Warsaw Video Games Industry 2019/20

fall in love with Warsaw

The Witcher 3
CD Projekt Red

ABOUT THE AUTHORS

A video game enthusiast with over 12 years of experience in the electronic entertainment industry, Maciej is one of the pioneers of eSports in Poland, being part of the first team of professional computer game players, PGS Gaming, from 2006 to 2009. He continued his career at GRY-OnLine S.A. acquiring experience in the online marketing of games, as well as in e-commerce. In 2013, Maciej became a Community Manager at Razer and is responsible for the dynamic growth in their social media channels in Poland. He has also worked with the Kool Things agency and ESL Poland in their online marketing for the video game market. Since 2016, Maciej has been working in Krakow Technology Park, where he is responsible for the organization of the Indie Showcase during the Digital Dragons conference, he also leads the Digital Dragons Academy project and is the co-author of the State of the Polish Video Game Industry report.

Maciej Śliwiński

Assistant lecturer at the AGH's Faculty of Humanities, and a PhD student at the Institute of Sociology of the Jagiellonian University. An initiator and co-organizer of the national conference "Technological and Social Aspects of the Twenty-First century" (now "TechSpo"), an author of a book on video games in Polish families titled "Video games in the family environment. Diagnosis and recommendations", and a co-author of two monographs: „Technoculture: Transhumanism and Digital Art", and "Technological and Social aspects of the Twenty-first century". He was awarded the scholarship of the Polish Minister of National Education and the Florian Znaniecki prize of the Polish Sociological Association for his master's thesis. He is interested in video games, VR, digital media and STS studies.

Damian Gałuszka

Team manager for the game industry at the Krakow Technology Park. She has been actively supporting the video game sector for the past eight years, both on Polish and foreign markets. She is the head of Digital Dragons – the leading B2B event in Europe as well as the Digital Dragons Academy – monthly courses and workshops for students, professionals and those aspiring to work in the game industry. Co-author of "The State of The Polish Video Game Industry" – comprehensive report of the current Polish video game market compared to global trends, presenting the current profile of gamers in Poland and the value of the video games industry along with the key contributing components. Anna has many years of experience acquiring and applying grants from the European Union.

Anna Krampus Sepielak

An enthusiast of the video game market, traveling and opera music, Michał began his adventure with games during the era of 8-bit computers. From 1995 - 2000, he worked in the outdoor advertising industry. Since 2001, he has combined his passion for virtual entertainment and online advertising with a job at GRY-OnLine S.A. (part of Webedia Group), the undisputed leader in Polish gaming media as a Chief Marketing Officer and a Member of the Board. A very frequent speaker at industry conferences, such as Digital Dragons, Games Connection, ChinaJoy and the Poznań Game Arena. He is also an originator and co-author of the both editions of the "State of the Polish Video Game Industry" report, as well as the "Polish Gamers Research" reports. Michał Bobrowski has an MBA from the Polish Open University.

Michał Bobrowski

Long-time editor at GRYOnline.pl – biggest Polish gaming website – and media representative at shows like Gamescom or Hi-Rez Expo. Writing about video games for more than a decade, and helped in developing "State of the Polish Video Game Industry". Self-proclaimed 'know-it-all' of the Polish video game industry, privately a traveller and enthusiast of Middle-Eastern culture and politics.

Jakub Mirowski

Compilation and editing:	Łukasz Kaczyński, Pure Creations
Review:	Anna Nowopolska
Special acknowledgements:	Dominika Darowska, Maria Błędowska, Sonia Wojciechowska Special acknowledgements for assistance in creation of the introduction for Patrycja Rodzińska-Szary, co-author of "The Condition of the Polish Video Game Sector" and the "Polish Gamers Research".
Translation:	LOC

KRAKOWSKI PARK TECHNOLOGICZNY

POLISH GAMERS OBSERVATORY

GRYOnline.pl

INTRODUCTION

In October 2019, **CD Projekt**, a listed company from Warsaw, has been included in the prestigious list of the American Bloomberg agency entitled "**50 Companies to Watch in 2020**", as the first and the only Polish company in history. **CD Projekt** was accompanied by such enterprises as Roku, Netflix, Facebook, Bayer, AIG, Daiichi Sankyo and Toyota.

Fig. 1 Global Games Market per segment

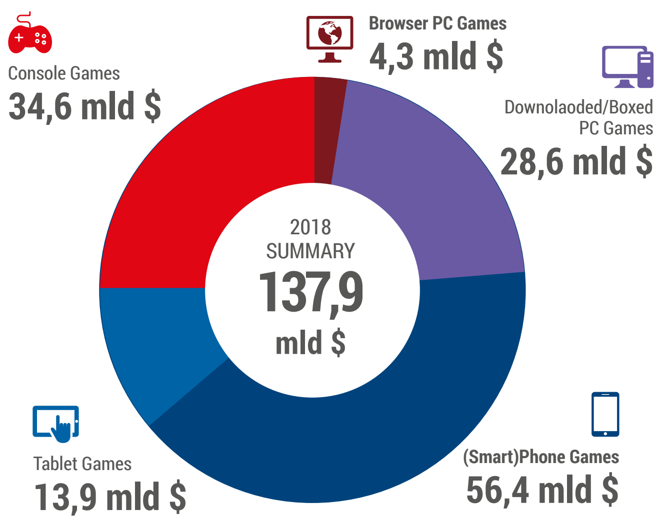
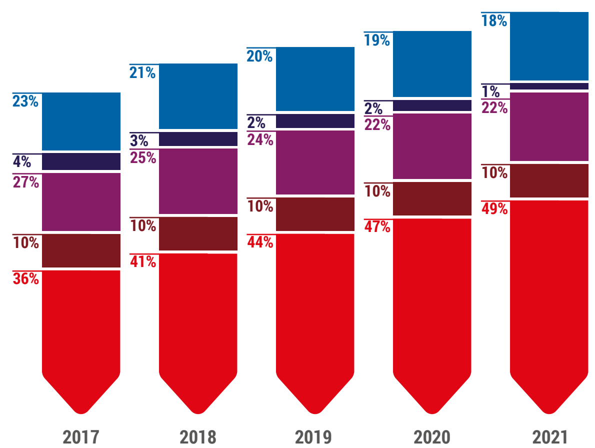


Fig. 2 Segment breakdown of Global Game Revenue



Source: Own study in Polish, based on the Newzoo report "2018 Global Games Market Report"

It is very significant that a Polish company from the video game sector has been noticed by Bloomberg and its analysts, and was the only one to represent the international video game industry. Moreover, according to the Bloomberg analysts, in 2020, **CD Projekt** will outclass the remaining 49 companies from the point of view of the expected sales increase, forecasted to be at the level of 446.12%, with 20-23 million copies sold in the first months after the release of *Cyberpunk 2077*.

More than ten years ago, it would be very difficult to imagine such a situation, especially for a Polish company. The global video game market needed 35 years to reach the value of USD 35 billion in 2007, but only 11 more years to exceed the revenue threshold of USD 137 billion. Games brought together a society composed of nearly 2.3 billion people all around the world and became an entertainment form enjoyed by educated and working adults, both male and female, which contradicts the stereotypes about gamers.

In a relatively short period, the video game industry changed from a niche market for young people, which was not treated very seriously by the media or the public opinion, into a dynamic, massive branch of creative industries and a part of the global pop-culture. The video game sector achieves higher revenues than the music and film industries, and has been a promising area for the Western and Asian investors for the last few years. As a comparison, the video game industry generated the revenues at the level of USD 137.9 billion in 2018, while the international music market achieved USD 19.1 billion, according to data published by IFPI in "Global Music Report 2019".

Among others because of new business models, distribution platforms, games development process and popularisation of smartphones, the video game industry developed dynamically after 2007, which resulted in an explosion of Gamedev, the numbers of released games, their availability for the global recipients and, therefore, a growing number of gamers, in particular among the persons who have never played video games before. The reason for gaming changed as well. Competition or role-playing were re placed by the need to relax, deal with stress, experience emotions or simply kill some time.

The forecasts for the video game industry for the incoming years are optimistic, although the market is becoming increasingly difficult for minor producers and publishers of games who have to compete with large corporations. In 2017, 35 public companies (among others Tencent, Sony, Nintendo, Ubisoft, EA, Microsoft, Warner Bros., Google, Facebook, Nexon) were responsible for 82% of the global revenues in the video game industry. The compound annual growth rate (CAGGR) of the international games market in 2017–2021 will amount to +10.3% which, according to the Newzoo forecast, will mean USD 180.1 billion of revenues in 2021, with 59% generated by the segment of mobile games, mainly played by women. Similarly as in the preceding years, Asia and the Pacific remain the fastest developing region which already in 2018 generated 52% of the total revenues of the video game industry, namely USD 71.4 billion, and achieved two-digit YOY growth at the level of 16.8%. China only generated USD 37.9 billion in 2018, maintaining the top position among the most important countries with respect to the revenues generated for the sector. The success of that region is directly connected with popularisation of mobile games and their large fanbase in Asia. North America remains the second most dynamic region with revenues at the level of USD 32.7 billion, constituting 23% of the industry revenues, and with YOY growth at the level of 10%. The United States of America (revenues in 2018: USD 30.41 billion), after losing the top position among the countries generating the highest revenues for the video game industry in 2017, returned to the top in 2019 with a minor advantage over the Chinese competitor. The third region from the point of view of revenues, i.e. EMEA (Europe, Middle East, Africa) reached the revenues of USD 28.7 billion with YOY growth at the level of 8.8%, followed by the Latin America with revenues of USD 5.0 billion and YOY growth at the level of 13.3%.

According to the Newzoo forecasts, the Eastern European region, which includes the Polish market, generated revenues of USD 3.9 billion in 2018, with the annual growth rate of +9.1%, meaning nearly two times faster growth than in the case of the mature market of Western Europe. According to the same source, in 2018, the Polish market generated revenues from gamers at the level of USD 546 million. In the same year, the revenues of the Polish game producers slightly exceeded USD 330 million. It should be noted that the level has been relatively stable for 3 years (in 2016, the European Games Developer Federation estimated that the revenues of all Polish game producers, both public and private, amounted to EUR 300 million). It should also be noted here that those two values are frequently mistaken, so there is a need to clearly differentiate them. The first is generated (according to Newzoo) by over 15 million local gamers spending their cash on games on the Polish market. The second is generated by 331 Polish development studios (although it is estimated that, together with independent studios, the total number would be about around 600) within the scope of global game expenditures.

Polish companies are proficient in interpreting quickly changing global trends and finding attractive niches. There are companies producing VR (virtual reality) games, mobile games, browser supported games and games for new generation consoles or the Nintendo Switch.

It should be remembered that because of an international nature of the video games sector, the Polish producers compete with enterprises from all around the world, fighting for time and attention of the consumers, as well as business cooperation with the publishers or the media. Considering the above, attention should be paid to the support schemes for the local companies offered by the government or local government authorities, aimed at supporting development of the video game market in Poland and improving competitiveness of the Polish video game producers on the global market. The game producers are familiar with such dedicated initiatives and schemes as, among others: GameINN of the National Centre for Research and Development, the Creative Sectors Development programme of the Ministry of Culture and National Heritage, Creative Europe, Digital Dragons Incubator, ARP Games accelerator in Cieszyn. The above initiatives offer additional funding for game development and also support in foreign promotion at international B2B and B2C fairs, competence-improving workshops dealing among others with game design, project management, intellectual property rights, marketing, monetisation, cooperation with the media or acquiring the investors. The companies located in Warsaw, apart from financial support in the form of grants, perceive the local government as a partner supporting their foreign promotion, creation of offers allowing participation in the incubator for small and medium companies or extension of the education offer.

The sector is also supported by research projects that deliver information about the current condition of the industry, its successes and challenges faced by game producers. It is important to regularly gather the information in order to be able to eliminate the factors restricting development of the industry. The conducted research provides knowledge about the problems of the Polish Gamedev - not only a shortage of properly qualified employees, but also bureaucracy and unclear taxation system. State and local government organisations who are aware of the situation may attempt to find the solutions to the problems signalised by Gamedev.

Net revenues of all producers of video games listed at the Warsaw Stock Exchange (both on the main floor and on NewConnect) amounted to PLN 772.8 million in 2018, including the revenues of **CD Projekt** at the level of PLN 362.9 million. The net profit of all 29 producers listed on the stock exchange amounted to PLN 157.2 million in 2018. Pursuant to Morgan Stanley bank of January 2019, **CD Projekt** was worth PLN 23 billion, while in the mid-November 2019, its value exceeded the threshold of PLN 25 billion. It is therefore not surprising, that the Forbes ranking entitled “100 Richest Poles 2018” included Marcin Iwiński (22nd place), Michał Kiciński (29th place) and Piotr Nielubowicz (59th place) from **CD Projekt**.

From the very beginning of the Polish game industry, Warsaw was always in the middle. For years, the most important companies were established in the capital, among others Metropolis Software with The Mystery of the Statuette, **People Can Fly** with the recognised Painkiller, **11 bit studios** with the touching *This War of Mine* or finally **CD Projekt**, whose internal development team created the most renowned Polish export product in the recent years, *The Witcher* series.

The strength of the Warsaw game sector is also reflected in the results of companies listed on the Warsaw Stock Exchange or NewConnect, when compared to other representatives of the sector. In 2018, the Warsaw companies generated 68% of the net revenues of all video game companies listed on the stock exchange, and 93% of their net profit. The result is impressive, regardless of PLN 22 million loss recorded in 2018 by CI Games and PLN 13 million loss recorded by No Gravity Games (at that time, operating under the name Fat Dog Games).

Fig. 3 Revenues of game companies listed on WSE in 2018

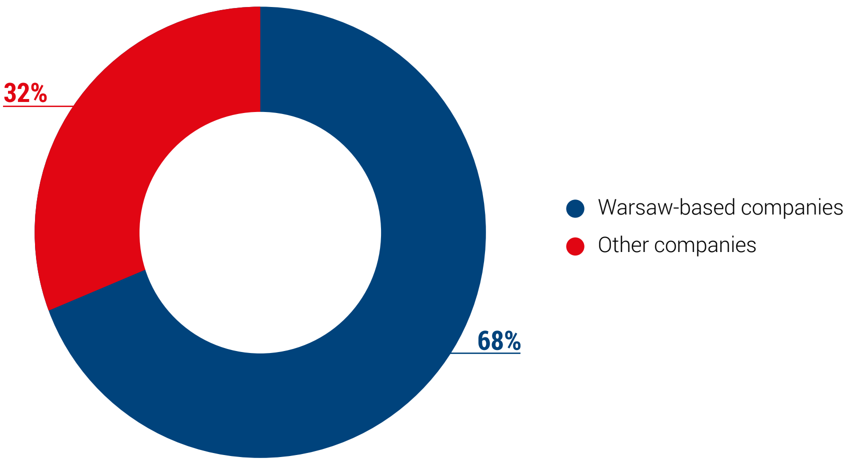
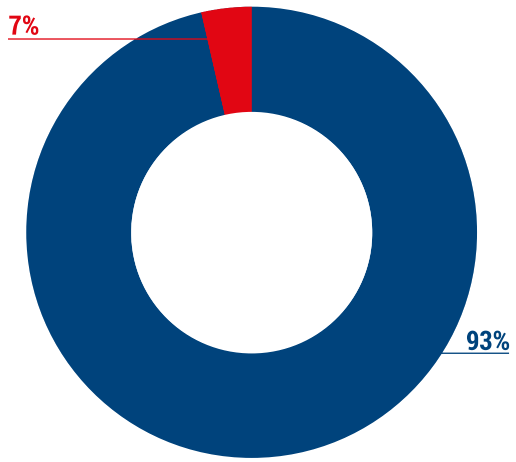


Fig. 4 Net profit of game companies listed on WSE in 2018



Source: Own study based on the analysis Annual Reports for 2018 of game companies listed on the Warsaw Stock Exchange and NewConnect

The atmosphere around Warsaw as the right place to execute projects from the video game sector, among others because of better access to employees, office space, transport and external financing sources than in other regions, is sufficient for as much as 82.7% of the respondents, who stated that Warsaw may become the largest video game production centre in the Central and Eastern Europe within the next 6 years.

Historical background, positive perception of the capital by the representatives of the industry, the highest number of registered video game companies and a strong presence of the companies from Warsaw at WSE and NewConnect make Warsaw an unchallenged leader of the Polish Gamedev.

This report is aimed at presenting the Warsaw branch of the video game development sector to the widest possible range of recipients, enabling them to understand its characteristics and status in relation to the global video game industry. The report consists of four components. The first presents successes of the Warsaw game developers in 2019. The second contains a review of the video game companies from Warsaw present on WSE together with their financial results for 2017 and 2018. The third presents the results of a survey conducted among the Tamedev representatives, dealing with perception of Warsaw by the local video game developers. The fourth component provides the basic information about the condition of the Warsaw game developers based on the survey conducted among the representatives of the video game industry.

METHODOLOGY

The report contains the results of a survey conducted among the Warsaw game developers from September to November 2019. It focuses on the key aspects of running an enterprise and relations of the companies with their social and business surrounding, including assessment of the quality of living and conducting business in Warsaw, company structure, forms and conditions of employment, public aid, projects financing, publishing budgets and practices.

The basic part of the study is the quantitative part, comprising the questionnaire with 49 closed and semi-closed questions. Complete responses were obtained from 29 companies, which constitute approximately 48% of all video game developers from Warsaw. The representative sample comprises the representatives of micro-, small, medium and large enterprises.

The scenario of qualitative survey was developed on the basis of the quantitative results and it comprises a series of structured interviews conducted by the authors of the report with the representatives of the major market segments. The interviews were conducted in October and November 2019.

In-depth interviews were conducted with the following persons:

- Miłosz Białas (head of communication, **QLOC**)
- Karol Drzymała (CEO, **Orbital Knight**)
- Grzegorz Mazur (CEO, **Vile Monarch**)
- Grzegorz Miechowski (CEO, **11 bit studios**)
- Joanna Staniszewska (head of marketing, **Flying Wild Hog**)
- Kacper Szymczak (CEO, **Artificer**)
- Mateusz Wcześniak (CEO, **Movie Games**)
- Jakub Wójcik (chairman, **Indie Games Polska Foundation**)

Shing
Mass Creation

SUCCESSES OF THE WARSAW GAME DEVELOPERS IN 2019

Warsaw has been an unchallenged centre of the Polish video game industry for a long time. For many years, the most important companies in the history of the Polish interactive entertainment were established in the capital. They include, among others, **Metropolis Software**, who produced among others the legendary *Mystery of the Statuette*, **People Can Fly**, which made a spectacular career because of *Painkiller*, **11 bit studios**, experts in providing ambitious food for thought, and obviously **CD Projekt** whose internal development team (**CD Projekt RED**) created a blockbuster series, *The Witcher*.

Warsaw was also the location of the symbolic birth of the Polish video game industry in the 1980s. Lucjan Wencel established California Dreams, a studio employing programmers from Poland but working on titles and conversions for the American market. After the political transformation, the products defining interactive entertainment in the Polish Third Republic, such as *Kajko i Kokosz*, or *Franko: The Crazy Revenge*, were mainly created in the Pomorze region. In that period, the companies currently defining our video game market began to organise in the capital: **CD Projekt**, which later gave us *The Witcher*, but was initially focusing on publishing foreign hits, or Metropolis Software, a studio employing developers who later joined such companies as **People Can Fly**, **11 bit studios** or **The Astronauts**.

Warsaw was also the place where the products confirming global ambitions of the Polish industry were developed. The first association coming to mind is obviously *The Witcher*, but the success of the Warsaw interactive entertainment sector does not end with that franchise. *This War of Mine*, Lords of the Fallen or smaller, independent productions such as Darkwood or Ruiner, attracted groups of dedicated fans and even if they did not break sales records, they received positive opinions from critics.

Although the years 2018–2019 were not filled with spectacular successes of the companies from Warsaw, in general, they recorded much more ups than downs in that period.

The giant of Polish interactive entertainment, **CD Projekt**, has had an amazing season. According to the data from mid-November 2019, the company's worth reached over PLN 25 billion (over two thirds of the entire Polish sector), principally because of the amazing sales of *The Witcher* franchise. It has been driving the company's finances for the last two years, because the combination of an RPG and a card game, *Thronebreaker: The Witcher Tales,* received good reviews but the sales were below expectations. Regardless of the above, **CD Projekt** does not have any reasons to complain. Three instalments of *The Witcher* series in total sold over 40 million copies and the release of the last instalment for Nintendo Switch in October undoubtedly contributed to increasing that result.

In addition, the date of the planned release of another potential hit by **CD Projekt RED**, the company's internal development studio, is coming nearer. It is obviously *Cyberpunk 2077*, an RPG set in the futuristic world, whose marketing campaign was launched last year. The trailer presented during the Microsoft conference at E3 2018 became the most frequently watched material at the event and the information disclosed in June about the cooperation between the developers and Keanu Reeves, a Hollywood star, was also widely discussed. Additionally, two extensive gameplay fragments presented at the event were also well received. The campaign resulted in amazing pre-sales results significantly exceeding those achieved by *Witcher 3: Wild Hunt*.

Cyberpunk 2077 has already begun to bring profits to the studio although the release is planned for April 2020. It is really hard to imagine that the title could be a commercial failure - the Bloomberg analysts estimate that the game sales may exceed twenty million during the first months, which would place the work of **CD Projekt RED** at the same level with such high-budget hits as *Red Dead Redemption 2* or *Spider-Man*. Obviously, a lot depends on whether the developers will manage to meet the excessive expectations of the audience, but after *The Witcher 3* there is a lot of confidence in their abilities.

While discussing the achievements from that period, **11 bit studios** should be mentioned as first. The team has been operating for a decade. Five years ago, it published *This War of Mine*, a survival game about a group of civilian survivors in a besieged city, and demonstrated its ability not only to deliver high quality, but also a powerful message. Its new work, Frostpunk released in April 2018, confirmed those ambitions. That game, where the player manages the last human city during a new ice age, received excellent reviews and achieved very high sales results: regardless of its relatively small scale, over 1.4 million copies of the games were sold, only on PC. A warm welcome was also given to the PlayStation 4 and Xbox One versions, a season pass and the first DLC, which will undoubtedly improve the financial results of the game.

But the recent years' success for **11 bit studios** did not end with Frostpunk. *This War of Mine* is still appreciated - in April the studio announced crossing the threshold of 4.5 million copies sold. In 2018 and 2019, the company released two expansions - The Last Broadcast and Fading Embers, which will presumably mean the end of the five-year long process of adding new content to the game. It should also be noted that *This War of Mine* means more than just video games. The board-game version of that title will soon receive a new expansion. The printed version of *This War of Mine* has been translated into English, German, Russian, Italian, Czech, French, Spanish and Portuguese.

The developer has also handled the role of a publisher very well: within the last two years, it released Moonlighter and Children of Morta, two games developed by small, independent teams. Both of them were appreciated by the fans and achieved satisfactory sales, although no specific numbers were given to the public. **11 bit studios** began working on a new game, which does not have a title yet. It will presumably be a first person or third person perspective action game.

Smaller studios cannot complain about lack of appreciation. Within the last months, after a long period of early access stage, two teams from Warsaw presented the final versions of their first projects: **Thing Trunk** and **Creepy Jar**. Their debuts, as appropriate, Book of Demons and Green Hell, attracted the attention of the public: the first sold over 220 thousand copies in 2018, the second crossed the threshold of 300 thousand copies a month and a half after completion of the works and releasing the final product. Moreover, the gamers appreciated both titles. Green Hell is recommended by 82% of the people who purchased the game through Steam. Book of Demons achieved a better result - 92%. The *Thing Trunk's* project won the title of the best single player game according to IndieDB, a portal specialising in independent productions. Both games were also nominated to the Central & Eastern European Game Awards.

The first information about sales of *Crossroads Inn* developed by **Kraken Unleashed**, an internal studio of the Klabater publisher, also looks good. That inn simulator was released at the end of October 2019 and at first, nothing suggested a success: the title missed the attention of large foreign portals and if reviewed, the critics usually assessed it as average. Additionally, it was also criticised by gamers because of technical problems. The studio immediately removed the bugs, which resulted in an increased interest in the game. As a consequence, a week after release, Crossroads Inn repaid its entire budget - approximately PLN 850 thousand.

PlayWay, a company that moved from developing its own games to principally distributing low and medium budget games in the recent years, has also had an excellent season on the publishing market. **In the years 2018–2019, ten new titles were included in the portfolio of that enterprise**. The majority of them are various types of simulators: *Farm Manager 2018*, *Thief Simulator* or *House Flipper*, but their list also includes an adventure game *Bad Dream: Fever* and survival horror, *Agony*. Although the above games reach a limited audience, the publishing strategy of **PlayWay** comprising releases of many titles developed with relatively low costs, seems to be successful.

None of those games amazed the reviewers, but they still generated significant profits. *House Flipper* was sold in over 1 million copies, *UBOAT* and *Thief Simulator* also reached a few hundred thousand customers. Even *Agony* was purchased by over 150 thousand people, regardless of negative reviews, and the Madmind studio from Bydgoszcz is already working on its expansion entitled *Succubus*. **PlayWay** can certainly congratulate itself on a very interesting business approach - publishing many titles with low budgets decreases the probability of a spectacular commercial failure and in the case of an unexpected popularity, such as in the case of *House Flipper,* it generates extraordinary profits. No wonder that PlayWay is going to continue that strategy in the nearest future and already has a specific publishing plan for 2020.

Cyberpunk
CD Projekt RED

Among the companies that are not directly associated with development of interactive entertainment, significant success was also achieved by **QLOC**, a Warsaw company involved in re-mastering older titles, porting games to other platforms and subcontracting, among others within the area of quality assurance or localisation. **In the years 2018–2019, that company was engaged in two prestigious projects: re-master of the RPG hit, *Dark Souls*, and a PC version of *Mortal Kombat 11*.** The first of the above was a big success because the developers managed not only to improve the overall appearance of the original game released eight years ago, but also removed numerous bugs which made the demanding gameplay even more difficult. The conversion of *Mortal Kombat 11* into PC made a slightly worse impression, as it was criticised among others for lack of support for ultra-wide screens and restriction to the maximum of 30 FPS. Regardless of the above, it is good to know that a company from Warsaw is selected as a partner by the giants of the international interactive entertainment industry and regularly works on the most recognised hits.

Another company from Warsaw, Roboto, which has been engaged in video games localisation for over ten years, has also been busy. Last year, the company completed over one hundred projects and is currently recruiting more translators.

On the other hand, the mobile games sector recorded a slight downfall trend. **Cherrypick Games and Enclave Games, both also originating from the capital, did not manage to develop another smartphone hit** which could be compared to *Timberman or Godfire: Rise of Prometheus* and there were no spectacular successes of the Warsaw developers on that market in the recent years. The most popular release in that segment was *My Spa Resort*, a free-to-play game, which was downloaded from Google Play over million times. It was the largest project in the history of Cherrypick Games and although it did not storm the international rankings yet, its authors expect that the game will become more popular along with adding more functions and content to it.

From the perspective of the Warsaw developers, the years 2018–2019 cannot be assessed in an explicit manner. They certainly give good perspectives for the future, for example because of excellent debuts by Creepy Jar and Thing Trunk. The latter of those teams is already working on another game, a pastiche of one of the extremely popular games from the 1990s (similarly as *Book of Demons*, which was designed as a kind of homage to *Diablo*). Good assessment of the new projects by CreativeForge Games and Pixelated Milk also give some hope, while a good performance of **11 bit studios** confirmed by *Frostpunk* and an extensive interest in the new work by **CD Projekt RED** prove that the giants from the capital also keep the pace.

Still, first of all, the last two years have increased the expectations of what is to come. The future holds not only *Cyberpunk 2077*, although it will certainly be the greatest hit not only in the Warsaw sector, but also in the entire video game industry. We are also waiting for *Witchfire* by **The Astronauts**, *Outriders* by **People Can Fly** or any details concerning the next game by **11 bit studios**. **Interactive entertainment in Poland has been developing for years; last year Forbes Polska estimated that 25 largest Polish companies from that sector were worth in total over PLN 26 billion** and that amount is expected to increase. The developers from Warsaw constitute the central point of the sector and there are no indications that it is going to change.

Mortal Kombat 11
ported by QLOC

GAME COMPANIES LISTED ON WARSAW STOCK EXCHANGE

CD PROJEKT SA

- **Net revenues in 2017**: PLN 463.18 million
- **Net revenues in 2018:** PLN 362.9 million
- **Profits in 2017:** PLN 200.27 million
- **Profits in 2018:** PLN 109.33 million

Fig. 5 The increase of CD Projekt RED's share price within the last 5 years

Source: Warsaw Stock Exchange

Within the last three years, **CD Projekt RED**, the internal studio of **CD Projekt**, published two new games with lower budgets and popularity. Those were a card game *Gwent: The Witcher Card Game* and the related campaign *Thronebreaker: The Witcher Tales*, which was sold below expectations but still, the investors of that company have no reason to complain. Because of the active marketing campaign of *Cyberpunk 2077* which was launched in mid-2018 and included among others two trailers presented at E3 2018 and 2019, extensive gameplay fragments and disclosure of information about cooperation with a Hollywood star, Keanu Reeves, **the shares of the company regularly gained on value, additionally driven by better than forecasted financial results**. These results were connected with good sales of *The Witcher 3* and its DLCs, additionally improved by the October release of Nintendo Switch version.

However, the attention of the investors is currently focused on *Cyberpunk 2077* which should be released in April 2020. There are over 400 people working on the project right now and the majority of the one hundred million budget designated for the games development in 2018 has already been spent. However, the incurred expenses should be recovered soon: the pre-release sales are very good according to Adam Kiciński, the chairman of **CD Projekt**.

Currently, the company is an unchallenged leader of the Polish interactive entertainment sector. As the only public company, **last year it generated profits exceeding PLN 100 million, which is more than the joint income of all other game companies listed on the stock exchange**. A successful release of *Cyberpunk 2077* may increase the value of **CD Projekt** even more, while it is already estimated at the level of over PLN 25 billion. It all depends on the game developers. The good financial condition of the company also allowed for the purchase of a building with a long-term seat in October 2019, which had been leased so far.

11 BIT STUDIOS SA

- **Net revenues in 2017**: PLN 19.15 million
- **Net revenues in 2018:** PLN 82.11 million
- **Profits in 2017:** PLN 3.42 million
- **Profits in 2018:** PLN 37.55 million

Last year was very successful for **11 bit studios**. The company completed adding new content to *This War of Mine*, its greatest hit released in 2014 (over 4.5 million copies sold) and focused on its new project: *Frostpunk*. It was also a success, in particular considering a relatively niche character of that production. **Over 1.4 million customers have purchased it within one year after its release and that number refers only to the PC version** - the release of the console version in October 2019 should improve that result.

Frostpunk is the principal source of over PLN 82 million revenues and PLN 37.5 million profits achieved in 2018. Those results significantly exceed the revenues from the last three years that were at the level of over PLN 20 million. **The sale of Frostpunk (over PLN 30 million revenues in the first half of 2019) drives the financial result of 11 bit studios, but the publishing activities of the company also contribute to it**. Last year, it released the quite profitable Moonlighter and this year - *Children of Morta*, an RPG action game developed by an independent Dead Mage studio from California. The revenues from the last title have quickly recovered the incurred expenses with a significant surplus.

11 bit studios, valued at PLN 1 billion, is currently the third video game company with the highest value in Poland (second, considering only the companies listed at the stock exchange, following only **CD Projekt**) and has many reasons to see the future in bright colours. **At the end of 2018, the company purchased real estate in Warsaw designated for its new headquarters, and it is already planning three new titles**. The first will be *Project 8* with the budget of PLN 20 million - nearly twice the amount spent on *Frostpunk*.

PLAYWAY SA

- **Net revenues in 2017**: PLN 32.15 million
- **Net revenues in 2018:** PLN 34.93 million
- **Profits in 2017:** PLN 15.76 million
- **Profits in 2018:** PLN 16.48 million

The recent years have been particularly successful for PlayWay. The leading Warsaw-based publisher of low and medium-budget games is set for success because its titles achieve very good sales results even if the reviews are moderate. *Agony* is the best example - **the survival horror despite the negative reviews, was still purchased by 150 thousand customers**. That number was sufficient to generate profits for the publisher and provide the developers with enough funds to work on two other projects.

PlayWay applies the strategy of publishing many titles developed with relatively low budgets, counting on a commercial success of at least a part of them. Until now, that approach had incredible effects. In 2017, the company earned over PLN 15.5 million and in 2018 that amount exceeded PLN 16 million. **Within the last two years, the price of the company's shares increased almost two fold - from PLN 62 to PLN 178**. PlayWay published real hits, such as the *House Flipper* which became the most popular Polish release in 2018 and was purchased by over 1 million customers (which presumably assured development of its continuation). A tight release plan allows the publisher to be optimistic about the future: the company is planning to publish nearly 20 games in the next 12 months and as they have a good sense for unexpected hits, they can expect more profits.

A high number of published games would not have been possible if not for a rather characteristic feature of the business model applied by the company. When you think PlayWay, you should remember that its success is a result of the work of over 40 development teams (presented in two tables below). It should also be noted that some entities from the PlayWay capital group have already debuted on the Warsaw Stock Exchange and will be separately described in this chapter.

Subsidiaries of PlayWay SA:

No.	Name	Share in the capital - as at 31.12.2018
1	**PlayWay Estonia OU**	100%
2	**Gameboom VR sp. z o. o.**	99%
3	**Woodland Games sp. z o.o.**	97.33%
4	**Stolen Labs SA**	90%

No.	Name	Share in the capital - as at 31.12.2018
5	**Frozen District sp. z o.o .**	80%
6	**DeGenerals SA**	80%
7	**Rebelia Games sp. z o.o.**	79%
8	**Madmind Studio sp. z o.o.**	78%
9	**Iron Wolf Studio SA**	77%
10	**InImages sp. z o.o.**	76.19%
11	**President Studio sp. z o.o.**	75%
12	**Pixel Flipper SA**	74%
13	**Console Labs SA**	74%
14	**Nesalis Games sp. z o.o.**	70%
15	**Ragged Games SA**	70%
16	**Total Games sp. z o.o.**	69%
17	**Atomic Jelly sp. z o.o.**	65%
18	**Circus sp. z o.o.**	64.84%
19	**Pentacle sp. z o.o.**	64%
20	**Live Motion Games sp. z o.o.**	63.59%
21	**Code Horizon sp. z o.o.**	60%
22	**Imaginalis Games sp. z o.o.**	60%
23	**Rejected Games sp. z o.o.**	57%
24	**SimFabric sp. z o.o. (formerly Emilus IT Solutions sp. z o.o.)**	56.88%
25	**Polyslash sp. z o.o.**	56%
26	**Pyramid Games sp. z o.o.**	55.10%
27	**Space Boat Studios sp. z o.o.**	51%
28	**Games Operators sp z. o.o. (formerly Creative Octopus sp. z o.o.)**	50.02%
29	**Ultimate Games SA**	48%
30	**Duality SA**	44.80%
31	**Sonka SA**	41.58%

Affiliates of PlayWay SA which are valued using the equity method in the consolidated financial statements of that company.

No.	Name	Share in the capital - as at 31.12.2018
1	**CreativeForge Games SA**	47.81%
2	**K202 sp. z o.o.**	44.11%
3	**Movie Games SA**	33.43%
4	**ECC Games SA**	29.44%
5	**Punch Punk sp. z o.o.**	27.50%
6	**Moonlit SA**	24.04%

CI GAMES SA

- **Net revenues in 2017**: PLN 103.03 million
- **Net revenues in 2018:** PLN 21.98 million
- **Profits in 2017:** PLN 5.45 million
- **Loss in 2018:** PLN 22.7 million

In 2017, CI Games staked everything on one card and released the most expensive game in the company's history: first person shooter: *Sniper: Ghost Warrior 3*, which consumed PLN 60 million. Two years after the release, it can be stated that the attempt to win the high-budget game market was not beneficial for the company. Until March 2019, the title was sold in 1.3 million copies (initially, nearly twice that result was forecasted, and it should be noted that the game has often been on sale and many copies were purchased during promotions). **The company closed 2018 with a loss of over PLN 22.5 million** and that tendency was maintained for the first six months of 2019.

Besides poor sales results, the investors have more worries. The company has had many problems with animating *Lords of the Fallen 2*, a continuation of a successful action game from 2014. **In May, CI Games terminated the agreement with Defiant studio** and decided that the project will be completed by the internal team with support from external contractors. That information obviously had an impact on the share price, which has been decreasing for some time already.

CREEPY JAR SA

- **Net revenues in 2017**: PLN 148.15
- **Net revenues in 2018:** PLN 3.46 million
- **Loss in 2017:** PLN 633.9 thousand
- **Profits in 2018:** PLN 2.2 million

Those people who decided to invest in the newly established Creepy Jar studio from Warsaw two years ago, have a reason to be happy. Less than a year after its debut on the stock exchange, the company began to generate significant profits (over PLN 2 million in 2018) and **the price of its shares has been regularly increasing, with the highest value of PLN 246**. It was possible because of a consistent strategy of the industry veterans, who focused all their forces and resources on one project: a survival game entitled *Green Hell*.

Its early access was available in August 2018 and the final version was released approximately a year later. The title has received good reviews from gamers from the very beginning, so the developers could focus on creating new content. **The expenses incurred on development have been recovered already six weeks after release of the early access, which was sold in 93 thousand copies**. In October 2019, *Green Hell* reached the number of 300 thousand copies sold, which was the goal expected by the developers. Currently, works are in progress on the versions for PlayStation 4, Xbox One and Nintendo Switch, and also on additional content, including paid expansions that should increase the profits of Creepy Jar studio in the incoming months.

CREATIVEFORGE GAMES SA

- **Net revenues in 2017**: PLN 4.43 million
- **Net revenues in 2018:** PLN 3.72 million
- **Loss in 2017:** PLN 2.25 million
- **Loss in 2018:** PLN 872.85 thousand

The period after the stock exchange debut in May 2018 was not exactly successful for CreativeForge Games. The principal reason was a commercial failure of *Phantom Doctrine* – the strategic game set during the Cold War received relatively positive assessments from the reviewers but turned out to be too niche for a wider audience. As a result, **only 100 thousand copies of the game have been sold on PC, Xbox One and PlayStation 4, which did not even refund the production costs**. CreativeForge Games ended the 2018 with a loss (over PLN 870 thousand). However, the developers have high hopes connected with sales.

The potential investors could have also been discouraged by staff changes experienced by the studio at the beginning of this year. At the end of January, nearly three fourths of the employees left CreativeForge Games (including the chairman of the company, Kacper Szymczak) which resulted in a decrease of the share price. **The nearest months will show whether new authorities in the company and assumption of a new development strategy closely coordinated with the actions of the principal investor, PlayWay SA, bring any positive results.**

CHERRYPICK GAMES SA

- **Net revenues in 2017**: PLN 15.74 million
- **Net revenues in 2018:** PLN 2.73 million
- **Profits in 2017:** PLN 4.32 million
- **Profits in 2018:** PLN 742 thousand

The producer of mobile games from the capital did not achieve extraordinary success in the recent years, but there are other things that matter. In the years 2017–2018, Cherrypick Games generated profits and **the plans of continuous monetisation of 3-4 selected projects confirm that the company has found its place**. The titles that can bring significant profits in the incoming years certainly include *My Spa Resort*. However, regardless of the popularity of that game and its release on the profitable Asian markets, the price of the company's shares have been regularly decreasing since the beginning of 2019, and the studio closed the first half of the year with a loss of nearly PLN 0.5 million. Cherrypick Games has additional problems with receiving payment for the sale of the rights to My Hospital brand to a Finnish publisher, Kuu Kubb.

ULTIMATE GAMES SA

- **Net revenues in 2017**: PLN 670 thousand
- **Net revenues in 2018:** PLN 3.82 million
- **Profits in 2017:** PLN 402 thousand
- **Profits in 2018:** PLN 2.01 million

The current year has been the most active in the history of Ultimate Games. The company completed a few dozens releases (principally ports of older titles into new platforms), acquired additional twenty productions from PlayWay together with the rights to revenues and moved to the main floor of WSE. **During that period, the price of the company's shares steadily increased, reaching the highest value of over PLN 23. Ultimate Games ended the first half of the year with nearly PLN 2 million profits**. The incoming months should provide similar results; especially because the release of *Priest Simulator* is planned for the beginning of 2020 and, because of its controversial topic, the game may attract a lot of attention.

MOVIE GAMES SA

- **Net revenues in 2017**: PLN 2.66 million
- **Net revenues in 2018:** PLN 3.9 million
- **Loss in 2017:** PLN 400 thousand
- **Profits in 2018:** PLN 529 thousand

Movie Games debuted on the stock exchange at the end of 2018 and since then, the price of the company's shares has been gradually increasing. At the end of September it amounted to PLN 39.00, nearly twice as much as the initial price. In the recent months, the company's income was driven by *Plane Mechanic Simulator*. **The game was released in February and covered the production costs within 24 hours, achieving 40 thousand copies sold**. Because of that game, **Movie Games** can be optimistic about a positive result at the end of the year - during its first half, it generated PLN 750 thousand of profits, regardless of low sales and moderate reception of *303 Squadron: Battle of Britain*.

KLABATER SA

- **Net revenues in 2017**: PLN 1.81 million
- **Net revenues in 2018:** PLN 452 thousand *
- **Loss in 2017:** PLN 401 thousand
- **Loss in 2018:** PLN 251 thousand *

Klabater, a publisher of independent games established by CDP, debuted on the stock exchange less than a month ago, on 15 October. It has already achieved its first success connected with positive sales result of recently released *Crossroads Inn*. Regardless of low interest of foreign portals and initial technical problems, the title attracted quite a lot of gamers and already one week after the release, **the costs of production (estimated at the level of PLN 850 thousand) were recovered**. As a result, the price of the company's shares, which decreased immediately after release of *Crossroads Inn*, began to increase and the announced paid expansions and new content may generate significant profits.

* (23.11.2017 - 31.12.2018)

It should also be remembered that the company is involved in distribution of already released *We. The Revolution* (over 20 thousand copies sold) and *Help Will Come Tomorrow* planned for the summer of 2020 - two ambitious, experimental games which will presumably not enter the bestseller rankings but may improve the reputation of Klabater as a company providing creative freedom for the talented and yet unknown developers.

NO GRAVITY GAMES SA

- **Net revenues in 2017**: PLN 516 thousand
- **Net revenues in 2018:** PLN 491 thousand
- **Loss in 2017:** PLN 719 thousand
- **Loss in 2018:** PLN 13.01 million

One of the smaller Polish publishers, a successor of Fat Dog Games, a company which incurred a loss of PLN 13 million in 2018. **No Gravity Games began its career on the stock exchange in a similar way, recording a loss of PLN 105 thousand in the second quarter of this accounting year**. The company's image has deteriorated further because of the controversies around one of its principal investors, Erne Ventures fund, whose shares have been excluded from trading in August, soon after the court dismissed its motion for insolvency. No Gravity Games could hope to bounce back because of *Warlocks 2: God Slayers*, however, the game has been nearly entirely ignored by the audience and the press from the moment of its release in July, as well as *REKT* and *Rawr Off* designated for Nintendo Switch. The two last titles will get a hard time in fighting for the attention of that group of gamers because other excellent games are regularly released for that console.

ECC GAMES SA

- **Net revenues in 2017**: PLN 559.3 thousand
- **Net revenues in 2018:** PLN 1.08 million
- **Profits in 2017:** PLN 215 thousand
- **Profits in 2018:** PLN 196 thousand

ECC Games is another newcomers to the stock exchange who achieved good results, and also another representative of the PlayWay SA capital group. The company's success was the port of *Car Mechanic Simulator 18* to Nintendo Switch which recovered the production costs within 3 days, and the tests of *Ultimate Fishing Simulator 2019* conducted using the devices with Android. As a consequence, already in the first half of the year, the company achieved over PLN 2 million of revenues and nearly PLN 0.5 million of profits. **However, the above was diminished by the delay in releasing *DRIFT19*** which was connected not only with changing the name of the game into *DRIFT20*, but also with a sudden reduction of the share price (by more than 10%) resulting in lowering the company's capitalisation by nearly one third.

ART GAMES SA

- **Net revenues in 2017**: PLN 235.32 thousand
- **Net revenues in 2018:** PLN 1.48 million
- **Loss in 2017:** PLN 12.34 thousand
- **Profits in 2018:** PLN 184.71 thousand

Art Games debuted on the stock exchange in May 2019 and has not achieved a strong position among the Polish developers yet. Until now, the team developed three titles: *Bad Dream: Fever*, *Earthworms* and *Escape Doodland*, but it is already planning a number of new games for PC and Nintendo Switch. The company has been supported by Ultimate Games, which provided an investment of PLN 500 thousand in September, and by Gaming Factory, which undertook to co-fund preproduction of six new games. Currently, Art Games is working on eight revealed low-budget projects that should be available on the market in the first half of 2020.

VARSAV GAME STUDIOS SA

- **Net revenues in 2017**: PLN 700.82 thousand
- **Net revenues in 2018:** PLN 236.9 thousand
- **Loss in 2017:** PLN 1.53 million
- **Loss in 2018:** PLN 3.03 million

The recent months have been a breakthrough for Varsav Game Studios. The first quarter of 2019 was simultaneously the first time when the company generated over PLN 200 thousand of profits and over PLN 1.3 million of revenue. **Additionally, the studio secured its financial future, establishing cooperation with Bigben Interactive, a publisher that will take care of distribution of *Bee Simulator***, the largest of the company's projects. Finding a partner made marketing of the game significantly easier and the title will be available on PC, PlayStation 4, Xbox One and Nintendo Switch already in November. It is currently the most important project of the company, being also involved among others in specialised consultancy and virtual reality technology.

SONKA GAMES SA

- **Net revenues in 2017**: PLN 97 thousand
- **Net revenues in 2018:** PLN 1.7 million
- **Loss in 2017:** PLN 19 thousand
- **Profits in 2018:** PLN 191 thousand

Another company from the PlayWay group (over 42% of shares), Sonka Games, is the newest representative of the Warsaw game developers at WSE. **The company debuted in the second half of October 2019** and since then, the price of its shares is maintained at a balanced level slightly exceeding PLN 5.00. However, the business of the studio has expanded - the developers concluded an agreement for a port of *Car Mechanic Flipper* to Nintendo Switch and set the release date for *Mars Power Industries* on the same platform. The company will be involved in conversions and own productions on Nintendo Switch.

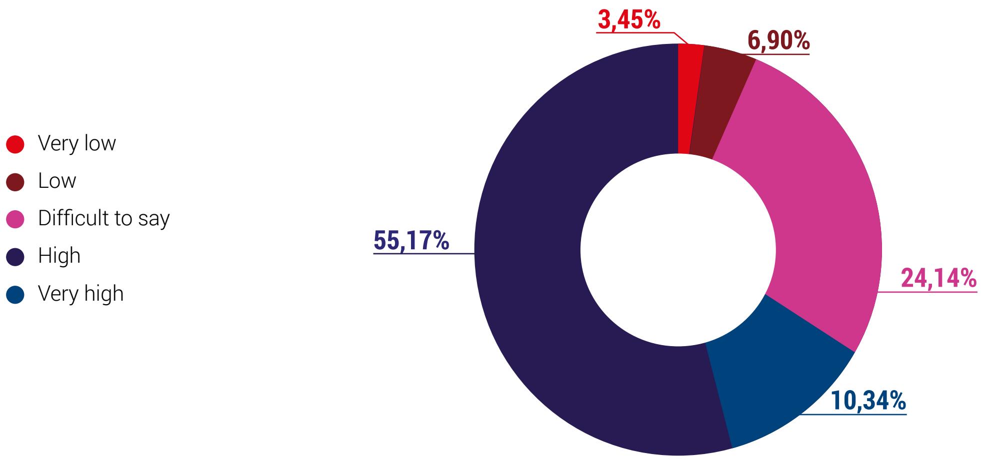
Shadow of the Tomb Raider
ported by QLOC

WARSAW AS ASSESSED BY THE LOCAL VIDEO GAME DEVELOPERS

1. AVAILABILITY OF TALENTED EMPLOYEES IN WARSAW

1.1. ASSESS THE AVAILABILITY OF TALENTED PEOPLE READY TO BE EMPLOYED IN GAMEDEV IN WARSAW

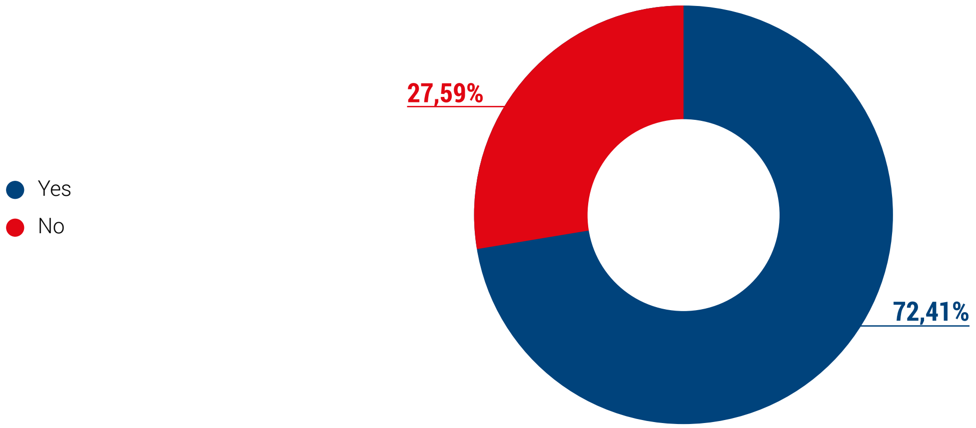
Fig. 6 Assess the availability of talented people ready to be employed in gamedev in Warsaw



Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

1.2. DO YOU THINK THAT THE AVAILABILITY OF TALENTED PEOPLE IN WARSAW IS HIGHER THAN IN OTHER POLISH CITIES?

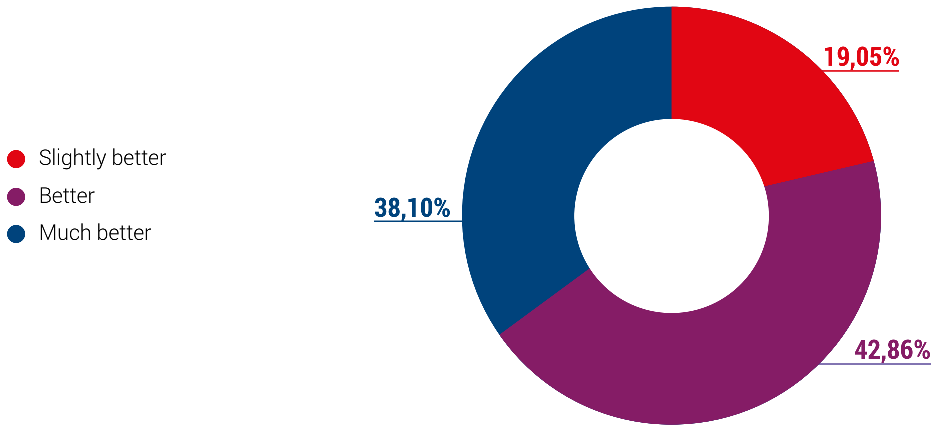
Fig. 7 Do you think that the availability of talented people in Warsaw is higher than in other Polish cities?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

1.3. HOW DO YOU ASSESS THE AVAILABILITY OF TALENTED PEOPLE IN WARSAW IN COMPARISON TO OTHER CITIES?

Fig. 8 How do you assess the availability of talented people in Warsaw in comparison to other cities?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

In the opinion of the surveyed game developers, the advantage of the capital is the availability of talented employees. A little more than 10% think that it is very difficult to find talented candidates in Warsaw, while the majority (65.5%) thinks that their availability is good or very good. Simultaneously, in the results discussed later, there are certain problems with employment of such people - principally because of high dynamics and competition in the sector.

Competition is mentioned, among others, by Grzegorz Miechowski (**11 bit studios**): "The employee market in Warsaw is developing, thus it is becoming increasingly difficult. Many games are created, there are many teams, and therefore we experience a growing competition."

Regardless of that, it seems that Warsaw can provide the supply of the employees in our industry in the fastest way among all Polish cities. The above is mentioned by Grzegorz Mazur (**Vile Monarch**): "The background preparing the people for work is relatively good in Warsaw. We have a good University of Technology preparing programmers at an excellent level. There is the Game Dev School and the Polish-Japanese Academy of Information Technology with game development specialisation."

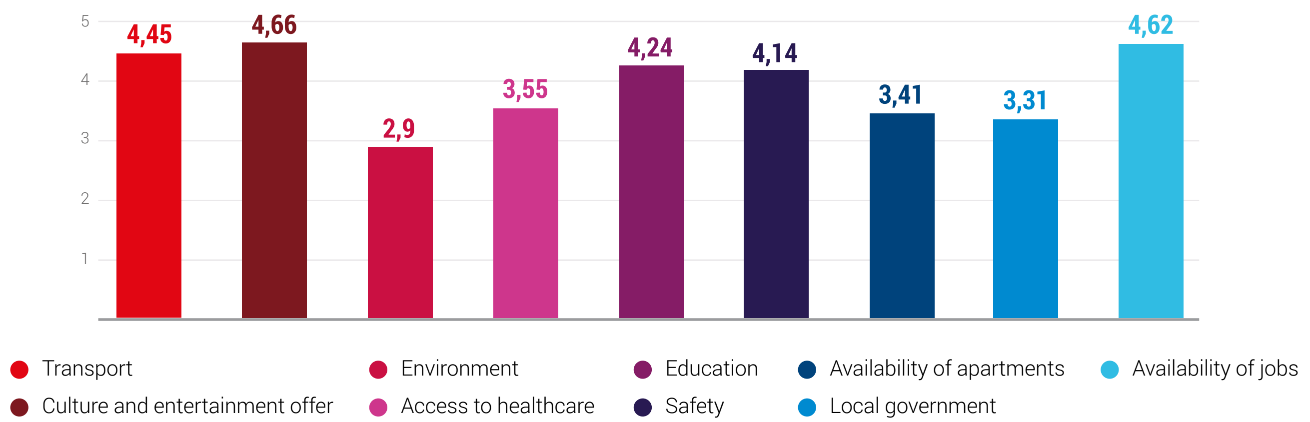
According to the majority of respondents, Warsaw looks good from the point of view of the availability of talented people, also when compared to other Polish cities (72.4%). Only one-third (27.5%) of the representatives of the local companies think otherwise. Attractiveness of the capital from the point of view of the availability of talented employees is high enough that even among the respondents with different opinion (thinking that the availability of the talented employees is worse in Warsaw), 87.5% stated that it was only slightly worse in other Polish cities. Such results can be explained by the size of the employment market (higher supply of employees) and a high number of game development companies (which is confirmed by "The condition of the Polish Video Game Sector 2017").

The competitiveness of Warsaw was also confirmed by Jakub Wójcik (**Indie Games Polska Foundation**): "Warsaw is certainly the Gamedev capital of Poland, both from the point of view of the employees and the companies operating in a given location, which is also connected with various game-related initiatives in the region."

2. THE QUALITY OF LIVING IN WARSAW AS ASSESSED BY THE LOCAL VIDEO GAME DEVELOPERS

2.1. HOW DO YOU ASSESS THE QUALITY OF LIVING IN WARSAW FROM THE POINT OF VIEW OF:

Fig. 9 How do you assess the quality of living in Warsaw from the point of view of:



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

The factors positively affecting the quality of living in Warsaw include cultural and entertainment offer (weighted average of the responses in the scale 1–5: 4.66), availability of jobs (4.62), transport (4.55), education (4.24) and security (4.14). Average grades were given to access to healthcare (3.55) and apartments (3.41) which can be connected with relatively high costs of rent and purchase of apartments in the capital.

Assessment of the impact of local government institutions (3.31) and environment was quite problematic for the respondents. Many of them were not able to assess those categories, however, the general distribution of the responses proves that the quality of environment (2.90) is the worst graded factor affecting the quality of living in Warsaw.

In the case of healthcare assessed as average, it should be noted that in the opinion of the majority of the respondents, the assessment refers only to public healthcare. However, many companies offer employee benefits containing, among others, private healthcare packages.

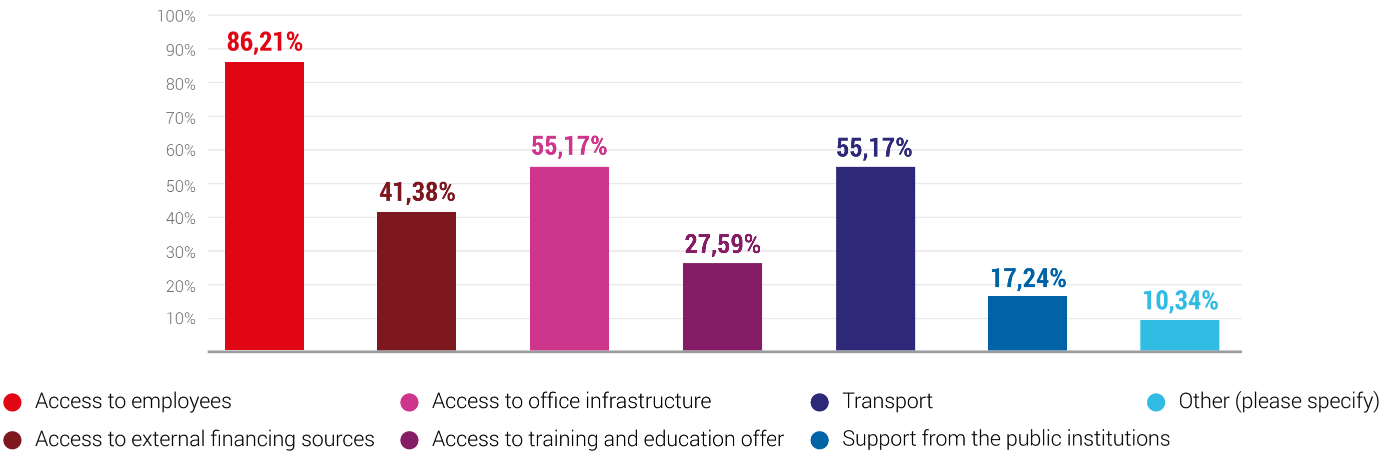
According to Joanna Staniszewska (**Flying Wild Hog**), they are very important: "With respect to healthcare, fortunately, we have benefits, including private healthcare services, so we do not have to stand in queues. I think that we haven't heard any negative opinions concerning Warsaw, but it is certainly a positive factor that we have benefits connected, among others, with access to private healthcare."

2.2. WHAT ARE THE BIGGEST ADVANTAGES OF RUNNING BUSINESS IN WARSAW?

The most important advantage of running business in the capital is the availability of employees, which was confirmed by 86.2% of the respondents. That result is not surprising when you look at the previous responses. Another advantage is access to office infrastructure and transport (55.1%) and then, the availability of external funding sources (41.3%). Access to training and education was assessed a little lower (27.5%) and the weakest point was the support of public institutions - only 17.2%. Such assessment corresponds to the opinion of the respondents about the role of the local government institutions in creating a beneficial environment for living and working in Warsaw.

While analysing the advantages of running business in the capital, Karol Drzymała emphasises the quality of the team established at **Orbital Knight**, confirming the availability of the employees in the city: "Our biggest asset are the people and the team we created -

Fig. 10 What are the biggest advantages of running business in Warsaw?



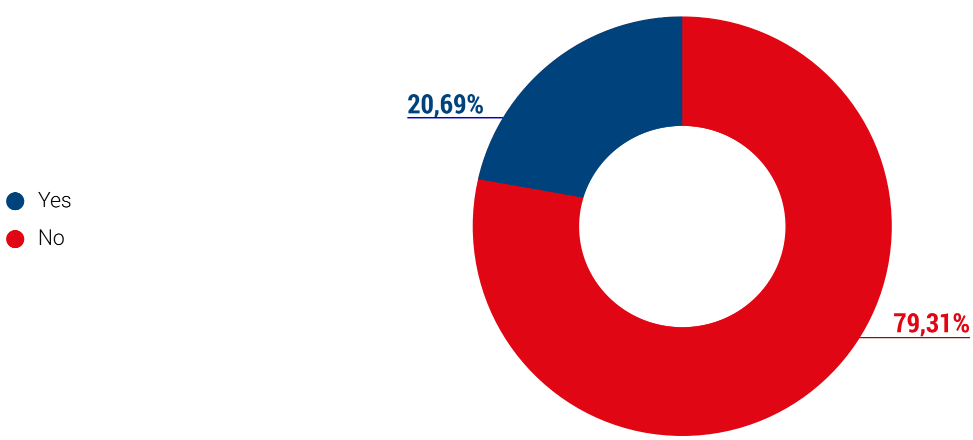
Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

it is closely connected with the location of our company." Transport is a big advantage of operating in Warsaw for large companies, in particular those with branches in other Polish cities. As emphasised by Joanna Staniszewska (**Flying Wild Hog**: "It is important for us that Warsaw is a central communication hub with access to two large airports. Apart from access to employees, it is another strength of the capital." The above is also noticeable for Grzegorz Miechowski (**11 bit studios**): "Travelling around the world is very important for the development business. There are various international contacts because our sales structure is global as well - Poland is only a small part of our revenues. Therefore, good travelling connections make it much easier. Access to the airport and a good transport network, which is currently available in Warsaw, is extremely important."

3. COOPERATION WITH HIGHER EDUCATION INSTITUTIONS

3.1. DO YOU COOPERATE WITH HIGHER EDUCATION INSTITUTIONS IN WARSAW WITHIN THE FRAMEWORK OF YOUR BUSINESS?

Fig. 11 Do you cooperate with higher education institutions in Warsaw within the framework of your business?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

The question about cooperation with local higher education institutions brought a slightly surprising results. Warsaw is one of the principal higher education centres in Poland. Fields of study related to the widely understood video game production have been available in the capital for a few years. The examples include "Video games development" (Warsaw Film School) or "Designing and programming of video games" (University of Economics and Human Sciences). However, the survey proves that only less than 21% of the respondents work with the universities.

Grzegorz Miechowski (**11 bit studios**) states that the fault is rather on the side of the education institutions: "Unfortunately, the truth is that cooperation is much better with the University of Technology in Łódź than in Warsaw. There is no interest on the other side. In Warsaw, such interest is expressed by private institutions and we attempt to help educate young people anywhere we can, so that it was easier for them to find a job after they graduate, so that they were well-prepared for game development, because it is also in our interest. It is unfortunate that the Warsaw universities are not really flexible."

3.2. WHAT DOES THE COOPERATION OF YOUR COMPANY WITH HIGHER EDUCATION INSTITUTIONS IN WARSAW INCLUDE?

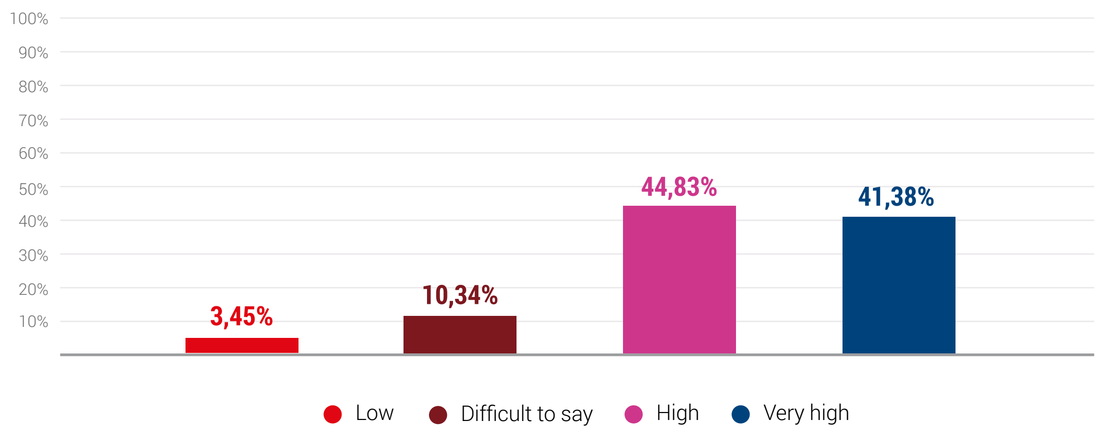
Slightly less than 20% of the respondents cooperating with local higher education institutions stated that they conducted courses, organised paid internships and participated in incubator programmes. They also attempt to acquire new employees (through expanding the database of contacts or announcements). Companies involved in these processes include **Vile Monarch**, **11 bit studios** and **CD Projekt RED**.

Vile Monarch is among the companies extensively involved in cooperation with higher education institutions in Warsaw. "We have been working with the Warsaw Film School for a long time. Many of our employees conduct courses there. It enabled us to employ a few excellent specialists who began their careers with internships in our company. Now, they are well educated and experienced employees," says Grzegorz Mazur, the studio owner.

However, the majority of the industry representatives are convinced that cooperation with universities is quite difficult. An interesting point of view was presented by Jakub Wójcik (**Indie Games Polska Foundation**): "One of the factors making the cooperation difficult may be that the salaries there are not sufficient for the employees of the Gamedev companies to be willing to devote their private time for conducting courses or developing teaching programmes."

3.3. HOW DO YOU ASSESS THE POTENTIAL OF WARSAW TO ATTRACT EMPLOYEES FROM OTHER POLISH CITIES?

Fig. 12 How do you assess the potential of Warsaw to attract employees from other Polish cities?



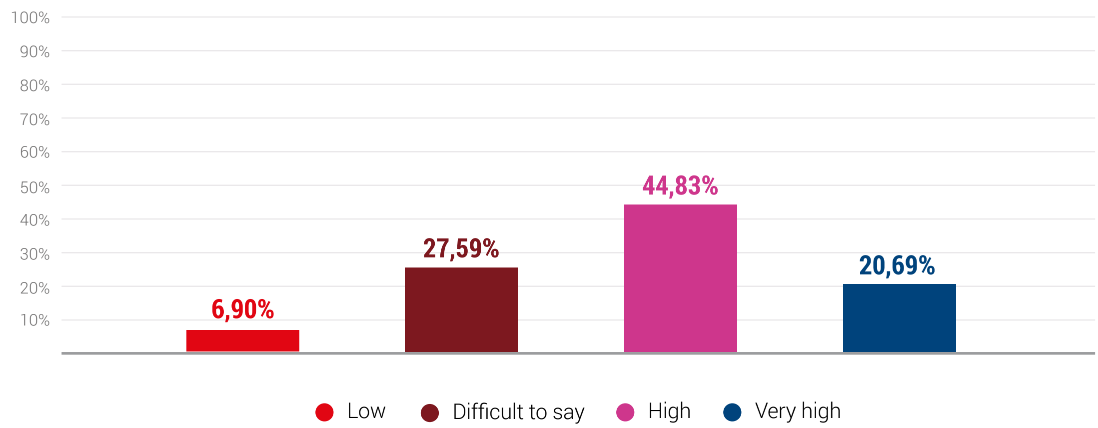
Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

A positive image of Warsaw is also maintained in the responses to the question whether the capital can attract employees from other Polish cities, which was confirmed by over 86% of the respondents. It is another factor that makes business in that city a good choice for the developers, in particular in the context of the reported staff shortages that will be discussed further on in the report.

3.4. HOW DO YOU ASSESS THE POTENTIAL OF THE CITY TO ATTRACT FOREIGN EMPLOYEES?

The potential of the city to attract foreign employees has been assessed slightly lower, although over 65% of the respondents still think that it is good or very good, which can be connected with the generally positive opinion on the Polish sector of digital entertainment, shaped by the status of the Polish companies, as well as the quality and sale results of Polish games. On the other hand, the obstacles in acquiring foreign employees may include: lower salaries, language barriers (not necessarily at the work place) and more developed other markets with better employment offers.

Fig. 13 How do you assess the potential of the city to attract foreign employees?



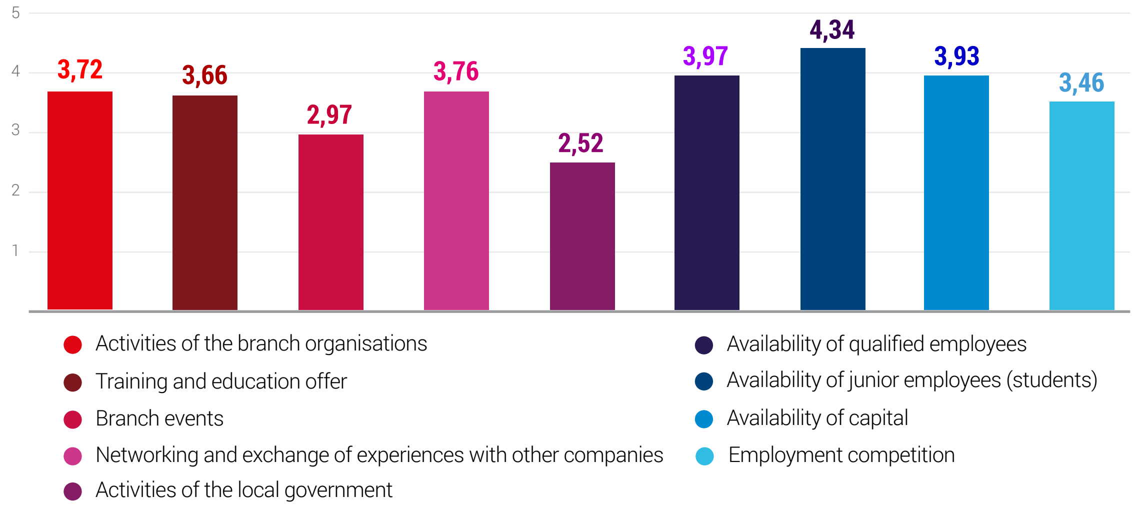
Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

4. VIDEO GAME ECOSYSTEM IN WARSAW

4.1. ASSESS THE SPECIFIC ELEMENTS OF THE VIDEO GAME SECTOR'S ECOSYSTEM IN WARSAW

While answering the question about the most important elements of the business ecosystem, the best grades were given to the availability of lower level employees (weighted average of the answers at the scale 1–5: 4.34) which can be connected with the previously mentioned availability of higher education institutions providing education directly connected with game development and the related fields of study (for example IT, artistic studies). Simultaneously, it should be noted that further parts of the report discuss a negative opinion of the Warsaw entrepreneurs about the preparation of the graduates of higher studies to work in the industry. The assessment of the availability of qualified employees was a little lower but still good (3.97), similarly as in the case of capital (3.93). In the opinion of the respondents, the city provides relatively good opportunities to establish business relations and exchange experiences with other companies (3.76); principally in the form of local industry organisations (3.72) and not events, which were assessed in a rather negative manner (2.97). A field for improvement has been noticed with respect to education and training offer (3.66) and employment competition (3.46).

Fig. 14 Assess the specific elements of the video game sector's ecosystem in Warsaw

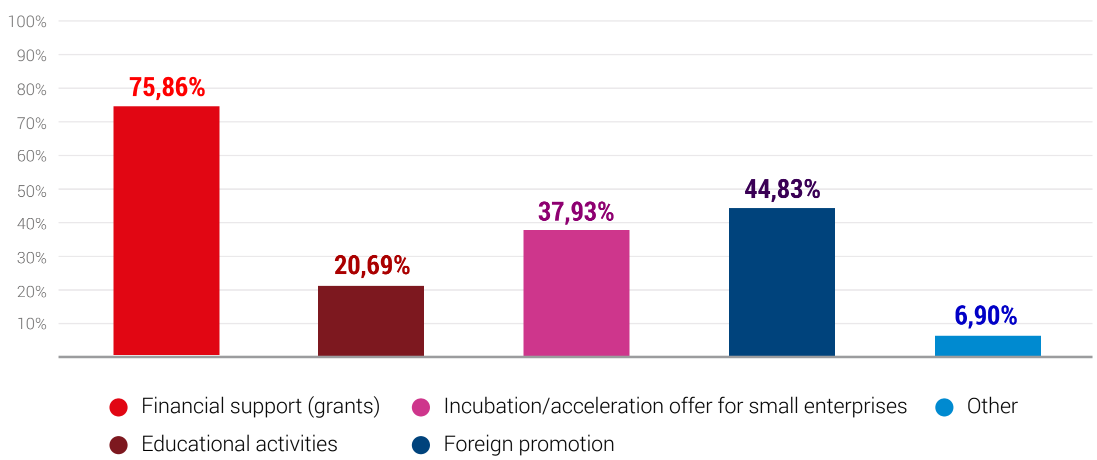


Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

4.2. WHAT KIND OF SUPPORT WOULD YOUR COMPANY EXPECT FROM THE LOCAL GOVERNMENT?

In the context of negative assessment of the local government actions, the question about the related expectations is very important. The representatives of the surveyed companies rather expressly (76%) indicated that the most important support is a financial one, for example in the form of grants. Assistance in foreign promotion (44.8%) and acceleration offers for small enterprises (37.9%) are also significant. Educational activities organised by the local government were not as desirable (20.6%). However, it should be noted that those needs might change together with development of the companies. Our analysis proves that the youngest companies, operating for less than a year, principally expect financial aid. Financial aid is important at further development stages as well, but the needs are expanded by the incubation offer and foreign promotion, and to a lesser extent also by the need to take advantage of educational activities.

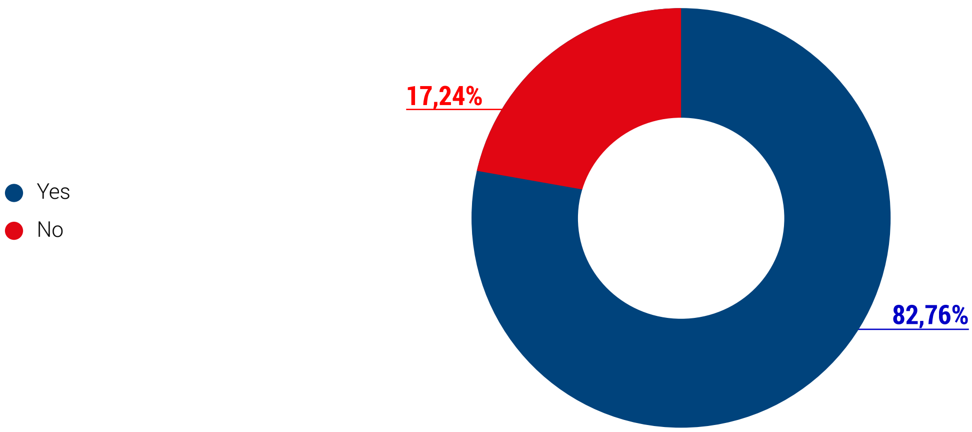
Fig. 15 What kind of support would your company expect from the local government?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

4.3. IN YOUR OPINION, CAN WARSAW BECOME THE LARGEST GAME DEVELOPMENT HUB IN CENTRAL AND EASTERN EUROPE BY 2025?

Fig. 16 In your opinion, will Warsaw become the largest game development hub in the Central and Eastern Europe until 2025?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

A positive assessment of various aspects of running a business in Warsaw is connected with an optimistic view of the future expressed by the majority of the respondents. 82.7% of them stated that the Polish capital might become the largest video game production centre in Central and Eastern Europe within the next years. In combination with no plans among the majority of the surveyed companies to establish branches outside Warsaw, the above allows thinking that in the coming years, many local video game producers will run their business in the capital.

Jakub Wójcik (**Indie Games Polska Foundation**) seems to confirm such an approach: "All steps lead to making Poland such a hub for Central and Eastern Europe. Warsaw is a leader with respect to Poland in the Gamedev industry, so if Poland was such a hub, Warsaw would automatically become a leader in gaining that knowledge. However, I think that we can already call ourselves one of the leaders in Central and Eastern Europe."

Grzegorz Miechowski (**11 bit studios**) is even more optimistic: "I would consider it already being such a hub. And if the city authorities had some ideas on how to support it, it would be absolutely possible. I do not really see any other cities which could threaten Warsaw."

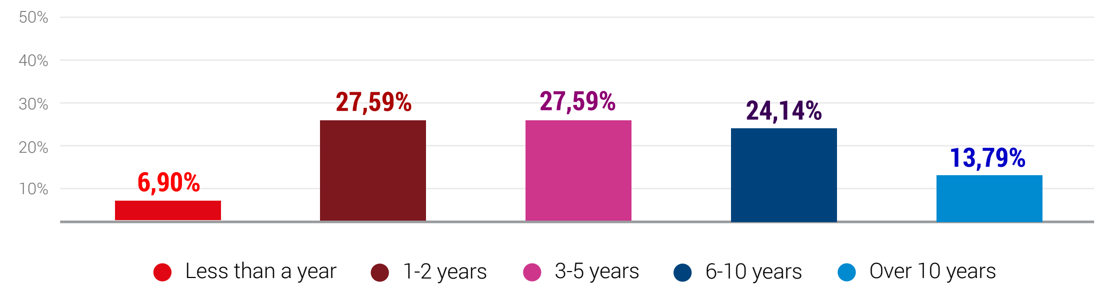
Frostpunk Console Edition
11 bit studios

5. COMPANY AND EMPLOYMENT STRUCTURE

5.1. HOW LONG HAS YOUR COMPANY BEEN ON THE MARKET?

Among the surveyed companies, around 7% have been on the market for less than a year and the majority - for a few years. Around 14% have been on the market for over 10 years. It should also be noted that in total, nearly 34.5% of the local enterprises have been operating for less than two years. Consequently, it can be assumed that regardless of the stabilisation of the local market, there are new entities that intend to develop their business. In comparison with the surveyed companies from outside Warsaw (sample size N=71), the local companies have been operating a little more frequently for less than 2 years (outside Warsaw 30.99%) and a little less frequently for more than 6 years (in Warsaw: 37.93%, outside: 40.85%). The differences are not significant but suggest that the dynamics of establishing new gaming companies is slightly higher in the capital, when compared to the rest of Poland.

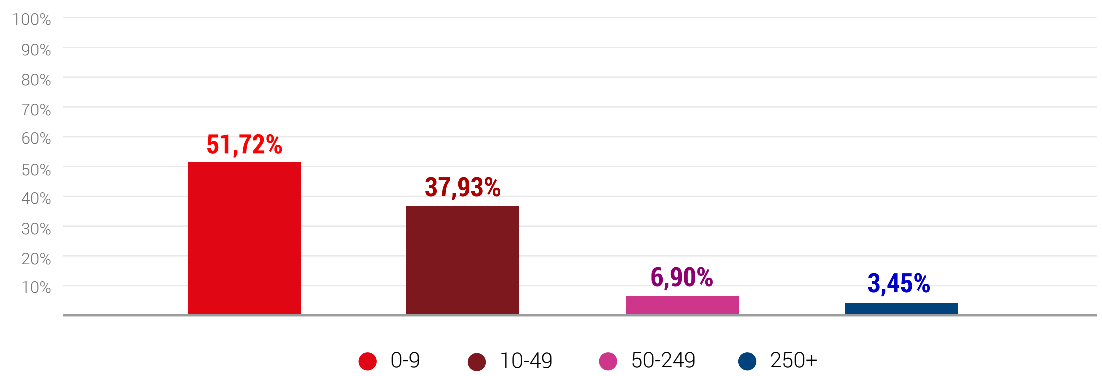
Fig. 17 How long has your company been on the market?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

5.2. SPECIFY THE NUMBER OF EMPLOYEES IN YOUR COMPANY (REGARDLESS OF EMPLOYMENT FORM)

Fig. 18 Specify the number of employees in your company (regardless of the employment form)

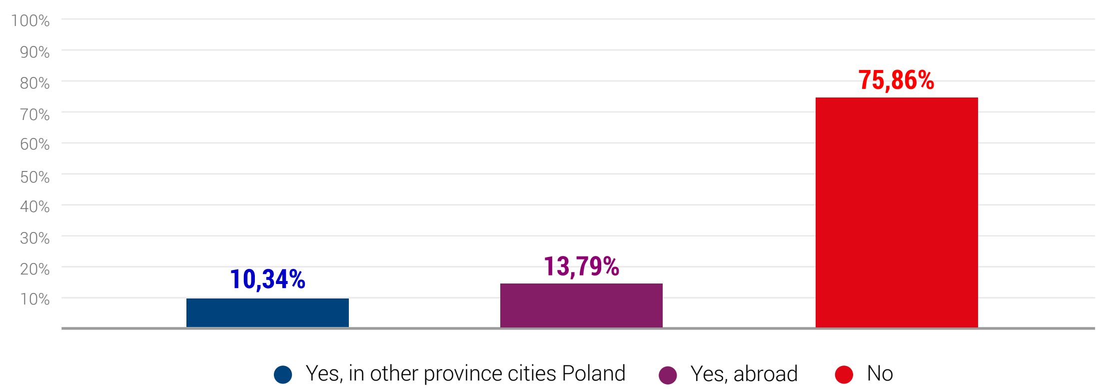


Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

The employment structure of development studios in Warsaw is visibly inclined towards micro-enterprises (51.7%) and small enterprises (37.9%) with a clear domination of the first. It is a typical distribution for the Polish economy. Similar results have been obtained in the previous edition of the report "The condition of the Polish video game industry" from 2017 (p. 72). Large enterprises constitute a minor part (10%) of the companies engaged in video game production. Higher employment dynamics should be expected in the bigger group of small companies in relation to those employing more people. Civil law agreements remain the dominating employment form, with B2B contracts constituting about 25%. Employment contracts are relatively rare, which may be connected with higher employment costs, employing foreigners and a lower susceptibility to changes in employer-employee relations. The above is confirmed by Grzegorz Miechowski (**11 bit studios**) who notices that "[...] employment contract is connected with extensive social encumbrances. A specific task contract provides a lot of flexibility but may be legally questionable. We decided to sign employment contracts with our employees so that they had social background and order, but it is not an optimum solution as well, mainly because of an archaic labour code in Poland." Pursuant to the data, large enterprises are more willing to conclude employment contracts than civil law agreements, while specific task contracts and commission contracts remain the dominating employment form for smaller companies. "Specific task contracts are dominating for us, principally because of the nature of our business, i.e. creative projects with transfer of the ownership rights. Additionally, they provide a few tax advantages - the employees may apply 50% of tax deductible costs," argues Karol Drzymała (**Orbital Knight**). The employment form is also connected with project-based work in the video game industry. It is quite common for some employees to change the employer after a specific game is completed in their current company. Miłosz Białas (**QLOC**) notices another aspect of project-based work in the sector: "In the case of localisation, we often use commission contracts. It depends mainly on the projects conducted by the company. The situation is different in the case of development, where we usually offer employment contracts to our programmers."

5.3. ARE YOU PLANNING TO OPEN A BRANCH OF YOUR COMPANY OUTSIDE OF WARSAW?

Fig. 19 Are you planning to open a branch of your company outside Warsaw?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

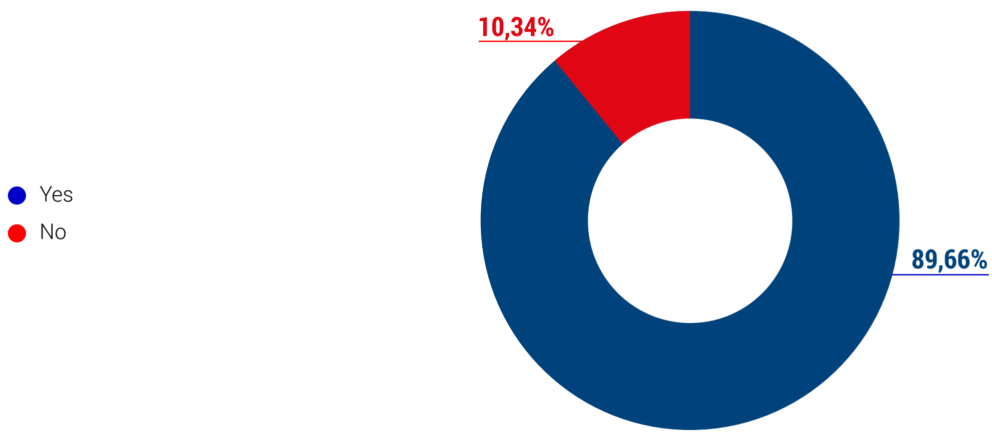
An office in Warsaw may mean that the company is not interested in expanding its business outside, which was confirmed by 75% of the respondents. If a company's representatives are planning to open a branch outside Warsaw, it means a foreign location (nearly 14%) or a location in another province/city in Poland (10%). Simultaneously, operating in Warsaw is connected with lack of interest in other cities of the mazowieckie province. Expansion plans obviously depend on the company's size.

Grzegorz Miechowski (**11 bit studios**) says that: "In a long-time perspective of our development, the opportunities in Warsaw may be exhausted. But it is not a question I have to ask myself right now. Thus, currently we do not have such plans. But I can imagine that we could do that, if there was a big problem with finding new people for our team."

It should be noted that the majority of the largest Warsaw companies from the video game industry already have their branches in other cities. Miłosz Białas discusses the reasons for opening a **QLOC** office in Gdańsk: "The support of local government institutions in Gdańsk was an important factor. We selected Gdańsk also because of the availability of talented employees with the competition not yet as high as in other large Polish cities. Other key factors included an attractive location and the environmental aspects, principally clean air."

5.4. IS YOUR COMPANY PLANNING TO HIRE MORE EMPLOYEES WITHIN THE NEXT YEAR?

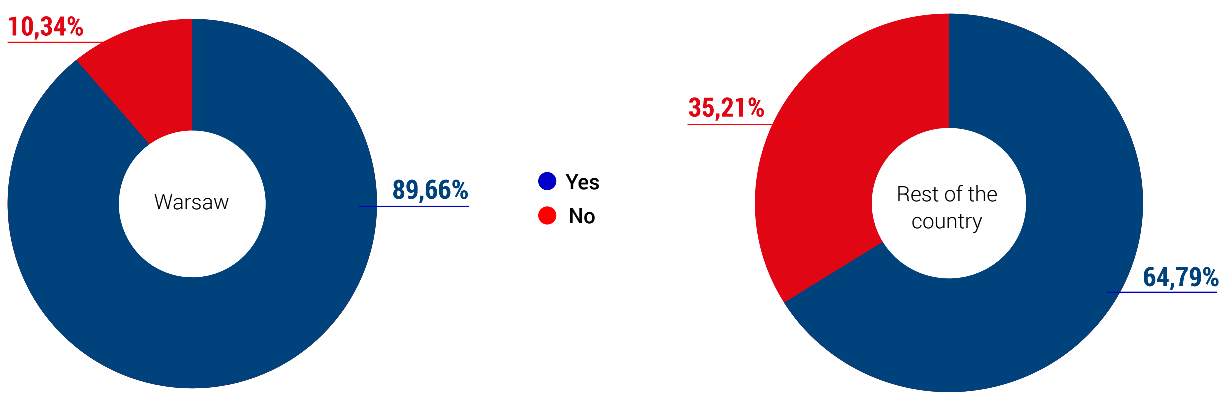
Fig. 20 Is your company planning to hire more employees within the next year?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

One of the strongest opinions in the entire study concerned the need to employ new people. As much as 89.6% of the representatives of the local companies gave a positive answer, which reflects the continuous need of the entire industry ("The condition of the Polish video game industry 2017", p. 74). The above allows concluding that the Warsaw video game market should be continuously growing with respect to the employment structure. The need to acquire new staff is common among all types of enterprises regardless of the number of their employees or market presence, with a slight inclination to the fact that 20% of the smallest entities do not plan to employ more people within the coming year. It should also be noted that the companies from outside of Warsaw are not as strongly convinced that they need to acquire new employees within the next year.

Fig. 21 Is your company planning to hire more employees within the next year?

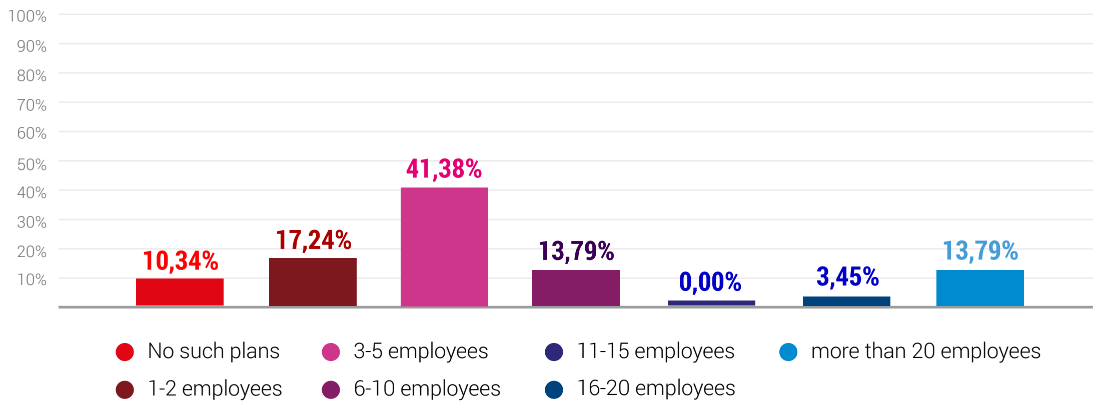


Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

Among the companies with their registered offices outside Warsaw (N=71), 64.8% intended to do so, while 35.2% were not going to hire new staff. Such a situation is relatively positive for the companies from Warsaw, because a very high demand around the entire country would mean less game developers available to be employed.

5.5. THE NUMBER OF EMPLOYEES PLANNED FOR HIRING IN THE INCOMING YEAR

Fig. 22 The number of employees planned for hiring in the incoming year

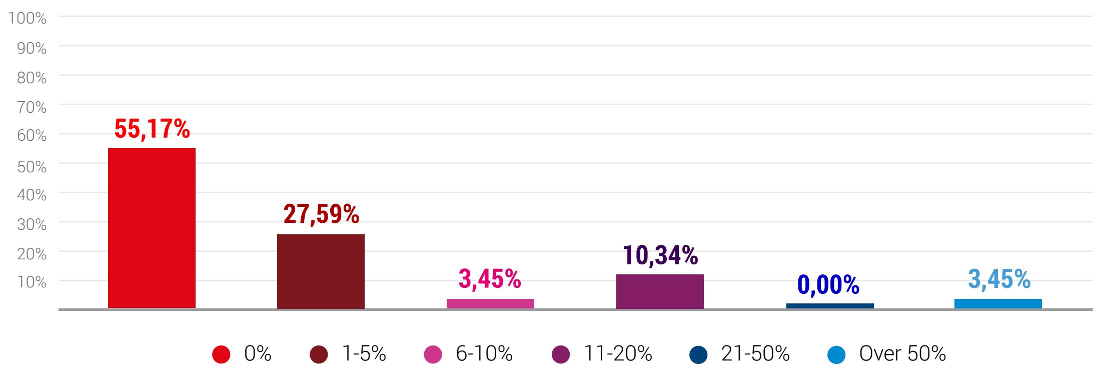


Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

Increasing the number of employees within the next 12 months usually means employing 3-5 new people (41.38%). The majority of the companies do not intend to significantly increase the number of people, because 72.4% intend to employ less than 10 people, 17% are going to employ more than 16 people and over 10% do not intend to employ new people at all. Those results are different than obtained for the entire industry and presented in "The condition of the Polish video game industry 2017". On the Warsaw market, the enterprises more often declare the intention to acquire new employees within the next year and simultaneously are willing to hire more people (see p. 74). When compared with the newest data from the developers outside Warsaw (N=71), it can also be noticed that companies from the capital are more willing to employ more people. Outside Warsaw the companies usually declared no employment plans (38%) or hiring 3-5 new people (23.9%). The intention to employ more than 16 people was much less common (Warsaw: 17.2%, outside: 2.8%). Those findings complement the exceptional needs of Warsaw connected with intensive expansion of the personnel described above.

5.6. WHAT PERCENTAGE OF EMPLOYEES LEFT THE COMPANY IN 2019?

Fig. 23 What percentage of employees left the company in 2019?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

Employment in the local video game companies is stable. No employees have left in over a half of them (55%). Even if it happened, the numbers were insignificant, maximum 5% of the entire staff. In single cases, the employment reduction reached 6-20% level, and only one company recorded a decrease of the number of employees by more than half.

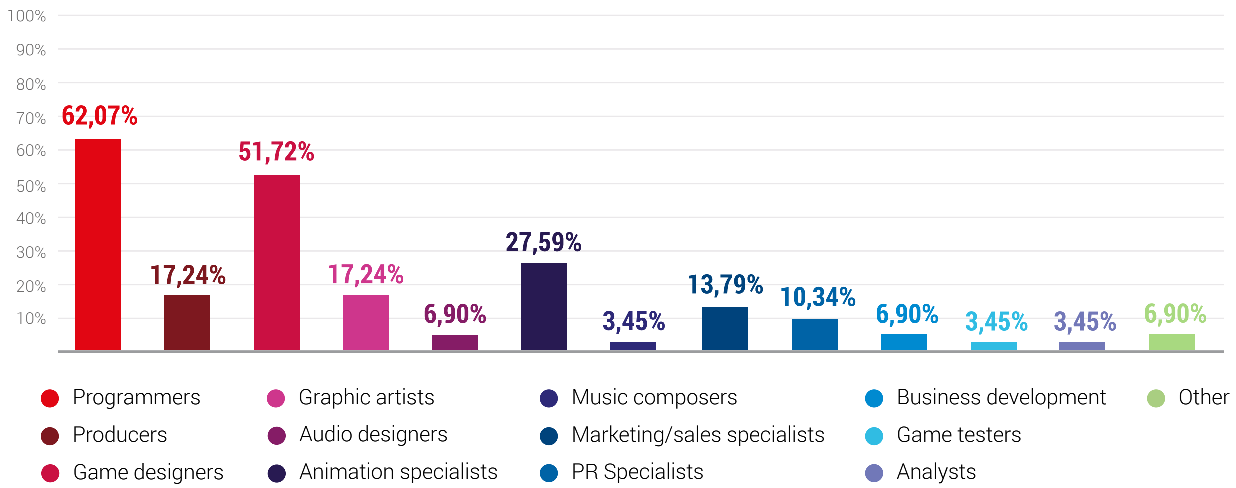
After comparing those results with the earlier ones, it can be concluded that the staff demand of the surveyed companies is much higher than the actual supply of the employees who are needed to complete the current and future projects.

It should also be noted that employment still heavily depends on the projects. An interesting interpretation of the above results was presented by Kacper Szymczak (**Artificer**): "If a company claims that it did not dismiss any employees during the recent year, it means that it is working on completion of a game and the employee transfers will take place soon."

Grzegorz Miechowski (**11 bit studios**) states that maintaining a low rotation of employees constitutes one of the key challenges: "I cannot say that no person left in the recent year because with a hundred people it is not possible, but the rotation in our company has always been very low, at the level of a few per cent".

5.7. WHICH EMPLOYEES ARE CURRENTLY THE HARDEST TO FIND?

Fig. 24 Which employees are currently the hardest to find?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

The programmers are traditionally the hardest to find (62%) in the opinion of the surveyed representatives of the Warsaw Gamedev companies. The software developers can find numerous offers outside the game sector and, on the other hand, sometimes they lack the competences to work in a profession as specialised as game development. Competition and no specialised education or experience may generate many problems in finding an appropriate employee for that position.

That profession is indicated as the most uncommon even by the companies which do not report significant employment problems: "Programming specialisations are the most sought out," emphasises Joanna Staniszewska (**Flying Wild Hog**).

The second category is the game designers (51.7%). It turns out that finding a game designer is not much easier than a programmer.

Kacper Szymczak (**Artificer**) made an interesting remark about that situation: "All the experienced designers I know have their own companies or own projects in other companies and, essentially, they do what they want. Finding a good game designer may be a miracle."

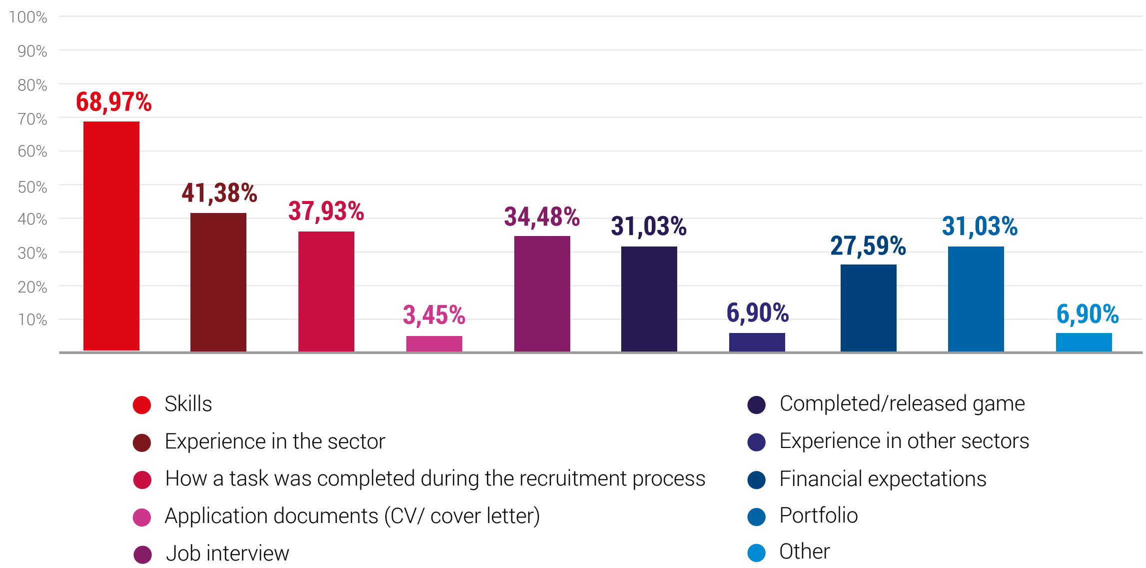
Other popular categories are connected with creating animations (27.5%) and graphics (17.2%), although not necessarily sound elements. There is also a demand for specialists not working directly on the games - producers, marketing, PR and business development specialists. It may be a little surprising that there is not on the games - producers, marketing, PR and business development specialists. It may be a little surprising that there is not much demand for analysts and game testers (3.4%), although in the case of the latter, it may be connected with a relatively high number of candidates and easiness of employing them. The position of a tester has been perceived as a pass to working in the industry by many young or beginner candidates for many years.

All companies, regardless of their size, have a deficiency of programmers and the majority of them have a similar problem with game designers, animation specialists and producers as well. The smallest enterprises are in the worst situation because their recruitment problems refer to the majority of the necessary jobs.

Apart from the obvious reasons of such situation (less experience, limited promotion opportunities, simpler projects, limited financial resources), competition on the local market should also be considered. There are many companies from the digital entertainment sector in Warsaw and the mazowieckie province. In such situation, small or new companies have to be prepared for an unequal struggle for the employees.

5.8. SPECIFY THREE FACTORS THAT, IN YOUR OPINION, HAVE THE HIGHEST IMPACT ON EMPLOYMENT IN YOUR COMPANY:

Fig. 25 Specify three factors which, in your opinion, have the highest impact on employment in your company



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

When asked about the principal factors affecting employment in their companies, nearly 69% indicated the skills. Experience in the sector is also significant (41.3%), which may obstruct employment processes on a competitive market. Certainly, the candidates in the video game industry should be well prepared for performing various (depending on the position) test activities (37.9%) and the job interview (34.4%). Completion or publishing of a game and high quality of the candidate's portfolio are also an advantage. Financial expectations are the last significant factor, but they are the least important among the elements listed (27.5%). It is clearly visible that the majority of the above factors is related to possessing the skills required for a given job, both in the case of usually practical test tasks and completion of projects or portfolio.

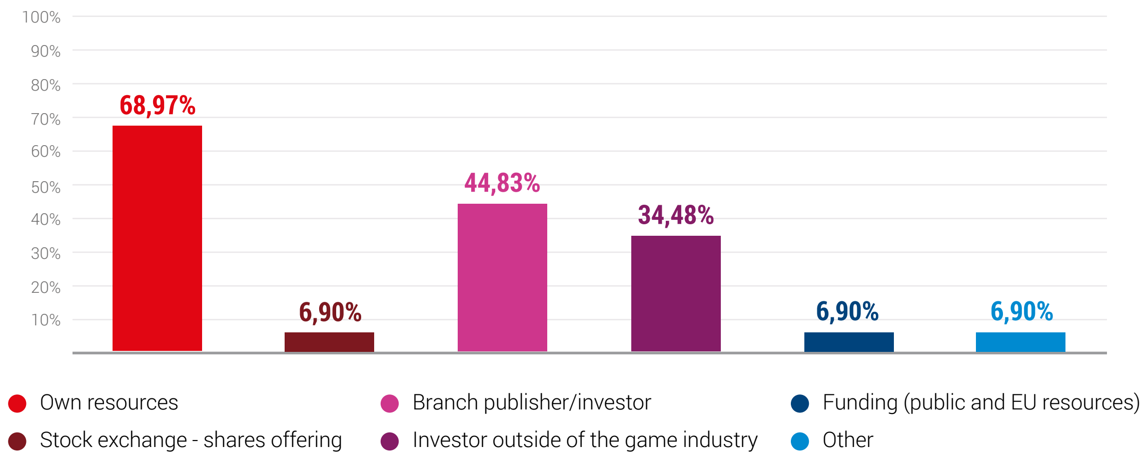
In the opinion of the surveyed representatives, a job interview is important and it should prove that the candidate really holds the specific skills and is able to use them in practice, which is often omitted by the general education institutions. Specialised education is not really significant in the opinion of the respondents, similarly as declarations of the specific skills (CV / cover letter were considered important by only one person). It is surprising that the ability to begin immediately is not considered substantial. It turns out that the local companies search for qualified employees, not necessarily available immediately. There is one more fundamental aspect mentioned by the representatives during our conversations - adjustment of the employee to the general atmosphere in the company.
Joanna Staniszewska (**Flying Wild Hog**) notes "the values of a given candidate are also very important. We strive to maintain a coherent work culture and the same values among all employees, so it is a key factor for us at the recruitment stage."

Her words are confirmed by Kacper Szymczak (**Artificer**): "The personal conduct and attitude of a candidate is also essential for us. We are not a large company and the employed person will be important for our projects. If we know that cooperation in the previous workplaces was difficult or we expect that the candidate's character will not fit into the rest of the team, we usually resign."

6. PROJECTS COMPLETED BY COMPANIES FROM WARSAW

6.1. CURRENT SOURCE OF FUNDING FOR THE COMPANY (YOU CAN SELECT MORE THAN ONE ANSWER)

Fig. 26 Current source of funding for the company

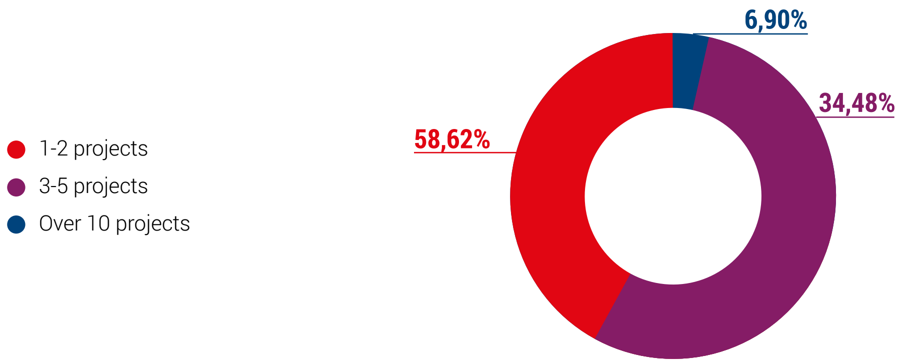


Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

Own resources constitute the most popular form of funding among the Warsaw video game producers, as declared by nearly 69% of the respondents. Other important sources include branch publishers or investors (44.8%) and investors from other industries (34.5%). Local companies do not frequently use the option of shares issue and funding from the European Union and public sources. The gathered data present a rather clear trend: the larger the company, the more often it uses its own resources. Enterprises with up to 50 employees reach out for various forms of financing - mainly own resources, from branch publishers/ investors and investors from other industries.

6.2. SPECIFY THE NUMBER OF PROJECTS THAT YOUR COMPANY DEVELOPED LAST YEAR:

Fig. 27 Specify the number of projects which your company developed last year:

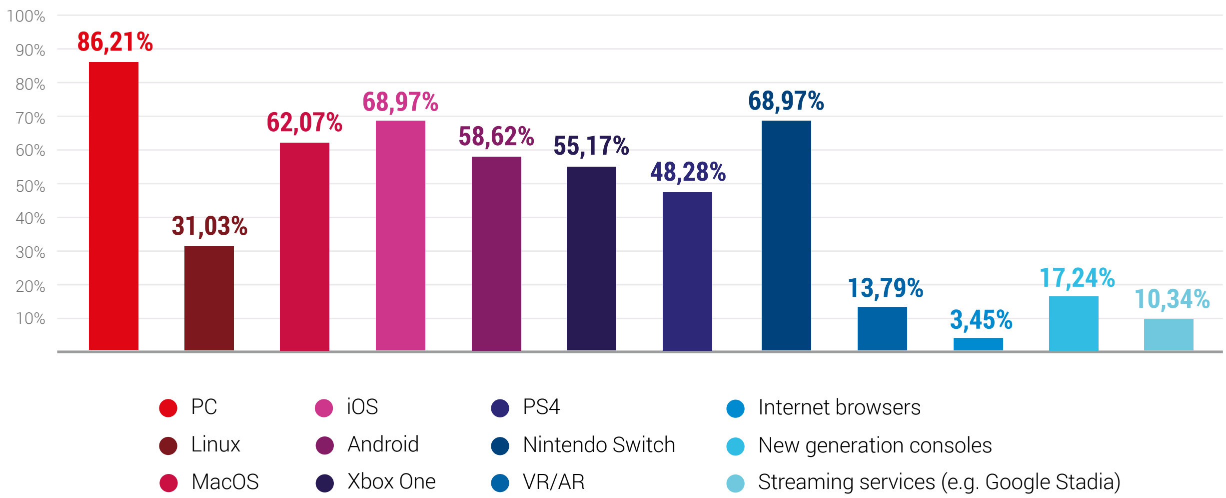


Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

Last year, nearly 60% of the companies from Warsaw worked on 1-2 projects, while 34.5% mentioned 3-5 projects. Less than 7% developed more than 10 projects. There is a slight tendency that the bigger a company is - the higher the probability of doing more projects. The above trend is not confirmed by the oldest development studios, which are also the least numerous. The above can be interpreted, among others, as a result of higher financial stability and better work organisation related to more extensive experience of the employees and the management staff.

6.3. WHAT PLATFORMS DOES YOUR COMPANY CREATE GAMES FOR?

Fig. 28 What platforms does your company create games for?

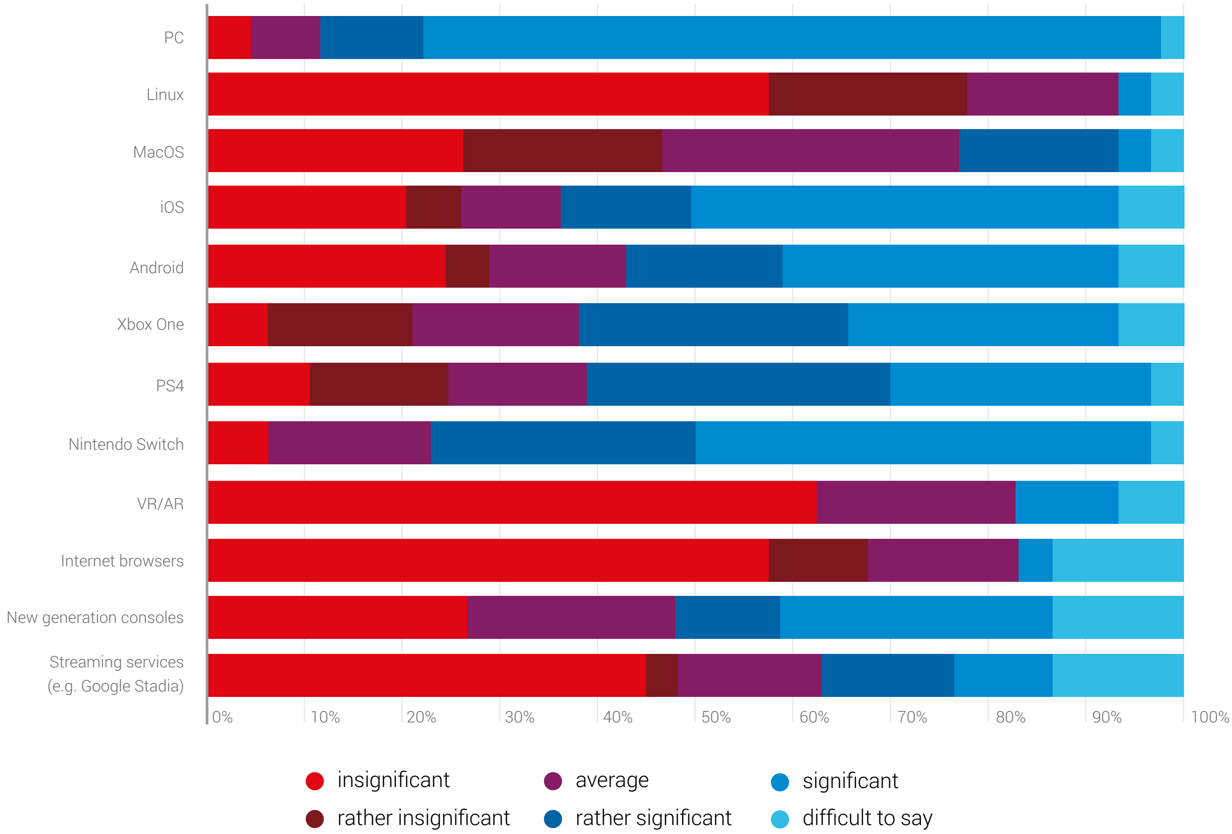


Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

The leading platform for the local game developers is the personal computer, taking into account all commonly used operating systems (Windows, MacOS, Linux). Mobile platforms (iOS and Android) are also popular. The third category includes the current generation consoles - PlayStation 4 and Xbox One. The Nintendo Switch hybrid console (mobile and home) is also relatively popular. Other solutions are insignificant, but they should be assessed differently. New generation consoles (known as PlayStation 5 and Xbox Scarlett) will probably hit the market in 2020, but the developers can already access special versions of those devices which will become the major platforms, next to the PC, in the future. In the case of VR/AR, one should rather discuss an unused potential, because those platforms have been developed and promoted by the producers for a few years already and they are not really popular among the software developers or the consumers. The situation is different in the case of streaming services that constitute a market novelty and it is difficult to guess the development direction of that market segment. On the other hand, browser games have never had a significant role in the video game industry, apart from the special segment of advergames, so their low popularity among the developers from Warsaw is not surprising.

6.4. HOW SIGNIFICANT IS A GIVEN PLATFORM FOR THE PROJECTS CURRENTLY DEVELOPED BY YOUR COMPANY?

Fig. 28 How significant is a given platform for the projects currently developed by your company?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

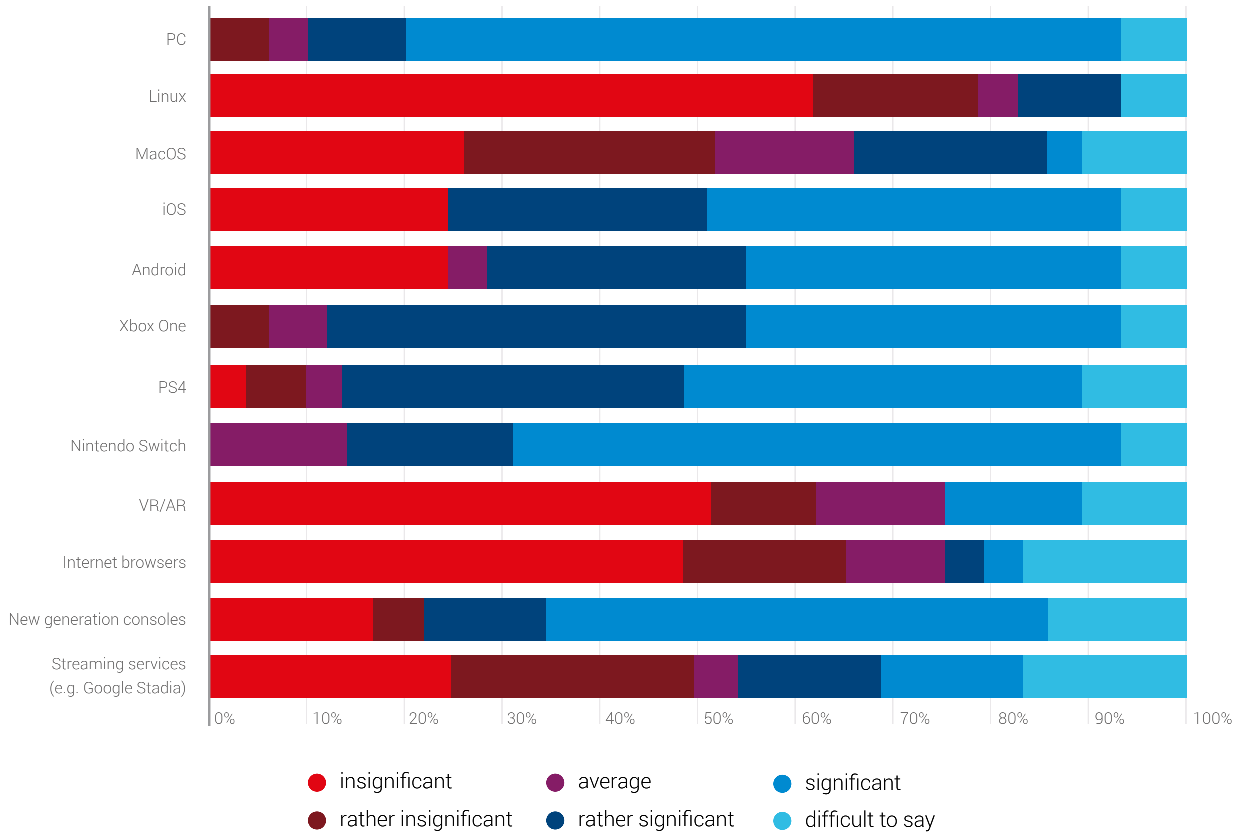
6.5. HOW SIGNIFICANT IS A GIVEN PLATFORM FOR THE PROJECTS TO BE DEVELOPED BY YOUR COMPANY IN THE FUTURE?

Another significant issue in this area is the importance of specific platforms for the current activities and plans of the companies, because it allows assessment of the dynamics of potential changes in game development on the local market. The present situation is a consequence of the currently preferred platforms. It is not therefore surprising that a computer with Windows is the most important platform, unlike a computer with Mac or, more certainly, with Linux. Mac and Linux are usually treated as an addition to the prioritised Windows version of the game and only some of the titles are available for a few operating systems, where Linux is often omitted, which is also reflected in the responses. The above has also been confirmed by the answers to the questions about the company plans, because the respondents declared low or very low interest in publishing games for Linux and Mac - contrary to Windows, which dominates the plans of the Warsaw enterprises.

Nintendo Switch occupies a high place in both categories. The Japanese console opened an entirely new market for the developers, which accepts both original titles and ports of older games, and should maintain such trend for some time. Currently, mobile productions for iOS and Android are also important and the latter is slightly more common in the plans of the enterprises. Further on, there are less popular technologies. Regardless of no presence on the market, the next generation consoles are more important than VR/AR and streaming services. That difference is bigger in reference to the future, which is understandable and typical in the situation when another generation of consoles is going to enter the market. They are regularly purchased by the consumers who abandon the gear of the previous generation. That process is also reflected in the plans of game developers, as presented in the attached charts.

Simultaneously, according to the respondents, AR/VR and streaming will remain relatively insignificant which proves that the Warsaw companies are not really enthusiastic about them. The above should be kept in mind while developing cooperation strategies between the local government, institutional surrounding and companies. In the case of streaming, there are high hopes and lots of uncertainties. Much depends on the financial models of those services but for now, a lot suggests that at the beginning, those platforms will be attractive only for the largest of developers.

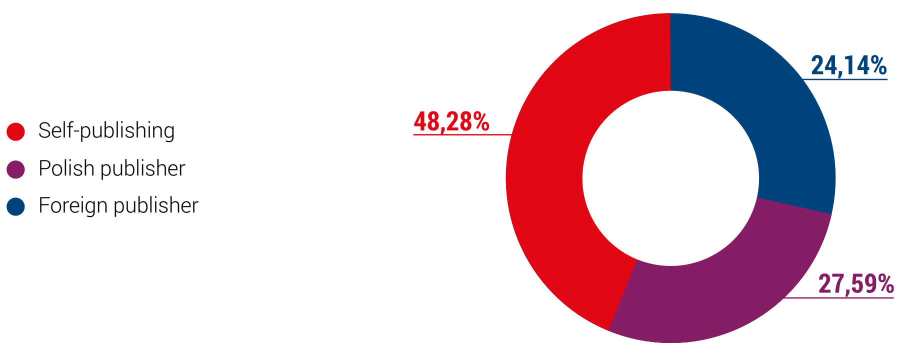
Fig. 29 How significant is a given platform for the projects to be developed by your company in the future?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

6.6. THE DOMINANT MODEL OF PUBLISHING GAMES

Fig. 30 The dominant model of publishing games in your company



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

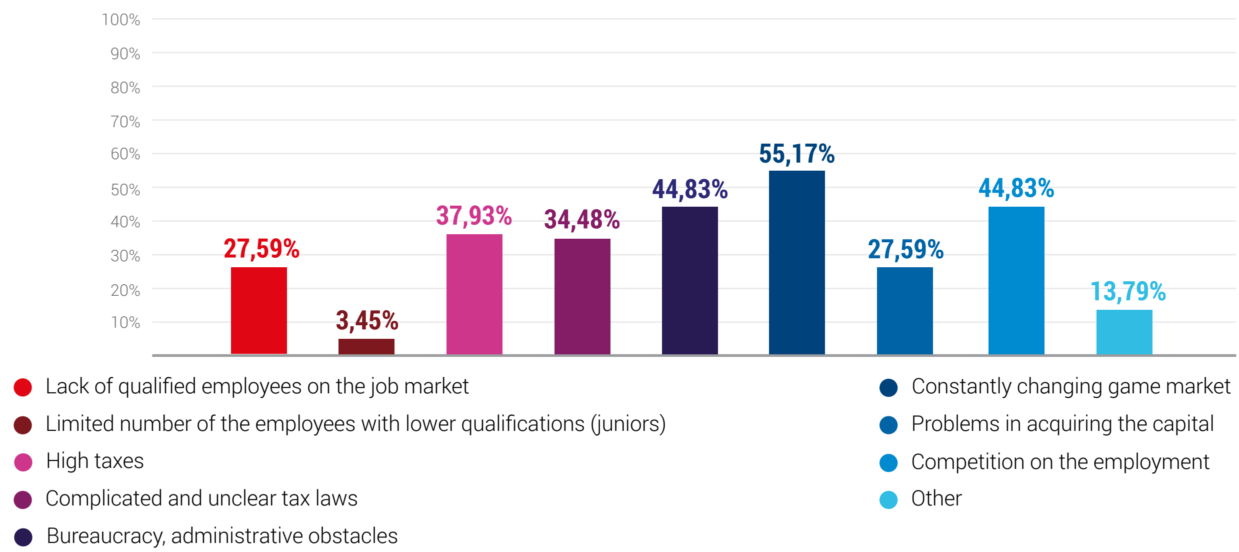
Among the surveyed companies, the most frequent model of publishing games is self-publishing, applied by nearly a half of them. Two other options, i.e. assistance of a Polish or a foreign publisher, are much less popular, with a publisher from Poland slightly preferred.

The self-publishing phenomenon is explained by Jakub Wójcik (**Indie Games Polska Foundation**), who has a lot of experience, in particular with respect to independent games market: "In general, self-publishing is currently very desirable, mainly because the market is literally flooded with games. There is no guarantee that cooperation with a publisher would ensure better visibility of your game."

The dominating digital distribution also affects the publishing decisions. "We have worked with publishers a long time ago, before the distribution revolution, i.e. before the digital distribution became so popular. At that time, there were no other choices than cooperation with the publishers because they had access to the sales network - a physical one which means that its organisation was very difficult. Digital distribution is completely different. It is much easier to handle, both from the point of view of operation and finances. Obviously, there are other significant threats. However, it is still easier to publish your games yourself. Additionally, no one will take more care of your game than you yourself. It is that obvious," emphasises Grzegorz Miechowski (**11 bit studios**).

6.7. WHICH OF THE FOLLOWING FACTORS NEGATIVELY IMPACTED YOUR COMPANY'S GROWTH IN 2019?

Fig. 31 Which of the following factors negatively impacted your company's growth in 2019?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

The digital entertainment market is dynamic and the related problems with planning and completing projects constitute the most important factor (55.1%) for the surveyed enterprises which negatively affected their business in 2019.

"Trends are forced on by the target groups, i.e. gamers. Their interests and preferences evolve quickly and the companies without departments or employees reviewing the customer's needs are not able to quickly analyse whether their games will be appreciated by the recipients," emphasises Joanna Staniszewska (**Flying Wild Hog**). Bureaucratic issues make running business more difficult and the possibility of finding local solutions should be considered.There are problems on the employment market where the enterprises have to fight for the employees in a high competition environment (44.8%), both those from Poland and other countries. As a result, there are problems with finding proper candidates and additionally, the employees can set the terms (for example financial) because they drive the market to a certain extent. Another problem connected with the employment market is the limited number of qualified (27.5%) and junior (3.4%) employees. Such information is rather disturbing considering the above-mentioned plans of the Warsaw companies to increase their employment.

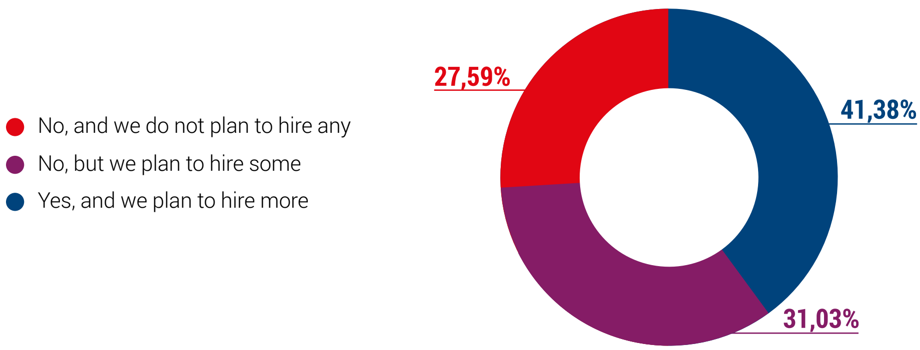
The next category of problems is connected with the tax system. The respondents stated that the taxes are too high (37.9%) or complicated and unclear (34.4%). This is another area for improvement by the local government, providing support to the developers, in particular those with the shortest presence on the market. The enterprises also notice problems with acquiring capital (27.5%), which may also refer to smaller and younger companies without sufficient own capitals.

The game developers from Warsaw ordered the factors negatively affecting their business development in 2019 differently than the companies from the rest of Poland. When their results were compared with the responses of companies from outside Warsaw (N=71), it turned out that the latter have mainly problems with taxes. They are too high (47.8%) and complicated (45%). Although bureaucracy and administrative obstacles generate similar problems (43.6%), frequent changes of the game market are much less significant for the entire country than for the Warsaw companies (39.4% outside Warsaw, 55.1% in Warsaw). The biggest difference between Warsaw and the rest of the country is the attitude of the respondents to the competition on the employment market - that problem was mentioned by 44.8% of the respondents in Warsaw and only 18.3% outside.

7. EXPATS IN THE VIDEO GAME ENTERPRISES IN WARSAW

7.1. DO FOREIGNERS WORK FOR YOUR COMPANY?

Fig. 32 Do foreigners work for your company?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

One of the methods of dealing with staff shortages on the Polish market is to employ foreign specialists. The above is confirmed by the survey results, as 41.3% of the companies employ foreigners and intend to do so in the future, while 31% are going to hire foreigners during the future recruitment processes. Those companies include smaller companies with principally Polish employees as well.

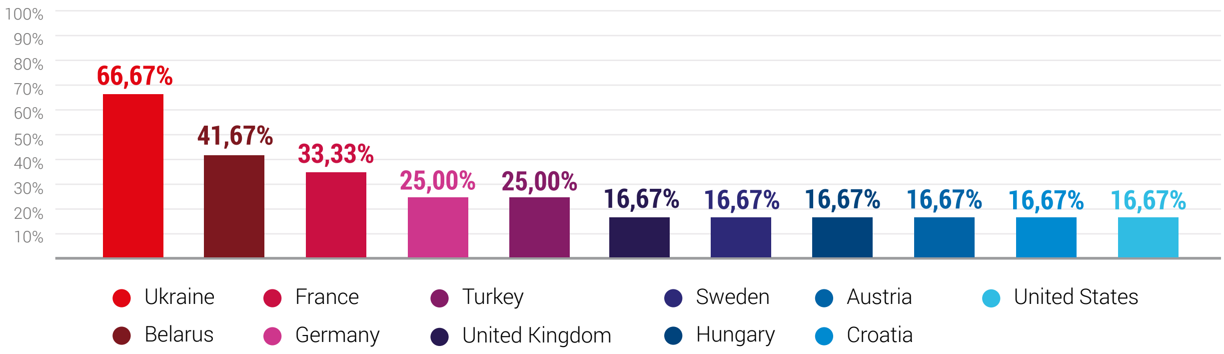
Miłosz Białas (**QLOC**) perceives that trend as solely positive: "We are open for foreigners. It is often easier to find talented people abroad and the employment time is also important - expats are often ready to begin work much sooner than the Polish employees. The nature of our services is also crucial; in general, we search only for native speakers within the scope of localisation and quality assurance."

7.2. WHAT COUNTRIES DO YOUR FOREIGN EMPLOYEES COME FROM?

The Warsaw game developers mainly employ people from the East. The citizens of Ukraine and Belarus are dominating. It is a common trend in the entire industry, so the local market is not very different in that scope from the rest of Poland ("The condition of the Polish video game industry 2017", p. 80). The countries of the Western Europe constitute the second source of new employees, principally France and Germany.

In the context of the video game industry and expats, Miłosz Białas (**QLOC**) notes "those are frequently well-educated people, coming from similar cultures and easily adjusting to the new work environment with respect to language."

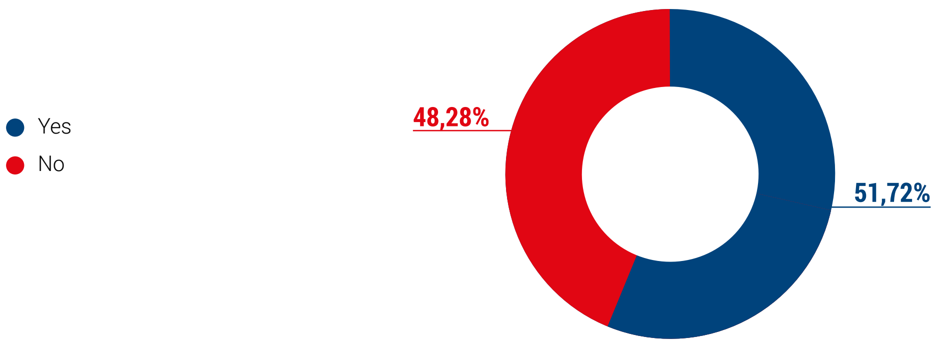
Fig. 33 What countries do your foreign employees come from?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

7.3. DOES THE COMPANY SUPPORT/PLANS TO SUPPORT, OR RUN WORKSHOPS/ LECTURES PREPARING PEOPLE FOR WORK IN THE GAME INDUSTRY?

Fig. 34 Does the company support/plans to support, or run workshops/ lectures preparing people for work in the game industry?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

The attitude towards training is quite varied among the local enterprises, as they are divided into two nearly equal groups - with a slight advantage of the developers who support or intend to support organisation of workshops preparing for working in the sector. Involvement in additional, burdening activities is not easy but in a long-term perspective it may decrease the problems with shortage of qualified candidates.

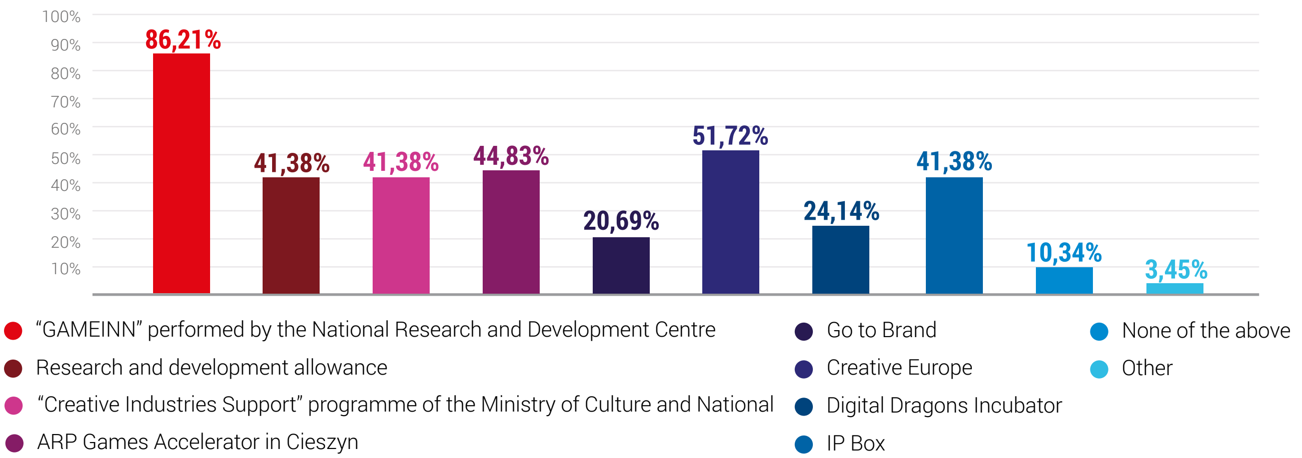
8. VIDEO GAME INDUSTRY IN WARSAW AND PUBLIC AID

8.1. WHICH OF THE FOLLOWING PUBLIC AID FORMS FOR THE GAME INDUSTRY ARE FAMILIAR TO YOU?

The question about the public aid does not give rise to any surprises. First of all, the respondents mentioned GAMEINN coordinated by NCBiR (National Centre for Research and Development) (86.2%). That relatively new support form became very popular in the entire sector. Good recognition at the level of 40-50% was achieved by Creative Europe, Creative Industries Support of the Ministry of Culture and National Heritage, ARP Games in Cieszyn, research and development allowance and IP BOX. Digital Dragons and Go to Brand are less popular (20-24%).

Slightly more than 10%, i.e. 3 people have not heard about any of the above options. There was one interesting answer going beyond the suggested category, indicating the European Union Framework Programme, Horizon 2020, as the type of public aid used by the company.

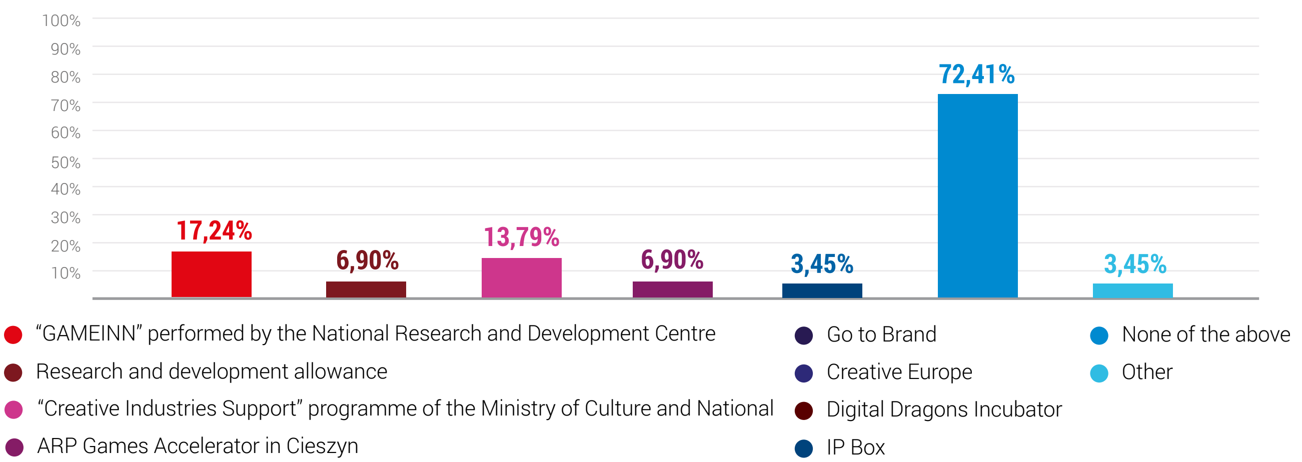
Fig. 35 Which of the following public aid forms for the game industry are familiar to you?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

8.2. WHICH OF THE FOLLOWING FORMS OF AID WERE USED BY YOUR COMPANY?

Fig. 36 Which of the following aid forms were used by your company?



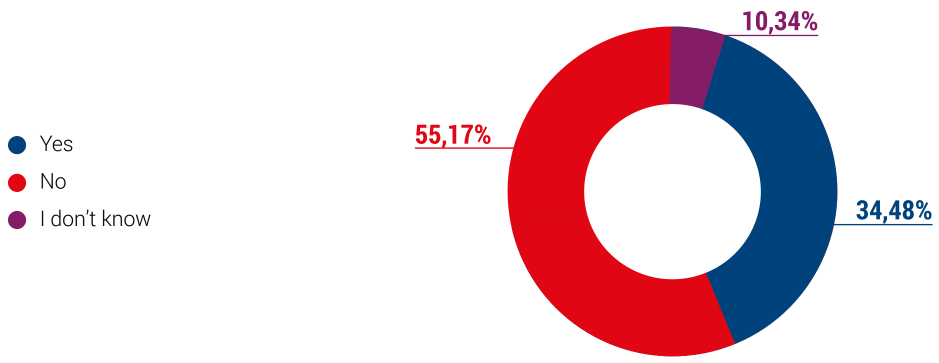
Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

Knowledge about a given form of public aid does not necessarily mean the actual use of the available opportunities, as it requires an idea and its practical implementation. It turns out that the majority of the companies from Warsaw (72.4%) do not use the above aid forms, regardless of a relatively popular knowledge of their existence. The resources from the GAMEINN programme were most commonly used (17.2%), which corresponds to its popularity. Creative Industries Support provided by the Ministry of Culture and National Heritage was slightly less common (13.7%). Other forms received single indications or have not been specified by the respondents at all. The general trend is that smaller companies less frequently use any form of the public aid. Therefore, providing an appropriate form of support for the smallest entities (which cannot afford transferring the resources to work on the applications) should be considered.

9. RELATIONS WITH THE PUBLISHERS AND PROJECT BUDGETS

9.1. ARE YOU PLANNING ON PUBLISHING GAMES BY OTHER DEVELOPERS IN THE NEAR FUTURE?

Fig. 37 Are you planning on publishing games by other developers in the near future?



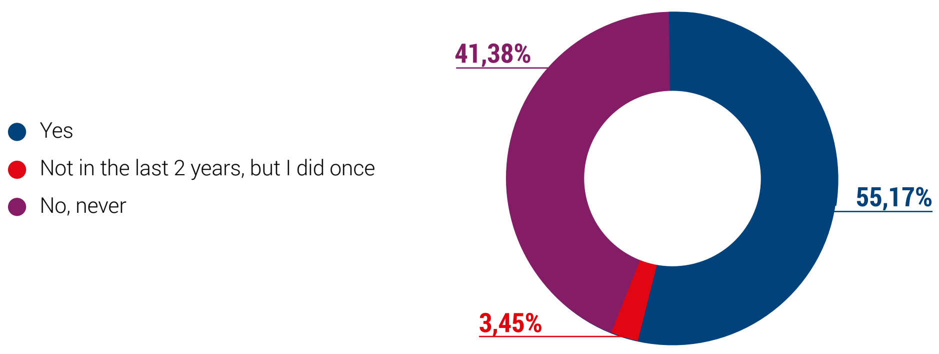
Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

Apart from development of their own games, some companies attempt to publish games developed by other studios. The majority of companies in Warsaw (55.1%) are not planning such actions, while 34.4% intend to release video games developed by another company in the near future. That result is a few percent higher than in the case of the entire Polish video game industry, both in relation to "The condition of the Polish Video Game Sector 2017" and the current ones. The trend of publishing games created by other teams may grow, although it is connected with some risks.

"It is a natural development direction. If you have acquired publishing competences for your own titles, they can also be used in relation to other entities. In my opinion, speaking honestly, it is already too late for many teams. The market is constantly changing, it can be more consolidated, or more scattered. The times are getting more difficult. I would have some doubts whether small development teams who publish their own games and wish to do it with other games as well have such internal competences that they would add the value to a published project so that it would achieve success," analyses Grzegorz Miechowski (**11 bit studios**).

9.2. HAVE YOU USED THE SERVICES OF A THIRD-PARTY PUBLISHER WITHIN THE LAST TWO YEARS?

Fig. 38 Have you used the services of a third-party publisher within the last two years?

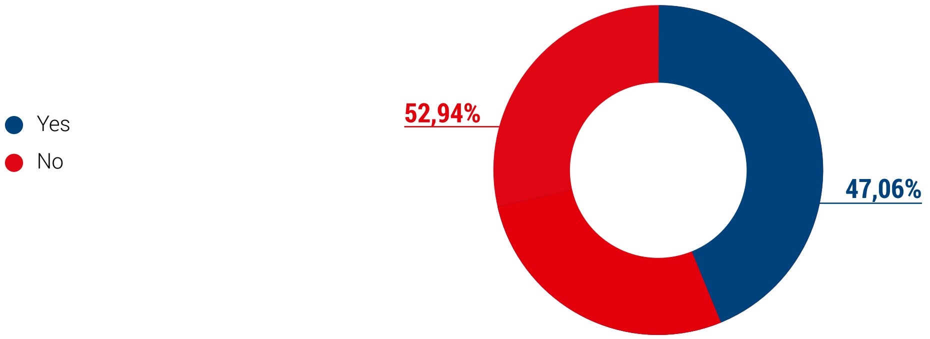


Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

Nearly 59% of the respondents have used the services of a third party and 55.1% of them did that within the last two years. 41.3% companies prefer self-publishing and those are mainly young companies with the market presence of less than two years. In general, a slight inclination (52.9%) towards foreign publishers was observed, although smaller companies operating for less than 5 years worked with local publishers more frequently.

9.3. WAS YOUR PUBLISHER A COMPANY REGISTERED IN POLAND?

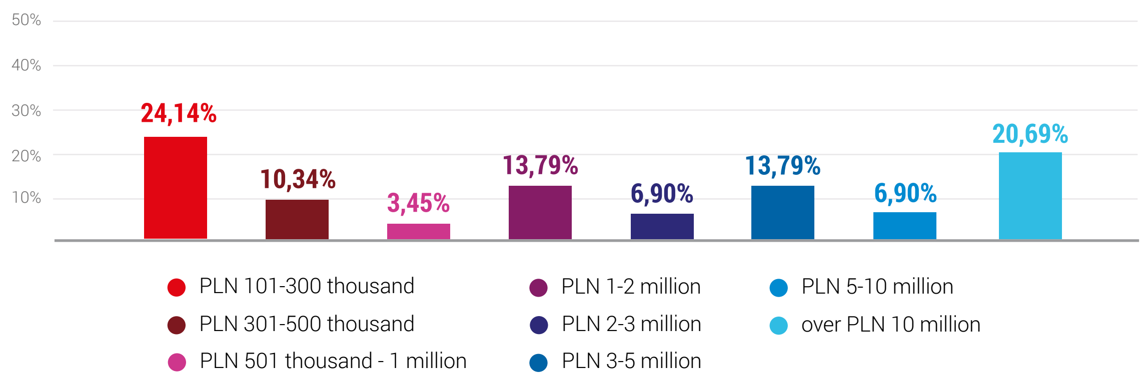
Fig. 39 Was your publisher a company registered in Poland?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

9.4. THE TOTAL ESTIMATED BUDGET FOR GAMES PLANNED FOR THE NEXT 3 YEARS IS...

Fig. 40 The total estimated budget for games planned for the next 3 years is...

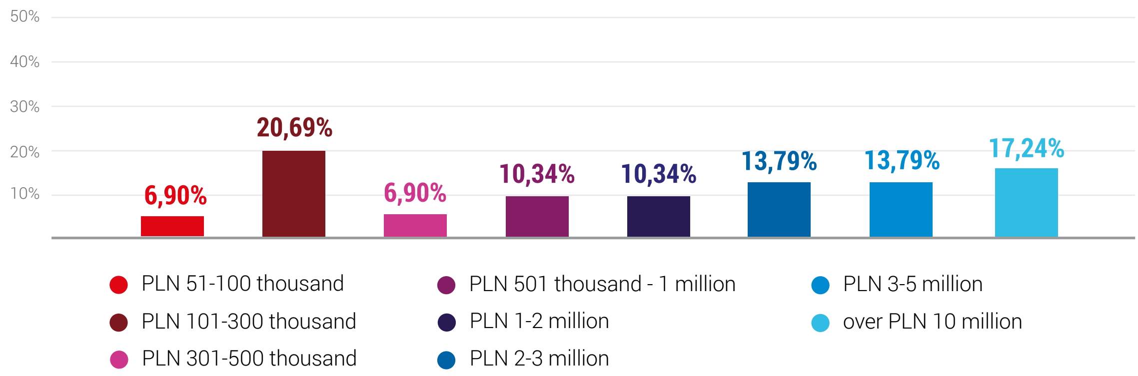


Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

There were no entities with very low budgets (below PLN 100 thousand) for the projects planned for the next 3 years among the surveyed companies from Warsaw. Simultaneously, there was a substantial disproportion between the dominating (24.1%) budget at the level of PLN 101-300 thousand and the subsequent group (20.6%) with the budget at the level of over PLN 10 million. Such budgets can be afforded mainly by large enterprises, but in single cases, they were declared by entities employing less than 50 people.

9.5. THE PLANNED BUDGET FOR YOUR BIGGEST RELEASE IN THE NEXT 3 YEARS

Fig. 41 The planned budget for your biggest release in the next 3 years

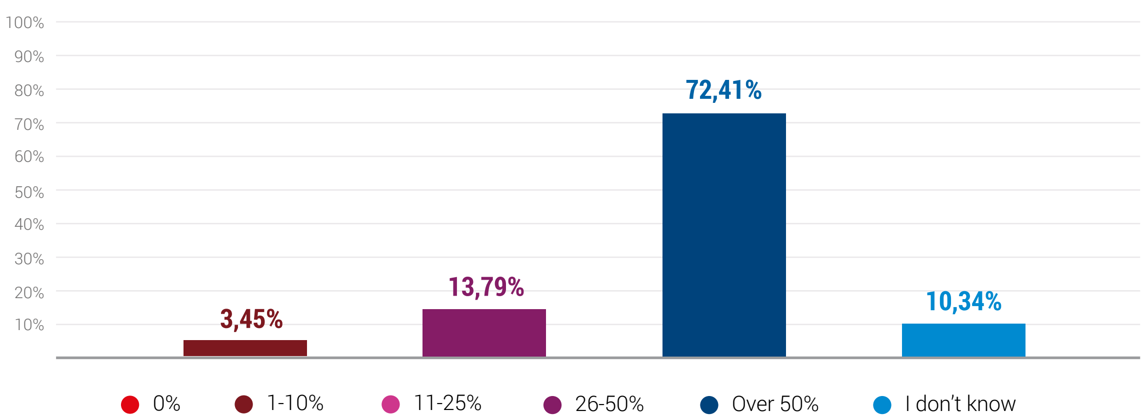


Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

The response structure concerning the resources designated for the biggest game in the next three years was similar to the previous question, concerning the general budget designated for games. Thus, it can be concluded that in some studios, the most important production consumes the majority of financial resources. No company declared a very low budget for a single project, i.e. up to PLN 50 thousand. The range of PLN 5-10 million was not indicated as well, although the budget of over PLN 10 million was selected by 17.2% of the companies, regardless of their size. The enterprises employing over 50 people declared financing of the biggest game at the level of over PLN 10 million. From that point of view, smaller companies are more varied. Similarly as in the previous question, the most frequent budget was within the range of PLN 101-300 thousand.

9.6. WITHIN ONE PROJECT, WHAT PERCENTAGE OF THE COSTS IN YOUR COMPANY IS SPENT ON GAME DEVELOPMENT?

Fig. 42 Within one project, what percentage of the costs in your company is spent on game development?

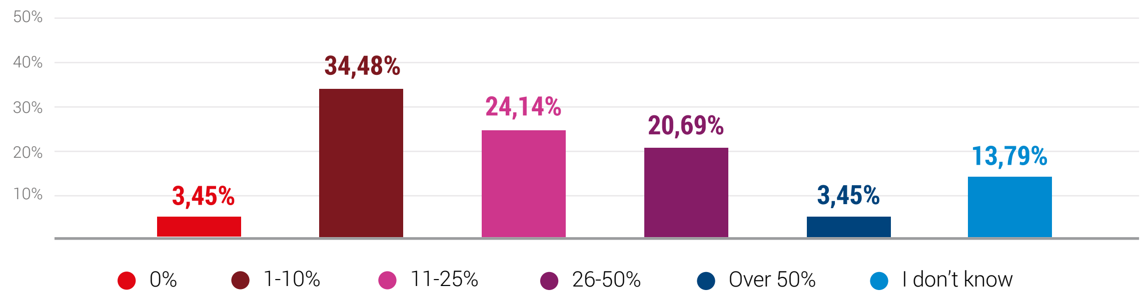


Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

The budget of a single project usually includes the costs of game development only. 72.4% of the respondents declared that they designate 50% of the planned budget for that purpose. It turns out that 86.2% of the Warsaw companies designate at least 26% of the resources for game development. 25% and less practically did not occur in the surveyed enterprises.

9.7. WITHIN ONE PROJECT, WHAT PERCENTAGE OF THE COSTS IS SPENT ON MARKETING?

Fig. 43 Within one project, what percentage of the costs is spent on marketing?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

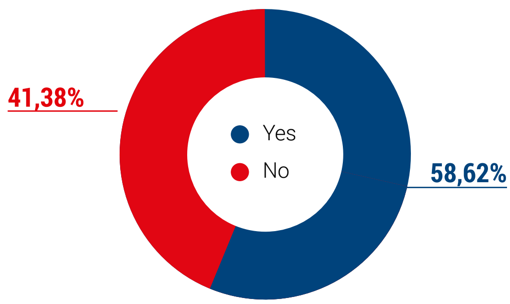
Much more flexibility was described in the costs distribution with respect to the marketing expenses. Differently than in the case of development, lower amounts prevail in the responses. The majority of the surveyed companies (58.6%) designated 25% (or less) of their project budget for marketing. Designating more than 50% was indicated once, similarly as resignation from payment for any marketing activities.

9.8. DO YOU USE THE SERVICES OF OUTSOURCING COMPANIES WHILE DEVELOPING GAMES?

The majority (58.6%) of the surveyed companies outsource certain tasks connected with game development. They usually comprise localisation (75.8%), music (55.1%) and QA testing (48.2%).

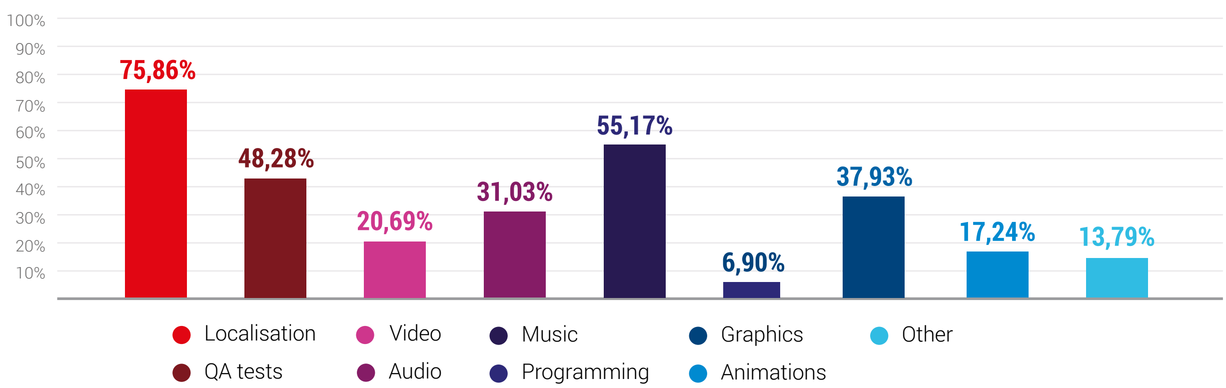
Fig. 44 The dominant model of publishing games in your company

Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.



9.9. WHICH ELEMENTS ARE OUTSOURCED IN YOUR COMPANY?

Fig. 45 Which elements are outsourced in your company?



Source: Own study based on the analysis of a survey conducted among Warsaw game developers in 2019.

SUMMARY

In the opinion of the surveyed representatives of the sector, Warsaw occupies a central position in game development in Poland. Its advantages include not only an attractive location with good transport connections (domestic and international), access to employees (excluding the most experienced ones, but that constitutes a problem for the industry in the entire country), but also easy access to widely understood government institutions that affect the business of the companies from the video game industry.

International successes and a good reputation of the Polish video game companies abroad are also important. The above can be ascribed principally to the companies originating from or seated in the capital: **CD Projekt RED**, Techland or **11 bit studios**.

Improvements are required within the scope of widely understood cooperation with higher education institutions. The survey conducted among the Warsaw game developers and the interviews with the representatives of the industry prove that the institutions should be more flexible in that scope, not only with respect to the teaching methodologies and adjustment of the programmes to the current requirements, but also in relation to the initiatives connected with more extensive cooperation with the video game industry. Currently, private higher education institutions and initiatives prevail, as they express significantly more flexibility in the relations with game developers.

On the side of local governments, coherent and transparent presentation of the offer designated for the game development companies and creative sectors is recommended. A poor assessment of the offered activities results principally from low awareness of the developers concerning their availability.

THE LIST OF HIGHER EDUCATION INSTITUTIONS AND FIELDS OF STUDY

Higher education institution	Field of study	Website
Polish-Japanese Academy of Information Technology	Multimedia - games programming	https://www.pja.edu.pl/informatyka/inzynierskie/specjalizacje/programowanie-gier
Polish-Japanese Academy of Information Technology	MULTIMEDIA – 3D animation	https://www.pja.edu.pl/informatyka/inzynierskie/specjalizacje/animacja-3d
Warsaw University of Technology	Computer graphics – methods and tools	http://www.ii.pw.edu.pl/ii_pol/Instytut-Informatyki/Nauczanie/Studia-podyplomowe/Grafika-komputerowa2
Warsaw Film School	Video games development and direction	https://szkolafilmowa.pl/studia/7/tworzenie-gier-wideo
University of Economics and Human Sciences in Warsaw	Designing and programming of video games	https://vizja.net/studia-wyzsze/projektowanie-i-programowanie-gier-komputerowych,ws69.html
Video Games Creation School		https://liceumgier.pl/
Game Dev School	Creating of video games, Production of video games	https://gds.gamedevschool.pl/

THE LIST OF INDUSTRY EVENTS TRAININGS

Training name	Website
Digital Dragons Academy	http://academy.digitaldragons.pl/
DaftAcademy – Game Dev 4 Beginners	https://daftacademy.pl/courses/Zvmt6r
Games and Postproduction Academy	https://www.akademiagier.pl/
Business and legal horizons of the Polish gamedev	https://www.facebook.com/events/276627323247607/

CONFERENCES

Event name	Website
Mastering the Game	http://sektorykreatywne.mkidn.gov.pl/pages/strona-glowna/wydarzenia/mastering-the-game.php
Gamedev & Creative Careers Expo	http://gcce.eu/
Pixel Heaven Games Festival & More	https://www.pixelheavenfest.com/
Game Dev Fest	https://www.gamedevfest.pl/

GAME JAMS

PolyJam	Pixel Crunch! 8bit Game Jam Edition
Cloud Jam	Slavic Game Jam
Science Game Jam 2019 – Warsaw	Warsaw Film School Game Jam
Game Jam Square – Warsaw	Warsaw Game Jam

NON-GOVERNMENTAL ORGANIZATIONS

Event name	Website
Indie Games Polska Foundation	igp.org.pl
Polish Games Association	http://polskiegry.eu/

SUPPORT SCHEMES

Event name	Website
Go to Brand	https://www.parp.gov.pl/component/grants/grants/go-to-brand
GameINN	https://www.ncbr.gov.pl/programy/fundusze-europejskie/poir/konkursy/konkurs-1122019-gameinn/aktualnosci/
INNOTECH	https://www.ncbr.gov.pl/programy/programy-krajowe/innotech/
Development of creative sectors	http://www.mkidn.gov.pl/pages/strona-glowna/finansowanie-i-mecenat/programy-ministra/programy-mkidn-2019/rozwoj-sektorow-kreatywnych.php
Creative Europe	https://kreatywna-europa.eu/

THE LIST OF WARSAW GAME DEVELOPERS

Studio name	Website
11 bit studios SA	www.11bitstudios.com
A14 Games s.c.	pl.a14games.com
Acid Wizard Studio	www.acidwizardstudio.com
Action Games Lab	actiongameslab.com
Ahoy Games sp. z o.o.	www.ahoygames.com
Appendix Games	appendixgames.com
Artificer Games sp. z o.o.	artificer.com
Arts Alliance SA	www.artsalliance.pl
Atomic Wolf	twitter.com/AtomicWolfGames

Studio name	Website
Baby Bison Games	www.babybisongames.com
Black Sail Games	https://www.blacksailgames.com/
Bold Pixel	www.boldpixel.com
Cherry Pick Games sp. z o.o.	https://cherrypickgames.com
CD Projekt	https://www.cdprojekt.com/pl/
CI Games SA	www.cigames.com
Cogwheel Software	www.cogwheelsoftware.com
Creative Forge Games SA	www.creativeforge.pl
Creepy Jar	http://www.creepyjar.com

Studio name	Website
Crunching Koalas	www.crunchingkoalas.com
Daftmobile	www.daftmobile.com
Deadbit	www.deadbitgames.com
Deep Blue Production	www.deep-blue.com
Despair Games	https://www.facebook.com/despairgames
Different Tales	http://differenttales.com
DoDo4Story Games	www.dodo4story.com
Drageus Games SA	www.drageusgames.com
Duality SA	http://dualitygames.eu/
ECC (Eccentricity) Games sp. z o.o.	www.eccgames.com
Enclave Games	www.enclavegames.com
ENTERi Games	www.enteri.eu
False Prophet and The Blood	https://falseprophetandtheblood-
Fir&Flams	https://www.facebook.com/Fir-
flukyMachine	https://www.facebook.com/fluc-
Flying Wild Hogs	http://flyingwildhog.com
Fuero Games sp. z o.o.	www.fuerogames.com
Game Hunters	https://gamehunters.club/
Games Operator	http://www.gameops.pl/
Head Motion Games	http://headmotiongames.com/
Holy Pangolin	www.holypangolin.com
Ice Code Games	www.icecodegames.com
IceTorch Interactive	www.facebook.com/IceTorchIn-
IonForce Studio	ionforcestudio.com
Jet Toast	https://www.facebook.com/
Juggler Games sp. z o.o.	www.jugglergames.com
Jutsu Games	http://jutsugames.com
Klabater	www.klabater.com
Kool2Play sp. z o.o.	www.kool2play.com
Kubold	www.kubold.com
LabLike	lablike.net
Layopi Games	www.layopigames.com
Lesson of Passion	www.lessonofpassion.com
Lichthund	www.lichtspeer.com
Mageeks	www.mageeks.com
Mandas Artur	www.arturmandas.com
Mass Creation sp. z o.o.	www.mass-creation.com
Mechanistry sp. z o.o.	www.mechanistry.com

Studio name	Website
MoaCube	www.moacube.com
Movie Games SA	www.moviegames.pl
MythicOwl	www.mythicowl.com
No Gravity Games SA	www.nogravitygames.com
Orbital Knight	www.orbitalknight.com
Orchid Games	http://www.orchidgames.com
Ovid Works	www.ovidworks.com
People Can Fly	https://peoplecanfly.com/
Pixel Crow	http://pixelcrow.com
Pixelated Milk	https://regaliagame.com
PolyAmorous	www.polyamorousgames.com
QAM	www.qam.pl
QED Games	tacticaltroops.pl
QLOC	https://q-loc.com
QubicGames	https://qubicgames.com
Real Time Warriors	https://www.realtimewarriors.
Red Zero Games	http://redzerogames.com
REIKON GAMES	ruinergame.com
Solid9 Studio	www.solid9studio.com
Spokko sp. z o.o.	http://www.spokko.com
Star Drifters sp. z o.o.	stardrifters.com
Tate Multimedia	www.tatemultimedia.com
Techland Warszawa sp. z o.o.	https://techland.net/
The Astronauts	http://www.theastronauts.com
The House of Fables	https://www.thehouseoffables.
Thing Trunk	https://thingtrunk.com/
Varsav VR SA	www.varsav.com
Vile Monarch	vilemonarch.com
White Shark Studios	https://whiteshark.se
World-LooM	http://www.world-loom.com
Wulo Games	twitter.com/TheWulo
Fireheart Games	http://fireart.studio/

TABLE OF CONTENT

DESIGN AND COMPOSITION

purecreations