



POLISH STARTUPS 2018 REPORT



M. Beauchamp, J. Krysztofiak-Szopa, A. Skala,
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TABLE OF CONTENTS

<i>Executive summary</i>	6	Chapter 3. Financing	34
The top 10 facts from 2018	6	Startups with over €2.5 million financing	35
Introduction	8	<i>Bootstrapping</i> remains unchanged	36
The challenging demand for talent	8	Development capital is cheap	38
About Startup Poland	10	Accelerators are booming	38
From an idea conceived in a Żoliborz garage to the largest tech think tank in Poland	10	Polish investors are not keeping pace with European trends	40
Regulatory recommendations	12	The unfulfilled foreign investor dream	41
7 changes to start with	12	“Big revenues” means something else to startups	41
Chapter 1. Who builds Polish startups?	16	In Poland, one does not simply exit from investments	43
The race continues: unusual locations on the startup map	17	An overview of selected Polish VC funds	44
WHO BUILDS POLISH STARTUPS?	17	Chapter 4. Development	56
Why is it worth being a startup founder with a PhD?	18	Stages of development and the ecosystem	57
Talented linguistically. Experienced in battle	19	The desirability of simple joint-stock companies	58
Being an engineer is not enough	19	A mentor will advise you how to develop a startup	59
It's not about money	20	Startup events should be chosen wisely	59
Chapter 2. What do Polish startups do?	24	Older startups need staff	62
We are definitely going into business!	25	Acceleration is a step towards strategic partnerships	62
<i>Big data, analytics, and IoT</i> remain the main Polish startup specialties	26	Chapter 5. Export	68
Cooperation between startups and corporations	28	Exporters earn more	69
What sales models do startups use?	33	They need employees, not money	69
<i>Hardware</i> : patience is a virtue	33	They do not think globally from the outset	70
		Europe increasingly close for exporters	73

Chapter 6. Employment and work culture	76	Chapter 8. The startup regions of Poland	96
Revenues per employee	77	Zachodniopomorskie	98
If you want to hire, it is worth having an investor	77	Lubuskie	98
CEOs earn less than programmers	79	Wielkopolskie	99
Employee shareholding is more important than employment contracts	80	Dolnośląskie	100
Flexible, flat, and with a mission	83	Opolskie	100
A Slavic-Anglo Saxon blend	84	Śląskie	101
Europe is not an important source of human capital	85	Małopolskie	102
		Świętokrzyskie	103
Chapter 7. Innovation	86	Podkarpackie	104
To patent or not to patent – that is the question	87	Lubelskie	104
PhDs are likely to patent	87	Mazowieckie	105
It is still unclear whether a patent gives you a market advantage	87	Łódzkie	106
R&D cooperation is often informal	88	Pomorskie	106
Cooperation with universities is rated increasingly higher	90	Kujawsko-Pomorskie	107
The worrying lack of <i>deep tech</i> specialists	92	Warmińsko-Mazurskie	107
		Podlaskie	108
		Research methodology <i>Polish startups 2018</i>	109
		About the authors	110
		Acknowledgements	112

The top 10 facts from 2018

1,101 survey respondents

Our research sample increased by 30% on last year, with 806 companies which completed the survey (compared with 621 in 2017) describing themselves as IT/ICT startups.

7 leading cities

Even though Warsaw is the host city for the most startups annually, fundraising leaders are located in Kraków. Lublin and Rzeszów joined the traditional forerunners of our report in terms of startup environment size: Warsaw, Wrocław, Kraków, and the Tri-City. The position of Poznań, on the other hand, is weakening.

50% of startup founders have lived abroad

Life experience earned abroad helps to stimulate entrepreneurial ambitions. Success itself, however, largely correlates with the study of social sciences. The best-earning and fastest-growing startups have significantly more founders with degrees in economics, sociology or law than those who are the graduates of strictly technical programs.

83% of startups sell to other companies

From year to year, increasingly more startups are choosing to enter the B2B market. Big data, analytics and IoT remain our main specializations. There is a clear increase in interest in fintech and marketing technologies in comparison with previous years.

1 in 3 startups cooperate with a corporation

Despite having intentions in this regard, 70% of startups do not cooperate with any corporations. Therefore, it is worth stimulating large companies' demand for young, innovative technologies and services. Both Polish and foreign corporations still do not invest a great deal in startups, and rarely become their strategic buyers.

50% of startups finance themselves from their own pockets

The percentage of startups financed by their founders' own capital remains steady.

\$39 million is a record for Polish fundraising

No startups in this year's survey beat Kraków's startup Brainly in this regard. The company collected this amount from the international investment market in several rounds of financing.

Domestic accelerator activity has doubled

Polish startup accelerators are booming; 24% of startups – twice as many as last year – obtained financing thanks to these entities.

€2,500

Programmers in 25% of startups earn at least this much per month after tax. The salary of one software engineer costs a startup more than the remuneration of a board member.

30% of startups provide remuneration in the form of company shares

Equity stock option pool is an increasingly popular way of attracting employees. There is a pressing need for startups that are struggling with staff shortages to develop mechanisms to build up employee share ownership.

The challenging *demand for talent*



Julia Kryzstofiak-Szopa

CEO

Startup Poland

To date, Poland has spent close to €400 million on startups: €222 million from the Polish Agency for Enterprise Development, €110 million from the National Capital Fund, and €63 million from the National Centre for Research and Development¹ The Polish Development Fund - Ventures is due to allocate a further €500 million to stimulate the venture capital market in Poland. But is it enough or perhaps too much?

These kinds of numbers always make an impression on those who are skeptical about Polish startups yet these sums still pale in comparison when placed in the global context. After all, a single London fund, Atomico – which is younger than our National Capital Fund, as it was founded by the creators of Skype after its acquisition by eBay – currently manages \$765 million.

This difference in scale is plain to see, but this year’s research shows that innovative companies in Poland are lacking more than just capital. The shortage of qualified employees is becoming an increasingly significant obstacle and the mining of the “Polish coal of the 21st century” (i.e. engineers, programmers, and application developers) cannot keep up with demand. What is worse, the most innovative startups – those developing machine learning technologies, neural networks, artificial intelligence, and blockchain – are often the ones that struggle the most

with the lack of qualified employees. This is of concern as these areas are the future unicorns in the same manner that rapid internet adoption was to Skype 20 years ago.

An imperfect educational system, one that does not produce enough entrepreneurial experts, is becoming a major obstacle to Polish innovation. Firstly, the educational offerings of Polish universities do not meet the challenges of the future. For example, artificial intelligence can be studied at only two places in Poland: at the Institute of Philosophy of the Maria Curie-Skłodowska University in Lublin and at the Faculty of Mathematics and Information Science of the Warsaw University of Technology. Secondly, at no stage do the primary and secondary school educational models teach the kind of skills that are crucial to entrepreneurship, such as time management, decision making, cooperation, and leadership.

This year’s fourth Startup Poland survey encompassed more than 1,100 technology companies. This record-breaking representative sample reliably identified the developmental stage of startups in Poland and compared the results from four years ago.

In 2015, we wrote that the increase in the demand for innovative technologies in the enterprise sector is key to the development of startups. This year, we examined

¹ Funds spent via support instruments for venture capital investments until 2018 by the Polish Agency for Enterprise Development (PARP), the National Capital Fund (KFK), and The National Centre for Research and Development (NCBR). Source: *Złota księga* venture capital w Polsce (The Golden Book of Venture Capital in Poland), Startup Poland, Warsaw, 2018.

what the **cooperation of large companies with startups** looks like, which corporate accelerators contribute to startups, and what the potential is for exits – acquisitions and IPOs – in Poland.

We also considered the matter of **startup work culture**: what motivates startup entrepreneurs to launch their own business? What are the most important values to their employees, who are often millennials with non-traditional needs and expectations? How do you make money in startups?

We took a closer look at the **career paths of startup entrepreneurs**: is it worth leaving the country to become an effective entrepreneur? What should you study?

As always, we have carefully examined the **financing of startups in Poland**. We attempted to estimate the total value of external financing that Polish startups have received from the investor market and checked to see which industries are experiencing the fastest revenue growth, and what their founders' financial ambitions are.

The report is of tremendous value to four main groups:

- **startup owners**, who will be able to compare their results with the entire ecosystem, which, we hope, will help them manage the development of their own businesses;
- **investors**, who will gain knowledge about which Polish industries are currently worth investing in and to what extent;
- **corporations**, who will be particularly interested in information about the expectations of startups towards corporations;
- **the public sector**, who will find out which needs must be met in order to effectively support technological entrepreneurship in Poland.

In 20 years, the economic environment will be drastically different from what it is now. That is why we cannot focus on replicating the solutions of the West or of Israel today; we must focus above all on wisely anticipating the future. If we wait another year before reacting to the current pressing challenges of high-tech entrepreneurs, state-owned development funds may end up optimistically investing in startup mines even though the deposits will soon run out and the seams prove to be not quite so rich as expected..

We hope you enjoy reading the report as much as we did writing it. Until next year!



From an idea conceived in a Żoliborz garage to **the largest tech think tank** in Poland



Magdalena Jagieło

Head of Business
Development

Startup Poland
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In Warsaw's Żoliborz district, one particular semi-detached house and its garage look a bit run-down. This is perhaps hardly surprising, as its occupants are busy building startups and have no time to spare on aesthetics. This is the home of Reaktor – Warsaw's nursery of digital entrepreneurship.

It was precisely here that, back in 2014, the ambitious idea to create Startup Poland was born. Following the lead of European organizations, such as the British Coadec¹ and France Digitale², a group of enthusiasts decided to bring Polish startups into the spotlight of public debate.

Today, Startup Poland is one of the largest and most important technology think tanks in the country. “Bigger and better startups in Poland” – this is a mission we have been carrying out for four years now. We want Poland to compete successfully for entrepreneurial talent and draw in capital from all over the world. Over 30 people are working together to make this dream a reality: both the members of our operational team and our regional ambassadors.

Our ultimate goal is the promotion of the kind of best business and regulatory practices that will release the innate potential of the startup scene in Poland. In order

to implement this goal, we carry out research: we check how Polish startups develop, the way in which *venture capital* funds invest in Poland, before identifying their needs and the obstacles to growth. We study public policies abroad and ways in which the latest technologies such as *blockchain* are applied.

The knowledge generated in the course of our research allows us to finance our statutory activity. Our customers, such as Ericsson, ING, Boston Consulting Group, Roche, Grupa Azoty and PGE Ventures, use this knowledge to build *dealflow*, or implement strategies of cooperation with startups.

Thanks to our network of ambassadors in all of Poland's regions or voivodships, we can reach startups all over the country, and obtain a comprehensive image of this sector of the Polish economy, avoiding any “Warsaw-centric” slant. We also see how uneven access tends to be across regions to the ecosystem, knowledge and capital. To combat this, we organize *Startup Poland Camps* in partnership with our ambassadors. These cyclical regional events allow digital businesses in all the regions to be included in the nationwide startup pipeline.

Even though we had to look abroad for inspiration four years ago, today we can proudly act as a leader in inter-

¹ <http://coadec.com/>; ² <http://www.francedigitale.org/>

national organizations such as the European Startup Network and Allied for Startups. We regularly host their representatives in Warsaw, and now it is us who are inspiring them with our experience, ideas and knowledge. This has led to numerous invitations to speak and lecture at technology-related events abroad, a forum on which we are proud to represent Poland.

There are more challenges ahead and we will continue to raise the bar. If you identify with our mission, you can support us as a strategic partner, be a partner of one of the projects, or simply utilize our knowledge base as a customer.

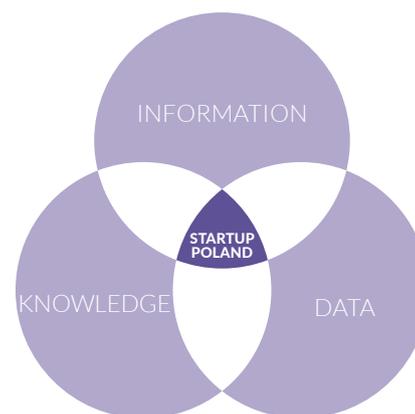
QUALIFICATION CRITERIA for Startup Poland partners

In order to ensure the highest quality of projects, Startup Poland follows transparent criteria for choosing part-

ners. Partners who meet the majority of our criteria are the first to be invited to take part in our projects.

źródło: Startup Poland

		CRITERION	PREFERRED	REQUIRED
TECHNICAL SKILLS	#1	The partner has the internal skills necessary to be an expert or a member of the Program Board.		●
	#2	The partner enjoys a good reputation among its portfolio companies (applicable to funds and accelerators).		●
	#3	The partner has experience and knowledge that make it possible to be a technical advisor in projects.	●	
MOTIVATION	#4	The partner's strategic goals are in line with Startup Poland's mission and the objectives of particular projects.		●
	#5	The partner has been carrying out a long-term strategy of cooperation with startups.	●	
BUDGET	#6	The partner has a budget that corresponds with the package pricelist		●



7 changes to start with



Magdalena Beauchamp

Head of Public Affairs

Startup Poland

A fast track for employing foreign workers

The need for decent and efficient conditions for employing specialists from abroad (not only those from the east) is so much more than a means to **equip Polish startups with the ammunition necessary to move on to the expansion stage**. Above all, it is a prerequisite necessary for any mature economy to function, especially ones that know the strengths of their local teams and are aware of the need to supplement any missing specializations. It is thanks to diversity that we are able to grow.

Stock options, or how to create a new generation of business angels

It is fair to say that our financial market is far from being saturated with private capital. In Poland, 81% of VC funds operate with EU funding from the public portfolio. Only now are the grandchildren beginning to teach their grandparents and parents what to invest in today. We have the employee stock option plan at our fingertips and employee share ownership - **if we use it wisely, such as by means of a simple joint-stock company - will help us to create future investors**. In the case of exits or the stock exchange success of the company employees monetize their shares becoming the next angel investors.

Soon they will invest in new projects or go on to create their own, driving the development of the innovation ecosystem onwards and upwards. In order to create these opportunities and increase the independence of our financial market, we need simple regulations that will help promote the stock option amongst Polish tech companies.

Demystifying stock markets

The equity crowdfunding revolution has begun. From April 2018, companies have been able to raise up to €1 million through open issues without the requirement to draw up a prospectus. This compares extremely favorably with the previous limit of only €100,000. **This is a move that will certainly attract startups and whose route to foreign expansion will be considerably shortened** thanks to this source of financing. It is high time to demystify the stock market, to bring young companies closer to it and building investment awareness throughout our society.

Teaching differently

We need to fundamentally change the educational system, from preschool to high school. The teaching of critical thinking and how to express independent opinions lie at the heart of Anglo-Saxon societies and it is no accident

that those countries produce the best people in sales and business development. Their education system fits out its graduates with solid oratorical, cooperation and self-management skills. Now we need to make up for the gaps in our system by **teaching cooperation (group games, sports, project tasks), logical thinking and synthesis (mathematics and logic), abstract thinking (experiments, theater, improvisation), time management and leadership**. For this, interdisciplinary learning is crucial, with the emphasis firmly on the creativity of students and teachers. In addition, teaching must shift away from the model based on “cramming”, and move towards a model based on play and learning knowledge in freedom and during self-discovery with the help of a teacher-guide.

The changing nature of work means changes for all

Soft skills and interdisciplinary teams of employees - the awareness of the need to make up for lost time is greater today than ever before. If the state does not overhaul the underlying assumptions which determine the education of young Poles, these tremendous, creative minds will be lost.

If the public sector does not take up the gauntlet, the private sector certainly will. IBM is already implementing curricula in primary schools, and Hitachi Vantara, the leader in the business services market, has joined forces with the University of Economics in Krakow. Together, they want to provide students with the practical skills needed to make the Polish business services sector stand out – not in terms of its low cost but defined instead by means of its advanced level of knowledge.

Regulatory stability

This is the fundamental factor which entrepreneurs consider when deciding on a location to run a business or invest. In Poland, any changes in the tax system should be introduced with **a longer vacatio legis**, in order to give startups and investors a real chance to implement them in their business models. In any consultations and discussions of important legislation such as an exit tax, the startup community and entrepreneurs need enough time to collect and analyze all of the opinions amongst them in order to suggest changes.

Public tenders

The new Public Procurement Law is clearly going in the right direction, focusing on digitization, de-formalization, lower procedural costs and contracts reserved for small and medium enterprises.

We are optimistic about these changes **but we need smart regulations developed in consultation with the industry in order for them to work in practice**. The results of this year’s survey show that only 20% of startups took part in public procurement proceedings, of which 4% declared that they often engage in tenders.





Selected
publications



Chapter 01

—

Let us imagine a typical Polish startup in 2018. Is it the initiative of a 22-year-old science and technology student, a 31-year-old Warsaw School of Economics graduate, or perhaps a 41-year-old serial entrepreneur? Where do they come from? Why did they choose to start their own business?

—

WHO BUILDS POLISH STARTUPS?

WHO BUILDS POLISH STARTUPS?

Author: **Magdalena Beauchamp**

The image of a typical startup founder as a 20-year-old in flip flops is clearly changing. Now, they are more likely to be a 30-year-old in loafers and with decent language skills. This is because half of startup founders have spent a considerable amount of time abroad - whether learning, studying, working, or simply living. The average startup founder has completed technical studies or is a social sciences graduate (the latter tending to be more successful). Those who apply for doctoral or postgraduate studies are more likely to seek larger funding rounds and to sell more products abroad.

The race continues: unusual locations on the startup map

The regional distribution of startups in terms of registered company headquarters locations has remained stable. Warsaw, Wrocław, Krakow, and the Tri-City (57% of respondents) were traditionally the leaders in this regard. Perhaps surprising, however, is that Poznań's position is weakening while the Lublin Voivodeship is strengthening. Lublin caught up with Tri-City this year and reached two-thirds of responses for Malopolska (Krakow Region). Rzeszów was also a surprise winner, cruising past the pioneers of last year, Toruń and Łódź, who failed to move to the head of the pack this time.

Breakdown of respondent locations in the 2018 Polish Startups survey

Source: Startup Poland

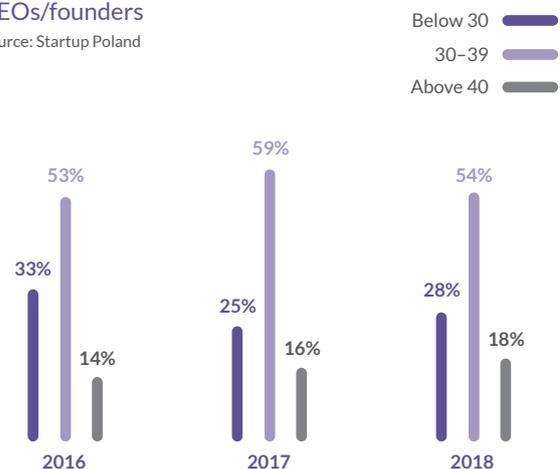


WHO BUILDS POLISH STARTUPS?

The age range of startup founders has remained stable from year to year. This confirms our observation from the report *2017 Polish Startups* that the average startup founder is not a student in flip-flops, but most likely a very experienced 30-something with a pocket square in their suit pockets. The group of 40-year-old managing directors is naturally gradually increasing from year to year. It is slowly fueled by the largest group of respondents – the 30-year-olds who every year make up half of the founders and CEOs of startups we survey. The vast majority of founders are Poles but a number of startups with foreign founders (7%) participated in this year's survey. One in four of these are Ukrainians.

Age breakdown of respondents CEOs/founders

Source: Startup Poland



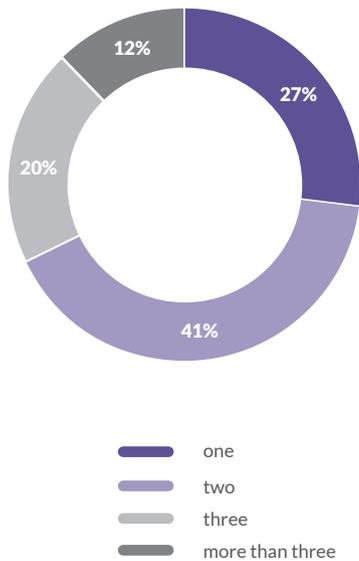
As in 2017, 76% of respondents have a university degree. Also, as in previous years, only 4% are still studying. We also learned that one in four of those who spent more than three months abroad did so as part of the *Erasmus* exchange. The percentage of startups whose

founders hold PhD degrees remains steady; while this number was 13% in 2016, it jumped to 20% in 2017, falling slightly to 18% this time around.

The data shows that the startups surveyed are more likely to decide to run their company with two founders instead of just one. This trend is growing in comparison with the 2017 results (from 36% to 41%). This year, 32% of respondents indicated that they have more than two founders, which is slightly lower than last year's figure (39%).

How many founders does your startup have?

Source: Startup Poland



Why is it worth being a startup founder with a PhD?

We were interested this year once again in the relationship between higher education and the level of startup growth. Therefore, we checked whether CEOs with PhDs or postgraduate studies earned more for their startups. In terms of income regularity, startup founders with an education below a PhD are ahead of those with a higher degree (41% vs 33%). Scientists are significantly more interested in product development in the field of educational technologies, and they are leaders in the field of *analytics/research tools/business intelligence*.

Scientists are more likely to seek out funds from the Polish Agency for Enterprise Development or the National Centre for Research and Development programs. They also tend to take advantage of acceleration, helping them to take the lead in obtaining *pre-seed* financing (up to €125,000). They are also likely to be more agile negotiators. In investors' eyes, their solutions are more technologically developed because scientists are likelier to seek the highest financing rounds – those over €2.5 million (9% vs 5%). At the same time, they are more likely to patent their products (30% vs 20%). Due to their extensive contacts within the scientific industry, they are more likely to have their own laboratories and work more closely with universities and R&D centers. However, they do not stand out in terms of developing any deep tech. Scientists are less likely to employ staff. If they export, then they don't do things by halves – over 70% of sales are made abroad.

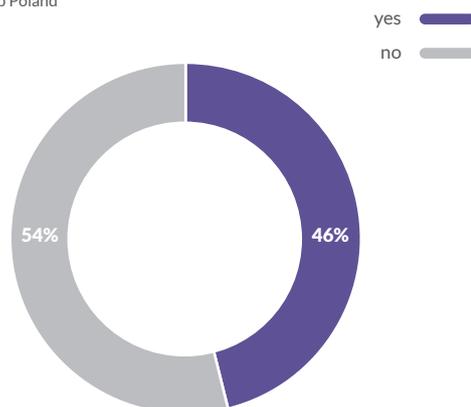
★ **18%** of startups surveyed **have a scientist among their founders**

Talented linguistically. Experienced in battle

We were intrigued this year by startup founders' international experience. We wondered whether a longer stay in a foreign country, studying abroad, or fluency in other languages might affect startups' success in seeking out new markets or building strong teams.

Have you lived abroad continuously for more than three months?

Source: Startup Poland



Of those who lived abroad for more than three months, 70% had worked there. Other responses show that, on average, one in five studied or traveled. Almost all of the respondents are confident at conducting business talks in at least one foreign language – we assume it is English – and 27% of startup founders know more than one foreign language. When we examined whether a founder's foreign experience had an influence on the startup's success, it turned out that there was no difference; locals have the same opportunities as jet-setters.



46% of respondents have **studied, worked, or lived abroad**

Being an engineer is not enough

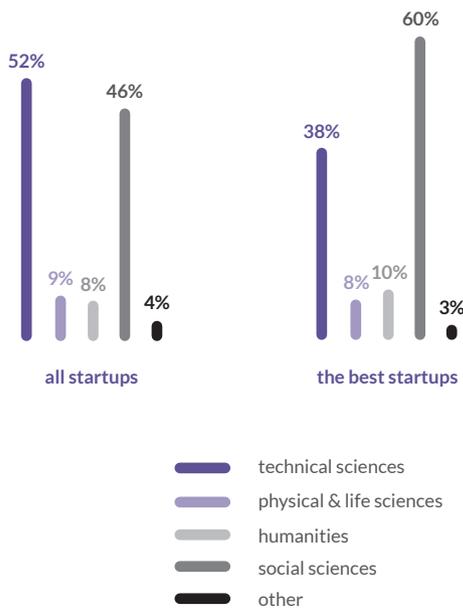
This year, we decided to check whether technical and engineering skills are required in order to build up a major technology startup. There is widespread belief that this is impossible, but our results contradict this assumption. Of course, this does not exclude the classic scenario (52% of all respondents) in which CEOs of startups have a technical specialist education (IT, electronics, and engineering). However, it turns out that in order to be successful in the IT industry and new technologies, studying the social sciences (economics, management, sociology, and law) is worth it.

In order to check what type of education takes startup founders to the top faster and more effectively, we compared the enterprises that achieve the highest revenues, track their growth, and acquire the most capital. It transpires that almost two-thirds of the fastest-developing startups are run by people with a background in the social sciences. Those with a technical education (38%) still have a large share, but the proportion is clearly different from the rest of the population.

Taking into account the above arguments and the data on the growing need for business knowledge among startups, it is clear that technical skills are not enough to build a successful enterprise (two-thirds of respondents mentioned that they felt the need to expand their knowledge in terms of marketing and management. We explore this in more detail in Chapter 4 – *Development*).

What subjects have CEOs studied at university?

Source: Startup Poland



☆ **60%** of the founders of the best startups have a degree **in the social sciences**

It’s not about money

Analogously to the previous year, almost one in two of the founders surveyed have extensive experience in running their own or family business. More than one in three former startup founders still hold shares in the company that they previously ran. Others (37%) attempted to start something on their own after working for a corporation.

We were intrigued this year by what attracted them to startups and led them to change their career paths.

In contrast to popular opinion, our research shows that money is definitely not the main motivating factor for startup founders. They are also not driven by their external environment, including their family, a factor characteristic of small business. This is surprising since, despite the widespread perception of a startup as a place to cultivate flexible working hours and achieve sought-after independence from the tyranny of bosses, these factors were of little importance to the respondents.

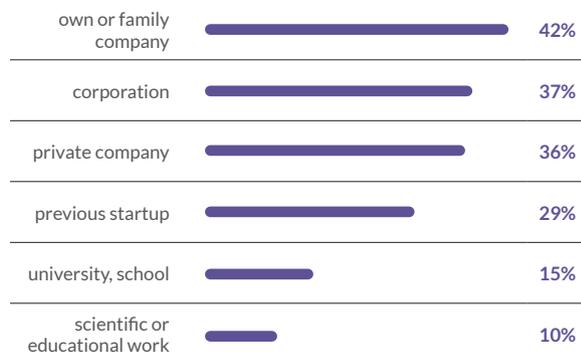
It can certainly be said that being a startup founder is the result of very personal, independent decisions. When analyzing the comments of startup founders, we noted two key themes: startups give respondents the opportunity to use their own competences and skills, and allow them to express their ‘I couldn’t leave it like that’ attitude by filling a market niche. Most respondents also say that the startup model seems to afford complete job satisfaction.

The respondents also highlighted satisfaction in running an organization with similarly motivated people,

the opportunity for continuous development and learning, and working with people they enjoy working with. There are interesting opinions that refer to the sense of agency that this type of organization gives them: "I believe that this is the way I can be most helpful, while making full use of my talents."

What did the founders do before creating their startup?

Source: Startup Poland



26% of startups include **a woman among their founders**

The ratio of women as startup founders has fallen, albeit slightly. It is worth taking a closer look at this trend, particularly in the context of the numerous initiatives aimed at counteracting the marginalization of women in the world of business and high tech.



EXPERT COMMENTARY

Wiktor Schmidt
CEO & Co-founder
Netguru

Netguru is an international company that designs and creates digital products for startups and corporations from all over the world.

” It is great to be able to take a look at the startup market in Poland from a broader perspective again. This kind of data helps us to learn and plan better in the future.

The first thing that is immediately striking when analyzing the results of the report is the fact that there are very few international employees working in Polish startups. More than 74% of innovative companies have no foreigners working in them. If Polish startups employ foreign nationals, then these people are mostly from Ukraine, Belarus, the United States, Great Britain, and Russia. It is clearly discernible that the scope here is relatively small. There is still a lot of ground to be made up before we can attract staff and build products which rely on global experiences.

Another interesting phenomenon is the considerable number of people (as many as 30% of respondents) who work in startups having previously worked in the sector before. What is also surprising is that as many as 38% of employees still hold shares in their previous startup, despite being currently engaged in a new project. Except for isolated cases (such as Elon Musk or Jack Dorsey), simultaneous engagement in

several projects is not very common but, as they say, exceptions prove the rule. Nor is it totally in line with the so-called startup philosophy – a philosophy that embraces full commitment to the project and doing whatever it takes to make it a success.

This may be due to the attitude of Polish investors, who are reluctant to accept defeat and tend to encourage the representatives of startups to keep going, long after any spectacular success is unlikely. It seems that you define the success of a startup in Poland somewhat differently than in the U.S. The rule of “go bigger or go home” does not apply. Both company founders and their investors are less aggressive in their approach.

What is also interesting is the fact that Polish startup companies sell the shares of existing companies, something that is rarely seen in Silicon Valley. Far commoner is a spectacular exit once the value of the company has reached its maximum while, in a less happy scenario, a startup will simply fold before that happens. Selling shares in a company that has not yet reached its value is an unusual practice.



EXPERT COMMENTARY

Bartosz Baziński

COO & Co-founder

SentiOne

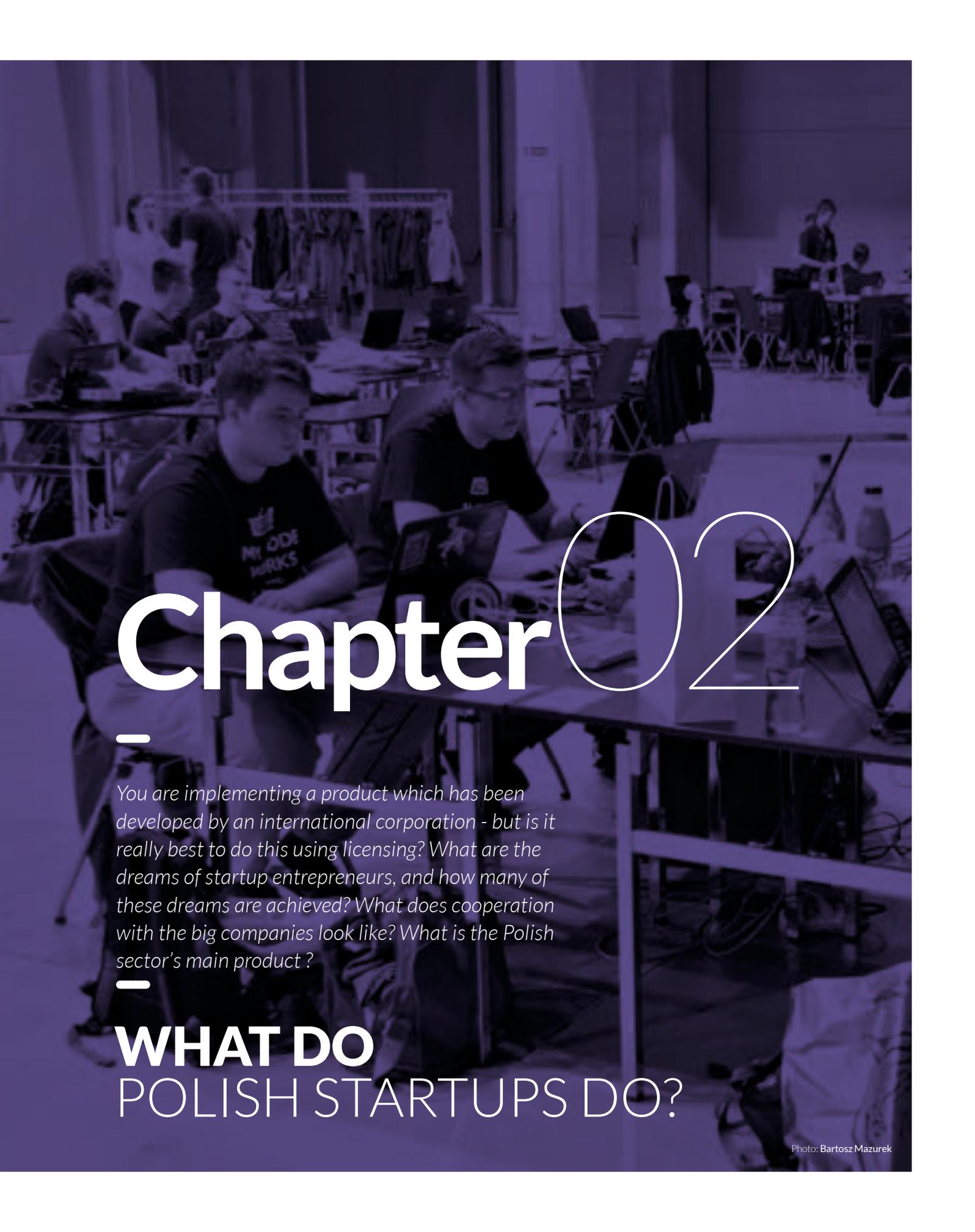
SentiOne is a company whose activity focuses on the internet industry. Its main product is SentiOne, a tool designed to monitor the internet and social media.

” I started SentiOne at the age of 23, and I surrounded myself with people who were roughly my age – employees and shareholders alike. At that time, the most important thing for all on board was the vision to develop a product that was completely different to anything available on the market back then. The word on everyone’s lips in the business was “innovation.”

As is usually the case, the beginning turned out to be difficult; part of the development team worked only from the perspective of finding an investor and getting paid in the future. But if I had to choose one factor to convince Generation Z to work at a company from day one, it would be precisely that vision of development and the acquisition of new skills as the product grows, despite initial obstacles. Another equally important incentive is the feeling of efficacy;

that is, the belief that one’s work will directly translate into the success (or failure) of the entire company. It is fairly easy to have this feeling in a startup, especially when you think that only a handful of people are involved in it in the beginning. A flat structure also allows for much faster growth than in corporations burdened by numerous procedures and hierarchies.

Over time, this approach does tend to change, especially among people who join a “fully fledged” company a little later. In addition to developing new skills, a startup’s very informal atmosphere turns out to be a key incentive. Frequent events and team-building trips, flexible working hours, the ability to work from home, perks such as fruit, drinks, and a space to relax – all of these benefits are practically considered standard in any modern company.



Chapter 02

—

You are implementing a product which has been developed by an international corporation - but is it really best to do this using licensing? What are the dreams of startup entrepreneurs, and how many of these dreams are achieved? What does cooperation with the big companies look like? What is the Polish sector's main product?

—

**WHAT DO
POLISH STARTUPS DO?**

WHAT DO POLISH STARTUPS DO?

Author: **Magdalena Beauchamp**

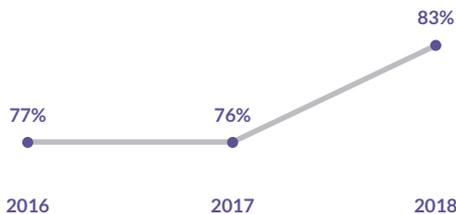
Startup entrepreneurs continue to feel the most confident in terms of big data analysis and the Internet of Things. They are both talented and pragmatic in these areas – they know that these are industries that will make them money. Machine learning has also quickly reached popular status. Startup founders have realized that it is best to sell to companies, particularly those that collect big data, and so they focus on them. The purely consumer model is losing popularity since B2B is a quicker and easier way of making money. CRM and martech technology development are the most profitable. 82% of respondents would like to cooperate with corporations, preferably taking advantage of their sales and distribution channels. However, this is not necessarily how corporations usually envisage their potential cooperation with startups.

We are definitely going into business!

Startups are becoming increasingly confident when selling to companies; 83% of respondents operate in the

Sales in the B2B model between 2016-2018

Source: Startup Poland



B2B model, compared with 76% in 2017 and 77% in 2016.

This sales channel works well for many reasons.

According to the data, higher earnings and faster growth are the most important benefits from sales in this model.

The sale of products and services solely to consumers (B2C) is trickier since more and more new product

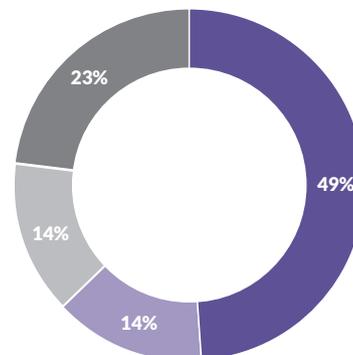
variations are coming onto the market – and these tend to tempt and distract attention away from existing options. Startups that focus solely on purely consumer-based channels may lose out, which is why there are fewer and fewer startups from year to year (a decrease from approximately 18% in 2016-2017 to 14% today). An indirect solution could be B2B2C, a business model that nearly one in four respondents (22%) have decided to pursue.

Respondents who sell only in the consumer market are much less likely to have regular earnings (36%). The reverse is true for B2B, where 44% have a regular income. However, if a business starts earning well in the B2C model, the growth rate and monthly revenues go head to head with B2B and reach a similar level.

★ **83%** of startups **sell products to companies**

Main business model

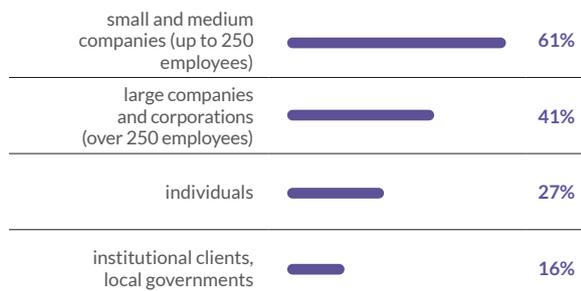
Source: Startup Poland



- only B2B
- only B2C
- B2B and B2C
- other

Main categories of paying customers

Source: Startup Poland

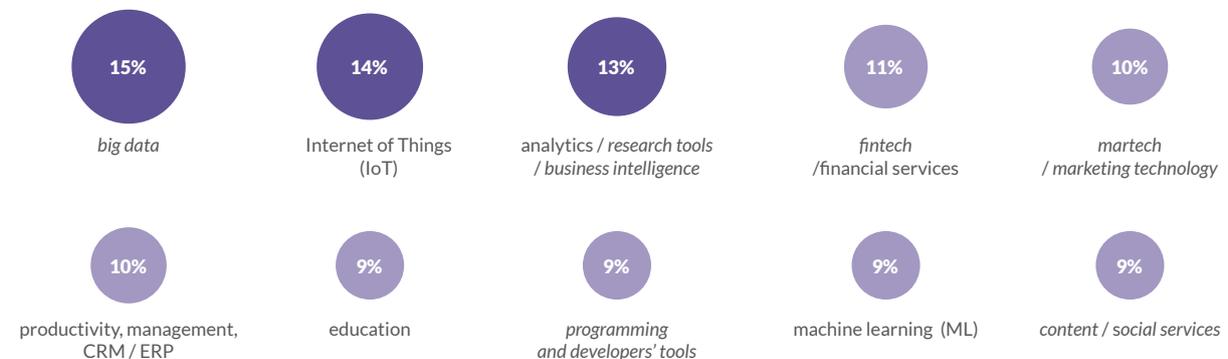


Big data, analytics, and IoT still remain the main specialties of Polish startups

The next three most popular industries among startups were fintech, marketing technologies, and productivity and management (CRM/ERP). An in-depth analysis shows a decreased interest in big data, analytics, and tools for programmers and developers (although the indicator still remains high).

Types of products sold (10 most popular)

Source: Startup Poland



Are regional specializations developing in Poland? We analysed data from voivodeships in which at least 20% of startups declare a specific nature of their service.

Warsaw, Kraków, Gdańsk, Wrocław, and Lublin deserve the title of *big data* centers. Białystok, where the gaming, entertainment, and e-sports industry is developing, is among the smaller startup cities and clusters. In turn, CRM/ERP and management tools are being intensively developed in Katowice, Białystok, and Kielce.

Analytics tend to be based in Warsaw, Wrocław, and Lublin while fintech leads the way in Poznań and Warsaw. IoT is mainly developed in Kraków and, to a much lesser extent, in Łódź and Rzeszów. There are surprising signs that Łódź has a new competitor as the capital of fashion and design: Opole, where our data shows that the development of these technologies reigns supreme!

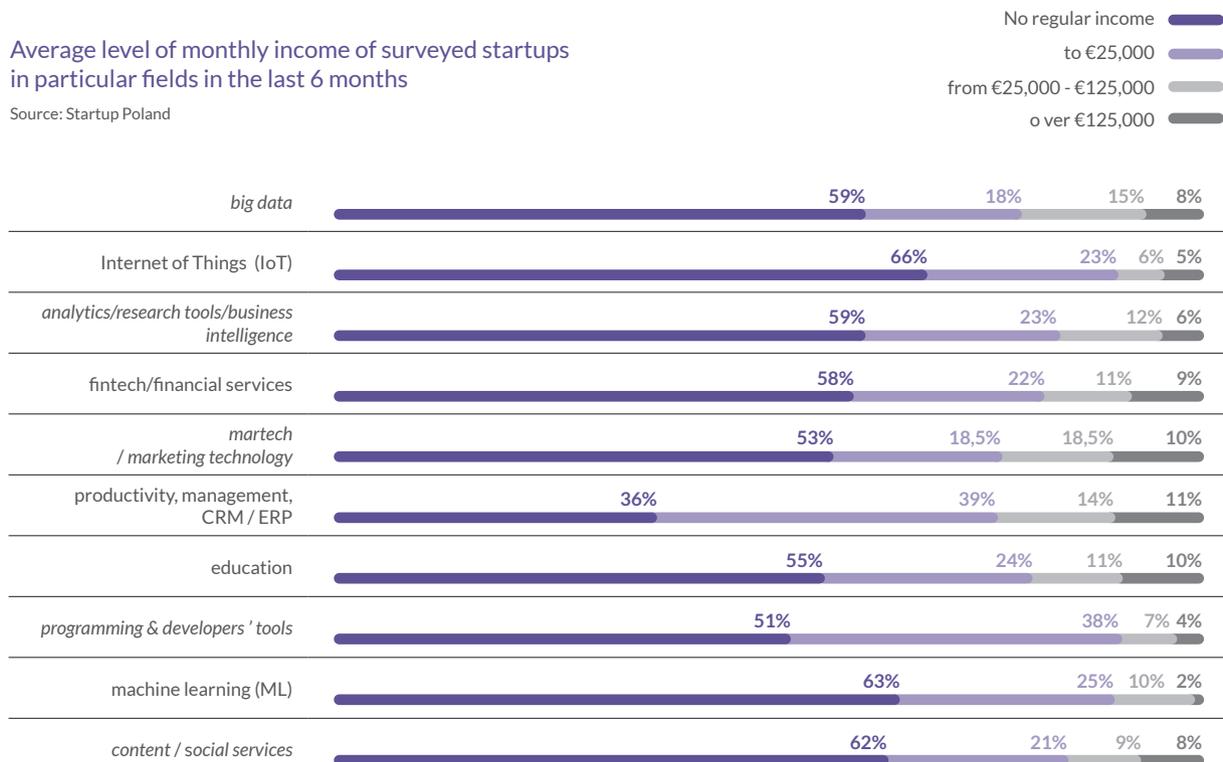
Regular revenues are most likely to be achieved by startups in the following industries: productivity/management tools and CRM/ERP, martech, education, tools for programmers and developers, *fintech* i *big data*.

Machine learning, a fast-moving market sector featuring our study for the first time, instantly joins the list of leading industries. After looking at the details, it is clear that machine learning has the greatest success in obtaining external financing. It is the only industry in which over

half of startups (55%) have found an investor or acquired public funds, overtaking other sectors in reaching for capital ranging from €750,000 to €2.5 million (13% of them receive such financing). In this category it has only one rival: martech (8%). On the other extreme is content and social services, the sector least relying on external funds (only one-third).

Average level of monthly income of surveyed startups in particular fields in the last 6 months

Source: Startup Poland



Cooperation between startups and corporations

The rapidly growing interest among Polish corporations in cooperating with startups over the last two years means we have been able to investigate more thoroughly what these relationships depend on and what type of activity is most attractive to young technology companies. Witnessing the strong position that large business holds in the portfolio of startup clients, we decided to take an even closer look.

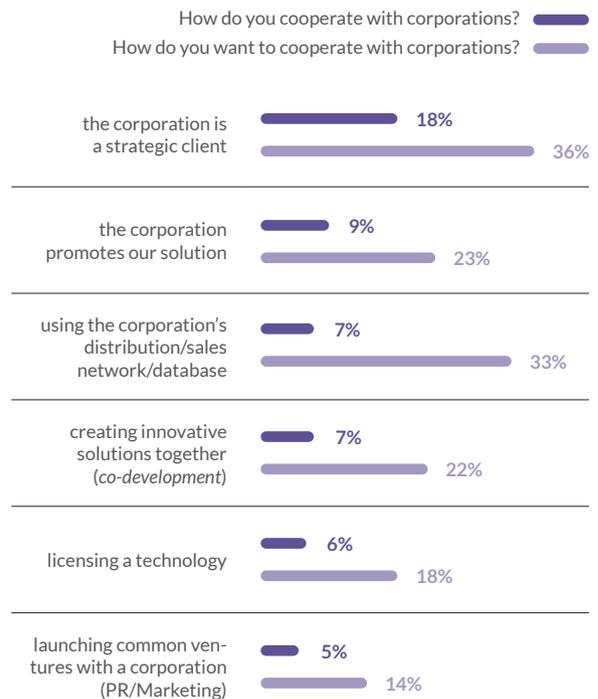
One in three startups already cooperates with corporations, and over half of these have big business as a strategic customer. One in three startup founders also use their relationship with corporations to promote their solutions, expand their distribution channels, jointly develop innovation, or license their technology. Only 5% of collaborators use their corporate partner’s research and development facilities. Acqui hire, i.e. buying startups with the purpose of taking over the team, is not practiced, while corporate investment in startups – for example, in the corporate venture capital model (CVC) or as strategic investor – is rare (less than 5% of cases).

This tells us something about the nature of these relationships but to see if they are actually desirable, we asked startups about how these relationships appear from their perspective. Interestingly, more startups than ever (one in two) would like to use the corporation’s distribution networks and customer base. In addition, one in three startups willing to cooperate with a large business sees value in both promoting their technology with the help of a corporate partner and undertaking joint efforts in developing innovations (*co-development*).

Polish or foreign corporations **4%** of the startups surveyed  have shares in only

The cooperation between startups and corporations: expectations and reality

Source: Startup Poland



 **82%** of those surveyed declared **that they would like to cooperate with a corporation**

Sense Monitoring and Poczta Polska

MARKET CASE



Przemysław Gałązka
CEO
SENSE Monitoring

The SENSE S-One platform is used to continuously monitor flat-roof structures and support the maintenance of large buildings.

” We met with Poczta Polska SA during Startups at the Palace competition where we presented our product – SENSE Monitoring – Smart Roofs. During the first conversation, we identified Poczta Polska’s problem – the ongoing supervision of their dispersed network of buildings. This is quite a common issue among retail chains and companies with production or warehouse buildings in different locations. In these types of buildings, it is difficult to determine whether atmospheric phenomena cause excessive wear on the structure, and technical inspections are conducted only twice a year which is definitely insufficient.

This is where our solution works best – it assesses the condition of the roof structure on an ongoing basis, comparing it with historical data and the weather forecast to alert the user in advance as to any possible risks or the need for servicing or repairs.

Poczta Polska has one of the largest property portfolios in Poland, and its various types of buildings include a network of large sorting plants. In the beginning, we installed the SENSE S-One system in a sorting plant with a roof area of 17,000m² next to Bydgoszcz. The installation was done on a rush basis so that it could be launched in the winter season.

This is an example of successful cooperation between a small startup and a large state treasury company. While a number of technical and economic factors contributed to our success, the commitment of the property management team is to be commended above all. We learned how to deal with a large entity in which each employee has a different scope of responsibilities and duties. We had to get used to gradually moving down the hierarchy chain until we finally reached the technical team specifically responsible for the maintenance of the building. This teaches humility – it is not enough to get the green light from management; you still have to pass through each level of verification and corporate policy.

We are currently considering installing SENSE Monitoring in other logistics buildings belonging to Poczta Polska in order to make it possible to manage flat-roof risk from its head office in Warsaw. Ultimately, the system will help reduce building maintenance costs and make the facilities safer for the millions of shipments and thousands of people working at Poczta Polska

IC Solutions and PKO Bank Polski

MARKET CASE



Przemysław Jesionowski

Managing partner

IC Solutions

IC Solutions, invisible computing (IC) – we create and implement IT projects that imperceptibly change the analog world into a digital one.

” Cooperation with PKO Bank Polski was a key milestone in our startup's development. What exactly was involved in our cooperation with this company? The digital pen technology we developed saves bank employees time, enables the complete reduction of paper consumption in back offices, and automatically introduces a fully electronic document flow. Advisors no longer need to scan signed forms or send them to the central archive, reducing archiving costs by up to 75%.

Of course, this partnership did not only benefit the bank. For startups, it is extremely important to gather market feedback. By using it skillfully, organizations can grow – particularly startups with products aimed at B2B cooperation and implementations related to large entities. We treated every tip offered by our corporate client as an incentive to grow, yet not every challenge was simple and obvious. Cooperation with PKO Bank Polski was an important lesson for our company and gave us the chance to tackle a serious project.

The IC Pen system covers key processes related to customer service and a company's document optimization. Such cooperation required extensive integration with domain-specific ICT systems of the given organization, and this was also an invaluable source of knowledge. For a company like ours,

it was also a great opportunity to check on and improve the efficiency of development teams.

Most importantly, it was crucial for us to learn to navigate and communicate with a large organization in order to successfully implement the project. Everything was done in a pleasant manner thanks to the Innovation Department, which helped us eliminate potential obstacles. Our partnership with PKO Bank Polski has shown us that it is worth taking on big challenges and not fear the potential risk of basic work style differences between the startup and the corporation. We have also learnt that giving up is not an option – one has to be patient with the pace at which the project progresses. Formalities and production matters take a lot of time; this should be taken into account when planning the work schedule.

In addition to these benefits, we see the exchange of experiences and the legitimization of our technology by a large organization as an enormous advantage. There is no greater development opportunity than testing a system on a living organism, and no better recommendation than the actual benefits generated for the client.

Scale Up: cooperation with corporations



EXPERT COMMENTARY

Jadwiga Lesisz
Acting CEO

Polish Agency for Enterprise Development

” I am delighted that Startup Poland has tackled a crucial area of startup development in this year's survey – cooperation with corporations.

Two key conclusions emerge from the data. Firstly, it is still necessary to stimulate startup cooperation with corporations. Secondly, it is crucial to focus on the effectiveness of this cooperation in order to bring the greatest benefits to both parties involved.

Before 2016, there were very few examples of successful cooperation between medium/large enterprises and startups. We lacked the awareness of the potential benefits, communication skills and the knowledge of how to reduce the specific risks associated with cooperation between such different

entities. But recently, we experienced a breakthrough. Thanks to the pilot program Scale Up, managed by the Polish Agency for Enterprise Development, all interested parties could become involved – startups, accelerators, and above all, corporations. We are convinced that the Scale Up program can promote a culture of open innovation between the seemingly distant worlds of startups and corporations.

Today, the task of the Polish Agency for Enterprise Development is to leverage this experience to stimulate the market and build a mature, effective corporate acceleration model in Poland. I hope that the effects of our work will be reflected in future research surveys and Startup Poland's report.

A new Scale Up

Acceleration programs (Activity 2.5 of OP SG)

Acceleration programs are the spiritual heirs of the pilot Scale Up program, welcomed by all parties. This instrument focuses on bringing startups closer to medium and large enterprises. In acceleration programs, startups can test their solutions in real market conditions. If successful, they can find a corporate partner. The program offers cooperation with medium and large enterprises as well as mentors, training, specialist consulting services, and a grant for developing and adapting the startup's solution to the needs of the corporate partner.

For more information on the program, visit the website:
<http://poir.parp.gov.pl/programy-akceleracyjne/programy-akceleracyjne>

€30 million

program budget

8-12

the number of accelerators to be selected in the Polish Agency for Enterprise Development's competition

400

anticipated number of accelerated startups

Elektro Scale Up

Center for the analysis and pilot projects of new inno_LAB instruments (Activity 2.4.1 of OP SG)

Elektro ScaleUp is a nationwide acceleration program aimed at increasing the supply of projects in the field of electromobility. It aims at gathering the entire electromobility sector in order to empower the development of new technologies in Poland. The pilot will result in the implementation and commercialization of electromobility technologies developed by startups in medium and large enterprises. Elektro ScaleUp offers an intensive mentoring program, a grant for developing and adapting solutions, and most importantly, it provides a direct networking link within companies interested in a startup solution implementation. Elektro ScaleUp accelerator will be selected in a competition held by the Polish Agency for Enterprise Development. The program itself is run by TechBrainers.

For more information on the program, please visit
<http://poir.parp.gov.pl/electroscaleup/electroscaleup>

€2.5 million

program budget

1

accelerator responsible for the program

30

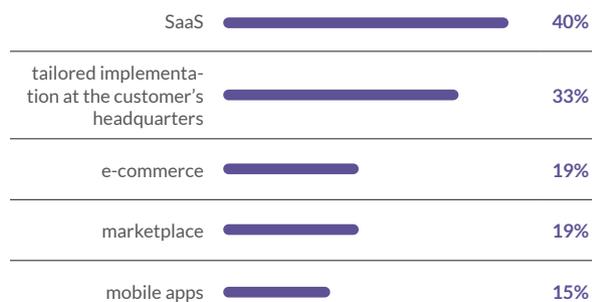
anticipated number of accelerated startups

What sales models do startups use?

It has become traditional for Polish startups to favor the SaaS model (*Software as a Service*) which, as it did last year, provides regular revenues at a level of 50%. The “tailored implementation at the customer’s headquarters” model is new – 37% of the startups that use it enjoy regular earnings. It is typically used by companies focusing on the Internet of Things (IoT), *analytics/research tools/business intelligence, and big data*. *Web services* have disappeared from this year’s leading sales models, making room for *mobile apps* and *the marketplace* which are gaining strength. The latter have caught up with *e-commerce*, which is as strong as usual.

The most popular sales models

Source: Startup Poland



Hardware: patience is a virtue

24% of respondents develop technology with hardware elements. Kraków reigns supreme as the undisputed capital of the Internet of Things (IoT). However, hardware developers are finding it more difficult to achieve regular income. Two-thirds of them have irregular or no earnings, while 44% of the software industry receive monthly revenues. However, hardware startups tend to be more patient; 50% of those achieving regular revenue have waited for it for at least 12 months since starting a business.

24% of respondents are developing  technology with hardware elements



Chapter 03

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Do startups really lead to an overflowing wallet and an expensive car? Where do Polish startups look for their money? Is client revenue sufficient for their needs? Should they consider an initial public offering, a crowdfunding platform, or perhaps an initial coin offering? And whatever happened to the legendary smart money from experienced venture capital investors, the pot of gold at the end of the rainbow sought by all would-be unicorns?

—

FINANCING

FINANCING

Author: **Julia Krysztofiak-Szopa**

“How much money has been pumped into Polish startups?” Ever since we started monitoring the Polish startup scene in our annual survey, this is the question we most frequently encounter. As a result, we finally decided to calculate the exact amount that Polish startups have received from venture capital investors, business angels, accelerators, and grants, both at home and abroad.

The Polish startups participating in the survey have received over €175 million in external funding to date¹. This translates into an average of €700,000 per startup, with external funding considered as having come from any source. However, the median funding figure of €188,000 reveals that we have a dozen or so startups in Poland with extremely high funding and many more receiving relatively small amounts.

Startups with over €2.5 million financing

In the Polish environment, a “very high financing” amount means over €2.5 million. However, fewer than 6% of the startups surveyed have managed to acquire such amounts to date.

The highest amount, a **record \$39 million**, was acquired by the Kraków startup Brainly in several rounds from the international investor market.

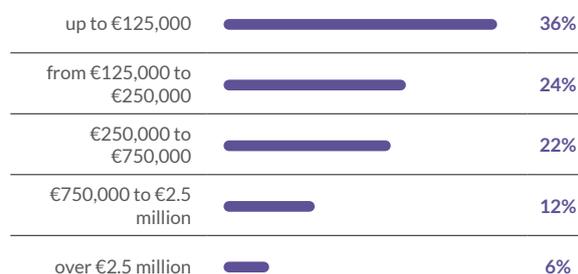
Kraków is the undisputed leader when it comes to effective fundraising, with 40% of those receiving over €2.5 million from Małopolska. Wrocław is in second place (with 30% of the best), while the rest are found in Warsaw and the Tri-City. Almost no technology companies from other regions managed to acquire over

€2.5 million. Kraków’s strong position in comparison with other major cities is mainly due to its effective mentors, investors, and organizations supporting startup ecosystems within the global flow of entrepreneurship.

Two-thirds of startups with external funding have gone through **only one round of financing** while only one in ten had three or more rounds. The distribution of amounts attracted per round remained virtually unchanged in comparison with last year. On average, two in five startups receiving additional investment attracted €125,000 at most. By comparison, the median figure for a seed round in Germany last year was €1.2 million².

What is the financing total from all rounds to date?

Source: Startup Poland

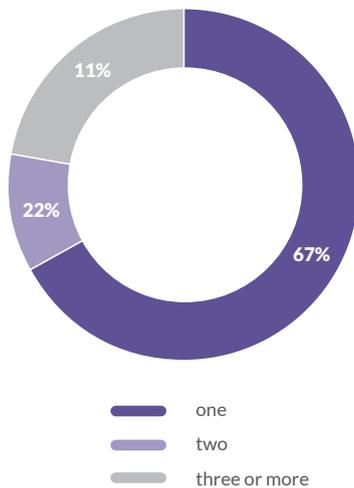


¹ This number only includes the 252 respondents who answered the optional question about the precise amount of capital they received.

² Annual European Venture Capital Report. 2017 edition, Dealroom, February 2018, <https://blog.dealroom.co/wp-content/uploads/2018/02/Dealroom-2017-vFINAL.pdf>, accessed on August 9, 2018.

How many funding rounds have you gone through so far?

Source: Startup Poland



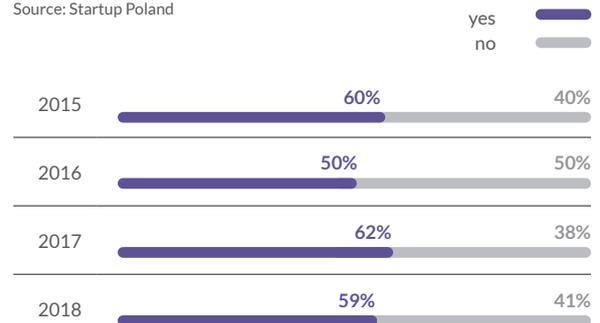
Bootstrapping remains unchanged

Since 2015, *bootstrapping* (financing startup activity using only your own capital and the 3Fs – friends, family, and fools) has fluctuated at approximately 50/50. This year's trend has returned to the level we saw three years

ago: 59% of startups have no external capital. Therefore, despite the growing activity of entities funding startups, the percentage of those who can count on such financing is not increasing. Should it increase, it would either mean that startups are of an increasingly higher quality and are more suitable for investment, or that investors are lowering their investment criteria. Neither of these scenarios actually occurs, however. Startups in Poland still represent a similar level of investment risk, and investors have not necessarily grown accustomed to it. Therefore, the best startups attract capital from all sources, while immature ones have difficulty in obtaining any at all.

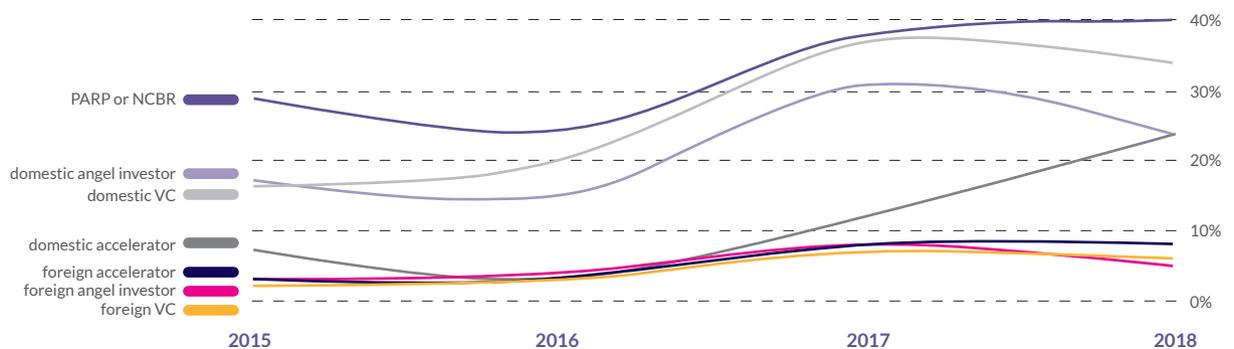
To date, have you financed a startup solely from your own funds?

Source: Startup Poland



Trends in acquired sources of startup funding

Source: Startup Poland





EXPERT COMMENTARY

Eliza Kruczkowska
Chief Innovation Officer
Polish Development Fund



” In 2018, the resources most needed for startups – in addition to money – are employees, networking contacts, and knowledge specialists culled from among experts and mentors. I have been observing Startup Poland's research ever since the first report was published and I have noticed that these needs never remain unchanged. **As a result, gaining investor financing does not guarantee success.**

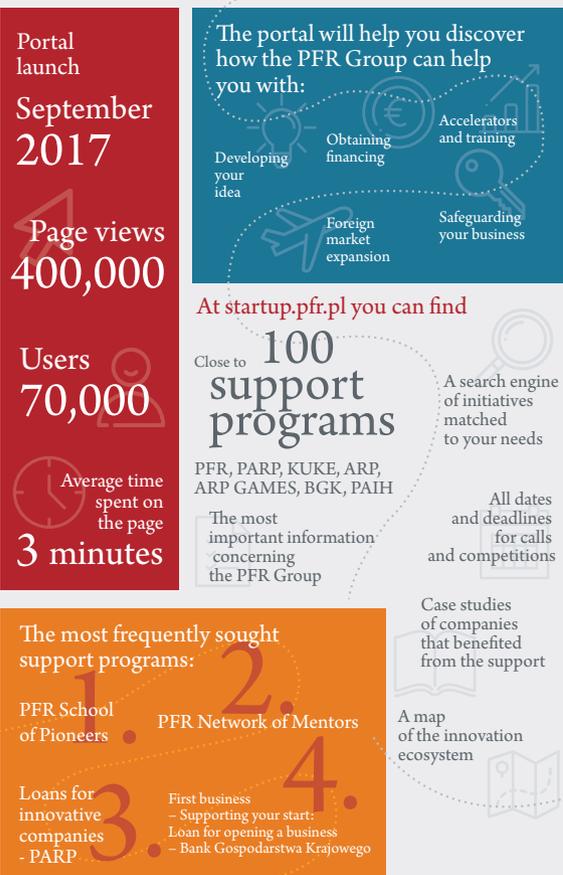
An injection of money may embolden some teams in their approach to spending and thus accelerate the development of a project. On the other hand, the same practice can lead to a business closure. Investment in knowledge is a kind of insurance against this negative outcome, and – as research results show – remains in high demand.

Therefore, in addition to signing more than ten contracts with VC funds, the Polish Development Fund has focused on creating programs that support the promotion and acquisition of professional knowledge specialists. We organized an experimental technological education program, the PFR School of Pioneers, attracting more than 300 people from all over Poland. By building the first PFR Expert Database and starting our first mentoring program – the PFR Network of Mentors – we have also enabled the exchange of experiences and business consulting.

In addition, we compiled nearly 100 support programs for innovators in a one-stop-shop online platform at startup.pfr.pl. These programs include consulting, training, and various acceleration programs. We have noticed – as the research results indicate – that startups need not only funding but support from experienced mentors who are able to share their practical knowledge and show how to develop business.

startup.pfr.pl

A platform showcasing PFR Group's offer for innovators, startups and companies in the SME sector who are looking for capital and support from public programs. From ideas through development to foreign export.



Development capital is cheap

Although an investment round from startup founders’ perspective traditionally means transferring some of the company’s shares to the investor, **one in three surveyed startups with external funding did not give up any of their shares in return for financing.** These are startups that used the non-repayable instruments of public institutions, grants, and bank loans.

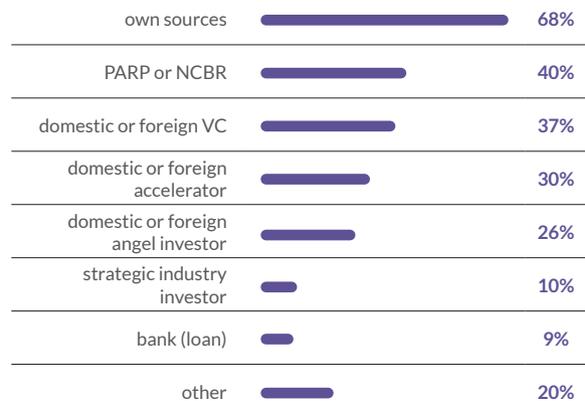
Accelerators are booming

Perhaps this is the reason why a strong upward trend has emerged over the last four years when it comes to the participation of public programs in financing startups. This applies to the Polish Agency for Enterprise Development (PARP), the National Centre for Research and Development (NCBR), and most of all to domestic accelerators, the bulk of which were created as a result of the *Scale Up* program launched by PAED in 2017. Its method of accelerating young enterprises relies on public-private partnership.

It seems that the investment motivation of private capital is fading, with fewer VC funds and angel investors choosing to add to their portfolios, even though VC is the source that most startups are counting on.

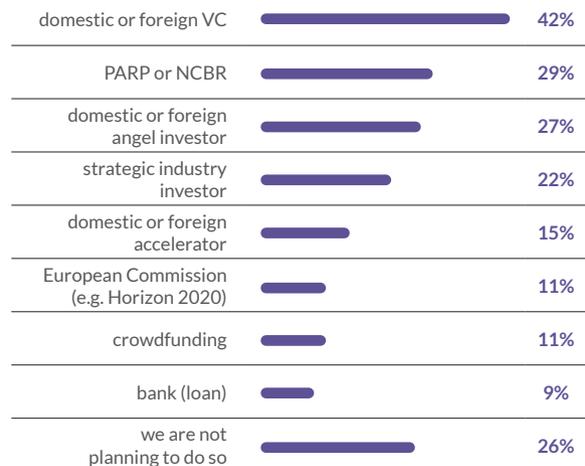
Sources of capital

Source: Startup Poland



External capital sources you would like to seek for in the next six months.

Source: Startup Poland



Startups have greater hopes in share-based crowdfunding and European Commission programs, such as the 2020 Horizon, than in previous years.

Beesfund

MARKET CASE



Arkadiusz Regiec

CEO

Beesfund

Beesfund is the first equity crowdfunding platform in Poland

” Equity crowdfunding is still a new means for startups and innovative companies to obtain funds. An investor community which is focused on crowdfunding platforms finances the development of companies and receives shares, stocks, or bonds in return. The fact that an investor can invest less than €25 in a startup is revolutionary since it basically means that everyone has access to this market. The mysteries of the financial world are fading away and the barriers to entry disappear.

In turn, in addition to raising capital, the young company is able to build a committed community that will continue to support it with the network of contacts and skills. In fact, it is this circle of people that becomes company's first customers.

The important thing is that equity crowdfunding is a source of readily available funding. Unlike with subsidies, the money is not „earmarked” and this means that it does not have to be spent on a specific goal. This form of financing can be obtained at every stage of a startup's development, irrespective of whether the business is opening up in Eastern Poland, Warsaw, or Szczecin. All that matters are the idea, the team, results, and determination. Whether we are able to convince investors or not is solely down to us.

The equity crowdfunding market across Europe was worth €8 billion in 2017. It is seeing the quickest growth in the United Kingdom where as many as 21% of all companies obtained funds through crowdfunding platforms. More than 20 companies in Poland have received a total of €4.25 million in funding and, until April 21st, 2018, a company could only raise €100,000 in open issues without requiring a prospectus which severely limited the development of our market. Fortunately, the legislature increased this limit to €1 million, a figure which should satisfy most startups.

Polish investors do not keep up with European trends

Unfortunately, the investment trends followed by Polish VCs, angel investors, accelerators, and public institutions are lagging behind those chosen by their European equivalents. The hottest sectors of European VC in 2017 were *deep tech*, *fintech* i *healthtech*³, startups, and the trend was reinforced in the first half of 2018⁴. In Poland, however, analytics and the Internet of Things still dominate, even though these sectors are increasingly of little interest to the top European funds. This translates into Polish funds backing industries at the seed stage that are not of interest to the European investment market. In the future, their portfolio companies will have difficulty with acquiring further rounds of financing.

The diversification of sectors in terms of the type of capital source is far from ideal: startups operating in analytics and *business intelligence*, the Internet of Things (IoT), and big data tend to find capital from all types of sources. However, whilst fintechs are the most sought-after by angel investors, this interest is not shared by VCs, accelerators, and state institutions, perhaps because they are in the early stages of development. On the other hand, accelerators clearly specialize in solutions for the industry, investing in a mix of IoT, *machine learning*, and *big data*.

Most popular sectors by financing source

Source: Startup Poland

	#1	#2	#3
VC funds in Poland	analytics	IoT	<i>big data</i>
business angels	<i>fintech</i>	productivity / CRM / ERP	<i>big data</i>
accelerators	IoT	machine learning	<i>big data</i>
Polish Agency for Enterprise Development and the National Centre for Research and Development	<i>big data</i>	IoT	analytics
VC funds in Europe (2017)	<i>deep tech</i>	<i>fintech</i>	<i>healthtech</i>

³ Ibid; ⁴ Monthly European Venture Capital report. July 2018, Dealroom, August 6, 2018, <https://blog.dealroom.co/wp-content/uploads/2018/08/Dealroom-July-Monthly-Report-vFINAL.pdf>, accessed on August 9, 2018.

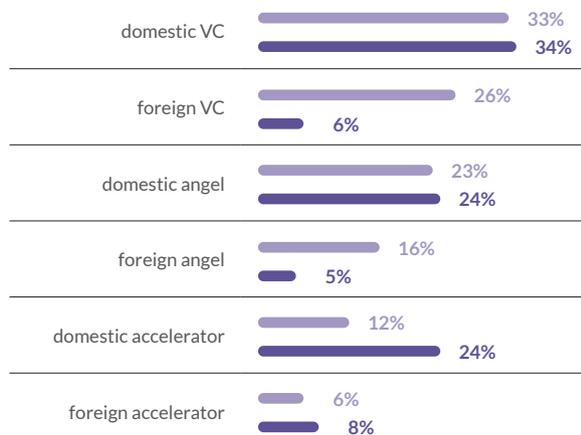
The unfulfilled dream of the foreign investor

The attractiveness of foreign sources of capital is unwavering and startups still willingly admit that they intend to acquire financing from a foreign VC fund or angel investor in the next six months. Naturally, these intentions do not always translate into actual success at the fundraising stage but in the case of foreign VCs and angels, the disproportion between such declarations and reality is staggering. Regardless of their dream, Polish startups often find them unfulfilled.

As a consolation, such startups are able to take advantage of the offers afforded by Polish accelerators. Although prior to 2017 there were only a few, today they are exceeding market expectations with the number of startups that acquired capital from accelerators doubling the last year's figure.

Intended sources of capital and actual ones

Source: Startup Poland



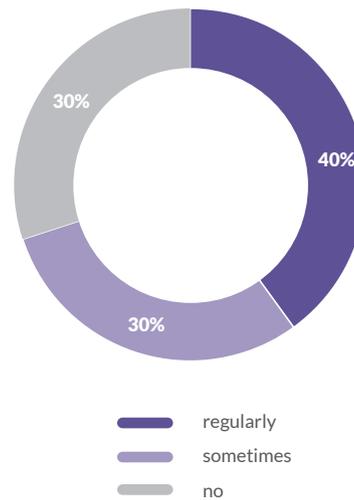
2017: the percentage of startups that intended to acquire funding from a given source within six months
 2018: the percentage of startups that gained capital from the given source

“Big revenues” in startups means something else

40% of respondents have regular revenues and 60% do not exceed revenues of €25,000 per month; when compared with last year, there has been no movement in this regard.

Are you currently generating revenue from the sale of your main product/service?

Source: Startup Poland





EXPERT COMMENTARY

Grzegorz Dąbrowski
CCB Poland Country
Business Head

Citi Handlowy

The average monthly revenue for the last six months

Source: Startup Poland



This time around, we also tried to see how “hungry” startups are for revenues and what they consider to be a highly satisfactory level of income. Therefore, in the research survey we offered startups to choose a response which could reflect their attitude of excitement to their earnings: “business is booming.”

It transpires that there is a correlation between those who think that their businesses are booming and achieving much higher revenues than the rest. Although almost half had not exceeded a monthly average of €50,000 (in the last six months), the vast majority declared that they were at the stage of *product-market fit*, or expansion and scaling.

Startups in this most-optimistic group receive significantly less funds from state institutions such as the Polish Agency for Enterprise Development and the National Centre for Research and Development. However, they are more likely than others to have a VC investor or angel investor on board. Over 90% of whose “business is booming” are employers, compared with 71% of the entire group of those earning an income. Furthermore, and impressive three-quarters of them are exporting.

Banks are paying closer attention to startups. The high growth dynamics and new opportunities central to startups are motivating banks to increase their competitiveness and make structural changes in the shift towards an agile model. As a result, banks are also becoming startups’ clients. One good example is our offer for companies operating on the internet. First we defined our biggest challenge, the issue of efficient revenue reconciliation. Next, we found a startup that built an automatic solution for us allowing us to settle payments „in the background” without the need to employ new staff to manage this process.



What about the actual funding of startups? I like to say that everything depends on the definition. Uber still calls itself a startup, even though it is a global company that earns billions. This is also the case for many of our e-commerce clients. But when it comes to financing startups as early stage, research analysis corresponds to market practice.

Fewer than 9% of startups chose banks as their source of funding, and this is not surprising. Bank financing should be sought for in good times when a company grows rather than during turbulent trial-and-error periods. This is beneficial for the business owners themselves; a loan at this stage of their companies’ development could become a ball and chain. It is also important in terms of the stability of the financial system.

Banking acceleration programs remain a key form of support for startups. For example, several years ago, Citi founded Innovation Lab (operating in Tel Aviv, Singapore, New York, and elsewhere) in order to develop new products. It later created an accelerator for startups with which it wanted to cooperate. Recently, it started its own venture capital fund to buy only minority shares. On the other hand, the Citi Handlowy Kronenberg Foundation and the Citi Foundation invest annually almost one million dollars in acceleration programs carried out in Poland supporting the development of innovative entrepreneurial ideas.

Brand24

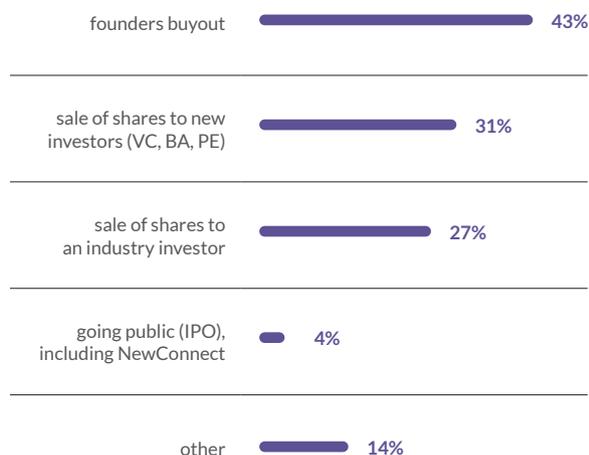
MARKET CASE

In Poland, one does not simply exit from investments

Exiting means leaving an investment – both in terms of investors and founders. It is such a rare phenomenon in Poland that its analysis is close to impossible. Only 8% of respondents stated that some shares in their companies had been monetized in the last year. The most common exits were founder buyouts, which mean, de facto, investors or partners leaving the investments. The number of stock market debuts can be counted on the fingers of one hand while no respondents admitted to issuing tokens via an ICO (*initial coin offering*).

Types of exits in the last 12 months

Source: Startup Poland



Michał Sadowski
CEO
Brand24

Brand24 is a professional internet and social media monitoring tool.

Since 2011, we have been preparing the company for a potential listing since going public is an important source of financing for foreign expansion.

”

We are allocating funds to expand our IT team, develop our technology, and increase the monthly budget for new client acquisition. The goal of these actions is to accelerate the growth rate of Brand24. We want to reach the crucial threshold of 5,000 active customers as soon as possible as this will lead us further down the road to a wider group of users from around the world.

We decided that this was a good time to conduct a small round. We calculated the customer acquisition cost (CAC) in great detail and compared it with the lifetime value (LTV). We brought our business to the stage where each euro spent on a customer brings in approximately 5 euros of revenue. Therefore, it was the perfect time to scale the business. However, because we are used to self-financing, the round was very small (under €900,000) and the new shares amounted to less than 5% of the company's value. The stock market is the ideal place for raising rounds that may not necessarily be attractive for VC funds expecting to get 10-20% equity.

AN OVERVIEW OF SELECTED **POLISH VC FUNDS**



Fidiasz EVC



Philosophy of the fund

The fund's mission is to support the best and most innovative Polish products and services, before launching them on international markets.

In order to succeed, two features must be combined: a vision and diligence. It is these two qualities that are epitomized by the creativity of Phidias – one of the greatest sculptors of the Classical Greek period. The combination of these two elements can also be applied in the 21st century

Managing partners



Krzysztof Domarecki
founder



Sławomir Borkowski
investment manager



Kamil Moczulski
associate



Czesław Domarecki
investment analyst

Assets under management

€50 million - private capital

Rounds

seed / A / B

Desired ticket size

€1-5 million

Investment focus

The fund specializes in the following industries: fintech, technologies related to industry, IoT, food and agrotech

The fund focuses on investing in projects and companies that have the potential to expand at least within Europe.

Portfolio companies

FinAI, www.fnai.pl

Investment exits

The fund has been in operation since 2017.

Contact us at

kdomarecki@fidiasz.com
sborkowski@fidiasz.com
cdomarecki@fidiasz.com
kmoczulski@fidiasz.com

Inovo VC



Philosophy of the fund

We believe that several of the companies created annually in Central and Eastern Europe will ultimately achieve a valuation of over \$1 billion and we will be their shareholders.

We want to invest in global technology companies with a high growth potential (at least 10x) and to support them on the road to mutual success after investment.

Managing partners



Michał
Rokosz



Maciej
Małysz



Tomasz
Swieboda

Assets under management

Fund 1:
€7.5 million (50% National Capital Fund, 50% individual investors).

Fund 2:
more than €25 million from Polish and foreign investors, including angel investors and experts associated with technological businesses (currently in progress).

Rounds

We prefer to participate in A and later rounds. These rounds range from \$1-4 million where Inovo can cover all or part of the round and we gladly co-invest. We intend to carry out two to three such investments annually.

Desired ticket size

A minimum of \$1 million in the first round and more in subsequent rounds.

Investment focus

Technology companies with an emphasis on SaaS (in particular for SMEs) and *marketplace*.

Portfolio companies

Booksy, Brand24, Sotrender, ECC Games, Restaumatic, PrimeOn, Funfotos, Gamfi

Investment exits

MyLed, Sugester, PV Polska

Contact us at

kontakt@inovo.vc

RST Ventures for Earth



Philosophy of the fund

We invest in innovative software and hardware solutions at the seed and startup stage.

The fund's main focus is the implementation of For Earth projects, which make a positive contribution to the natural environment and improve people's quality of life and work.

Managing partners



Tomasz Popów
general partner



Piotr Kłodnicki
general partner

Assets under management

Initial fund size - €7.5 million

Private capital - 21%

Public funds (Polish Development Fund) - 79%

Rounds

seed / startup / A

Desired ticket size

Up to €250,000 (seed/startup)

Up to €750,000 for selected projects at later stages of development (startup/A)

Investment focus

- Industries: projects related to software/hardware solutions in the field of Industry 4.0 and the Internet of Things (IoT)
- Business model: innovative industrial technologies in the B2B model

Portfolio companies

The fund is launching its activities. Currently, there are no portfolio companies.

Over the last three years, as part of independent activities, the management team has carried out a series of investments in startup projects in the fields of *e-commerce*, *SaaS*, and *advanced technologies*. For example:

- Carly.pl (B2C, car sales platform), carly.pl
- Sheetsu (B2B, SaaS, CMS system), sheetsu.com
- SmartLunch (B2B, platform/meal distribution), smartlunch.pl
- Thermic Shell (B2B, advanced composites), fire-fly.eu
- Zeccer (B2B, SaaS, network of distributed printers), zeccer.pl
- Renting Lock (B2C, smart door locks), rentinglock.pl

Contact us at

piotr@vfe.vc

tomek@vfe.vc

Tar Heel Capital Pathfinder



Philosophy of the fund

Tar Heel Capital Pathfinder (THC Pathfinder) is a group of venture capital funds that create, develop, and support promising technological projects in the fields of e-sport, IoT, big data, cloud computing, SaaS, data mining, AI, and marketplace.

THC Pathfinder invests between €25,000 - €1.25 million in pre-seed, seed, and A rounds. THC Pathfinder's capitalization is €25 million which is managed by a team with experience in the development of projects from the seed and growth phases to VC/PE and IPOs.

THC Pathfinder invests in the best companies and, thanks to a team of 300 professionals skilled in the development of global projects, creates its own technological solutions at the same time. THC Pathfinder's interdisciplinary teams also work on projects created with future partners.

Managing partners



Arkadiusz Seńko



Radosław Czyrko

Assets under management

€25 million – private capital
National Centre for Research and Development
PFR Ventures

Rounds

pre-seed, seed, A

Desired ticket size

PLN 0.1-6 million

Portfolio companies

GAMERHASH	www.gamerhash.com
interviewme	www.interviewme.pl
zety	www.zety.com
Plum Research	www.plumresearch.com
ShinyBox	www.shinybox.pl
shorte.st	www.shorte.st
UNIKRN	www.unikrn.com
VORTEX	www.vortex.gg
Woodpecker	www.woodpecker.co

Investment exits

adrino	www.adrino.pl
CHALLENGEME	www.challengeme.gg
TESLA	www.teslathemes.com
greedeals	www.greedeals.com

Contact us at

office@thcpathfinder.com

TDJ Pitango Ventures



Philosophy of the fund

We invest in the smart money formula. As part of collaboration, we offer entrepreneurs comprehensive support and access to practical knowledge in the fields of value creation and global scaling of companies. Thanks to the experience we have gained from investing in over 250 startups, we are able to effectively support teams of entrepreneurs at the strategic level and in operational challenges, as well as during the pursuit of obtaining further financing rounds and exiting.

Managing partners



Wojciech
Fedorowicz



Daniel
Star

Assets under management

\$55 million

Rounds

The fund is open to investments at all stages of startup development.

Investment focus

We are interested in innovative, technological startups with global potential.

We invest in startups operating primarily in the fields of *big data, artificial intelligence and machine learning, enterprise software & SaaS, mobile technologies and digital media, medical devices, and digital health.*

Portfolio companies

StethoMe, CallPage

Contact us at

kontakt@tdjpitango.com

Xevin VC



Philosophy of the fund

The basis of activities is multiplying the investment portfolio money and providing business support to young entrepreneurs. The management has worked on creating and co-creating business projects for almost 20 years, and for the last 10 years establishing VC funds from the holding company Xevin Investments. Having been active both in favorable economic conditions and in times of crisis, we secure the kind of tangible benefits that make us a desirable long-term partner.

The fund's vision is based on respect for entrepreneurs and their projects. The management and the private investors have been involved in startup projects for many years. We value honesty and partnership relations because they are the key to success.

Managing partners



Marek Rusiecki
CEO



Gwidon Humeniuk
CEO

Assets under management

PFR Ventures, private investor, managing partners, key personnel

Rounds

pre-seed, seed, follow up

Desired ticket size

€250,000 - €750,000

Investment focus

SaaS, marketplace, martech, fintech, AI, machine learning, adtech, edtech

Portfolio companies

Cube Group, Bez Okularów, Triverna, Restaumatic, Shoplo, Fluentbe, Sellbrite, Woo, Freshub, Preply, Unamo, SEMstorm, Feedink

Investment exits

Gadu Gadu, LeadR, IRC, AdRino, Red Sky, AdVice, Woodpecker, InterviewMe, Newzmate

Contact us at

gwidon@xevin.eu
marek@xevin.eu

A revolution on the Polish *venture capital* market



EXPERT COMMENTARY

Maciej Ćwikiewicz
Chairman of the Board
PFR Ventures

” As part of the Polish Development Fund Group, PFR Ventures has built a modern investment platform for venture capital funds in the last two years. The scale of these investments, the inclusion of new market segments, the introduction of new players, and the implementation of modern standards from developed markets demonstrate that we have initiated a revolution in the VC market in Poland.

Greater scale of action

PFR Ventures has €652 million at its disposal to be invested in the Polish VC market in 2018-2023. The National Capital Fund had €116 million in the previous investment landscape (2009-2017). Therefore, the availability of capital will increase approximately fivefold over the course of one year, securing good investment ideas from the dangers posed by a shortage of financing. The number of VC fund management teams will approximately triple, with PFR Ventures financing 60 of them, including a greater number of large and more effective investment teams.

New market segments

PFR Ventures will provide funding for two market segments that have suffered from a lack of capital in the past. The first is seed and pre-seed. The PFR Starter fund will invest in enterprises that have not yet started selling their products to clients. The second segment is large projects requiring over €3 million. PFR Ventures funds will enable the investment of up to approximately €9 million in a single startup.

Introduction of new players

International VC funds, business angels, and large corporations are new players which have been activated by PFR Ventures on the Polish VC market; they were not active on this market before. The KOFFI Fund has already attracted several international VC funds to Poland and they will be of immeasurable help in expanding into markets. The BizNest Fund has already activated approximately 40 business angels (ultimately, there will be over 100). On the other hand, the CVC Fund engages large companies as investors to help startups, sharing their experience and providing access to infrastructure and even laboratories.

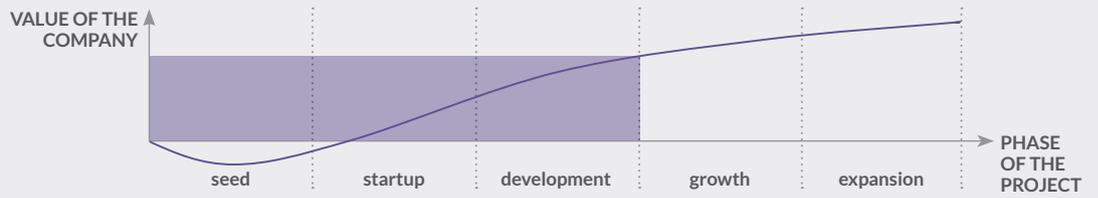
New standards

We are introducing new, professional standards to the Polish venture capital market. All of our projects are managed by independent investment teams. We appointed a Board of Investors to evaluate the activities of these teams and make decisions should any conflicts arise. Reporting and company valuation will be conducted in accordance with the best practices of IPEV/Invest Europe. We require our management teams to make significant contributions of their own – they must contribute some of their savings to each investment. The new standards reduce conflicts of interest and increase transparency and trust, both of which are crucial when investing in non-listed markets.

	FUND'S RESOURCES	FUND'S OBJECTIVE	NUMBER OF VC FUNDS
PFR Starter FIZ	€195 million	Financing VC funds investing in projects at the stage before their first commercial sale (70% of first investments) and encouraging the creation of new GPs	minimum 16 VC funds ▶
PFR Biznest FIZ	€64 million	Financing VC funds investing in projects at an early stage of development in co-investment with angel investors, and the construction, development, and activation of the Business Angels market	minimum 8 VC funds ▶
PFR Open Innovation FIZ	€105 million	Financing of VC funds investing in R&D works to implement them, and acceleration of already completed/acquired R&D works	minimum 5 VC funds ▶
PFR KOFFI FIZ	€81 million	Financing of VC funds (including international funds) investing in scaling and launching projects on the new market	minimum 5 VC funds ▶
PFR NCBR CVC FIZ	€218 million	Financing of VC funds investing in the scaling of technological projects	minimum 6 VC funds ▶

DEVELOPMENT PHASE OF PORTFOLIO COMPANY

▶ **PFR Starter FIZ**



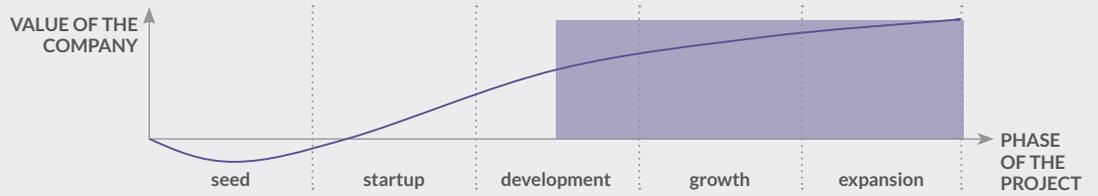
▶ **PFR Biznest FIZ**



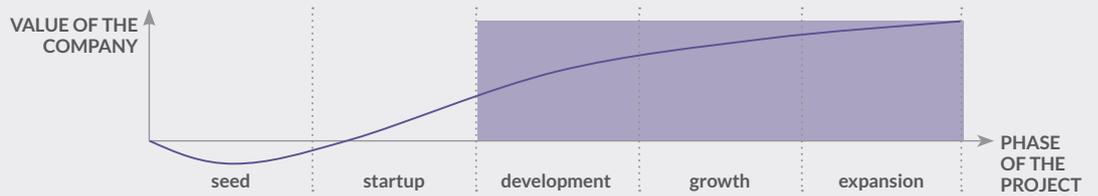
▶ **PFR Open Innovation FIZ**



▶ **PFR KOFFI FIZ**



▶ **PFR NCBR CVC FIZ**



FINANCING STRUCTURE OF VC FUNDS	FoF CONTRIBUTION	INVESTMENT TICKET
<p style="text-align: center;">VC FUND</p> <hr/> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%; text-align: center;"> <p>up to 80%</p> <p>PFR Starter FIZ</p> </div> <div style="width: 45%; text-align: center;"> <p>from 20%</p> <p>LPs + GP (including 1-20% from GP)</p> </div> </div>	<p>up to € 12,5 million</p>	<p>up to €750,000 / project 1st round up to €1 million</p>
<div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p style="text-align: center;">CO-INVESTMENT FUND</p> <hr/> <div style="text-align: center;"> <p>50%</p> <p>PFR Biznest FIZ + GP (including min. 2% from GP)</p> </div> </div> <div style="width: 45%;"> <p style="text-align: center;">ANGEL INVESTORS</p> <hr/> <div style="text-align: center;"> <p>from 50%</p> <p>LPs</p> </div> </div> </div>	<p>up to € 7,5 million</p>	<p>up to €1 million / investment project (together with follow-on)</p>
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="width: 30%;"> <p style="text-align: center;">VC FUND</p> <hr/> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%; text-align: center;"> <p>up to 60%</p> <p>PFR OI FIZ</p> </div> <div style="width: 45%; text-align: center;"> <p>from 40%</p> <p>LPs + GP (including 1-20% from GP)</p> </div> </div> </div> <div style="width: 30%; text-align: center; font-size: small;"> <p>OR</p> </div> <div style="width: 30%;"> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;">CO-INVESTMENT FUND</p> <hr/> <div style="text-align: center;"> <p>up to 60%</p> <p>PFR OI FIZ*</p> </div> </div> <div style="width: 45%;"> <p style="text-align: center;">PRIVATE CONTRIBUTION</p> <hr/> <div style="text-align: center;"> <p>from 40%</p> <p>CO-INVESTORS + GP*</p> </div> </div> </div> </div> </div>	<p>up to € 20 million</p>	<p>€1.25 - 15 million / investment project</p>
<p style="text-align: center;">VC FUND</p> <hr/> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%; text-align: center;"> <p>up to 50%</p> <p>PFR KOFFI FIZ</p> </div> <div style="width: 45%; text-align: center;"> <p>from 50%</p> <p>LPs + GP (including 1-20% from GP)</p> </div> </div>	<p>up to € 15 million</p>	<p>From €250,000 - €15 million / investment project</p>
<p style="text-align: center;">CORPORATE VC FUND</p> <hr/> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%; text-align: center;"> <p>up to 50%</p> <p>PFR NCBR CVC FIZ</p> </div> <div style="width: 45%; text-align: center;"> <p>from 50%</p> <p>LPs + GP (including 1-5% from GP)</p> </div> </div>	<p>up to € 40 million</p>	<p>up to €15 million / investment project</p>

* GP provides min. 3% (max. 20%) of the contribution at the co-investment fund level. These funds, together with co-investment funds, will constitute 40% of private funds in each investment (*deal-by-deal*).

Selected investments of *the National Capital Fund* (part of PFR Group) in startups

	Investment year	Fund	Company type
	2012	GPV I	<i>e-commerce</i>
	2015 2016	Inovo Venture Fund Nomad Fund	SaaS
BRAND24	2015	Inovo Venture Fund	<i>social listening</i>
	2017	bValue Unicorns	<i>web widget</i>
	2015	Innovation Nest	<i>industry 4.0</i>
 supermarket online	2012	Helix Ventures Partners	<i>e-commerce</i>
	2016	Experior Venture Fund	transport
SYNERISE	2013	Venture Capital Satus	<i>artificial intelligence</i>
	2012	Innovation Nest	<i>web design</i>
 ZENCARD Grupa PKO Banku Polskiego	2014 2015	SpeedUp Innovation Experior Venture Fund	<i>fintech</i>



Chapter 04

—

After a year – an investor. After two years – over 100 employees. After three years – the first foreign branches. How to manage a rapid growth? Do accelerators really speed up the business? Where to find good mentors? What does the Polish ecosystem have to offer?

—

DEVELOPMENT

DEVELOPMENT

Author: **Magdalena Beauchamp**

In 2016-2017, the low percentage of startups making market debuts with their ideas was especially alarming (problem-solution fit). If the shortage of new projects had continued, it would have posed a considerable threat to the entire ecosystem. It seems, however, that this has been averted by the power of pre-accelerators and acceleration programs launched in Poland in the last two years. This year has seen the number of startups forming idea assumptions and building teams from scratch reach 18% already, an extremely encouraging figure.

What knowledge is required by startups? Younger and lower-paid people want to learn marketing and management, while mature individuals prefer to spend their time on mentoring and startup meetups. For 58% of respondents, personal mentoring is, undoubtedly, the most important source of knowledge and the key to building an effective network. Acceleration helps those looking for strategic partnerships and who are keen to expand their circle of local contacts.

Stages of development and the ecosystem

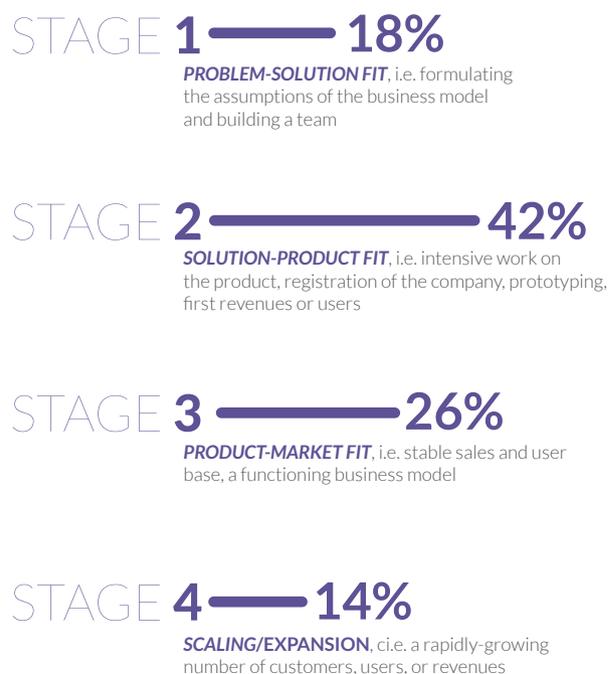
The concept of four development stages in a startup's life cycle can be used to evaluate the maturity of technology companies and to better improve the design support instruments required for each of these groups.

The first phase of concept or prototyping, while not profitable, builds the future value potential of the company. A startup must complete that phase to become a mature company. Working full time on a product, generating the first revenues and registering the company, i.e. further advanced work on the product, are the second stage of startup development. Fourteen percent of respondents have reached the global sales phase, a number consistent with the previous years' results.

60% of respondents are at the **problem-solution fit** or **solution-product fit** 

Structure of the number of startups at specific development stages

Source: Startup Poland



The joint-stock company in high demand

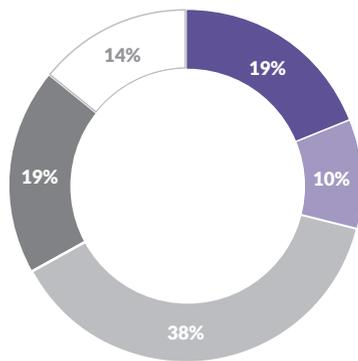
This year, only a few respondents have registered formally their company within a year from now. The majority have run their startup for approximately two years (38%). One-third have been doing so for over three years. Compared with last year, we observed an almost identical distribution of legal forms among the surveyed startups.

The choice of limited liability company remains in the lead among the most-preferred legal forms of startups

(68% in 2016 and 71% in 2017). We are particularly interested to see if this distribution pattern will change when the simple joint-stock form enters into force, and if this new legal form will gain the confidence of startups. One in three startup founders wants to transform into a simple joint-stock company once it becomes an option in the Polish law. At the same time, one-third of startup founders are not exactly sure what this new legal form will look like.

Date of company registration

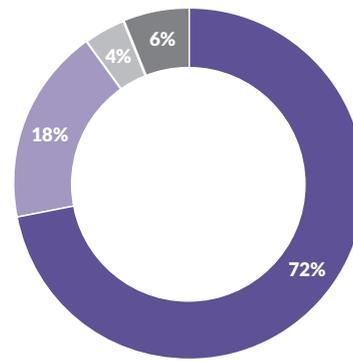
Source: Startup Poland



- not yet registered
- 2018
- 2016-2017
- 2014-2015
- 2013 and earlier

Legal form of registered startups

Source: Startup Poland



- limited liability company
- one-person business activity
- joint-stock company
- others

Mentors are the ones with the best piece of advice

Over half of the respondents (58%) specified mentoring as one of the key factors in the development of their startup to date. This is the highest score among all of the startup knowledge sources listed.

Neither technical nor social studies university curricula meet the needs of business knowledge and this is why the startup founders are increasingly looking to mentors – serial entrepreneurs, investors and professional trainers – for help. Thanks to these mentors, they gain **access to knowledge that is purely business focused and new networks of contacts.**

Technical science graduates and less-profitable startups (those in the early stages of development) are much more likely to place the need for knowledge about marketing, management, and sales at the top of their list of the most pressing needs. On the other hand, respondents who were at the first stage of development mainly listed legal knowledge as one of their basic needs.



Almost **2/3** of startups have received help from a mentor

Choose startup events wisely

Are startup competitions, hackathons, and meetups worth founders' time? Almost half of all startup founders think so – especially if they want to build new relationships in the industry. However, if they are expecting a tangible impact on business development, the choice of such events is of paramount importance. The greatest benefits come from smaller startup events such as Aula Polska, OpenReaktor, Hive, Startup Stage, and Startup Poland Camp. Participation in hackathons and startup weekends is less likely to translate into a discernible impact on the company's development. Startup competitions – both domestic and foreign – are even less important, although this is probably because one actually has to win the competition to get anything out of it.

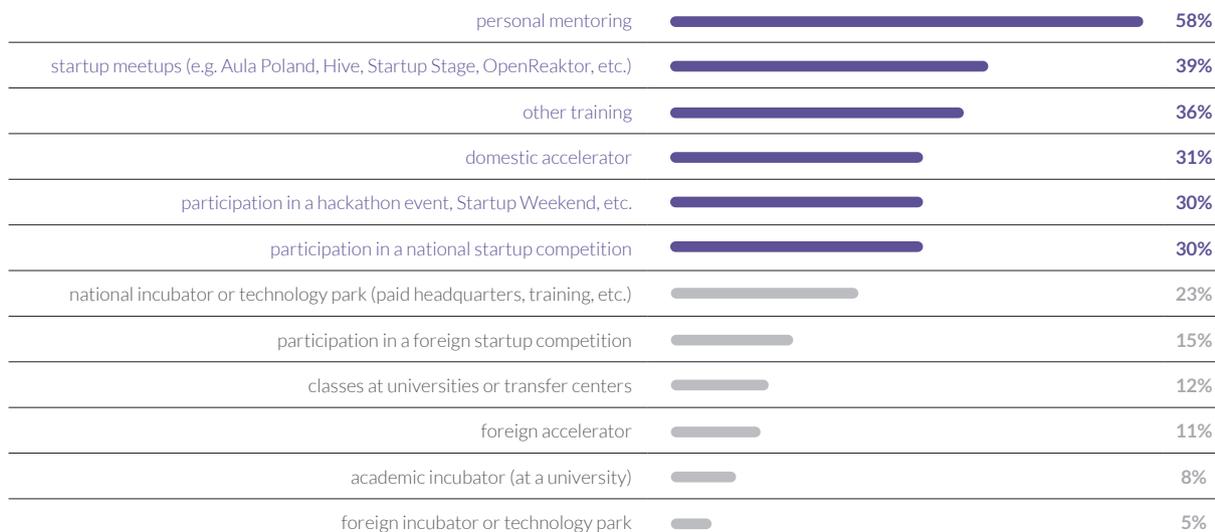


Photo: Oskar Staniszewski

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

great impact 
least important 

Source: Startup Poland



What kind of knowledge do you need the most?

Source: Startup Poland





EXPERT COMMENTARY

Wojciech Fedorowicz*Managing partner***TDJ Pitango Ventures**

” A good venture capital fund should give startups much more than just money. Enough money is obviously necessary to foster the intensive growth of startups; however, we often see companies that „burn through the entire round” within several months after the investment. They remain in a similar place operationally, but with no money. This usually happens as a result of a lack of experience or knowledge in specific areas, such as the scaling of companies and entering new markets, as well as the lack of a suitable network or access to talent.

At TDJ Pitango Ventures, we are well aware of this and that is why we focus on investing in areas that we know – and more importantly, we operate only in the smart money formula. We create added value by offering entrepreneurs access to unique know-how and network, working together

to increase the chances of startups’ global success. We focus on talented and effective entrepreneurs and their teams, supporting them in areas that let us bring the most value. Our business is in building companies. We think in the long term, and our goals are 100% in line with those of the founders of the startups. This relationship is of paramount importance to us. As we often say, we don’t invest in the company but in the team that’s behind it.

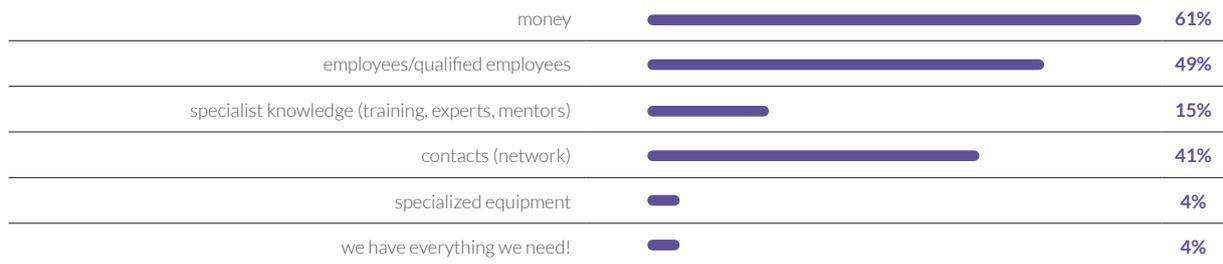
Twenty-five years of successful cooperation with technology startups in Israel has shown us that the greatest value we can give entrepreneurs comes from partnerships, helping to create effective strategies, founder mentoring, assistance in acquiring global talent, and organizing further financing rounds. At TDJ Pitango Ventures, this is exactly how we support the teams we invest in and how we define smart money.

Older startups need staff

Do the needs of startups at the later stages of development differ significantly from those of making their debut? Sixty-seven percent of respondents have identified their market and stabilized their sales on this market (the second and third stages of development). What happens to those who have passed the *pre-seed* stage and need the kinds of sums for development that they simply cannot raise from the Polish market? Since 85% of financing rounds from Polish venture capitalists range from €25,000 to €750,000¹ do companies that are further along in terms of development prefer to seek out knowledge and resources? At the expansion stage, startups mainly need qualified employees (70%) yet during the second and third phases, this number drops to approximately half. Exporters also need money to be happy, but far fewer startups selling abroad tend to identify this resource than those in earlier stages. On the other hand, this group regards personal mentoring and industry meetings as having a significant or moderate impact. Investing time in these two areas pays dividends. Experienced startup founders fill the gaps with specialized knowledge from mentors, increasing the chances of reaching future employees or meeting someone who can recommend them.

Which of the following resources do you need most at your current stage of development?

Source: Startup Poland



¹ The Golden Book of Venture Capital in Poland, Startup Poland, 2018

Acceleration is a step towards strategic partnerships

There is a widespread expectation that Polish acceleration programs will expand the available network of local contacts and create opportunities to build strategic partnerships with larger enterprises (this happens in one-third of cases).

On the other hand, personal mentoring is an effective training ground for the transfer of business knowledge, something clearly borne out by its popularity this year.

What benefits did you get from acceleration and mentoring?

Source: Startup Poland



Fasadio

MARKET CASE



Magdalena Sobczyńska
CEO
Fasadio

Fasadio connects façade designers with clients.

” When starting the ReaktorX acceleration program, I already had some knowledge in my industry, paying customers, and a vision of what the end product might look like. Our company operates in a niche of the construction industry – we connect architects with clients who are looking for a façade design and want to choose finishing materials or calculate the cost of a project involving external house finishes. Before joining the accelerator, we set some goals to work towards during the program. We sought to create a business model that would allow scaling, i.e. increasing the number of clients. What I wanted out of the accelerator above all else was people who are smarter than I am, who would give me valuable advice about my industry and join me in creating tools and developing the business.

I was not disappointed when I took part in the 10-week program. In addition to supporting the main team, I had the opportunity to meet Anna Walkowska, who is my mentor to this day. It is thanks to her help that we have been able to refine our business assumptions, create a new brand, and identify target groups and market needs. The ReaktorX participants were assisted by mentors – specialists in their fields who could be asked about any aspect of running a business, preferably one that was in his or her own domain. Of course, these relationships can be developed outside the program if

the mentor and the participant are willing to continue their collaboration.

Mentors sometimes include investors who may be interested in supporting a venture. Therefore, it pays to be well prepared for conversations with each mentor. In addition to the obvious benefits stemming directly from working on a project within the accelerator, it also helps build new relationships with fantastic people. That is how I came across Ideamotive, which is preparing a platform for us to facilitate customer contact, process automation, billing, and internal task assigning. The acceleration has allowed us to spread our wings and present ourselves to a wider audience. Since the end of the program, our team has added four people; we have developed two brands and expanded our group of clients and business partners. We participated in the ReaktorX Demo Night, during which the jury recognized our progress so far. We were invited to take part in the Warsaw edition of the Women's Startup Competition, where we received a special prize – a three-month lease at Mindspace Warsaw.



EXPERT COMMENTARY

Bartosz Józefowski

Manager

KPT ScaleUp

” The last two years have seen a boom in the number and scope of acceleration programs in Poland. Of course, this was influenced by the program for financing accelerators by the Polish Agency for Enterprise Development, part of the Scale Up instrument. It seems that financing is not everything. We have found ourselves at a stage of development in which acceleration programs are beginning to work. People have noticed the need to work with experts and mentors from within their business. When we were building the KPT ScaleUp acceleration program, I did not know whether relatively mature entrepreneurs would see the value in our program and be keen to embark on acceleration. This was neither a school of entrepreneurship nor a place for people with nothing but a startup idea since we required that the product be at an advanced stage. Fortunately, we were able to put together a group of entrepreneurs who appreciated the period of intense focus on their business and intense reflection on what we do, why we do it, and for whom.

There are so many entrepreneurs that are treading water in their business practice due to fixed industry rituals such as meetings, email, offers, and checking up on marketing. It frequently takes them a long time to notice that their business model is not working – to put it in colloquial terms, that the business will tank – or that a really interesting opportunity and market might be just around the corner.

I can happily confirm that other acceleration programs in Poland have also found their recipients, and the impact of these programs was certainly very significant at the startup level. I am also pleased that there are more and more regional programs for projects at the earlier stages of development. Such foundational work is often less exciting, but perhaps more essential than any other measures taken in this area. In my opinion, the ReaktorX program is worth its weight in gold and I would like to see more projects like it.

In this context, the results of the study are very clear. Most entrepreneurs mentioned money, employees, and connections first when asked about the resources they need. Yet when evaluating acceleration programs, they highlighted the great value of transferred knowledge and business experience. This means they realize that their key process is to figure out the customer and the market, and that product development should be based on this understanding. Therefore, dear entrepreneurs, please pause for a moment and consider your whole business. Check all of your assumptions and calculations. Ask people from the outside to do the same for you – but this time critically. Sometimes, it is better to pause for a moment than to run fast in the wrong direction. Ask others how they did it. If you can get somewhere by train, it is not worth riding a bike. In my opinion, this is the role of accelerators. So, please apply...

 **PFR Fundacja**

Agata Nałęcz
Chairman of the Board
PFR Foundation

” The PFR Foundation aims to fill social gaps. To succeed, we conduct long-term projects in the fields of education, innovation, culture, and art. Using expert knowledge, experience, and modern technologies, we implement valuable and ambitious initiatives. We develop original training, mentoring, and internship programs, strengthening the transfer of knowledge between the large business environment and young companies.

The PFR Foundation supports the PFR School of Pioneers and PFR Mentor Network programs. These were created in response to the problems of young people who have innovative ideas but do not know how to implement them

effectively. They help develop talent, preparing bold projects and setting out plans for how to launch them. Program participants gain key business skills, technological know-how in selected sectors, the ability to think in a pro-social way, and the chance to build international cooperation networks.

In this way, we are bridging the Polish innovation ecosystem by creating and inspiring future creators and pioneers. We support Polish startups in the development of selected skills, believing that giving individuals and local communities the impulse and strength for growth will actively shape our environment.

Economic Accelerator



The *Economic Accelerator* is a new program from the organizer of the Economic Forum in Krynica, which for 28 years has run the largest business and political conference in Central and Eastern Europe. The Economic Accelerator’s mission is to build a place of dialogue for representatives of big business, experts, government administration, and startups.

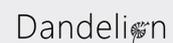
The Economic Accelerator’s main activity is coordinating the Startup Session tracks at all conferences organized by the Institute for Eastern Studies. During these events, entrepreneurs compete for prizes awarded by the Expert Committee and the audience. The competition jury includes representatives of corporations, investment funds, and the startup ecosystem. Winners are invited to participate in the Startup Session Elite at the Economic Forum.

We invite specific startup groups to these conferences organized by the Institute for Eastern Studies:

- **Industry Forum** – startups that operate in the B2B model and make hardware
- **Europe-Ukraine Forum** – startups from the CEE region
- **European Congress of Local Governments** – startups that operate in the B2G model and offer their solutions to cities
- **Investment Forum** – an event targeted solely at startups and investors. The Startup Award competition is held during the conference and the main prize is €25,000 for the winning project
- **Economic Forum (Startup Session Elite)** – the best startups selected at previous conferences.



Winners of the Startup Session tracks of the Economic Accelerator



For more information, please visit www.economicaccelerator.pl



EXPERT COMMENTARY

Aleksandra Baka*Initiator and coordinator***Economic Accelerator**

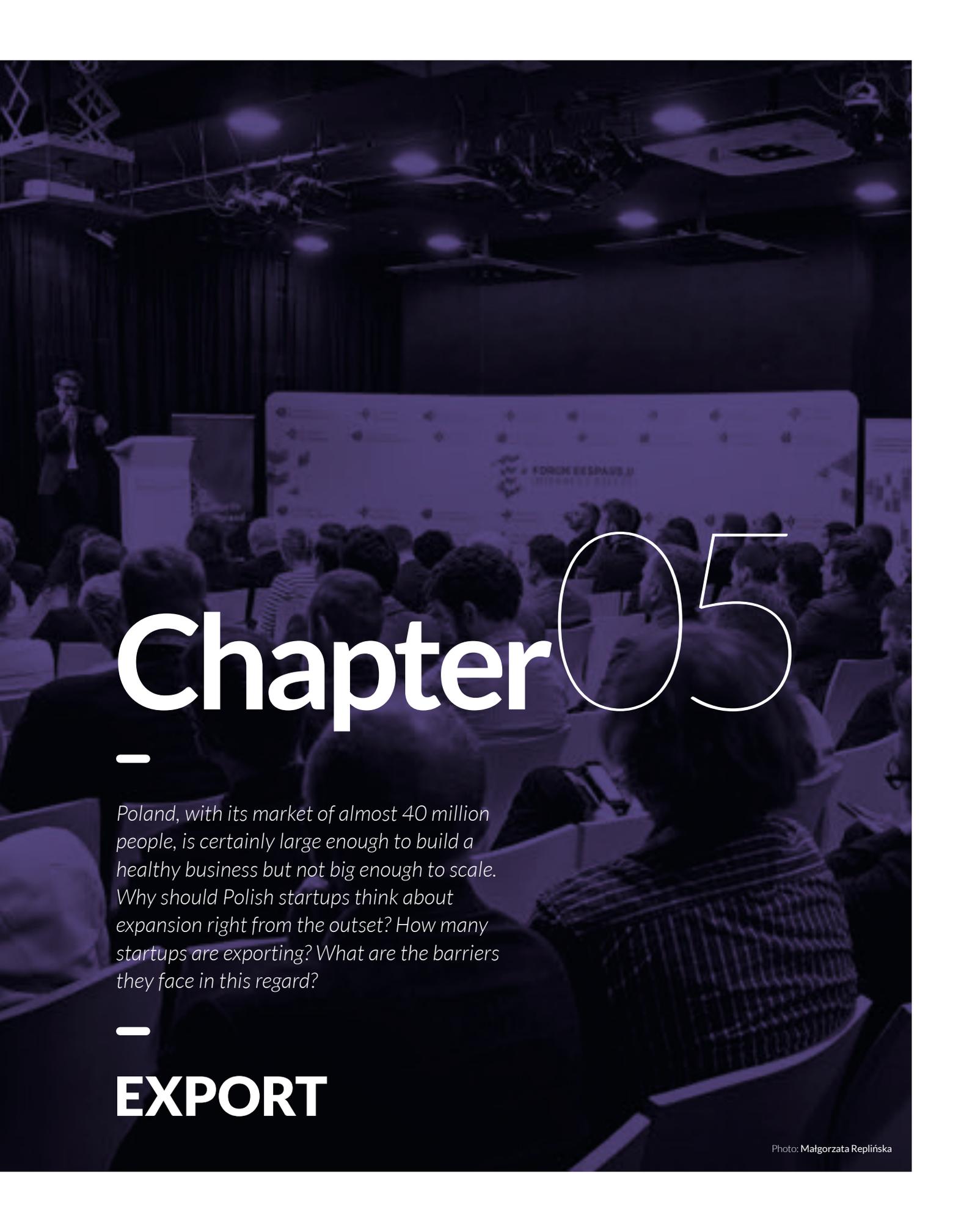
” For almost 30 years, the Economic Forum in Krynica has brought together the leading representatives of business, science, and politics for a three-day conference. Here, at the event which is sometimes called the “Polish Davos,” many strategic decisions and arrangements involving the economy and the state are made. As the organizers of this event, we are aware of the changes and challenges posed by the transition to Economy 4.0. As a result, we are devoting more space to discussions and events related to new technologies, innovations, and startups every year.

As part of the Economic Accelerator, we organized the Startup Session Elite track in Krynica this year. It was an opportunity for the best startups to participate in discussion panels, present their ideas to the Expert Committee, showcase their offers in the Economic Accelerator Zone on a boardwalk in Krynica, and establish many contacts with conference guests. As part of Startup Session Elite, discussions about startups were also held.

This year's Startup Session Elite is a continuation of last year's startup track in Krynica. Thirteen projects were presented then, with the keynote speaker being Saul Singer, an Israeli journalist, writer, and co-author of the popular book *Start-up Nation: The Story of Israel's Economic Miracle*.

We can confirm that startups are interested in the valuable relationships that can be forged during the Economic Forum by the number of projects submitted to the Startup Award competition. This program, held as part of the Investment Forum in Tarnów, constitutes a ticket to Krynica and the number of entries has doubled since 2016.

In an effort to promote the startup environment during the Economic Forum, the Economic Accelerator became a strategic partner of the **Polish Startups 2018 Report**. The publication was presented and distributed to the conference's 4,000 guests.



Chapter 05

Poland, with its market of almost 40 million people, is certainly large enough to build a healthy business but not big enough to scale. Why should Polish startups think about expansion right from the outset? How many startups are exporting? What are the barriers they face in this regard?

EXPORT

EXPORT

Author: **Agnieszka Skala, PhD**

One in two Polish startups opt to sell services or products abroad, a very strong proportion compared with the average Polish enterprise. According to data from the Central Statistical Office¹, only 5% of small- and medium-sized enterprises export goods, while just 1% export services. Although there are more microfirms (businesses with up to 10 employees) in the sector than companies of other sizes, they are the least likely to acquire foreign clients. Yet startups are similar to larger enterprises (over 250 employees) in terms of their economic activity.

While startups are increasingly able to use public export programs or Polish Investment and Trade Agency support programs around the world, we are seeing a small but consistent downward trend: from year to year, startups are becoming less willing to export.

Exporters earn more



46% of startups export

The results of our four-year studies leave no room for doubt that export is the best way to succeed.

Exporters earn more and do so more quickly. They employ larger numbers of people, and receive higher amounts of funding from investors, mainly VC funds.

Income structure among exporters and non-exporters

Source: Startup Poland



They need employees, not money

Mature startups with regular incomes and significantly higher employment are the ones that export. Deep tech, mobile apps, and social media companies are more likely to sell abroad. Exporters need funds far less frequently than is the case with other startups, but they are more likely to need employees (particularly programmers). Eighty-five percent of exporters employ people, and one in three has foreigners among their employees.

Interestingly, exporters are not any more likely to seek external funding than other startups (45%), but they raise significantly higher amounts of financing.

Differences in the characteristics of exporters and non-exporters

Source: Startup Poland



¹ Report on the state of the sector of small and medium enterprises in Poland, PARP, 2017. https://www.parp.gov.pl/images/PARP_publications/pdf/raport%20o%20stanie%20sektora%20msp%20w%20polsce_2017.pdf, accessed on August 14, 2018.

They do not think globally from the outset

Anyone monitoring our results since 2015 may have noticed a slight downward trend in the share of exporters within the total number of startups. However, this does not mean that exports have dropped in popularity; it is the result of the high number of young startups in our study. This is confirmed by the answer to the question concerning reasons for not exporting. Half of the non-exporters say they are not looking abroad because they are too early in the development stage and/or have an unfinished product. Meanwhile, 60% of exporters believe that they are advanced in their development, while 75% of non-exporters say that they are in the early stages

Percentage of exporters in the Polish Startups survey

Source: Startup Poland



A popular reason for not engaging in exports is still the „willingness to check first how the business goes locally.” This – as we know – may lead to a business becoming trapped in the Polish market, especially since only one in eight non-exporting startups claim that their product can be sold only in Poland. One in two exporters sells abroad right from the first day of their operations. This is a high indicator but, at the same time, it means that the majority of startups still set out to conquer Poland before taking on foreign markets.

We have concluded that in order to increase the popularity of exports among startups, we must first of all overcome mental barriers, such as the belief that only success in Poland will lead to success in other countries. Perhaps it would be worth placing more emphasis on this in acceleration programs aimed at new startups.

85% exporting startups are employing



Quotiss

MARKET CASE



Marcin Zarzecki
CEO
Quotiss

Quotiss makes software for logistics companies in the SaaS model.

” *Ninety Percent of Everything is a book by Rose George, the British author and journalist. Her claim is that 90% of what we consume has either been shipped on a cargo vessel or contains an element that has. Among those vessels, the largest group are container ships.*

Container transport generates around \$500B in turnover yet, despite its relative size, the sector is definitely at the beginning of its digital transformation. Excel spreadsheets still dominate, along with handwritten messages which are subsequently copied into emails. I know what I'm talking about because for 13 years I worked for Maersk Line in Poland, Belgium, Russia, and even Kenya. Maersk is the largest container ship owner in the world.

Quotiss develops software for logistics companies that deal with container freight. It is a global activity, and when we founded our startup, we planned international sales in the SaaS model from the get-go. After obtaining several clients in Poland, we signed contracts with logistics companies in China, Romania, Hong Kong, and Lithuania.

When it comes to benefits from exporting services, I would break them down into three categories:

- **200× larger market.** *The sector is so huge that even the Polish market is attractive – but it is only 0.5% of*

the entire world market. Exporting our services is thus a natural strategy for us.

- **More significant credibility from the point of view of new clients (as well as investors).** *Opinions about the product and the company matter in every sector. Obtaining international customers makes it easier to negotiate with new enterprises. We have also been able to attract the interest of a few branch portals which has further boosted our credibility. The international profile of your business is certainly seen as a positive by investors. We haven't yet sought venture capital financing, but working with foreign clients always leaves a good impression on investors, even during informal talks.*
- **Psychological factor and stronger motivation to act.** *We are very happy at Quotiss that we were able to get foreign B2B clients to trust us, especially since our sector is rather hermetic and not very keen on innovation.*

Of course, there are two sides to every story. Difficulties and complications are implicit when you export, especially since many markets have their own unique local character. However, unless your startup functions in a typically Polish niche (such as online reservations of windbreakers on Baltic beaches), it definitely makes sense to think about international sales from the very beginning.

Brainly

MARKET CASE



Jakub Piwnik
 Communications Manager
 —
 Brainly

” Brainly is currently the world’s largest learning platform for students, parents, and teachers. Every month, it is accessed by more than 100 million users. Brainly serves young people attending the best schools in New York City as well as those in struggling communities lacking access to education, such as in the jungles of South America or Asia. However, the project actually originated in Kraków. In 2009, three friends came up with the idea of creating a space where students could help each other with school problems. Their initial ambitions did not go beyond Poland, and it was the Polish market on which their work was focused. Initially they even decided on a local Polish name for the portal, which could not work outside of Poland. The reasons for this were obvious enough: local business reconnaissance, limited budget, the team, and the know-how and network of contacts abroad.

But everything changed in less than a year as the portal began attracting over 1 million unique visitors per month. This was a clear sign that the project needed to be expanded and this was where a dilemma emerged: was it better to strengthen the company’s position in Poland and start monetizing, or take a chance and cross borders? Brainly decided to test the theory that students and parents in every corner of the globe are faced with similar problems, and, more importantly, they would be happy to help each other solve them. The stakes were high: the world has more than 1.2 billion students who

may need such assistance. Thanks to our decision to go global, Russian-speaking users were able to use Brainly as early as 2010, and they were joined by peers from more than 35 countries over the next few years.

Certainly today no one questions whether it was a good business decision. The potential in 2010 in Poland and the current potential of the platform is like the difference between night and day. The history of the Brainly community’s growth around the world shows that solving an accurately defined problem for a specific group absolutely can be scaled. The philosophy of product development at Brainly has always been “students first.” This meant that, contrary to market trends, everything was optimized with students and their needs in mind, and not the sale of technology to schools, teachers, or parents. The goal was simple: to create an educational product that students will love and want to use. As it turns out, all the other groups eventually also found their place in the service.

Europe is becoming more attractive to exporters

80% of exporters surveyed achieve their highest earnings on US and EU markets but the proportion between the two is clearly changing. The number of startups selling to EU countries is growing, while the number of exporters to the USA is not. 40% of European exporters listed Germany or Great Britain as their largest sales markets.

In which area do you have the highest earnings?

Source: Startup Poland

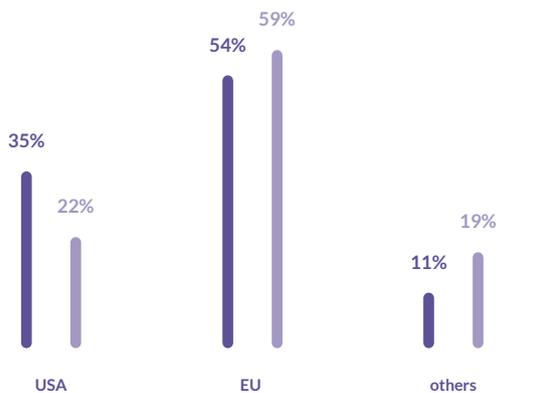


Photo: Maciej Boksa

★ **1 in 5** exporters has an office in a **foreign country**



EXPERT COMMENTARY

Bartosz Olchówka
Chief Product Officer
LiveChat

LiveChat Software creates software used for text communication between users visiting a website and its owner, and it also offers analytic functions. Currently, more than 25,000 companies from 150 countries around the globe use this product

” *From the moment we began to offer our product using a SaaS model, we had American customers in mind. Thus our next steps were in line with this global thinking – inbound marketing, 24/7 customer support, an English-language version of the product, servers in the United States.*

If there are no clear reasons against offering a product to Western clients (for example, some legal reasons), it is good to think globally from the outset. The sooner we do so, the faster we end up on a market which is much larger than the Polish one. Building an internet business only in Poland is equal to willingly giving up on better outcomes.

I should note, however, that a number of difficulties are associated with getting a global service up and running. In order for American customers to buy our product, we need to have

a bank account in the United States. This becomes easier to organize over time, however, and the emergence of services like Stripe Atlas suggests that this should soon no longer be a considerable obstacle.

Another difficulty is examining the needs of customers who live in another culture. Suppose your product solves a problem that is common for people or companies around the world. If you closely monitor similar products, you will soon have enough knowledge to begin creating something of value.

Knowledge concerning building global products is still not widespread in Poland. To improve this situation, we organize discussion panels (LiveChat Product Talks) in which people from companies such as DocPlanner, Brainly, or Brand24 can share their experience. We believe that it is entirely possible to build products for the global market in Poland. What matters is to have that goal in your mind and seek knowledge from those who have already taken this step.



EXPERT COMMENTARY

Marcin Wojnowski

CEO

—
NUADU

NUADU is a platform supporting the education process, as well as the review and objective evaluation of learning outcomes.

”

Only three things are needed to act globally – an idea, capital, and skills. Can you function globally straight away? Yes. All you need is one of those three elements to start with. Let us take a look at where ideas, money, and skills originate. We can outsource or develop skills, while money must be borrowed or earned and you absolutely must have an idea.

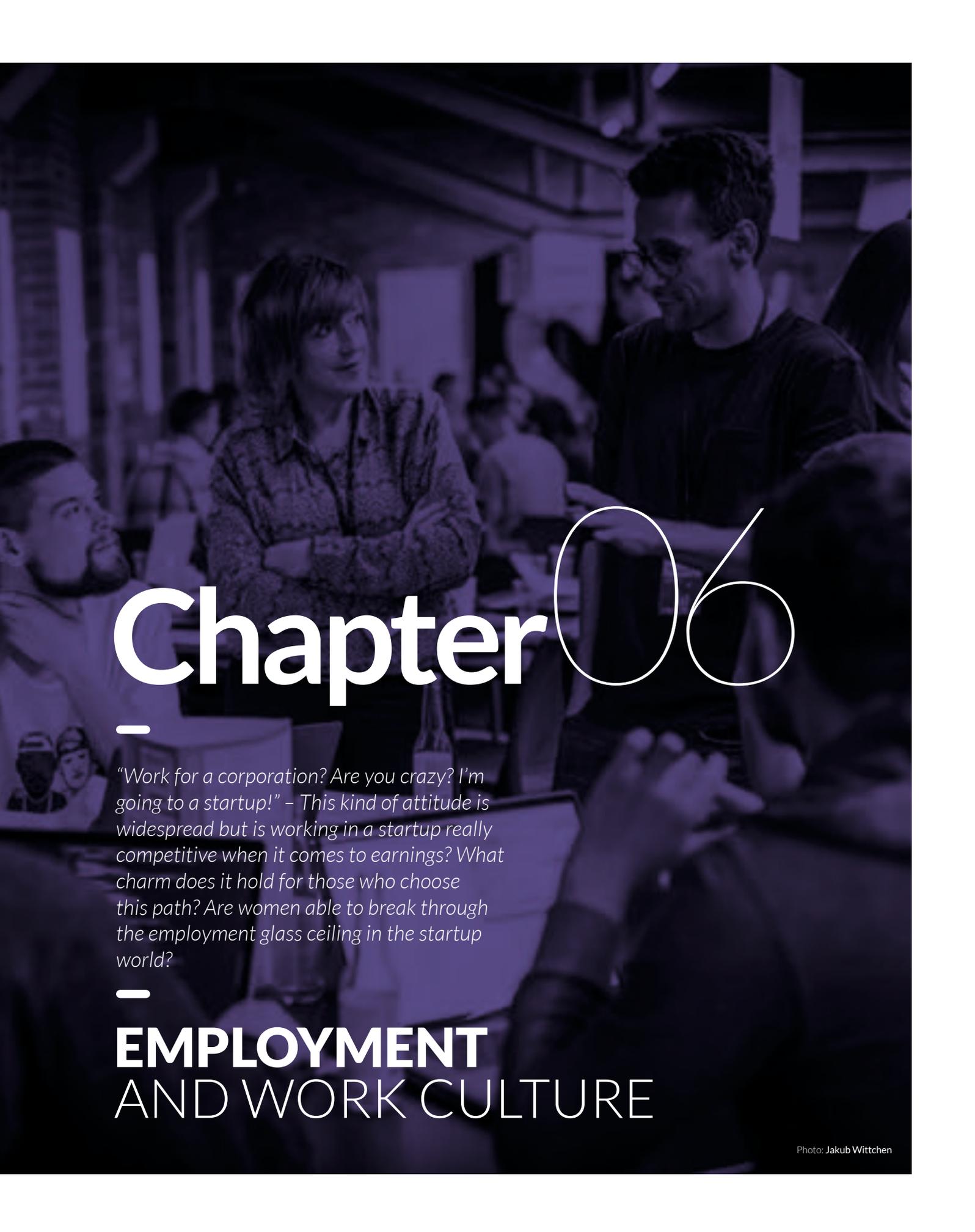
The fact that at least half of startups feel comfortable on the local market is encouraging. It is good that Poland has conditions that, contrary to popular opinion, favor the optimism of young entrepreneurs who are just setting out and encountering big business for the first time. Poles can act globally, although they are not always inclined to do so.

Specific intercultural competences are developed by taking small steps in real time. While reading a book or an encyclopedia about the cultural environment of a given region is always helpful, it is skills that are honed in the heat of battle: at a barbecue in the Australian desert or during a test implementation of the e-learning environment in a Middle Eastern primary school, which are of the most value.

Can the education system teach a willingness to run a business globally? On the one hand, knowledge about entre-

preneurship and teamwork is often overlooked by teachers who themselves do not know much about either. Without a generational shift, nothing will change in this regard. Teachers find it difficult to promote attitudes that they know only in theory.

On the other hand, no technological solution can replace teachers. A number of existing technologies can take some pressure off them (e.g. marking homework, assessments, and tests). And this is where the NUADU product comes into play – it works well all over the world. We respond to teachers' problems and minimize the costs and concerns associated with the use of technology at school. We are not turning anything on its head; schools remain schools, and classes remain classes. In a non-invasive way, we are trying to ensure that teachers remain objective when marking assessments and that students are comfortable while doing homework or learning remotely. I am not sure if using NUADU will provide students with the conceptual apparatus necessary to define themselves in a global context, but perhaps teachers will be a little less tired and students a little less stressed. And that is a great place to start.



Chapter 06

“Work for a corporation? Are you crazy? I’m going to a startup!” – This kind of attitude is widespread but is working in a startup really competitive when it comes to earnings? What charm does it hold for those who choose this path? Are women able to break through the employment glass ceiling in the startup world?

EMPLOYMENT AND WORK CULTURE

EMPLOYMENT AND WORK CULTURE

Author: **Julia Kryztofiak-Szopa**

Half of those employed in the Polish enterprise sector earn less than €800 per month¹. Compared with this, salaries at startups are very attractive given that only one in four startup employees nets less than €1,250 per month. This shows that, at a time when the unemployment rate is at one of its lowest points in Poland's history, tech companies have to compete aggressively for talent by means of better wages. From the Polish perspective, these wages are enticing but they are often still not enough to attract the best-qualified employees. As a result, startups are increasingly turning to employee share ownership and a flexible work culture in order to compete.

Despite the suspicions of some skeptics that startups spend their investments on huge benefits for the founders, the data shows that there is no significant difference in remuneration for board members irrespective of whether their companies have an investor or not. In both cases, these earnings do not exceed €2,500 in 75% of startups.

Revenues per employee

While it is tempting to measure the quality of the startup sector by using the number of jobs created, this is not the right approach. In fact, technological companies often owe their rapid growth to the fact that they do not have to increase employment in proportion to the growth in anticipated revenues. They gain a competitive advantage through technologies that eliminate additional employment and thus any increase in their value is not determined by the number of new jobs created. This is in contrast to software houses, for example, which often base their contracts on the time and materials model, or traditional businesses such as hair salons. It's much better to measure startups health with rev-

enues per employee, or the average value that one employee generates. The higher this is, the more effective the company is at making the most of its human resources. This ratio is traditionally the highest in the energy sector but it is closely followed by international giants Netflix (with \$1.9M of annual revenue per employee) and Facebook at \$1.6M².

When it comes to Polish startups, we have no cause to be dissatisfied. Half of the respondents who generate monthly revenues of over €250,000 employ between one and 50 people. This translates into one employee generating **at least €60,000 in revenue annually**, €10,000 more than, for example, the largest and oldest Polish software house, Kraków's Comarch. Of the numerous startups that achieve monthly revenues of between €12,500 and €25,000 EUR, half employ between 4 and 10 people. Therefore, the annual income per employee in this group is somewhere between **€15,000 and €75,000**.

If you want to hire, it is worth having an investor

Of the startups surveyed, 70% have employees, a figure which remains unchanged from last year. However, this time fewer startups had not hired anyone in the last six months, while the number of those who recruited up to three new employees rose. Full time employment contracts are not uncommon with sixty percent using them and one in ten employing **all of their employees** in this manner. However, almost 40% do not, opting for other employment options, like temporary works contracts or contracts with sole proprietors.

60% of startups **employ people on a full time contract basis**

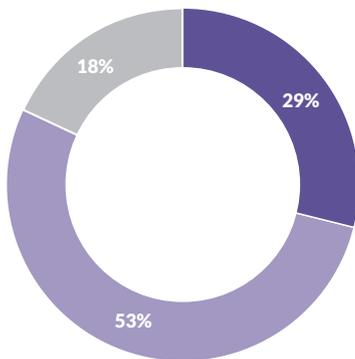


¹ Central Statistical Office data for 2017.

² S&P 500 – Revenue Per Employee Perspective, <https://craft.co/reports/s-p-500-revenue-per-employee-perspective>, accessed on August 13, 2018

How many employees do you currently employ in your company?

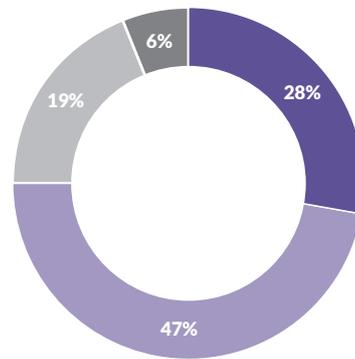
Source: Startup Poland



- no one
- 1-10 people
- over 10 people

How many new people have you hired in the last six months?

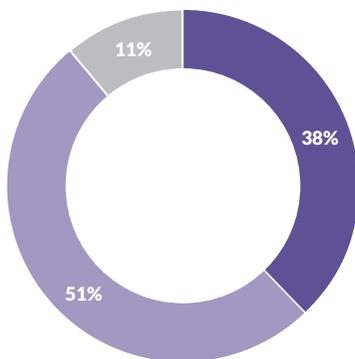
Source: Startup Poland



- no one
- 1-3 people
- 4-10 people
- over 10 people

How many of your employees have an employment contract?

Source: Startup Poland



- no one
- some employees
- all employees

As in previous years, **having an investor is clearly correlated with higher employment**. Forty percent of startups without an investor do not employ anyone, while only 15% of those who have managed to acquire some funding have no employees. In other words, investor funds go on employee salaries (and not on fancy cars for CEOs). Although rare, startups sometimes develop from a micro enterprise without any investment capital. One in ten companies that has been built up solely on the basis of its own savings managed to build a team of ten or more people. However, those who have found an investor are three times more likely to achieve this

CEOs earn less than programmers

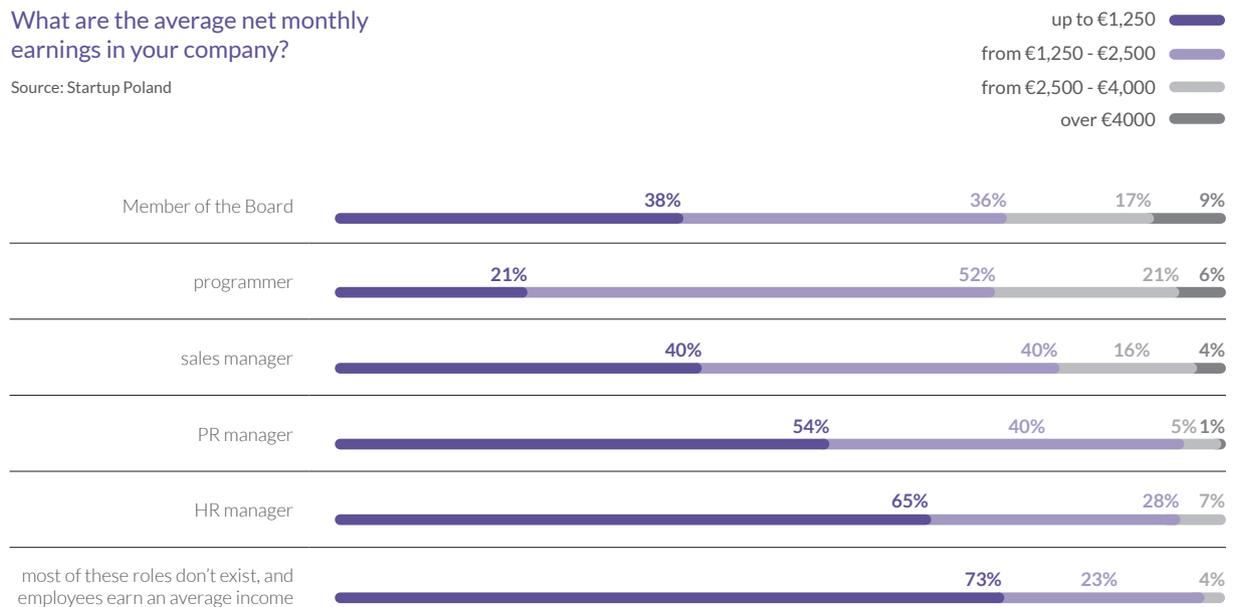
Startups have almost no significant salary discrepancies. The monthly salaries of management board members exceeded €5,000 in only 4% of those surveyed. Acquiring an investor does not necessarily mean higher wages for the management board, but it does lead to an increase in employment. Sales managers have earnings comparable to those of members of management boards, but their pay ceiling is set at €4,000 per month.

Programmers are the ones who attract the most tempting offers in startups. In 80% of companies, they earn over €1,250 net while one in five earn between €2,500 and €4,000.

Net salaries are lower in the small startups that do not have a clear division of roles on the team – usually no more than €1,250.

What are the average net monthly earnings in your company?

Source: Startup Poland



20% of surveyed startups pay their programmers between €2,500 and €4,000 per month



EXPERT COMMENTARY

Marta Poślad

Head of public policy
in Central and
Eastern Europe

Google



Investing in programming staff is not just a way to increase the potential of individual companies but also a strategic goal for countries that wish to be at the forefront of modern economies. The promotion of the mechanisms of automation and artificial intelligence systems in subsequent sectors will create a competitive advantage for those who have the opportunity to develop, grow, and retain their programming skills. It is worth investing in the implementation of strategies that prioritize employee training and the issues that these individuals need to deal with.

Poland is facing this precise challenge right now and the education of programmers should be the cornerstone of our strategy. In addition to public sector obligations, professional education should also include guidelines and codes of best practice for the private sector. The concentration of human and financial capital can foster the digital growth of large companies, while startups benefit from flexibility, a flat structure, and a culture of risk.

The public sector and both groups of enterprises face a similar challenge – adapting to the changing nature of work and the ever-accelerating pace of technology. According to a recent McKinsey report, 20 to 50 million new jobs will be created around the globe by 2030. These will include positions that we cannot imagine today and that is why it is so important that anyone entering the market is equipped with both soft and hard skills. We should also create a culture of lifelong learning to allow us to take full advantage of the potential that technology has in terms of the development of the economy and the labor market.

Employee shareholding is more important than employment contracts

When it comes to remuneration, startups as a business organization model are clearly different from typical companies. There is no significant disproportion between the wages of the management board and employees, and almost one-third of employees get stock options. Thirty percent of surveyed startups have an employee stock option plan (ESOP), which means that they have **implemented a program for rewarding employees with shares in the company.**

Compared with the overall popularity of employee share plans in Poland, 30% is an outstanding result. According to a PwC report,³ 14.52% of employees in Poland participate in company management in the form of shares, while the European average is 22.57%. In addition, one in three such programs is in the banking sector and only 6% in the IT industry.

Of all respondents, startups that have ESOPs are more likely to operate in the deep tech area and are much more likely to be at further stages of development. More of them have a regular income and fewer are likely to earn nothing at all. Those with regular incomes earn far more than the rest, perhaps because they are more likely to cooperate with corporations. They are also much more likely to have VC or the National Center for Research and Development on board.

Startups typically reward employees with shares if they consider staff to be their most important strategic resource, and when human resources are difficult to acquire.

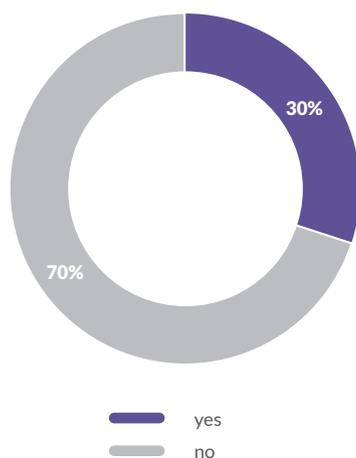
³ Employee shareholding programs – an opportunity for companies, and an opportunity for Poland. PwC Report, December 2017. <https://www.pwc.pl/pl/pdf/publikacje/raport-pwc-pracownicy-programy-akcyjnie.pdf>, accessed on August 13, 2018.

Employee stock options are usually vested, which means the employee can only acquire them after working at the company for a specific period of time. In Silicon Valley, shares are typically vested pro rata over four years, with a 12 month cliff. Such mechanisms encourage employees to work at the company for longer and reduce the employee churn.

The ESOP mechanism is technically difficult to implement in a Polish limited liability company which is the commonest company type among startups. It is not surprising that almost 40% of respondents stated a willingness to register or transform into a simple joint-stock company⁴, something which would facilitate the creation of employee share programs in young companies.

Do you have team members who own employee stock options in your startup?

Source: Startup Poland



However, in the absence of frequent exits (i.e. moments when employees can sell their shares) stock options remain more of a hope for deferred profit than a liquid remuneration instrument (in contrast to those companies which are listed on the stock exchange). As a result, many employees do not see the value of stock options and pay more attention to salaries when deciding where to work. Startups thus find it difficult to compete with international corporations for the best employees, where good wages are easier to come by and stock options acquired under ESOPs can be easily liquidated.

One way to increase employees' perception of the value of stock options is to **develop alternative trading systems** in Poland but, to date, we only have NewConnect in this regard. It is particularly important to facilitate share trading under the conditions of the employee market and the low cash resources of young enterprises – and these are precisely the current operating conditions faced by startups in Poland.

30% of respondents **reward employees with company stocks**



⁴ Draft act amending the act – Code of Commercial Companies and some other acts, Ministry of Enterprise and Technology, May 16, 2018, <https://legislacja.rcl.gov.pl/projekt/12311555/katalog/12507990>, accessed on August 13, 2018.



EXPERT COMMENTARY

Jakub Krzych
CEO
Estimote

Estimote, Inc. is a market leader in indoor location. Their sensors enable people to navigate inside buildings and precisely locate objects and vehicles.

”

There are many reasons for joining a startup team. Some are attracted by startup's informal culture, the new technological challenges, the opportunity to be a pioneer, or by their mission to change the world. But, in all honesty, people moving to a startup always have a vision of rapid personal growth in the back of their mind.

Employees in the American market often actively seek employment in startups. They know full well that this is one of few occasions in their professional career where they will see accelerated growth, in terms of both experience and competence as well as finances. Therefore, in addition to remuneration, they negotiate employee stock options while still in the recruitment phase.

Someone from the initial startup team, such as a programmer, will frequently become a CTO or VP of Engineering, and their career accelerates. If the company is successful on the stock exchange or is bought, they have the option of cashing in a percentage of their shares and this can be life-changing. Nowhere else is it possible for someone to become a millionaire in a few years and be able to afford their dream car, buy a new apartment, or start their own business. This only happens in startups, including those in Poland. The cornerstone of this practice is employee shares, usually in the form of employee stock option plans (ESOP).

Poland still lacks a developed culture of employee stock options and shares and there are many reasons for this. These include a lack of favorable legislation, legal costs, tax uncertainties, and, perhaps above all, a lack of understanding as to the benefits of share ownership. It is worth mentioning that no one we know has ever seen many people who could buy a home or start a business using money obtained from the sale of employee shares. In contrast to America – and especially California – Poland lacks the blueprint and inspiration for this. This means employees' confidence in shares is negligible and so they do not negotiate them with the employers or don't exercise them once they leave their jobs. Yet it is these first millionaires who leave startups, start new ones, or become business angels and invest in the projects of others. This is why building an employee stock option culture in Poland's developing market is fundamental for the further development of the innovation ecosystem.

Flexible, flat, and with a mission

The need to compete with corporations for employees means startups must stand out with an attractive work culture. When asked about the three elements that best describe them, over 60% highlighted **flexible working hours and remote work**. Half of respondents emphasized **equality and a low level of organizational hierarchy**, which is the opposite of the autocratic structure typical of traditional Polish companies⁵. In third place was the **company's mission** – over 40% of startups have faith in their mission as part of their culture.

What is the work culture in your startup?

Source: Startup Poland



⁵ Mira Suchodolska, *Kapitalizm po polsku; folwark ma się dobrze* (*Capitalism in Polish; the folwark is alive and well*), Dziennik Gazeta Prawna, June 6, 2014, <http://biznes.gazetaprawna.pl/artykuly/801950,kapitalizm-po-polsku-folwark-ma-sie-dobrze.html>, accessed on August 13, 2018.

A Slavic-Anglo Saxon blend

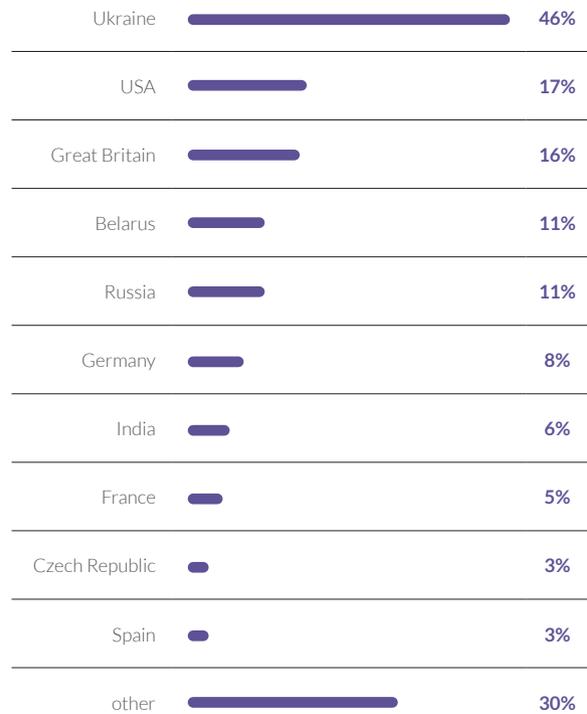
Startups still attract foreigners, although the percentage of startups hiring employees from abroad has been around the quarter mark over the last three years. This year, it was at 26%, compared with 28% in 2017 and 23% in 2016. Employing people from Western countries clearly correlates with higher wages – Polish companies are competing globally against other employers for highly qualified personnel.

Three-quarters (73%) of startups hiring foreigners have employees from at least one of five countries: Ukraine, the United States, Great Britain, Belarus, and Russia.

This is a slightly different cross-section to the general structure of foreigners in Poland. This mix mostly features Ukrainians, Germans, Belarussians, Vietnamese, and Russians. There are almost no Chinese employees at startups, even though the Chinese are the sixth-largest diaspora in Poland.

What countries do foreign employees come from?

Source: Startup Poland



The EU is not an important source of human capital

Most of the foreigners in Polish startups come from outside of the European Union, especially given that the UK will soon be out. **The implementation of relevant visa policies is all the more urgent**; these will enable startups to employ expats from outside Europe on a larger scale than just through the pilot program *Poland Prize*⁶. This is not just about Poland attracting entrepreneurs who want to set up businesses here, but improving the process by which Polish companies employ foreigners.



Photo: Kamil Krawczyk

⁶ A program enabling foreign startups to commence operations in Poland, launched in 2018 by the Polish Agency for Enterprise Development as part of Operational Programme Smart Growth: <https://poir.parp.gov.pl/poland-prize/poland-prize>.



Chapter 07

Graphene, Blu-ray, fuel made from carbon dioxide... Unfortunately, there are many more examples of Polish technologies where something went drastically wrong with patenting. What does the commercialization of Polish knowledge look like? Has the scientific community in Poland learned to think in terms of business? How do scientists cooperate with corporations?

INNOVATION

INNOVATION

Author: **Agnieszka Skala, PhD**

The discussion about innovation and imitation sometimes resembles an argument about the superiority of Christmas over Easter. The theory that only radical product innovation will guarantee market success is still a popular one whilst, of course, opponents argue that precisely the opposite is true. Our research results shed some light on this topic in the context of startups.

Deep tech startups, which we are including in the study for the first time, outdo all the others in terms of fundraising, and are more likely to design solutions in cooperation with R&D centers. However, the Polish market poses certain developmental difficulties: particularly glaring is the lack of qualified staff.

To patent or not to patent – that is the question

As was the case last year, as many as half of our respondents say that their product is new on a global scale, while the other half say that their product improves existing solutions. Eighteen percent of startups surveyed have chosen to protect their product with a patent (exactly the same amount as last year), which is an outstanding result in comparison with the Polish enterprise average. Three-quarters of patentees obtain patents Poland, and half do so abroad (almost 80% of whom do so in the European Union or the United States). It is clear that the vast majority of startups decide to patent simultaneously at home and abroad.

☆ **18%** of startups **patent**

Similarly to last year, the main reason startups decide not to patent is the belief that it's technology is unpatentable. The second most common reason is a lack of faith in the market value of patenting. Financial issues are listed last.

PhDs are likely to patent

Companies that protect IP with patents most often have two or three years of market experience. More than half of them design or manufacture *hardware* – often in medtech, the Internet of Things, energy, electronics, and robotics. These are larger companies in terms of employment: only one in five has no full-time employees. There is also a clear correlation between patenting and scientific collaboration. One in three startup founders who decide to protect the IP with patents, has at least a PhD. 80% of patentees cooperate with a research center, half of which choosing to do so with universities.

It is still unclear whether a patent brings any competitive advantage

On the one hand, patentees often seek external financing. When they obtain it, they do so in higher amounts. From among the 34 surveyed startups with co-financing exceeding €1.25 million, 16 are patentees. Business angels and VC funds – both domestic and foreign – are more willing to invest in this group and, obviously, the National Centre for Research and Development is also a significant investor in this group.

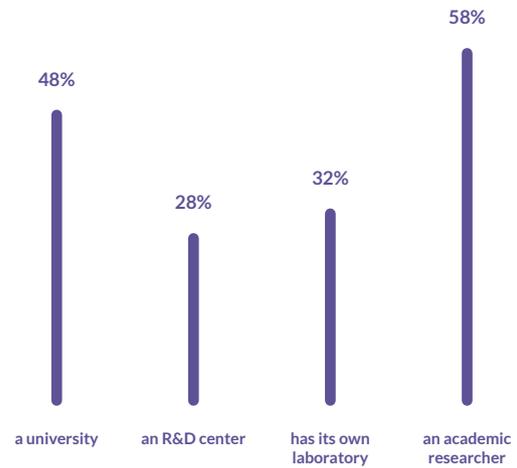
On the other hand, though the revenues of patentees are slightly but not significantly higher, the cash flows in on a less regular basis (35% of patentees have regular earnings). This is perhaps why there is a greater tendency to reach for external financing. Those patentees who have revenues, show rapid income growth and are more likely to cooperate with big corporations.

R&D cooperation is often informal

Almost half of the respondents collaborate in R&D. Within that group 60% hire academic researchers as consultants; half cooperate with universities, and one in three has their own laboratory. Interestingly, this cooperation is formalized in only 40% of cases – usually when it involves a research center other than a university (half of the cases). Only one in three cases of formal cooperation occurs when it involves individual consultations with scientists. It can be concluded that this type of collaboration is mostly unofficial, meaning the formal level of innovative activity among enterprises may be significantly underestimated. It is worth adding that startups often conduct research and development activities in several forms at once..

Our startup cooperates with:

Source: Startup Poland



44% of the startups surveyed collaborate in **research and development**

Biolumo

MARKET CASE



Wojciech Giżowski

CTO and Vice CEO

Biolumo

Biolumo is working on solving the problem of patients' antibiotic resistance by providing family physicians with a device that enables them to make a quick diagnosis and select a tailored therapy.

” *The collaboration between Biolumo and universities can be summed up by means of several rather contradictory stories.*

On the one hand, documents or decisions were sometimes delayed while, on the other, some responses and decisions were made within a few days. An example of this was an NDA for which we waited only a week, whereas a university once delayed sending an offer for a research study we wanted to pay for. It seems that these situations were due to a certain organizational culture and procedures rather than any ill will from the university's employees.

Cooperation with academic staff also varies. We had one professor who was happy to meet with us and suggested consulting on scientific issues despite a lack of official documents or commitments from the university. I got the impression that she really treated us like a client seeking a research partner. Another professor agreed to cooperate with us after one meeting. Unfortunately, we also had less positive experiences – during a telephone conversation with the assistant of one academic, we heard, “Tell them that I'm not here.”

In the above examples, it was important to have the recommendation of a university colleague who enjoyed the trust of

others. This is good practice when dealing with scientific staff and other organizations, and it usually brings positive results. The question arises: is it possible to quickly start collaboration without a recommendation? I'm sure it is, but we have a different approach.

To sum it up: a lot depended on particular people, on whether we were recommended, how prepared we were for conversations, and how many meetings we had already attended. Our technological readiness also played a major role. The higher it was and the more data we had, the easier it was to talk and the fewer unhappy faces we saw.

What other factors played a key role in establishing cooperation with universities and continuing building good relationships? Firstly, trust – the longer we worked on a technology, the fewer eyebrow raising we experienced, and so more trust was placed in us. Secondly, recommendations – these often broke the ice and meant that we could start the conversation at a completely different level.

Increasingly higher ratings for partnerships with universities

This year we decided to extend our knowledge about the details of cooperation between startups and universities. One in five of the surveyed startups has been collaborating with a university. Two-thirds of respondents rated this as ‚good’ or ‚outstanding’, one in five defined it as ‚bearable’, and only one in ten described it as ‚poor’. Therefore, our data contradicts the common wisdom in Poland that says one should steer clear of universities. Our research clearly demonstrates that collaboration with universities is mostly **evaluated as positive** by the startups which decide on joint projects.



2/3

of startups cooperating with universities find the experience to be at least “good”

We asked those who are unsatisfied with such cooperation why they came to that conclusion but the results are far from clear. In addition to the recurring charge of academic paperwork, most of the answers concerned the soft aspects of relations with universities or their employees: ‚low administrative flexibility’, ‚low employee involvement’, ‚procedures taking too long’ and ‚lack of business understanding’ were the most commonly-cited obstacles to joint activities. It should be stressed that it is not laws or regulations that are counterproductive to cooperation between academia and business in Poland, but mainly the mental barriers and very different work cultures.

The barriers to cooperation between startups and universities are far more **mental than formal**

However, there are those who have managed to deal with these problems, bringing intellectual property created at a university or academic center to their startups. This small group of almost 70 companies has managed to create a relatively stable framework for cooperation by means of various instruments, like licensing agreements, special-purpose vehicles, agreements with technology transfer centers, sale or purchase of patents, etc.



Photo: Tomek Cholewa



EXPERT COMMENTARY

Paweł Soluch

CEO

Neuro Device

Neuro Device specializes in neuroscience solutions. From the very beginning, it has closely cooperated with universities and research institutes in Poland and abroad.

“ I am delighted that Startup Poland wants to measure the influence of universities on what entrepreneurs are commercializing in Poland. My relationship with the university has never ended, but 10 years ago I also became an entrepreneur. At the time, the landscape was completely different. Startups were rarely mentioned, especially in terms of the commercialization of research results. I built my experience in this area based on an attempt to create a spin-off with one Warsaw university. I then enrolled in post-graduate studies in the commercialization of science and technology, run by the University of Texas and the University of Lodz.

I also wanted to bring to the market a great diagnostic and therapeutic application created by my partner at the request of a medical school. Unfortunately, I encountered tremendous difficulties at every stage and this is why I thought that the commercialization of research was still a marginal phenomenon. However, the results show that this situation has started to improve. Almost 45% of respondents collaborate with the scientific world – with universities, research and development centers, and individually with researchers. Some startups even use their own laboratories. I am also happy

about the fact that this cooperation is formalized in more than half of the cases, facilitating a structured market launch procedure. The conclusion of contracts for the purchase of technologies, patents, or licenses, which for a long time simply did not exist, is also a good sign.

However, we are not pleased to see the responses regarding patent protection and the fact that almost 90% of the intellectual property of Polish startups is created outside of universities. If we do not change this, we have little chance of groundbreaking implementations or innovations. Our environment is not rich enough to conduct R&D alone; even the Americans and Israelis cannot afford it. Universities and institutes are there for startups to conduct R&D. The concept that universities are the best platform for developing ideas is also supported by the fact that the academic environment is the best place to make new contacts and gain access to multidisciplinary knowledge and relationships (that often cost nothing) at the seed stage of the enterprise. Universities are a great place to discover the needs of the modern world, seek answers to them, take risks, and experiment. So let us take full advantage of collaboration with science!



EXPERT COMMENTARY

Ryszard Szopa
 CTO
 MicroscopelT

MicroscopelT is an AI house specializing in computer vision. Catering to global customers, it uses the technology of deep learning for image analysis, with particular consideration for biological data.

”

A lot of myths have grown up around the concepts of AI and deep learning.

These technologies are highly overrated in certain respects, but they are often underrated when their true strength is considered.

The initiators of neural networks had a talent for marketing and word-building, something which proved to be both a blessing and a curse for these technologies. One cannot help but associate the latter phrase with the human brain. For lay people, it suggestively evokes visions of intelligent androids à la Lieutenant Commander Data from Star Trek but these are still beyond our reach. This sort of hype can clearly be seen in the case of the robot Sophia which, while undoubtedly impressive, does not rely on deep tech for its success.

At the same time, such highly powerful technologies belonged in the sci-fi domain only 10-15 years ago. They allow computers to understand data that was completely non-transparent to machines before. Thanks to them, we can automatically process images, sound, and natural language with near-human efficiency. Autonomous cars, machine translation, automatic face recognition, or imaging diagnostics (in radiology and histopathology) – all of these applica-

tions, which maybe only the Pentagon could have afforded just 20 years ago, can be developed today in a garage by a group of engineers.

Startups using AI are faced with two problems. Firstly, you cannot create a well-functioning system based on deep learning without high-quality training data.

It takes tremendous financial resources to obtain access to or produce such data for important applications. It is hardly surprising that these startups frequently cooperate with corporations since big business, if anything, is your go-to place for data.

Secondly, there are problems gaining access to specialists. The demand for experts in machine learning rapidly outstripped the supply; businesses often have to make do by recruiting people from related fields, e.g. statistics or physics, or by investing in retraining their programmers. These technologies require very high technical and scientific skills (mathematics, statistics, algebra, analysis, etc.). From the point of view of an investor, familiarity with this knowledge area and putting together a team with these competences are a strong sign of a founder’s technological and managerial qualities.

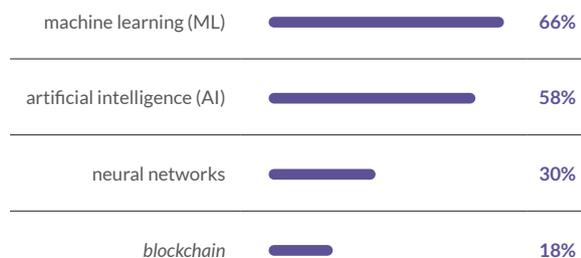
In order to overcome these obstacles, AI startups must obtain larger investment amounts – fortunately a trend that I can see in the results of this year’s survey.

The worrying lack of *deep tech* specialists

An emerging theme in our research is the new category of startups within the deep tech group – those that not only use existing technologies or APIs and programming libraries, but also develop completely new, break-through technologies that have never existed before. For research purposes, we assumed that this category would include startups that develop new technologies within machine learning, neural networks, the blockchain, and artificial intelligence. Of all the startups surveyed, over one-third is developing a product using at least one type of *deep tech*.

Popularity of *deep tech* applications

Source: Startup Poland



69% of them are developing their product and stabilizing sales. Deep tech startups wait just as long for regular revenues as other startups do and they also tend to find clients in Poland.

One in four deep tech startup founders is a scientist with at least a PhD, but only one in four worked at a university before creating the startup. Twenty-two percent of the young companies in this industry are patenting – a noticeably higher figure than other startups. They are even more likely to collaborate with science; a huge three-

quarters of them conduct regular R&D work. Machine learning is overtaking other fields in seeking capital ranging from €750,000 - €2.5 million. Moreover, it is the only field in which one in every two companies manages to attract an investor or obtain public funds. Taking a look at the market needs of this industry, we can see that emerging deep tech startups are struggling with a lack of qualified employees and specialists, market weakness and regulatory or bureaucratic obstacles.

Are deep tech businesses more innovative than others? It is too early for a definitive answer to this thorny question. These enterprises are clearly less mature than others or need more time to achieve maturity, especially since they are more likely to claim that they are creating a completely new product. It cannot be ruled out that the obstacles created by demand may also be hampering their development. However, more frequent collaborations with science and higher patenting rates are strong indicators of achieving a high level of innovation in the future.

37% of respondents **develop** *deep tech* 



EXPERT COMMENTARY

Anna Streżyńska

CEO

MC² Solutions

” The startups surveyed are mostly focused on developing traditional technologies. Over 60% do not use deep tech, technology resulting from a scientific discovery or significant rapid innovation. As for the others, it is unclear to what extent these solutions are important for the product, and whether or not they determine its value.

Artificial intelligence and its various components (neural networks, machine learning) are more likely to be listed and AI is used in various ways by 66% of respondents.

Over 57% of respondents say they use the elements of AI, meaning the earliest basic applications of this technology, where a machine is simply able to do tasks as well as humans or better, but the tasks in question are not necessarily complex. Machine learning refers to the machine functions related to deep learning, which is the most advanced AI process. Neural networks, similar to the processes and structures of the human brain, are the technological base on which these processes take place.

Thirty percent of respondents are involved in basic, key aspects of information processing and the infrastructure used for this purpose; 57% use simple (or unspecified) AI elements, and **66% use advanced machine learning**. However, the survey did not take into account that machine learning is a part of AI, and there were no questions about deep learning. Therefore, the picture of AI in startups is not clear. We can conclude that the term is used in a rather simplistic way. The lack of understanding of the concept of deep learning calls to question the depth of any deep technology.

The results of the study also highlight the most important barriers to deep tech development in startups. It is not surprising that 33% of respondents list legal and administrative (bureaucratic) regulations. This result would likely be higher were it not for the freedom to conduct business within the EU. Among the respondents, 37% have problems finding and

keeping qualified staff. The reason is high labor costs and a lack of tax solutions that promote the specialization of both employees and employers. Specialists leaving a company represent lost outlays on education, science, and the creation of intellectual property rights.

Only 10% of respondents mentioned financial barriers and it seems that there is plenty of money, and it is available from public, private, and mixed sources. At the same time, no one is teaching startups how to acquire and spend money, or how to build relationships with investors. The startup maturation process should not be limited to just technology.

A small number of respondents complained about a lack of access to knowledge and networking. Perhaps this is related to focusing on business results. However, the fact that only a small number of respondents answered the question about barriers (114) is food for thought. Did the other participants not face any obstacles, or perhaps they did not bother reflecting on what these might have been?

It is not easy to determine the reason for the relatively shallow innovativeness of startups. The market's and state's low demand for deep tech may be one such reason. An example is the underrated and unsupported blockchain. Unlike other countries, Poland has not developed the requisite strategies and regulations that create the conditions for deep tech development, enable specialization in this field, and attract innovative businesses from other countries.



EXPERT COMMENTARY

Sylwia Sysko-Romańczuk, PhD

Professor

Warsaw University of Technology

” The number of deep tech startups (and unicorn candidates) is increasing exponentially: there were only eight in 2015, 11 and 35 in subsequent years, and 174 in 2018. At the same time, we have seen an almost six-fold increase in the value of VC investments and public funds in deep tech in Europe during the 2012-2016 period. This sector will grow thanks in part to the Partnership on AI – a consortium of leading technology companies that develops best practices in the field of AI-enabled solutions, established in 2016.

Seventy percent of companies exist for at least two years. They are created by people with corporate experience or serial startup founders. Over one-quarter of them have at least a PhD, and their technologies are beyond the initial design stage, already completed at a. Deep tech startups are more likely to establish cooperation with the scientific community. What is perhaps surprising is the relatively small number of patents. This can be explained by the focus on generating the business value of new solutions. Deep techs with earnings are in the upper brackets (over €250,000 per month), and their revenues are growing faster than those of other respondents, boding well for any future valuations.

France is the leader in educating outstanding technological talent. In Central and Eastern Europe, Poland is certainly the leading educational hub, but lagging behind in terms of its educational offer, namely developing relevant PhD and post-graduate studies. The latter programs are aimed at a small group of IT and business intelligence specialists and focus on improving the specialized skills of big data IT specialists. There are still very few PhDs in machine learning, and graduates who would be valuable to deep tech choose corporations for financial reasons.

We are losing to the USA and Israel in terms of creating breakthrough innovations. The steep technological adoption curve poses a risk for deep tech scalability. Corporations dream about breakthrough innovations but are reluctant to experiment with new technologies due to the long ROI cycle, which is measured in terms of basic business parameters – the number of new clients and the increase in EBIT.

When it comes to financing investments, we are also losing to the more mature British market. Polish private and public investors want to create a unicorn with very limited funds. Meanwhile, the average value of investments in half of the surveyed startups does not exceed €250,000. There are few experienced investors who have previously created successful projects that can assess the real potential of deep tech business and enter the market fully aware. The opinion of one of the startups, that deep tech projects „exceed the understanding of evaluators,” confirms the fact that institutions evaluating projects financed from public funds are aware that this is a very complex issue. Investors are focused on a quick and high return on a small investment, and deep tech projects risk facing a long scaling period.

Recent valuations of British and American unicorns show that software-driven deep tech projects will be the recipients of the next wave of investment. This is a good sign for Polish startups that are neither hardware-driven nor have technological platforms that provide opportunities for a monopoly and huge profits, and the chances are that they will not have access to such platforms for some while yet.



Chapter 08

The Polish startup sector owes its strength to the efforts of literally hundreds of entities. Incubators, accelerators, technology parks, and other units are scattered around the country, all helping to support entrepreneurship. This is why each of the regions has its own Startup Poland Ambassador who is charged with making sure that the local work is consistent with the nationwide startup pipeline.

THE STARTUP REGIONS OF POLAND

A MOSAIC OF REGIONS



Maciej Kołtoński

*Head of Communications
and Strategy*

Startup Poland

” EU citizens support the construction of the Nord Stream 2 pipeline” – Let us imagine a headline like this and also assume that the article is based on a poll carried out amongst a group of 2,500 people from Germany and the Benelux countries. In theory, the basis for drawing this questionable conclusion is a solid one: we have a large sample and the respondents are all EU citizens. However, such a claim would be a misrepresentation. What happened to the opinions of other EU citizens?

If we want to conduct proper research, we have to do so in a comprehensive way and at various levels. This is why we have stressed from the outset that the startup ecosystem cannot be equated with the largest urban hubs. After all, initiatives supporting the development of innovation are found in the majority of Polish towns and regions.

Obtaining data and the knowledge necessary to create a reliable startup landscape would have been impossible without the group of 25 Startup Poland Ambassadors who are active in each of the voivodships. It is thanks to their work and their familiarity with the local ecosystems that we can say with confidence that the present report

is a genuine cross-sectional study. This year we collected over 1000 survey responses, and those from outside of the four largest and best-known startup centers – Warsaw, Wrocław, Kraków, and the Tri-City – accounted for 43% of the results. This creates a unique map of the Polish startup ecosystem: it is objective, inclusive, and it is being painted with increasingly precise brushstrokes.

Who are the local representatives in question? They are entrepreneurs, people involved with science and technology parks, creators of acceleration programs, and mentors. They also include local experts to whom startup enthusiasts can turn when seeking access to knowledge. The Startup Poland Camps organized by the Ambassadors play a paramount role in their work and are often one of the best ways to connect with local mentors and businesses.

Startup Poland Ambassadors are people whose everyday work is focused on developing entrepreneurship in their region. It's time to meet them.



Maciej Jankowski
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BIO

Maciej is the founder of the Foundation of Internet Industry Development “Netcamp” which promotes knowledge sharing, collaboration, and networking. For the past 10 years he has been developing the largest technology and startup community in Western Poland and organising Netcamp – Inspiring IT events in Szczecin. A *Techstars Community Leader* since 2011, he coordinates the German-Polish Startup Weekend in Szczecin.

ZACHODNIOPOMORSKIE



LOCAL ECOSYSTEM

- Foundation of Internet Industry Development “Netcamp” / Startup Weekend Szczecin
- Technopark Pomerania
- Regional Centre for Innovation and Technology Transfer ZUT / Samsung LABO
- ZARR / WeP-Up
- Business Link

WORTH FOLLOWING



Łukasz Rut
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BIO

A PhD student in sociology, Łukasz studies the subject of new technologies and works with top R&D companies in the Lubuskie Voivodship. He also mentors startups and consults on national policies of innovation development. He works in the Lubuskie Organization of Employers (Organizacja Pracodawców Ziemi Lubuskiej) and supports the activity of the *Interior Technology Park*.

LUBUSKIE



LOCAL ECOSYSTEM

- Interior Technology Park in Nowa Sól
- Academic Enterprise Incubator in Zielona Góra
- Science and Technology Park of the University of Zielona Góra

WORTH FOLLOWING



WIELKOPOLSKIE

**Monika Synoradzka**

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BIO

Monika is associated with the SpeedUp Venture Capital Group, a leading group of VC funds in Poland, where she manages the group's communication strategy and execution at the *Huge Thing* accelerator.

**Dominik Wojciekiewicz**

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BIO

Software developer and Scrum Master in HugeServices.

LOCAL ECOSYSTEM

- Plus Jeden Poznań
- PPNT
- AIP
- SpeedUp Group
- YouNick Mint
- CoWalski Inspiration Avenue Coworkingness

WORTH FOLLOWING





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DOLNOŚLĄSKIE



BIO

Łukasz organizes what are known as “Turquoise Breakfasts.” Through these, he and a specialized team help organizations recognize their members’ talents and dispositions, bringing their efficiency to the next level.

LOCAL ECOSYSTEM

- Nokia, nokiagarage.pl
- Wrocław Technology Park (Wrocławski Park Technologiczny)

WORTH FOLLOWING



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OPOLSKIE



BIO

Michał works at the Science and Technology Park in Opole where he coordinates the implementation of new business ideas for the local market. He co-organizes startup events such as Startup Mixer, the PiastCode coding marathon, and ERC (European Robot Challenge). He is a local expert in the *automotive* sector.

LOCAL ECOSYSTEM

- Warm Up Your Business with ECO & PNT
- Cooperative Opolskie (Kooperacyjne Opolskie)
- Institute of Process Engineering and the Environment (Instytut Inżynierii Procesowej i Środowiska)

WORTH FOLLOWING





Dawid Pacha

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BIO

Chatbot evangelist at Messenger Fox. Dawid specializes in building businesses based on chatbots. He is the founder of the *Katowice School of New Media*.



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BIO

Co-founder of the Silesian community Startup Garden, Jakub has organized more than 125 events (lectures, presentations, and training sessions). He also works as a strategist and project manager at the marketing agency Punkt Krytyczny, where he is responsible for the creation of commercial brands, strategy, and marketing training.



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BIO

Wojciech, an entrepreneur and social activist, is the initiator and founder of StartUp Podbeskidzie. He is a proponent of agile project management methodologies and a fan of new technology. The owner of Da Vinci Studio, he has also co-founded several technology startups.

ŚLĄSKIE



LOCAL ECOSYSTEM

- ING Bank Śląski
- Tauron
- PWC
- Gliwice Technology Accelerator (Akcelerator Technologiczny Gliwice)
- The Euro Centrum Science and Technology Park (Park Naukowo-Technologiczny „Euro-Centrum”)
- AIP Katowice
- Silesian Business Incubator (Śląski Inkubator Przedsiębiorczości)
- Upper Silesian Agency for Enterprise and Development (Górnośląska Agencja Przedsiębiorczości i Rozwoju)
- B eskids Technology Incubator (Beskidzki Inkubator Technologiczny)

WORTH FOLLOWING

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MAŁOPOLSKIE



Mateusz Cybula

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BIO

Mateusz was part of the Tri-City tech scene until he moved to Kraków to build a startup community in January 2017. He manages an incubator for startups in Kraków Technology Park and organizes the #OMGKRK Summit and Startup Weekend Kraków.

LOCAL ECOSYSTEM

- Kraków Technology Park (Krakowski Park Technologiczny)
- Hub:raum
- Foundation Supporting #OMGKRK (Fundacja Wspierająca #omgkrk)



Bartosz Józefowski

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BIO

An active member of the Kraków startup environment, Bartosz has experience in incubation, acceleration, and investing in startups. Currently he primarily deals with Industry 4.0. He is based at the Kraków Technology Park.

WORTH FOLLOWING

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INMOTION

ŚWIĘTOKRZYSKIE



Maciej Balasiński
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BIO

Maciej is an active participant of the startup environment in Kielce. He has been involved with IT and mobile industries as well as new technologies for more than 10 years. He has developed more than 300 projects and concepts for banks, corporations and startups from around the world and is the owner of the Mobisense and Ersbee projects. Currently, he conceptualizes and carries out fintech projects based on blockchain technology in tandem with the Dutch company *Sourceful ICT*.

A big fan of Startup Weekends and hackathons, during which he has won the *GovTech Award* and the *Impact Award*. His motto: *Fail fast, learn fast*.



Paula Dulnik
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BIO

Paula is a co-organizer of Startup Weekend Kielce and regional Startup Poland Camps, with focus on Food&Tech. She also works at the Instytut Dizajnu institute, where she is responsible for communication and social media.



Małgorzata Chmielewska
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BIO

Małgorzata has been working at the Kielce Technology Park for seven years and over the past year she has coordinated the work of the Department of Incubation and Acceleration at KTP. She also helps startups in areas such as financing, product design, or creating and reviewing business models. As a Startup Poland Ambassador, she supports the local ecosystem by co-organizing events such as Startup Weekend Kielce and Startup Camp Kielce.

LOCAL ECOSYSTEM

- Kielce Technology Park (Kielecki Park Technologiczny)
- Regional Centre for Innovation and Technology Transfer (Świętokrzyskie Centrum Innowacji i Transferu Technologii sp. z o.o.)
- Invest in Kielce (Inwestuj w Kielcach)

WORTH FOLLOWING



PODOPHARM®





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PODKARPACKIE



BIO

Daniel is the president of the board at Hugetech and the INUP – Podkarpacka Koalicja Startupów foundation (INUP – Podkarpackie Coalition of Startups), which activates the local community.

LOCAL ECOSYSTEM

- Samsung Inkubator
- Idea Global
- Start in Podkarpackie

WORTH FOLLOWING



Tomasz Małecki
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LUBELSKIE



BIO

CEO of the Lublin Science and Technology Park, Tomasz is a promoter and mentor of the Lublin startup ecosystem. He manages the Innova-Invest IG 3.1 fund and Start Platform Connect. He also co-created the *Inno-broker project*, which combines business and education..

LOCAL ECOSYSTEM

- Ursus
- Billenium
- Edge One Solutions

WORTH FOLLOWING



MAZOWIECKIE



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BIO

Małgorzata runs the WebTango.pl creative agency and is also active in several NGOs including First Seats Are Always Free Foundation and the Startup Płock initiative, which support the development of startups and new technologies.

LOCAL ECOSYSTEM

- Startup Płock Initiative (Inicjatywa Startup Płock)
- Płock Industrial and Technological Park (Płocki Park Przemysłowo-Technologiczny)
- Reaktor Warsaw
- Google Campus
- Center For Entrepreneurship Smolna (Centrum Przedsiębiorczości Smolna)
- Hub Hub
- The Heart Tech



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BIO

Diana is the CEO of ReaktorWarsaw, an organization that has been supporting startups since 2012 with a co-working space and monthly OpenReaktor events that network the Warsaw startup scene. She is also a co-founder of the first Polish pre-acceleration program known as ReaktorX.

WORTH FOLLOWING





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BIO

Michał manages the SkyHub project, the official innovation hub of the Łódzkie Voivodship. He supports local startups by organizing events and networking meetings.

WORTH FOLLOWING



ŁÓDZKIE



LOCAL ECOSYSTEM

- SkyHub, Marshal Of Łódź Province (Urząd Marszałkowski Województwa Łódzkiego)
- Young in Łódź, Municipal Office of the City of Łódź (Młodzi w Łodzi, Urząd Miasta Łodzi)
- Accelerator Startup Spark, Łódź Special Economic Zone (Łódzka Specjalna Strefa Ekonomiczna)
- Ericsson Garage, Ericsson



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BIO

Sara is an events and marketing specialist in the Gdańsk Entrepreneurship Incubator STARTER. She has co-organized, among other things, the Venture Day Conference and the Startup Contest at the annual InfoShare conference..

LOCAL ECOSYSTEM

- Gdańsk Entrepreneurship Incubator STARTER (Gdański Inkubator Przedsiębiorczości „Starter”), www.inkubatorstarter.pl
- Pomeranian Science and Technology Park (Pomorski Park Naukowo Technologiczny), ppnt.pl
- Gdańsk Science and Technology Park (Gdański Park Naukowo Technologiczny), gpnt.pl

WORTH FOLLOWING



POMORSKIE



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BIO

Izabela is the director of business development (*digital healthcare operations*) at Logisfera Nova. She has been associated for a decade with the startup scene and scientific teams working on breakthrough solutions, mainly in the IT sector and digital healthcare. She is the initiator and organizer of many industry events, supporting teams as both a mentor and a coach.



Tomasz Urbanowicz

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BIO

Tomasz has been supporting regional businesses in building their expansion strategies for more than a decade. At Toruń Technology Park, he helps with business modelling. As a fan of digital technology, he inspires entrepreneurs to develop Internet of Things (IoT) solutions. He also spends time fundraising for startups within Horizon 2020 and other programs.

KUJAWSKO-POMORSKIE



LOCAL ECOSYSTEM

- Exea Smart Space
- BusinessLink
- NEUKubator Neuca

WORTH FOLLOWING



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BIO

Paweł has been supporting the development of the local startup and technology ecosystem for more than 10 years by means of organizing events and working with the local government and NGOs within the framework of the OLCAMP Association. While at OLCAMP, he has been also helping online stores increase their revenue by creating custom-tailored data analysis systems.

WARMIŃSKO-MAZURSKIE



LOCAL ECOSYSTEM

- OLCAMP Association (Stowarzyszenie OLCAMP)
- The Centre of Innovation and Technology Transfer at the University of Warmia and Mazury in Olsztyn (Centrum Innowacji Transferu Technologii Uniwersytetu Warmińsko-Mazurskiego w Olsztynie)
- Olsztyn Science and Technology Park (Olsztyński Park Naukowo-Technologiczny)

WORTH FOLLOWING





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PODLASKIE



BIO

Paweł is a software developer, business analyst, and software solutions architect. He gained his experience working on large ICT projects for ZETO Białystok, ComputerLand / Sygnity, and others. As a head of a postgraduate studies department, he is trying to prove that study curricula can be practical and relevant when they are created in partnership with the IT sector..

LOCAL ECOSYSTEM

- Białystok Science and Technology Park (Białostocki Park Naukowo-Technologiczny)
- Academic Incubator for Businesses and Selected New Technologies of Białystok University of Technology (Akademicki Inkubator Przedsiębiorczości i Wybranych Nowych Technologii Politechniki Białostockiej)
- Centroom
- TechnoTalenty Foundation (Fundacja TechnoTalenty)

WORTH FOLLOWING



The methodology

Author: **Agnieszka Skala, PhD**



The methodology of the fourth edition of the *Polish Startups* study is similar to that used in previous years. The survey was expanded to include new topics, and the number of respondents (1,100) broke last year's record. The authors would once again like to thank the whole startup community in Poland.

In terms of the research methodology, the most interesting aspect is the authors' definition of a „startup,” which is the criteria used to qualify a given entity to participate in the research and the validity of the use of such criteria. These issues can be explained as follows:

1. When the studies commenced in 2015, a “double selection” approach was adopted to choose entities that would participate in the study:
 - The first step was the careful selection of channels used to invite startups to participate in the survey. Such activities were primarily undertaken by Startup Poland and 25 of the foundation's ambassadors, who are well aware of the local conditions faced by startup communities.
 - The second threshold was the mandatory first question in the survey: “Is your venture a startup?” A negative response eliminated the company from further participation in the survey.
 - A startup is defined as a venture that meets at least one of the following three conditions:
 - it belongs to the digital economy sector,
 - it processes information or includes derivative technologies as a key element of its business model,
 - it creates new technological solutions in the field of ICT.
2. The authors of the study are aware of the controversy that may be triggered by the respondent selection method used, but are convinced that an incomplete method – or the uncertainty of decisions that were once made in this regard – is better than no method at all. In order for our research results to be comparable over time (so that we can discuss trends), the assumptions that were adopted in the past must remain constant over time.
3. In view of the assumptions presented above, the *Polish Startups* study actually focuses on the broadly understood digital industry. Startups involved in the commercialization of science, the creative sector, or inventiveness have entirely different business needs and goals than do those from the ICT sector. For example, there are completely different criteria for assessing market readiness, vastly different levels of co-financing amounts, a drastic difference in the amount of time required for product development, and tremendously differing needs in terms of equipment, infrastructure, and team competence. We believe that studying all types of startups at once would not produce credible results, and that the findings would not be transparent. On such a basis, it would not be possible to formulate reliable recommendations concerning any potential support for the ecosystem.

As an institution supporting technological and innovation entrepreneurship, Startup Poland, together with the partners who conducted this research, are open to initiatives aimed at expanding the research into further segments of our market

About the *authors*



Julia Krysztofiak-Szopa

An entrepreneur, manager, and mentor, Julia has been active in the startup world since 2008. She was initially involved with AdTaily and later honed her professional experience in Silicon Valley and Switzerland. In Zurich, she led growth in the fintech startup Dealmarket, a deal flow management platform for private equity. In California she was the first Program Director of the Blackbox.vc accelerator, where she ran programs to help non-US startups raise funding in Silicon Valley. She also co-founded Wellfitting, a global brand of lingerie manufactured in Poland.

Julia studied philosophy at the College of Inter-Area Individual Studies in the Humanities at the University of Warsaw and Artificial Intelligence at the Catholic University of Leuven in Belgium.

She has been the President of the Board at Startup Poland since 2016 and continues to carry out her personal mission of unleashing the global potential of startups in Poland.



Magdalena Beauchamp

Magdalena specializes in public policies that develop the digital economy. She is the author and co-author of numerous publications including *Złota księga venture capital w Polsce 2018 (Golden Book of Venture Capital in Poland 2018)* (Startup Poland, 2018); *Polish Startups Report 2017* (Startup Poland, 2017); and *Visa Policy for Startups* (Startup Poland, 2016). She has been involved in the sector of economic diplomacy since 2006.

Magdalena studied the European Single Market at the College of Europe and earned degrees in International Relations and Economics from Tischner European University and the Université de Fribourg in Switzerland. She has gained economic policy experience at the Trade Department of the Royal Danish Embassy in Warsaw, the European Commission, and the Permanent Representation of Poland to the EU.

She is the Head of Public Affairs at Startup Poland. She is responsible for think tank projects, legislative consultation, the positions of the IT sector towards projects of EU law, and representing Polish startups in Brussels.

The *research* team



Agnieszka Skala, PhD

An adjunct lecturer at the Faculty of Management at Warsaw University of Technology, Agnieszka holds a PhD in Economics. She is a graduate of the Warsaw School of Economics and the Lean LaunchPad Educators Program at the Haas School of Business at UC Berkeley.

Her academic work concerns startups and education for technological entrepreneurship. She wrote the monographic study *Startupy – wyzwanie dla zarządzania i edukacji (Startups – a challenge for management and education)* (edu-Libri, 2018).

She also co-founded the Innovation Nest Entrepreneurship School (SPIN), which she has been managing since 2011. At Warsaw University of Technology, she runs her own seminar cycle on High Tech Entrepreneurship. She is a member of the Startup Poland Advisory Board as well as since 2015, the coordinator and the author of the research methodology for its annual Polish Startups study.



Tomasz Ociepka

Tomasz holds degrees in mathematics from the Faculty of Applied Mathematics at the AGH University of Science and Technology in Kraków and Queen Mary University in London. He founded and runs the Oxford Data Studio – a company specializing in statistics, analysis, and data visualization. A startup enthusiast, he is interested in the social aspects of innovation. He has been a member of the science team in the study of Polish startups by the Startup Poland since 2016. He lives and works in Oxford.

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Much like building a startup, the *Polish Startups 2018* survey is a team effort. This year, a record number of companies were included: 1,101 and all of these were the result of the **invaluable engagement of hundreds of people** who care about developing the business environment in Poland.

The Startup Poland team would like to thank everyone involved, without whom this report would not have been possible. Your efforts are truly appreciated.

We wish to thank the **respondents** – the founders of Polish technology companies who dedicated a total of 348 hours to filling out the surveys in the midst of their everyday struggle for higher revenue, more rounds of financing and new employees.

We would like to thank our **Startup Poland Ambassadors** – the leaders of regional startup scenes who have gone above and beyond their roles and duties for yet another year, ensuring that the survey covers the whole country and leaves no “uncharted territories” on the startup map of Poland.

Our thanks also go to **all of the business environment institutions, non-profit organizations, investment funds and local governments** involved – all of the entities who distributed the questionnaire amongst their respective communities.

A big thank you goes to the **influencers of the Polish startup scene**, who lent their own personal brands to the project and encouraged startups to take part in the survey.

Thanks also to the **experts** who shared their comments on the survey’s results.

We would like to thank the **partners of the project** – PFR SA, PFR Ventures, Google, PARP, and the Kronenberg

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Our gratitude is also extended to our **strategic partners** – Google and Business Link – as well as the **customers**, thanks to whom Startup Poland has been able to scale its activity year on year and to invest in developing the skills of its team.

Last but not least, we want to thank **Interleo**, whose team yet again showed angelic patience and read our minds during the design of the graphic layout of the report, and **Aeddán Shaw**, who made sure of the correctness of its language.

The Startup Poland team



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