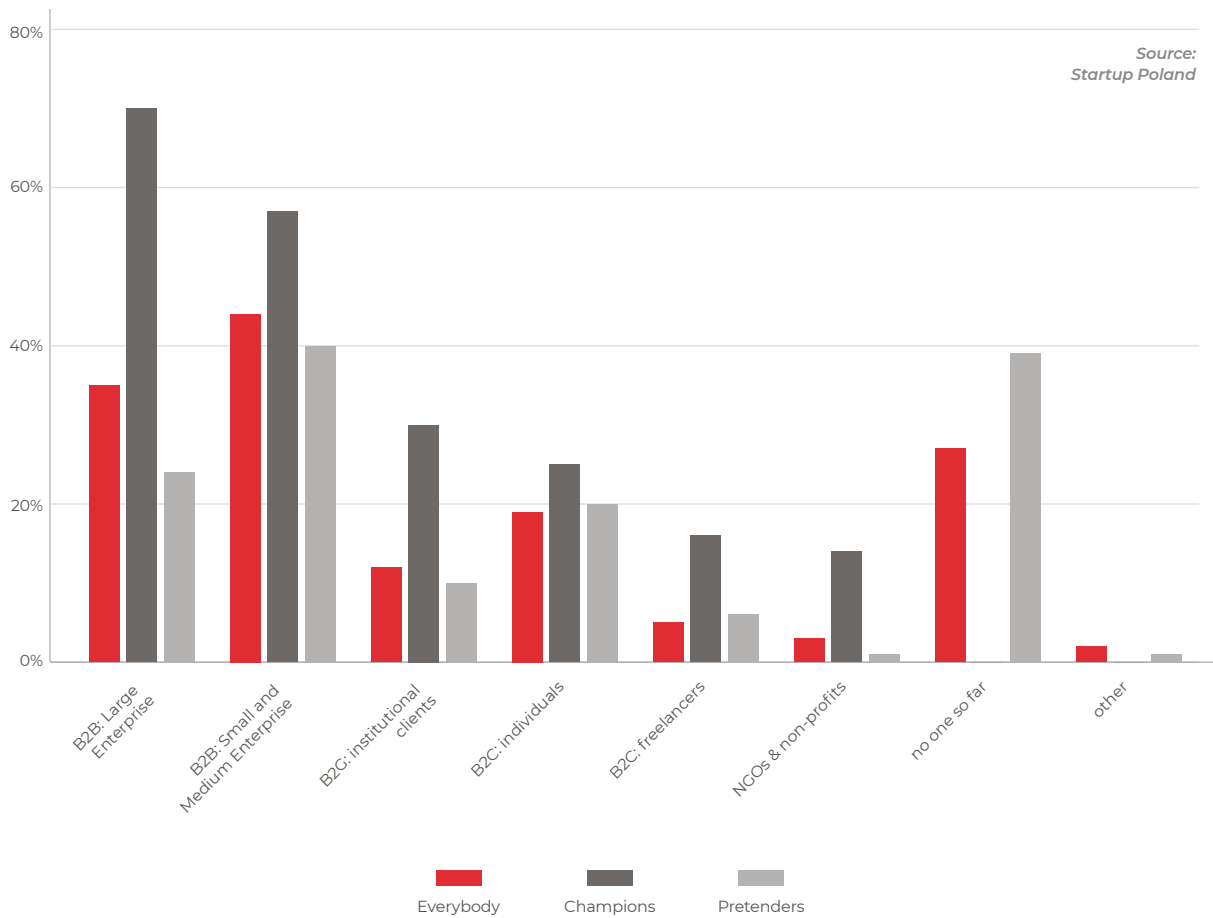


Who pays the bills?

Customer groups worth chasing

Who are your main paid customers?

% of all startups, n=804, 2019



EXPERT COMMENTARY



Bartosz Sokoliński

Director, Innovation and Development Office
ARP



Everybody talks about innovation. All companies are involved in innovations, they create innovative products in innovative ways. IDA also engaged in innovations a few years ago. We are often asked “Why?”. Why does a restructuring company have an innovation department? We develop innovations in our companies, because we believe that we can earn more and do better with innovations. We distribute European funds – grants for technology transfer. We believe that for the development of modern technologies, new products and even new business models with various tools are necessary. An innovation department, R&D or “Open Innovations” projects – such, which with the help of technology transfer from one place to another, bring real change. Not necessarily great or groundbreaking ones, but increasing competitiveness is sometimes associated with many small changes, saving seconds not hours. I will risk the statement that innovators, inventors and groundbreaking innovations bring change and development, but the introduction of equal opportunities around the world and causing improvement of life is brought by technology transfer. In order to do something innovative, one does not have to invent something from the very beginning – one can use others’ ideas and buy, license, patent or lease their inventions. It is important, however, that we are able to use them well.

We are fans of innovation. We believe that only scalable products and services will give us a chance for faster development. Our reserves of a cheap workforce are depleted. This does not mean, obviously, that we should not try to produce at low costs, but we have to add “more innovative” to the equation. We are confident that there are a few sectors which can establish Poland’s standing in the world – take computer games production, for example, a sector for which we are already known globally, with great programmers winning many awards year after year. And programming is not just a separate part of the market, but a significant share of each and every industry. Another niche would be space technologies, which are engaging our great engineers with the most interesting tasks in outer space. A new branch of industry which we are looking towards with interest are modern energy technologies, primarily offshore wind farms.

We know that we are heading in the right direction, but our pace is still too slow. That is why we need to accelerate!

CHAPTER 3

GROWTH & DEVELOPMENT

How fast do startups grow their revenue?

What revenue levels make startups extremely happy?

Overall startup development: not bad, but could be better?

What are the founders' best case scenarios?

What activities have the highest impact on startup development?

What makes a great mentor?

How public tenders drive the growth of startups

How startups cooperate with corporations

What barriers hinder growth?

What do startups expect from the government?

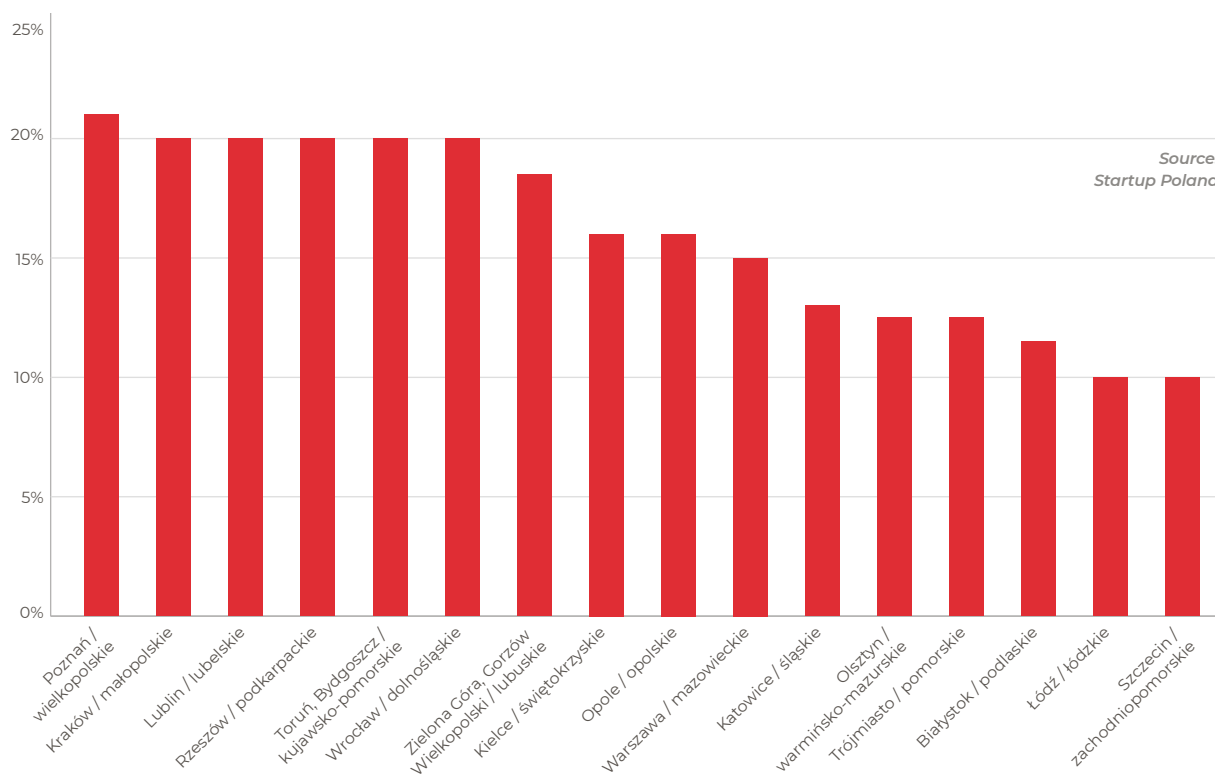
Cities with highest
startup growth rates



Startup regions of Poland: how fast are the startups growing?

Median monthly startup growth rates

Average monthly revenue growth in the last 6 months, n=145, 2019



EXPERT COMMENTARY

**Mateusz Cybula**

Manager, Krakowski Park Technologiczny
Startup Poland Ambassador

It's interesting, isn't it? Neither Warsaw, nor even Wrocław are in the first places, but Poznań, Kraków and Lublin, supported by Rzeszów and Toruń/Bydgoszcz. This chart shows us that companies able to grow fast are not only in the biggest and most developed cities. In my opinion, this is a good thing, indicative of a maturing startup ecosystem, one in which technology companies are no longer dependent upon the capital city any longer but instead can find people and conditions good enough to develop through a local startup ecosystem and that they are able to grow their MRR from wherever they want.

I also believe that these differences are going to change over the years and we will see even more surprises in the future. This depends on a few factors, and statistics are crucial in this respect since data can distort the full picture. After all, smaller regions with

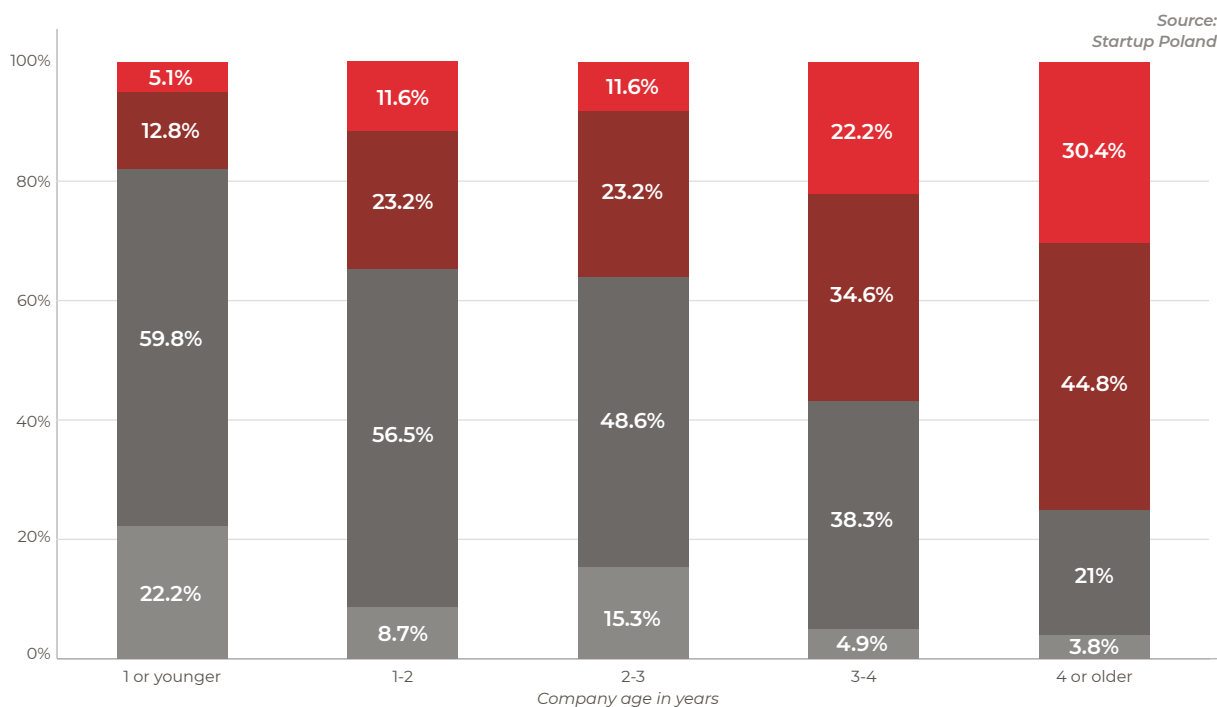
fewer startups can achieve higher revenue growth in comparison to Warsaw, where we have the highest tech company density per square meter, so data is more versatile than others. On the other hand, companies can grow and sell their products and services wherever they want. Usually they don't focus on the region where they are based, which makes it possible to boost their revenue regardless of the size of the local market. Furthermore, the knowledge of how to develop a company across borders is at their fingertips, it is no longer some kind of secret knowledge and thus, with the strong international orientation of their founders, they can build a successful company in their hometown.

I hope to see even more such success stories of building an international company, and not only in the biggest cities.

At what age tech companies reach the product-market fit?

At what stage of development is your company?

number of startups at each development stage per age cohort, n=520, 2019

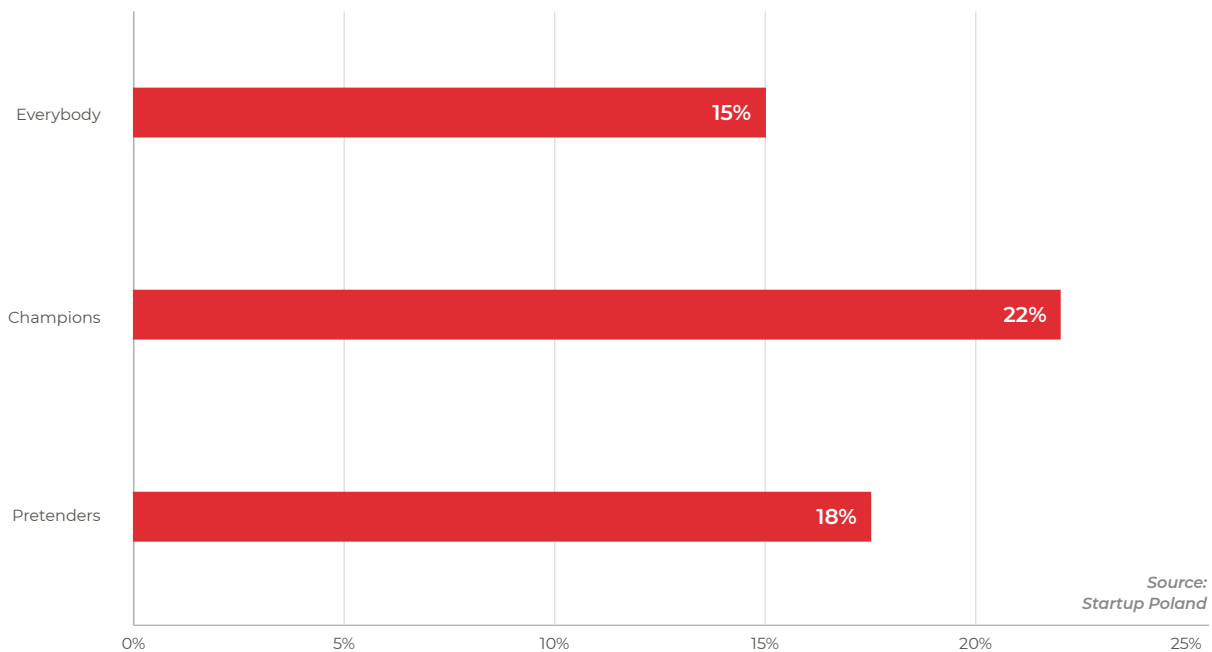


Startups who are working on:

- Problem-solution fit:** work on defining business hypotheses, form startup teams.
- Solution-product fit:** work full-time on an MVP or a prototype, have first revenues or users.
- Product-market fit:** have a stable user base or recurring revenue, and a performing business model.
- Scaling:** experience a strong growth in revenues or user base

How fast do startups grow their revenue?

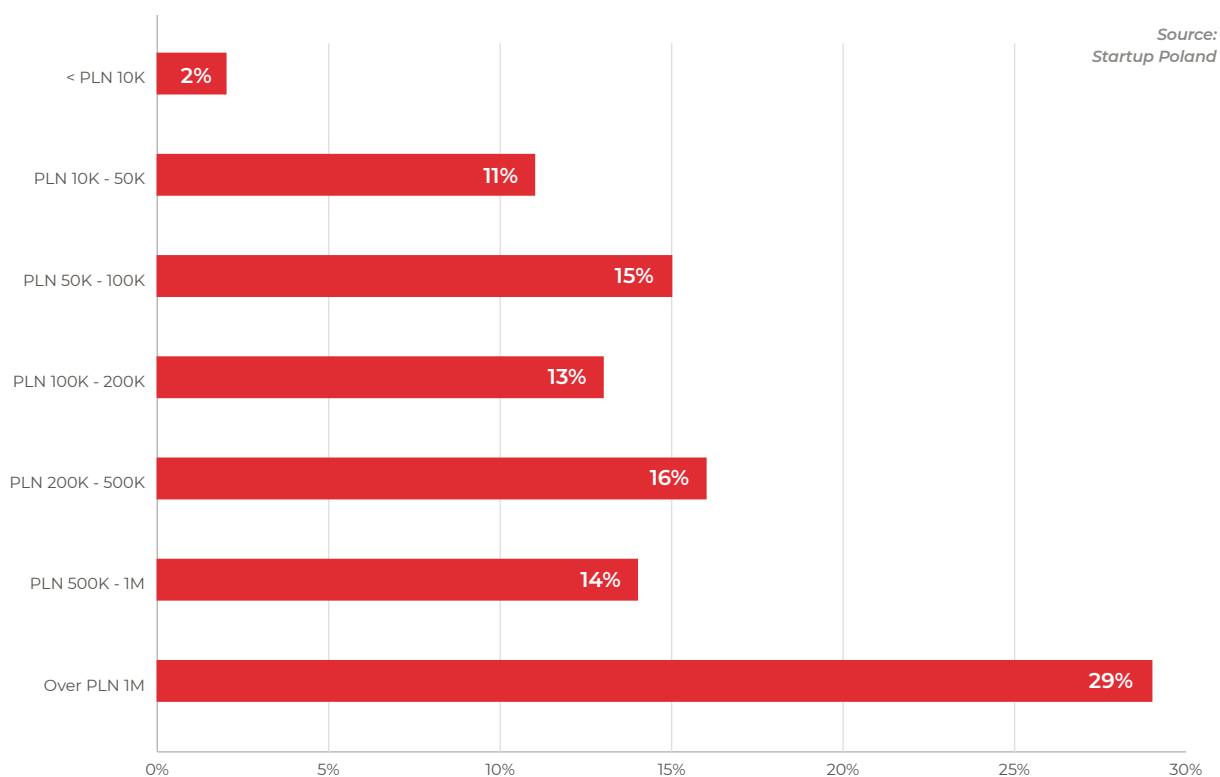
What is your average monthly revenue growth rate in the last 6 months?
Median growth rates, n=429, 2019



What revenue levels make startups extremely happy?

What is your average monthly revenue in the last 6 months?

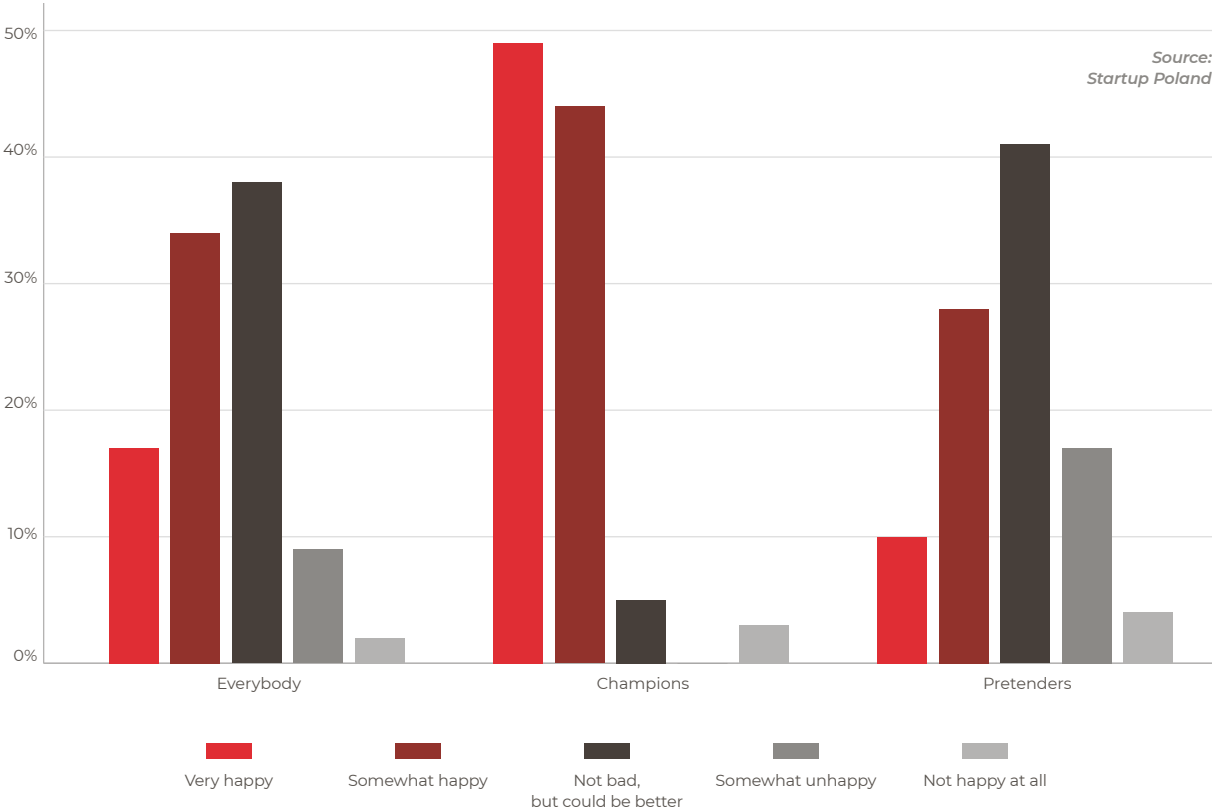
% of startups that declared to be extremely happy about their levels of revenues, n=80, 2019



Overall startup development: not bad, but could be better?

Are you happy with the development of your company?

% of all startups, n=668, 2019



EXPERT COMMENTARY



Marcin Kurek

Managing Partner, Market One Capital

The survey answers provide some very interesting results. First of all, the monthly revenue growth rate reported by founders is extraordinary. Both the 18% reported by pretenders and the 22% by champions are amazing numbers. If a company grows steadily by 18% each month, after a year it will be 7 times bigger in terms of revenue. But growing at a rate just 4% faster than this will result in revenue almost 11 times greater. Another thing worth mentioning is the overall happiness with company development. 93% of the founders whose startup is growing at a monthly rate of 22% and who have already reached product market fit are happy with their startup's progress. This sends a very clear message to the pretenders, who report a 38% rate of happiness. Work harder and the rewards are out there!

I like the results of the founder's best case scenario. It shows that founders are brave and set themselves ambitious goals. What is astonishing is that 38% of founders think their startup will be a unicorn. I have been active on the Polish tech scene for more than 12 years and I'm pretty sure that the results of a similar questionnaire sent 10 or even 5 years ago would be much different. Founders were much more reserved then and were characterized by shorter term thinking.

According to the research, founders value personal mentoring the most. This means there is visible know how and the transfer of best practices on the market. As a result, there are already 'real mentors' out there who are having a significant impact. I also value personal mentoring the most since it gives us a rare opportunity to get really deep into the problems and challenges facing your business. You would never experience this at startup events.

These very interesting results show us the kind of challenges which founders are dealing with currently. Sales and customer acquisition is valued by pretenders and champions alike. This aspect of the business is always crucial, no matter what stage your company is at. What is particularly interesting is that champions are much more focused on growth and significantly less on profitability than pretenders. One reason for this is that more experienced founders already know that a startup at the early stage is not about making profits but mainly about grabbing market share in fastest possible way. The other reason is that champion companies are probably sufficiently funded, and their main concerns are finding effective ways of using funds, building great teams and improving internal processes.

EXPERT COMMENTARY



Joanna Parasiewicz

Communication & Marketing Manager
OVHcloud



How did David defeat Goliath and why do startups need a cloud?

Up to a certain point, the chances of new ventures with global players were like a battle between a plucky David and a seemingly-invincible Goliath. With small teams and limited funds, it was hard for startups to challenge the giants. However, the seemingly invincible opponent has yielded ground. So why did this happen?

David's victory was assured by his courage, agility and cunning. Young, disruptive companies, offering a fresh, creative approach, have always been more efficient than their large, slow, and often more complex counterparts. But startups have added another powerful weapon to this set of advantages: technology. In particular, the cloud has freed startups of their historic limitations, offering full security, control, flexibility and lower costs, allowing them to focus on their strengths and beat Goliath – achieving more, in less time.

Helping startups think like global leaders

The cloud offers computing power previously only available to the largest organisations. In addition, it provides convenience, because it is a turnkey IT infrastructure, where the cloud provider offers a package of services, then manages their development, updates and security. Services are delivered within established quality parameters, in the form of Service Level Agreements (SLAs), which set out the provider's commitments to the customer.

Startups often suffer from a lack of infrastructure, resources and money... and all these concerns are addressed by the cloud, which allows them to think big, thanks to:

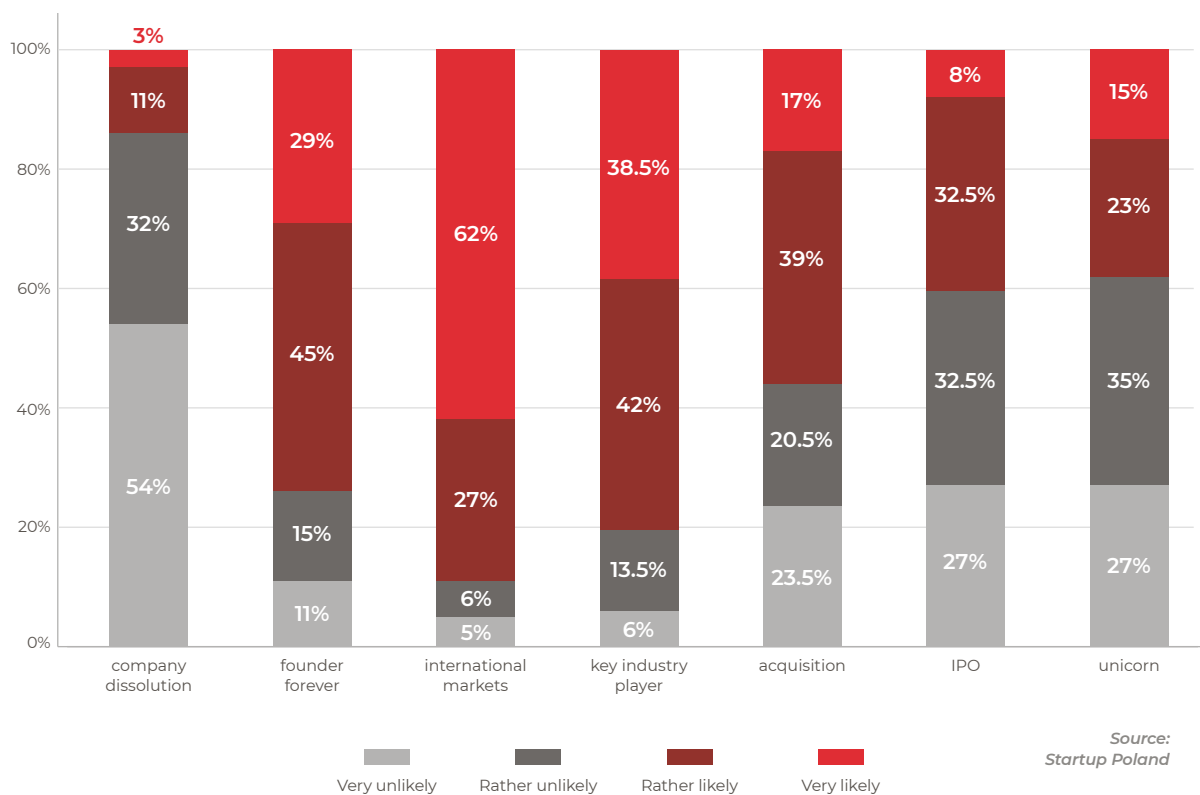
- Instant access to resources. After signing the contract, the customer receives access to the required resources within a few minutes, paying for them through a monthly subscription.
- Flexibility. The cloud makes it possible to deploy a secure infrastructure for specific projects, such as a Black Friday marketing campaign. The resources required for such projects are often difficult to estimate, especially early on, but servers and storage located on-site generate costs, regardless of whether it works at full capacity, and it is not uncommon for network traffic to occasionally exceed normal levels. This makes the flexibility of cloud services vital.
- Collaboration across teams and geographies. Data sharing is near-instantaneous, so teams can work together in real-time, regardless of their location.

Indeed, WhatsApp, one of the most widely used apps in the world, was created by two former Yahoo employees, leveraging the power of the internet and demonstrating how the smart use of technology can reduce the need for a large, well-equipped team... just like in the story of David and Goliath.

What are the founders' best case scenarios?

How probable are the following scenarios for you and your company?

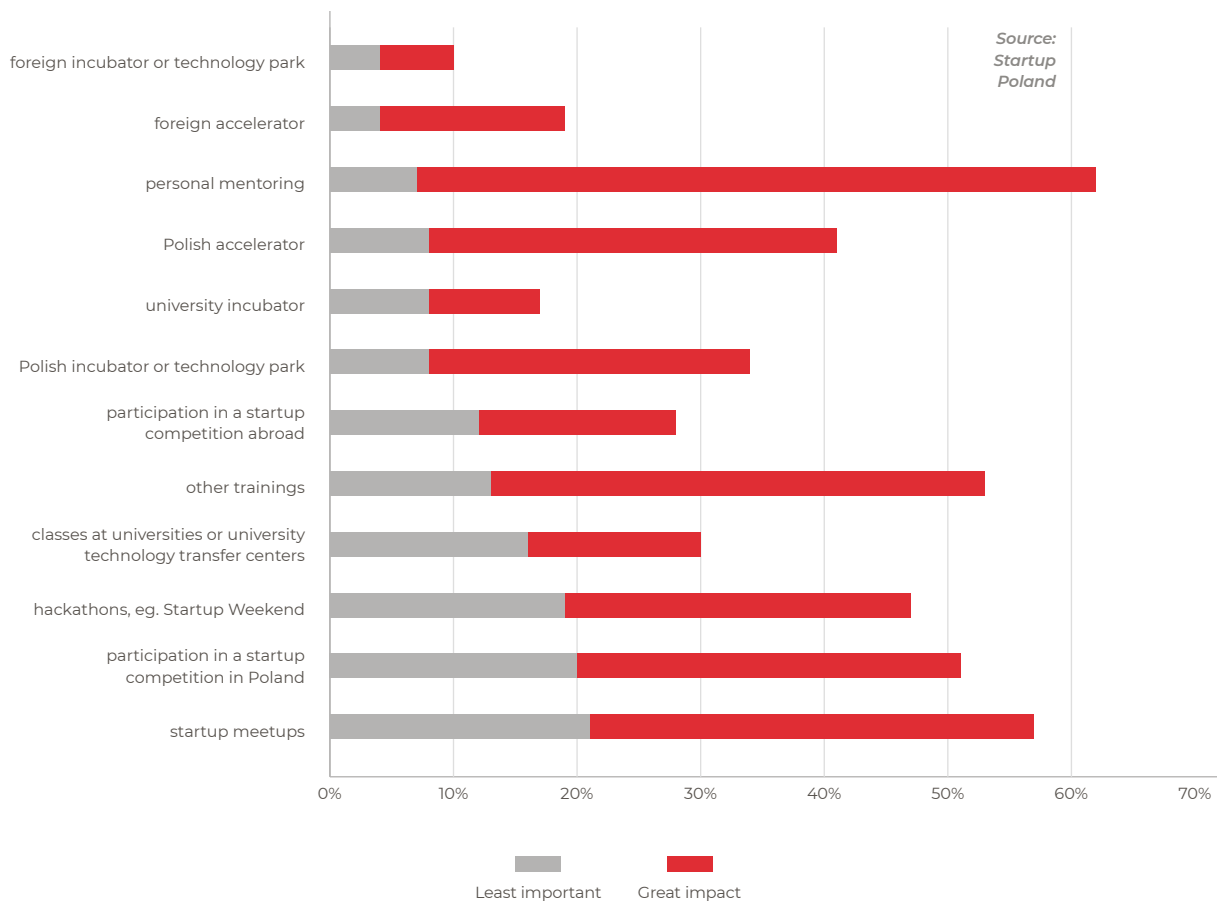
% of all, n=662, 2019



What activities have the highest impact on startup development?

How do you rate the influence of the listed knowledge sources and the network on the development of your startup to date?

% of all startups, 2019



PARTNER'S MATERIAL



Małgorzata Oleszczuk

President, PARP



Open innovation works for startups

The survey reflects that the challenges startups face have been more or less the same for years. In terms of business development, the hardest things for startups are sales/customer acquisition, product development and fundraising. These are the basic elements which – if well-structured – make a startup develop and grow. At the same time, the activities valued most by the startups in terms of their development haven't changed compared to 2018 either: these are personal mentoring, training, startup meetups and accelerator support. This proves that the needs addressed by PARP's incubation and acceleration programs were properly identified and should provide the necessary support in the above-mentioned spheres of business. 2019 saw the peak of the parallel functioning of our incubation and acceleration programs – there were 5 Poland Prize operators, 1 Elektro ScaleUP accelerator, 6 Startup Platforms in Eastern Poland and 10 ScaleUP II accelerators. Startup Platforms, as well as accelerators, provide startups with mentoring, as well as business & technical advice. The financial grant is just a tiny element of acceleration programs, the aim of which is to allow startups to focus on product development for a short period of time.

The support schemes developed by PARP address also the desire to cooperate with corporations. 38.5% of startups have business relations with corporate clients (which reflects growth compared to 2018) rating it mostly as good. This is a positive phenomenon showing that both sides recognize the benefits of working in the spirit of open innovation. The task for our accelerators is to make every effort to turn startup-corporation cooperation into something which is assessed as very good (which is now the case with only 23% of those surveyed) or at least better than just fine.

Another interesting thing is that startups expect further financing from the government's side while the financing itself does not address the challenges they face as indicated in another part of the survey. Our service-design process, which was run in 2019 and aimed at designing the govtech program, surprised us since startups claimed that what they needed was for someone to only open the door to a public administration partner who could be a potential client – with no financing or acceleration process necessary. We consider this direction to be the future of public support schemes.

Incubation & Acceleration programmes launched by PARP, operating in 2019

	Operators:	Support offered:	Closing date:
Startup Platforms in Eastern Poland Incubation programme	<ul style="list-style-type: none"> • Start in Podkarpackie • Wschodni Akcelerator Biznesu • Unicorn Hub • Idealist • Hub of Talents 2 • Startup Heroes 	<ul style="list-style-type: none"> • Business mentorship worth up to €12K • MVP and business model validation granted 	2023
Poland Prize 'Startup visa' programme	<ul style="list-style-type: none"> • Blue Dot Solutions • Startup Hub Poland • Huge Thing • Gdańska Fundacja Przedsiębiorczości • BRINC 	<ul style="list-style-type: none"> • Soft-landing and concierge services • Equity-free grant up to €50K 	2019/2020
Elektro Scale Up Acceleration in electromobility sector	<ul style="list-style-type: none"> • techBrainers 	<ul style="list-style-type: none"> • Business & technical mentorship worth up to €12K • Equity-free grant up to €120K 	2020
Scale Up Acceleration programme with corporate business partner	<ul style="list-style-type: none"> • Fundacja Przedsiębiorczości Technologicznej • FundingBox Accelerator • Blue Dot Solutions • DGA SA • Accelpoint • Fundacja Polska Przedsiębiorcza • Huge Tech • Krakowski Park Technologiczny • Łódzka Specjalna Strefa Ekonomiczna • BRINC 	<ul style="list-style-type: none"> • Business & technical mentorship worth up to €12K • Equity-free grant up to €50K 	2021

EXPERT COMMENTARY



Dariusz Żuk

Founder, AIP, business.link, bValue

Attention, dear founders!

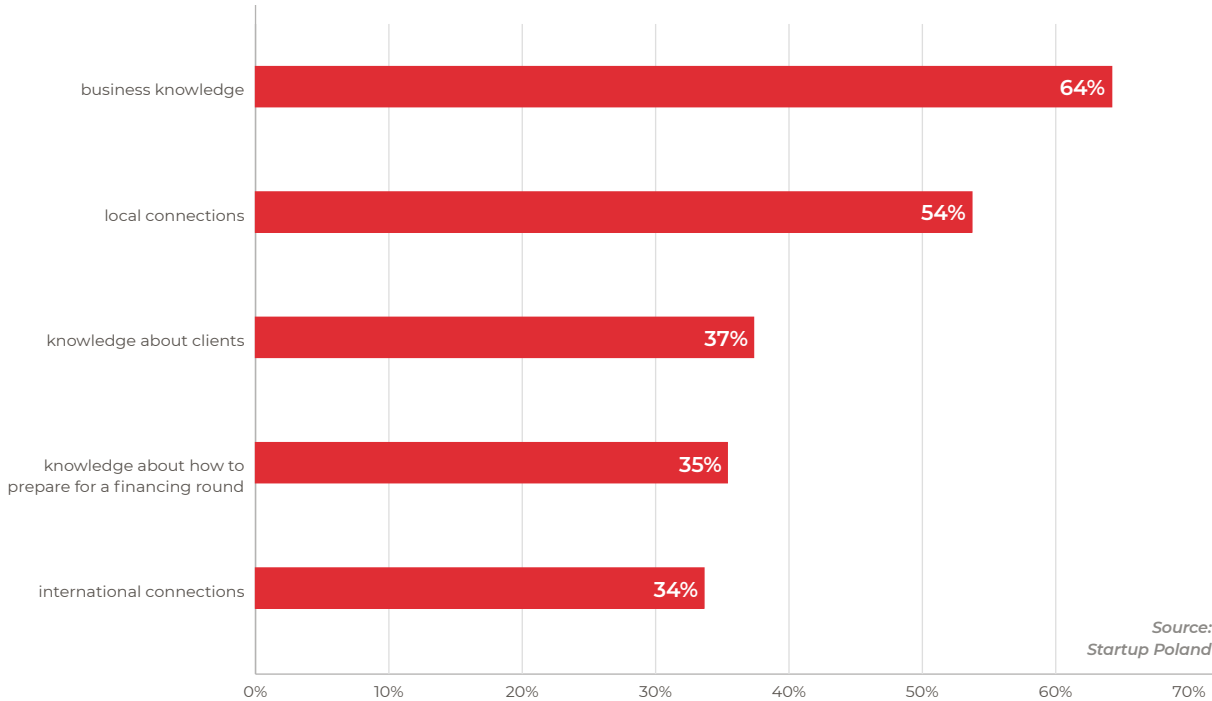
It is rewarding to see that so many founders consider acceleration and incubation programs to be crucial and I believe that such programs will only grow more important in the years to come. Founders know that fast scaling is already much more important and attainable than a few years ago and that there is a need for increased expertise and relations. On the other hand, the VC market is looking for more mature startups with greater revenues and markets. Startups will need to increase their knowledge base and resources, something that will be impossible if they only rely on team members or friends. So, what should a founder pay attention to while looking for a good acceleration program? Firstly, I recommend making the choice based on the people who will be working with startups and their experience. Secondly, it is obviously key to take a look at the conditions. For example, giving more than 20% of the startup's equity in the first seed/acceleration round is simply

unacceptable. Saving the shares will allow the company to make reasonable growth in the future. Moreover, it is important to check how the accelerator will support founders in subsequent investment rounds. Do they have real connections with VC's? What about their own investment activities in the next stages? It is also very important to take a look at alumni and contact them in order to get their real opinion on the value of the cooperation.

Most people don't think that classes at university are very helpful in terms of preparing them to launch their own startup. This is mainly a result of the overly theoretical, business-driven education at our Polish universities. At this point, I agree with the results of the survey. The best way to learn how to develop your own startup is to find good accelerators and mentors rather than attending business schools.

What makes a great mentor

What benefits did you get from mentoring?
% of startups that have had mentors/advisor, n=456, 2019



EXPERT COMMENTARY



Marek Kapturkiewicz

Co-founder, Investor, Partner, Innovation Nest

Choosing the right “tools” is crucial in increasing the probability of startups attaining good levels of performance and success - regardless of our definition of “success”. This year’s survey has given us an answer to very important question: “what activities have the highest impact on startup development”.

It could be perceived as something surprising that “personal mentoring” is the highest in the rank (over 55%), but let’s take a look at it through 3 perspectives.

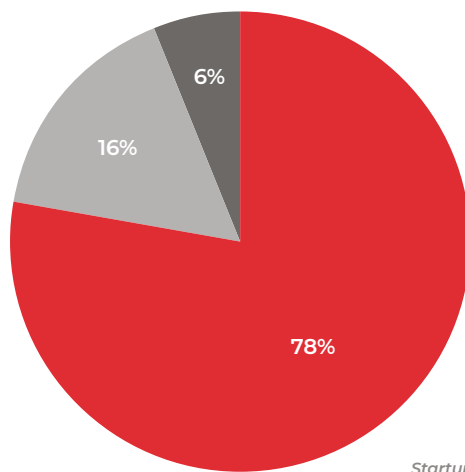
1. The **Polish startup ecosystem** is gradually maturing. We can see an increased quantity of highly experienced specialists and managers who are ready to share their knowledge, and understand the importance of startups bringing innovation to even established companies. Their engagement significantly influences the real value and quality of mentoring meetings, and the attitude towards those meetings that startup teams have.
2. **The number of events and programs supporting startups** has also been growing over the last period. Almost all of these have networking and mentoring aspects. Sometimes there is even perhaps too much mentoring in some of the programs.

3. Last but not least, it is worth noticing that both the quality of mentorship and the **awareness of what mentoring should really be**, have recently changed significantly. There are many organizers of different events and programs who provided mentors with very detailed guidance on how to work during a mentorship session. This protects entrepreneurs from being advised by mentors in an unhelpful “what would I do in your situation” way, and instead encourages the “what was an experience I had, which could be relevant in your situation” approach. Entrepreneurs are also much more aware that they should seek inspiration and feedback through mentoring, rather than seeing it as a recipe of how to solve a very specific issue.

It is important to build stable and long-term relationships between mentors and mentees, not just doing “speed-dating” during events or occasional meetings. Fortunately, what is very promising is that there are several recent initiatives with precisely this mission and that is one of the reasons why the role of “personal mentoring” can be expected to strengthen in subsequent years.

How public tenders drive the growth of startups

How many times has your company taken part in a public tender?
% of all startups, n=731, 2019



■ Never
■ A few times
■ Every time there was an opportunity

Source:
Startup Poland

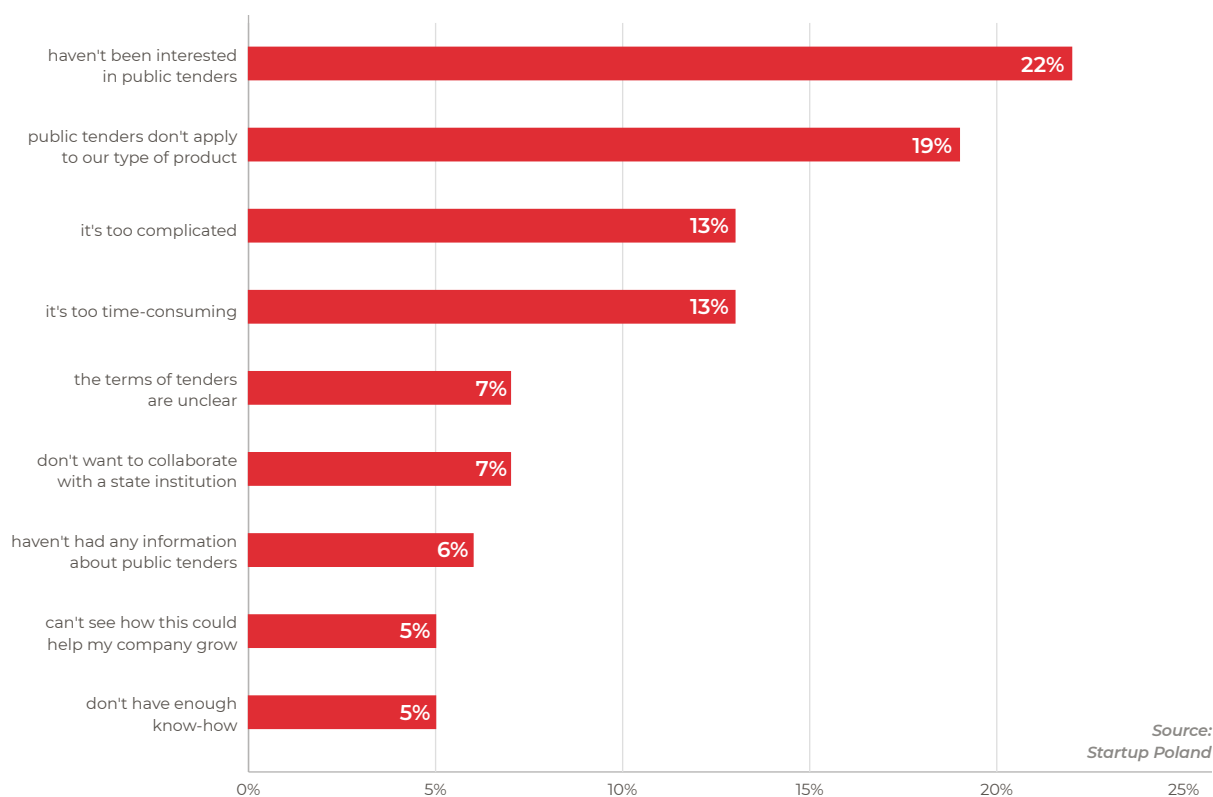
Top 10 fields where startups successfully sell to the public sector

- 1 Artificial Intelligence / Machine Learning
- 2 Big Data
- 3 Internet of Things
- 4 Robotics
- 5 Analytics / Research Tools / Business Intelligence
- 6 Industry 4.0
- 7 Hardware
- 8 Education
- 9 Productivity, CRM / ERP
- 10 Fintech / Insurtech

Why don't startups take part in public tenders?

What is the primary reason you have not been taking part in public tenders?

% of startups that never or rarely took part in a public tender, multiple choice, n=687, 2019



EXPERT COMMENTARY



Justyna Orłowska

GovTech Poland Program Director

A few months ago, I was presented with a graph that aggregated the results of a survey conducted among US-based start-ups. I was amazed – having studied statistics and dealt with data my entire life, rarely have I seen 100% of respondents agreeing to something. I was also saddened, because they agreed that “only established players have a real chance of winning significant contracts”.

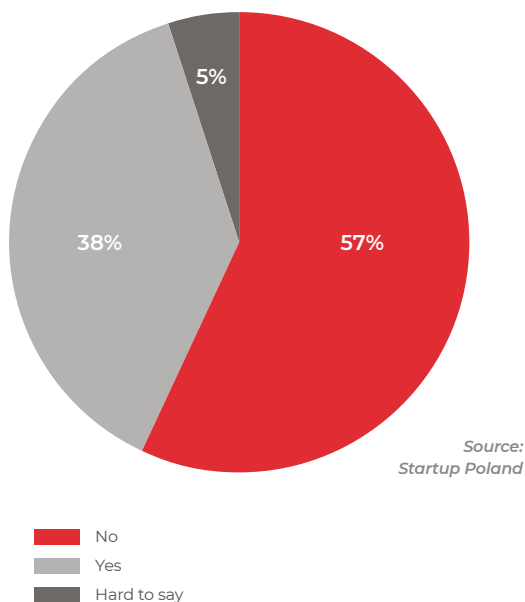
The report shows Poland is different. Perhaps the most uplifting news is that while tender participation rate remains too low, only 7% of those who have not participated so far are simply not interested in doing so. The rest are mostly either scared away by procedures, or simply haven't found the right tender yet. In other words, with greater simplicity and better information, the vast majority of start-ups would find procurement attractive. This shows a lot needs to be done, and both these aspects have been focal points of our work in GovTech Polska but, unlike in the US, the demand is there. Indeed, our experience shows that when you eliminate all prerequisites, minimize formalities and introduce more transparency, not only is the participation rate 20 times higher, but 100% of our contests so far have been won by SMEs (mostly start-ups).

The second important piece of information is that start-ups that do take part in public tenders are some of the more innovative ones, selling solutions ranging from AI to Robotics. This is most welcome, especially from the citizens' perspective, as it means that our institutions are acquiring top-end technology, which is likely to turn into high-quality e-services for all of us. Not just that – modernization of government is likely to also require further investments in data sourcing, UX, back-end or training, all of which can yield further opportunities for start-ups from non-technical fields as well.

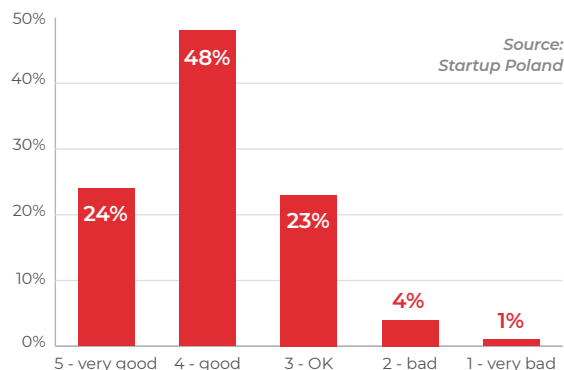
The picture obviously isn't all rosy. Indeed, what the data paints is not even a picture yet, more of a sketch which looks promising but requires significant work. It is, however, worth including – not just because our data shows that companies participating in public tenders grow 1.9 times faster than others, but also because Poland enjoys both a very talented field of start-ups, and a high demand for innovations in the public sector, which together will hopefully ensure that, with enough effort, the depressing statistic from the US will never apply to Poland.

How corporations drive the growth of startups

Has your company been cooperating with a corporation?
% of all startups, n=717, 2019



How do you rate your company's cooperation with corporations?
% of startups that have reported to have been cooperating with corporations, n=307, 2019



EXPERT COMMENTARY



Bartosz Józefowski

ScaleUp Manager, Krakowski Park Technologiczny

The middle-income trap – startup edition

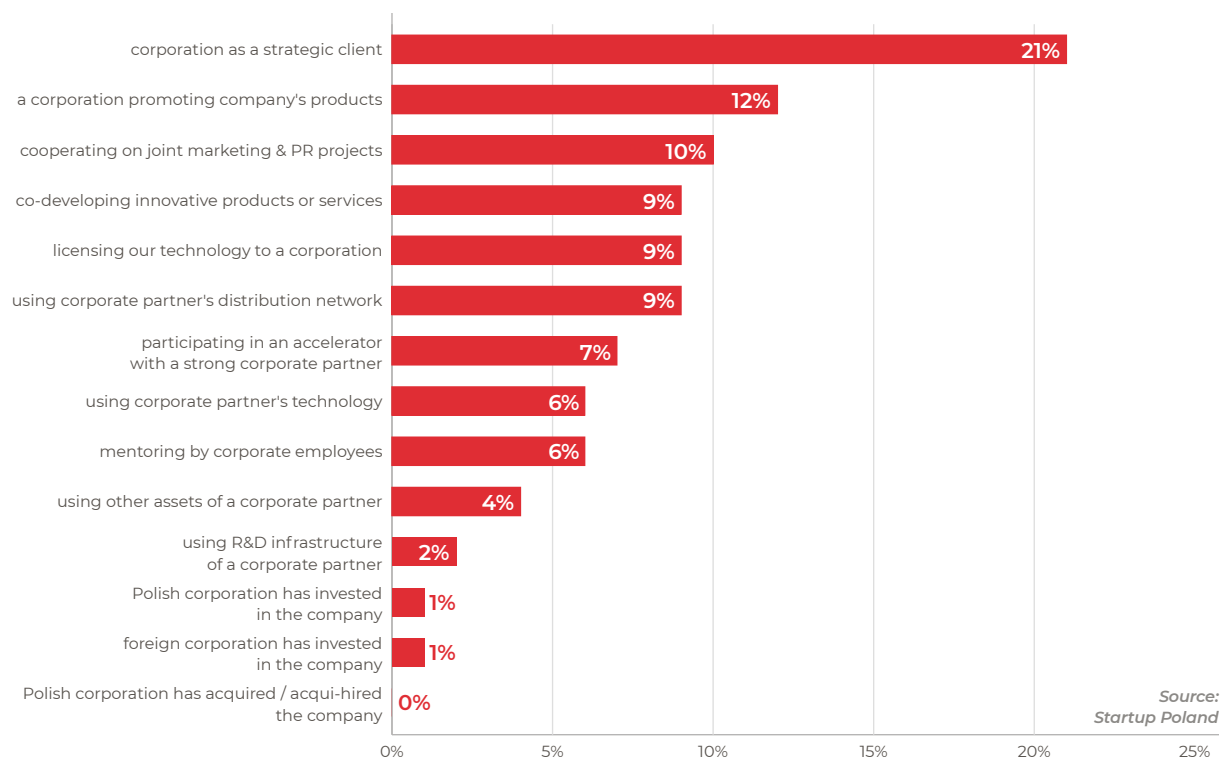
Almost 40% of founders believe their company will become a unicorn, and a similar number or more say that IPO or acquisition are at least “rather likely” to happen. This kind of optimism, a faith close to naivety, is probably necessary to endure the hard entrepreneurial struggle. 15% month/month revenue growth, although declarative so we must take it with caution, is very impressive. I must admit that results presented in the report are not bad. But this might be the problem. Magic happens on the edge, we need extreme cases, exceptional growth. I meet a lot of well-prepared startups, which are run by experienced people with an understanding of where is an opportunity and how they can exploit it. But it's still extremely difficult to meet someone with tremendous vision, bold ideas on an epic scale. I have the impression that entrepreneurs cultivate a certain “Polish modesty”, understood as restraint and moderation in ambition. **“Not bad” is not good enough in the startup world.**

Surprisingly 57% have worked with a corporate partner. Wow! I wasn't expecting such a high number. It seems that all this talking has worked. For the last 3 years, it was hard to find any startup conference without a major panel discussion devoted to such cooperation, while the government was strongly pushing a policy on this via its direct influence on state owned companies or by means of programs like accelerators. Such cooperation in many cases is still epidermal. Deep R&D and product development is still rare. Cooperation with a corporation has become something of a holy grail in Poland. Although we support startups and big companies working together we should remember that this is not the only way. It is a good strategy for some startups but where are the solutions for SMEs, B2C solutions? Any monoculture is dangerous, so I hope that in the coming years there will be actors who will remind us that startups are also about fighting corporations and shaking up the status quo.

How startups cooperate with corporations

Check all the ways your company has been cooperating with corporations

% of responses among startups that reported to have been cooperating with corporations, multiple choice, n=308, 2019



PARTNER'S MATERIAL



Patrycja Panasiuk

Innovation Office Director, PKN ORLEN



From need to implementation: innovations at PKN ORLEN

PKN ORLEN is involved in a number of activities which facilitate the implementation of innovative solutions prepared by startups. Examples include the Pilot Maker Elektro ScaleUp and space3ac Scale Up acceleration programs, participation in the GovTech program and a dedicated innovation.orlen.pl platform for submitting innovative solutions. Thanks to the adoption of the Strategic Research Agenda, we identified areas for the development of investments in innovations in the horizon of 2030+, which significantly strengthens PKN ORLEN's activity in the functioning of the innovation ecosystem.

PKN ORLEN's experience in implementing innovative solutions confirms that cooperation between a market giant and a startup is possible and not necessarily difficult. Of course, there are conditions to be met for such cooperation to be much easier for the innovator. First of all, the solution offered by a startup must fit PKN ORLEN's business needs; a startup should also be able to argue why its solution is more

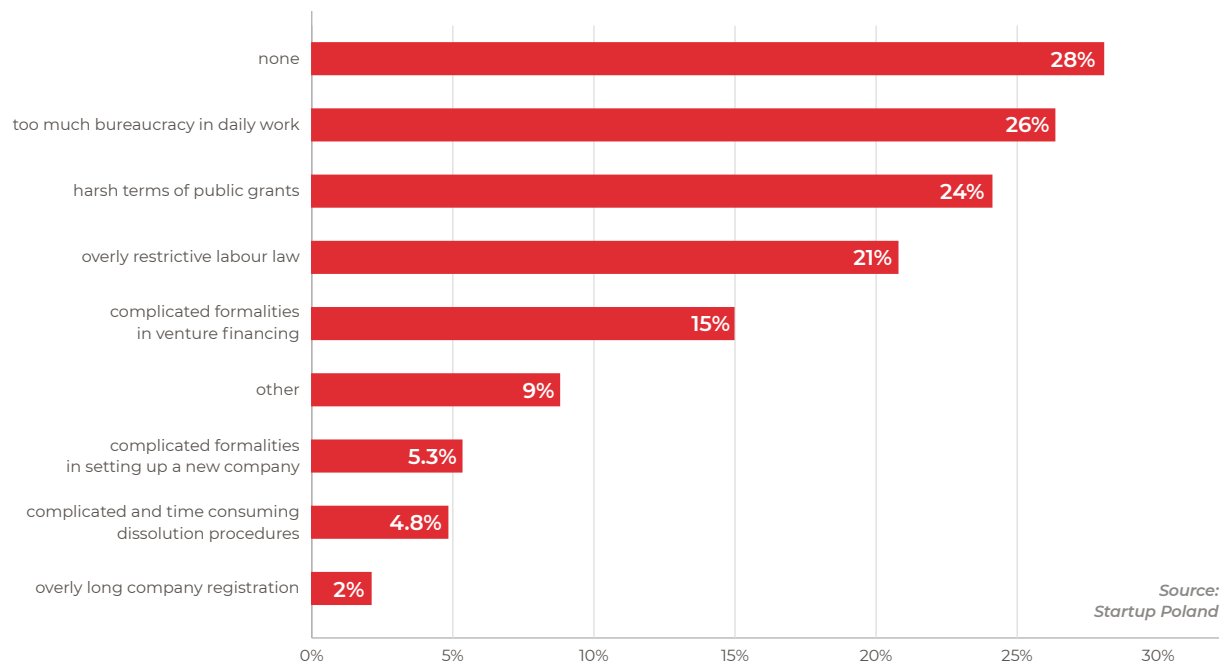
advantageous than other solutions available on the market, including a description of its innovativeness. It is also valuable to have experience in working with large technology customers, but also to understand the processes that govern the corporation and influence decision-making. For a large player such as PKN ORLEN, cooperation with startups allows us to obtain innovative solutions, map challenges and set the level of ambition in obtaining innovations from the outside. In addition, we improve the culture of innovation within the organization, including breaking down barriers related to the implementation of modern, non-standard projects.

There are many ways for a startup to present their solution to PKN ORLEN. The most appropriate is to submit ideas via the platform above or participate in the available initiatives which stem from PKN ORLEN's cooperation with startups, including acceleration programs.

What barriers hinder growth?

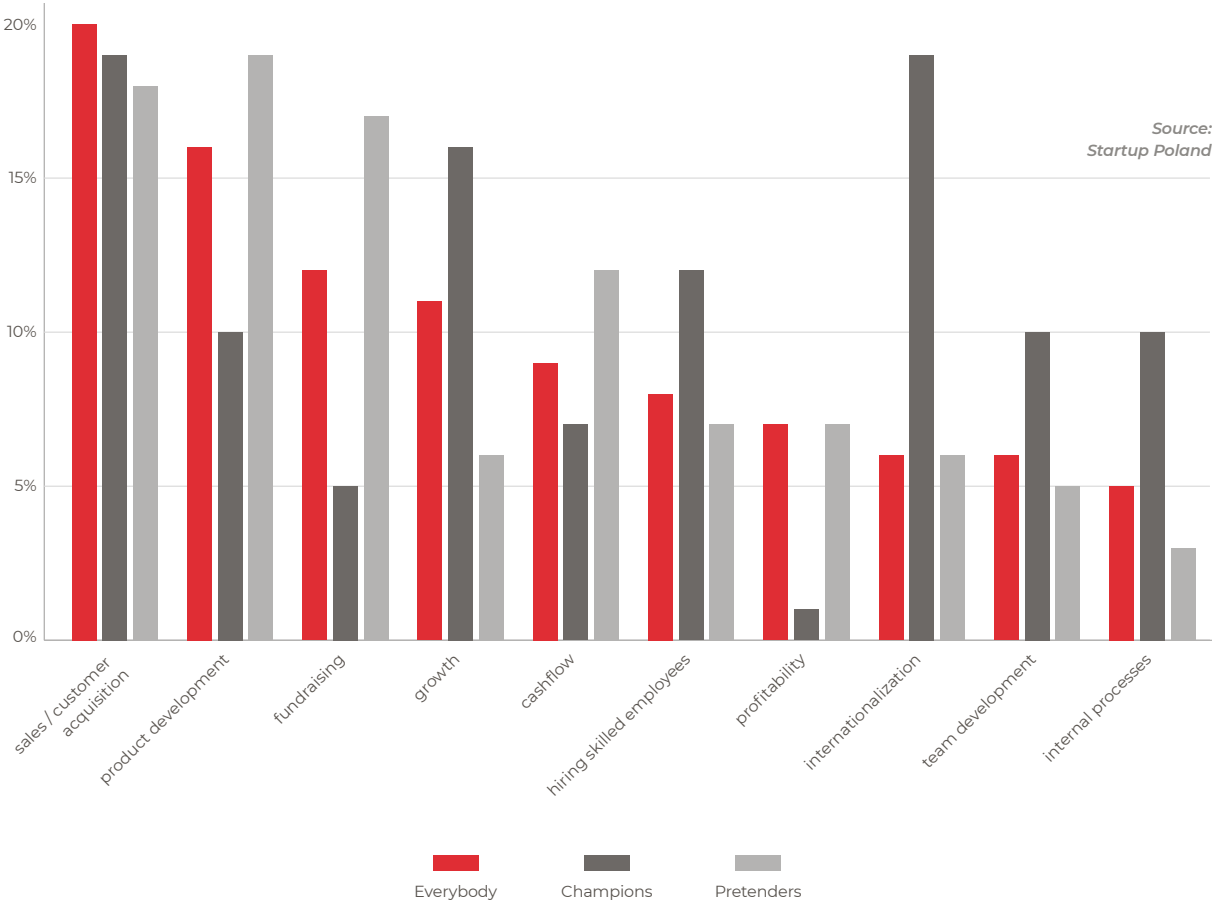
What legal and regulatory barriers have you faced?

% of responses among all startups, multiple choice, n=695, 2019



What is most challenging?

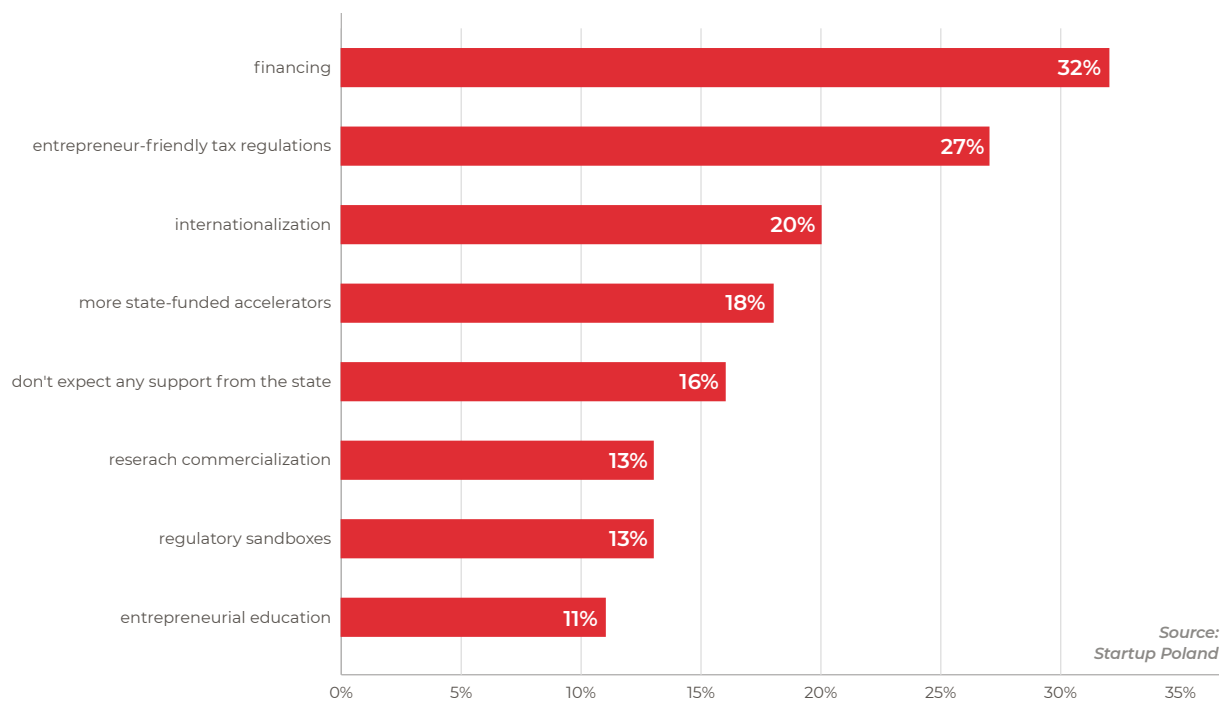
What are the greatest challenges your company is facing right now?
% of all responses, multiple choice, n=706, 2019



What do startups expect from the government?

In which areas do you expect more support from the state?

% of all responses, multiple choice, n=682, 2019



EXPERT COMMENTARY



Marta Pawlak

Legal & Public Policy Advisor, Startup Poland
 Head of Legal & Public Policy,
 American Chamber of Commerce in Poland

A closer look at legal barriers

Even though the results from the survey show no legal and regulatory barriers to business growth (almost 29 % of responders) it does not mean that they don't really exist. Startups which focus more on developing their companies just seem to have less time to thoroughly monitor the legal and institutional environment. Legal and regulatory barriers in running business activity are specific, often common for startups and huge corporations operating in Poland and – despite the positive recent changes in laws affecting SMEs – have been around for many years. The dissatisfaction of startups with the legal and regulatory barriers can result in the termination of business activity, limiting startup growth or business relocation. This calls for removing more business unfriendly laws (especially these which create too much bureaucracy in our daily work and regulations in the context of overly high labor costs) or changing practices in the public sector (lengthy formal procedures or a lack of fast-tracked legislation).

So what might actually change in the near future? Labor costs will be higher in Poland, if the maximum annual limit of social security contributions' (the so called "ZUS cap") is abolished. The removal of the ZUS cap will significantly impact labor costs (up to 10% for employee and 16% for the employer) and the attractiveness of Poland as an investment destination compared to Slovakia, the Czech Republic, Hungary and even the UK. It will affect all employees in Poland working under a contract of employment

with an income exceeding 30-times the average monthly salary, as well as companies employing such individuals.

Complicated formalities in setting up a new company and time-consuming dissolution procedures should not remain obstacles, because in March 2020 the new regulations regarding the Simple Joint-Stock Company (Prosta Spółka Akcyjna, PSA) will come into force. The Simple Joint-Stock Company distinguishes itself from other capital companies with simplified and shortened procedures of setting up and liquidation.

The results of the survey regarding the expectations of startups from the government constitute an appeal from the startup community to the newly formed government. The postulates related to the financing arise not from the lack of access to public funds, but rather because of the harsh terms of public grants. Startup expectations for entrepreneur-friendly tax regulations are also noteworthy. We can observe some positive changes regarding the amount of taxes in Poland, such as increased tax incentives for innovative entrepreneurs or lower CIT for SMEs from the beginning of 2019. However, the transparency of the tax system is no less important. The conclusion for the new government is simple – if Poland is to keep local startups and attract foreign ones, Polish tax law has to be simpler, sustainable and more predictable.

CHAPTER 4

STARTUP FINANCING

How bootstrapping has changed over the years

Trends in sources of startup funding

Rounds of funding

Total equity funding volume

How meeting VCs converts to term sheets

Public grant applications

Volume of funding from public grants

Founder equity

Startup exits

Regions with highest perceived
possibility to obtain financing

60%

Lublin

60%

Szczecin

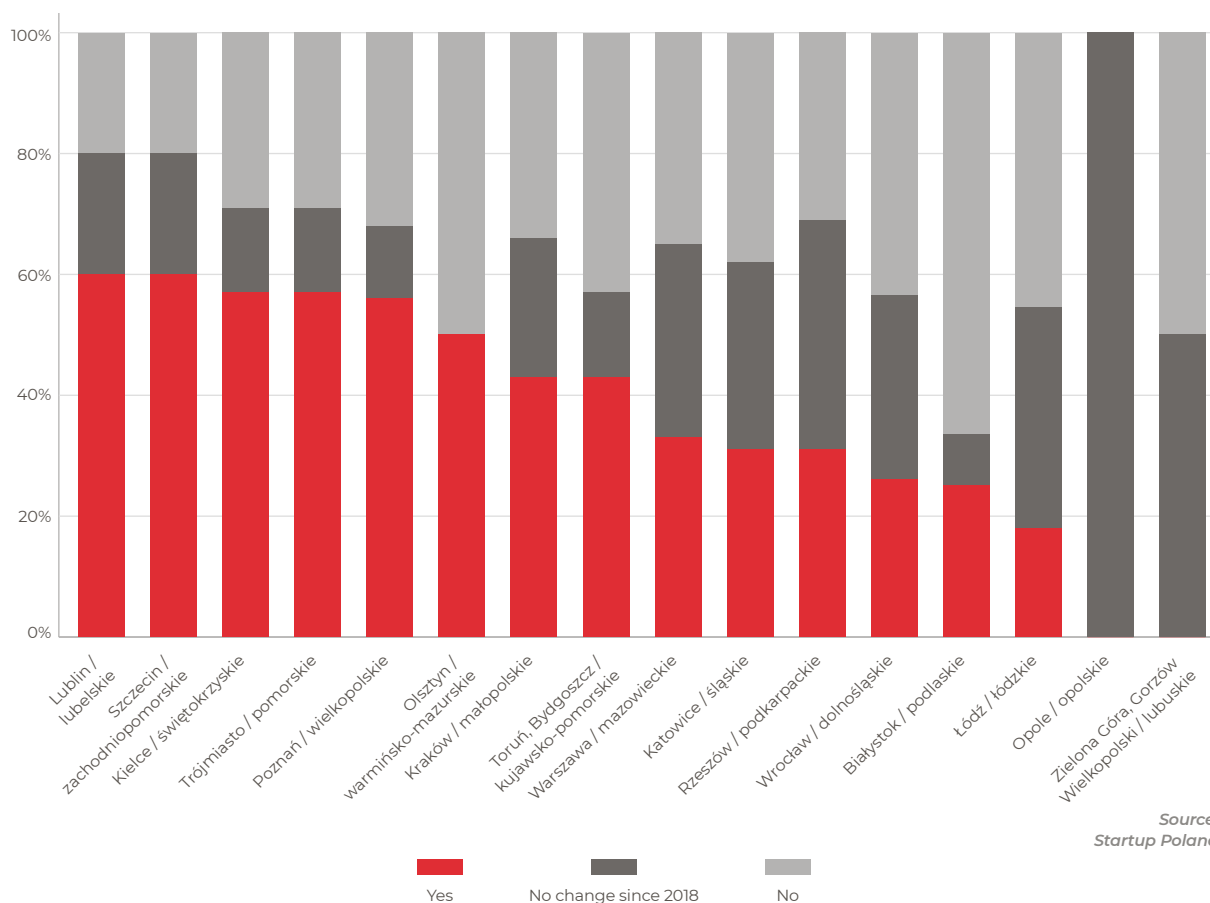
57%

Kielce /
Trójmiasto

Startup regions of Poland: perception of change in capital availability

Do you feel it has become easier to find an investor compared to 2018?

% of responses in each region, n=781, 2019



EXPERT COMMENTARY



Michał Pukacz

Executive Board Member and Manager of The Polish
Research and Development Cluster of the Internet of Things
Startup Poland Ambassador

Startups from the Lubelskie Voivodeship have shown that it is much easier this year compared to the previous year, i.e. 2018, to attract investors and funding in order to develop their ideas. I think that this optimism primarily stems from two components. The first is the increased number of public funds with the participation of EU funds dedicated to the development of startups (PFR Ventures, Scale-Ups), including programs focused on Eastern Poland, such as Sub-measure 1.1.1 Starting platforms for new ideas, where as many as three operators are located in the Lublin province.

The second is the continuous development of startup environments in the region, which has translated into more aware CEOs, who see new funding opportunities and are more prepared to acquire them. Of course, this optimism should be taken as a positive sign. Increased funding is a great chance for prosperous startups and subsequent positive exits which potentially increases number of investors who will start investing money earned on startups in new ideas and businesses from the region.



Maciej Jankowski

CEO Netcamp Foundation
Venture Partner Nextgrid.AI
Co-founder of Startup Poland

West Pomeranian startups have the highest perception of access to capital in Poland but it's not a big surprise for me. There are 130 active VC funds in Poland, 40% increase from 2018, although over half of them started investing this year, mostly with EU money. It's much easier to raise a 250k – 500k EUR seed round today than 1-2 years ago thanks to PFR/PARP/NCBR stimulating ecosystem with public funds. In our region we have 2 new seed funds going to invest ca 20M EUR with up to 1M EUR tickets. This year VC market cap in Poland hit 250M EUR and it's the highest size of investments in 10 years! Polish startups with great tech talents (250k developers, biggest number in CEE) attract more foreign VCs

co-investing with local investors. We have several EU backed acceleration programs in Poland connecting startups with corporate partners, providing 50k EUR non-equity grants, mentoring and help to get initial traction from enterprise customers. There are also 5 "Poland Prize" soft-landing accelerators for foreign founders. Lots of West Pomeranian startups are focused on selling their products abroad (3rd place), so they perform much better than companies focused on Polish market and attract more VC investments.

Very close distance to vibrant Berlin startup ecosystem and events like Startup Weekend Szczecin impact the more founders 'think global'.

EXPERT COMMENTARY



Michał Karwacki
Partner, Head of Venture Capital team



Natalia Burchardt
Senior Associate
M&A and Venture Capital team



Kamil Ciodyk
Lawyer
M&A and Venture Capital team



Małgorzata Deruś
Lawyer
M&A and Venture Capital team

Negotiating investment agreements What a startup needs to know to impress the investor?

The beginning of negotiations with an investor represents the first step for startup success. Appropriate preparation for this process is a recipe for ultimate success.

Fundamental issues for the investor

Apart from securing their own fundamental interests (such as guaranteeing the receipt of funds, and fair responsibility for the functioning of the company prior to the investment), the startup founders must also bear in mind issues that are fundamental from the perspective of the venture capital fund. A wrong attitude on the part of the founders in this area can sabotage the whole investment process. From this perspective, the following areas of the investment agreement are particularly sensitive for the investor: (1) guaranteeing the founders' total focus on the further startup's growth, (2) prohibition of competition, (3) the investor's control over trading in the company's shares for the duration of the investment, and (4) guaranteeing the investor's exit from the company if they receive a satisfactory offer. Those issues require particular attention and vigilance from startups.

Term sheet

This defines the milestones for the transaction, i.e. the general conditions of the financing. At this stage, the startup should consider what it expects from cooperation with the investor. Money will be vital for the company's growth, but so will determining what business support or network of contacts it can provide with the investor. We also advise they verify the fund's reputation on the market and the members of its team. It is worth considering whether the founders will agree to a representative of the investor sitting on the company's management or supervisory board, as well as deciding on the investment horizon, including how successive rounds of funding will proceed, together with the fund's exit from the investment. The term sheet is a roadmap for the entire investment process, so issues established there can be hard to renegotiate later.

WIERZBOWSKI EVERSHEDS SUTHERLAND

Due diligence

Legal, tax and financial due diligence is an opportunity for the investor to examine the company closely. The first step in this process is to sign a confidentiality agreement. This will protect the company and its founders from concerns that their business concept might be exploited by the investor without their involvement.

For the investment committee of the venture capital fund, a reliable due diligence report on the company is the basis for reaching a decision on whether to grant funding to a startup. We know from our experience that this process often seems burdensome and unnecessary for startups. But it is a great opportunity for the founders and the whole team to present all the strong suits of their venture. No information should be hidden, including any shortcomings, but rather the startup should strive to meet the investor's expectations. Even if irregularities emerge during due diligence, that does not ruin the chance to raise financing. They can be addressed and fixed in cooperation with the investor and with the investor's assistance. The team's openness and positive attitude to solving problems typically works as an additional advantage of the startup.

Investment agreement

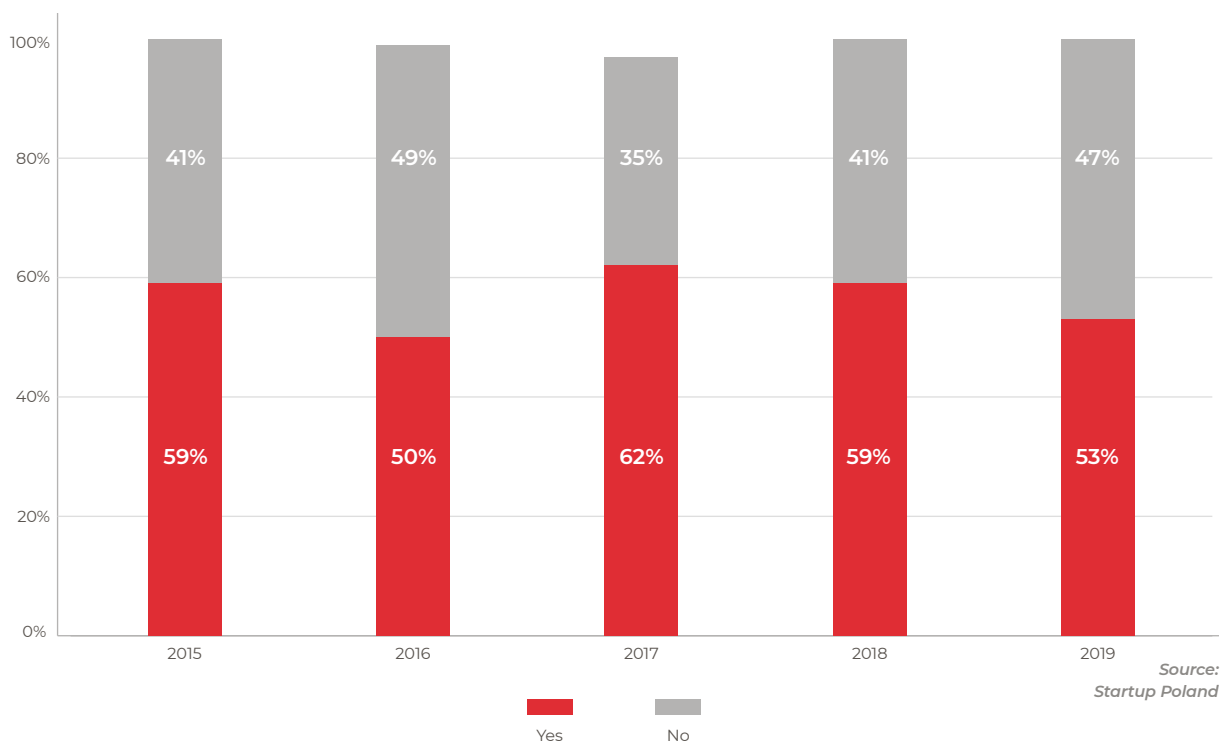
The investment agreement specifies the conditions under which the new investor joins the company and secures its funding in detail. Regardless of the structure of the transaction, a vital element of every such agreement are provisions governing the responsibility of the parties. Among those requiring attention are the representations and warranties made by the company and the founders. They present the legal and factual condition of the company – such as the date of the investment, and the company and the founders promise that the representations and warranties are correct. In the event of a discrepancy, the company and the founders will be responsible for the resulting loss, which typically entails financial liability or dilution of their share in the company's capital.

The investment documentation not only addresses the fundraising at this stage, but also for the future, regulating the relationship between the startup, the founders, and the investor. Due to the complexity of this process, it includes many documents which need to be drafted in legal language. It is essential for all parties to the transaction to fully understand the consequences of the provisions they have agreed upon, and to feel comfortable about the company's continuing operations. In this respect, the right professional advisers, capable of reconciling the interests of opposing parties, can be invaluable.

How bootstrapping has changed over the years?

Have you funded your startup so far only with your own money?

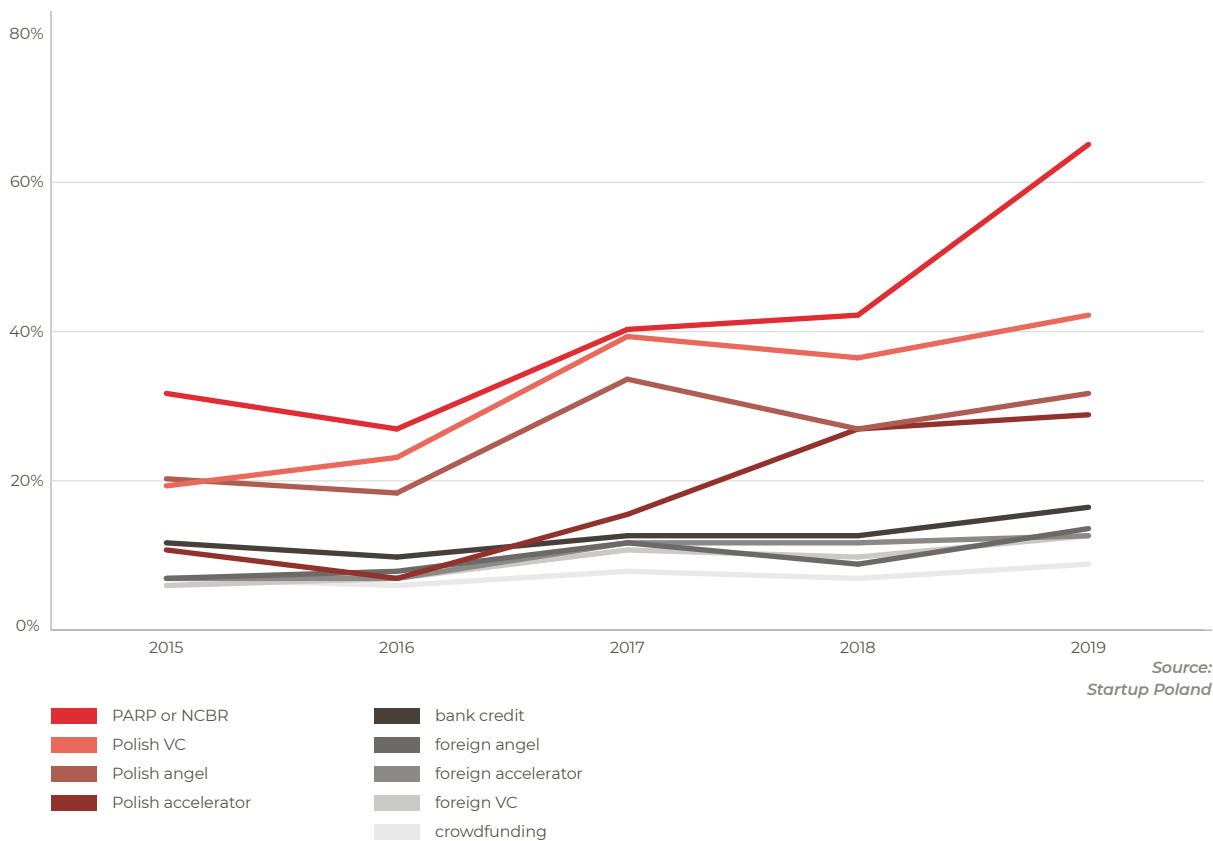
% of all startups, including previous annual surveys



Trends in sources of startup funding

What sources of capital have you financed your company with?

% of startups that have raised capital, including previous annual surveys, multiple choice



EXPERT COMMENTARY



Bartłomiej Owczarek

founder, Where I Get My Meds (GdziePoLek.pl)

Steady improvement, but “smart money” is often still “little money”

Investment rounds in Poland still do not impress in terms of value, but slowly but surely, startups are accumulating capital and their investor base is becoming more diversified.

The average Polish startup in 2019 raised ca. 30% more funds in total than in 2017. As one might expect, an investor group whose presence is growing the most quickly are VC funds supported by one of the recent government programs managed by NCBR or PFR. However, local business angels are more prominent in cap tables as well, and the participation of foreign angels is becoming more commonplace.

While it is all well and good that overall averages are going up, what about unicorns, big rounds and big winners? After all, they are what defines a superior startup ecosystem, and not a large number of underfunded challengers.

Sadly, as we are painfully aware being a startup ourselves, the number of venture funds in Poland capable of investing EUR 1m or more can be counted on one hand. A million Euros constitutes just an average initial round in Europe, and yet many Polish funds are capped at 250k or less. This raises the question: should they even be called venture funds?.

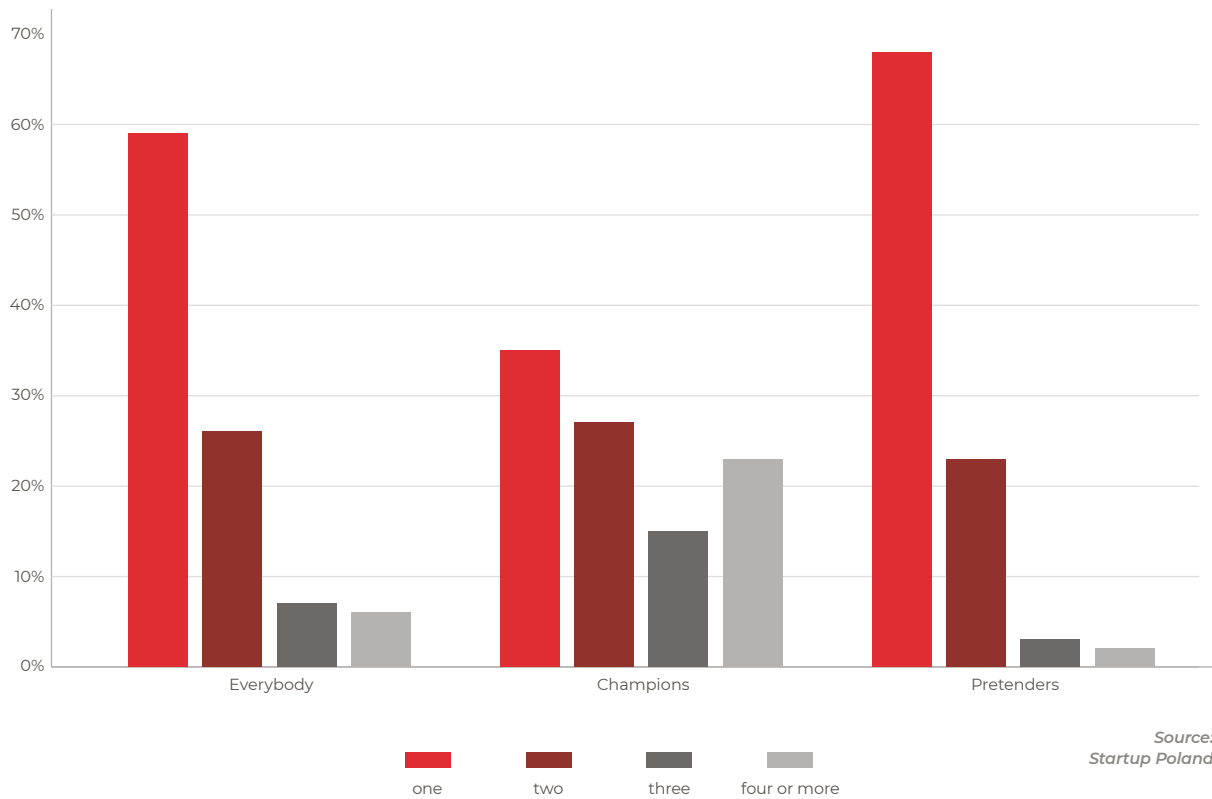
At the moment, the route to success leads outside of the Polish ecosystem, rather than within. For startups with global aspirations, foreign VCs are the way to go and if the company has to relocate abroad in the process, then so be it.

However, as a company still uncertain whether the “VC way” is the one we should pursue, we celebrate the growing potential of Polish private investors. In 2016, getting funded with them was a necessity: venture funds left the field due to the expiry of government subsidies. In 2019, we prefer private investors because they can provide more, smarter and faster money. Not having to explain the basics of our industry makes for a more satisfying process.

Polish VCs are not going to get much closer to European standard of round size any time soon. But they sure could use some competitive heat from private investors to improve term quality and the time to deal.

Rounds of funding

How many total rounds has your company raised so far?
 % of startups that have raised funding, n=349, 2019



EXPERT COMMENTARY



Wojciech Fedorowicz

Managing Partner, TDJ Pitango Ventures

The Polish ecosystem is growing

The picture emerging from Startup Poland's research is largely consistent with our internal analyzes and shows that the Polish startup market is maturing. Consequently, our country has a lot more to offer to foreign investors, with the quality of start-ups improving, not only in terms of their business potential, but also in terms of preparation and the competencies of their management teams. We can see more interesting projects that aim to solve specific global problems appearing on the market. Therefore, given the growing attractiveness of the Polish start-up scene, foreign investors could not remain indifferent. Recently, especially in the past year, we have observed growing activity on the part of foreign VCs in the CEE region and Poland, its technological leader. According to my own observations, the presence of foreign VCs in the financing structure of Polish companies is on the rise, considering that according to the latest surveys, almost one in every ten startups are financed in this way.

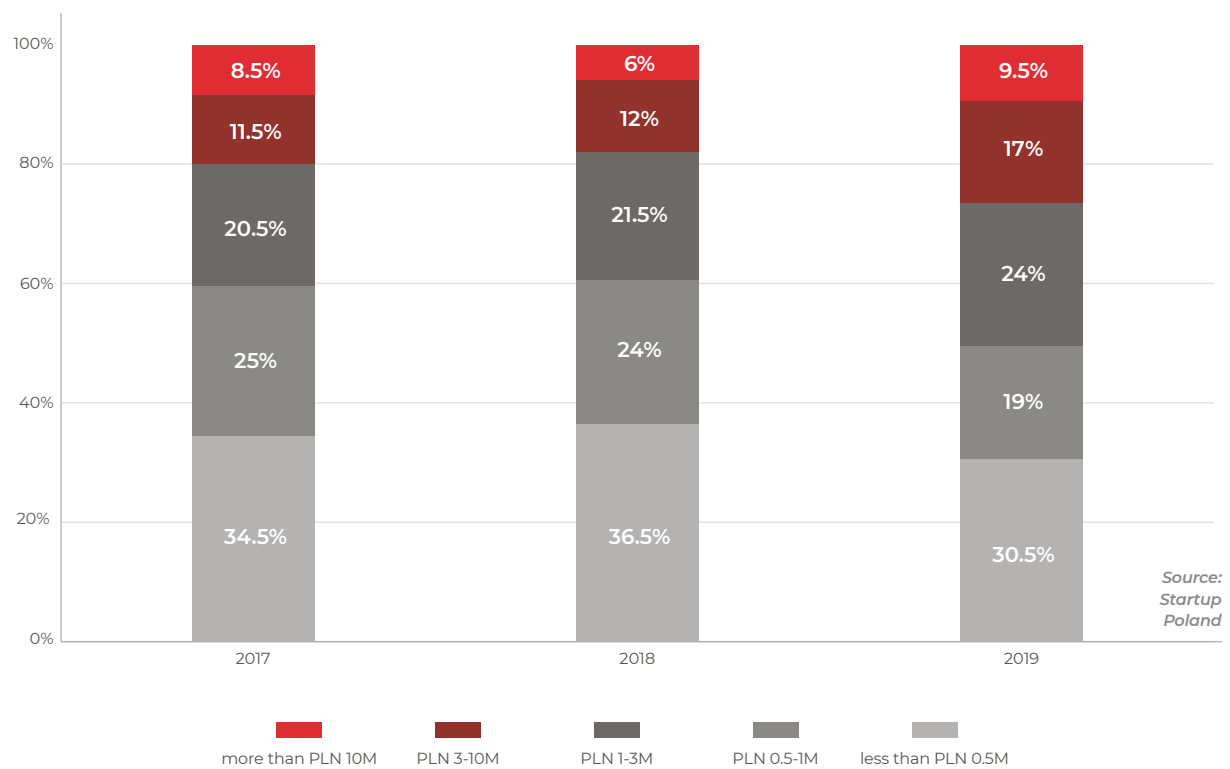
The improving environmental conditions, including better access to capital, are conducive to development. Thanks to this, Polish companies are growing together with the market. Currently, half of them boast over PLN 1 million in funds raised, and one in ten have already attracted over PLN 10 million. More

and more companies, who recently were at a very early stage, secure subsequent investment rounds. The number of A rounds worth PLN 3-10 million in the years 2017-2019 has increased by as much as 50 per cent. These amounts may not be impressive when we compare them against the Western markets, but they explicitly show that the center of gravity is increasingly shifting towards companies in the later stages of development. Therefore, companies who once operated at the "seed" stage, are growing and reaching the next level. With all this optimism taken into the account, I am not surprised by the high, seemingly extensible, "rejection" index of startups, even before signing on the term sheet, which in fact is quite typical for European ecosystems.

What makes us happy is that Poland is undoubtedly the leader in the CEE region – whether in terms of the cumulative value of VC transactions for the last couple of years or the number of startups or VC funds operating here. We should build on this foundation, but at the same time try to model ourselves in likes of the developed European or Israeli ecosystems, deriving the best methods of building permanent advantages in technological entrepreneurship from them.

Total equity funding volume

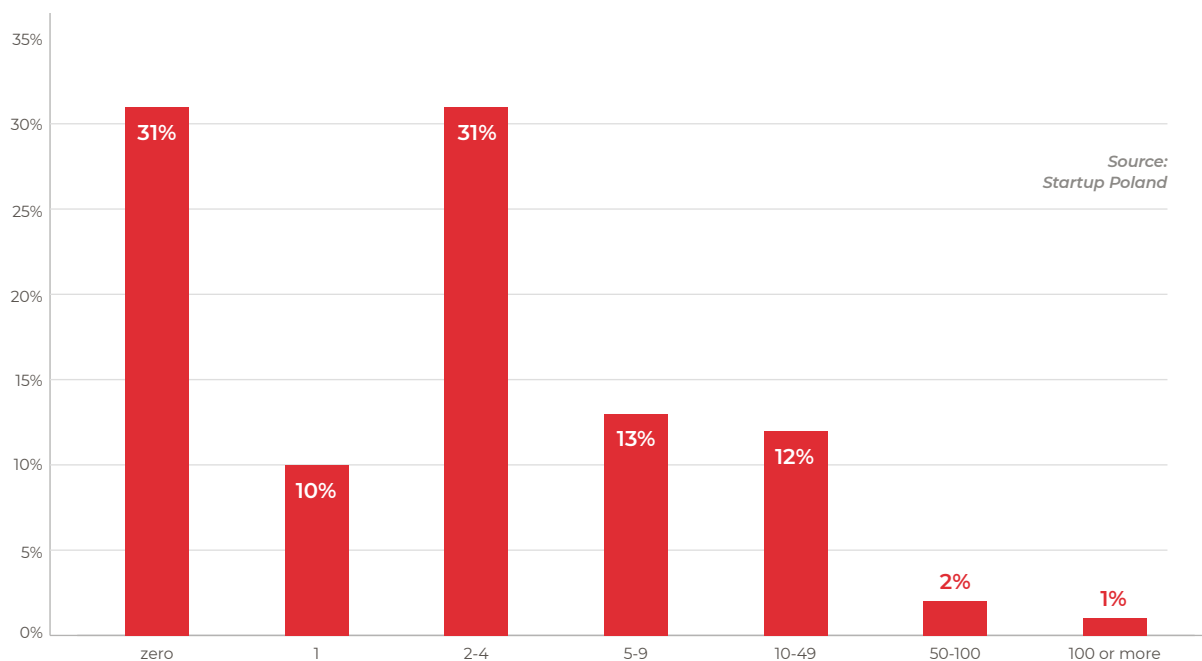
What is the total amount of funding the company has raised so far, excluding grants?
 % of startups that have raised equity funding, 2017: n=202, 2018: n=315, 2019: n=343



How meeting VCs converts to term sheets

How many VC's have you been meeting with in the last 12 months?

% of all startups, n=744, 2019



32%

is the success ratio for startups looking to raise a venture round.

Of all the startups that have been talking to VCs in the last 12 months, 68% have not received a term sheet.

EXPERT COMMENTARY



Marcin Szeląg

Partner, Innovation Nest

The warmup decade has passed. What should happen next?

As we are headed towards the end of yet another record year for startups globally, let's look at the progress we've made as "Startup Poland". Before I share my comments, I would like to take a step back and reflect on the last decade of the Polish Startup Ecosystem. We can say one thing – we've come a long way! Exactly 10 years ago, PARP launched the first batch of a grant financing programme called 8.1. The programme was aimed at starting online businesses. Something like 3,000 projects (startups of that era) were financed. Very few survived, but we learned a lot. After 8.1, the floodgates of a range of financing programmes opened – 8.2, 3.1, and KFK, among others. These government programmes laid the groundwork for what we can now call the Polish Startup Ecosystem. Soon after, International VCs started paying attention to our little "Startup Nation".

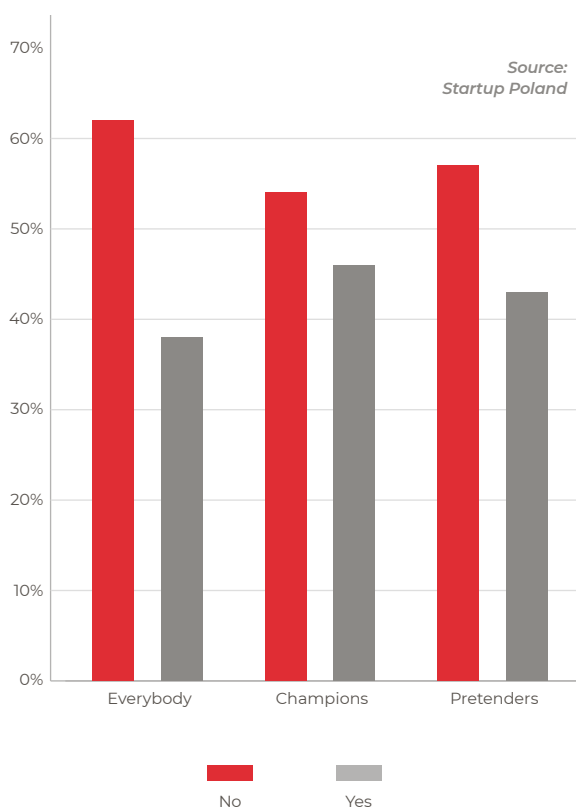
You may wonder why I started with this ancient history. Well, without this initial period of trial and error – we would not be here today. In just 10 years, we were able to go from 0 to 1. 10 years ago we (as an ecosystem) were focused on local "side-projects". Today we can be proud of Docplanner (€126M raised), Brainly (€60M raised), Booksy (€45M raised) – all of whom raised major rounds in 2019, and a host of other Polish startups which are growing international businesses. In fact, Dealroom has tracked almost 1,800 Polish Startups which raised funding. What

does it actually mean for the ecosystem and every entrepreneur dreaming of "unicorn" status? We have proven that it can be done in Poland. Great tech companies coming out of Poland can raise funding across all stages. We have also proven that we can build world-class products. Well deserved. As a nation of almost 40 million people, we have enough muscle to compete with other EU countries for tech supremacy.

The last 2-3 years have been a transition period between old financing programmes like 3.1 and KFK, which were the main source of VC funding, to the new programmes launched by PFR. This transition period definitely influenced the seed funding landscape as there were very few active VCs on the market. International VCs usually don't invest at seed level. This might have led to a higher demand for grant programmes which were mostly financed by PARP and NCBiR. I assume we will see this change in 2020 and beyond as there will be many new funds (PFR backed) actively looking to invest. The second area we should pay more attention to is how many rounds are raised per company. Very few Polish startups graduate to Series A. This is a quality issue. If we are not able to produce more "Series A" companies, we might not achieve a flywheel effect which will fuel the ecosystem for decades to come.

Public grant applications

Have you applied for a public funding grant within the last 12 months?
 % of all startups, n=717, 2019



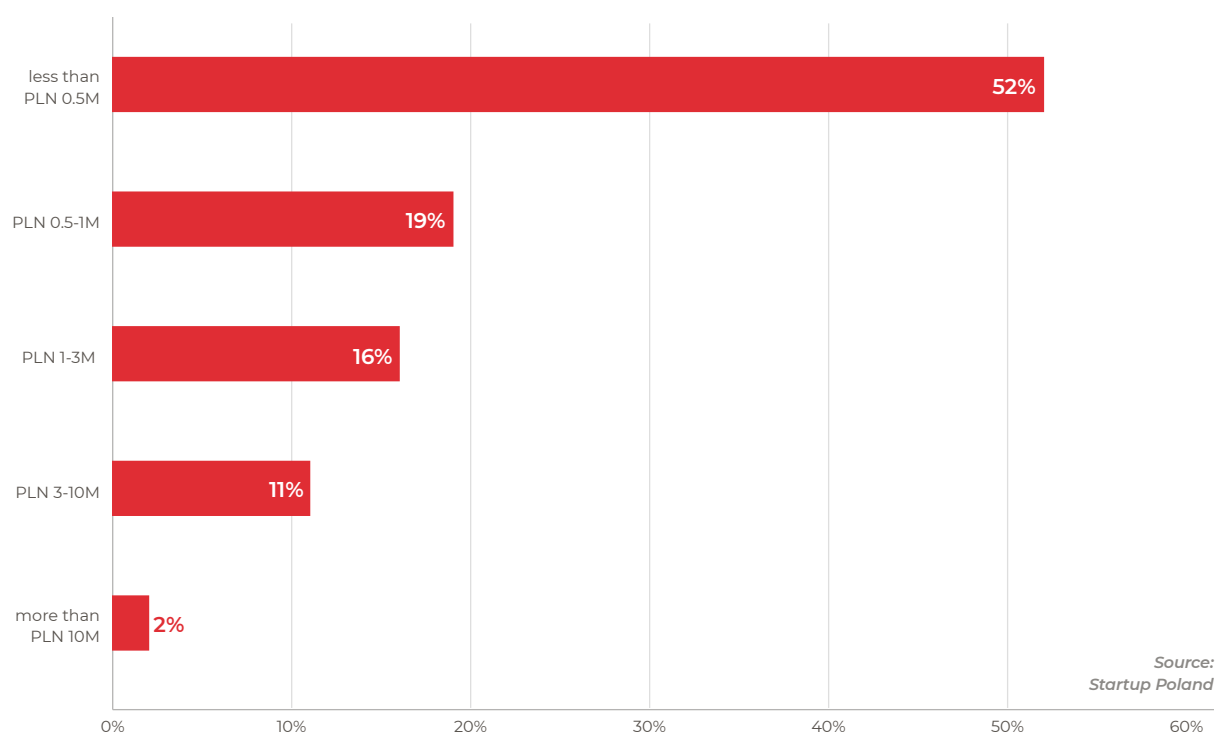
Top 10 technology areas applying for public grants % among grant applications

Artificial Intelligence / Machine Learning	11.07%
Internet of Things	6.41%
Analytics / Business Intelligence	5.44%
Hardware	5.05%
Medtech	5.05%
Big Data	4.85%
Marketing Technology	4.66%
Industry 4.0	4.47%
Biotech	3.30%
Robotics	3.30%
Fintech / Insurtech	3.30%

Volume of funding from public grants

How much capital in public grants have you raised in the last 12 months?

% of startups that applied for a public grant in the last 12 months, n=190, 2019



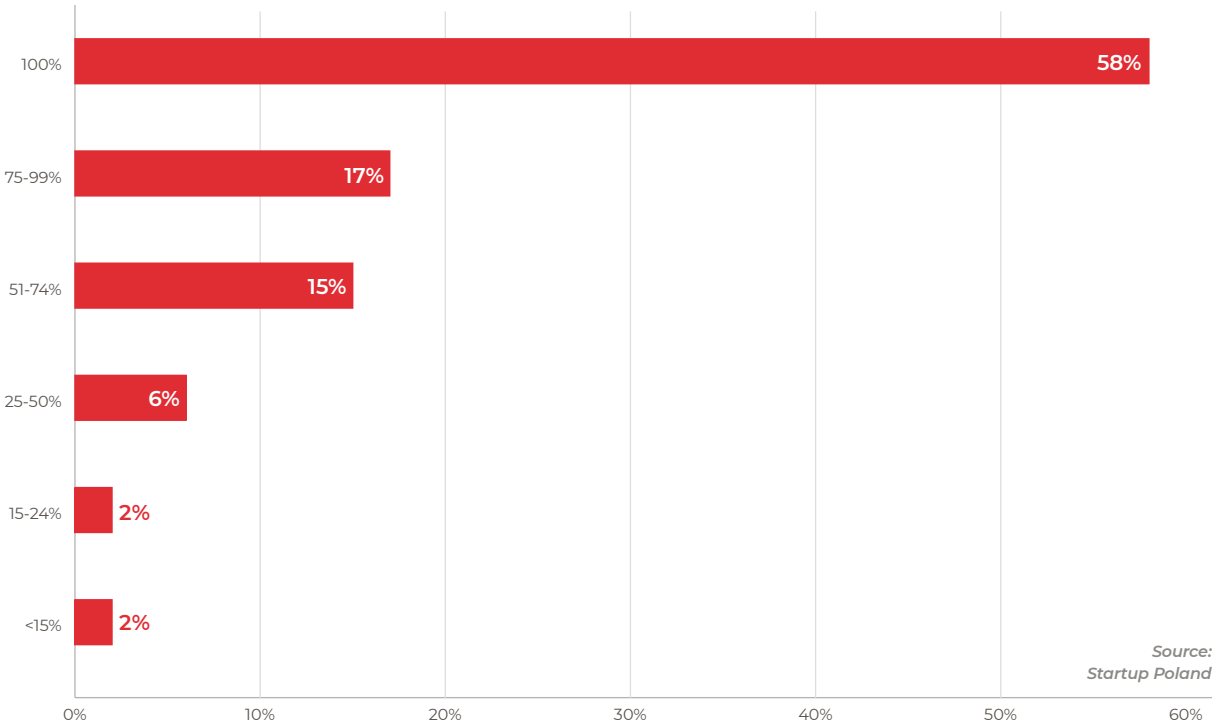
69%

is the success ratio for public grant applications

Of all the startups that have applied for a public grant in the last 12 months, only 31% **have not received any**.

Equity ownership among the founders

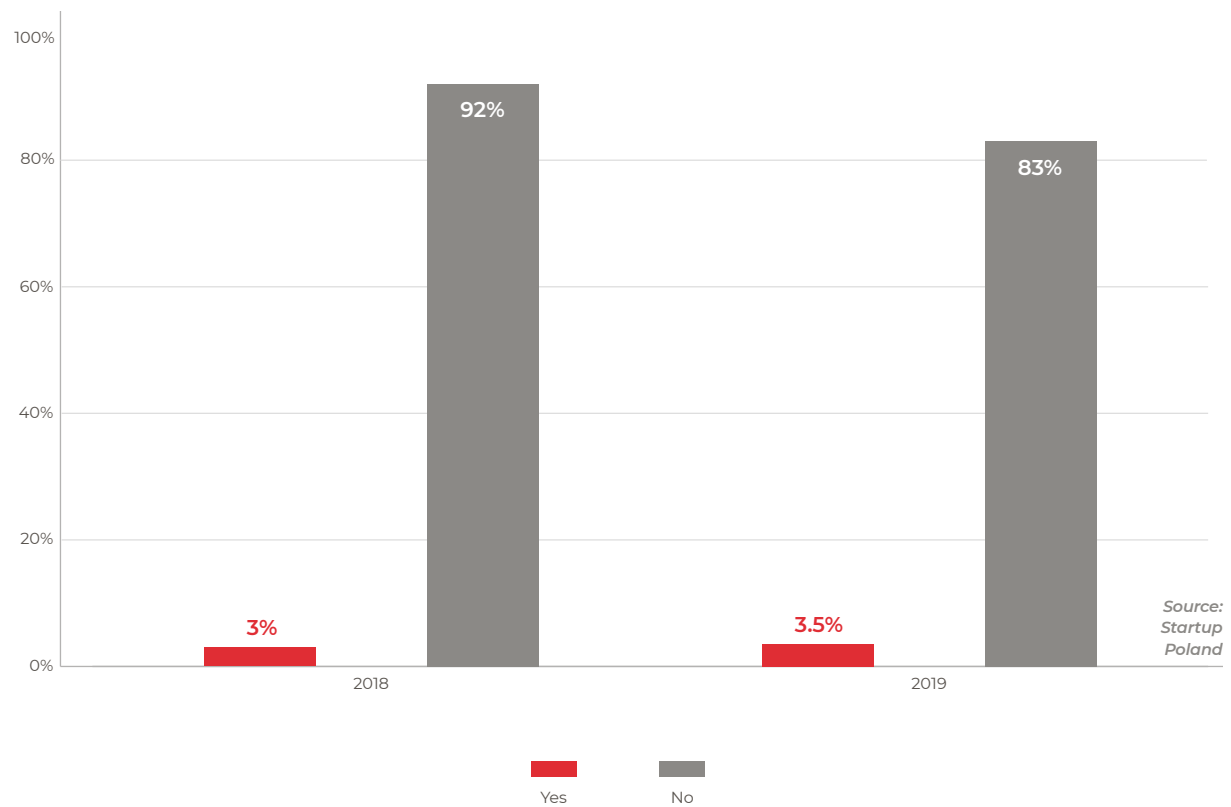
How much equity belongs to the company founders?
% of all startups, n=734, 2019



Startup exits

Has your company had any kind of exit: IPO, acquisition, or any other liquidity event?

% of all startups, 2019: n=808, 2018: n=771



EXPERT COMMENTARY



Tomasz Swieboda

Partner, Inovo Venture Partners

The data clearly shows a slow but steady positive shift in the funding environment of our startup ecosystem. Compared to recent years, the share of founders who financed their companies with external money is growing. It may thus be assumed that either more capital is available, or the quality of startups is getting better. We observe and believe it to be both.

Apart from the overall development of the entire economy, access to knowledge, international networks, and other resources are more common, while the pioneers of VC-growth path like DocPlanner or Booksy attract the attention of recognizable global funds and, at the same time, motivate younger companies to execute and learn from their actions and mistakes.

An interesting change can be seen in the source of startup funding, where the numbers show that access to Polish VC grew 2.5 times over the last four years, and more importantly, the funding from foreign venture funds grew almost 5 times (from 2% to 9%), which is the highest growth of all the sources of funding. At the same time, other forms of backing have not been left behind – the growth in access to public financing, local and foreign accelerators makes us happy as well.

Apart from the €80M raised by DocPlanner, megarounds are yet to really take off in Poland. This doesn't change the fact that the percentage of all ranges of rounds above 1M PLN (1-3M, 3-10M, and more than 10M) is increasing. Again, for the ecosystem to

really accelerate and draw attention, rounds over 10M PLN are a must have.

Lastly, the number of exits is slowly heading towards success. Again, the outlook is progressive – the launch of the first Polish VCs dates back to the 2010's, and the average time to exit is around 9 years, meaning that many significant exits are on the horizon.

We think and hope these changes will be permanent and will only become stronger in the coming months and years, as startups are more knowledgeable and aware, local funds see that their role is to push their companies out into the world, and global investors are fighting amongst themselves to fund the most promising founders.

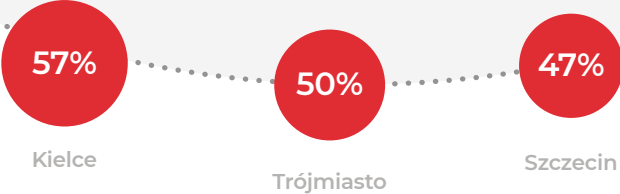
Since 2018, the INOVO team has been systematically measuring the amount and growth of investment rounds with the participation of Polish startups and VC capital. Analyzes are published at the end of each quarter, and can be found e.g. on Tomasz Swieboda's Medium account.

CHAPTER 5

INTERNATIONAL EXPANSION

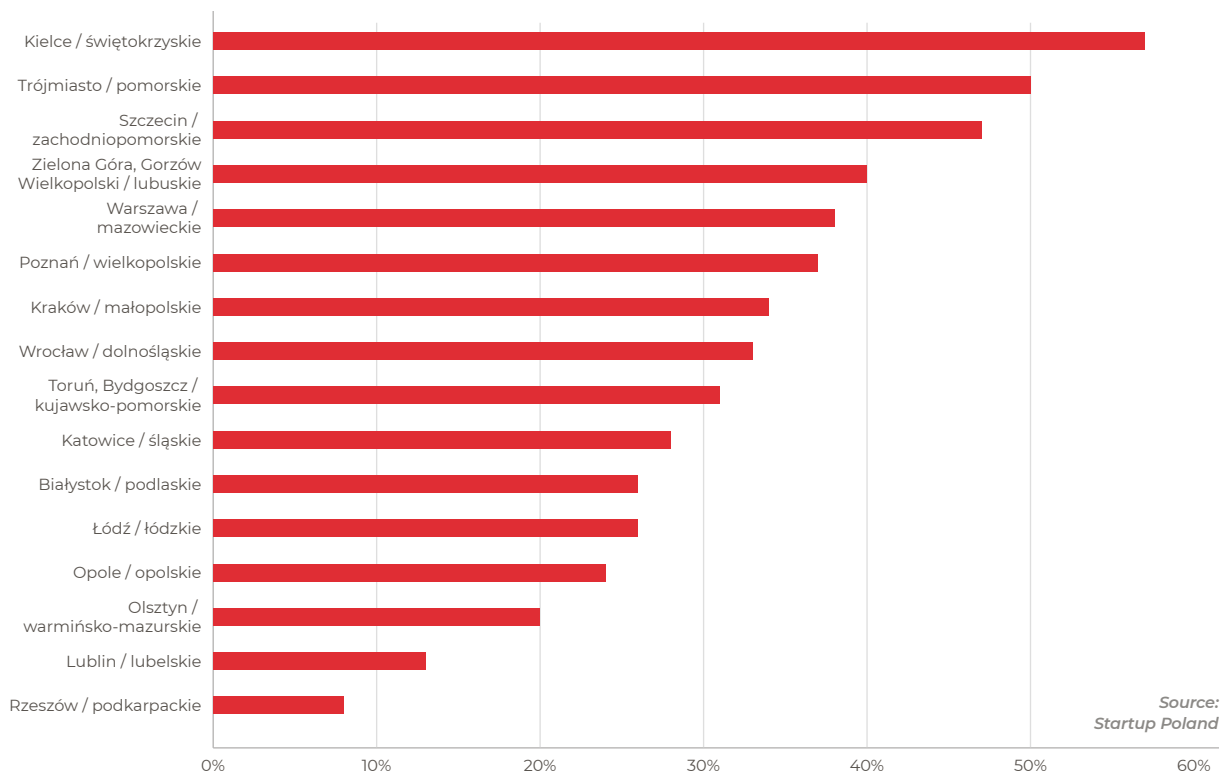
- How efficient Polish startups are in winning international customers
- How startups plan international expansion
- What share of the revenue comes from abroad
- Where Polish startups have foreign subsidiaries
- Why startups don't have any foreign customers

Top 3 export-oriented startup regions



Export-oriented startup regions of Poland

How many firms in the region have paying customers outside of Poland?
% of all respondents, 2019



EXPERT COMMENTARY



Izabela Disterheft

Business Development Expert, Leader

Pomorskie clearly understood that implementing the Golden Triangle rule (the real cooperation between business, academia and administration) is crucial for the economic development of the region.

The example of the performance of the AI sector in Pomorskie proves that it is a strategy which is well worth implementing. As a result, Pomorskie became the second most promising Polish location in terms of the AI sector. Companies like BrainScan, SentiOne, Dlabs, VoiceLab, CTA, Quantum CX, Nlightnin Production, Neoteric have become part of the global AI revolution.

It's important to mention IVONA at this point – a company acquired in 2013 by Amazon and which had an extraordinary influence of the development of Alexa. IVONA's founders graduated from the Technical University of Gdansk. This university (having an AI

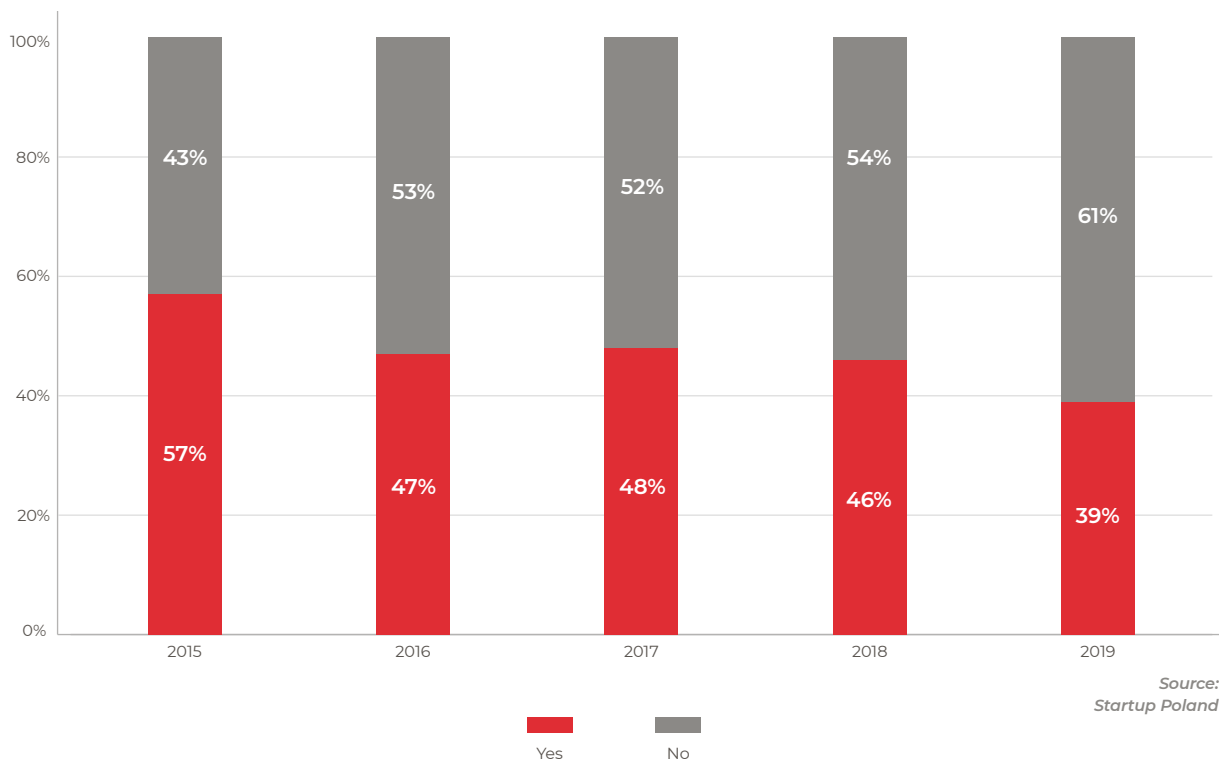
oriented curriculum) provides the market with well educated graduates each and every year. The R&D centers of such companies as Intel or Amazon (both located in Gdansk) know this all too well. There are more companies taking advantage of the talent pool available in Pomorskie, including Lufthansa System Poland, Boeing by Jeppesen, Kainos, Staples, Epam, SII – to name just a few. The quality of life makes talent acquisition and relocation processes easier than anywhere else. Access to infrastructure and the ecosystem created by incubators, science & technology parks, supports the economic development of the Region and such sectors as AI.

By the way: the demand for AI services in Poland is limited and this fact creates a natural tendency to reach out to clients abroad. Put simply, this correlates with and explains the graph on the previous page.

How efficient Polish startups are in winning international customers

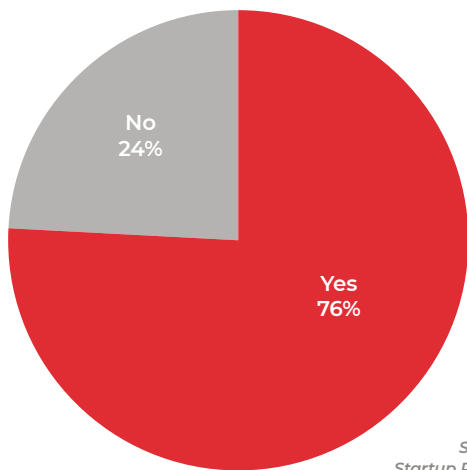
Does your company have any paying customers outside of Poland?

% of all startups, including previous annual surveys

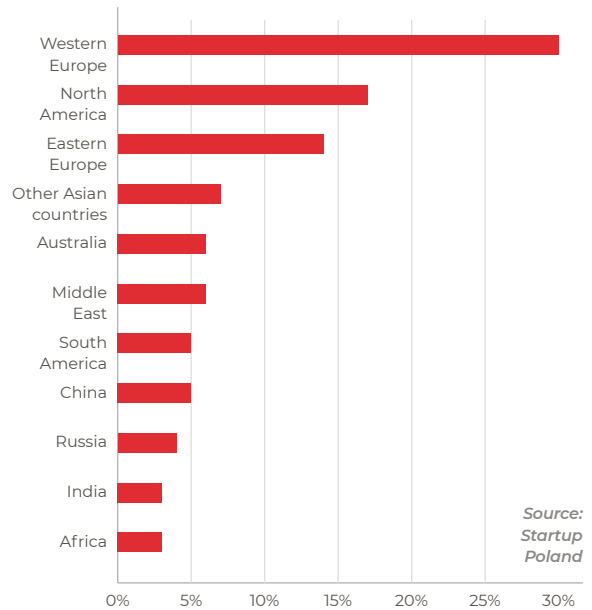


How startups plan international expansion

Do you plan to enter a new market within 12 months?
 % of all startups, n=694, 2019



Which markets do you plan to enter within 12 months?
 % of startups that declared plans to enter new markets, multiple choice, n=540, 2019



EXPERT COMMENTARY



Miron Mironiuk

CEO Cosmose

The beauty of the internet is that you can develop a product in your home country, but sell it everywhere. It's disappointing that only a handful of companies in Poland realize the massive opportunities that await just over the border.

Look at these numbers and ask yourself: why would you limit your potential to Poland?

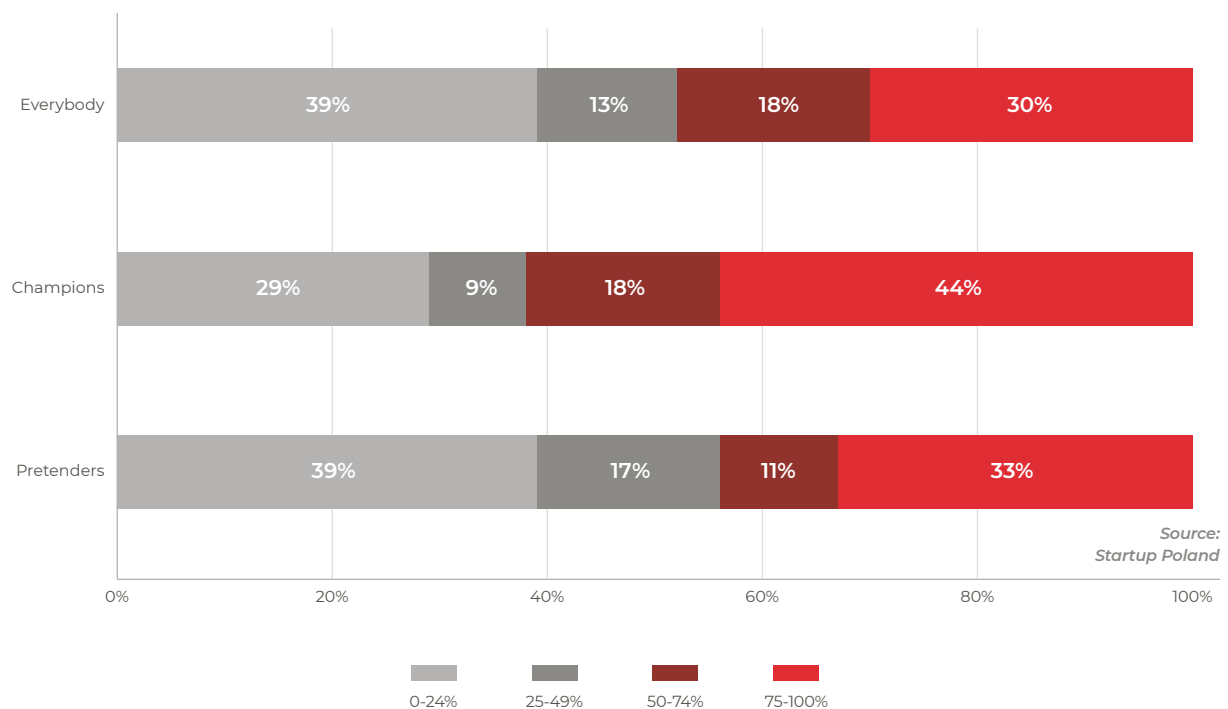
- **China:**
1.4B people, \$12.2T GDP, \$5.5T retail market value
- **US:**
327M people, \$19.4T GDP, \$5.5T retail market value
- **Japan:**
127M people, \$4.9T GDP, \$1.3T retail market value
- **UK:**
66M people, \$2.6T GDP, \$440B retail market value
- **Poland:**
38M people, \$0.5T GDP, \$110B retail market value

Poland is home to some of the world's best engineers, and is to be found amongst the highest ranks in international programming contests. We are also fortunate with our geographical location, located precisely in between the two biggest global economies, the US and China. I hope more and more founders will take advantage of this, take a risk and monetize their product internationally. Poland deserves to become a global champion in software products.

What share of the revenue typically comes from export

What share of your revenue comes from export?

Startups who reported the share of revenue from export, n=268, 2109



Weighted average among:

Everybody: **46%** Champions: **57%** Pretenders: **44%**

EXPERT COMMENTARY



Michał Kramarz

Head of Google for Startups,
Central & Eastern Europe



It is good news that as many as 75% of surveyed startups want to expand internationally. However, willingness is one thing and actual decisions are another. Working with many young companies as part of our Google for Startups programs, I often hear that their first choice for international expansion are countries close to Poland. The research confirms that for 44% of Polish startups, Europe is the priority region.

Why? There can be many factors: logistics, awareness of the market, cultural similarities... Yet, many entrepreneurs still believe that going global means going to Europe and/or North America.

Contrary to these beliefs, for many successful startups going global means Asia and South America. Startup founders tend to pick countries they know, often overlooking places that have the biggest potential.

Only 5% of startups said that they are looking at opportunities in Central and South America – a

market of 500 million people! Another booming region, South-East Asia, with over 600 million inhabitants, does not even show up in any of the responses. Vibrant and growing economies such as Malaysia, Singapore or Indonesia are ignored when it comes to startups' expansion plans. When you look at the two regions mentioned above, together they represent a population of close to 1.2 billion with 65% internet penetration, mainly on mobile. This is more than the number of people currently living in the EU and North America combined – and, at the same time, those markets are often cheaper to enter and have less competition.

The tendency to focus on local growth also becomes evident when startups explain why they don't have foreign customers. 46% say that they want to test first on the domestic market, or they can't afford going international at all. This leads us to two important lessons.

First, if startups really want to grow big, they ought to build products for global users from the outset. This does not mean they should not test the product in their own market, but if local is the only market they test, it may create false hypotheses. Testing across different markets, even at a small scale, could give different directions for growth. Digital plays a crucial role here – never before has testing a product on several markets been as easy as it is now. The best performing startups design products for global markets and strive to build diverse teams which in turn reduces local biases.

Whether a startup can afford to go global is a separate aspect – nothing speaks to investors more than numbers. Trying out a product on several markets

usually yields two outcomes: verification of potential beyond the domestic market, and opportunity sizing for investors to clearly see how much bigger a startup can get if they invest. These two elements together can really help to achieve a much better valuation in discussions with potential investors.

The startup ecosystem in Poland is growing and maturing, but we still need to invest in building global awareness, pulling international capital into the ecosystem, or simply creating more early stage startups to multiply the opportunity. I believe we are on the right track and recent financing rounds of startups like Booksy or Docplanner should be an inspiration for every startup if they still have doubts about going big and international.

EXPERT COMMENTARY



Jacek Figuła

Chief Commercial Officer, Billon

You just have to go global if you want to win. I am happy to see that most startups have really taken this message on board. There are several clear reasons to do so. Firstly, the innovation budgets of multinational companies are much larger than their Polish counterparts. Also, international clients frequently implement very ambitious projects, building whole ecosystems and Billon has found these a perfect fit for our blockchain-based solutions. In Poland, customers tend to look for a more specific service which limits the scope of possible implementations.

I am not surprised that many Polish startups want to prove their ideas at home before going international. Poland is a highly innovative and demanding market, so it serves well as a testing ground. If a business case works here, this increases the likelihood of success in other markets. This is precisely the route we followed, testing some of our technological capabilities first in Poland before rolling them out to international clients.

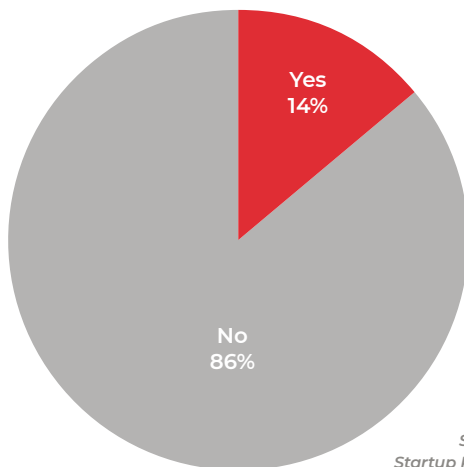
One practice that should be more widespread is establishing foreign subsidiaries. While you need to cope with some administrative and legal costs first,

you receive access to many opportunities that would be unavailable for formal and regulatory reasons to a business not registered in that jurisdiction. Billon's subsidiary in the UK took part in the regulatory sandbox organized by the British regulator and, as a result, received an e-money license for the UK. That experience was invaluable in the process of obtaining such a license in Poland.

Billon's vision is to solve global customer challenges, so we pursued international expansion from the outset. Winning international clients that help us scale is a key part of our commercial strategy. We already operate in several markets, working with clients from markets far beyond Poland, such as the United States, the United Kingdom, Austria, Germany and Japan. We are also expanding to other places, such as our recent move into the Singapore market. We enter deals with both direct customers that would implement Billon solutions to improve their businesses and with partners who want to use our blockchain technology as an engine to power their own products.

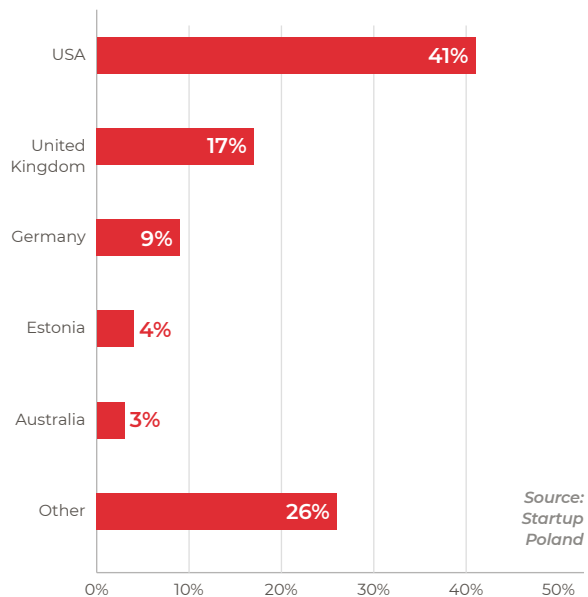
Where Polish startups have foreign subsidiaries

Do you have a foreign subsidiary?
% of all startups, n=719, 2019



Source: Startup Poland

Where do you have a foreign subsidiary?
% of startups that declare to have a foreign subsidiary, n=91, 2019



Source: Startup Poland

PARTNER'S MATERIAL



Piotr Grabowski

BizDev & Partnerships Manager, HubHub



The declining trend in the percentage of startups with paying customers outside of Poland may be a surprise for some, but taking a broader look at what has recently happened in our ecosystem may help to understand this situation better.

The number of support programs for startups, grants and accelerators has grown significantly in recent years. They mostly come from EU-backed programs managed by state institutions e.g. Poland Prize, Fast Track or Start-up Platforms, however we can observe such initiatives also having been launched by corporations and smaller, privately held entities. This wide range of support options encourages more and more people to venture down the entrepreneurial path and, what is more, it also attracts founders from neighboring countries who want to launch their business in Poland.

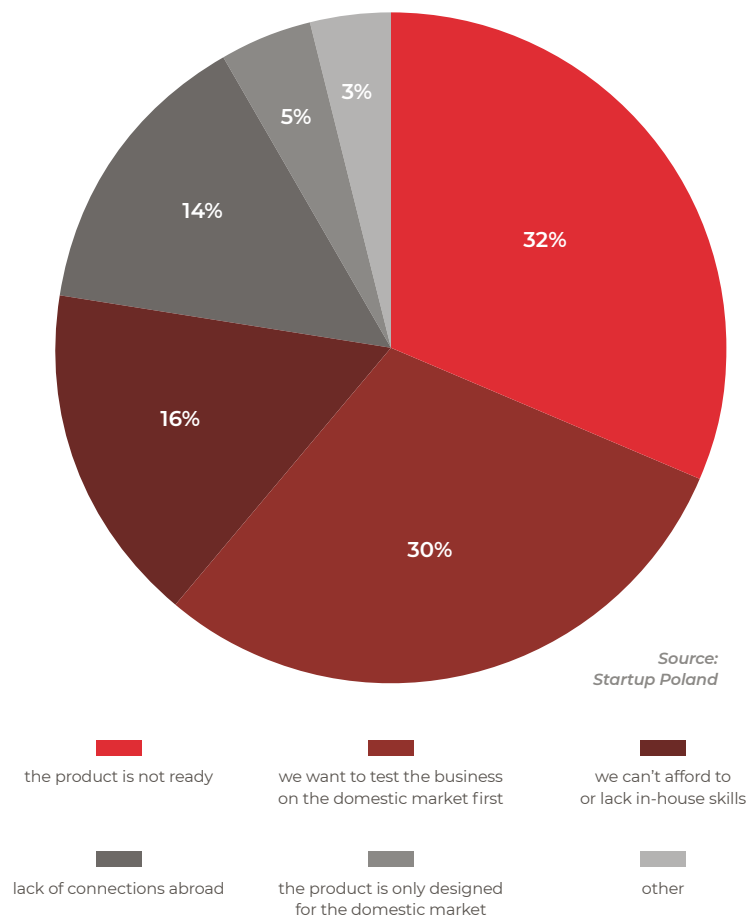
However, most of those early stage startups are established by first-time founders who do not have a global mindset from day one. We often see them stuck in commonly known traps of conservativeness

("we want to test the business on the domestic market first") or lack of resources to scale their business abroad and attract the most experienced people to execute it ("we can't afford to or lack in-house skills"). That global mindset comes both with founders' experience and the general maturity of the startup ecosystem.

Fortunately, we are now observing an increasing number of Polish startups which are expanding globally, receiving interest and investment rounds from international VCs or doing first successful exits. These are valuable lessons which our early stage startups will be able to learn from. The Polish VC market value will exceed PLN 1 billion this year (compared to PLN 212.5 million in 2018) which is a positive sign that our ecosystem is developing. I'm optimistic and believe that in coming years we will see many of those "seeds" beginning to grow. Poland is a country of great talent and, with a little bit more experience and business savvy. It has the opportunity to capture and win over international markets.

Why startups don't have any foreign customers

What is the primary reason your company doesn't have customers abroad?
% of startups that do not have customers abroad, n=644, 2109

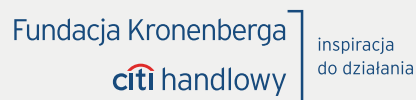


PARTNER'S MATERIAL



Sebastian Perczak

Commercial Bank Country Head, Citi Handlowy



Polish startups could do better

Polish startups want to enter foreign markets – at least, 3/4 of them declared as such; however these declarations are still plans and aspirations. 39% of respondents claim that they have foreign clients. On the one hand, this means a significant decrease in comparison to the first edition of the survey, when over half of the respondents answered this question in the affirmative. On the other hand, it is a natural consequence of the business condition of the companies in question. Why? Let's take a look at founders' motivation and startups' maturity.

It turns out that nearly one third of the respondents still have no finished product (31.6%), and 29.7% while already offering it, have not verified it on the domestic market. Interestingly enough, only 4.5% of the respondents indicate that their product was designed with only Polish recipients in mind. One might expect that the relatively brief market experience of these companies is to blame. But here comes another surprise. Among startups established before 2017, or those present on the market for at least 3 years, as many as 44% (established in 2016) and nearly 25% (companies from 2015 or older) are still at the stage of creating an MVP. This means that a product that is meant to conquer these foreign markets is still being developed.

The other aspect concerns companies who are generating profit from international activity. It's true that the progressing digital business transformation enables scaling sales on foreign markets almost immediately. Nonetheless, knowing that a mere 14% of those with foreign revenues have a branch/representative office, one might suspect that most of them rely on online channels. Then the following questions arise – how stable are the revenues of these companies and what is their plan for further expansion? Only 30% of the companies with a presence on the market of 5 or more years are at the stage of dynamic growth in revenues and/or the number of recipients. This percentage immediately decreases exponentially along with decreasing sales.

To sum up, Polish startups have potential to conquer foreign markets. However we still have a long way to go before we can talk with any degree of certainty about Polish entities of digital economy being tigers ready to emerge from the domestic jungle.

EXPERT COMMENTARY



Michał Brzezicki

CTO, SentiOne



The importance of scalability

Unlikely as it may seem, there's a certain universal truth in the world of startups: businesses live and die by their ability to scale and expand. This is especially true when serving enterprise clients; either you meet their demands for constant availability, responsive customer service, and constant expansion... Or you're left in the dust, overtaken by the competition.

Our line of business – AI-powered social listening and omnichannel customer service automation – requires us to constantly handle large volumes of data. As such, we need technological solutions which allow us to serve even the most demanding customers without breaking a sweat.

How did we get there? Scalability was our guiding principle – true scalability, that is. Not only did we design all of our business processes with expansion to foreign markets in mind, we did the same for our technology and infrastructure.

Your own resources will only take you so far; eventually, more hardware resources will be required. Running your own server farms and data centers

around the world is a luxury few can afford (and even fewer actually need) – the rest of us will do just fine by partnering up with a hosting provider.

We chose OVHcloud – but how would you pick the right partner? With so many options vying for your attention, making a choice may seem overwhelming. There's a trick to it, however: put yourself in the shoes of the most demanding customer imaginable. By what criteria will they judge your startup? Availability? Your ability to scale? Blazing fast support?

Apply these criteria to any potential technological partner – after all, your clients don't actually care who provides your hardware. Any failure on your partner's part, however, will be attributed to you.

Doing scalability the right way involves many different factors; what they all boil down to, however, is a simple rule: everything needs to scale, from your business processes to – more importantly – your technology and infrastructure.

CHAPTER 6

INNOVATION AND R&D

How tech startups cooperate on R&D with the scientific community

Which academic institutions in Poland support startups in R&D?

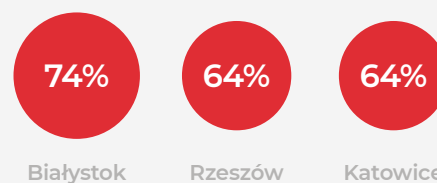
How much startup equity belongs to universities and research institutions?

How tech firms in Poland protect their IP

IP protection among champions and pretenders

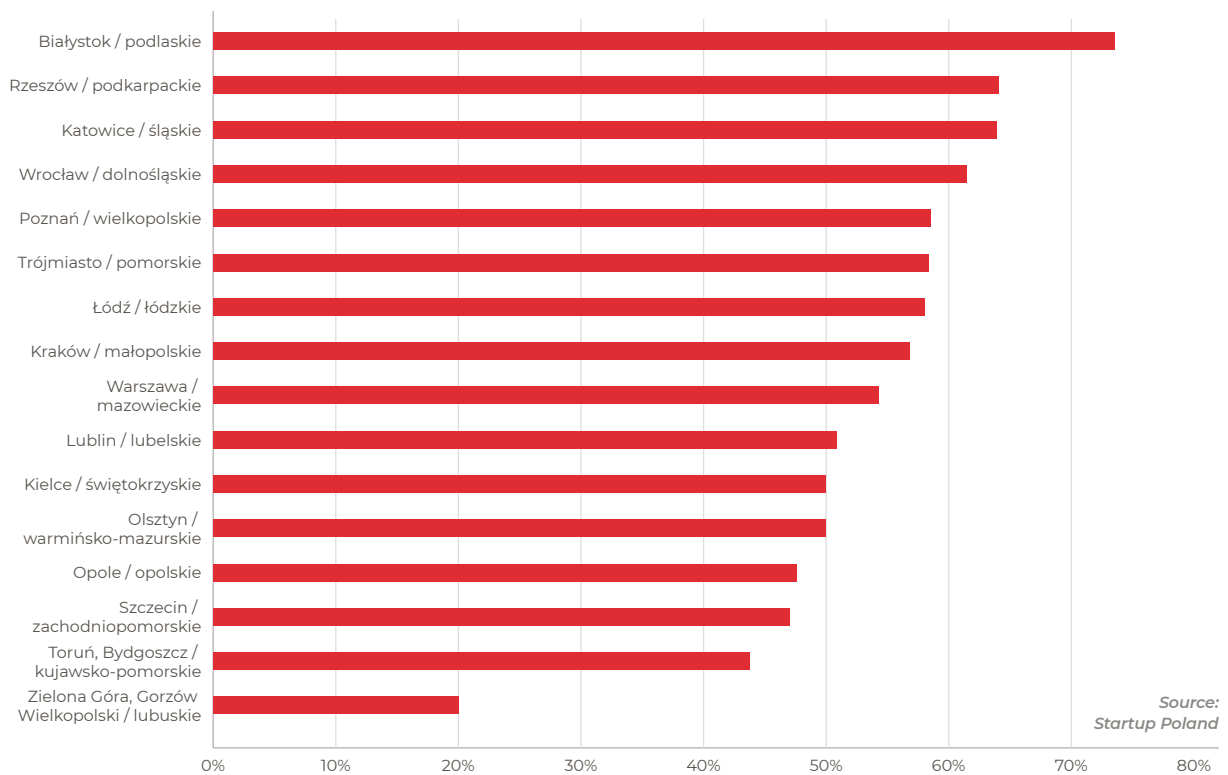
Why Polish startups decide to not apply for patents

Top deeptech-friendly regions



Deeptech-friendly regions of Poland

How many tech firms in the region are involved in deep tech projects?
% of all respondents, 2019



EXPERT COMMENTARY

**Daniel Dereniowski**

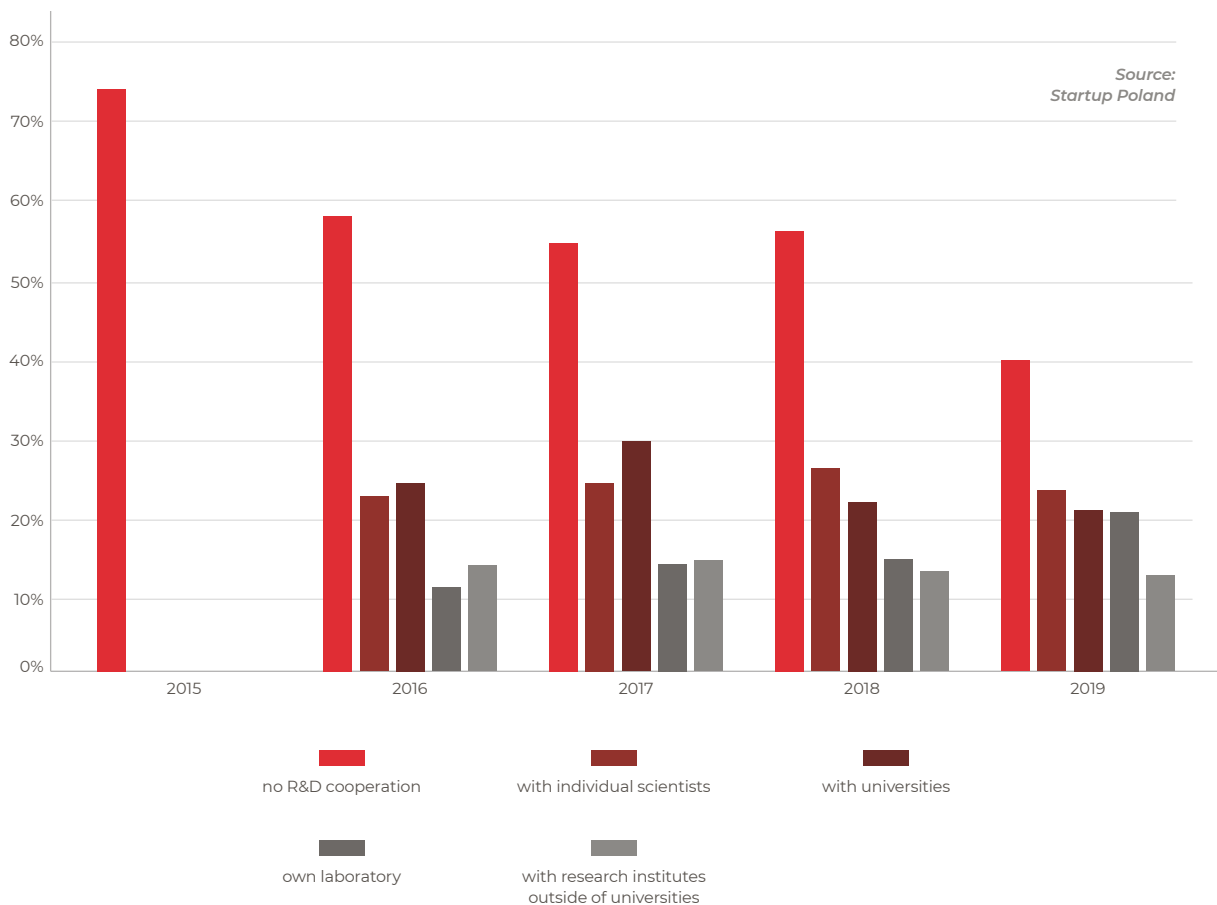
CEO, HugeTECH; Startup Poland Ambassador

Rzeszow attracts projects related to industrial automation, engineering and other advanced fields due to its strong scientific base. This is largely made up of the Rzeszow University of Technology in conjunction with a large number of companies with production and engineering facilities centered around Aviation Valley and the thriving automotive or military industries. Tens of thousands of engineers work in Aviation Valley itself. The Podkarpackie region mostly focuses on the so-called “real business” – industrial production, mainly for aviation and automotive production. As HugeTECH, we build an environment for the development of new technologies based on this type of enterprise. As part of the startup platform “Start In Podkarpackie” implemented in cooperation with Rzeszow Regional Development Agency we develop ideas in the automotive and aviation industry. Recently, the Podkarpackie Innovation Center has also been operational. It supports and facilitates regional universities in carrying out research useful in the economy of the region and the country. Hudgetech is also the operator of the Samsung Incubator program, supporting projects from the IoT industry.

How tech startups cooperate on R&D with the scientific community

Forms of R&D cooperation

% of all survey respondents per previous annual surveys



EXPERT COMMENTARY



Tomasz Trzciński

CEO @Comixify, Chief Scientist @Tooploox,
Assistant Professor @Warsaw University of Technology

R&D as a counter poison

The results of the survey on the forms of R&D cooperation between startups and the scientific community is a clear indication of its increasingly critical role in the startup world. The trend suggests that fewer and fewer startups do not conduct R&D, and there is a growing number of early-stage companies that are investing in their own labs. There may be a number of reasons behind this trend, from the generous public funding for R&D (including NCBiR's famous "Szybka Ścieżka" scheme) to the growing number of scientists leaving academia to work in the industry. However, in my opinion, the main rationale behind those numbers is the growing understanding of the long-term added value that research and development can bring to the startup. Although technology is not the only component of business success, or perhaps the most relevant one, there is no doubt that it increases its chances and often kickstarts endeavors that would otherwise be impossible.

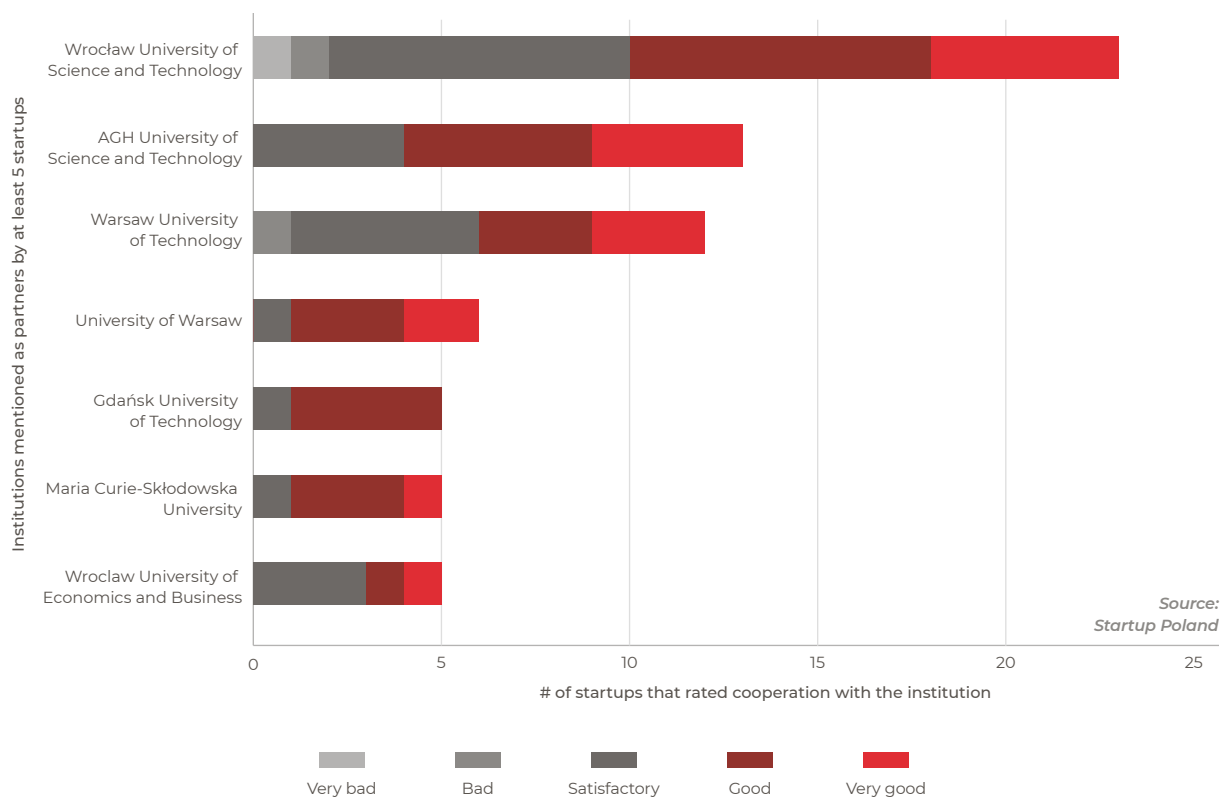
The trend of increasing engagement in R&D and collaboration between startups and the scientific world encourages me to believe that the Polish economy is starting to change. It is transforming from a cheap and efficient economy of scales into a sustainable business environment which is focused on creating competitive value based on long-term efforts and investments. R&D can all too easily be considered a cash burning exercise. Even at Tooploox, where we really value research, publishing at top-tier machine learning conferences, sponsoring AI residency programs and supporting internal research grant initiatives can be sometimes frowned upon and considered unnecessary. However, the more we believe in the value that research can bring to the table, the less prone we are to succumb to the opium of many developing countries: relatively cheap labor costs combined with the extreme worship of entrepreneurship. Investing in research, although risky and often a gamble, is the key to unlocking the true talent of millions of Polish engineers, scientists and startups.

Predicting the future based on the current trends, I believe that more research institutions will see startups as a natural step in the evolution of the scientific world. Work done at universities will be transformed more easily into working business. A case in point would be Comixify, which started as a BA and MA thesis project and became a VC-backed startup with hundreds of thousands of dollars of funding and a steady path to a profitable business model. Many universities, including those that are already super active in supporting startups, such as Wrocław University of Science and Technology, AGH in Krakow and the Warsaw University of Technology, will come to realize that owning startup equity is not necessary to support a healthy ecosystem of research-driven entrepreneurship. Entrepreneurs, in turn, will then become more likely to share the potential upsides of their success with their research partners through patent licensing deals (without operationally paralyzing equity ownership, as is often the case today). Not only is this inevitable, but it also indicates a clear route towards closer and fairer collaboration between Polish startups and academia.

Which academic institutions in Poland support startups in R&D

Top academic institutions in Poland cooperating with startups and their ratings

of startups that have cooperated with an institution and rated their cooperation, 2019



EXPERT COMMENTARY



Paweł Tadejko

Head of Research and Development, Elastic Cloud Solutions
Startup Poland Ambassador

Where did the Polish innovations go?

In 2018, Poland was in last place in terms of the use of “Horizon Europe” funds: for every euro paid by Poland to H2020, we received back less than 30 cents. Thus, we were in last place – 28th. The ranking itself is intriguing, because Estonia, Slovenia and Greece are in the lead and France and Germany in the tail, below the 1:1 limit. Why is this happening? Is there an idea for a change and building economic cooperation and R&D between the leaders and countries that used little funding for R&D?

As usual, the situation is more complicated than it seems at first glance and there are several reasons for this. The first is the level of GDP expenditure on R&D. In 2017, Poland spent 1.03% of GDP on R&D, when the EU average was 2.07% of GDP. Sweden, Austria, Denmark and Germany recorded the highest expenditures – all countries spent above 3% of GDP. This may partly explain why these countries do not fight so hard for EU funds. An additional supporting factor in these countries is that companies are not

only often at a higher level of automation/robotization, but also invest in R&D on a larger scale. On the one hand, this is because they can afford it and, on the other, because tax relief mechanisms have been developed there for entrepreneurs who conduct R&D work. The whole is complemented by the size and method of financing research and development work at universities.

These factors may certainly have an indirect impact on the state of use of Horizon funds, in particular by entrepreneurs. However, the situation is complicated by the fact that Poland is one of the largest beneficiaries of EU funds and the “Intelligent Development Program” places us as the largest beneficiary of structural funds for research (EUR 8.6 billion). This is twice as much as Germany and Italy, not to mention other countries.

However, the main chunk of Horizon funding is for universities and the consortium is the key word here.

Universities must enter these competitions not just as consortia, but strong consortia at that. Western European universities have been cooperating with each other for years. In Poland, not only are we behind in this area, but we also lack certain ecosystem elements, starting with innovation brokers and ending with lobbyists who convince the EU to take up specific topics.

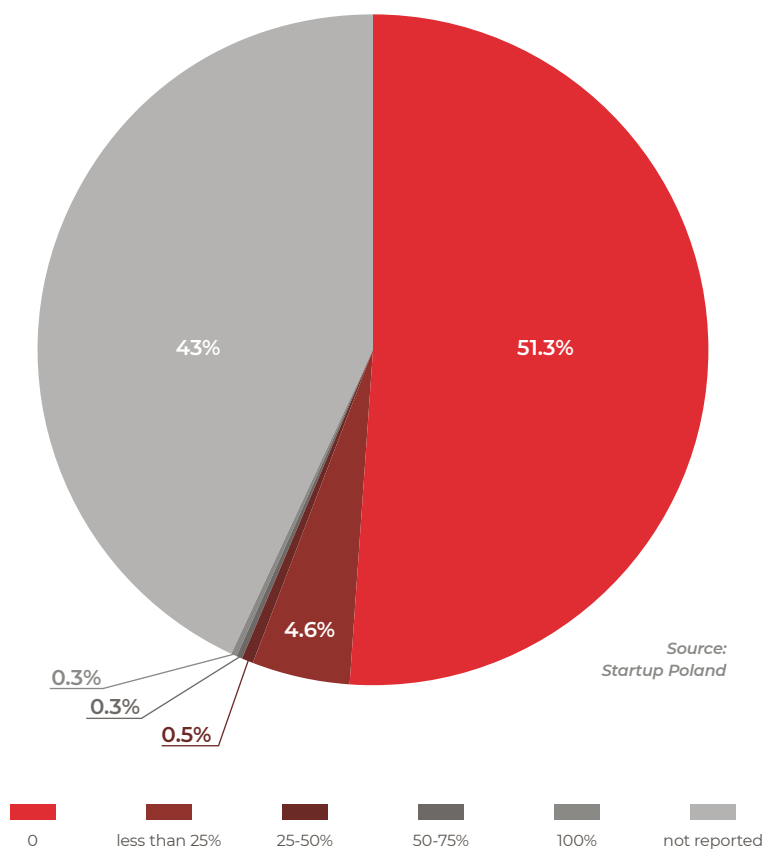
Another brake that has discouraged Polish universities from applying has been the restrictions on the remuneration of employees of research projects in some Member States, including Poland. In 2017, the European Commission introduced a change in the law, which is a consequence of a long-lasting discussion on the disproportions in the level of salaries and the mismatch between the rules concerning personnel costs in the H2020 program. It is possible that this decision has improved the effects of the last two years. The funding received by Polish universities increased (as at the end of June 2019, compared

to June 2018, y-to-y) by more than 40%, to almost €115 million. In recent months, the success of three Polish projects in this year's edition of the prestigious "Teaming for Excellence" competition within the framework of Horizon 2020 has become a famous example but this is only the beginning.

In many respects, applying for EU funds is more difficult than obtaining national funds. We need to build a system that will help universities to open their institutions up to foreign cooperation and relations with partners from Western Europe. In the meantime, we are entering a world of further changes in Polish science. Act 2.0 definitely rewards strong universities with large scientific teams, but leads to the marginalization of most regional universities. This will probably allow the largest Polish universities to move up a few dozen positions on the Shanghai list, but it will certainly have a negative impact on the cooperation of universities with industry, especially in the case of these medium and weaker regions.

How much startup equity belongs to universities and research institutions

What part of your startup equity belongs to a university or a research institute?
% of startups that have reported to cooperate with academic or research institutions, 2019



EXPERT COMMENTARY



Marcin Koprowski

Head of Technology Centre,
Roche Global IT Solution Centre



Roche Global IT Solution Centre is an innovation hub that uses the latest technologies to develop custom software products and solutions, which allow Roche to bring healthcare products to patients faster, at a lower cost and help improve the quality of patient's treatment and life.

The first thing that immediately catches my attention is the increase in startups with R&D activities. Between 2016 and 2019 the number of startups with labs has doubled – this is a positive sign, because innovations can be time sensitive and good ideas can't wait too long to be tested. At Roche IT Solution Centre we set up our R&D lab a few years back and it has proven to be an excellent decision, creating not only space for ideation and testing but also sparking a spirit of innovation within the entire organization.

Another interesting take away is the rising trend of startups cooperating with individual scientists and universities. Science is a key ingredient in every deep-tech product and it can be brought by having in-house expertise or by collaborating with academia. We do both – leverage the Solution Centre's biology, biomarker & data science teams with broad Roche scientific expertise as well as work in close partnerships with leading Polish universities. We run joint educational programs and support their digital health scientific projects with our technical competencies. These areas seem to be still relatively unexplored by startups, while they can provide

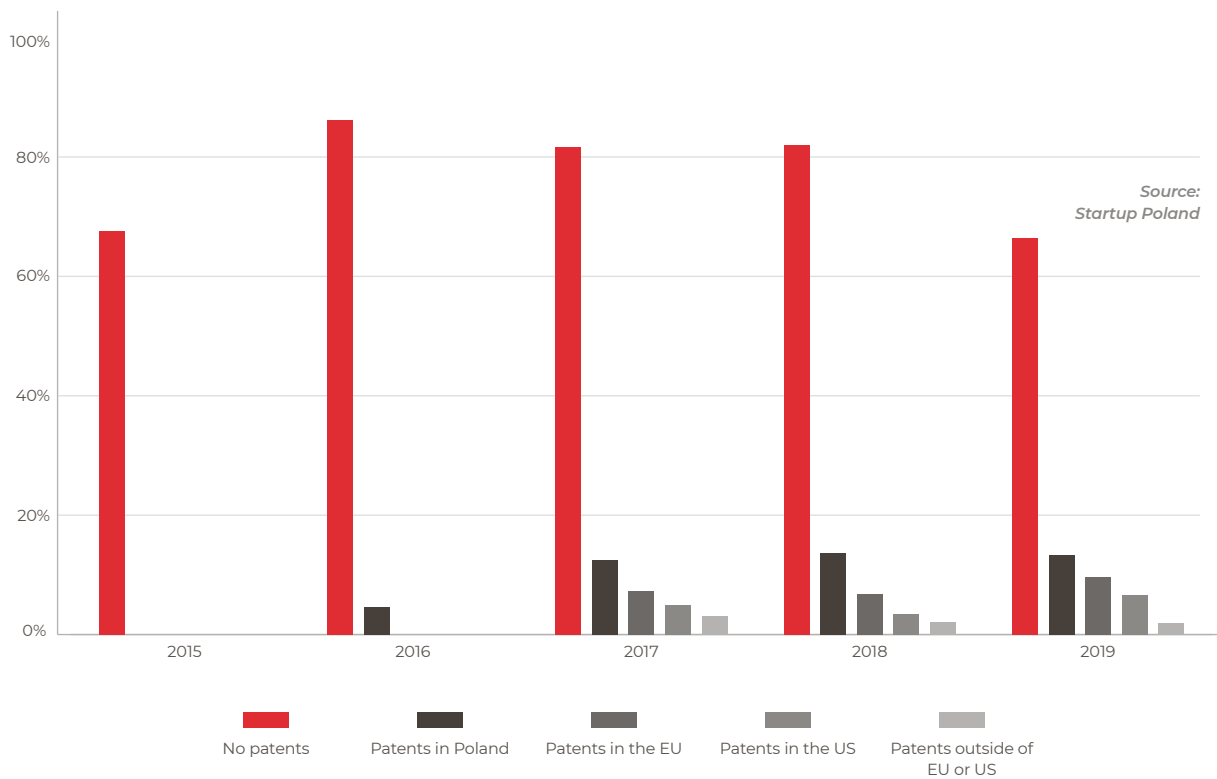
fascinating opportunities – our collaboration with scientists on genomics data analytics or the usage of digital biomarkers to diagnose the nature of neurological disorders are just a few good examples.

What comes as a surprise, pretenders seem to invest more in patents than market champions do; this may be due to the fact that the former see their competitive advantage in their disruptive ideas and prefer to protect them, whilst the latter see their power in market share and care less about IP. On the positive side, those who decide to go for patents apply straightaway for global protection.

Deep-tech is a broad term covering advanced technical solutions with scientific ingredients – for us at Roche Global IT Solution Centre it means digital health. This is an area definitely worthy of any startup's attention: if you have the scientific expertise in place, then this is a dynamically growing market with low-cost entry barriers for analytics and biomarkers. What is unique, it that it brings the unparalleled satisfaction of improving and saving people's lives and has great potential to make a global impact.

How tech firms in Poland protect their IP

Patents obtained by Polish startups
% of all survey respondents per previous annual surveys



EXPERT COMMENTARY



Miron Tokarski

CEO, Genomtec

The journey of patenting

Running a technology company is in many cases associated with creating innovative solutions that should be protected from being exploited by competitors without compensation to the inventor. This aspect is of particular interest of med-tech and bio-tech companies like Genomtec. There are many possible means of securing IPRs (Intellectual Property Rights) e.g. patents – both utility and design, trademarks or trade secrets. However, when patents are properly delineated and granted, they provide the most extended and reliable way of protecting our inventions. What is more, once granted they may also positively influence the level of trust that is put within the company by investors and market in general.

Unfortunately, the way of obtaining patent protection is long, complicated and in many cases expensive for a startup company. Our patent journey starts when a new solution is being developed, this is a moment of particular importance. The teams must remember that they can't make the invention public, until it has been submitted to the patent office, as otherwise the it will lose the patentability feature. This is the last moment to contact with patent attorneys, that ideally have an experience in the field of the subject of our invention. Even better would be for a company

to be in close contact with patent attorneys as early as possible, in order to create a patent strategy for the inventions developed in the future.

One common mistake that a company can make is to limit the number of countries in which the patent is valid. In Genomtec we have been lucky to receive a subsidy from the Polish Agency for Enterprise Development for the international protection of our invention, which is an expensive process, especially when we would like to obtain protection in multiple countries. Thus, a common strategy is to apply for a patent in the main markets that we expect to sell our product or countries with a high market value like USA, Japan, or the main European markets.

Another possible way to introduce an innovative solution to the market is cooperation with academic institutions in technology transfer. Unfortunately, many Polish universities possess multiple patents which are usually only valid for the Polish market, which means that our competitors can freely sell the same product abroad without any licencing fees. This is an area of urgently needed improvement as the academic authorities must look beyond Polish market for their commercialisation strategies.

EXPERT COMMENTARY



Paweł Pacek

Vice-Director, Development and Innovation Office, ARP



Never in the history of mankind have stars, planets and space been so close. We owe this fact to, among others, the “newspace” movement, a philosophy embracing the private space technology sector which is growing around the world. The term refers to a global sector of new companies and endeavors operating independently of governments and traditional players of the space sector, in order to achieve faster development as well as better and cheaper access to space technologies. Companies operating in this market have private investors and work on a commercial basis.

This new kind of activity is often called the “space billionaire race”. This intense rivalry, carried out by billionaires who have made their money in other industries – the internet and computing in particular – has been ongoing for the last several years. This rivalry concerns many fields – satellites, space internet, space flights, space tourism and even the colonization of Mars.

Among these billionaires, you will find:

Elon Musk with his SpaceX and Mars colonization project; Jeff Bezos from Amazon with Blue Origin; Richard Branson from Virgin Galactic and Virgin Orbit with space tourism, cheap small orbital launchers and intercontinental suborbital transit; Jurij Milner – the Russian investor and Facebook partner, who is supporting the groundbreaking Starshot project for

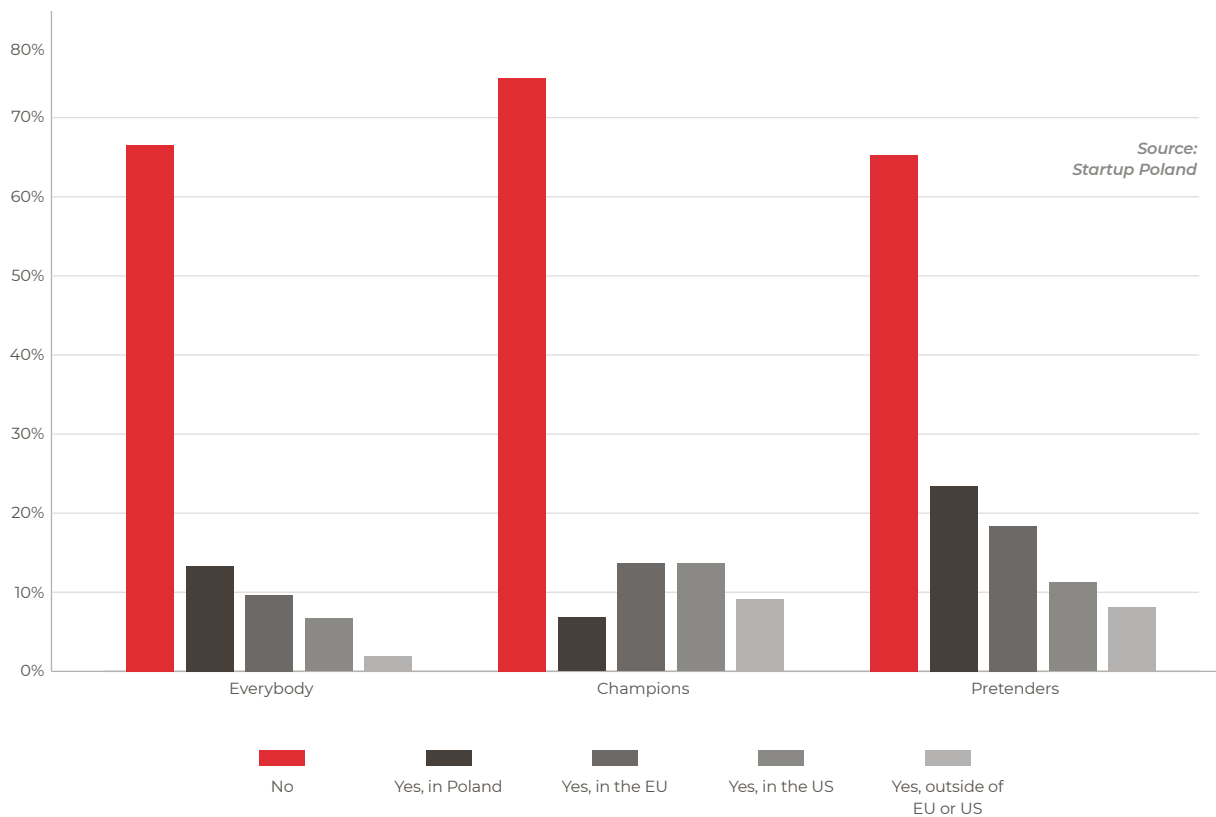
interstellar probes; Astro Teller and Google founders with X company, which develops new, trailblazing projects – such as stratospheric internet balloons; Paul Allen – the Microsoft co-founder, whose Stratolaunch System Corporation was shut down after his death.

The Morgan Stanley investment bank expects that 2019 will bring “key projects and catalysts [in new space sector]” and advises its clients to “pay attention to space companies”. According to the Space Foundation, the global space economy is currently worth around 414,75 billion dollars, more than half of which comes from the newspace market.

Why have I chosen to write about it? Because there is nothing more innovative than the space industry, engineering, which has to meet the strictest requirements. IDA has been supporting the space industry for over 4 years and we have seen increased interest in space technologies and more money flowing in during this period. It is unlikely that some of the wealthiest people in the world are wrong, which is why Polish people are also establishing their companies. Iceye, established by Rafał Modrzewski, is creating a constellation of radar satellites, Astronika’s efforts have led to a Polish flag being planted on Mars, while ABM Space, Bluedot Solutions, KP Labs, Hertz Systems and many more enterprises are also up and running. Together, we are looking forward with confidence to seeing Polish innovations.

IP protection among champions and pretenders

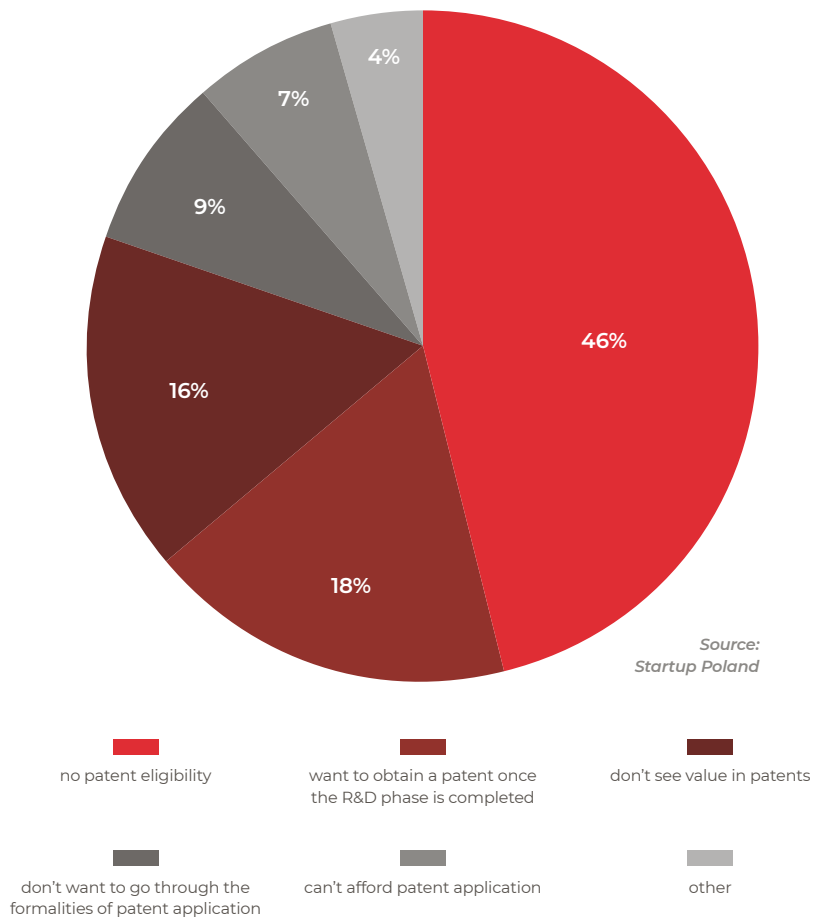
Has your firm obtained or is in progress of obtaining a patent?
of all startups, multiple choice, 2019



Why Polish startups decide to not go after patents

Primary reason to not pursue patents

% of survey respondents that have not obtained or applied for a patent, 2019



EXPERT COMMENTARY



Piotr Orzechowski

CEO, Infermedica

A path paved with challenges

I started Infermedica back in 2012 – a new digital health project with a mission to use AI to help patients find the right level of care based on their symptoms. It was only then that I began to learn about complexity and nuances of the healthcare industry. 7 years later, I can certainly say that I had signed up for one of the biggest challenges in my entrepreneurial life so far.

Being able to work on improving people's health is exceptionally rewarding, but creating a healthcare startup is not easy. Unlike other areas, like gaming or SaaS, healthcare is a regulated space. What you do will likely fall under both European Union's Medical Device Regulation and country-specific regulations (e.g. FDA, HIPAA in the USA). Think about companies developing drugs, surgical instruments or respirators. Your product may suddenly fall into a similar category of responsibility.

It took us a couple of years at Infermedica to even unravel the basics of how the healthcare market works. First of all, healthcare systems (both public and private) are usually well-established organizations who actually control the market. Thus, competing against them hardly ever makes sense and instead you should consider designing your business model around B2B partnerships. A hospital, clinic or even an insurance company can become your client and provide your product to the end-users with much greater reach and credibility. At the same time, if you decide to focus on B2B clients you'll quickly find that

conversations with potential partners take ages. It's not uncommon to work on a single deal for two or even three years. Traditional healthcare organizations are very cautious about adopting innovative solutions, mainly because they are concerned about possible down-side scenarios (e.g. liability, misuse, loss of reputation) or they don't see enough evidence to justify the investment. We had to learn how to address these two risks by clearly demonstrating clinical safety and showcasing outcomes from successful studies with previous clients.

Secondly, the development of healthcare-related products is almost always more costly and time consuming than you expect. Usually, you'll need to factor in healthcare-specific tasks such as medical device certification, clinical validation, increased security and privacy related to the processing of sensitive personal health information. This means you'll need to have a larger budget and more time to even build an MVP (Minimum Viable Product).

Speaking of a Minimum Viable Product, it's yet another problem because nothing like this often exists in healthcare. You cannot sell an MVP of a drug which will only work for early adopters but will be lethal for other users. The same applies to software – it's simply impossible (and illegal) to release a product which hasn't met the minimal requirements of safety and medical validation.

EXPERT COMMENTARY



Agnieszka Skala

Professor, Warsaw University of Technology

A bright, green island of innovation

The Polish economy IS NOT innovative - the percentage of enterprises that implement any innovation has been matching the lowest values in the EU for years, amounting to approx. 11% for small and 25% for medium-sized companies (there is no data for micro companies). Although we have reason to believe that the actual level of research and development is slightly higher than that declared, it will still apply to a maximum of 20-30% of SMEs. At the same time, the percentage of Polish patent-active companies is only about 2%.

In view of these weak indicators, startups constitute a "bright green island" of innovation: more than half conduct research and development activities, mainly working with scientists (usually informally) or with universities - in a more formalized way. One in every three (!) startups patents its solutions, in addition mostly abroad - mainly in the EU and the USA.

Let's get to the point – these results are spectacular!

Temporary micro-organizations seeking a scalable business model conduct innovation activity at the

level at which large companies do so. It is also high time to debunk the harmful myth that business-university cooperation does not take place, and if it does, it is unsatisfactory. Our results prove that it is just the opposite.

In my opinion, these are valuable messages for institutions working for innovation in Poland. Being a startup is not a goal, but rather a model of functioning for a maximum of 10 years. **Measuring the impact of startups on the economy in terms of income, profit or employment is a misunderstanding.** Startups are nests and carriers of innovation for Polish economy and this is their true and workable impact! Experience in creating and implementing innovations, and knowledge of how to initiate and operationalize cooperation with science, are the most important benefit stemming from the activity of Polish startups. Creating favorable conditions for the dispersion of these experiences and knowledge among innovation-skeptic Polish entrepreneurs is the most urgent challenge for institutions working to raise the level of innovativeness of the whole Polish economy.

CHAPTER 7

WORK CULTURE

Startup jobs in regions

Employment in startups

Employment structure among champions and pretenders

Top industries where champions offer stock options to employees

How much Polish startups pay their employees

Trends in employing foreigners

Flexible working hours are a must

Regions with highest rate
of new startup employees:

74%

Łódź

68%

Poznań

66%

Wrocław

Startup jobs in the regions

How many new employees were hired by startups in regions?

% of new hirings in startups, 2019



EXPERT COMMENTARY



Kamil Kociszewski

Startup Poland Ambassador
S5 - 5G Technology Accelerator / Startup Spark

Łódź is a strong academic center and a city where many large technology companies (mainly IT) have branches. It means that Łódź, as a region, has a large base of potential technological founders. At the same time, the ecosystem supporting new startups is constantly developing here. Back in 2016, Warsaw was the only reasonable location for new projects. This changed mainly because of initiatives like Startup Spark (the accelerator for industrial innovations focusing on startup-large company connections).

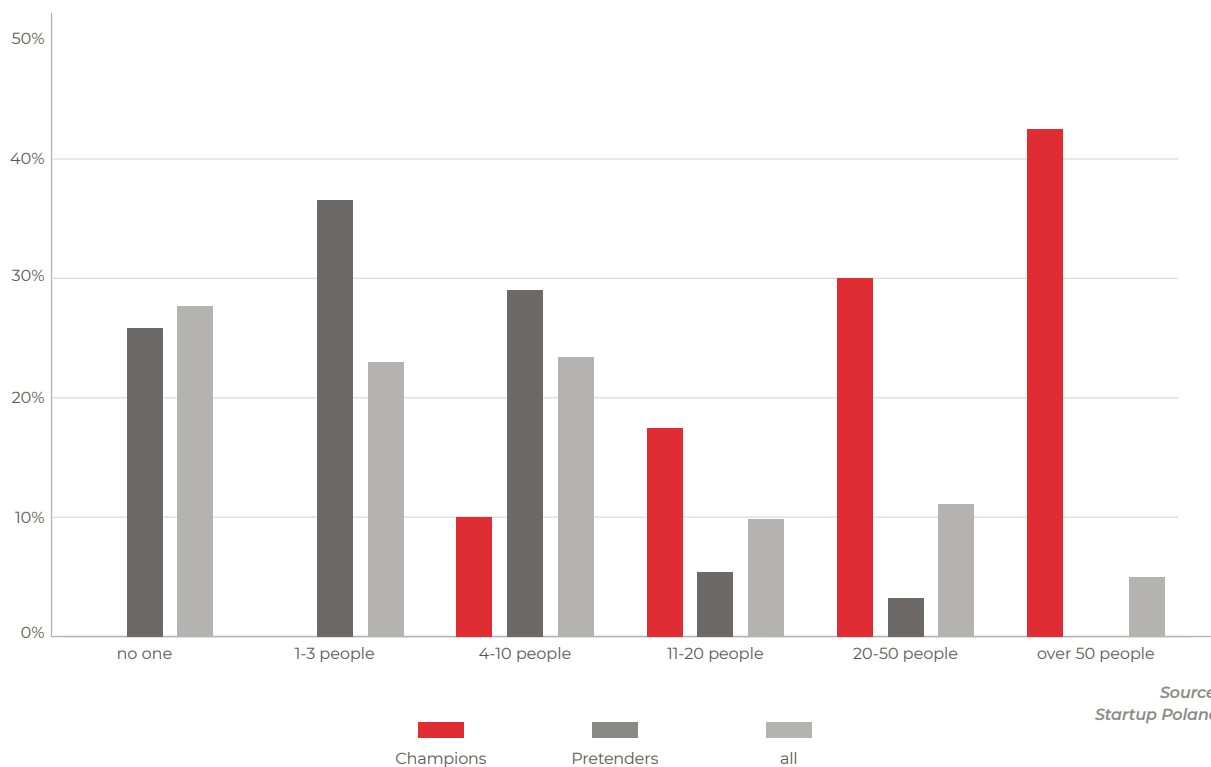
It is worth noting that Łódź has had the highest employment rate in startups in the range of 1-10 new people in the last year. On the one hand, it shows development, on the other hand, it reflects the fact that the growth phase is yet to come. I hope that this trend will be confirmed next year, where seed stage startups will continue to employ, and some of them will go into the growth stage, where employment will increase to well over 10 new people per year. At the same time, the attractiveness of the local

ecosystem should evolve and become a strong tool both encouraging existing employees to create new ventures and becoming entrepreneurs, as well as providing value to startups that decide to move to Łódź.

A crucial factor in this aspect in the coming years may be the development of 5G technology in the region, building its infrastructure, creating the first use cases and positioning Łódź as a pilot city and center of competence for implementing 5G technology. It is estimated that the value of 5G's impact on the global economy will reach \$ 12 trillion in 2035, and the number of IoT devices will increase threefold by 2025, from 7 billion now to over 21 billion in 6 years. This will also translate into growth for domestic companies operating on this market and, if Łódź manages to achieve the assumed goals regarding 5G technology, startups will employ people quickly and in large numbers.

Employment in startups

How many employees does your company currently hire?
among champions, pretenders, and all survey responders, 2019



EXPERT COMMENTARY



Łukasz Rut

Startup Poland Ambassador

Generations Y and Z looking for social capital

This year's research shows that startups are at the forefront of changes on the Polish labor market and that traditional businesses may be losing out in the competition for millennials. Today, the Y generation of 30 year-olds is looking for opportunities for development, flexible working hours, and the opportunity to have a say in the future of the company. They are simply not interested in being mere cogs in the machine. The Zetas, today's 20-year-olds, go one step further and want to make the world a better place, be mobile and simply do not know the word 'change', because it is immanently inscribed in their reality. Today, they might be working on one project, tomorrow they will probably pivot and work on another one.

The results of the work culture in startups are far from surprising since they have been created by 20 and 30 year-olds who themselves value ideas like companies without a traditional, linear hierarchy. This is also what their employees value. Just like remote work (54%), faith in the company's mission (42%) or working in international teams and meeting new, interesting people (23%).

It is only a matter of time before this form of employment becomes the standard. The cult of openness, social participation and knowledge

sharing will be strengthened. Fewer employees will be interested on whether they get a traditional full time employment contract, a contract for a fixed term project or a more incentivized managerial one. Who would think: startups want to change the world here and now and they simply don't care if the period of notice needed to terminate a contract is 1 month or 3 months. What is far more important are trust, good energy, reciprocity and credibility, factors that sociologists called social capital half a century ago.

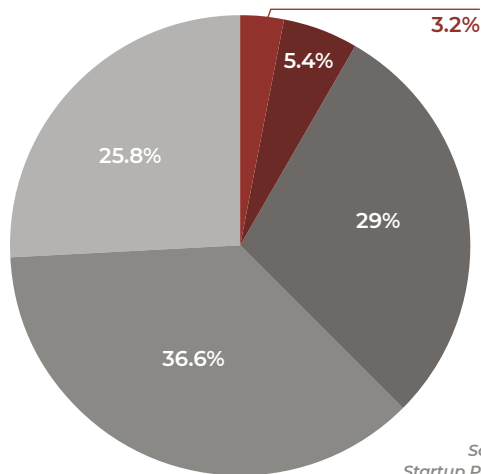
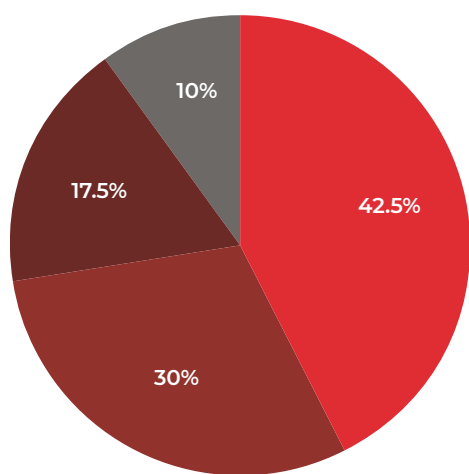
However, we have to be careful as nothing is permanent. This state will also evolve and, with the development of new products, entering new markets, signing large numbers of contracts, things will start to get more complicated. The maturity phase will require greater predictability in the company. The human life cycle will also require a greater focus on employment stability, work-life balance or more traditional values. But by then, the startup will have ceased to be a startup in its traditional sense. Generation C will come along with a phone welded to their hands and say: we will show you how to do business with your mobile phone.

Employment structure among champions and pretenders

How many employees does your company currently hire?

among champions, 2019

among pretenders, 2019



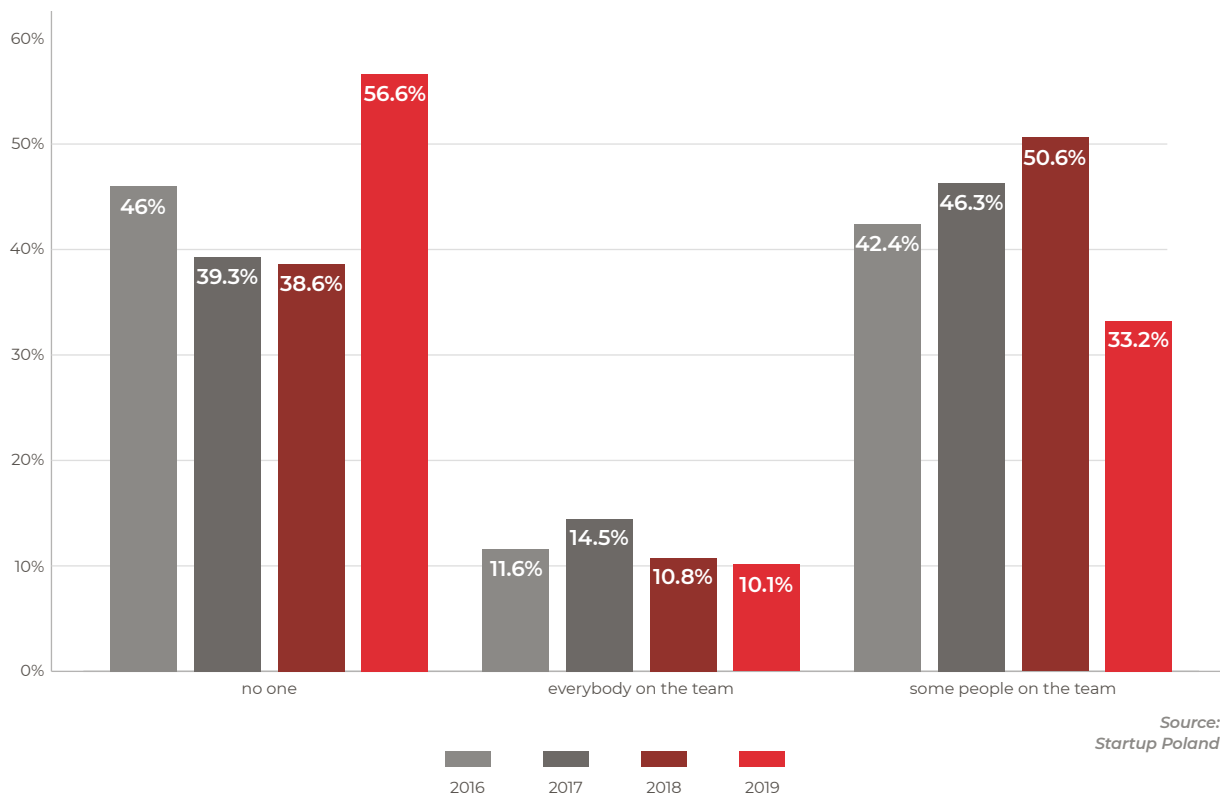
Source: Startup Poland



Contract of employment not a standard anymore

How many people in your startup do you hire based on labour law employment contract (*umowa o pracę*)?

% of all survey respondents per previous annual surveys



EXPERT COMMENTARY



foto. Łukasz Dziewicz

Maciej Sadowski

CEO, Startup Hub Poland
Chairman of the Committee of High-Tech, Innovation and
Diversity of Polish Chamber of Commerce

Technology, talents, tolerance

To build a leading-edge hub for innovation, every ecosystem requires a variety of backgrounds, points of view, ways of acting, skillsets and access to external networks. "Pretenders" differ greatly in this respect to startup champions - 86% of them are made up of purely Polish employees, whereas champions build more international teams - only 27.5% of them rely solely on Poles. Interestingly, 12.5% of champions are truly international, with at least half of their team coming from overseas.

A somewhat more discouraging sign for our industry is that the number of startups with foreign specialists has not changed over the last 4 years. The extra talent pool from Ukraine and the anticipated Brexit migration has not really increased the diversity of the Polish ecosystem. The intensification of programs like the Poland Prize seems to be a logical and necessary step - the question is, will it be enough to break through the 25% internationalization rate glass ceiling in the domestic innovation landscape.

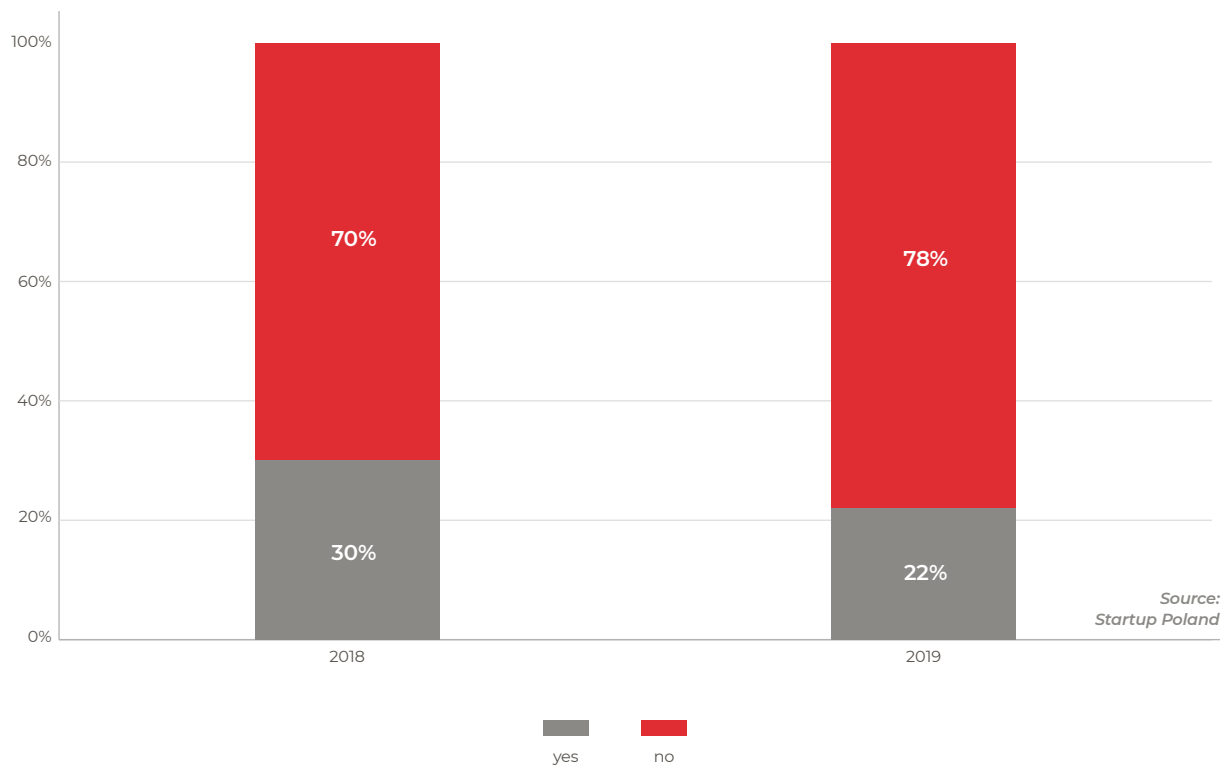
What is more, there has been a decrease this year in the readiness of companies to compensate key employees by means of ESOP programs. This does

not correspond with standards of mature markets, where the relatively lower salaries of non-founders in the first stages of the company's development are hedged with the right to share potential future success. My intuitive explanation would be that, thanks to public support programs, startups are able to afford satisfactory paychecks for their team from the outset, without the need to attract talent with a large additional (yet - uncertain) bonus when the valuation jumps. ESOPs are important for the internationalization and retention of talent in Poland-based startups. When the involvement of specialists in developing a project in Poland is treated just like another job, there is a much bigger chance that they will leave, since they have no long-term reason to stay. An ESOP provides such reason since the "willingness to stay" is generated by the desire to share in reaping profits.

The growing number of startup-derived NASDAQ IPOs from companies where foreigners play key roles, and where the attraction, engagement and retention of international talents is treated as a priority, should be an example for our market.

ESOP not very likely

Do you have team members who own employee stock options in your startup?
% of all survey respondents per previous annual surveys



EXPERT COMMENTARY



Zbigniew Woznowski

CEO, Reality Games

We strongly believe that the potential success of a company has a strict correlation with increased productivity, as well as levels of motivation among employees. We have established an **ESOP** to improve employee attitude toward the company by giving employees a **significant** stake of 20% of all company shares.

Having done so, we witnessed more information sharing, increased communication, and better involvement in decision making.

Some details about the ESOP in Reality Games:

- We have two companies: PL (sp z o.o.) and UK (ltd)
- There are 1,000,000,000 shares in the UK company, and 100,000 shares in PL company.
- Shares in the PL company are converted to the UK company (for tax & legal reasons).
- The ESOP applies to any position above that of an internship. The number of shares depends on when the employee joined our company as well as their position within it (junior, regular, senior).
- Team members get additional share packages - this is settled individually, or in groups (reaching milestones, success of projects).
- Basic shares do not grant voting rights in both the PL and UK companies. They grant rights to the company's assets in the following way:
 - right to a premium, i.e. if they are not previously converted into shares in the UK company and this will exercise the right of repurchase
 - You may get additional share packages - this will be settled individually, or in groups (reaching milestones, success of projects).
 - if shares were not repurchased, it does not matter whether they were swapped to UK shares or not, they give the right to join the sale in case of so-called change of control (any transaction involving more than 50% of the company's shares). Everyone will participate in any business sale (majority or whole package) or completely with an IPO.
- 4 year contract (1 year cliff + 3 years vesting, divided into quarters). We are looking for long term relationships with team members and we know that building really valuable things may take a while.
- All active shareholders (including CEO, CTO, CFO, COO) are subject to vesting rules: if you stop working for the company, you lose your shares. This is a market standard which we have chosen to impose.

We have also defined when somebody ends cooperation with us by forming:

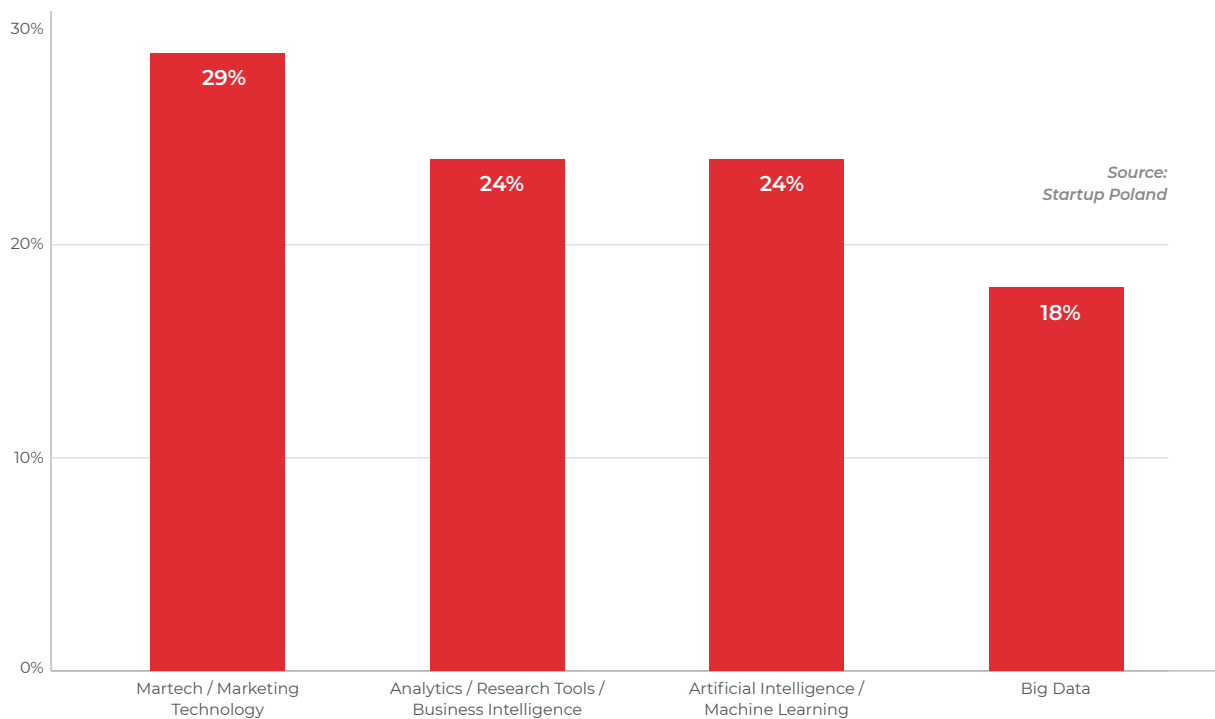
Good Leaver, Bad Leaver, Fraud Leaver rules.

- If someone is a Good Leaver (in case of serious illness, permanent inability, death or the termination of the contract by mutual agreement of the parties) then there is a mechanism for the payment of the premium for the deferred shares based on the FAIR VALUE valuation.
- If someone is a Bad Leaver (the contract is terminated by an employee or due to their negligence, significant breach, etc.) then there is a mechanism for payment of the bonus for the deferred shares based on the DISCOUNTED VALUE valuation.
- If someone is a Fraud Leaver (gross violation, breach of non-competition clause, or disclosure of confidential data), then shares are redeemed at face value.

An ESOP is an attractive employee benefit and corporate financing tool; its structure can range from simple to very complex. Its feasibility should be considered by competent lawyers, accountants, and administrators to ensure tax deductibility compliance. It's great to have it from the beginning, but at the same time it's quite expensive to get it right for early stage startups.

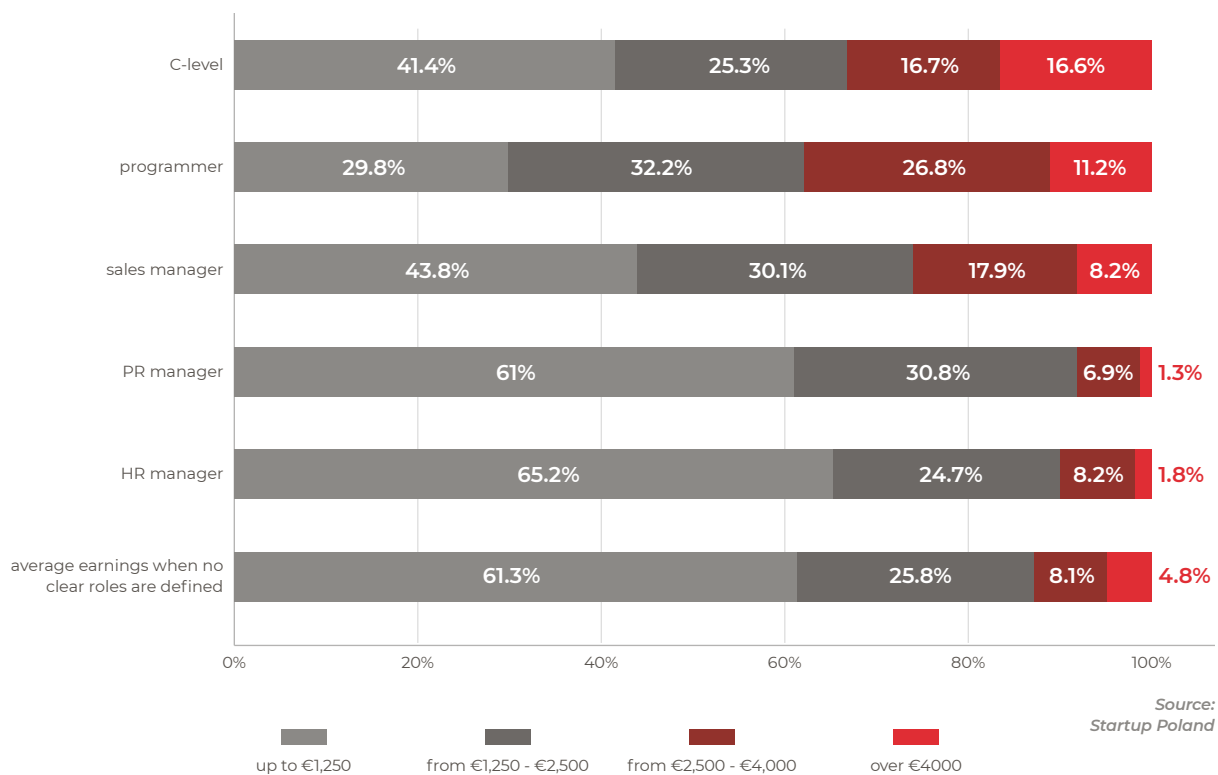
Top industries where champions offer stock options to employees

Which startups offer ESOP?
top 4 industries among champions, n=36



How much Polish startups pay their employees

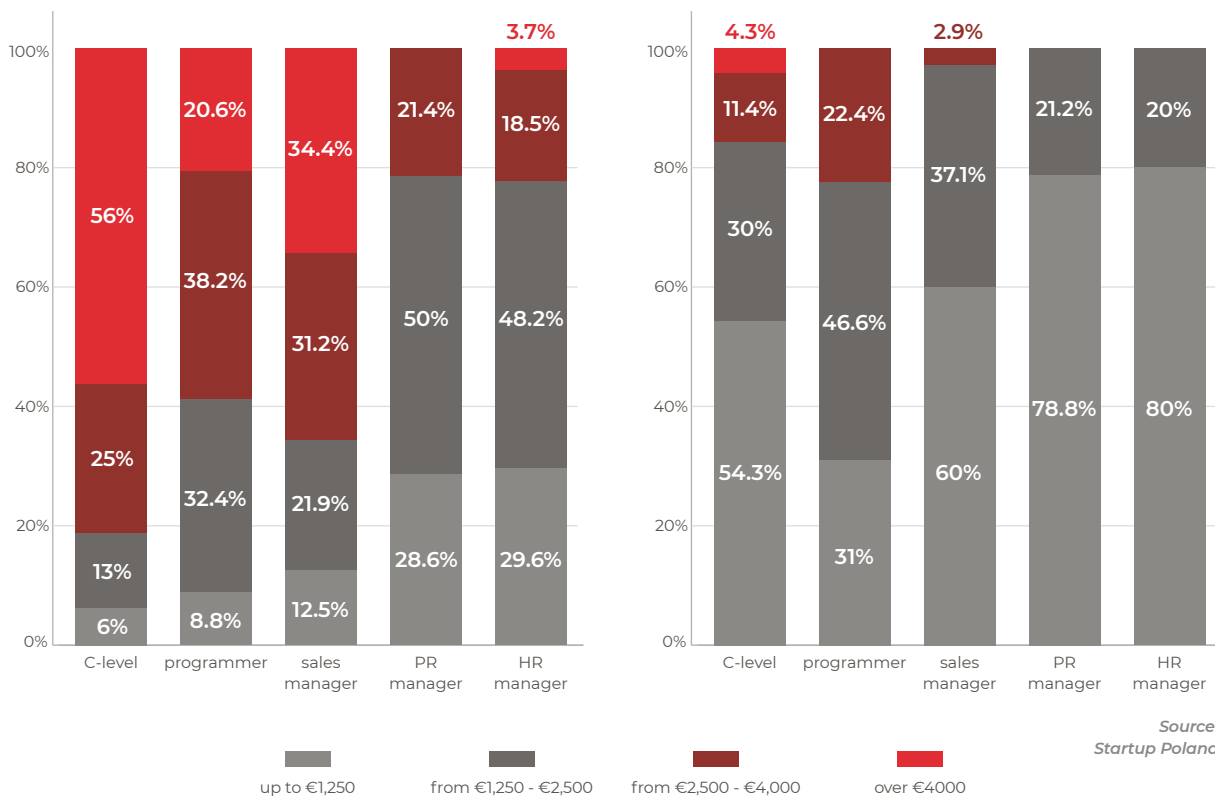
What are the average net monthly earnings in your company?
% of all survey respondents, 2019



Who the champions and pretenders pay most

What are the average net monthly earnings in your company?
among champions, 2019

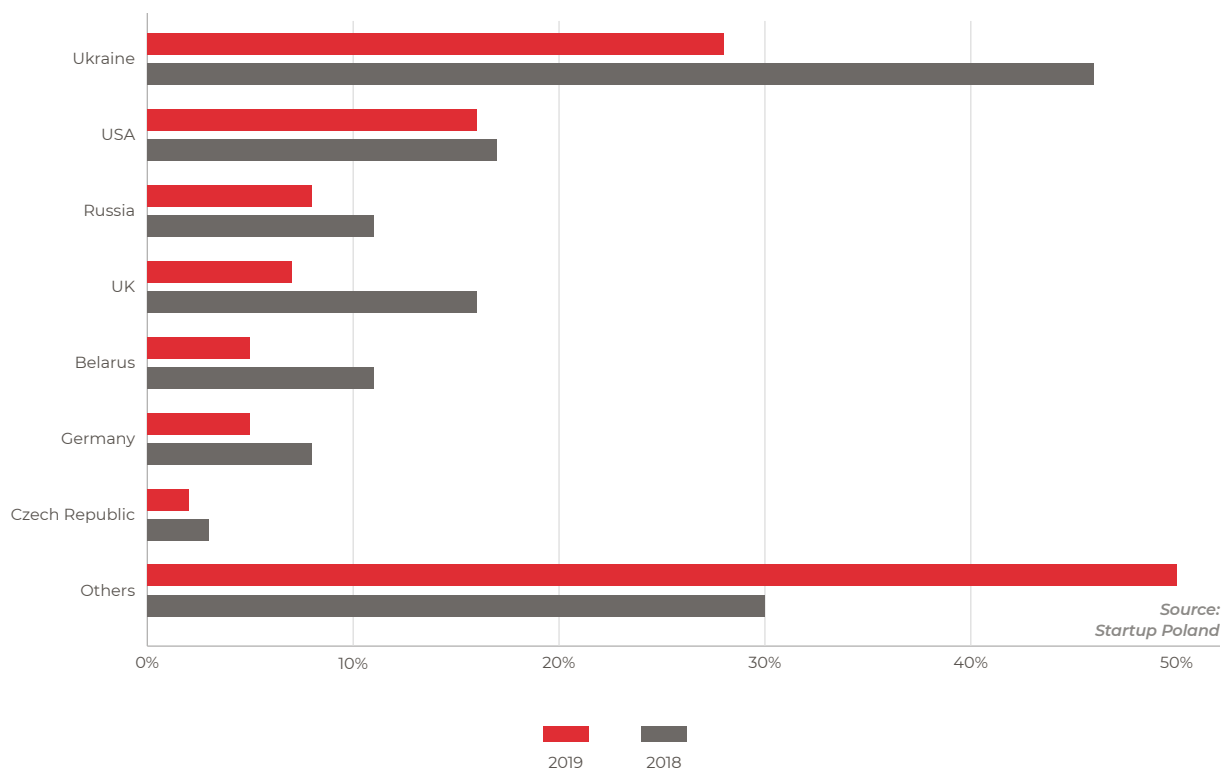
among pretenders, 2019



International workforce getting more diverse

Where do foreign employees come from?

% of all survey respondents per previous annual surveys

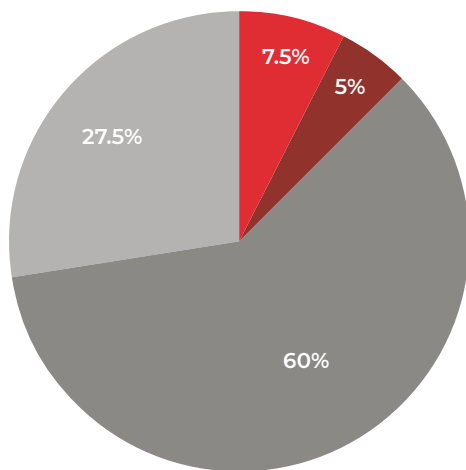


26%

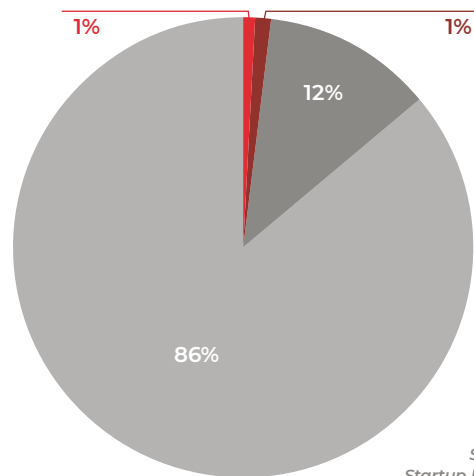
of startups employ foreigners.

Champions build international teams, pretenders hire just Poles

What part of your team comes from abroad?
among champions, 2019



among pretenders, 2019



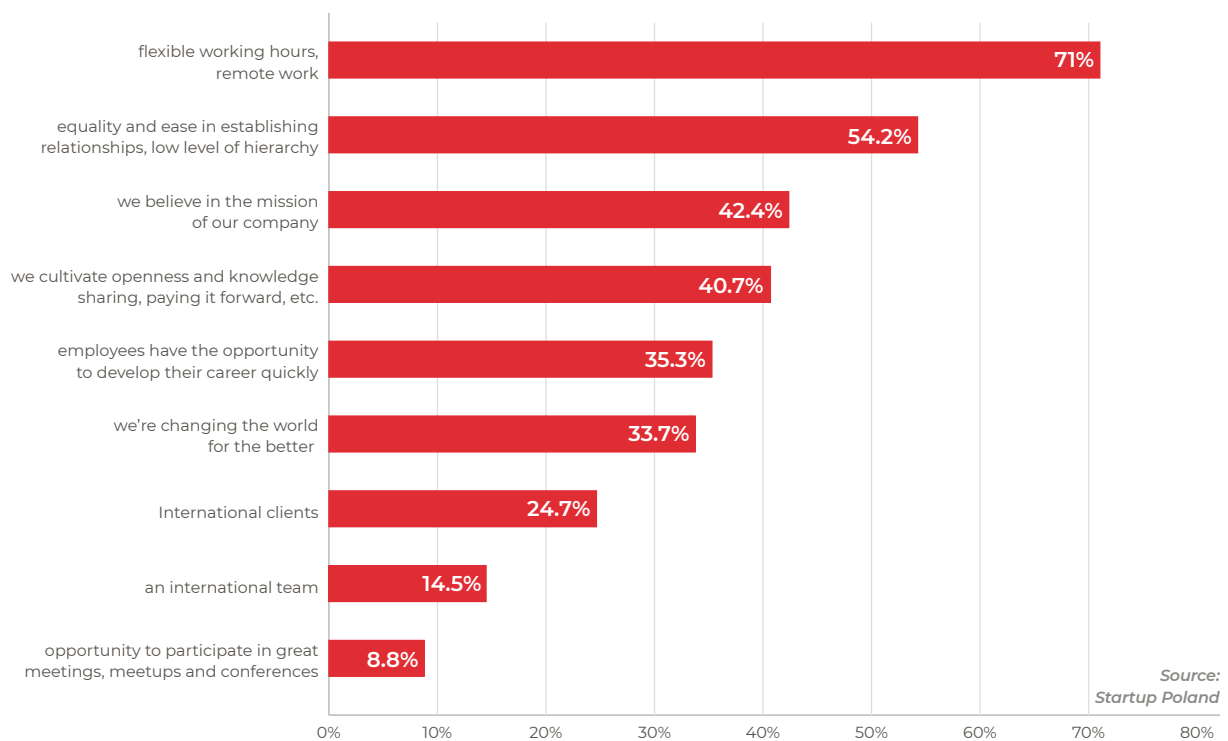
Source:
Startup Poland

over a half a half less than a half no one

Flexible working hours are a must

What is the work culture in your startup?

% of all survey respondents, n=649, 2019



Methodology

The survey was conducted by Startup Poland researchers between August 8th and September 25th 2019.

The procedure established by Dr Agnieszka Skala, a Professor at Warsaw University of Technology, was used in order for the research results to be comparable over time, to facilitate the discussion of trends, and to provide a forecast. However, the survey was also expanded to include new topics and areas.

How the research sample was defined

While previous surveys focused solely on the ITC/ ICT sector, undoubtedly a thriving area for new technologies, it also excluded the vast majority of companies with high growth potential in other, non-digital areas such as: medtech, biotech, nanotech etc. This year's report takes a broader look at the startup industry and so the sample criteria were extended, enabling companies from other sectors to participate in the survey. The criteria used to qualify a given entity for participation were the following:

A respondent of Startup Poland's research was a company which:

1. creates new technological solutions or
2. creates products or services based on new technologies that can be attributed to one of the following areas:
 - a. IT / ICT
 - b. energy technologies
 - c. industrial technologies
 - d. material technologies (including nanotechnology)
 - e. biomedical technologies
3. or has an innovative business model

The research team is aware of the controversy concerning the numerous definitions of startups worldwide and by no means wished to add yet another one. This is merely a sample definition, the criteria defining this particular group of respondents.

As a result, no minimum or maximum number of years on the market were applied to determine whether the company should be classed as a startup. Moreover, companies such as software houses were also analyzed, but separately from the group of startups in order to compare the differences in development between startups and software houses.

This meant that, this year, the total number of respondents was 1,235, breaking last year's record.

How the data was obtained

Firstly, a nationwide promotion campaign was conducted in order to reach a wide range of startups. At the same time, the researchers and Startup Poland Ambassadors personally reached out to CEOs and co-founders of companies, asking them to complete an online questionnaire, published through SurveyMonkey.com. 1,235 firms responded to the survey, providing non-anonymous quantitative data about their activity. Participation in the survey was voluntary, and respondents did not receive any compensation for doing so.

A negative response or "I am not sure" to the first question "do you consider yourself a startup" did not eliminate the company from further participation in the survey. With respondents who were unsure as to whether their company fell within the startup category, they were thoroughly checked and either excluded from the sample or included in further data analysis if they met the above mentioned criteria.

How the data was analyzed

The data set was cleared of non-startup companies which did not meet the initial criteria and all doubled

responses were deleted. In total, responses from 809 companies were taken into account in the further analysis. All differences in number of respondents per question can be attributed to the logical path applied in the survey and any missing responses were due to the fact that answers to some questions were not obligatory.

For the purpose of the report, two groups were distinguished:

The champions (44 companies) are startups that:

- have average monthly revenue over EUR 125k, in the last 6 months, and
- have been growing 7% or more per month on average over the last 6 months.

The pretenders (98 companies), on the other hand, are startups that:

- are over 2 years old (established in 2017 or earlier), and
- have not yet reached the product - market fit,
- have no regular revenue or an average monthly revenue of under EUR 12.5k

Whenever the figures were provided in PLN, they were converted to EUR using the exchange rate of EUR/PLN equal to 1:4.

The people behind the project

Julia Kryzstofiak-Szopa
CEO

As Startup Poland's leader since 2016, Julia has been defining the purpose and vision of every single project undertaken by the team. Since her return from Silicon Valley, her mission has been to help diffuse the best practices of venture capital investment throughout the Polish tech scene.



Monika Wisłowska
Head of Project Management

Since joining the team in 2017, Monika has successfully brought the vision of every project to life. Apart from research projects, she also coordinates the activities of all 27 Startup Poland Ambassadors.



Magdalena Jagiełło
Head of Business Development

Since 2015, Magdalena has been responsible for Startup Poland's partnerships with both private and public stakeholders, making sure the organization has the necessary assets to grow. The relationships she has built and nurtured enable the financing of Startup Poland's projects.



Marta Pawlak
Legal & Public Policy Advisor

Marta has been working with Startup Poland since 2015. She provides legal and legislative support to the organization and is also responsible for collaboration with the Polish public sector and EU agencies.



Agnieszka Skala
Professor, Warsaw University of Technology

Agnieszka is the godmother of the annual startup survey conducted by Startup Poland. As an academic and researcher, she authored the original survey methodology back in 2015 and has lead the project research teams until 2018.



Aleksander Rokicki
Creative Director, We Design

Founder and Creative Director of We Design (wedesign.pl), a creative boutique with a rich portfolio of design projects for businesses and NGOs. Master's degrees in Consumer Psychology and Marketing & Management provide him with an all-around perspective on design from commercial, psychological and aesthetic angles.



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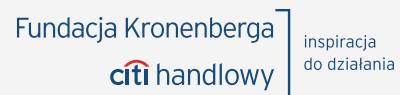
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