The State of Polish Video Games Industry 2020

The coordinator of the research project is Krakowski Park Technologiczny sp.z o.o.

KRAKOW TECHNOLOGY PARK

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Note from the authors

Kraków Technology Park, together with the Polish Gamers Observatory and Partners, are pleased to present the third edition of the comprehensive report entitled *"The State of Polish Video Games Industry 2020"*.

Since 2014, together with our Partners, we have presented six editions of the research focusing on Polish gamers (Polish Gamers Research), presenting the video game market and the changes occurring therein, connected among others with the social and demographic profile of the gamers, frequency and time spent on playing, preferred payment methods, platforms and game genres.

We have also developed three editions of the report related to Polish developers of video games (Polish Gamedev 2014, 2017, 2019). That report contains the current and the anticipated situation of the specific segments of the Polish video game industry, market value, condition of Polish companies, employment and remuneration structure. One of the three reports, "*Warsaw Video Games Industry 2019-2020*", was devoted only to the market of the capital city.

Our research is conducted using our own methodology and research tools. The reports have been published in Polish and English. They are available for free at the websites

- https://www.kpt.krakow.pl/branza-gier-wideo,
- https://Polishgamers.com,
- http://sektorykreatywne.mkidn.gov.pl,
- https://www.nck.pl/badania/raporty.

The information gathered by us in the present edition of the report presents the current trends in the international and domestic video game market, the habits of gamers, market needs and the condition of Polish companies from the sector. In our opinion, knowledge in that scope is essential for enterprises introducing new products on the market, as well as the institutions involved in supporting the sector, because it helps in designing the actions, distributing the resources and promoting the world's most recognised sector of creative industries.

Chapter I contains general information about the value of the global video game market and the most important trends shaping it. It also presents estimated values of specific elements of the Polish market, forecasts of the expenditures spent by the Polish consumers on video games in the years 2019-2024 and a separate estimation of the value of global revenues of the Polish video game developers. We present the profiles of the selected foreign and Polish companies listed on the stock exchange compared to the global revenues of the video games industry, the selected profiles of developers listed on the foreign stock exchanges in the context of the progressing concentration of the global video games market, as well as the essential trends shaping the video games market in Poland and abroad. In addition, Chapter I describes the principal elements of the Polish market, including the publishing and distribution segment, and the participants of the video game development process. We have analysed the business models connected with production and distribution of video games in Poland, and discussed the impact of the video game development on the Polish economy, with particular attention paid to tax incentives for production of cultural video games. Based on the information compiled on our own and obtained during in-depth interviews with the leading representatives of the sector, we analysed the most important factors affecting the present and future situation on the market.

Chapter II contains an analysis of the results of the "*Polish Gamers Research 2020*" survey, which focused on the profile of Polish gamers, both in terms of basic social and demographic data, as well as their gameplay interests, favourite platforms, interest in e-sports, VR, preferred payment methods, spending levels and the methods of playing games by parents and their gaming children. The current research was conducted in May 2020, during the lockdown caused by the coronavirus pandemic. Therefore, the research questionnaire was expanded by the questions related to changes in the consumer behaviour of Polish gamers in connection with COVID-19. This year's research is exceptionally valuable and allows an insight in the changes of the behaviours of Polish gamers in that period in the context of other European Union countries, which has been described in Chapter I.

Chapter III presents the principal information about the situation of the Polish developers of video games on the basis of the survey conducted among them. In addition, the authors of that chapter prepared a survey regarding the salaries in the Polish gamedev sector, which is the largest on that scale. The results presented have been discussed by a group of industry experts during individual structured interviews. The chapter also contains descriptions of the biggest successes achieved by the Polish developers, as well as a review of the companies listed on the Warsaw Stock Exchange.

Methodology

The data used in the report was compiled based on:

Six editions of Polish Gamers Research in the years 2014-2020. The last edition of the research was conducted on 15-31 May 2020 using the *Computer Assisted Web Interview* (CAWI) method among the Internet users aged 15-65 within the Ariadna panel. The technological scope of the survey was completed by PUBLICIS GROUPE. The sample together with boosters included 1737 Internet users in the above age brackets. The group also included parents of gaming children (N=594) who were asked questions related to consumer habits connected with playing for both the parents and the children, including the level of parental control and adherence to the guidelines of the age information system (PEGI). Each of the respondents met the requirement of playing on at least one among the selected gaming platforms: consoles, mobile devices (smartphones and tablets), personal computers, browsers and social networks. In order to obtain more precise and reliable results, the data weighting processes have been used while calculating the final results. The survey conducted included all essential social and demographic factors (gender, age, financial status, motivations, place of residence, education), as well as detailed information concerning gaming preferences.

The Polish Gamedev 2019/2020 was conducted in the period of September-December 2019 in the form of an online questionnaire sent to the verified list of 476 Polish companies developing video games. During the research, 100 fully completed questionnaires have been returned, which means maintaining a test sample size at the level of the report from 2017. The test sample contained studios differing from the point of view of size, location, revenues or types of published games. The research focuses on the essential aspects of the functioning of gamedev companies on the market, including production of games, employment, project budgets or relations with external business partners. The data generated in the survey has additionally been combined with the opinions of experts representing selected design studios, business organisations and scientific institutions. Th at stage of the project was completed using the method of 18 structured interviews. Such triangulation of research methods allowed developing an in-depth approach to the most important phenomenon for the Polish video games sector in 2020.

The research "**HR policy and salaries in the Polish video games sector**" was conducted at the turn of August and September 2020 by manaHR upon request of the Kraków Technology Park. The survey was conducted with respect to the group of 2,241 employees of the companies producing video games, including 1,700 from the gamedev area. In order to limit the impact of large enterprises on the final results, the sample was *Balanced*.

Polish and foreign industry reports: Newzoo, 2020 Global Games Market Report, *"2020 Global Game Market Report"* October update, Newzoo Pro, "*The State of Polish Video Games Industry 2017*", SuperData, Nielsen Company, 2019 Year in Review Digital Games and Interactive Media, PwC, (2018), Global Entertainment & Media Outlook 2018-2022 report. Global and Russian markets: Key trends and outlooks, "*Let's Play, The European Esport Market*" by Deloitte, Entertainment Software Association "*2020 ESSENTIAL FACTS About the Computer and Video Game Industry*", Comscore "*State of Gaming,*", Interactive Software Federation of Europe (ISFE), NIKO "*The China Gamers Report*", AppsFlyer, "*The State of Gaming App Marketing*", Facebook, Marketing report Facebook Gaming November 2019, "*The Game Industry of Poland report 2020*", EDGF, Report on the European Games Industry in 2018, PwC, (2020), Global Entertainment & Media Outlook 2020-2024 report, Ipsos | ISFE Gaming in Lockdown | September 2020 |VIDEO GAMING IN LOCKDOWN The impact of Covid-19 on video game play behaviours and attitudes.

The series of structured interviews conducted by the authors of the report with the representatives of the major market segments in 2020.

- Przemysław Marszał, **11 bit studio**
- Krzysztof Kwiatek, **Creepy Jar**
- Paweł Gumiński, **Rage Quit Games**
- Damian Fijałkowski, **T-bull**
- Maciej Zużałek, **Ten Square Games**
- Grzegorz Dymek, **Anshar Studios**
- Piotr Babieno, **Bloober Team**
- Michał Mielcarek, **Draw Distance**
- Tomek Majewski, **One More Level**
- Jakub Rokosz, **Fool's Theory**
- Tomasz Tomaszewski, **Crunching Koalas**
- Sebastian Wojciechowski, **People Can Fly**
- Rafał Szrajber, **Łódź University of Technology**
- Jakub Wójcik, **Indie Games Polska Foundation**
- Paweł Kopiński, **Superbright**
- Maciej Szcześnik, Ewa Maria Szczepankowska, **Warsaw Film School**
- Piotr Jurek , **ARP Games**
- Adam Piesiak, **QLOC**
- Adam Zdrzałek, **Ubisoft**
- Jakub Mirski, **Microsoft**
- Michał Gembicki, **Klabater**
- Krzysztof Kostkowski , **PlayWay**
- Aleksy Uchański, **Movie Games and other**
- Dominika Urbańska-Galanciak, **SPIDOR**

Kraków Technology Park has been supporting the Polish video game industry as a coordinator of the research project for nearly 10 years. It has continuously created and improved the tools, responding to the needs of the sector by organising a leading B2B industry conference in Central and Eastern Europe - Digital Dragons, executing the internationalisation programme by promoting companies on the foreign markets, organising a unique KrakJam, a part of the Global Game Jam, every year, providing training within the Digital Dragons Academy and running the Digital Dragons Incubator supporting business development of the companies. Since 2014, it has conducted holistic research of the video game industry, as the only entity in Poland. It attempts to analyse the market from the point of view of both consumers and enterprises.

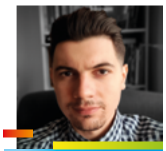
Authors

Anna Krampus-Sepielak

Manager of the video games team in the Kraków Technology Park. Actively supporting the video game sector for nine years, both on the Polish and the foreign markets. Head of the Digital Dragons, a leading B2B event in Europe, and the Digital Dragons Academy, monthly courses and workshops for students, professionals and people searching for employment in the video game sector. Co-organiser of jams and other specialised initiatives.
Co-author of *"The State of Polish Video Games Industry"* reports, a comprehensive research document concerning the Polish video game market, presenting the current profile of gamers in Poland, analysing the trends on the domestic market, and the Warszaw Video Games Industry 2019-2020, a detailed analysis of the development companies seated in Warsaw.
Holds many years of experience in obtaining and implementing the projects funded by the European Union.

Michał Bobrowski

Member of the Management Board, Chief Marketing Officer of GRY-OnLine S.A. (belonging to the Webedia group).
A fan of the video game market, travelling and opera. Began his computer adventure at the time of 8-bit computers. In the years 1995-2000, employed in the exterior advertising sector. Since 2001, he has combined his interest in virtual entertainment and online advertising with working for GRY-OnLine S.A., an unquestioned leader of the Polish gaming media. Lecturer at industry conferences such as Digital Dragons, Games Connection, ChinaJoy and Poznań Game Arena. Originator and co-author of two editions of *"The State of Polish Video Games Industry"* and *"Polish Gamers Research"* reports. Holds the MBA title of the Polish Open University.



Damian Gałuszka

Assistant at the Human Sciences Division of the University of Science and Technology in Krakow (AGH) and doctoral student at the Sociology Institute of the Jagiellonian University. Initiator and co-organiser of the nationwide conference "Technological and social aspects of the 21st century" (currently "TechSpo"), author of a book discussing the topic of video games in Polish families entitled "Gry wideo w środowisku rodzinnym. Diagnoza i rekomendacje" [Video games in the family environment. Diagnosis and recommendations], co-author of two monographies: "Technokultura: Transhumanizm i sztuka cyfrowa" [Technoculture: Transhumanism and digital art] and "Technologiczne i społeczne aspekty XXI wieku" [Technological and social aspects of the 21st century]. Received the scholarship of the Minister of National Education and the Florian Znaniecki award of the Polish Sociology Association for his master's thesis. Interested in video games, VR, digital media and STS.

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Co-author and co-originator of the series of reports entitled *"The State of Polish Video Games Industry"* and 6 editions of the *"Polish Gamers Research"*. Co-founder of the non-profit educational initiative *"Polish Gamers Observatory"*. Lecturer at the industry conferences such as Paris Games Week, Game Connection, Mastering the Games, Digital Dragons, Poznań Game Arena, GIC, as well as universities. A fan of games, travelling and mountains. A happy mum, currently staying on maternity leave.

Maciek Śliwiński

A video game fan with over 13 years of experience in the electronic entertainment sector. One of the pioneers of e-sports in Poland, a member of the first team of professional players, PGS Gaming, in the years 2006-2009. Continued his career at GRY-OnLine S.A., gathering experience in online marketing and e-commerce. In 2013, he became the Community Manager at Razer, responsible for the dynamic development of social media channels in Poland. Cooperated with Kool Things agency and ESL Poland within the scope of online marketing related to the video game market. Since 2016, employed at the Kraków Technology Park, responsible for promotional activities for the Digital Dragons brand and organisation of the Indie Showcase. Currently responsible for the substantive programme of the Digital Dragons conference and the Digital Dragons Academy. Co-author of *"The State of Polish Video Games Industry 2017"* and *"Warsaw Video Games Sector 2019/2020"*.

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A long-term associate of **GRY-OnLine**.pl, the largest online portal devoted to video games in Poland. His interest in video games is equalled only by his passion to write about them. Graduate of the information technology specialisation at the Information Technology Faculty of the Zachodniopomorski Technological University in Szczecin. Apart from games, he is also interested in the widely understood pop culture and cycling.

Maciej Dydo

Expert in the domain of creative sectors. Lawyer, economist and film expert. Director of the National Chamber of Audiovisual Producers, lecturer of the Warsaw Film School and associate of In Situ Foundation. Managed the state patronage, intellectual property and media areas in the Ministry of Culture for many years. Conducted substantive and legislative projects, implemented financial mechanisms within the domain of copyrights, development of cultural and creative sectors (film, video games, new media, books, music and design), audio-visual policy, digitalisation of cultural heritage, distribution of digital collections, libraries, archives. Supervised the operations of public cultural institutions involved in film, animation culture and books. Previously connected with public media, where he was involved among others in projects related to new media.

Maciej Pawlikowski

Born in 1986, editor at **GRY-OnLine**.pl and the leading editor at Gamepressure.com. Playing video games since childhood, a fan of virtual worlds and good reading material. Graduate of the Jagiellonian University (Polish philology). Previously involved in literary criticism, published his works in various literary and scientific magazines. A voluntary worker of the Peace Patrol and the Great Orchestra of Christmas Charity.

Marcin Strzyżewski

A specialised journalist since 2012, and a huge fan of electronic entertainment. The original Prince of Persia was his first encounter with video games. Still a gamer 30 years later. Occasionally performs the role of a video and board games scriptwriter, writer and YouTuber. Russian philologist, licensed diver, recently started to roam the Tatra Mountains trails, sometimes in locations he should not be visiting with his level of skills.

Michał Wojciechowski

Michał Wojciechowski is an Equity Analyst at IPOPEMA Securities with 4 years' experience in capital markets. His prime focus is Polish video game industry. In 2020 edition of sell-side analyst ranking (organized by Parkiet Daily) was ranked at third place in video game sector category (as a lead analyst in a team with Marcin Nowak).

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Gamedec, Anshar Studios

[*], [**] Authors of the study *Selected Polish companies producing games and listed on the Warsaw Stock Exchange* from IPOPEMA Securities, which provides financial and transaction consulting services during preparation and conclusion of public and private transactions, including mergers and acquisitions, as well as the principal coordinator services in transactions aimed at obtaining financing through the issue of securities (public offering of shares and bonds). IPOPEMA Securities also offers brokerage services in trading with securities on the secondary market for national and foreign institutional customers.

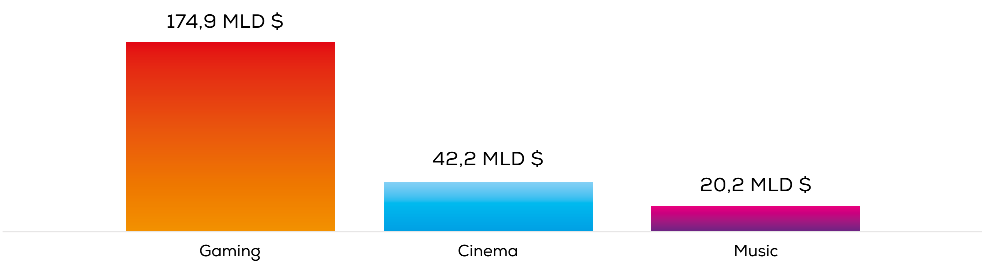
CHAPTER I

Poland in the context of the global video game market

1.1. Global video game market

The global video game market transformed from a minor branch of creative sectors into a thriving business and an important element of mass culture within just two decades. The scale of revenues generated by the international video game market is best reflected in its comparison with the revenues generated by the music and film sectors. In 2020, the music and film sectors will jointly generate revenues at the level achieved by the video game industry in 2012. The value of the global video games market in 2020 is estimated at the level of USD 174.9 billion[1], while the music sector generates revenues at the level of USD 20.2 billion and the film sector - USD 42.2 billion, which means that the revenues from video games greatly exceed the total value of the music and film sectors.

Chart 1.1.1. Revenues of the video game industry compared to the music and film industries in 2020.



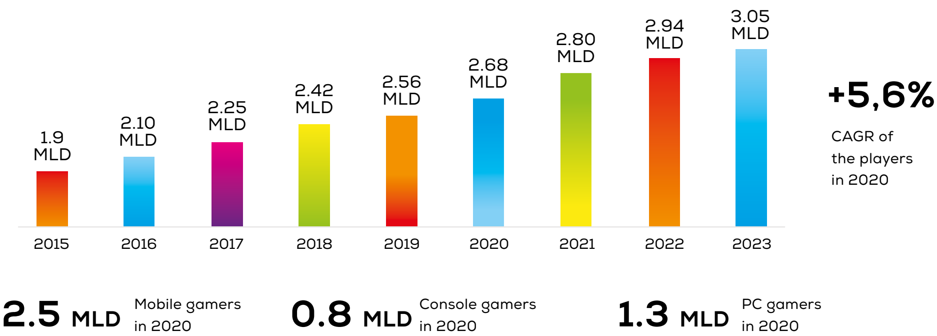
Source: Compiled by the Polish Gamers Observatory based on the data from Newzoo, Statista, Music Business Worldwide

The Polish video game market has been developing dynamically and generating profits for development studios, however, from the point of view of the share in the global market with respect to the generated revenues, it constituted only 0.4% in 2019 and 0.38% in 2020. In comparison to 2015, when the share of the Polish market amounted to 0.6% and Poland was the 23rd market around the world, it would seem that stagnation occurred in our video game industry. The Polish market is still recording growth, but the growth dynamics of the revenues on the global market is much higher, mainly because of gaming development in Asia and the general increase of revenues generated by the games for mobile devices. While analysing the history of the revenue growth dynamics for the video game industry, it is visible that 2007 was a critical period. The global video game market needed 35 years to reach the value of USD 35 billion in 2007, but only 12 more years to exceed the revenue threshold of USD 146 billion in 2019[2].

It is anticipated that in 2023, the revenues of the video game sector should exceed USD 217 billion with the *compound annual growth rate* (CAGR) for 2018-2023 at the level of 9.4%.

Among others because of new business models, distribution platforms, game development processes and first of all, the popularisation of smartphones, the video game industry developed dynamically after 2007, which resulted in an explosion of the number of gamedev enterprises. Therefore, the volume of published games increased, as well as their availability for the global recipients who did not even have to purchase games because of the popularisation of smartphones and products in the *free-to-play* business model or free games with implemented advertising. It resulted in new gamers in the demographic segments which had been rare in that group, such as women or elderly people. Within 5 years from 2015, the number of gamers increased by 700 million people and amounts to nearly 2.7 billion in 2020 with CAGR for 2015-2023 at the level of 5.6%.

Chart 1.1.2. Changes in the population of gamers in the years 2015-2023

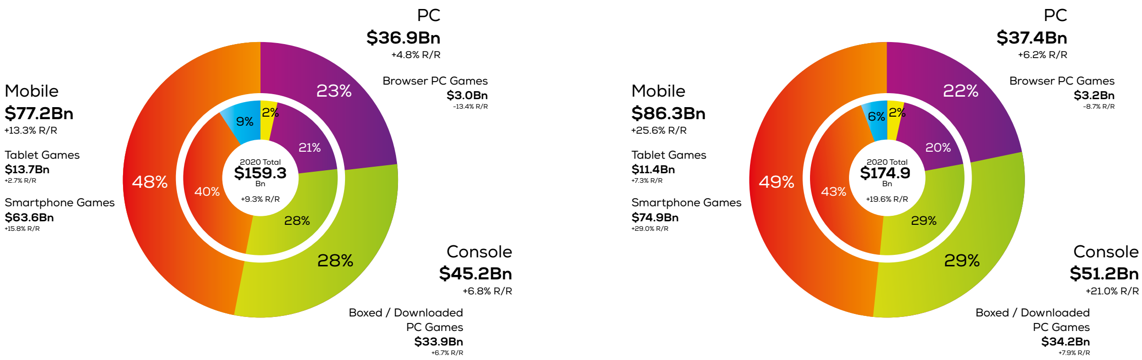


Source: Compiled based on *"2020 Global Game Market Report"* October update.

[1] Newzoo, *2020 Global Games Market Report*.
[2] *"2020 Global Game Market Report"* October update. The initial estimation of the video games market value by Newzoo was overestimated by USD 5.9 billion and amounted to USD 152.1 billion.

According to the estimation of the research company Newzoo updated in October 2020, the global video game market should generate USD 174.9 billion in 2020, with the year over year growth at the level of +19.6%. The second revenue estimation has been updated in the context of the changes related to the activities of the gamers and their expenditures on games as a result of the COVID-19 pandemic and the related lockdowns. The starting point was the financial database of significant companies from the gaming sector after the second quarter of 2020. The first estimation assumed year over year growth at the level of 9.3%. There is a difference of 10.3 percentage points and USD 15.6 billion in absolute numbers between the first and the second revenue estimation, therefore the authors wish to present both revenue forecasts because of the space for the possible error margin. It should be noted, that an increase of the number of new gamers or reactivation of the users who have not played for a long time, and an increase of the global expenditures during lockdown may stop at the same level after the casual gamers return to their ordinary functioning, after the pandemic, or in the case of a significant deterioration of the personal economic situation of the gamers in poorer or developing countries. It would also be useful to recall the forecast for the global video games market for 2019, when the first Newzoo forecast was overestimated by USD 5.9 billion (USD 152.1 billion versus USD 146.2 billion).

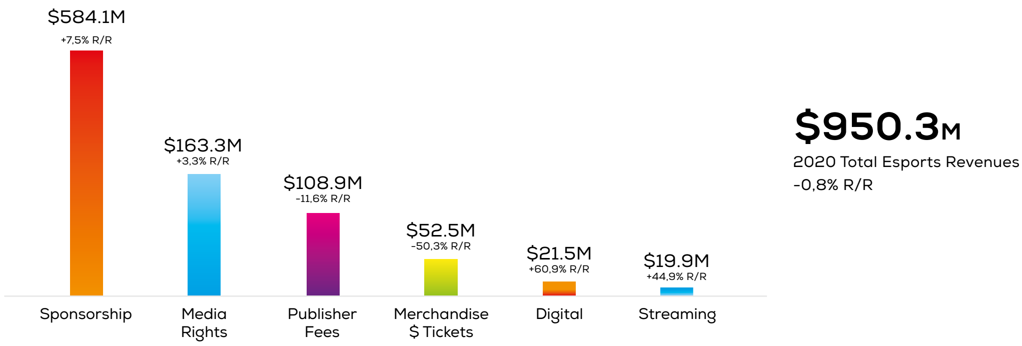
Chart 1.1.3. Revenue estimation for the global video game market in 2020 divided into platforms. The first forecast for 2020 on the left. The forecast updated in October 2020, higher by USD 15.6 billion, on the right.



Source: Compiled based on the Newzoo report, *"2020 Global Game Market Report"* and *"2020 Global Game Market Report"* October update

According to the analysts, in the case of the first and the second forecast, 49% of the revenues will be generated by games for mobile devices: smartphones (USD 74.9 billion) and tablets (USD 11.4 billion). **In total USD 86.3 billion**. In the case of the first forecast, that amount was lower by USD 9.1 billion and amounted to USD 77.2 billion, but higher revenues on the games available on tablets were assumed - a change from USD 13.7 billion to USD 11.4 billion. Console games constitute another significant revenue component with the anticipated generation of USD 51.2 billion, i.e., by USD 6 billion more than in the case of the initial calculations, constituting a year over year increase by 21%. Games for personal computers will be responsible for USD 37.4 billion revenues. That forecast changed by USD +0.5 billion, including USD 0.2 billion for the benefit of browser-based games. In relation to the above, the analysts forecast a slightly lower decrease of the global revenues on browser games than initially assumed, from -13.4% to -8.7% YoY. As a comparison, in 2016, the mobile market constituted 39% of the entire market (9% less than currently), personal computer games constituted 30% (7% more than in 2020), and the console market constituted 31% (3% more than in 2020). The trend of mobile platforms to assume bigger shares on the market year after year, at the expense of other segments, is clearly visible[3]. It should be noted that according to the Nielsen analysts, in 2020, digital gaming products will generate revenues at the level of USD 124.8 billion[4].

Chart 1.1.4. Revenues of the e-sports segment in 2020 divided into sources: sponsoring, licences, commissions of publishers, sales and tickets, digital, streaming.



Source: Compiled based on the Newzoo report, *"2020 Global Game Market Report"* October update.

[3] Source: *The Status of Polish Video Game Sector '17*
[4] SuperData, Nielsen Company, *2019 Year In Review Digital Games And Interactive Media*

Because of a marginal contribution of e-sports to the revenues of the video game sector, it is not individually presented in the revenue charts, but the media importance of that element of the gaming market calls for a separate mention.
Although the trend constitutes less than 0.6% of the global revenues (USD 950.3 million revenues generated by e-sports in 2020 in relation to USD 174.9 billion of the global video games industry), its PR importance is very important, because of e-sports, the image of the sector is warmed up using the faces of new idols of the gamers - "Lewandowskis of e-sports". It also contributes to building awareness of the gaming sectors among non-gamers, in the media and among endemics (brands connected with computer equipment and games, such as, for example Intel) and non-endemic brands (Wedel, Mercedes, Audi). E-sports have also been discovered by the football world. In 2016, Legia Warsaw, as the first football club in Poland, invested in e-sports as a marketing tool. According to Newzoo, in 2018, the revenues of the e-sports sector amounted to USD 865 million, with 77% of that segment's revenues coming from sponsoring, advertising, media rights or content licences. It has been forecast since 2018 that in 2020 the revenues should exceed USD 1.1 billion, but in the end the result for e-sports should stop at the level of USD 950.3 million.

Table 1.1. Estimations concerning e-sports revenues on specific markets. Forecast for 2022.

E-sports	Russia	US	Germany	China	India	Indonesia	Japan
Segment revenue, 2017 (USD m)	10	184	55	117	2	3	11
Segment revenue, 2022 (USD m)	32	167	113	338	14	15	42
CAGR (%)	25,5%	20,5%	15,3%	23,7%	56,6%	41,2%	31,2%

Source: Compiled based on PwC (2018), Global Entertainment & Media Outlook 2018-2022 report. Global and Russian markets: Key trends and outlooks

According to PricewaterhouseCoopers[5], the fastest growing e-sports markets in 2022 will be Japan (CAGR 31.2%), Indonesia (CAGR 41.2%) and India (CAGR 56.6%), although from the point of view of absolute numbers, no market can currently compete with the United States.

With respect to the number of people interested in e-sports all around the world, it is estimated that there are 100 million fans of that form of entertainment more than in 2018 - an increase from 395 million to 495 million. Among 495 million, 223 million were enthusiasts and 272 million - occasional viewers. It is anticipated that in 2023 the number of viewers will increase to 646 million with the annual growth rate for 2018-2023 at the level of 10.4%.

How does the Polish e-sports market look like in that context? In 2019, the revenues generated by the companies directly involved in e-sports amounted to approximately PLN 40 million[6]. Regardless of relatively low (when compared to the global estimates and the domestic video games sector estimates) turnover in that sector, e-sports became a permanent element of the Polish gaming market.

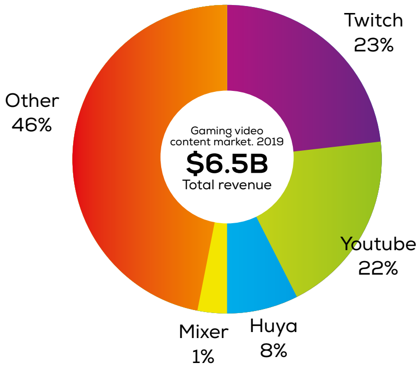
According to the recent Polish Gamers Research, discussed extensively in Chapter II of this report, in 2020, 25% of the surveyed gamers confirmed their interest in e-sports. However, it should be noted that interest in e-sports is declared by people who are not playing video games as well. In total, 13% of the respondents of the Polish Gamers Research 2020 who are not gamers also declared their interest in e-sports[7]. According to Deloitte, 15% of Poles regularly watch e-sports on the Internet[8].

The development of e-sports is accompanied by a dynamic growth of the quantity and quality of video content presented by influencers-gamers in the form of films of live streams.

"E-sports is a domain of video production, developing dynamically, and the pandemic, which caused suspension of almost all sports, is the time for it to show its real strength," comments Mariusz Klamra, president of **GRY-OnLine S.A.** *"It is not only about professional e-sports, with massive events and a few dozens of participants, but mainly the mass e-sports where the gamers can not only be the audience, but also the participants."* The game contents created by the consumers themselves constitute the most frequently watched films at the popular *video-sharing* portals, such as YouTube or Twitch, and drive the platforms designated for live streaming. GVP, i.e., gaming *video content*, generated revenues at the level of USD 6.5 billion in 2019[9].

[5] PwC (2018), *Global Entertainment & Media Outlook 2018-2022* report. Global and Russian markets: *Key trends and outlooks.*
[6] Own analysis based on the annual financial statements for 2019 of the major e-sports companies operating in Poland.
[7] *"Polish Gamers Research 2020"*, Kraków Technology Park, Polish Gamers Observatory.
[8] *"Let's Play. The European Esport Market"* by Deloitte.
[9] SuperData, Nielsen Company, *"2019 Year In Review Digital Games And Interactive Media"*.

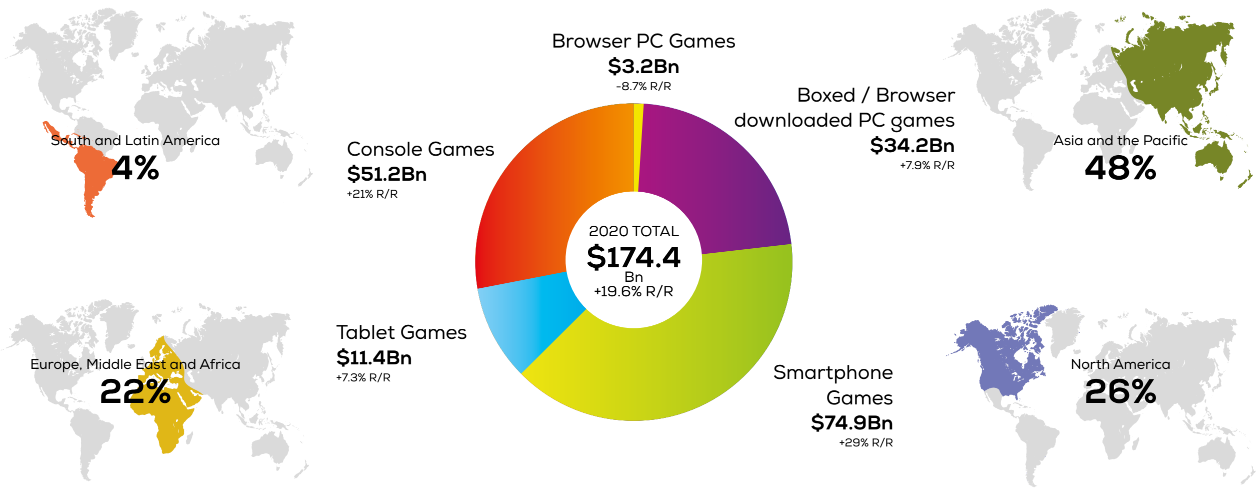
Chart 1.1.5. Revenues generated by gaming video content (GVP) in 2019.



Source: Compiled based on the report by SuperData, Nielsen Company, *"2019 Year In Review Digital Games And Interactive Media"*

Which regions of the world generate the largest part of the revenues of the video games industry?

Chart 1.1.6. Revenues estimation for the global video games market in 2020 divided into percentage share of specific markets: Latin America, North America, Asia and Pacific, Europe, Middle East and Africa



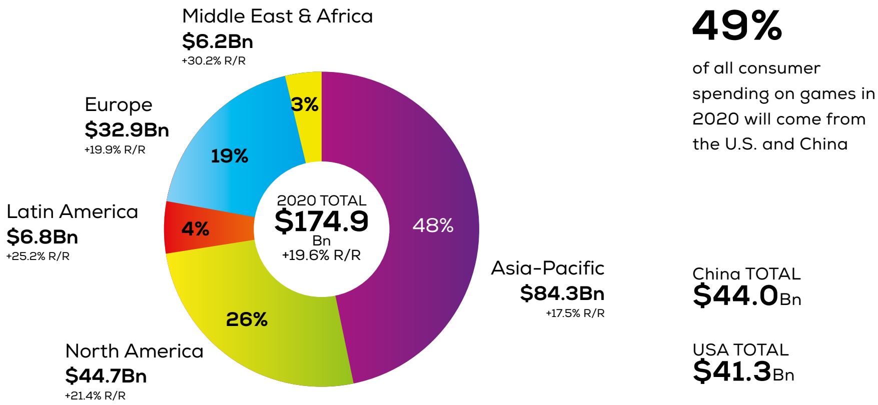
Source: Compiled by the Polish Gamers Observatory based on the report by Newzoo, "2020 Global Game Market Report-October Update"

The majority of the revenues, specifically 48% - USD 84.3 billion, is generated by Asia and the Pacific, which means an increase by 17.5% YoY. It should be noted that a significant part of the revenues in that region, i.e., USD 44 billion, belong to China. North America remains the second most dynamic region with revenues at the level of USD 44.7 billion, constituting 26% of the industry revenues, with YoY growth at the level of 21.4%. **The success of Asia and the Pacific is directly connected with the popularisation of mobile games and their large fanbase in Asia, with women constituting its major part**. The United States of America (revenues in 2018 amounting to 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. In 2020, China will overtake the United States of America again by USD 2.8 billion. The United States will be responsible for USD 41.3 billion, which means that in total, the American and Chinese markets will add 49% to the global financial result of the video games sector, i.e., USD 85.3 billion. Europe is responsible for 19% of the global revenues, i.e., nearly USD 32.9 billion, and it still generates YoY growth by 19.9%, regardless of being a saturated market. **Interestingly, according to the ISFE analysis, in 2019, only the member states of the European Union generated EUR 21.6 billion (USD 25.5 billion) for the European market[10]**.

According to the Newzoo data, 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%, which meant growing nearly twice as fast as the mature market of Western Europe. Russia generated USD 1.65 billion, while Poland - USD 579 million, with the year over year growth by over 11%. The authors of *"The State of Polish Video Games Industry 2017"* estimated the revenues of the Polish market for that period at the level of USD 555 million. According to Newzoo, in 2019, the value of the Polish video game market exceeded USD 596 million. The value of the Polish market forecast in 2017 by the authors of *"The State of Polish Video Games Industry 2017"* from the Polish Gamers Observatory for 2019 was similar to the Newzoo's calculations and amounted to PLN 2.23 billion, i.e., USD 586 million.

[10] Entertainment Software Association *"2020 ESSENTIAL FACTS About the Computer and Video Game Industry"*.

Chart 1.1.7. Revenues estimation for the global video games market in 2020 divided into percentage share of specific markets: Latin America, North America, Asia and the Pacific, Europe, Middle East and Africa. Updated estimation from October 2020.



Source: Compiled based on the Newzoo report, *"2020 Global Game Market Report"*

While analysing the revenues generated by specific countries in 2020, it should be noted that 10 largest markets are responsible for 76% of the global revenues at the level of USD 134.36 billion. The situation is similar with respect to the share of the same ten countries in 2018 or 2016. China has remained the biggest market since 2016 with the forecast revenues in 2020 at the level of USD 44.0 billion, which constitutes an increase of USD 9.9 billion in relation to 2018 and by over USD 19.73 billion in relation to 2016. The United States also records an increase in revenues of over USD 17.84 billion within the last four years.

Table 1.2. Revenues generated by the 10 largest markets in the video game industry in 2016, 2018 and 2020.

Lp.	Country	Estimates concerning the revenues generated on the specific gaming markets in 2020 in USD (according to Newzoo)	Revenues generated on the specific gaming markets in 2018 in USD (according to Newzoo)	Revenues generated on the specific gaming markets in 2016 in USD (according to Newzoo)
1.	China	44,0 billion [11]	34,10 billion	24,27 billion
2.	United States	41,3 billion [12]	32,90 billion	23,46 billion
3.	Japan	18,68 billion	17,90 billion	12,43 billion
4.	South Korea	6,56 billion	5,76 billion	4,05 billion
5.	Germany	5,96 billion	5,35 billion	4,09 billion
6.	United Kingdom	5,51 billion	5,05 billion	3,94 billion
7.	France	3,98 billion	3,63 billion	2,77 billion
8.	Canada	3,05 billion	2,58 billion	1,84 billion
9.	Spain	2,66 billion	2,34 billion	1,78 billion
10.	Italy	2,66 billion	2,40 billion	1,72 billion

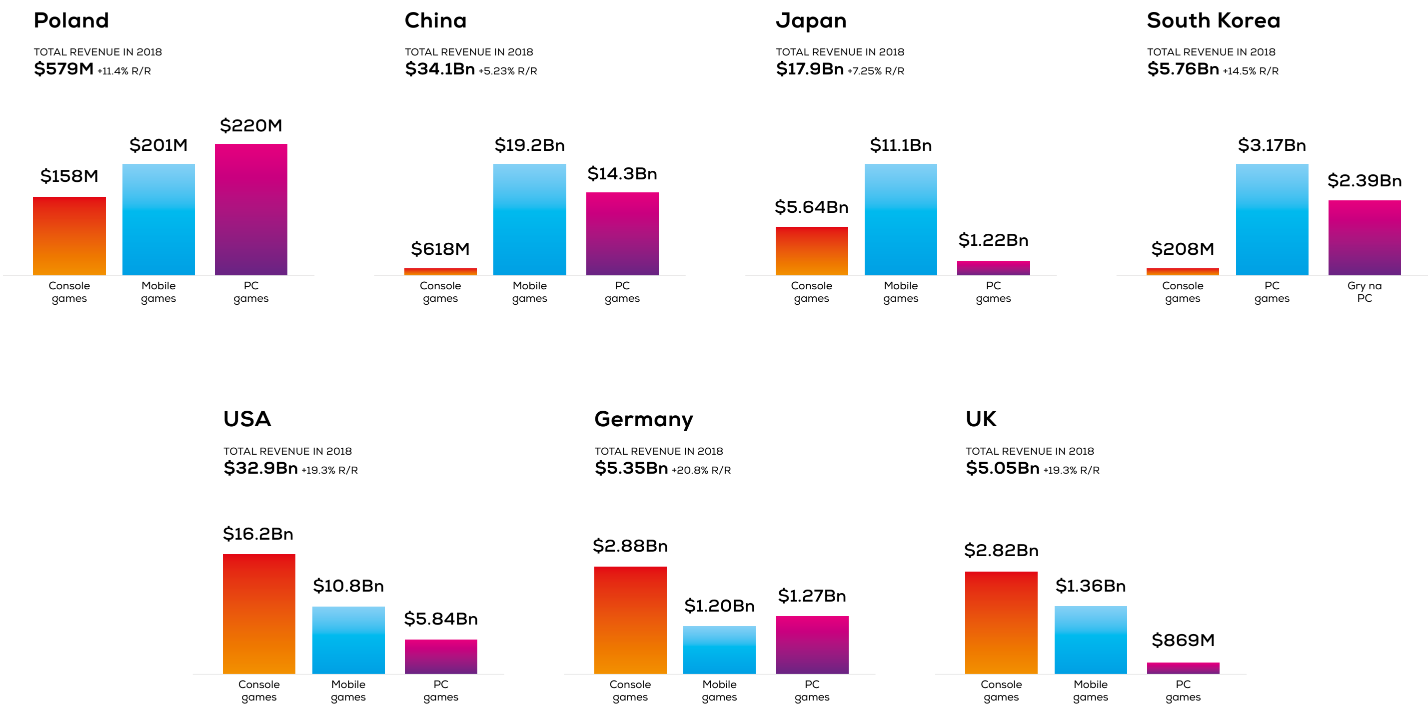
Source: Compiled based on the Newzoo reports.

While analysing the distribution of platforms on the ten most important markets, it could be noted that personal computers do not dominate any of them. On the basis of the data from 2018, the charts below present the share of specific platforms in the entire revenue result. It could be noted that mobile platforms are dominating in China (the value of the mobile market was estimated for USD 19.2 billion in 2018, 56% of the entire gaming market in that country), Japan (USD 11.1 billion, 62% of the market) and South Korea (USD 3.17 billion, 55% of the market). Consoles are dominating in the United States of America (USD 16.2 billion, 49% of the market), Germany (USD 2.88 billion, 53% of the market), United Kingdom (USD 2.82 billion, 56% of the market), France (USD 2.29 billion, 63%), Canada (USD 1.33 billion, 51%), Spain (USD 1.62 billion, 67.5%) and Italy (USD 1.48 billion, 63%).

PC games constitute the smallest segment in six out of the ten largest gaming markets around the world - only 7% in Japan, around 17-18% in the United States, United Kingdom, France, Canada and Italy.

[11] Source Newzoo. Updated revenues amount based on estimation from October 2020.
[12] Source Newzoo. Updated revenues amount based on estimation from October 2020.

Chart 1.1.8. Comparison of the revenues on the selected markets divided into platforms



Source: Compiled based on the data of Newzoo Pro.

Poland distinguishes itself from the Western and Asian markets. PC games remain the dominating segment of the Polish gaming market; in 2018, its value was estimated to be USD 220 million, which constituted 38% of the entire Polish video game industry. Second place was occupied by mobile platforms with the value of USD 201 million (35%) and third place by the consoles with the value of USD 158 million (27%). What are the reasons for the difference between Poland and other countries from Europe, North America and Asia? In practice, the popularity of consoles as gaming platforms in Poland started with the introduction of PlayStation 2. The first official distributors of consoles came to Poland in the 90s and had to build the market from scratch, while personal computers were already quite popular. With the current generation of consoles, the situation is much better, which is confirmed by the results of selling games for consoles, but Poland still has a long way to go before it reaches the percentage share of consoles at the level of Western Europe. In addition, the marginal presence of **Nintendo** consoles (**Nintendo** Switch or **Nintendo** DS) on the Polish market should be mentioned, as they are extremely popular on the global market. Over 137 million of the above consoles have been sold in aggregate around the world from their release dates, and in the period from April to June 2020, during the lockdown caused by the coronavirus pandemic, the sale of **Nintendo** Switch consoles around the world increased up to nearly 170%[13] .

What is the relation of the increase in forecast revenues to the number of gamers? In connection with the coronavirus pandemic and the lockdown, the fans of electronic entertainment became more active and the population of new gamers recorded a faster growth. It is anticipated that until 2021, the number of gamers should exceed 2.8 billion and in 2023 there will be 3.05 billion gamers with CAGR 2015-2023 at the level of 5.6%.

[13] Source: https://www.Nintendo.co.jp/ir/en/finance/hard_soft/index.html.

What is the relation of the increase in forecast revenues to the number of gamers?

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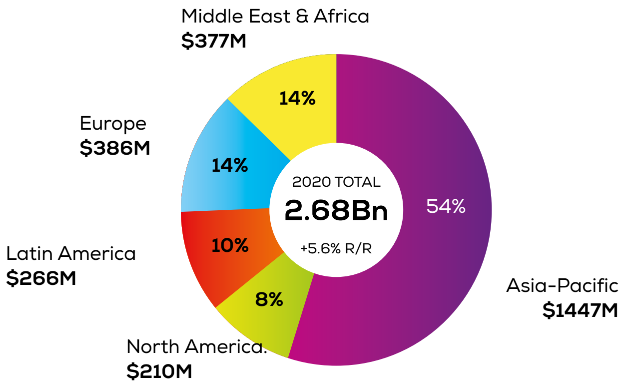
Chart 1.1.9. The number of gamers around the world divided into percentage share of specific markets: Latin America, North America, Asia and Pacific, Europe, Middle East and Africa

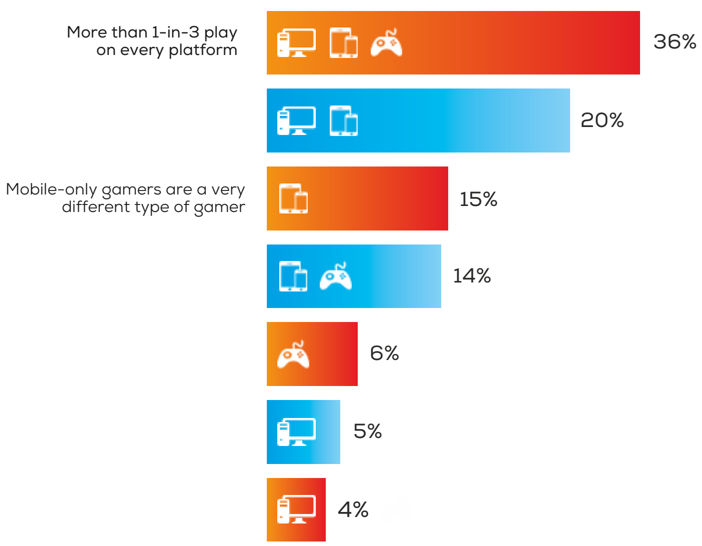


Source: Compiled by the Polish Gamers Observatory based on the report by Newzoo, *"2020 Global Game Market Report"* October 2020 update.

As mentioned before, in 2020 games should bring together a community composed of nearly 2.68 billion people (previous Newzoo's estimations assumed 2.7 billion) allaround the world and become an entertainment form enjoyed by educated and working adults, both male and female, which contradicts the stereotypes about gamers. 54% of the gamers live in Asia and the Pacific (1.447 billion). The second largest gaming community is located in Europe (386 million, with 16 million in Poland), Middle East and Africa (377 million). 266 million inhabitants of Latin America are gamers. The smallest population of gamers (8%) lives in North America - only 210 million of electronic entertainment fans, although ARPU[14] is incomparably higher than in the case of Asia and the Pacific. It should also be noted that in 2020, among 2.68 billion gamers, 2.5 billion chose to play on mobile devices such as tablets and smartphones. 800 million gamers use consoles, while personal computers are preferred by 1.3 billion. The gamers surveyed may use more than one platform.

In the case of the United States of America, 36% of the gamers use three gaming platforms (personal computer, console and a mobile device) and 20% use at least two platforms (personal computer and a mobile device). Only 4% of gamers simultaneously have consoles and personal computers[15]. As a comparison, in the case of the inhabitants of the European Union, 17% of the gamers use all available platforms: mobile, consoles, PC and mobile consoles.

Chart 1.1.10. What are the platforms used by Americans from the age group of 18-65?



Source: Compiled based on Comscore, "State of Gaming", age 18-65, April 2020

[14] ARPU - average revenue per user.
[15] Source: Comscore own study, "State of Gaming", age 18-65, April 2020, conducted in the USA.

Who are the gamers on the most developed markets?

According to the data from the Entertainment Software Association (ESA)[16] from 2019, the average age of the American gamer was at the level of 33 years. 54% of the American gamers were men aged, in average, 32 years. 46% of the gamers were women being, in average, two years older than men. 65% of adult Americans are gamers and their favourite platforms are smartphones (60%), personal computers (52%) and consoles (49%). There is at least one gamer in 75% of the American households. 59% of the gamers were certain that they would participate in the president election in 2020, 37% declared voting on the Democratic candidate, 33% on the Republican candidate, 18% on the independent candidate and 12% on another candidate. The profile of an American gamer did not change a year later, although the share of male gamers increased to 59% and the share of console gamers increased to 52%. ESA[17] states that in 2020, the number of gamers in the USA should exceed 214.4 million, with 51.1 million being minors (below 18 years of age) and 163 million - adults[18]. The estimations of Newzoo for 2020 in relation to the number of gamers in North America are much more careful and in total lower than the ESA estimations regarding the number of gamers in the United States.

Who is a typical gamer in the European Union?

According to the recent report of Interactive Software Federation of Europe (ISFE)[19], the average age of a gamer in the EU is 31. 51% of the surveyed Europeans aged 6-64 years confirm playing. 59% of the gamers on the Western Europe markets (France, Germany, United Kingdom and Spain) chose mobile devices, 54% chose consoles, 51% prefer personal computers, 17% mobile consoles and 17% stated that they used all of the above platforms. 45% of all gamers in the EU are women, who represent 51% of the gamers using mobile devices, i.e. smartphones and tablets. According to ISFE, women gamers choose the studies from the STEM domain (Science, Technology, Engineering, Mathematics) three times more often.

The Chinese market, with the highest number of users, should exceed 720 million gamers in 2020, with 48% being women[20]. The Chinese spend more time on gaming than on any other entertainment forms. 18% of Chinese gamers spend over 30 hours per week on playing.

Chapter II of this report, containing the sixth edition of detailed research concerning Polish gamers, Polish Gamer Research, presents the demography and habits of Polish gamers. Some of the results have a common denominator with the data concerning gamers in the United States or the European Union, although local features of the market are also visible, such as for example a higher share of women among the Polish gamers in relation to the US or EU.

Foreign and Polish stock exchange companies vs. the global revenues of the gaming industry

The gaming market is not homogenous. On the one side, new producers entering the market have to compete with large corporations. In 2019, 50 international companies listed at the stock exchanges generated 85% of the revenues of the entire industry (USD 124.5 billion)[21], with such companies as **Tencent**, **Sony**, **Apple**, **Microsoft**, **Google**, **NetEase**, **Activision Blizzard**, **Electronic Arts**, **Nintendo**, **Namco Bandai** in the top ten. Particular attention should be paid to the leader, i.e., Chinese **Tencent**, responsible for USD 20.5 billion revenues (10% YoY growth) or Chinese **NetEase**, which generated USD 6.7 billion with the YoY growth at the level of 16%. On the other side, it is a sector where small producers or teams composed of a few people can still break through because of faster operations and better flexibility of the game creation process, adjusting the products to the changing market conditions, expectations of the consumers, as well as uncompromising attitude, bold ideas and passion.

[16],[17] Entertainment Software Association *"2019 ESSENTIAL FACTS About the Computer and Video Game Industry"*
[18] Entertainment Software Association, *2020 Essential Facts About the Computer and Video Game Industry*.
[19] Interactive Software Federation of Europe (ISFE) is an independent federation representing the interests of the gaming industry in Europe with respect to the principal stakeholders: EU institutions, international organisations, scientific employees, the general society.
[20] NIKO, The China Gamers Report, September 2020.
[21] Source: Newzoo.com.

Table. 1.3. Revenues of the 50 largest gaming companies listed on the stock exchanges around the world in 2019

Rank	Company	HQ	Q1 (SM)	Q2 (SM)	Q3 (SM)	Q4 (SM)	2019 (SM)	YoY Growth
1.	Tencent	CN	5,096	4,936	5,213	5,300	20,545	10%
2.	Sony	JP	3,452	2,865	3,047	3,769	13,133	-8%
3.	Apple	US	2,435	2,564	2,946	2,887	10,832	14%
4.	Microsoft	US	2,243	1,980	2,219	2,831	9,273	-4%
5.	Google	US	1,737	1,788	1,948	1,877	7,350	13%
6.	NetEase	CN	1,725	1,665	1,680	1,690	6,759	16%
7.	Activision Blizzard	US	1,706	1,279	1,107	1,749	5,841	-15%
8.	EA	US	1,238	1,209	1,348	1,593	5,388	2%
9.	Nintendo	JP	885	769	1,109	2,191	4,954	13%
10.	Bandai Namco Entertainment	JP	909	632	726	701	2,968	2%

Source: Compiled based on Newzoo

The domestic capital market is also more frequently mentioned in the context of gaming. When the work on this chapter was closing (31.10.2020), there were 46 enterprises directly involved in video games on both trading floors of the Warsaw Stock Exchange. In addition, three more entities (**People Can Fly**, **Kool2Play**, **Huuuge Inc.**) submitted their prospectuses to the Financial Supervision Committee and over ten more expressed similar intentions. The debut of an entirely new company is only one of the ways of entering the stock exchange. Another solution is to merge with a company from a different sector, already listed on the stock exchange. **All in! Games Sp. z o.o.** is a good example, as it merged with **Setanta S.A.**, a company previously focusing on "global and local projects, and real estate"[22]. Certain companies from the financial sector decided to connect closely with the gaming industry - **Midven** present on the stock exchange since 2013 currently operates as **Arts Alliance**, while former **IQ Partners** changed its name to **PunkPirates**. It should also be noted that the total number of gaming companies on the Warsaw Stock Exchange does not always increase. In 2015, **Nicolas Games** was dissolved, in 2019 **Telehorse** changed its name into **Cannabis Poland** and started its business in the medical hemp area, in the summer 2020, **Huckleberry Games** announced its plans to move to the photovoltaic sector. Regardless of the above, the revenues generated by the gaming sector are continuously increasing. In 2019, they amounted to PLN 1.211 billion.

Table 1.15 contains a list of 9 companies from the gamedev sector, whose revenues in 2019 exceeded PLN 15 million. That list should help the readers in understanding the shares of specific companies listed at the stock exchange in the total results of the Polish gamedev described in the following subchapters. The **CD Projekt Capital Group**, developer of *The Witcher* series and the long-expected *Cyberpunk 2077*, but also an owner of gog.com distribution website, generated PLN 521 million in 2019 (increase by PLN 159 million YoY). **Ten Square Games** from Wrocław contributed PLN 241 million (increase by PLN 126 million YoY), which constitutes the second largest revenue result of a company listed at the Warsaw Stock Exchange, after **CD Projekt**. **The PlayWay Capital Group** was located in the third place (PLN 131 million, increase by PLN 51 million YoY), followed by **11 bit studios** (PLN 71 million, decrease by PLN 11 million YoY). Chapter III dealing with the profile of the Polish gamedev companies, presents detailed profiles of the Polish companies listed on the Warsaw Stock Exchange, both on the main trading floor and NewConnect.

[22] https://www.allingames.com/relacje-inwestorskie/dzialanosc-spolki/ (31.10.2020).

Table. 1.4. List of gaming enterprises listed at WSE with revenues exceeding PLN 15 million in 2019. A comparison of net revenues on sales and net revenues on sales of products in 2019 and 2018.

Name	Net revenues on sales 2019	Net revenues on sale of products 2019	Net revenues on sales 2018	Net revenues on sale of products 2018
11 bit studios	PLN 71 221 248,0	PLN 71 221 248,00	PLN 82 113 505,00	PLN 82 113 505,00
Artifex Mundi	PLN 16 654 325,63	PLN 16 654 325,63	PLN 20 119 915,96	PLN 20 119 915,96
Bloober Team CG*	PLN 28 884 046,77	PLN 19 178 501,00	PLN 24 641 933,81	PLN 12 746 775,10
GK BoomBit (Aidem Media)	PLN 49 734 000,00	PLN 49 734 000,00	PLN 37 525 000,00	PLN 37 525 000,00
GK CD Projekt	PLN 521 272 000,00	PLN 304 475 000,00	PLN 362 901 000,00	PLN 235 919 000,00
CI Games	PLN 47 478 000,00	PLN 47 478 000,00	PLN 21 244 000,00	PLN 21 244 000,00
GK PlayWay	PLN 131 181 000,00	PLN 116 206 000,00	PLN 78 924 000,00	PLN 71 960 000,00
Ten Square Games	PLN 241 133 094,00	PLN 241 133 094,00	PLN 115 257 658,00	PLN 115 257 658,00
Vivid Games	PLN 19 698 090,00	PLN 12 336 470,00	PLN 17 486 560,00	PLN 10 325 500,00

* CG – capital group

Source: Compiled by the Polish Gamers Observatory based on the annual financial statements of the companies.

The importance of the Polish gaming sector is clearly visible in the light of the capitalisation of the companies listed on the Warsaw Stock Exchange in relation to other sectors. Attention should be paid to the Polish gaming company – **CD Projekt** – estimated to have the value of PLN 32.23 billion (30.10.2020). That company is maintained at the top of the WIG20 leaders, before such companies as Cyfrowy Polsat, LOTOS, PZU or KGHM. It turns out that you do not have to create premium AAA games in order to count on significant capitalisation. **Ten Square Games** from Wrocław, focusing on mobile and browser games in the *free-to-play* model, occupies the second place with the stock exchange valuation at the level of PLN 4.592 billion. It is an excellent example confirming that the ability to find your own niche (fishing, hunting topics) may result in a global success.

Table. 1.5. 5 companies from the sector on the Warsaw Stock Exchange from the point of view of valuation on 30.10.2020.

Rank	Name	Valuation value as of October 30, 2020
1	CD Projekt	PLN 32,238B
2	Ten Square Games	PLN 4,592B
3	Play Way	PLN 3,425B
4	11 bit studios	PLN 1,13B
5	Creepy Jar	PLN 659 million

Source: Compiled by the Polish Gamers Observatory based on the data available at https://www.gpw.pl

For a few years, the companies from the video game industry became very desirable for the stock exchange investors, which also affected the shape of the Polish gaming sector. According to the data of ISB News, Poland is located in second place, after Japan, from the point of view of the companies listed on the stock exchange connected with the video game sector. Quantity is obviously not always equal to quality, so while deciding to invest, you should always analyse the company from the point of view of products, finances and ownership.

The selected profiles of game developers listed on the foreign stock exchanges and examples of the progressing concentration of the global video games market

Tencent

1	Listed at:	SEHK (China)
2	Net revenues in the accounting year 2019:	CNY 377,289 billion
3	Profits in the accounting year 2019:	CNY 95,888 billion

Video games constitute one of the many segments where **Tencent** operates. Others include, among others, social media, music, smartphones and payment systems. The corporation was established in 1998 and has been interested in the gaming market since 2004. Initially it focused on the Chinese market, with major successes connected with such titles as *CrossFire* and *Dungeon Fighter Online*.

Since 2011, the company began intensive investment in the promising gaming companies, acquiring over 90% of shares in **Riot Games** (later 100% of the shares) responsible for the e-sports game *League of Legends*. The company also holds 40% of shares in **Epic Games** (which produced *Fortnite, Unreal, Gears of War* and runs the **Epic Games** Store), 80% in *Grinding Gear Games* (**Path of Exile**), 84% in *Supercell* (**Clash of Clans**) and full control over the Norwegian company **Funcom Productions A/S** (*Age of Conan*). Its own internal development studios focus on the production of mobile games and are responsible, among others, for *Honor of Kings*, considered the most profitable mobile game in the world. The Chinese corporation also holds a few percent share in large gaming companies such as **Activision Blizzard**, **Paradox Interactive** and **Ubisoft**. Directly or through affiliated entities, **Tencent** controls a large part of the most popular brands connected with video games around the world.

Although the company's business in 2019 and 2020 was extensive because of its size, the actions of **Epic Games** affiliated with **Tencent** seem to be particularly important for the gaming sector. In December 2018, that company began the sale of digital copies of video games using its sales platform, **Epic Games** Store, and challenging the leader on that market, the Steam store owned by **Valve**. The company decided to implement an aggressive marketing campaign based, among others, on giving out fully paid games for free, criticising the policies of the competitors and securing the exclusive rights to sell specific titles. Although Steam still is the dominating store for personal computers, **Epic Games** Store effectively gains popularity and in September 2020 it became a significant competitor of the **Valve** platform.

Ubisoft

1	Listed at:	Euronext Paris (France)
2	Net revenues in the accounting year 2019:	EUR 1,595 billion
3	Profits in the accounting year 2019:	EUR 59,5 mln

As a family company, **Ubisoft** is an exception among the largest developers of video games listed on the stock exchange. The company was founded in March 1986 and from that moment it remains under the control of the **Guillemot** family (owning 18.5% of the company's shares), who managed to reject all attempts of acquisitions by other companies, including the **French Vivendi** in the years 2015-2018.

From the very beginning, **Ubisoft** focused on video game development. The first title developed by it was *Amstrad CPC Zombie* released for personal computers, which turned out to be a large financial success with 5 thousand copies sold. In 1988, the company expanded its business by the publishing segment, becoming one of the largest companies from the sector in France and also around the world in just a few years.

Ubisoft owns over ten brands which are widely recognised around the world, such as *Rayman, Prince of Persia, Beyond Good & Evil, The Crew, Assassin's Creed, Anno, Settlers, Driver, Far Cry, Just Dance, Watch Dogs or Tom Clancy's Splinter Cell, The Division, Ghost Recon*, and *Rainbow Six*.

Recently, the company has been specialising in creating game-services, which engage gamers for many months, or even years, because of continuous development after their release. Examples of such productions include *Tom Clancy's Rainbow Six Siege* from 2015 and *Tom Clancy's The Division* from 2016. The first is still extremely popular, while the second was developed until the release of the second instalment in 2019. The company is also successful in developing adventure action games set in open-worlds, achieving excellent sales results with such franchises as *Assassin's Creed* or *Watch Dogs*.

The most important games released in 2019 constituted instalments of its popular series - *Far Cry: New Dawn, Anno 1800, Tom Clancy's The Division 2, Tom Clancy's Ghost Recon Breakpoint* and *Just Dance 2020*. The publishing plans for the end of 2020 include a few recognised titles - *Watch Dogs: Legion, Assassin's Creed Valhalla, Just Dance 2021* and a new brand *I mmortals Fenyx Rising*.

Ubisoft was widely discussed in 2020 because of the accusations related to discrimination of women, racism and other irregularities, which were allegedly committed by top management employees for years. Those events led to numerous employee discharges and a promise of changing the work culture.

Activision Blizzard

1	Listed at:	NASDAQ (United States)
2	Net revenues in the accounting year 2019:	USD 6.489 billion
3	Profits in the accounting year 2019:	USD 1.503 billion

Activision Blizzard holds the title of the highest capitalised company specialising in the development of video games in the world. Although the corporation was founded over ten years ago, its history goes back to the 90s, when Bobby Kotick acquired bankrupt Mediagenic, changed the name to **Activision** and transformed it into one of the leading publishing companies in the world in over ten years. In 2008, **Activision** merged with the division of the Vivendi holding responsible for games, which included among others **Blizzard Entertainment**, a famous development studio responsible, among others, for the extremely popular MMORPG *World of Warcraft*. Because of the merger, **Activision Blizzard** became the largest game publisher in the world.

Its advantage over the competitors is based on three pillars. The first is **Blizzard Entertainment**, with its extremely popular franchises - *Warcraft*, *Diablo*, *Starcraft* and *Overwatch*. Although the actions of the studio have been recently criticised by gamers, its games are still commercial hits. The second pillar is the series of shooters, *Call of Duty*, one of the most popular games around the world. The third pillar is King, a subsidiary specialising in mobile games, such as *Candy Crush Saga*. Apart from the above, **Activision Blizzard** holds the rights to a number of popular brands such as *Crash Bandicoot*, *Spyro the Dragon*, *Tony Hawk's Pro Skater*, *Skylanders* and *Guitar Hero*.

In recent years, the company began to reach back to its older franchises and successfully create new versions. Between January 2019 and September 2020, within that strategy, warmly received *Crash Team Racing Nitro-Fueled* and *Tony Hawk's Pro Skater* 1+2 were published. A refreshed version of the classic strategy, *Warcraft* III, developed by **Blizzard Entertainment** and released in January 2020 received worse reviews. However, the most important franchise for the company in the period discussed was *Call of Duty*. A new instalment of the series was released in October 2019 with the title Modern Warfare became an instant hit. In March 2020, **Activision Blizzard** conducted an experiment on the series, releasing *Call of Duty*: Warzone, a free instalment of the series based on the battle royale rules. Such a different approach turned out to be a success.

In 2021, the company is planning the release of *Diablo* Immortal, another instalment of the classic hack'n'slash series designated for the mobile market. The title aroused a lot of controversy among the fans, who are not satisfied with the new direction taken by the series. However, the analysts expect that it has a large sales potential.

Bandai Namco Holdings

1	Listed at:	TOSHO (Japan)
2	Net revenues in the accounting year 2019:	JPY 732.35 billion
3	Profits in the accounting year 2019:	JPY 63.38 billion

Bandai Namco was founded in 2005 by a merger of two large Japanese corporations: Namco developing video games and Bandai, a producer of toys. Currently, video games constitute one of the segments of the company's business, next to production of animated series and films, production of toys (**Bandai Namco** is a world leader in that area), establishment and management of entertainment parks.

The games-related division operates under the name **Bandai Namco** Entertainment and it eagerly utilises the work of other divisions, for example a high share of profits is generated by games based on the licences of animated series (among others *Dragon Ball*, *Dragon Ball*, *One Piece*). The company also owns popular brands connected only with video games, among others, *Tekken, Soulcalibur, Pac-Man, Ace Combat. Apart* from its own productions, **Bandai Namco** Entertainment is also involved in global publishing activities, including the titles produced by American and European studios. The company distributed, among others, *The Witcher 3* in the Western Europe, Australia and New Zealand.

The most important titles published by **Bandai Namco** in 2019 include the warmly received seventh instalment of flight simulators *Ace Combat*, refreshed versions of classic role-playing games Ni No Kuni and *Tales of Vesperia*, as well as new franchises *Jump Force* and *Code Vein*. The most important title developed by the company in 2020 was the football simulator released in August, *Captain Tsubasa: Rise of a New Champion*, which was generally assessed as good.

Electronic Arts

1	Listed at:	NASDAQ (United States)
2	Net revenues in the accounting year 2019:	USD 4.95 billion
3	Profits in the accounting year 2019:	USD 0.996 billion

Electronic Arts was founded in 1982 by Trip Hawkins, a former Apple employee. It distinguished itself among the competitors with its approach to the employees. People working on the games were usually treated as simple workers, while at EA they were considered artists, received large parts of the profits and their faces and names constituted an important part of the advertising campaigns. Initially, the company worked with external talents providing them with financial and publishing support - that was the principle applied in releasing, among others, M.U.L.E. and Pinball Construction Set. It changed a few years later and **Electronic Arts** began to focus on internal development teams - the first game created internally was Skate or Die! in 1987.

Before the end of the 90s, two characteristic features of the company's policy emerged, which have been applied until now. The first comprises publishing instalments of sports games based on real licences every year. The first production of that type was the American football simulator John Madden Football from 1988 (later, the series began to be published with the title Madden NFL), which was later joined, among others, by FIFA (football simulator), NBA LIVE (basketball simulator) and NFL (hockey simulator). The second characteristic feature of **Electronic Arts** was the acquisition of promising development studios and assimilating them in their structures together with their franchises. Over the years, the company acquired among others Bullfrog Productions established by the famous Peter Molyneux, responsible for the Ultima Origin Systems series, or Criterion Software, the developers of Burnout.

The acquisition policy combined with the fact that some of the acquired studios did not achieve success under the new management, and some of them were even closed, resulted in the deterioration of the image of **Electronic Arts** among the gamers. The company has also been regularly accused of anti-competition practices for over ten years. It also set a record of the most downvoted content in the history of the Reddit portal, which was included in the Guinness World Records book in 2020. The entry of EA referred to the image crisis of Star Wars Battlefront II in connection with the response of the community to the introduction of micropayments and a random content boxes to that popular game[23].

However, controversial opinions seem to have no impact on the financial results of the corporation, which are on a very high level.

The games developed by **Electronic Arts** include the world's most popular franchises, such as FIFA, Madden NFL and The Sims. Other popular franchises owned by the company include among others Need for Speed, Medal of Honor, Command and Conquer, Battlefield, Mass Effect, Titanfall, Dragon Age and Plants vs. Zombies. EA also has the exclusive rights to develop high-budget video games based on the Star Wars licence from 2013 to 2023.
Between January 2019 and September 2020, the company focused mainly on developing its main franchises and released new instalments of, among others, FIFA, Madden NFL, NHL, EA Sports UFC, Need for Speed, Plants vs Zombies and a number of expansions to the fourth instalment of The Sims. The most important new brand introduced on the market in that period was a battle royale shooter entitled Apex Legends, released in February 2019, which was very successful, among others because of an unconventional advertising campaign and general high quality. Anthem, an online shooter released a few weeks later had a worse debut, received some negative reviews and did not meet the sale predictions. Better results were achieved by Star Wars Jedi: Fallen Order based on the Star Wars licence.

The future of **Electronic Arts** is based mainly on further development of the popular franchises - releases of, among others, FIFA 21, NHL 21, Medal of Honor: Above and Beyond and a new instalment of Need for Speed planned for the end of 2020 and the beginning of 2021. In October, another game based on Star Wars will be released - a futuristic flight simulator Star Wars: Squadrons.

Embracer Group

1	Listed at:	NASDAQ Nordic (Sweden)
2	Net revenues in the accounting year 2019:	SEK 6.308 billion
3	Profits in the accounting year 2019:	SEK 0.283 billion

The beginnings of **Embracer Group** go back to 2008, when a Swedish company, Game Outlet Europe, involved in the redistribution of unsold games, established its distribution branch named Nordic Games. Its assumption was to search for niches on the market and invest in projects which could use them. One of the first titles released by the company was a karaoke game We Sing for the **Nintendo** consoles, which was a considerable success. In 2011, the company's structure was changed, Nordic Games Holding was established (and later Nordic Games Group) which included Game Outlet Europe and Nordic Games. In the same year, a branch included in Nordic Games in Austria was established, Nordic Games GmbH, and a publishing company, JoWood Entertainment, was acquired, which meant the takeover of such franchises as Spellforce and Painkiller, the latter originally developed by the Polish, **People Can Fly**.

In the following years, the company acquired the assets of another large publisher, THQ. It decided to use a positive image of the acquired company and, as a result, in 2016, Nordic Games was renamed into THQ Nordic and Nordic Games GmbH into THQ Nordic GmbH. In 2018, the holding acquired other large publishers, Koch Media and Coffee Stain Holding, each of them functioned independently after the acquisition. In September 2019, in order to differentiate the holding from the division engaged in production and distribution of games, the first company changed its name from THQ Nordic to **Embracer Group**. In the meantime, the company continued its expansion, acquiring among others Tarsjer, Saber Interactive, 4A Games and New World Interactive until September 2020.

Currently, **Embracer Group** includes six divisions (Amplifier Game Invest, Coffee Stain Holding, DECA Games, Koch Media, Saber Interactive and THQ Nordic GmbH) comprising in total over 50 development studios, including the Polish studio, Flying Wild Hog, acquired in November 2020. The most important franchises of the company include Metro, Gothic, We Sing, Spellforce, Saints Row, Darksiders and Alone in the Dark. The most important games published by the companies belonging to the holding between January 2019 and September 2020 include Darksiders: Genesis, console versions of Wreckfest, Remnant: From the Ashes and Shenmue 3, Desperados 3, remake of Destroy All Humans!, Maneater and Snowrunner.

[23] https://www.guinnessworldrecords.com/world-records/503152-most-downvoted-comment-on-reddit

Nintendo

1	Listed at:	Tosho (Japan)
2	Net revenues in the accounting year 2019:	JPY 1.309 trillion
3	Profits in the accounting year 2019:	JPY 258.6412 billion

Nintendo went a long way before they began production of games and consoles. The company was established in 1889 and initially produced traditional Japanese Hanafuda cards. For nearly eighty years, it focused on the production of cards (gradually including other types of cards). In the 60s, because of the general market crisis, it attempted to operate on such different fields, as a network of love hotels and taxi services.

In the end, the enterprise focused on the production of electronic toys, including simple video games and dedicated devices. In 1979, **Nintendo** created its first console, a mobile Game & Watch, which was extremely successful and set the direction for the company's development. Four years later, it created a home console NES, which allowed it to dominate the market. In the following years, **Nintendo** recorded successes and failures within the scope of console production, but it has always been one of the key manufacturers of gaming equipment. The recent device developed by the enterprise, Switch, which debuted in 2017 and combines the features of a mobile and home console, can be included in the successes, as it was sold in the total number of over 60 million copies within three years.

Nintendo develops exclusive games for each of its consoles, which are very popular and appreciated by users. The most important ones include titles connected with the famous hero Mario, as well as such series as *The Legend of Zelda*, *Animal Crossing*, *Metroid*, *Pokemon*, *Splatoon* and *Kirby*.

In 2019, **Nintendo** worked on maintaining the success of Switch, releasing an improved version of the console with a better battery and its smaller version Switch Lite in September. New versions of Switch were accompanied by releases of other successful games, including *Super Mario Maker 2*, *Fire Emblem: Three Houses*, *The Legend of Zelda: Link's Awakening*, *Luigi's Mansion 3*, *Pokemon Sword* and *Pokemon Shield*. 2020 was an interesting year for the company, in March it released *Animal Crossing: New Horizons*, a game enabling the users to live a virtual life on a colourful tropical island. The release accidentally took place at the peak of the coronavirus pandemic, which helped the game achieve amazing sales results - over 20 million copies sold within a few months.

Nintendo has not officially announced a successor of Switch, stating that the console is still in the middle of its life-cycle. The company is currently focusing on further supporting of the device, with development of, among others, *The Legend of Zelda: Breath of the Wild 2* and *Metroid Prime 2*.

Microsoft

1	Listed at:	NASDAQ (United States)
2	Net revenues in the accounting year 2019:	USD 143 billion
3	Profits in the accounting year 2019:	USD 283.3 billion

The corporation established by Bill Gates and Paul Allen in 1975 focused most of the time on production of operating systems and software, where it achieved an enormous success because of, among others, Windows and **Microsoft** Office, while games were treated as a minor addition. The situation changed in the 90s, when the company wished to diversify its income sources and began to search for new development directions, looking among others towards the console market.

The first attempt to enter the console market took place in 2001 with Xbox. The console did not manage to establish its position against the competitive PlayStation 2, which dominated the market at the time. The second attempt was more successful - Xbox 360 debuted in 2005 and turned out to be the biggest success of **Microsoft** on the console market until now. Its successor, Xbox One, was released in 2014 and did not meet the challenge posed by PlayStation 4.

Microsoft owns a number of development studios under the name Xbox Game Studios (former **Microsoft** Studios). They include among others: *Ninja Theory* (developers of *Hellblade: Senua's Sacrifice*), in **Xile Entertainment** (*Wasteland*), **Obsidian Entertainment** (*The Outer Worlds*), **Rare** (*Sea of Thieves*) and **Turn 10 Studios** (*Forza Motorsport*). In order to compete with **Sony**, the company has conducted various investments and acquired promising development studios or publishing enterprises. The largest acquisitions of that type took place in 2014, when **Microsoft** acquired Mojang Studios responsible for extremely popular Minecraft, and in September 2020, when it announced acquisition of ZeniMax media, a consortium comprising, among others, **Bethesda Game Studios** (*Fallout* and *The Elder Scrolls* franchises), **Arkane Studios** (*Dishonored*, *Prey*) and **id Software** (*Quake*, *Wolfenstein*, *Doom*). The last acquisition cost the company USD 7.5 billion.

For a few years, **Microsoft** has been promoting the Game Pass gaming subscription, which provides the users with unlimited access to a specific range of titles in return for a monthly fee, instead of purchasing new games. The service is currently available on the consoles from the Xbox One family and on personal computers. In 2019 and 2020 its popularity significantly increased. It also constitutes an essential element of the advertising campaign of the company's new consoles, Xbox Series X and Xbox Series S, which should be released in November 2020, extensively promoted by **Microsoft** in the recent months. The key games planned by the company in the future include *Halo: Infinite*, *Hellblade 2: Senua's Saga*, *Fable* and *Age of Empires 4*.

Paradox Interactive

1	Listed at:	NASDAQ First North (Sweden)
2	Net revenues in the accounting year 2019:	SEK 1.289 billion
3	Profits in the accounting year 2019:	SEK 374.08 million

Initially, **Paradox Entertainment** was a branch of the Swedish **Target Games**, manufacturing board games. When the parent company went bankrupt in 1999, **Paradox Entertainment**, previously involved in the creation of digital adaptations of board games made by **Target Games**, became an independent entity. Until 2003, it achieved a few successes on the market of niche, advanced strategic games with such titles as Europa Universalis and Crusader Kings. Simultaneously, it also suffered failures when attempting to develop high-budget or network games such as Gettysburg: Armored Warfare. In 2004, the company decided to change its business profile and launch licence activities. Theodore Bergquist and Fredrik Wester, both occupying the positions of presidents at **Paradox Entertainment** in different periods, decided to purchase the development studio from the company, together with the rights to its games, and founded a separate company named **Paradox Interactive**.

In the following years, the company continued the development of strategic games, gradually becoming a leader of that genre. Apart from its own games, **Paradox Interactive** began publishing activities, obtaining distribution rights to such titles as Cities in Motion and Magicka. Together with the beginning of the digital distribution era, **Paradox Interactive** redefined the approach to the life-cycle of its games, expanding them by a number of paid expansions, obtaining stable financing and a longer life-cycle of the products. Because of a stable financial situation, the company is constantly developing, purchases new franchises and teams, currently comprising of nine development studios.

Apart from developing previously published titles with paid expansions, between January 2019 and September 2020, **Paradox Interactive** published three warmly received titles, *Imperator: Rome, Age of Wonders: Planetfall* and *Crusader Kings 3*. Before the end of 2020, the company is planning the release of another big title, a strategic *Empire of Sin*. Further plans of **Paradox Interactive** include a postapocalyptic economic game *Surviving the Aftermath* and a role-playing *Vampire: The Masquerade: Bloodlines 2*.

Sony

1	Listed at:	Tosho (Japan)
2	Net revenues in the accounting year 2019:	JPY 8.259 trillion
3	Profits in the accounting year 2019:	JPY 916.2 billion

Sony has been present on the market for over 70 years. It was established in 1946. The company's business is extensive and includes, among others, electronic devices, film and music, financial services, and the production of consoles and games. The last element, entrusted to a subsidiary, **Sony** Interactive Entertainment, became the most profitable segment of the corporation's business in recent years.

Although **Sony** has had contacts with video games before, the first bigger plans for entering that market were formed at the end of the 80s. The company established cooperation with **Nintendo**, which comprised of the development of an extension adding CD capability to the SNES console, and later a new console developed together. The cooperation was problematic, which encouraged **Sony** to independently continue the work on a new console. In 1993, **Sony Computer Entertainment Inc.** was established, later renamed **Sony Interactive Entertainment**. The company was supposed to distribute the console, PlayStation, and the games developed for that console.

PlayStation was released at the end of 1994 and turned out to be a big success, enabling **Sony** to acquire a large part of the console market, occupied by **Nintendo** and **Sega**. PlayStation 2 from 2000 turned out to be an even bigger success and it dominated the market. It also started the console era in Poland. PlayStation 3 released in 2006 was less appreciated because of a number of errors, which prevented it from competing with Xbox 360 by **Microsoft**. The company managed to return to the top in 2013 with PlayStation 4. In the meantime, **Sony** created two mobile consoles. The first one, PlayStation Portable, was successful, but the second one, PlayStation Vita, did not win the market.

Sony Interactive Entertainment comprises over ten development teams all around the world, which are busy developing games for the PlayStation console and have earned the reputation of the best specialists in the industry. They include, among others, **Guerilla Games** (*Horizon: Zero Dawn* and *Killzone* series), **Santa Monica Studio** (*God of War* franchise), **Sucker Punch Productions** (*inFamous, Ghost of Tsushima*), **Polyphony Digital** (*Gran Turismo*) and **Naughty Dog** (*Uncharted, The Last of Us*).

In November 2020, another console by **Sony** was released - PlayStation 5. The company's activities in 2019 and 2020 were primarily focused on promoting new equipment and announcing the games developed for it. In that period, a few large and successful games designated for PlayStation 4 were released, developed by the studios included in **Sony Interactive Entertainment**. The most important ones include *Days Gone, The Last of Us: Part 2* and *Ghost of Tsushima*. Currently, thinking about PlayStation 5 and in some cases also PlayStation 4, the company develops such titles as *Horizon 2: Forbidden West, Demon's Souls, Spider-Man: Miles Morales, Ratchet & Clank: Rift Apart, Gran Turismo 7* and *God of War: Ragnarok*.

Take-Two Interactive

1	Listed at:	NASDAQ (United States)
2	Net revenues in the accounting year 2019:	USD 3.099 billion
3	Profits in the accounting year 2019:	USD 333.837 million

Take-Two Interactive was established in 1993 by Ryan Brant and has been involved in developing games from the very beginning. The company achieved its first success with adventure FMV[24] games using the previously recorded sequences with real actors. The first hits included *Star Crusader* from 1993 and Hell: A *Cyberpunk Thriller* from 1994. The adventure FMV games have been particularly popular at the beginning of the 90s, among others, because of the activities of **Take-Two Interactive**, but the related restrictions caused the trend to diminish quickly, which forced the company to search for other profit sources.

Since 1996, **Take-Two Interactive** began acquisition of development studios, including among others GameTek from Europe, **Mission Studios**, **BMG Interactive** and **DMA Design**, the owners of the rights to the brand and the authors of Grand Theft Auto, which was moderately popular at the time. After acquisition, **Rockstar Games** was founded, and **DMA Design** later changed its name to **Rockstar North**.

Grand Theft Auto 2 released in 1999 was a moderate success again, but its fully three-dimensional continuation from 2001 quickly became one of the biggest hits among video games, and the next instalments of the series strengthened it as one of the most important franchises of the video games history. The success enabled Take-Two Interactive to acquire more studios, among others Firaxis Games (*Civilization*) and Irrational Games (*Bioshock*).

Other popular franchises owned by the enterprise include *Mafia*, *Borderlands*, *Max Payne*, *Red Dead* and *NBA 2K*. The largest share of the company's income has been provided by *Grand Theft Auto V* for a few years now. The game was released in 2013 and sold over 130 million copies. In addition, it includes an online gameplay mode, where the gamers frequently purchase minor items for real money. **Take-Two Interactive** is still developing that title and announced its versions for PlayStation 5 and the Xbox Series.

The key titles of **Take-Two Interactive** released between January 2019 and September 2020 include *Red Dead Redemption 2* published for personal computers (2018 for consoles), shooter *Borderlands* 3, basketball simulator *NBA 2K*20 and *NBA 2K*21, console versions of *Civilization* 6 and a remake of classic action game *Mafia*: *Definitive Edition*. Although the majority of the titles were received very well, it should be noted that *Red Dead Redemption 2* in the PC version initially encountered significant technical problems and *NBA 2K*20 used a controversial monetisation system. Apart from the above-mentioned edition of *Grand Theft Auto V*, the company has not announced any major releases, but revealed in May 2020 that it intends to release 93 games in the next five years.

Detailed data concerning the Polish companies listed on the Warsaw Stock Exchange are presented in Chapter III of The State of Polish Video Games Industry 2020.

Which games are popular in Poland and which ones are bigger abroad?

Many years of personal computer domination and the low popularity of consoles on the Polish market significantly affected the types of games which are popular in Poland. The internationally recognised franchises released on personal computers gain the same level of popularity in Poland and abroad, for example *Fifa*, *Assassin's Creed*, *The Sims*, *Grand Theft Auto*, whose subsequent instalments regularly occupy the top positions on the bestseller lists in Poland.

However, many famous titles associated with consoles are extremely popular in the western countries, while they are relatively unrecognised in Poland. The Halo series, originally associated with Xbox consoles, is a good example. Although its selected instalments were also released for personal computers, it took place too late for that franchise to gain popularity similar to the one it enjoys, for example in the United States.

Japanese games, associated with consoles for years, are also less popular in Poland. There are exceptions such as Dark Souls or Final Fantasy, but in the majority of cases, Japanese games, which are extremely popular all over the world, are usually ignored by Polish gamers. Such a situation was encountered, among others, by Metal Gear Solid or Yakuza. In that case it is interesting that the above trend also refers to the titles released for personal computers - the fact that a game is of Japanese production discourages an average Polish gamer.

That phenomenon works the other way too - specific titles enjoy extraordinary popularity in Poland when compared to other countries. The productions of German Piranha Bytes constitute a good example - Gothic developed by that studio in 2001 turned out to be an extraordinary hit in Poland when compared to other countries and provided the studio with long-lasting popularity. According to the date estimating the numbers of console gamers Gamstat.com, the newest game of the studio, *Elex*, in the version designated for PlayStation 4, was relatively ten times more popular in Poland than in other countries[25]. Other franchises which are much more popular in Poland than abroad include, among others, *Heroes of Might & Magic*, *The Witcher*, *Mafia*.

It should be noted that although the differences between games purchased in Poland and abroad are still noticeable, they are gradually diminishing. For example, because of extensive promotion of PlayStation in Poland for over twenty years, **Sony** managed to become the local leader of the console market and according to Gamstat.com the games developed by the internal studios of that corporation such as Days Gone, God of War or Uncharted

[24] FMV, full motion video - a film or a prerendered computer animation previously recorded in the video format and then used as a cutscene in video games.
[25] Source: https://gamstat.com/games/Elex.

are popular in Poland at the level similar to other countries, although they are available for PlayStation consoles only. In recent years, mainly because of the presence of an official local distributor on the market, games for **Nintendo** Switch are also gaining popularity. Considering the above factors, it can be assumed that in the future, the barrier between the Polish and the global market will be eliminated and Polish gamers will be more interested in playing the games which are very popular abroad.

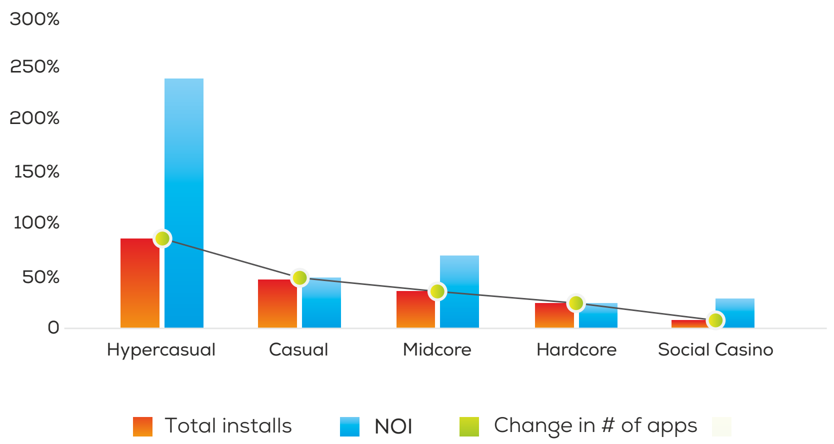
1.2. Significant trends shaping the Polish and the global gaming market

Mobile games: 5G, COVID-19, *Hypercasual* vs. *Core gaming*

The crisis affecting the international community and economy in connection with the COVID-19 pandemic became an opportunity for the segment of mobile games, which was already growing. The mobile games market is currently the fastest developing segment of the gaming market, which took the lead in a very short time and should achieve the revenues at the level of USD 86.3 billion, i.e., 49% of the global revenues (YoY increase by 25.6%) in 2020. In 2020, around the world, 50% of the revenues on mobile games will come from the games designated for iOS[26].

Isolation and lockdown caused by the COVID-19 pandemic resulted in an increased involvement of the gamers and also growth of the population of new gamers on mobile devices, in particular among women who dominate that platform. According to AppsFlyer, Israeli platform monitoring the mobile applications market, during the pandemic, the number of instances of mobile games increased by 45% in relation to 2019, mainly through non-organic channels (increase by 69% YoY)[27]. During the pandemic, the revenues on in-app purchases (IAP)[28] increased in average by 25%, mainly because of casual and hyper-casual games. In the case of games based on hybrid monetisation models, in the period from February to August 2020, IAP increased by 67%, while advertising revenues decreased by 16%. Growth in the mobile game segment is impressive; however, the branch is deliberating on what may happen after the pandemic. Will new gamers continue their adventure with electronic entertainment, or will they return to the hobbies they liked before the pandemic and stop playing?

Chart 1.2.1. Increase of installations of mobile gaming applications during the pandemic (February-August 2020), by categories of games



Source: Compiled based on AppsFlyer, *"The State of Gaming App Marketing"*, November 2020

Regardless of COVID-19, mobile gaming is supported by two factors: a growing number of smartphone users and the development of 5G technology.

In 2020, the number of smartphone users should exceed 3.5 billion and in 2023 there will be 4.1 billion, with CAGR 2018-2023 at the level of 6.2%. In 2020, the number of active mobile devices will amount to 4.2 billion, with 5%, i.e., 199 million, compatible with the 5G technology. That increase will be mainly generated by the developing markets. It is a very important variable for the producers of mobile games in relation to strengthening the position of mobile games in relation to other segments.

The games from the casual and hyper-casual portfolio, associated with mobile devices, together with the development of 5G, are enriched by games for more advanced players. A growing demand for advanced genres, such as multi-player online battle games or battle royale, in connection with technological development, make hardcore games available on mobile devices, and such mobile games as Arena of Valor and Clash Royale were included among the 25 most watched e-sport games. According to Facebook's report "5G technology offering faster and more stable connection will cause a revolution in the industry, similarly as subscription models and cloud gaming. On the developed markets, it will be the beginning of games independent from the platform."[29]

[26] Newzoo, *2020 Global Mobile Market Report*.
[27] AppsFlyer, raport *The State of Gaming App Marketing*, listopad 2020.
[28] IAO, In App Purchases.
[29] Facebook, Facebook Gaming marketing report, November 2019.

Cloud gaming – content is more important than the platform

The games designated for mobile devices expanded the market through creation of games available to billions of people around the world, while cloud games have a potential to enter the segment of premium games for consoles and PC.

Cloud games represent the opportunity which was unavailable 10-12 years ago – playing any game, any time and on any device, without the need to worry about the equipment requirements. Developed countries are ready for such solutions. Together with the development of "cloud gaming" and the related increase of the importance of that segment, an increase of the total demand for games should also be expected, because of the new groups of gamers.

Faster Internet connections and implementation of 5G will make technology more accessible.

Cloud gaming is developed, among others, by **Microsoft** with Xbox Cloud Gaming (former Project xCloud) and **Google** with Stadia **Google**. **Sony** Playstation Now is becoming very popular. In May 2020, it achieved 2.2 million users in the subscription model of the cloud solution.

Gaming based on the subscription model

Console publishers will presumably assume control of a new phenomenon, GAAS, or games based on subscription. Platform owners such as **Microsoft**, who already control the devices and distribution channels, are particularly prepared for offering gaming subscription services, which provide the users with a wide range of games, including freshly released titles, in return for a monthly fee.

Adding newly released games to Xbox Game Pass and acquiring a few development studios with an exclusivity for the newest titles, **Microsoft** made a successful step towards building a "Gaming Spotify", which may affect the gaming industry in the same way as the subscription model affected the music or film sectors. The Game Pass service available for Xbox consoles and personal computers, because of an attractive price and a large offer of the available titles, achieved exceptional growth: between June and September 2020, the number of subscriptions increased from 10 to 15 million[30]. The traditional publishers of games have also been experimenting with the subscription services, among others, offering access to older titles. They also offer subscription services based on streaming technology, when you do not need to install the game in order to play.

What could accelerate the popularisation of the subscription model? Together with the release of new generation consoles, PlayStation 5 by **Sony** and Xbox Series by **Microsoft**, the prices of high-budget games will increase, exceeding the average threshold of USD 60. Such a situation may constitute an opportunity for **Microsoft**, **Electronic Arts**, **Google** and **Nintendo** to increase popularisation of subscriptions among the gamers who do not accept the prices for console games exceeding PLN 250.

However, that model is not always welcomed with enthusiasm. According to Hervé Hoerdt, Senior Vice President Marketing, Digital, Content at Bandai **Namco**, *"Subscriptions are more of a threat, that's for sure. Because the business model behind subscriptions will be based on two things: the number of hours played in your game compared to the total hours people played, and the number of games played compared to the total number of games. So, in the value chain, we see a lot of cascading and the value in the end is too low (...) I think there is a misconception: streaming doesn't mean subscription. It's not mandatory."*[31]

In the case of the Polish representatives of the gaming sector, a careful approach to the future of the subscription model also prevails.

According to Aleksy Uchański related to **Movie Games** and **PlayWay**, Polish gamers are going to continue purchasing digital and physical versions of games. *"I have to start with the fact that the large platform-holders, **Sony** and Xbox, in my opinion, behave as if those games which are not blockbusters, AAA games, were less interesting than the biggest games and if you search their stores, it is difficult to find a game you are not familiar with. Second, it seems that every cultural area has built a different digital content distribution model. The area most dominated by the subscription model is certainly music. It is a single service and a few survivors around, one portal with a fixed access fee for the library of the entire planet, with aggrieved artists in the background. The artists have to earn money on shows and not on people who listen to their music on Spotify. The situation is quite different in the case of films. Although there is one leading platform (Netflix), it will never become the "Spotify of films". Why? The film producers are well aware of what would happen if they talked with Netflix the way the musicians have to talk to Spotify. Therefore, the activities of Disney, HBO or Amazon make the world of film distribution look different; every user uses a single dominating platform and, in addition, two or three more. Such users can never be satisfied with a single platform, because they will always miss something. (...) The first question is whether the subscription model can win a significant share. That model is obviously already applied, because the services of platform holders are massive. But is it possible to reach a situation when the majority of users and gamers principally use their gaming subscriptions? In my opinion, the power of hit releases, mainly the biggest games, is so extensive that it is not going to happen. The gamers are going to continue purchasing games they want to play."*

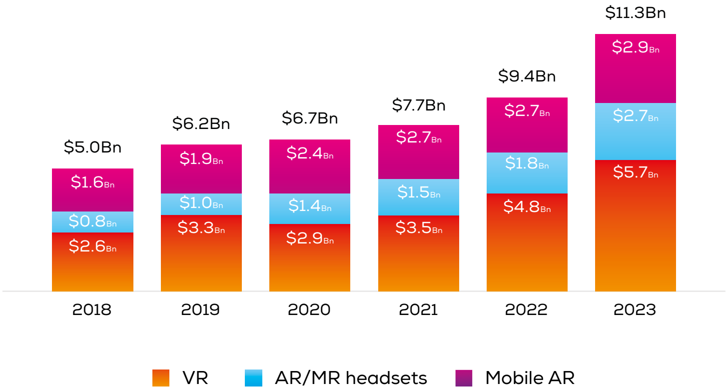
In the opinion of Mariusz Klamra, the president of **GRY-Online**, the path to the possible complete domination of the subscription model is very long. *"Currently, **Microsoft**'s Game Pass is the closest to that model, but regardless of it being an amazing service, I am not sure whether it (or its equivalent) could ever defeat two principal problems connected with the subscription model. The first is fragmentation of the offer – Game Pass offers only a small part of the games available on the market. The last deal of Game Pass with **Electronic Arts** shows that **Microsoft** is aware of that problem and attempts to address it. The second is the removal of games from the offer. Contrary to films, people often return to games, because producers begin to treat their products as SaaS, maintaining the interest with expansions and DLCs. Although I prefer subscriptions, nowadays they can only constitute an addition to single purchases, not their replacement."*

[30] Source: https://news.Microsoft.com/2020/09/21/Microsoft-to-acquire-zenimax-media-and-its-game-publisher-bethesda-softworks.
[31] https://www.mcvuk.com/business-news/bandai-Namcos-hoerdt-on-how-epic-games-store-and-subscription-models-are-potential-threats/

In 2019, the revenues connected with sales of VR/AR devices and applications reached USD 6.5 billion and a year later - USD 6.7 billion. It is forecasted that those revenues should increase to USD 11 billion by 2023 and should be mainly generated by VR.

In 2019, the sale of complete virtual reality sets doubled. *Oculus Quest*, debuting in May 2019, was sold in 208 thousand copies in the second quarter of 2019. Complete virtual reality sets turned out to be attractive for average gamers because of easy access and no requirement to have a top-shelf console or personal computer. Those devices held nearly a half (49%) of the market in 2019 and their share should increase further. The original *Oculus Quest* was the best-selling VR set in the third quarter of 2020 (the device was sold in 161 thousand copies in the third quarter), and *Quest 2* release should further strengthen the sales. The expectations concerning sales of Quest 2 in 2021 are at the level of 3 million sets.

Chart 1.2.2. Revenues from the augmented reality segment in 2018-2023



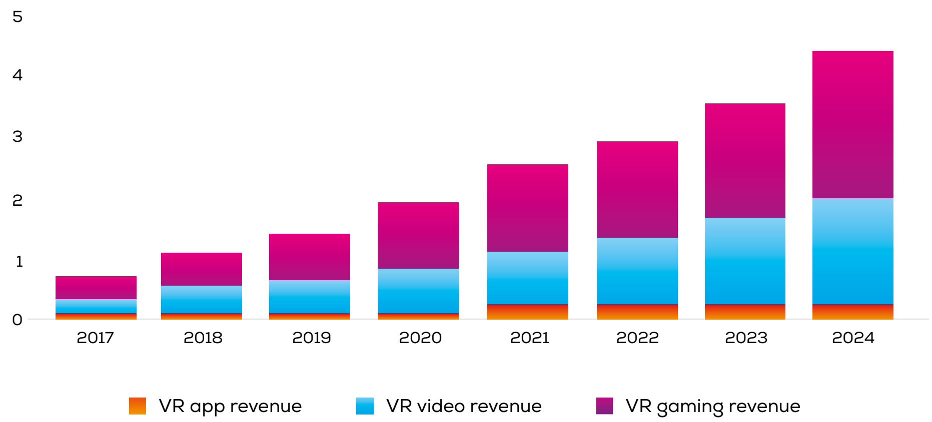
Source: Compiled based on SuperData

It is anticipated that the revenues generated by VR on personal computers will increase by 119% YoY, from USD 86.1 million in 2019 to USD 189 million in 2020, among others because of the release of *Half-Life: Alyx*. According to the PwC analysts, gaming will remain the largest source of revenues for the VR segment in the next 5 years.

Regardless, the attitude of industry experts and practitioners in reference to VR technology remains sceptical:
"*Unfortunately, I think that we are talking about a technological curiosity,*" says Adam Zdrzałek from **Ubisoft**. "*The support for that solution turned out to be too poor. I obviously do not want to treat it as a failure already, but if we do not provide a strong technological support in the form of software, I do not see any development opportunities, in particular because I did not witness any technology flourish again after five years without a strong, qualitative change of the entire concept.*"

Mariusz Klamra from **GRY-Online** adds that "*VR is still an unfulfilled promise, we have been waiting for the seller system and we finally got Alyx (Half-Life: Alyx), but it is still not what it should be. One of the (many) reasons is that VR games do not look good in streams and vods, while Twitch and YT (YouTube) drive the market nowadays.*"

Chart 1.2.3. Forecast of revenues for VR, by channels: VR gaming, VR video and VR app



Source: Compiled based on PwC, (2020), Global Entertainment & Media Outlook 2020-2024 report.

Consumer behaviour of gamers during the COVID-19 pandemic

Similarly, as the authors of the Polish Gamers Research conducted in May 2020, during the lockdown caused by the coronavirus in Poland, many researchers decided to control the changes of the consumer behaviours of gamers and non-gamers on the international markets who became interested in electronic entertainment because of the pandemic.

It is not surprising that the forced stay at home increased the interest in gaming as a form of passing time, both among adults and children in Poland, other countries of the European Union and the United States.

According to researchers from IPSOS and PSFE[32], in the European countries included in GameTrack EU, it was noted that lockdown not only increased the interest in games (similarly as the services offered for example by Netflix or Disney+), but also in purchasing gaming equipment. What changed in the behaviours of the European gamers? In the second quarter of 2020, the gaming time extended on average by 1.5 hours within a week in the group of gamers aged 6-64 when compared to Q2 2019. 27% of gamers admitted that they played more during the pandemic and that result is a consistent reflection of the results of the research concerning the Polish gamers with 31% of adults and 39% of children surveyed within the scope of Polish Gamers Research. However, after removal of the lockdown, according to IPSOS and ISFE, the European gamers returned to the periods they spent playing before the lockdown.

An increased involvement of the gamers was noticed by Jakub Mirski from **Microsoft** *"There is no surprise here, the statistics from March and April (ed. for the Xbox console) were very high, the consumption dynamics exploded. You can see that people playing video games spent over 100% more time on electronic entertainment than in the previous months. I have never encountered such average time spent on playing from the moment I started working in the industry."*

Interestingly, although the time spent on playing increased, only 6% of the gamers significantly increased their spending on expansions to games, with the highest being 11% in the United Kingdom. Higher spending in the games were confirmed by gamers aged 11-17 (11%) and 18-24 (9%). In general, the lockdown did not affect the change of consumer attitudes with respect to the amounts spent on games among European gamers.

According to the declarations of European parents of playing children, the games positively affected learning processes of their children and, therefore, encouraged them to play more frequently with their children.

What was the impact of the pandemic on the gaming behaviours in the opinion of the Polish developers? According to the representatives of **Ten Square Games**, the lockdown increased the involvement of the gamers. *"What happened in our company is a little untypical, we have various categories of mobile games, but in the case of our company, the entire lockdown was a positive period. People stayed at home and had more time to spend on entertainment. In our case, it resulted in a higher involvement of the gamers, more people started to use our platform. There was a time when some problems on the online advertising market occurred, there was space, the prices changed and we used it, we wished to reach more gamers and we succeeded. We noticed an impact on our business - obviously a positive one."*

An increase in the number of gamers in mobile, console, PC segments drives an appetite for even higher revenues, but the branch is deliberating on what may happen after the pandemic. Will the new gamers continue their adventure with electronic entertainment, or will they return to the hobbies they liked before the pandemic and stop playing?

The process of changing the distribution model on the Polish market

According to Dominika Urbańska from the Association of Entertainment Software Producers and Distributors, the Games Sales Data research conducted by Interactive Software Federation of Europe proves that in 2019, gamers in Poland acquired 5.3 million games, with 38.4% being PC games and the rest being console games - for home and mobile devices. The difference between digital distribution and retail sales is minor. 51.8% of the games are sold on physical carriers. On the key European markets those games constitute only 24%, which allows assuming that digital distribution still has a place to grow in Poland. *"It should be noted that the data published in the Games Sales Data include only information obtained from the group of entities supporting that research entity and, therefore, constitute a fragment of the market. The signals from the first three quarters of 2020 indicate that Covid-19 may significantly accelerate the digitalisation process. I am convinced that 2020 will bring a major change in that scope,"* adds Dominika Urbańska-Galanciak.

"The lockdown caused by the pandemic certainly contributed to the increased interest of consumers in digital products. The availability of the titles on all platforms is extensive, the Internet capacity is the only barrier here. It should also be noted that only 6.5% of Polish households have access to optic fibre connections, which places us on the 29th place in Europe. (As a comparison, in Iceland, nearly 66% households have access to optic fibre connections). The second important factor of digitalisation is the growing number of mobile games and independent productions which are available only in digital form."

[32] Ipsos | ISFE Gaming in Lockdown | September 2020 | *VIDEO GAMING IN LOCKDOWN The impact of Covid-19 on video game play behaviours and attitudes.*

Price sensitivity and acceptance of digital versions of games on the Polish market

Adam Zdrzałek notices the continuous high price sensitivity of the Polish consumers, a factor which may slow down digitalisation. *"The price we pay for a game is still very important to us, as well as low investments in the games in the free-to-play model, because we are still at the bottom in Europe, although certain progress can be noticed. The above is closely connected with the general level of income of the society, which is continuously growing in our country, because the higher incomes, the higher spending on games."* Mariusz Klamra, the president of **GRY-Online SA**, has a similar opinion: *"thus a higher popularity of F2P games in Poland, as well as a lower adoption of digital distribution for consoles, because used games and their sales still constitute a significant aspect of decisions on purchasing a gaming platform. It is interesting that a dynamic increase in PC games in recent years, games which cannot be resold, was among the important factors driving the sales of consoles in Poland. (...) Paradoxically, this year showed two faces of digital distribution - on one hand, during the pandemic, it showed all its advantages, on the other, the new generation of consoles also demonstrates its restrictions. A proponent would say that, for the first time in history,* **Sony** *and* **Microsoft** *presented models without drives, based only on digital distribution. An opponent would say that the major models are still equipped with drives, which proves that the platform holders are aware of its restrictions. If you look at quickly increasing sizes of the games, it turns out that their downloading takes more time regardless of the globally faster Internet connections. Similarly, very fast SSD drives of the new consoles are also very expensive and thus rather small, which means that they can store a few, perhaps up to ten big games, and replacing them is not comfortable for the users because of the above-mentioned long average downloading times."*

1.3. The value of the Polish video game market

In the case of information regarding the value of the Polish video game market, the mass media often present, simultaneously and sometimes incorrectly, one of the three values, which can be used to describe that segment of the entertainment industry from the point of view of revenues.

The journalists and public figures often mistake three different values: 1) amounts spent by the Polish consumers on video games, 2) global revenues of the Polish companies developing video games (gamedev), 3) capitalisation of the companies from the sector listed on the WSE, both on the main trading floor and the NewConnect market. For the needs of this report, another analysis and update was made with respect to:

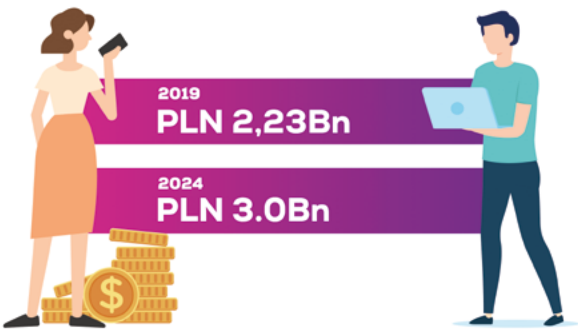
a) the amounts spent by Polish consumers on games in the years 2019-2024,
b) global revenues generated at the end of 2019 by the Polish companies directly involved in game development.

1.3.1. The amounts spent by Polish consumers on games in the years 2019-2024

A comparison of the forecasts prepared for the needs of the first edition of "*The State of Polish Video Games Industry*" with the actual results for 2015 and 2016 clearly demonstrated that the assumptions were correct, although conservative. Similarly, forecasts made in 2017 in "*The State of Polish Video Games Industry 2017*" by the authors from the Polish Gamers Observatory in relation to the revenues for 2019, which were estimated at the level of PLN 2.23 billion, i.e., USD 586 million corresponded to the results announced in 2020 by Newzoo in the amount of USD 596 million.

The present forecast was expanded by estimations until 2024. It was compiled on the basis of own calculations of gams developers based on the actual sale of console games and PC games in Poland, own analysis based on the annual financial statements of the most important companies from the gaming sector for 2019, interviews with the representatives of the key companies from the gaming sector, and additionally reports developed by PwC, SuperData Research and Newzoo. In the opinion of the report's authors, forecasts reaching farther into the future are charged with an excessive error risk which results from the variability of the entire industry at a global scale, in particular in the context of consumer behaviours of new gamers, who began playing during the pandemic.

Chart 1.2.4. The value of the Polish video game market for revenues from consumers in the years 2017-2024. Revenue forecast for the years 2020-2024



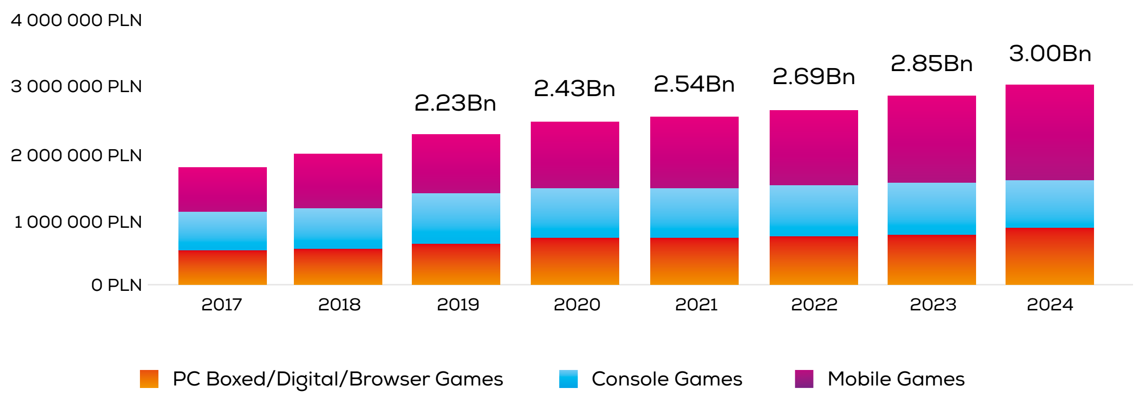
Source: Compiled by the Polish Gamers Observatory based on the games sales results for 2019, information from the key representatives of the sector, additional reports by Newzoo, SuperDataResearch, PwC.

According to that data, the value of the Polish video game market amounted to over PLN 2.23 billion at the end of 2019. An increase to approximately PLN 2.49 billion (USD 656 million) is anticipated by 2020. If you look at those numbers in the context of global data, they are relatively low. In that scope, the revenues generated by Polish gamers constitute less than 0.38% of the entire market.

The largest share in the total result for 2020 will be taken by mobile games, whose revenues exceed PLN 1 billion, i.e., an increase by 12% YoY. Personal computer games constitute the second segment from the point of view of revenues; including digital, box and browser versions with the result of over PLN 770 million. Browser games record a decrease by 13% because of being absorbed by mobile gaming. Console games add the amount of over PLN 620 million to the total result of the sector.

It is forecast that by 2024, the value of the Polish video games market, within the meaning of the amounts spent by the Polish consumers, should reach PLN 3 billion, i.e., USD 789 million with the current exchange rate.

Chart 1.2.5. The value of the Polish video game market for revenues from consumers in the years 2017-2024. Revenue forecast for the years 2020-2024



Source: Compiled by the Polish Gamers Observatory based on the games sales results for 2019, information from the key representatives of the sector, additional reports by Newzoo, SuperDataResearch, PwC.

In order to avoid misunderstandings, it should be emphasised that the analysis covers only sales of games in digital and physical form to Polish users. Evaluation of the sales of the Polish game developers (where approximately 97% of the revenues are generated by foreign gamers) has been discussed in clause 1.3.2.

1.3.2. Global revenues of the Polish gamedev

In order to calculate global revenues generated around the world by Polish companies from the gaming sector, the financial results of 49 companies have been analysed: 46 already listed on the Warsaw Stock Exchange and NewConnect, as well as companies which submitted their information documents as of 31.10.2020, but their shares are not traded yet. There were three such companies as of 31.10.2020. In addition, information about the financial results of 132 enterprises and single-person entities directly related to game development has been collected. The following assumptions have been made:

- the analysis does not include the revenues connected with the distribution of games of third parties, in the digital and physical versions.
- the analysis checked which among the smaller companies may already be included in the consolidated annual statements of larger entities, which is particularly important in the case of capital groups, such as **PlayWay SA.**
- an assumption has been made that the revenues recognised by the Polish branches of foreign companies from the industry are included as a whole in accordance with the annual statements submitted to the National Court Register.

In 2019, Polish Gamedev generated the global revenues on sales at the level of PLN 1.75 billion. It should be noted that the number of development studios in Poland is estimated, depending on the source, at the level of 440[33] or according to the recent Polish Gamedev research - 476[34]. Although other available reports, such as "The Game Industry of Poland report 2020" contain higher amounts for Polish gamedev, with the assumption made by the authors of "*The State of Polish Video Games Industry 2020*", we are still observing continuous growth. In relation to 2018, that growth amounted to over 13.5%. Using the same methodology to calculate the revenue from sales, in 2018, the Polish gamedev recorded revenues at the level of PLN 1.54 billion.

[33] *"The Game Industry of Poland report 2020", Eryk Rutkowski, Jakub Marszałkowski, Sławomir Biedermann*
[34] *"Polish Gamedev 2019/2020"*, Kraków Technology Park

Chart 1.2.6. Revenues of Polish video game producers generated all over the world

Source: Compiled by the Polish Gamers Observatory and Kraków Technology Park

Chart 1.2.7. The value of the Polish gamedev in 2019, including revenues generated by the Polish companies from the gaming sector listed on the stock exchange in 2019.

Source: Compiled by the Polish Gamers Observatory (the revenue data) and Kraków Technology Park (the number of development studios)

Does it mean that in 2019 gamers around the world spent around PLN 1 billion on the games created in Poland? Not exactly. It is frequent that the revenues presented are only in the form of accounting records. It is a common practice to include "movement of stocks" on the side of revenues, although in that item the companies record the estimated revenues of games, which often have not even been completed. The authors of the report estimated that movement of stocks constitutes in total, for the global revenues of Polish gamedev, about 10% of revenues included in the annual financial statements submitted to the National Court Register.

While analysing the situation for the first 10 months of 2020, the authors expect that maintaining a further increase of revenues in 2020 will not be an easy task for Polish gamedev. On the one hand, the pandemic improved the sale results of the majority of smaller entities. On the other hand, a large group of promising games from Polish developers was postponed to 2021 (among others *Dying Light 2* by **Techland**, *Outriders* by **People Can Fly** and *Gamedec* by **Anshar Studio**). Therefore, the results of the entire sector are going to depend on the most important Polish release in recent years. However, *Cyberpunk 2077* was postponed to 10 December 2020 and (at the moment of developing the report) it is difficult to predict the percentage share of that game's sales recognised by **CD Projekt** in the same accounting year (i.e. 2020).

1.3.4. The principal entities in the publishing and distribution segment in Poland

The video game industry is so large and professional that the old structure, comprising the chain of a developer, publisher and store, is no longer sufficient. Those three basic entities are now accompanied by a number of specialised companies which support the process of developing and selling video games. Poland is a mature market, not only to consume video games, but also to export them. However, it is not restricted only to producing and purchasing games. The companies functioning in the widely understood video games industry in Poland are discussed below. It should be noted that the list is not complete but it allows us to imagine the diversity of the sector. Publishers are discussed as first.

1.3.4.1. Publishers of video games

The role of a publisher is to select a game project with commercial potential, and provide support to the developer, including in particular financing of the work and promotion of the game. The above requires not only advertising and contact with the specialised media, but also the conclusion of agreements with local distributors who would place the final product in the physical form in their stores. The most important publishers operating on the Polish market can be divided into a few categories.

Direct branches of global publishing companies from the video games sector:

Some of the large publishers have branches in Poland. Their tasks include promotion and sales of the titles globally published by the parent company in Poland. Those are in alphabetical order:

1. **Electronic Arts Polska Sp. z o.o.,** a branch of **Electronic Arts** with its registered office in Warsaw at ul. Domaniewska 34A. The company is responsible for publishing and distributing such titles as *FIFA*, *The Sims*, *Battlefield* and *Need for Speed*.
2. **Koch Media Sp. z o.o.,** a branch of **Koch Media** with its registered office in Warsaw at ul. Bonifraterska 17. **Koch Media** belongs to the **Swedish holding Embracer Group**, which also owns **THQ Nordic**. The branch of **Koch Media** in Poland distributes such games as *Desperados III*, *Wasteland 3*, and *Iron Harvest*.
3. **Microsoft Sp. z o.o.,** a branch of **Microsoft** located in Warsaw at Al. Jerozolimskie 195A. In addition to its most popular products, such as Windows and MS Office, the company is also responsible for Xbox consoles as well as games released directly by **Microsoft (***Forza Motorsport* and *Gears of War*).
4. **Sony Interactive Entertainment Polska Sp. z o.o.,** a branch of **Sony** with its registered office in Warsaw, ul. Ogrodowa 58. The company is responsible for distribution of PlayStation consoles and games for those platforms published by **Sony Interactive Entertainment (***Uncharted*, *Little Big Planet*, *Horizon: Zero Dawn* and *Gran Turismo***).**
5. **Ubisoft GmbH Sp. z o.o.**, a branch of **Ubisoft** with its registered office in Warsaw at ul. Domaniewska 39A. That company owns such titles as *Assassin's Creed*, *Far Cry*, *Ghost Recon*, *Just Dance* and *Watch Dogs***.**

The companies publishing/distributing games of other companies (*third party* publishers):

A large part of Polish publishers are companies concluding agreements with foreign publishers to publish a given game in Poland. That category of publishers recently recorded a decreasing trend. **CDP Sp. z o.o.** was liquidated and **Techland Sp. z o.o.** abandoned publishing activities.

Only one entity remained in that category:

1. **Cenega SA,** one of the largest game distributors in Poland, with its registered office in Warsaw at ul. Krakowiaków 50. Published games of such developers as **Take-Two Interactive** (*Grand Theft Auto*, *Civilization*, *BioShock*, *Borderlands* and *Mafia*), **Warner Bros**. **Interactive Entertainment** (*Batman*, *Mortal Kombat*), **Square Enix** (*Tomb Raider*, *Final Fantasy*, *Thief*, *Deus Ex*, *Hitman*) and **Bethesda Softworks** (*Fallout* and *The Elder Scrolls*). In the case of the last company, a change can be expected soon because **ZeniMax**, owning **Bethesda Softworks**, was acquired by **Microsoft**.

Companies publishing games by independent developers:

Publishers of independent games constitute the largest category of publishers in Poland. The enterprises who develop games and publish their own titles constitute a large part of that group. The most important ones in alphabetical order are:

1. **7 Levels S.A.** with its registered office at Al. Płk. Władysława Beliny-Prażmowskiego 8/2 in Kraków, specialising in games for **Nintendo** Switch. Apart from production and outsourcing, **7 Levels** distributes games made by other developers. The games published by that entity include *Warplanes: WW2 Dogfight* and *Golf Peaks*.
2. **11 bit studios S.A.** with its registered office in Warsaw at ul. Brechta 7, listed on the Warsaw Stock Exchange and famous principally for the development of its own games (*Anomaly series*, *This War of Mine* and *Frostpunk*). Its publishing portfolio includes games such as *Children of Morta* by **Dead Mage** and *Moonlighter* by **Digital Sun**.
3. **All In! Games S.A.**, with its registered office at Osiedle Złotego Wieku 89 in Kraków. **All in! Games S.A.** was established in 2018 and entered the Warsaw Stock Exchange in 2020 because of a merger with Setanta **S.A.** It published, among others, *Red Wings Aces of the Sky* and *Ghostrunner*.
4. **Artifex Mundi S.A.** with its registered office at ul. Michała Archanioła 10 in Zabrze, is specialised in casual games. It develops such titles and is simultaneously their publisher. In 2020, the company published games such as *Family Mysteries: Poisonous Promises*, *The Secret Order 8: Return to the Buried Kingdom* and *Family Mysteries 3: Criminal Mindset*.
5. **Crunching Koalas Sp. Z o.o.** with its registered office in Warsaw at ul. Targowa 56 is a small development company recognised for its own production (Mousecraft) which expanded its business into the publishing market in 2016. **Crunching Koalas** was a co-publisher of *My Memory of Us by Juggler Games*. The company combines publishing activities with outsourcing.
6. **Feardemic Sp. z o.o.** based in Kraków at ul. Cystersów 9 is a subsidiary of **Bloober Team S.A.** listed on the NewConnect market. Its first title published in 2017 was *Perception by The Deep End Games*. Its portfolio also includes *Rital Crown of Horns*, *Darq Complete Edition* and *Cathedral 3D*.
7. **Forever Entertainment S.A.** with its registered office at Al. Zwycięstwa 96/98 in Gdynia is specialised in publishing games for **Nintendo** Switch. It published such titles as *Green Hell*, *Ultimate Fishing Simulator* and *Wanderlust Travel Stories*.

7. **Games Operators S.A.** with its registered office at ul. Bukowińska 24A/132 in Warsaw is involved in investing in games and publishing them. The company also developed 911 Operator (produced by the Jutsu studio, the companies merged). It published such titles as *Radio Commander, Paws and Souls,* and *Cyber Ops*.
8. **ImagiNation S.C.** Łukasz Kubiak, Bartosz Moskała with its registered office in Bielsko-Biała, ul. 1 Maja 15, known as IMGN.PRO is an independent developer, which also runs publishing activities since 2010 (of digital and physical versions) on the global gaming market. The first games published by IMGN.PRO were from the *Euro Truck Simulator* series by **SCS Software** from the Czech Republic.
9. **Klabater S.A.** – a publisher separated in June 2016 from the CDP structure, which helps in publishing and promoting the games of smaller development studios. The company debuted on the Warsaw Stock Exchange in October 2019. The first title published within that project was *Alice VR* developed by **Carbon Studio**. Since then, **Klabater** published such games as *Heliborne, Big Pharma, We. The Revolution* and *Help Will Come Tomorrow*.
10. **Movie Games S.A.** with its registered office at ul. Marszałkowska 45/49 lok. 44 in Warsaw is partially owned by **PlayWay SA.** The company is involved in the production and publishing of games. It published such games as *Lust* from **Beyond** and *Drug Dealer Simulator*.
11. **No Gravity Games S.A.** with its registered office at ul. Dzika 15,13 in Warsaw. The company was established as **Site S.A**., changed its name to **Fat Dog Games S.A.** and later to **No Gravity Games**. It is involved in publishing and porting games. Its portfolio includes such games as *Good Night, Knight, Synther* and *Body of Evidence*.
12. **PlayWay S.A.** is based in Warsaw at ul. Mińska 69, one of the largest companies from the gaming sector listed on the Warsaw Stock Exchange. Apart from low and medium-budget titles, it is involved in publishing games and financing external development teams. Its publishing portfolio since 2011 contains a few dozen products, including the *Car Mechanic Simulator* series developed by **Red Dot Games** from Rzeszów and *House Flipper* by **Frozen District.**
13. **Ultimate Games S.A.** with its registered office at ul. Marszałkowska 87/102 in Warsaw owns a few studios engaged in development of games. They include Demolish Games and Games Box. The most important product in the company's portfolio is *Ultimate Fishing*.
14. **Walkabout Sp z o.o.** with its registered office at ul. Nowy Świat 2 in Warsaw. Until now, it has published such games as P*aradise Lost, Space Cows* and *Liberated*. It is worth noting that apart from traditional assistance for the developers, **Walkabout** also offers workplaces and the required equipment.
15. **QubicGames S.A.** with its registered office in Siedlce, ul. Katedralna 16 is among the smaller developers of games, whose shares have been listed on the NewConnect market since 2017. Apart from developing its own products, the company specialises in publishing games for **Nintendo** Switch. Until now, it has been published among others *Pocket Mini Golf, Tharsis* and *Dex*.
16. **United Label S.A.** with its registered office in Warsaw at ul. Zajęcza 2B was established by the **CI Games Group** as a global publishing platform for the independent game producers. It intends to enter the NewConnect market in 2020. The company debuted with publishing Röki for personal computers and **Nintendo** Switch. Its publishing portfolio includes *Eldest Souls* by the **British Fallen Flag Studios**, *Tails of Iron* by the **British Odd Bug Studios** and *Horae* by **French Lunaris Iris**.

1.3.4.2. Not only publishers

Apart from the companies involved in publishing, development and distribution of games, there are companies specialised in rendering specific services. The list below contains examples of Polish companies providing services connected with the gaming market.

QLOC S.A. – gaming outsourcing

Outsourcing is commonly used in many sectors. It is easier to outsource certain processes to an external company, which performs a part of the work and brings back finished results. It is the same in the video game industry. **Qloc** was founded in 2009 and started by offering Quality Assurance services, or simply speaking testing services, to the developers.

It is an important element of the process. Software may contain minor and major errors. If a code is long, there is a higher chance of errors and it is more difficult to find them. Video games are extremely complex. They comprise many elements and systems, often very different. Sometimes a game has to be completed hundreds or thousands of times to find an error. If millions of gamers play a given game after its release, they will certainly find it.

For many years, **Qloc** was involved in testing various projects, including blockbusters. The company's portfolio includes work on such games as *Resident Evil 5, Bioshock 2, DMC Devil May Cry*.

Later on, the company expanded its services by translation and porting. What is porting? Imagine that a group of developers from Japan creates a new game based on the famous animation *Dragon Ball*. Nothing to hide, we are talking about *Dragon Ball: Xenoverse* by **Bandai Namco**. They develop the game's version for consoles. They create an interesting plot, characters and gameplay. However, the publisher wishes to have the game available on PC as well. Instead of forcing its own team to convert the game for personal computers, that task was entrusted to **Qloc**, which took a finished product and made it look equally good on Windows and on other platforms.

In addition, **Qloc** offers direct support during game development. The company may be commissioned with creating 3D models for a title, or assistance in optimisation. **QLOC** employs around 450 people, not including the testers who are often employed for the needs of a specific project.

The Knights of Unity

The Knights of Unity is a smaller company which also offers development-related outsourcing. Its offer includes support in designing games, artistic designs, prototyping, VR and AR projects, as well as porting of games. It specialises in the Unity engine.

The biggest projects worked on by the specialists from The Knights of Unity include *Gwent*, an online card game from *The Witcher* universe, and *Disco Elysium*, an amazing RPG by ZA/UM. In the case of the first one, TKoU worked on transferring the PC interface of the game to the mobile version designated for the devices with Android and iOS. In the case of *Disco Elysium*, the Polish company completed various work like removing errors, designing the interface, character development system, dialogue system and support for panoramic monitors.

The customers of **The Knights of Unity** include such companies as **Team 17, Interplay**, **Daedalic Entertainment**, and **Ubisoft FGOL**.

Anshar Studios S.A. – development and outsourcing

There are companies combining traditional game development and outsourcing. **Anshar** from Katowice simultaneously develops its own projects, such as *Gamedec*, and offers support to other developers. The company's customer is **Larian Studios**, the authors of *Baldur's Gate III* and *Divinity: Original Sin 2*.

The third *Baldur's Gate* is a long-expected continuation of the classic which, already at the stage of early access on Steam (allowing purchases of unfinished games with a guarantee of receiving the finished product in the future) became a blockbuster. The title was partially developed in Katowice. The Polish company worked on development tools, interface programming and gameplay. It should also be noted that **Anshar** worked with **Larian** before, using the latter's own engine. Such experiences justify thinking that **Anshar** may be an irreplaceable partner for the Belgian company in the future.

It should also be noted that another Polish company, **Fool's Theory**, helped in the development of *Baldur's Gate III* working in the outsourcing model.

Platige Image and Radikal Studio – between games and films

The so-called intro, an introductory video, constitutes an important element of every game. Outro at the end of the game, or a cut-scene, also constitute permanent elements of the game-related vocabulary. In addition, before releasing a game, it is an absolute necessity to present the title and attract gamers. A good trailer introducing the game is very important from the point of view of sales.

Platige Image, correctly associated with Tomasz Bagiński nominated to receive an Oscar, is the Polish specialised entity completing such tasks.

Platige Image creates videos and animations for various industries. Its customers include McDonald's, Ferrari, and Pepsi. However, a large part of its business is still connected with the creation of video materials for games. The examples include an amazing video promoting *The Witcher 3* and the trailer announcing *Cyberpunk 2077* to the world. The materials from **Platige Image** promoted such titles as *Crossfire, Tom Clancy's The Division 2, Dishonored, Total War Warhammer, For Honor,* and *Halo 5*.

The team cooperates with the largest international companies from the gaming sector and other industries, and its productions can easily be included in the world's best. From the point of view of performance and technical excellence, **Platige Image** remains a role model for many people.

There are other companies also involved in creating visual materials for games. Less famous **Radikal Studio** creates videos and animations for many Polish games. It was founded by Jakub Sobek, is located in Warsaw and created materials for such titles as: *Blair Witch* by **Bloober Team**, *Frostpunk* by **11bit Studios** and *The Witcher III Complete Edition* by **CD Projekt RED.**

Not only videos and animations - *motion capture*

Platige Image offers another important service - motion capture sessions. What does it mean? The largest video games have not used manual or default character animations for a long time. Instead, actors and stuntmen are dressed in clothes with sensors, and their movements are recorded by complex equipment and transferred to the computer.

That method allows recording specific scenes in accordance with the script (and record facial expressions), as well as specific movements which are later recreated by the software according to the needs. It is interesting that Platige Image offers recording of human actors, as well as motion capture of horses and dogs.

The majority of the companies developing video games cannot afford their own motion capture studio, therefore they often use the services of third parties while creating animations.

Albion Localisations and Roboto Global - translation and dubbing

Albion Localisations specialises in game localisation. It's a company with a long tradition, which translated such titles as *Heroes of Might and Magic III* and *Baldur's Gate*. They were the ones to translate the famous sentence "You must gather your party before venturing forth" into Polish.

Albion translated the games made by **Blizzard**, including *Diablo II, Fallout 3* and *Battlefield Bad Company 2*. It should be noted that localisation does not always mean pure translation. The goal is to make the game as entertaining in Polish as it is in English, which sometimes requires adjustment of the text to our reality. **Albion** is the author of the most important situation of this type in the history of the Polish video game sector. They named one of the monsters in *Diablo 3* a meat hedgehog and added the name Nathanek's Pastoral Staff to the game (both based on situational humour in Polish).

The second important entity on the localisation market is Roboto Global from Warsaw. The company is known for its work on translations of games by such publishers as **EA, Sony, Sega** and **Riot Games**. In 2020, it has undergone significant changes. Because of acquisition of the sound studio, **Sound Tropez**, from March 2020 Roboto offers full localisation of games within the scope of text and sound. Within recent years, the team of **Roboto Sound** was responsible for dubbing of, among others, *Ghost of Tsushima, FIFA 21, Hearthstone* with expansions, *League of Legends* and *Iron Harvest*.

Arcade machines: Magic Play

If you liked video games in the 90s or you spent your holidays on the Baltic sea recently, you can remember arcade machines which allow playing video games after inserting a coin or a token. Arcade machines were popular in the United States in the first half of the 20th century. When the first video games appeared on the market, the machines offering such games as Space Invaders or Pac-Man became money production devices.

Nowadays, it is a niche market. However, there is a Polish company which sells such machines, and also manufactures them. **Magic Play** is involved in the production of various machines, starting from hand disinfection devices, through strength machines and ending with pinballs and classic video games machines.

Magic Play sells, rents and maintains arcade machines of such companies as **SEGA, Bandai Namco, Raw Thrills** and **Unis**, and also offers machines manufactured on its own.

Media: GRY-Online S.A.

The above list would be incomplete without the companies specialised in writing about games. **GRY-Online S.A.** is an entity belonging to the international **Webedia Group**. It owns GRYOnline.pl website run in Polish, GamePressure.com website run in English, a Polish YouTube channel TVGRY and e-sports platform Friendly Fire. The company's primary goal is to provide information about games to the gamers searching for such information. **GRY-Online S.A.** has been doing the above for 20 years in various ways, from gathering basic data about games in the gamer's encyclopaedia, through reviewing games (in writing and videos), creating strategy guides and presenting opinions and ideas about the industry in articles and journalistic videos.

Contrary to other similar websites, the business model of the company is not based entirely on advertising, but also on selling the content created to individual and institutional customers, as well as providing a wide range of marketing services. It should also be noted that **GRY-Online S.A.** creates content for the external market as well. Gamepressure.com advanced to the top 10 of the best English-language video game websites, mainly because of high quality strategy guides.

E-sports: ESL Gaming Polska and Fantasy Expo

The Polish branch of global ESL and the Polish company **Fantasy Expo** are specialised in organising e-sport events, both online and with an audience. For your basic information, e-sports means sports events where the participants and teams compete in video games, usually such as *Counter-Strike* or *League of Legends*.

ESL is mainly recognised in Poland because of organising the e-sport events Intel Extreme Masters, whose finals have been taking place in Katowice for a few years. In 2018, the event at the Spodek stadium was observed live by 170 thousand people. **Fantasy Expo** combines the organisation of e-sports competitions with the business of a talent and advertising agency specialising in the gaming sector.

The companies operating in the e-sports sector do not have much in common with the development studios. They resemble companies from the sports industry and employ such people as referees, camera operators, lighting specialists, setting scenes and marketing specialists, in particular regarding online marketing.

Cyberpunk 2077, CD Projekt RED

1.4. Business models connected with the production and distribution of video games in Poland

Production of video games is a business which can bring revenues in many ways; therefore, we discuss the games monetisation strategies adopted by Polish developers, characteristics of the platforms, diversity and aspects of co-functioning, sales of video games on physical carriers vs. online sales.

A video game is a multimedia interactive work in the form of computer software. At the early stage of that type of entertainment, there have been two monetisation models of that product - selling games on physical carriers and sharing games on arcade machines. In the second case, the gamer had to pay for entertainment, usually until losing the game.

The arcade machines became obsolete some time ago. Selling games as products turned out to be much more durable, although that monetisation type has changed over the years.

Currently, the companies producing video games have a few basic methods to earn on their work. In order to understand the choices faced by such enterprises, you should imagine it as a decision tree.

Development, publishing and distribution

A video game has to be developed, published and then distributed. All the elements can be performed internally or outsourced to third parties. A common business model in the video game industry is the development of the game and conclusion of an agreement with the publisher who also provides distribution services. However, there are various different business models, which have been discussed below.

Sales and free access

The principal decision to be made is whether to sell the game, or share it for free. Sharing a product for free may seem to be absurd for the people not familiar with the sales models of the sector. However, the practice shows that many profitable games operate in that model. They include *League of Legends* and *World of Tanks*, as well as mobile games such as *Candy Crush Saga* or *Clash of Clans*.

The above decision is closely connected with the target platform where the game would be available. The customers using mobile phones are significantly less willing to purchase games as products. Console gamers usually buy games instead of playing *free-to-play* titles. In the case of PC gamers, there is no single tendency.

In both cases, you face another choice.

A game sold as a product can be distributed in online stores and in physical form. The first option is an absolute necessity nowadays and no success can be achieved without it, but the "boxed" version is an option which can easily be abandoned.

According to the sector's representatives, the significance of digital distribution increased. The question concerning the place of the video games industry in the context of digital revolution, was answered by Michał Gembicki from **Klabater**: "*I can say that partially the revolution is already behind us. You can see that the "box" sales, retail sales in trading networks are actually insignificant. The pandemic was the last element of the revolution, which was very powerful. It can be seen based on the example of selling games on such platforms as Steam, GOG or digital sales on consoles. This is absolutely the most important channel for video games.*"

Large enterprises developing, for example the *FIFA* series find their clients for the boxed versions and generate revenues from physical sales, but for a small or medium developer, the physical distribution is unprofitable. It is mainly because there are too many intermediaries in the chain and it is difficult to reach a customer who prefers digital distribution anyway.

Another choice is connected with additional monetisation sources inside the game. The above means selling additional content after release (DLC) or adding micropayments to the game.

In the case of free games, there are a few options. A game can be monetised through micropayments, displaying advertisements, which is more typical for mobile products, as well as through a premium subscription. All the options can be applied simultaneously.

Export

The next important decision refers to the market - will the developer choose the international markets or only the local Polish market? In practice, the second option is rarely used because of the potential of the international markets. Forecasts of Newzoo for 2020 prove that in the current year, gamers all around the world will spend over USD 174 billion on their hobby.

With the current online distribution systems allowing easy access to customers around the world, it would not be feasible to focus on the domestic market.

CD Projekt

The discussion of the Polish video games industry has to begin with **CD Projekt**, the authors of *The Witcher*. Their business model can be called a traditional one. This means that the company is hit driven. What does it mean? The largest part of **CD Projekt's** business is sale of high-budget games in physical and digital form. The company presents its strategy in the following way:
"The business of the **CD Projekt** *Capital Group is based on two elements - focusing on the top quality of the produced games and services and maintaining the required independence, including creative and financial independence (...).*

Among other developers and publishers of games, **CD Projekt RED** *is distinguished because of its business model. It assumes control over all significant stages of creating and selling games - creative vision, production processes, technological solutions, publishing, promotion, distribution and direct relations with the gamers."*

The above control over all significant stages of creating and selling games is performed by the store, GOG.com, owned by the **CD Projekt Capital Group.** GOG is a globally available digital store. Therefore, the games made by **CD Projekt RED** can be distributed directly by the Polish company. GOG distributes games developed by other companies as well.

The company has its own division handling publishing activities and promotion, in order to maintain control over the entire process from the development to sales of the games.

CD Projekt still relies on external publishers on certain markets. In October 2018, it was announced that Warner Bros Interactive Entertainment and **CD Projekt** concluded the agreement for publishing and distribution of *Cyberpunk 2077* in North America. Both parties have already worked together with respect to *The Witcher 3*, which means that the cooperation was satisfactory.

Life-cycle

CD Projekt declares the intention to compete with other companies using the quality of their products. Attention should be paid to two aspects of that competition - extending the life-cycle of the games and capitalisation of its popularity through auxiliary products.

The Witcher 3, the most important product in the company's history until now, was released in 2015. It was over five years ago. Regardless of the above and the fact that the company did not release a similar game in that period, in the first half of 2020 the revenues of **CD Projekt** on sales of products, services, goods and materials amounted to PLN 364 million.

It is mainly connected with supporting their principal product. The most important actions of **CD Projekt** in that scope include:

1. 2015 - release of 16 minor DLCs, free of charge. One of them introduced the New Game+ mode offering a challenge for the biggest fans.
2. October 2015 - release of Hearts of Stone expansion.
3. May 2016 - release of Blood and Wine expansion.
4. October 2019 - release of the game for **Nintendo** Switch.

Therefore, the game remains attractive to the customers and they are interested in playing it even though a few years have passed since its release.

Accompanying products

CD Projekt continuously offers additional products supporting the popularity of *The Witcher 3. The card game, Gwent: The Witcher Card Game* is a perfect example, similarly to *Thronebreaker: The Witcher Tales* released in 2018. The latter is a small RPG based on *Gwent's mechanics* with an interesting plot. Both productions generate interest in the media, which does not allow the readers of the specialised websites to forget about *The Witcher 3.*

As the same time, the popularity of *The Witcher* allowed **CD Projekt** to cooperate with companies producing comics or figures. Such activities increase brand awareness and enable the fans to have access to the game universe, so that they encourage other gamers to play *The Witcher.*

It should also be noted that *The Witcher* series made by Netflix significantly affected the game's popularity. Theoretically, it was not connected with games, but based on the books written by Andrzej Sapkowski, which were also used by **CD Projekt**. In practice, it can be stated that there would be no series without the games, because the games first promoted the franchise around the world.

Digital distribution and export

CD Projekt's financial reports prove that over 95% of the company's revenues is generated by the foreign markets. We also know that over 80% of the games sold by the company are in digital, not physical form.

Techland

A similar business model is used by **Techland** from Wrocław. The company focuses on the production of high-budget games with large sales potential. The last hit of the company was *Dying Light* released in 2015.

That title can provide it with stable revenues and finance production of its continuation, which is even more ambitious in many aspects. It results mainly from the continuous support strategy for the game after the release.
Techland focused on the accompanying products less than **CD Projekt,** instead continuously developing the game. In 2020, updates and events in the game still occur a few times a month.

The product is addressed mainly to the fans of multi-player games;

therefore, such an approach makes sense and is really appreciated by the gamers. In August 2020, there were on average over seven thousand people playing the game on Steam only. It is a very good result for a game which is five years old.

Such support ensures continuous sales of *Dying Light* and building a customer base interested in the next instalment.

Box versions cease to be an attractive business

With respect to selling digital and physical versions, it should be noted that in 2019 **Techland** discontinued distribution of physical versions of games made by other developers in Poland. The president of the company, Paweł Marchewka, explained it in the following way:
"After a long-term analysis of the market, we began phasing out of the Polish publisher's activities, which is going to last until the end of 2019. It refers only to the distribution of third-party physical versions in the territory of Poland. For many years, the domestic physical distribution did not constitute a strategic area of the company's business, which comprises development of the best AAA action games with an open world."

Techland, similarly as **CD Projekt**, attempted to expand its business by its own digital games store. However, contrary to GOG.com, boxoffstore.pl and Gemly belonging to **Techland** did not achieve a commercial success.

11 bit studios S.A.

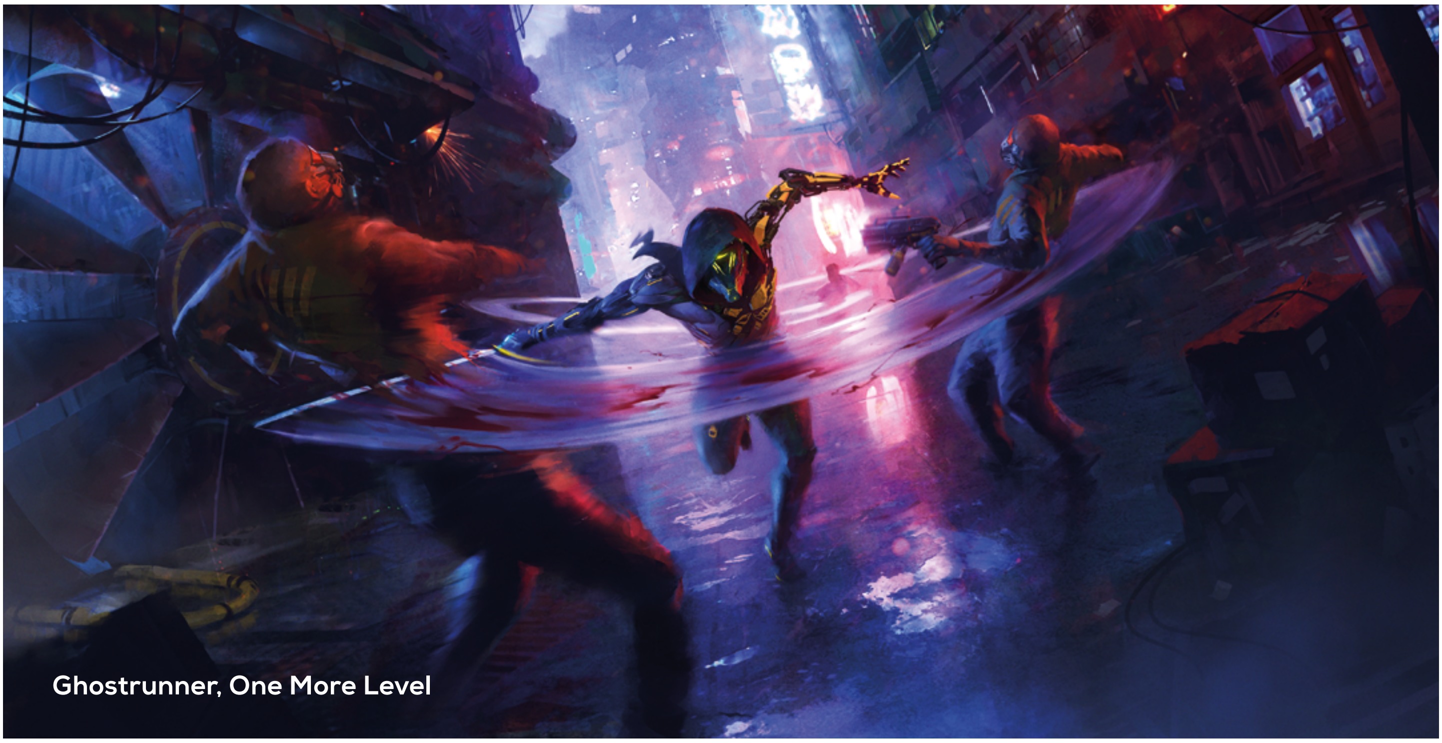
11 bit studios can be considered one of the largest small companies on the Polish market. Its products are generally included in the independent games segment. However, considering the fact that the company is listed on the stock exchange and employs over 100 people, it can be stated that the company has already grown out of that segment.

The success of the company's own products is mainly based on creativity and developing games which are different than the applicable standards, both with respect to the topics discussed and gameplay. The hit series entitled *Anomaly* offered a reversed entertainment model known from the tower defence genre. *This War of Mine,* a massive success, presented the life of civilians in the war reality. Strategic *Frostpunk* combined such genres as citybuilder, survival and narrative game.

In that case, it is visible that the company focuses on making its products available on the maximum number of platforms. For example, *This War of Mine* is available for computers with Windows, macOS and Linux, mobile devices with iOS and Android, as well as PlayStation 4, Xbox One and **Nintendo** Switch consoles.

11 bit studios strives to adjust their sales strategy to the specific platforms, or rather their owners. It was confirmed in the company's message announced in September 2017:
"Frostpunk will be available on the key markets in digital form and in the form of an enriched box edition. More extensive presence on the release date increases the commercial and sales potential of the game in the opinion of the company's Management Board. During recent events, we talked to a number of publishers interested in the physical version of the game. Until now, we avoided boxes as less profitable, but we are convinced now that there is an opportunity to significantly increase the sales and visibility on local markets," said Grzegorz Miechowski, president of **11 bit studios S.A**.

In his opinion, winning distribution channels around the world can significantly increase sales of the game for consoles in the future, because currently physical versions still constitute over 50% of the console market.



Ghostrunner, One More Level

The second business pillar of 11 bit studios

Simultaneously with internal game development, **11 bit studios** also runs publishing activities. The company publishes its own games, as well as third party games. The portfolio of the Polish company includes such titles as *Children of Morta, Moonlighter*, and *Beat Cop*.

It should also be noted that with respect to physical versions, **11 bit studios** still cooperates with external partners. For example, the boxed version of *Frostpunk* was distributed in Poland by **Cenega**. Boxed version of *Moonlighter* was distributed on the American markets by **Merge Games**.

Similarly, as **Techland** and **CD Projekt**, **11 bit** also attempted to create its own digital distribution store - Games Republic. However, that initiative did not bring the expected results.

Traditional model - Flying Wild Hog, Bloober, The Farm 51 and CI Games

The traditional distribution model is represented by such companies as **Flying Wild Hog**, **Bloober Team**, **The Farm 51** and **CI Games**. Those companies focus on developing games as products. Within the scope of publishing and distribution, they cooperate with large publishers or directly with digital distribution stores.

For example, The **Farm 51** published its thriller, *Get Even*, in cooperation with **Bandai Namco Entertainment**, and **Bloober Team** published its *Observer* in cooperation with **Aspyr**. Simultaneously, those developers can independently add their games to digital distribution platforms such as Steam or GOG. However, in such a case they need to promote their games independently as well.

Such companies often combine digital and physical sales; however, the first type constitutes the majority of their revenues. It is consistent with global trends. Digital sales of games have been growing for many years around the world, contrary to the physical sales.

It should be noted that sometimes a game developer concludes agreements for publishing and distribution of games on different markets and in various forms with different partners. *Shadow Warrior 2* by **Flying Wild Hog** is a good example of such a strategy. Digital and physical sales on the western markets were organised by Devolver Digital. Devolver offered the box version as a collector's edition and prepared only five thousand items for sale. In Poland, the box version was distributed by **Techland** before it discontinued physical distribution on the Polish market.

PlayWay S.A.

PlayWay distinguishes itself in that group. It also develops and sells games mainly on digital markets. The difference refers to the number of simultaneously developed products. Krzysztof Kostowski explained it during the investor chat in 2016.

"*This is the business model applied by* **PlayWay**, *to have a large number of teams, check the market many times during the year with respect to the games which can be potential hits. I would like to remind you that Car Mechanic Simulator was a small game once, which earned millions of zlotys for the company. In our opinion, an idea is more important now than the production size, as it was the case for example with Minecraft.*"

PlayWay handles publishing, marketing and distribution issues. It cooperates with partners with respect to game development; usually with small studios. In addition, **PlayWay** continuously searches for new developers.

The website skillshot.pl continuously displays the announcement:
If you have an interesting idea for a game or you are already working on it and you need financing - contact us!
Selected projects (any genre and platform) will be financed, supported in production, tested for free, published and promoted by us.

Currently, the official website of the company states that **PlayWay** has 84 development teams who simultaneously work on 101 games. None of those productions would stand a comparison with the newest projects of **Techland** or **CD Projekt**. However, this is the company's way to achieve very good financial results.

In the report for the first quarter of 2020, the enterprise recognised PLN 23.7 million of net profit.

PlayWay, similarly to the majority of Polish companies developing games as products, offers some of its titles in boxed form. In 2019, the company announced that the release of *Car Mechanic Simulator* for consoles included 70 thousand boxes with the game. The same announcement included the data indicating a much higher sale of the digital version.

Game as a service

There are at least a few companies on the Polish market which move away from the traditional model of selling games as products. Those companies answered "yes" to the question whether they wish to share their games for free. We are talking about the game as a service here, although there are hybrids as well.

Some games can be purchased on the market for a full price typical of a game-product, but later you can still spend money inside it on micropayments, receiving a continuous stream of new content in return, aimed at grabbing the attention of the gamers. Such foreign productions include *FIFA* or *Tom Clancy's Rainbow Six Siege*.

The discussion of Polish developers of free games should begin with **Ten Square Games**.

Ten Square Games S.A.

On 24 August 2020, **Ten Square Games** published its quarterly report announcing PLN 170 million in revenues. It should convince the people who are sceptical about earning on free games.

The most important products of the studio include fishing games, *Fishing Clash, Let's Fish*, and hunting games *Wild Hunt* and *Let's Hunt*. Those are mobile and browser games. *Fishing Clash* is the most profitable. The report from August 2020 describes that game in the following way:

The game achieved record revenues again, amounting to PLN 158 million in the second quarter (+88% q/q, +266% YoY). The number of active users increased to 7 million in comparison to 3 million in the first quarter of this year and 1.5 million in the same period of the previous year.

In such a case, the *Balance* between the expenses spent on the development and marketing of the games is entirely different. When you compare the costs of development of *Fishing Clash* and *The Witcher 3* or even *Frostpunk*, the amounts are significantly lower. On the other hand, free-to-play games require more promotion expenditures. Such productions have to reach the maximum number of gamers. Why?

In the case of the majority of such games, the users instal a given title and spend only a few minutes playing. Those who play longer usually do not spend any money on micropayments anyway.

In the case of free-to-play games, the *Customer Acquisition Cost* (CAC) is a very important factor. It constitutes the average price which has to be paid in order to attract a customer to the product. The impact of that factor on the company's business can be found in the report for the first three quarters of 2019.

"In the period August-October, the revenues generated by Fishing Clash in each of the months exceeded PLN 20 million (PLN 20.4 million in August, PLN 20.7 million in September, achieving the record-high level of PLN 21.7 million in October 2019). The marketing expenses for that game amounted to approximately PLN 7.5 million in August and September, to PLN 6.1 million in October. A decrease of the marketing expenses in October is connected with "seasonality" of the market and higher marketing expenses on the side of e-commerce before Christmas and the related higher unitary costs of winning a user."

As you can see, promoting a popular browser game can cost a few million zlotys per month.

Cherrypick Games S.A.

Cherrypick Games is another Polish developer of free-to-play games which should be mentioned here. The company mainly produces mobile games. Such games have a significantly shorter development period. Therefore, starting from 2014, they released 20 games, which have been downloaded over 22 million times.

Mobile games cannot be released on physical carriers, for example because smartphones and tablets do not have disc readers and are adjusted to downloaded software from the Internet.

The company's portfolio includes such titles as *Touchdown Hero, My Spa Resort* and *Must Deliver*. In the second quarter of 2020, the company managed to achieve net revenues at the level of one million zlotys. Simultaneously, it recorded a net loss of PLN 470 thousand.

In the case of companies such as **Cherrypick Games**, the publisher is not necessary. The studios developing mobile games can usually publish them directly in **Google** Play and the App Store. It solves the problems connected with distribution. Publication of a game on one of those platforms means its globally available.

On the other hand, it obviously means sharing the profits with the platform owner and does not provide any promotional actions. Many developers of mobile games have to consider high marketing expenses, as described in the case of *Fishing Clash*.

Beginnings in the business

Young companies beginning the development of games in Poland usually copy one of the leading business models. The first is the production of the highest quality games as products, where the quality usually depends on the budget, followed by their sale in digital and physical form. Some of such companies join **PlayWay** or **11Bit**, who offer various forms of support in developing and publishing games.

Many young development studios search for a partner who would handle the publishing and distribution of the game. Those competences are often missing in the teams of beginners. As a rule, in time, such companies strive to become independent, acquiring some of the competences connected with promotion and distribution of their own games.

The second variant is the development of low-budget free-to-play games, often mobile ones. In such a case, the developer can work on more projects and develop only those which turn out to be promising. Simultaneously, it is possible to independently publish the games on digital distribution platforms such as Steam and **Google** Play, and then promote them using social networks.

The console barrier is gone

It should be noted at this point that the barrier, existing a few years ago, preventing the developers from being involved in the production of console games, is now gone. In 2007, when **Techland** released its shooter *Call of Juarez* for Xbox 360, it was a big step for the company. Paweł Marchewka mentioned it in the interview with the author of this report:
"*The console market was locked for a long time. In those times, you had to have the support of large publishers and they were not interested in publishing third party games. They had to be convinced that it was worth it. It could be an unpassable barrier.*"

Nowadays, publishing console games is available even to small Polish developers. Many of them choose **Nintendo** Switch. That hybrid platform is very friendly for smaller titles which are perfect for short gaming sessions, for example while travelling.

Polish games published for that exotic console include *We. The Revolution, Thief Simulator, Serial Cleaner, Hard West, Darkwood, Build a Bridge* and *911 Operator*. Those are only selected titles from the list which includes dozens of them. It is justified to say that the Polish developers are storming **Nintendo** Switch.

It can be connected with the fact that it is the youngest among the currently available consoles, which also became a commercial success. It meant a large market with the competition for a certain period being less intensive than on Steam, **Google** Play or consoles manufactured by **Microsoft** and **Sony**.

At the same time, bigger developers from Poland easily publish their games simultaneously for personal computers, **Sony** and **Microsoft** consoles. They are also planning to publish games for the new generation consoles, i.e., PlayStation 5, Xbox Series X and Series S.

On the one side, it is a positive change. On the other hand, you should remember that regardless of whether a console game was sold in physical or digital version, the console manufacturer has to receive its share, which obviously decreases the profits of a developer or a publisher.

Summary

Poland is a large producer of video games, consistent with global trends. Polish developers are successful in the production of games as products and games as services. It is clearly visible that, similarly to the rest of the world, the digital market constitutes the principal goal for the Polish enterprises.

Various Polish developers are in different stages of that process. **CD Projekt** generates approximately 15% of the revenues on physical versions, while **Ten Square Games** or **Cherrypick** do not sell boxed versions at all. Nevertheless, it is clear that the trend is going to be intensified. The only important question is - when will the process stop and what will be the size of the niche containing the traditional sales of the games?

At the same time, it can be noticed that many Polish developers make attempts to acquire as much of the "development-publishing-sales" chain as possible in order to obtain the maximum control over the process and simultaneously gain as much profit as possible.

However, it should be expressly mentioned that there is no company in Poland which managed to reach 100% of that control. Even **CD Projekt**, which uses its GOG.com store to sell the games to the end users, has to cooperate with digital distribution stores such as Steam, or with the console manufacturers such as **Microsoft**, **Sony** and **Nintendo**.

Other developers, even if they develop, publish and promote their games independently, also have to finally rely on third parties, such as Steam, which develop and deliver the products to the end-users.

1.5. The impact of the gaming development sector on the Polish economy

In Germany, creative industries, including development of video games, are called Kulturwirtschaft, which means a cultural industry or a cultural economy, and constitute an important revenue component of the economy - the expenditures of the consumers spent on games in 2019 exceeded EUR 6.2 billion. Games in Poland are included in the creative industries sector and it should be emphasised that this is one of the few production sectors with a comparable difference between import and export. How is that possible? While comparing two numbers - revenues of the sector generated on the basis of the expenses of the Polish consumers spent on games in the amount of PLN 2.23 billion in 2019 and the value of the Polish gamedev in 2019 at the level of PLN 1.75 billion, where approximately 96-97% of revenues on sales of games is generated outside of Poland, it can be noticed that import and export are *Balance*d.

Growing popularity of the games and the number of fans at the level of 16 million in 2019 means growing revenues and, therefore, taxes paid to the state budget. The list published by the Ministry of Finance in the Public Information Bulletin based on the returns of the corporate income tax payers, whose revenues in the accounting year exceeded EUR 50 million, in 2019 contained one company from the gaming sector - **CD Projekt S.A**[35]. The developers of *The Witcher* series and *Cyberpunk 2077* achieved revenues at the level of PLN 342.9 million in 2019, which was connected with payment of due taxes in the amount of PLN 8.34 million. Obviously while analysing the size of other industries and their contribution in the form of taxes paid to the state budget in comparison to the contribution of 447 companies from the gaming sector, its contribution is not that high.

However, the development of the Polish video game industry is generally important and provides indirect contribution as well. The principal advantage is related to image. High-budget games developed in Poland, such as *The Witcher* by **CD Projekt** or *Dying Light* by **Techland** are recognised on global markets and awarded the titles of the best games, so that you can even mention *"the Polish school of game development"*. Polish companies in the sector are perceived as innovative and effective. **CD Projekt** and **Techland** are not the only companies from the Polish gamedev. It includes nearly 447 [36] companies developing games and a few dozens of companies involved in the processes connected with production, distribution and promotion. Moreover, the Polish companies co-develop games for the largest international enterprises on the basis of outsourcing. Therefore, the video game industry creates jobs for specialists from the areas of programming, design, art, UX, animations, sound, dubbing, video, motion capture, specialised translations, product development, business development, financial analytics, PR, marketing and many others, who can be employed in the Polish companies and continue their careers locally. According to The European Game Developers Federation (EGDF)[37] in 2018, the Polish gaming sector employed 4,000 people. According to The Game Industry of Poland report 2020, the number of people employed in the sector increased to 10,000 people in 2019.

The impact of the video game industry on the economy is also visible in the consumer behaviours which are not directly related to purchasing games, expansions or micropayments. The gaming sector drives purchases of complementary products, such as processors, graphic cards, monitors, consoles, VR devices, TV sets, audio equipment, headphones, gadgets (for example series of products and clothing for children under the Minecraft licence), better smartphones or broadband Internet access. Although sales of the complementary products constitute an example of a direct contribution to the economy, it is not included in the revenues of the sector due to the consumers' expenses. In addition, the gaming sector affects the economy indirectly. Within the scope of gaming investments of R&D companies aimed at developing technological and service innovations for the needs of increasingly demanding games, those solutions are distributed to other sectors and have other applications, apart from entertainment. Such an exchange of new technological solutions catalysed by the innovative nature of the gaming sector and movement of human resources indirectly contribute to growth in the entire economy. Exchange of knowledge between the sectors drives every modern economy.

How can the development of the gaming sector be supported and how can the competitiveness of its participants be increased? Tax incentives for the production of cultural video games constitute as one of the solutions.

1.5.1. Tax incentives for the production of cultural video games - a possible solution in Poland

The Polish video game industry has undergone intensive growth in recent years. The global market perceives Polish productions as high quality, ambitious works. It also establishes the image of Poland as a country which provides good conditions for dynamical and innovative enterprises developing video games with a global reach. Considering the unexpected market development pace, additionally stimulated by growing demand for digital entertainment because of the lockdown caused by COVID-19, actions of the state within the tax and legal area of the gaming business become particularly important. Reasonable tax solutions may prevent an outflow of capital and qualified employees caused by low salaries to the markets characterised by a more advantageous tax ecosystem.

Tax incentive models for the developers of cultural content

The Polish tax system does not support cultural and creative industries through direct tax support mechanisms in the form of tax reliefs or allowances connected with the production of cultural content. In the subjective aspect, the above refers to the publishers of books, music and audio-visual producers, developers of video games and also private entities treating cultural products as capital investments. Poland is not competitive in relation to the countries who introduced such solutions. In the case of the production of TV series and films, tax solutions support investments in the United Kingdom, France, Spain and closer to us - in Hungary and Lithuania. Video games receive tax support in the United Kingdom, France, as well as certain provinces of Canada and states of the US.

Tax reliefs and allowances may be extremely important for the producers of cultural content while closing the production budgets. They allow filling the budget gap between the obtained capital and the final budget, and also make it possible to recover some of the resources spent on preparation and production of the content.

[35] Source: Ministry of Finance https://www.gov.pl/web/finanse/2019-indywidualne-dane-podatnikow-CIT
[36] *"Polish Gamedev 2019/2020"*, Kraków Technology Park
[37] EDGF, *Report on the European Games Industry in 2018*

From the point of view of the entire economy, introduction of solutions supporting production of cultural content significantly improves the operating conditions for the enterprises, attracts foreign capital and encourages infrastructure investments (equipment, software, buildings). Tax mechanisms increase the international competitiveness of the enterprises and contribute to the professionalisation of human resources in the country they are applied to. In the end, they lead to the continuous development of the country and its regions.

Within the scope of the tax mechanisms implemented around the world, there are three basic types of supporting the production of cultural content:
1. **tax shelter** - a solution addressed to private investors: natural persons and legal entities with high income who may designate their resources for financing of the cultural content and in return receive a bonus in the form of the possibility to deduct the expenses (investments) connected with such production from the taxation basis for income tax, for example through inclusion of such costs in the tax-deductible costs. An additional bonus may be the option of obtaining untaxed profits from the investments in the production of cultural content, i.e., profits from the functioning of a given video game, film, series or book. Such solutions related to audio-visual production are applied among others in Belgium and Lithuania, where the investors initially finance the costs of film production in return for tax benefits and a possible continuous return on investments.
2. **tax credit** - that solution is addressed directly to the producers (for example developers of video games) and comprises an option of additional deductions for the incurred costs of production/development - even up to 100% of the qualified expenses or a tax relief in cash form, which means a lower amount of due tax if the enterprise recorded profit, or payment of cash in the case of a loss. A producer of cultural content decreases the due tax through lowering the tax liabilities in the annual return corresponding to the qualified part of the expenses. If the tax to be paid is not sufficiently high to cover the entire tax credit, the remaining part may be deducted from income tax in the following years. Examples of the countries using tax credits, for example for audio-visual production and the development of video games include the United Kingdom, France, Canada and the United States.
3. **depreciation write-off** - in that model, the producers/developers may apply a beneficial depreciation write-off, creating additional resources for the production of cultural content and the development of infrastructure. The Write-off constitutes an element of tax-deductible costs, so they have a direct impact on the financial result and decrease the taxation basis. The taxpayers can use privileged depreciation write-offs concerning the structures and equipment connected with the production of the cultural content.

It should be noted that although the Polish tax system does not apply any incentives related to investing in production of the cultural content, the developers of video games use tax reliefs for research and development activities or donations for research and development financed from the EU funds. The above refers to a very small group of entities possessing the appropriate capital, infrastructure base and human resources required to conduct research and development work.

Foreign models

Legal and tax solutions directly supporting the development of video games are mainly applied in the countries which are included in the world's leadership with regard to the production of games, including the US, Canada, United Kingdom and France. More countries are working on the implementation of reliefs addressed to that sector.

Canada

Canada, or rather its specific provinces, have been the pioneers in supporting the development of the video game sector. The donation support is granted at the central level by the Canada Media Fund, but the developers of video games are more interested in using the tax reliefs on labour costs offered by the Canadian provinces. Because of that solution, within the settlement of the corporation tax (an equivalent of CIT), the developers may apply for reimbursement of a part of the labour costs, if the work is provided by people residing in specific provinces. The reimbursed amounts differ depending on the province.

In Quebec, the rate of the (Production of Multimedia Titles Tax Credit (PMTTC) amounts to 30% of the qualified employment costs and an additional 7.5% can be obtained in the case of simultaneously developing games in two languages - English and French. The above rate is applied to games designated for the commercial market and a wide audience. Niche productions or games using non-standard technologies, qualified as "other multimedia" may also receive a support in the form of 26.25% of the incurred qualified labour costs regardless of the language version.

The BC Interactive Digital Media Tax Credit in the British Columbia amounts to 17.5% and includes the labour costs for qualified employees in developing interactive digital products using at least two of the three media (i.e. writing, sound, image).

Other Canadian provinces followed in the steps of Quebec and British Columbia. Ontario introduced the Ontario Interactive Digital Media TAX Credit (OIDMTC), which allows deducting 40% of the labour costs without a maximum amount and deducting CAD 100 thousand for marketing and distribution expenses within the scope of interactive digital products for the companies with headquarters in the Ontario province. The tax relief for development of video games introduced in Nova Scotia allows deducting 35% of the corporate income tax.

The credits are applied in the business of the majority of game developers and contribute to attracting investments to the Canadian provinces. Apart from the deduction of a part of the labour costs within the scope of tax settlement, there are other, less universal tax reliefs, including reliefs for employment of foreign experts, discounts for training and costs of human resources management, tax reliefs for the investment of people in companies from the gaming sector. The general range of financial incentives applied in Canada by the government and provinces is carefully developed and implemented, effectively fulfilling the needs of the investors. The tax framework allows the sustainable development of the enterprises so that a stable and reliable offer needed by the investors is provided.

France

The tax incentives implemented by Quebec resulted in the movement of qualified employees from the French studios to Canada. Therefore, the first solution introduced in Europe in response to the decreased competitiveness of the European market at a global scale was the French tax relief for development of video games (Crédit d'impôt jeu vidéo), which was approved by the decision of the European Commission of 11 December 2007 on state aid C 47/06. The French solution constitutes a support mechanism for the creation of cultural video games, which can be used by the enterprises developing video games. France evaluates the cultural aspect of the games using the cultural test criteria such as the place where the costs arise, citizenship of the employees, originality of the ideas, reference to heritage, saturation with cultural content, publishing and technology innovation. A positive verification of a given video game in the cultural test ends with the issue of a certificate allowing tax deductions by the Centre national du cinema et de l'image animee. The certificate is issued twice:

- as a temporary certificate (*titre provisoire*) issued before the game is completed, allowing a tax credit in the amount of the incurred qualified expenses,
- as a final certificate (*titre definitif*) issued after the game is completed, finally approving the deduction of all qualified expenses, in the period not exceeding 36 months after the issue of the temporary certificate. If the period of 3 years is exceeded, the credit has to be returned.

The relief applied in France allows deducting the costs connected with the project and development of the game, such as:

1. labour costs (salaries and social insurance contributions), connected with the employment of key creative, technical and administrative employees, including programmers, script-writers and dialogue-writers, graphic artists, animation and sound specialists,
2. depreciation of fixed assets different than buildings, used directly in video games development,
3. other operating expenses, determined as the lump sum of 75% of the personnel costs.

From the moment of introducing the relief, France has been changing its parameters in order to adjust it to the market requirements. Among others, it lowered the threshold of budget for the games qualified to use the relief to the level of EUR 100,000 (2014) and then increased the incentive level from 20% to 30% (2016). The French government also conducted evaluations of the relief mechanism. The above confirmed its effectiveness in the form of, among others, limiting the movement of specialists and returning to location of workplaces in France by the key French developers of video games. The subcontracting of video games by Canadian and Asian subcontractors was restricted, which is noticeable for the sector of small and medium enterprises and indirectly benefits the entire French economy.

The second European country which decided to introduce tax incentives for production of cultural video games was the United Kingdom. In 2014, it introduced the *Video Game Tax Relief* (VGTR) at the level of 25% of the qualified costs connected with game development. The relief can only be used by the developers of games designated for commercial distribution among the wide audience, which can be classified as cultural British Video Games. The national certification can be obtained by the developer, but not the subcontractors. The certification is made by the *British Film Institute*, a government agency involved in supporting the production of films and other audio-visual cultural content. The verification includes assessment of the game using cultural criteria, which include the requirements regarding the cultural content contained in the game, production location and the employed specialists. The game obtains the certificate if it obtained at least half of the available points. The mechanism, similar to France, comprises two stages of verification of the cultural test criteria. There are temporary certificates which allow applying for certification before the game is completed. After completion of the game, the entity should apply for the final certificate.

The United Kingdom regularly publishes evaluation reports which demonstrate a number of positive effects of VGTR on the *British video game sector.* Among the numerous benefits of the instrument, the following are mentioned: increased employment in the sector (in particular among small and medium enterprises), more attractive production for the investors, more prototypes of games created (in particular based on own IP), decreased risk of producing ambitious titles, higher number of British titles on the market, better quality of the developed games (within the scope of innovative solutions, implementing developed narratives and game mechanics, as well as the artistic area), lower risk related to production of more games by the same developers because of easier access to the resources needed to maintain the enterprises between projects, higher marketing budgets allowing effective placement of the games on the market, increased number of games perceived as British from the cultural point of view, better care about the administrative aspect of the game development process (as a result of higher diligence related to the documentation necessary for correct settlement of the tax relief) and lower movement of qualified employees to Canada and France.

The benefits connected with introducing incentives in Canada, United Kingdom and France encouraged the development of such schemes in many other European countries, including Belgium, Italy, Denmark and Poland.

The proposed Polish solutions

In order to prevent negative economic consequences of the competitive advantages occurring on the foreign gaming markets, the Polish government planned to implement a tax relief for production of cultural games in 2019.

The draft version of the act on financial support for the development of cultural video games (UD 410), developed in 2018 and subject to social consultations, contained a solution constituting a response to the needs of the Polish video game industry. The qualitative research of the Polish developers conducted in 2017, whose results are presented in *The State of Polish Video Games Industry 2017*, mentioned tax reliefs for the enterprises as the most desirable and expected form of support for the Polish gaming sector. 63.7% of the surveyed companies indicated such a need as the most important guarantee of international competitiveness of the Polish market. As a result of the above, within the scope of the Sustainable Development Strategy, the Polish government adopted tax reliefs for the video games sector as one of the basic legislative tasks, next to the incentives for audio-visual production implemented into the Polish legal system in 2019. The legislative process was started and in October 2018 the draft version of the act was sent for social consultations and later on, in December 2019, for arrangements between the ministries. The ministries submitted their remarks to the project and the Legislative Council issued guidelines concerning the form of the regulations. Unfortunately, the Minister of Culture and National Heritage did not continue working on the project.

The basic goals of the act assumed that as a result of implementing a new tax mechanism, the conditions of business related to development of video games on the Polish market would improve, together with the conditions for investing foreign capital in development of video games in the territory of Poland. The above should be connected with the increased competitiveness of Polish enterprises, better technical potential and professionalisation of the developers, their personnel and service providers operating in Poland. The Ministry of Culture and National Heritage also mentioned image-related benefits for Poland, including the creation of the so-called soft power and promotion of Polish culture around the world. The benefits connected with tax reliefs were also indicated by the industry organisations, in particular the Polish Games Association and Indie Games Polska Foundation. The advantages of the solutions supporting the gaming sector have been discussed at the meetings of the Innovation Council operated by the Ministry of Development.

The project presented by the Ministry of Culture assumed the possibility of deducting the qualified costs from the income tax basis (PIT or CIT, depending on the legal form) by the enterprises involved in the development of cultural video games. It was assumed that the benefit would be used by the developers who are involved in all stages of game development: from the design to testing, who take the initiative and actually organise, conduct and bear the responsibility for creative, organisational and financial process of the video game development. The tax reliefs would refer to the enterprises with their headquarters in Poland and require demonstration of appropriate experience, which was defined in the draft version of the act as proving commercial distribution of at least one video game before submitting the application for support included in the mechanism.

An attempt to implement a legal definition of a video game constituted an interesting element of the project. It was suggested that a video game means software integrated with content elements, including forms of images or sounds, which enable the users to solve interactive tasks with entertainment or educational characters, based on a defined set of rules and shared using electronic devices equipped with an interface allowing interaction. The above was aimed at express separation of video games from the collection of digital cultural products, software and applications, in order to prevent the enterprises who do not develop video games from using tax reliefs. The proposed definition assumed that: 1) a video game is computer software, 2) a video game contains graphic art (graphics, animation, cut-scenes) and/or sound art (music and sound design), because development of a video game requires programming work and creative work on the content, narrative and the world presented in the game, and it may also include, to a various extent, mathematic algorithms, artificial intelligence scripts, codes, concept art, plans, process charts, 3D models, textures, illustrations, animations, rigs, sounds, music compositions, visual effects, lighting models, interactive and non-interactive cut-scenes, scrips, dialogues, translation, dubbing, interfaces, mission structures, 3) a video game is an electronic product presented using the dedicated devices containing an interface, which may include TV, monitor, mobile phone, tablet or console; simultaneously the production of electronic devices does not constitute an element of development of the video game, 4) a video game has to provide the user with the decision-making space within the proposed narrative, as well as controlling actions and events, the result of the gameplay must be uncertain and the gamer's actions must be performed on the basis of the rules determined in the game and have to impact the final result. The proposal of the Ministry, considered necessary, was one of the most extensively discussed elements of the regulation.

The act assumed support for the developers of video games, which use the Polish or the European cultural heritage, are innovative or culturally creative, and on the other hand are designated for commercial distribution. It excluded any support for a video game whose development assumed a different type of distribution, for example if the game was developed as promotional material for another product or service, or designated for free distribution in the educational facilities as educational material, or ordered by a public entity.

The verification of the cultural nature of the game was supposed to be conducted by the Minister of Culture and National Heritage or a cultural institution indicated by it and comprised controlling whether the game meets the criteria specified in the cultural test. The test was supposed to include criteria with the assigned points, including: use of the Polish or the European cultural heritage, innovative or culturally creative character of the game, development of the game in the Polish territory and involvement of Polish or European specialists. Detailed criteria defined by the minister in the dedicated regulation were supposed to control the occurrence of the initially defined elements within the scope of cultural content, such as presentation of the European cultural heritage (historical, artistic or scientific), the game taking place in a European country, identity and origin of the characters and their relation to the European culture, narrative in the video game, dialogues or subtitles in Polish, originality of the solution and use of the intellectual property, as well as the application of innovative elements. The criteria connected with using the production factors defined in the regulation were aimed at assessing whether the works on the game content (design, storyboarding, visual and sound elements) take place in Poland and whether the key persons employed in development of the game are the residents of the European Economic Area (project lead, scriptwriter, lead composer, person responsible for the graphic art, lead game designer). If a game developer applying for the support obtained at least a half of the available points, they would be qualified for use of the tax relief.

It was assumed that the financial support in the form of a tax relief cannot be granted for production of a video game, whose principal goal is connected with advertising or promoting a commercial product or service, a video game constituting a gambling game within the meaning of the act of 19 No-game constituting a gambling game within the meaning of the act of 19 November 2009 on gambling (Journal of Laws of 2018, item 165 as amended), a video game aimed at distribution of pornographic content, and a video game not designated for commercial distribution.

The scheme also included a minimum level of qualified costs which could be subject to financial support. Rights to a tax relief would be obtained by a video game developer whose budget contains qualified costs at least at the level of PLN 100 thousand.

A positive review of the criteria ended with granting a temporary certificate. From that moment, the enterprise could deduct the qualified costs from the taxation basis. Granting a tax privilege was connected with an entry to an open register containing the name of the enterprise, code name of the video game and the certificate validity. After completion of the development of a given cultural video game and its introduction on the market, the relief beneficiary was obliged to present a final report whose acceptance resulted in granting the final certificate. Within the scope of the final approval procedure related to the financial aid, the ministry of culture was supposed to determine whether the video game ultimately meets the cultural test criteria, whether it was finished and whether it was in commercial distribution for at least three months as of the date of submitting the report in accordance with the support terms.

Pursuant to the proposed regulations, the aid was supposed to be granted for three years. The project included the possibility of prolonging the right to the relief for two more years. Prolonging that period would be possible if the qualified costs in the basic support period amounted to one million zlotys.

The proposed mechanism contained the maximum level of deduction of 100% of qualified costs from the taxation basis. That solution was similar to the research and development relief applicable in the Polish legal system. The proposal of changes to the tax laws (PIT and CIT) introduced the catalogue of qualified costs directly connected with the development process of a cultural video game, in particular including those categories of costs which are incurred in the period of applying the relief and to the largest extent decide about the total costs of development of the game. They include salaries based on the employment contracts, commission contracts and specific task contracts together with the related social insurance contributions, the costs of acquiring services provided for the needs of video game development, the costs of purchasing materials directly connected with development, as well as depreciation write-offs on fixed assets and intangible fixed assets used for video game development, and the costs of creating formats allowing access to the game for disabled persons.

The prepared proposal for the sectoral relief was designed in a flexible manner from the point of view of the qualified costs deduction moment. Apart from the possibility of regularly deducting the costs based on the received temporary certificate, the taxpayers would be able to deduct qualified costs in the period of 6 years after the end of the relief's validity period. Such solution minimised the risk of rejection of the final report and simultaneously adjusted the benefits connected with support to the business cycle in the gaming sector, where the revenues are generated in the period after commercial distribution of the game and the developers often simultaneously conduct a few video game projects at various production stages.

The benefits connected with the implementation of the proposed solution

Together with the preparation of the draft version of the act, analyses have been conducted with respect to the impact of the proposed solution on the Polish economy. They were based on the report prepared by Pricewaterhouse Coopers entitled "Tax relief for cultural video games - Feasibility assessment of the public intervention of April 2017".

First, it was assumed that there would be a number of unmeasurable benefits for the video game industry, the Polish economy and the state budget. The relief would encourage investments of foreign companies in Poland and opening new development studios. For the developers, a beneficial and effective tax scheme would mean decreased operating costs of their business and would encourage the formation of new jobs. The Polish Games Association assessed that introduction of the tax relief for cultural games would result in beneficial conditions for foreign investments in Poland and that the Polish companies would be able to create high quality and highly paid jobs, which would attract foreign specialists to work in Poland and would prevent further outflow of the employees to the countries which introduced such relief or intend to do so. The relief would also constitute a factor contributing to the development of new global franchises similar to *The Witcher*. Increased expenditures on game development would contribute to the creation of better titles which would be able to compete with foreign franchises. The support would also mean indirect benefits for other industries. Because of the high interdisciplinarity of video game development, the tax relief would also be beneficial for script-writers, animators, actors, stuntmen and marketing specialists.

Second, it was estimated that because of the introduced solution, within 4 years after its implementation, approximately 50 new cultural video games would be developed using the proposed aid. The incentive would generate approximately PLN 560 million of new investments in the sector. Regardless of the nominally calculated decrease in the state budget caused by lower inflow of income taxes from the developers of video games within the scope of the supported titles at the level of approximately PLN 100 million, the state budget would benefit from the additional inflow of all taxes and the total benefit should amount to approximately PLN 130 million of additional budget proceeds.

Work continuation perspective

In 2020, because of the pandemic, numerous cultural societies asked the Minister of Finance for the introduction of solutions in the scope of income taxes and VAT, which would stimulate cultural goods consumption. The music sector was the first to submit its statement in that scope, which was later supported by the film, books and press sectors, as well as the Polish Chamber of Security. The general proposal referred to the option of deducting 50% of the value of the consumers expenditures spent on cultural goods from PIT up to the amount of PLN 1,000 per person during the year, according to the list of products and services agreed with the cultural environments, including among others purchasing cinema tickets, concert tickets, books and press. The concept developed by the Empower Poland Foundation assumed that stimulation of consumption of cultural products and services, resulting in increased expenditures of the consumers, would assure maintenance of the jobs in the cultural and creative sectors and securing the proceeds to the state connected with VAT, PIT and CIT. In the response prepared in September 2020, the Minister of Finance assured that the ministry is open to cooperation on developing the legal surrounding, which would reflect the specifics of the creative sector. He also stated that analyses regarding tax solutions promoting science, culture, art and sports are under analysis, in particular within the scope of the solutions which could contribute to better support the sectors through the involvement of sponsors and patrons. The above gives some hope that the proposal of the video game industry support in the model processed by the Ministry of Culture will be transferred to the Ministry of Finance for analytical work. It would constitute an opportunity for an actual competitive advantage of Poland in one of the world's fastest developing creative sectors. The project can be considered completed and ready for re-implementation in the legislative route.

Thronebreaker, CD Projekt RED

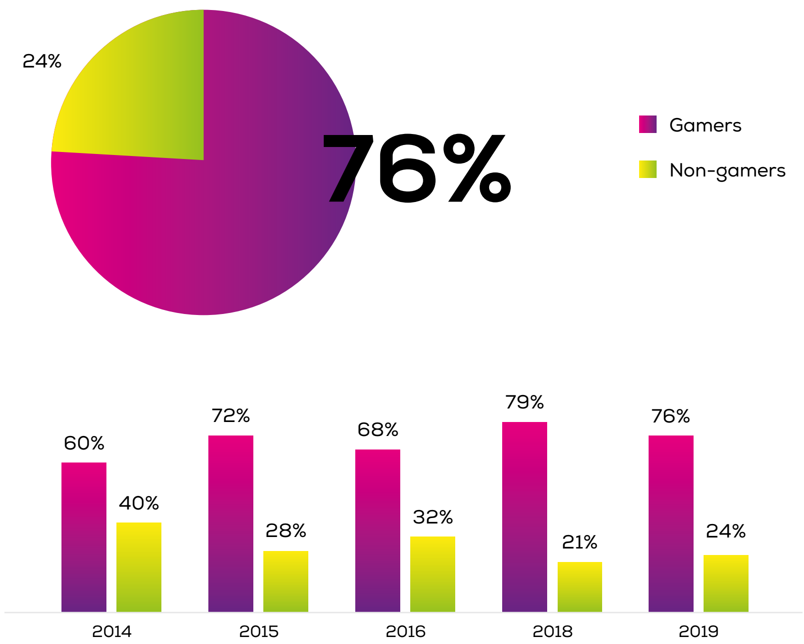
CHAPTER II

Profile of the Polish gamer

The sixth edition of the Polish Gamers Research allows a detailed analysis of the trends connected with the characteristics of Polish gamers. The project was launched in 2014 and it confirms that games have undoubtedly become a widely accepted entertainment form regardless of gender, age or social status. Gamers are not a homogeneous group. They are continuously expanding, which makes it even more important to determine the preferences related to specific categories from a business point of view. The Polish Gamers Research, developed for the last six years in cooperation with Kraków Technology Park and the Polish Gamers Observatory, is designated to serve that purpose.

2.1. How many gamers are there among Polish internet users?

Chart 2.1. The percentage of gamers among the Polish Internet users aged 15–65



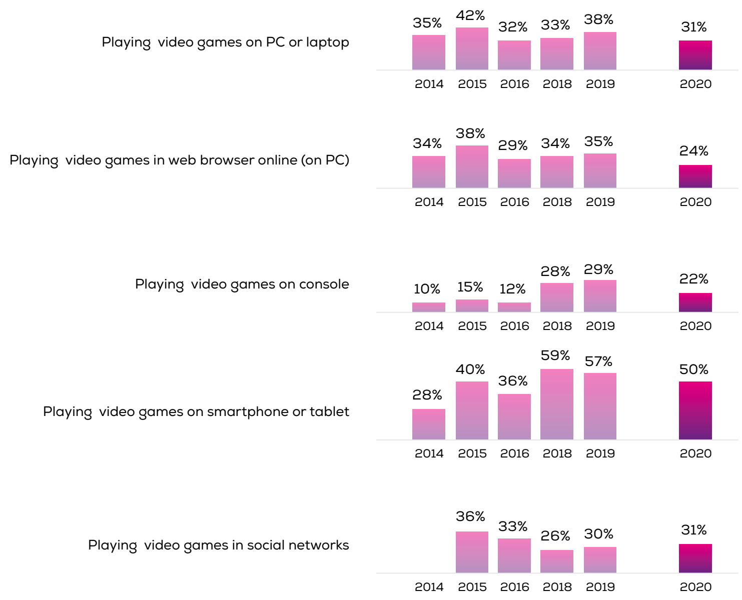
Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The survey conducted in the spring of 2020 indicates that over 3/4 of the Polish Internet users aged 15-65 have played a video game at least once within the recent month. Although a change of the research panel and continuous expansion of the test group by older gamers (aged 55-65) does not allow direct comparison with the previous editions of the research, a higher percentage of older gamers in the examined population proves further development of video games as one of the most popular entertainment forms in Poland. A comparison of the received percentage values with the data concerning the size of the population aged 15-65 and the percentage of the people with Internet access in Polish households allows an approximate estimation of the number of Polish gamers. According to the data from the "Demographic annual 2020" published at the end of July 2020, at the end of 2019, the population of Polish gamers aged 15-65 amounted to over 26 million[38]. Simultaneously, the percentage of households with Internet access increased to 83.1%[39]. Based on the above data, it can be estimated that until 2019, **the number of Polish gamers aged 15-65 was at the level of 16 million people**.

[38] Rocznik Demograficzny 2020 [Demographic Annual], https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2020,3,14.html.
[39] *Wykorzystanie technologii informacyjno-komunikacyjnych w jednostkach administracji publicznej, przedsiębiorstwach i gospodarstwach domowych w 2019 roku [The use of information and communication technologies in public administration entities, undertakings and households in 2019]* https://stat.gov.pl/obszary-tematyczne/nauka-i-technika-spoleczenstwo-informacyjne/spoleczenstwo-informacyjne/wykorzystanie-technologii-informacyjno-komunikacyjnych-w-jednostkach-administracji-publicznej-przedsiebiorstwach-i-gospodarstwach-domowych-w-2019-roku,3,18.html.

2.2. Which platforms do Polish gamers prefer?

Chart 2.2. The structure of gamers depending on the platform



Source: compiled based on the results of the Polish Gamers Research 2014 – 2020.

The extension of the test group and change of the research panel did not affect the leading position with respect to the most popular gaming platforms. Mobile devices (smartphones and tablets) have occupied that position since 2016, and they have been selected by half of the respondents in this year's edition of the research. Inclusion of the preferences of the oldest surveyed group (gamers aged 55-65) resulted in a general decrease of popularity of specific platforms except the games available on social media, which have been selected by the entire tested population as often as games installed on personal computers and laptops. Older gamers do not frequently use consoles. The biggest decrease has been recorded for browser games. Similarly, as on other markets, also in Poland, that group of gamers has been moving to mobile devices very quickly.

2.3. The gender of Polish gamers. What are women playing - what are men playing?

The deterioration of the stereotypical image of a male gamer in Polish public opinion has been a long-term process taking place for many years. For the last six years when the Polish Gamers Research has been conducted, the data generated effectively contributed to the elimination of gender stereotypes among gamers. It could be noted that the trends connected with gaming have been repetitive within the last five years, while on average, women constitute nearly half of all gamers, with minor deviations depending on the research edition. Those results are consistent with the general findings. The share of women in the global Gamer community is significant; in the case of the Asian market, the female community focused on mobile devices is growing faster than the male community. According to Newzoo, in 2017 women constituted 46% of all gamers in the surveyed Internet population aged 10-65 in 13 countries (United States, Canada, United Kingdom, Germany, France, Spain, Italy, Netherlands, Belgium, Poland, Turkey, China, Japan, South Korea)[40].

An analysis of gaming habits depending on gender is very important for understanding the differences in consumer choices and the appropriate adjustment of product or marketing strategies.

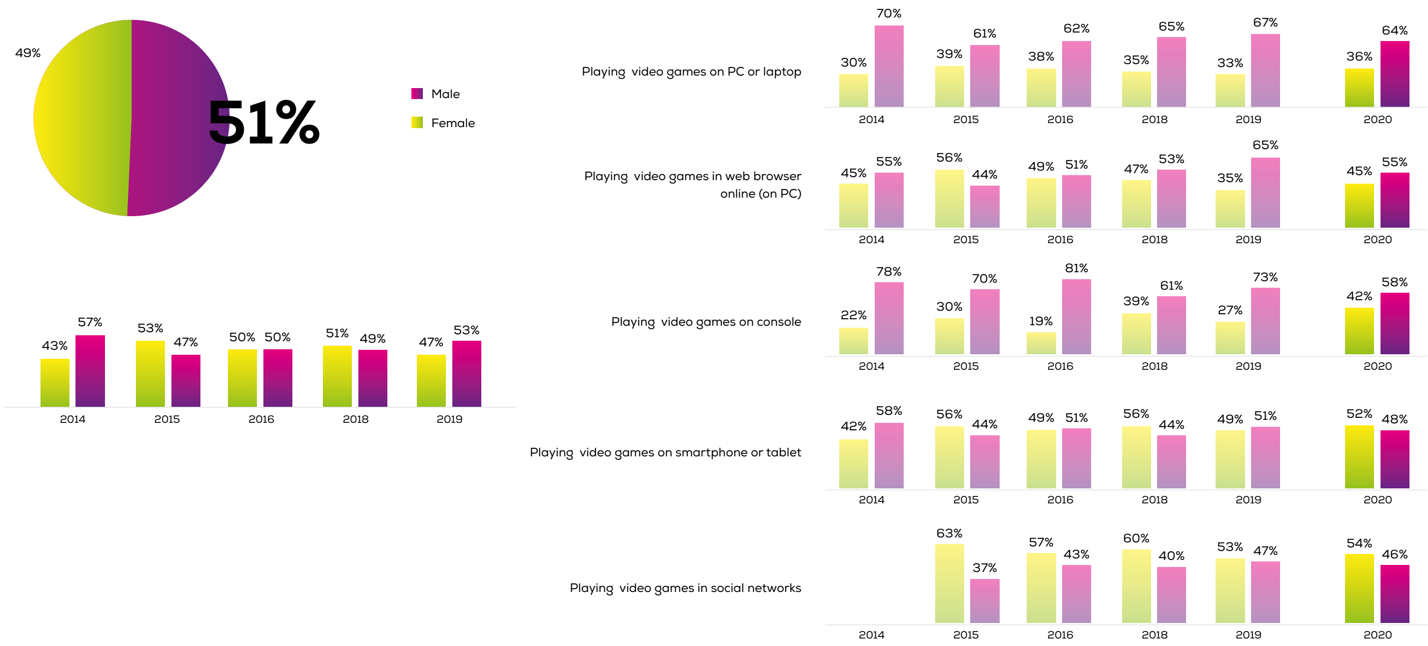
The recent edition of Polish Gamers Research indicates that men are a slight majority among the Polish gamer community, which is composed of 51% males and 49% females.

The share of women playing on all five platforms increased in 2020 in comparison to the previous years. The above proves that Polish women play more often and are also cross-platform gamers[41]. Women dominate the mobile platform, where they constitute 52% of all gamers, as well as the social media platform (54%). It should also be noted that the number of Polish women using consoles increased significantly from 27% in 2019 to 42% in 2020. That result was affected, among others, by the lockdown caused by the COVID-19 pandemic and the general increase of gaming frequency by 1/3 of adult Poles.

Males are traditionally dominating in the case of games installed on personal computers (64%), consoles (58%) and browser games (55%); nevertheless, the share of male gamers on those platforms is lower than in the previous years.

[40] Newzoo, *Male and Female Gamers: How Their Similarities and Differences Shape the Games Market*, https://newzoo.com/insights/articles/male-and-female-gamers-how-their-similarities-and-differences-shape-the-games-market.
[41] Cross-platform refers to the functionality allowing multi-player gaming for people using different platforms or using games on multiple platforms.

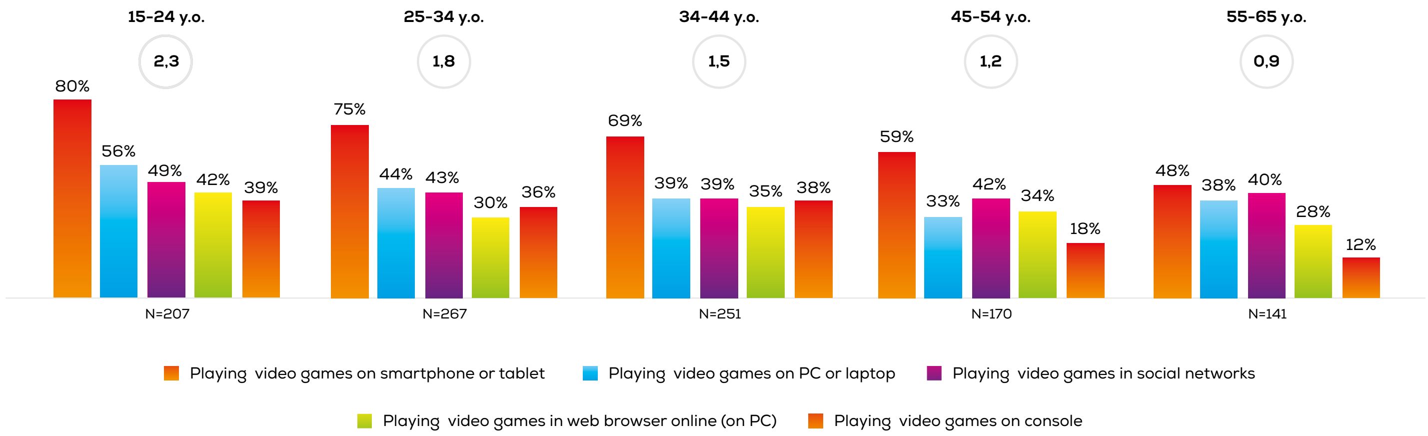
Chart 2.3. The gender of Polish gamers



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

2.4. Age of Polish gamers

Chart 2.4. Age of Polish gamers



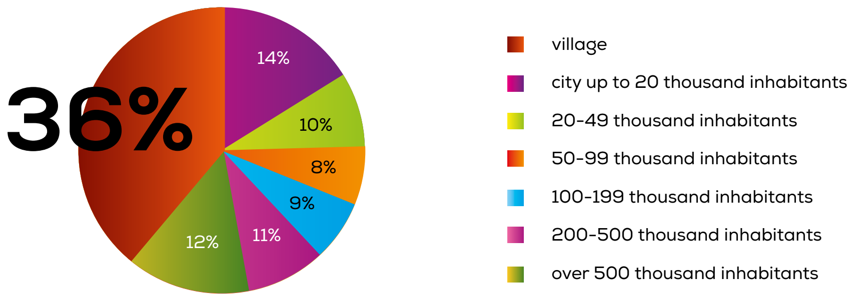
Source: own development based on the results of the Polish Gamers Research 2020.

The sixth edition of Polish Gamers Research brought a significant change in the method of presenting the results regarding the age of Polish gamers. Instead of average values for all age brackets, the results are currently presented separately for each of the age groups. Additionally, an average number of platforms used by the gamers in a given age group has been added. The users in the age bracket 15–24 usually use two platforms. The majority (80%) uses mobile platforms, which is consistent with the international trends of that platform's domination. 56% of them also play on personal computers or laptops, and only 39% chose consoles.

In the next age brackets, the percentage share of specific platforms decreases, although mobile games still remain in the leading position. It should be noted that console games are significantly less popular among the two upper age groups – only 18% of the respondents aged 45–54 and 12% of the respondents aged 55–65 use that platform. In the case of the oldest gamers, it should be noted that if those people play video games, they usually do it using one specific platform.

2.5. Where do Polish gamers live?

Chart 2.5. Profile of Polish gamers by home & financial situation



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

While analysing the recent results of Polish Gamers Research 2020 with respect to the place of residence, an increase in the share of the dominating group, i.e., the people living in rural areas, have been noticed. In 2019 it was 33%, while in 2020 - 36%. In total, 50% of the gamers live in the areas up to 20,000 inhabitants. The gamers living in cities with over 500,000 constitute 12% of the respondents, which is 4 percentage points less than in 2019. In general, this year's distribution of gamers does not significantly differ from the profile of a Polish Internet user aged 15-65.

2.6. What is the financial situation of Polish gamers?

Chart 2.6. Financial situation of Polish gamers

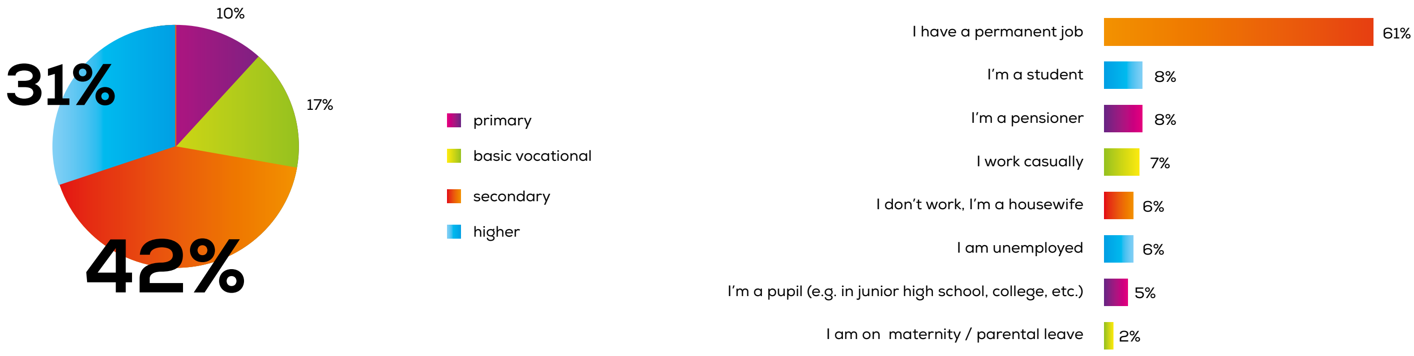
Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

Polish gamers have been asked to assess their financial situation by choosing one of the six available answers. While comparing the Polish Gamers Research 2020 with the third edition of the household mood study of the Polish Development Fund and the Polish Economic Institute[42], it should be noted that more gamers (84%) than Poles in general (71%) positively assess their financial situation. 47% of the surveyed gamers assessed their financial situation as "rather good" stating that they had enough money for everyday needs, but they could not afford more. 35% of the respondents stated that they had enough money for all expenses and were able to save some up. 2% of the gamers stated that they were wealthy and did not have to save up, even for larger expenses. 12% of the respondents assessed their financial situation as poor and the share of the people who admitted that they "did not have enough money even for the most urgent needs" amounted to 3%. This is a significant shift compared to 2019, when 24% of the Polish gamers assessed their financial situation as poor.

[42] The survey conducted upon request of the Polish Development Fund and the Polish Economic Institute by IBRiS on 24-26 August 2020 using computer assisted telephone interviews (CATI) with the random sample of 1098 people.

2.7. What is the level of Polish gamers' education?

Chart 2.7. Profile of Polish gamers by education & profession

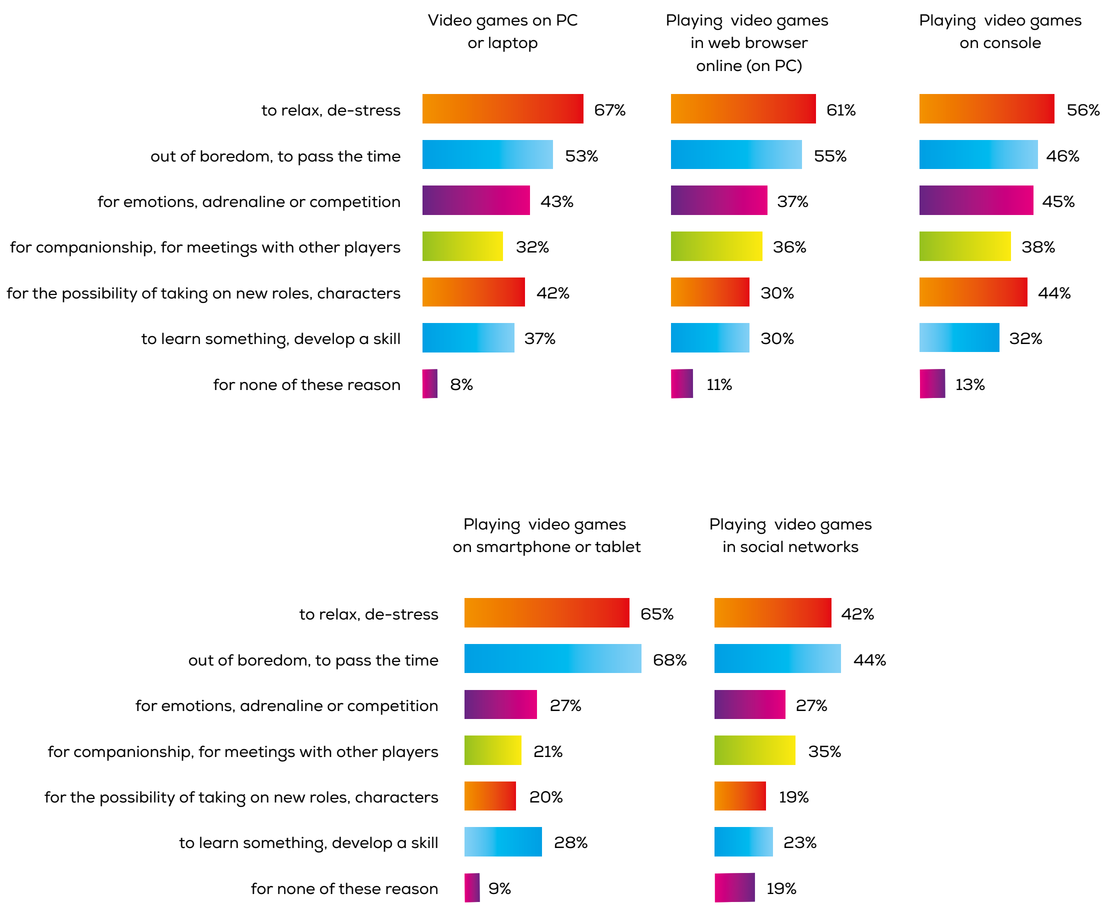


Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

While analysing the education level of the respondents, it should be noted that the share of gamers with a higher education decreased by 4 percentage points in comparison to 2019, while the share of gamers with secondary education increased by the same value. Gamers with secondary education constitute a dominating group of 42%. The share of gamers with primary and gymnasium education remains the same in comparison to 2019 (27%).

2.8. What is the motivation behind playing?

Chart 2.8. Motivation behind using particular platforms



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The respondents were asked about the reasons why they play video games. Similarly, as in the previous edition of the research, it is not competition that motivates the gamers, but rather the need to relax and handle stress. The above is the most frequent answer in the case of three among five platforms, i.e., games for personal computers, browsers and consoles. Relaxing and de-stressing as the dominant motivation has been indicated by 67% of the respondents playing games on personal computers, which constitutes an increase by 12 percentage points in comparison to the answers given in 2019.

Such response has also been given by 61% of the gamers playing browser games. In that case, the increase when compared to the previous edition of Polish Gamers Research reached 21 percentage points. 65% gamers using mobile platforms and 42% of gamers using social media platforms also stated that they played in order to relax, although it has not been the primary motivation. Nevertheless, there was an increase of 9 and 10 percentage points, as appropriate, when compared to the previous year. That response was also the most popular among the gamers using mobile platforms (46%) in 2019, although next year it has been replaced by passing the time (68%, increase by 24 percentage points YoY). The above is the highest ratio of answers for all platforms. The next groups of gamers who play out of boredom and to pass the time are the users of browser games (55%, increase by 17 percentage points YoY), games installed on personal computers (53%, increase by 7 percentage points YoY), console games (46%, increase by 13 percentage points YoY) and games in social networks (44%, increase by 13 percentage points YoY).

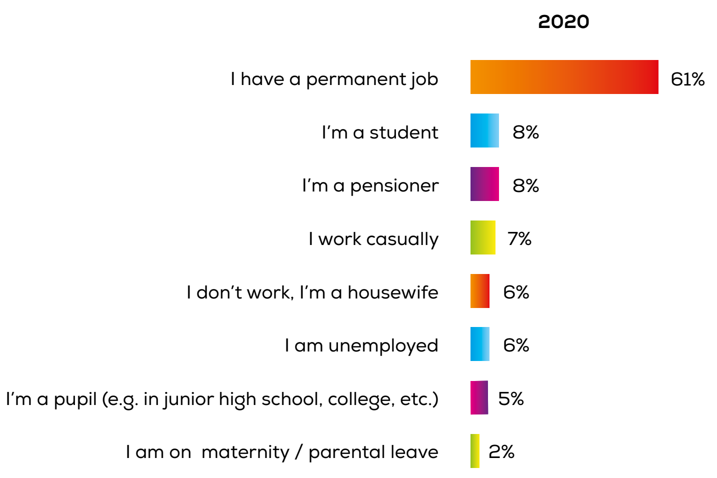
For 45% of console gamers and 43% of PC gamers, playing provides adrenaline and emotions.

The share of gamers whose principal motivation was to meet with other players significantly increased during the lockdown. Even among the gamers preferring single player mode, who have traditionally been the majority on mobile and social media platforms, a significant increase has been noted in the answers indicating the need to meet with other players. Such motivation was indicated by 35% of the users of social media, such as Facebook or nk.pl (increase by 7 percentage points YoY) and 21% of mobile gamers (increase by 8 percentage points YoY). A slightly lower increase occurred for browser, console and personal computer games. In the case of those three platforms, the level of motivation connected with searching for companionship in games remained at the level over 30%, similarly as in 2019.

Similarly, as in the previous years, gamers using personal computers (42%) and consoles (44%) most frequently play to take on new roles and characters. It should also be noted that this motivation increased among the gamers using mobile platforms (20%, increase by 7 percentage points YOY) and social media (30%, increase by 11 percentage points YOY), which may prove the growing expectations of those gamers, as well as higher complexity of the games.

2.9. What is the occupational status of Polish gamers?

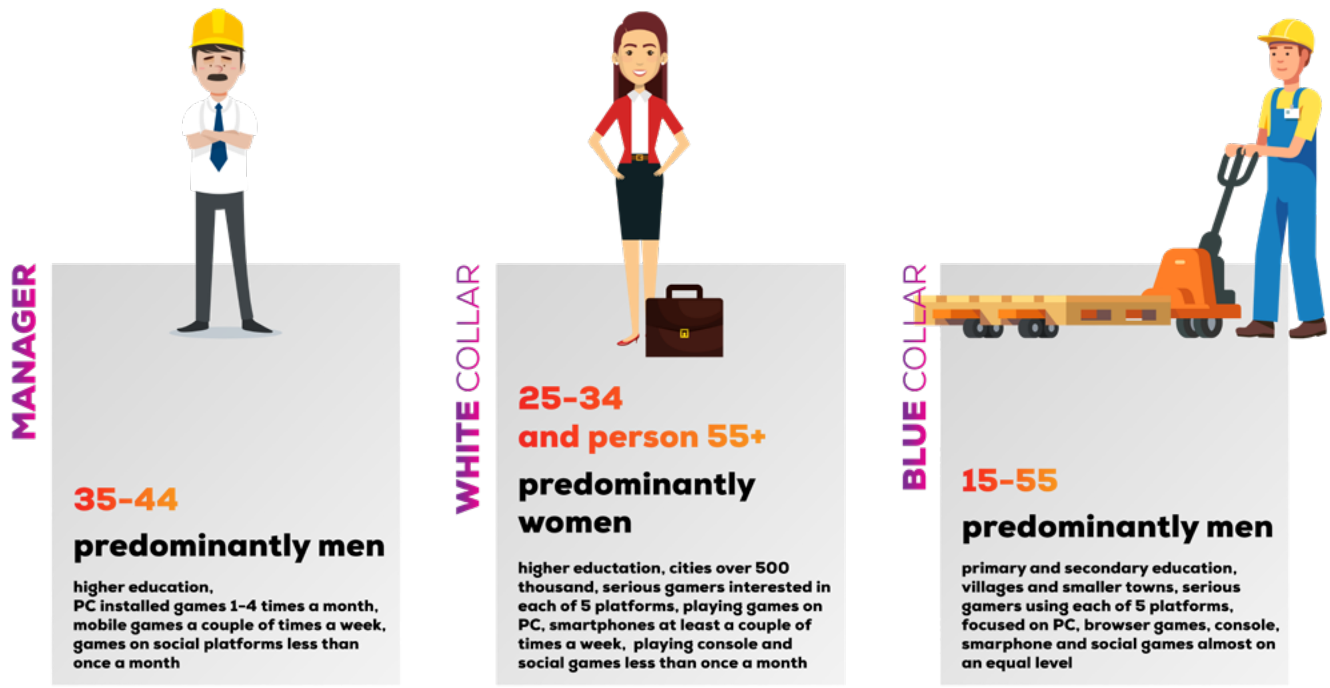
Chart 2.9. Profile of Polish gamers by profession



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

Together with the ageing of the gamer population, the share of those with permanent jobs increases. In 2020, 61% of the respondents aged 15–65 was permanently employed, which means an increase by 10 percentage points in comparison to 2019. That trend is particularly important from the point of view of the purchasing power of Polish gamers. 8% of Polish gamers are students and pensioners. 6% are unemployed or homemakers. 7% of gamers work casually. 5% of the respondents are still in school and 2% on parental leaves.

Rysunek 2.1. The profile of Polish gamers by profession: managers, white collar and blue collar.



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

Three professional profiles of gamers have been distinguished for the needs of the research, i.e., managers, white-collar workers (clerks, office employees) and blue-collar workers (physical workers) and combined with the habits connected with gaming.

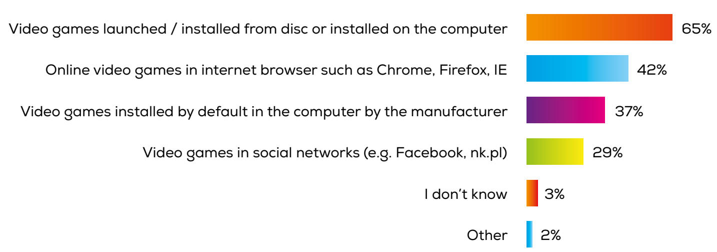
Managers are usually male, aged 35-44, and install from 1 to 4 games on their computers within one month. They also play mobile games a few times a week.

The majority of white-collar are women with higher education who live in the cities with over 500,000 inhabitants. White-collars are an interesting case of gamers, because they include two different age groups. The first are the people aged 25-34, and the other - gamers over 55 years of age. Although white-collars use various platforms, they generally prefer personal computers and mobile devices (smartphones and tablets).

The third profile, blue-collars, principally include men aged 15-55, with primary or secondary education. They come from smaller towns and rural areas. That group should be carefully observed by the producers and people responsible for marketing and acquisition because they use multiple platforms and are highly involved in electronic entertainment. Blue-collars are the most active group of Polish gamers.

2.10. Characteristics of PC gamers

Chart 2.10.1. Types of games played on personal computers



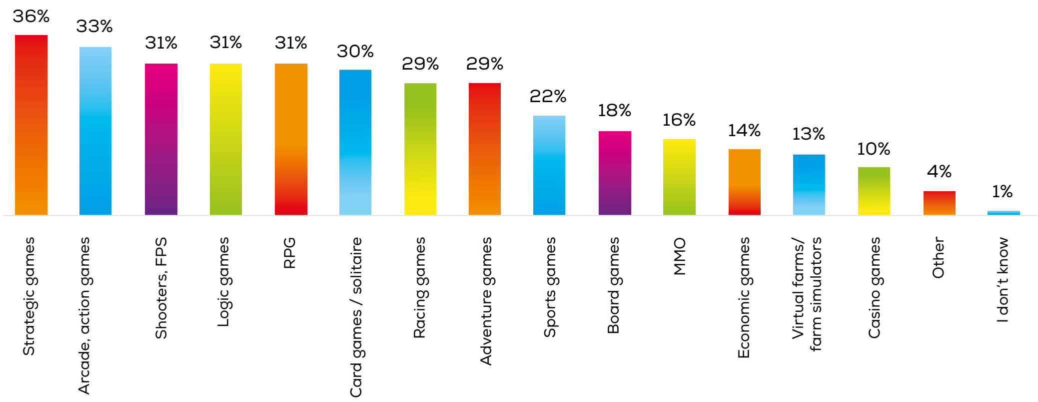
Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

This year's edition contains a different presentation of the data in relation to previous years. Instead of a joint presentation of the data (as in the years 2014–2019) for all platforms, the present edition of the research contains an analysis and description of the data for each of the platforms.

In 2020, personal computers have been indicated by 31% of the respondents, which constitutes 7 percentage points less than in 2019. Considering the nature of the Polish gaming market, it would have been surprising even five years ago. However, the expansion of the mobile platform causes a decrease in PC gaming popularity.

65% of the respondents playing video games on personal computers stated that they usually used games installed on their devices using a physical data carrier or downloaded from the Internet. As much as 42% of gamers choose the games available in Internet browsers. Apart from that, games pre-installed on personal computers, such as MineSweeper or Chess, are also very popular. Such entertainment form is chosen by 37% of Polish gamers. 29% of the respondents used games available on social networks, such as Facebook or nk.pl.

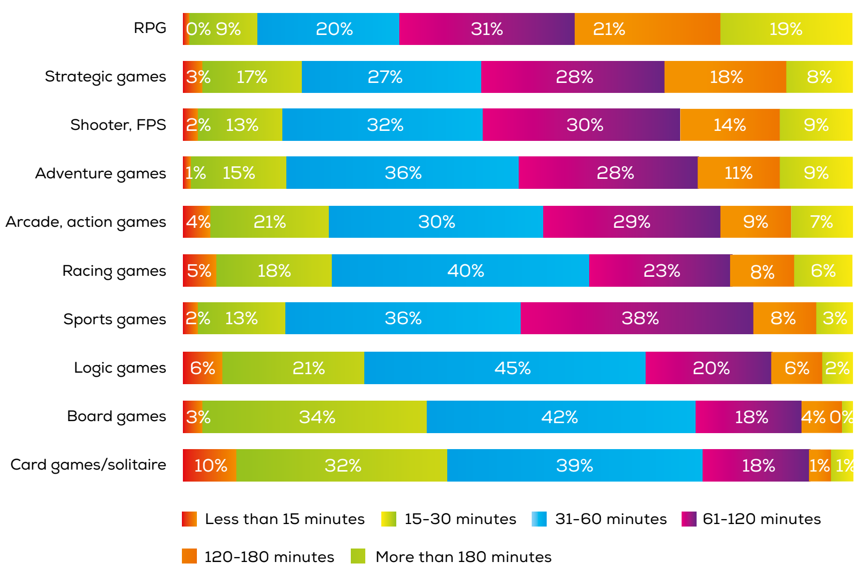
Chart. 2.10.2. Gaming habits for games played on PC. Popularity of gaming genres



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

In the case of games installed on personal computers as the original gaming platform, five genres from among the fourteen distinguished in the research achieved the result of 30% or higher. Polish gamers using that platform are most interested in strategic games, arcade and action games, shooters and logic games. High results have also been recorded for card games (30%), racing games (29%) and adventure games (29%). Farm simulators and casino games are the least interesting for personal computer users.

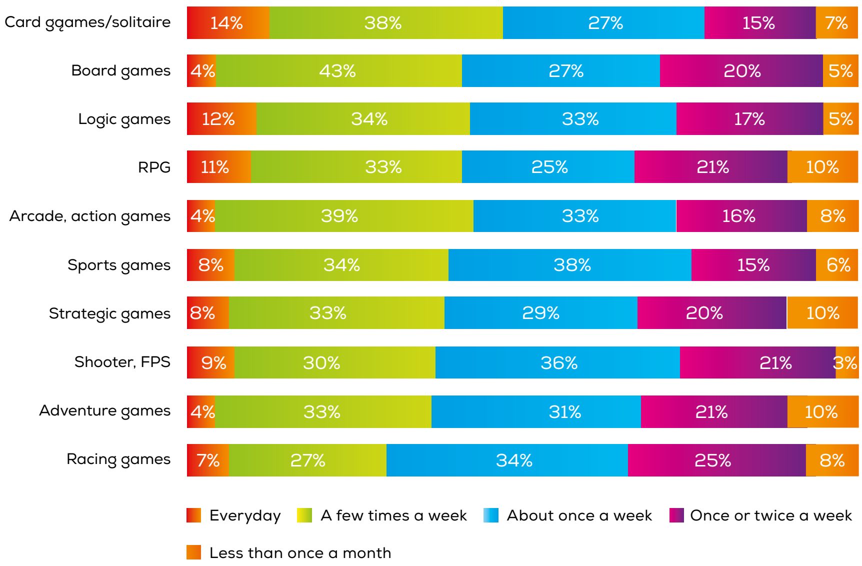
Chart 2.10.3. Gaming habits for games played on PC. Duration of a single gaming session



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The respondents participating in the Polish Gamers Research 2020 were asked about the duration of a single gaming session in the case of games installed on personal computers. The results expressly prove that the fans of RPG spend the longest periods gaming. They can spend 3 hours in front of their computers during a single session. Regardless of the genre, the majority of Polish gamers spend from 30 to 180 minutes on a single gaming session. Logic, card and casino games are an exception because the gamers spend from 15 minutes to one hour on a single session.

Chart 2.10.4. Gaming habits for games played on PC. Gaming frequency

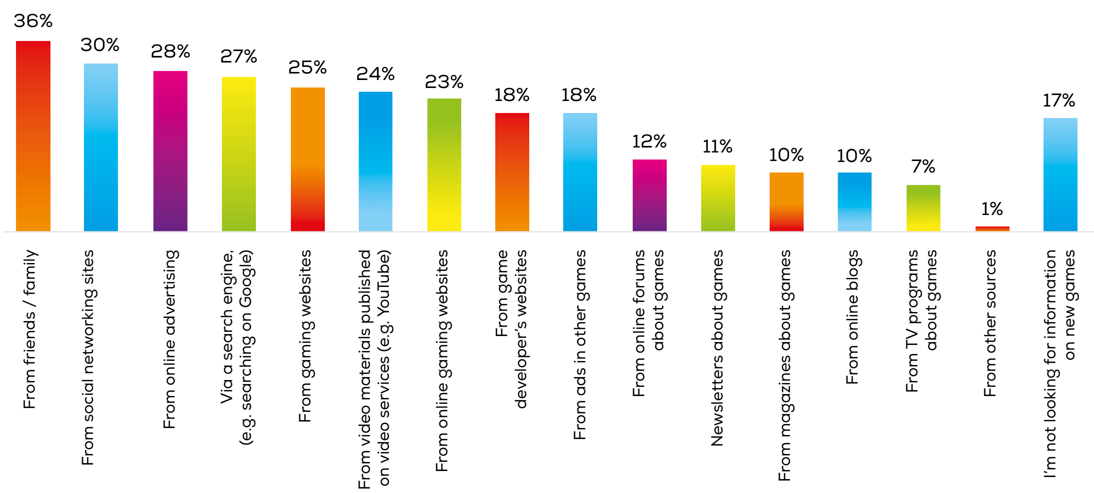


Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

When considering the playing frequency, card games are the most engaging. That type of games is played every day by 14% of Poles and a few times a week by 38%, however, when compared to the results of the Polish Gamers Research for 2019, a decrease was observed with respect to card games. In 2019, 24% of the fans of card/solitaire games played every day and 40% - a few times a week.

A similar level of interest was expressed towards logic games played every day by 12% of the Poles (decrease by 4 percentage points YoY) and by a few times a week by 34% (decrease by 2 percentage points YoY). In 2019, 21% of the respondents mentioned RPG among the genres played every day. Next year, that share decreased to 11%. At the same time, the group playing RPGs a few times a week increased from 21% in 2019 to 33% in 2020.

Chart 2.10.5. Gaming habits for games played on PC. Sources of information about games



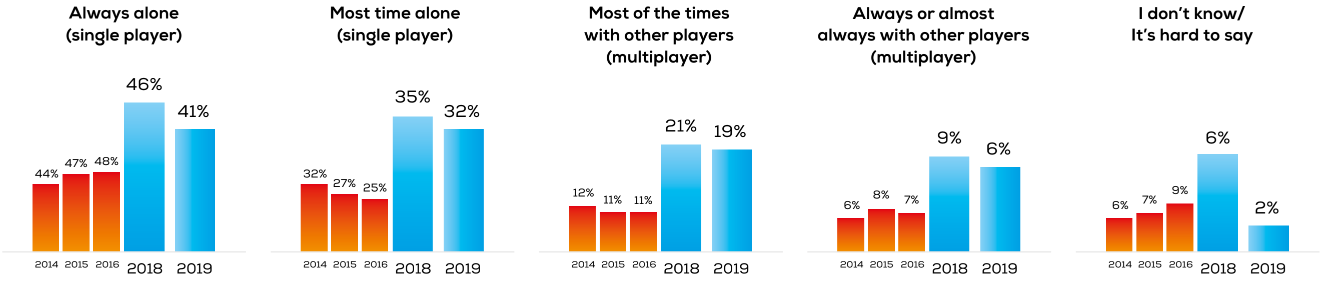
Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

Although there are many generally available sources of information about games and the upcoming releases, many Polish gamers playing on personal computers still obtain such knowledge from friends and family as the first source (36%). After word of mouth, the second most popular source of information is the Internet. 30% of the respondents learn about new games from social media and 28% from online advertisements. 27% of the respondents obtain such information using web browsers, for example searching for the phrases that interest them on **Google**. When compared to *The State of Polish Video Games Industry 2017*, the share of people who learn about new games through visiting specialised websites increased from 14% to 25%. 24% of the respondents stated that they learned about new games from the materials published on video platforms and services, such as YouTube.

Within the scope of traditional information sources, gaming magazines are the first choice (10%). 7% of the respondents obtain knowledge about new games for personal computers from TV programmes connected with video games, for example at the Polsat Games channel. It should be noted that the share of the gamers who do not search for information about games at all decreased from 34% in 2017 to 17% in the present research, which proves openness to gaining knowledge about games from external information sources (which can be effectively used by the producers).

The annual surveys conducted since 2014 indicate that the majority of Polish gamers using all five platforms prefer single player mode games.

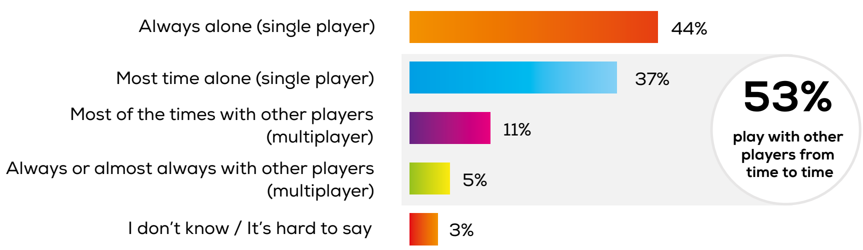
Chart 2.10.6. The habits of Polish gamers. The gaming style for all gamers. Playing alone or with other people. Research results for 2014–2019



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The historical data for 2014–2019 presented the gaming style for all gamers on specific platforms in reference to other participating gamers or lack thereof. In connection with the change of data presentation in 2020 and withdrawing from joint results for all gamers for the benefit of gamers using specific platforms, it has been noticed that PC gamers usually play alone.

Chart 2.10.7. Gaming habits for games played on PC. Gaming style. Playing alone or with other people



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

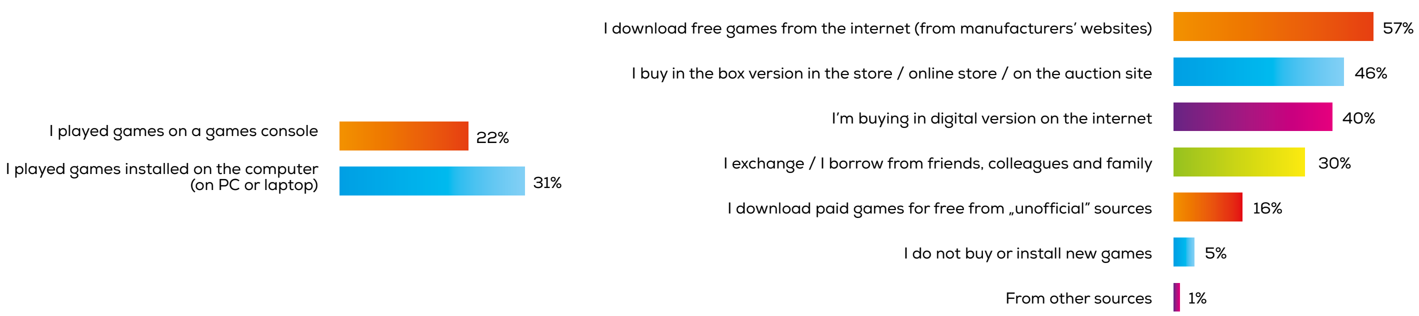
44% of all PC gamers always use single-player mode. 37% of the respondents usually use single-player mode, but they sometimes engage in multi-player mode. Only 16% of the gamers always or usually chose multiplayer mode.

Among the people declaring to use multiplayer mode, sports games such as *FIFA* or *Need for Speed* are the most popular (32%). Shooters such as *Counter Strike, Overwatch, Battlefield* or *Call of Duty* are the second most often mentioned genre, selected by 30% of the respondents. 25% of the people playing on personal computers competes with other gamers in war games such as *World of Tanks* or strategic games such as *Starcraft 2*.

Chart 2.10.8. Gaming habits for games played on PC. PC gaming style. Genres chosen for multiplayer mode

Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

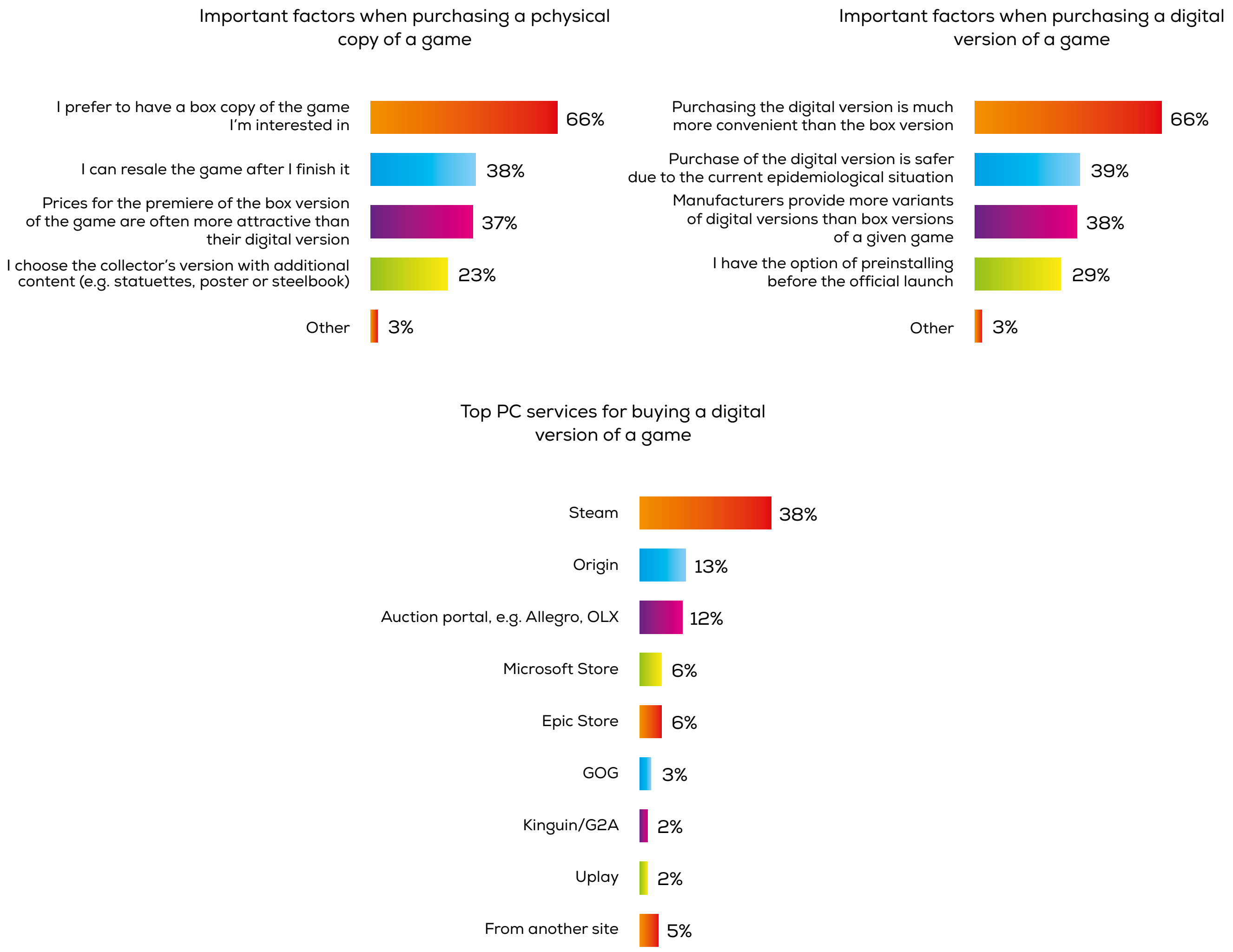
Chart 2.10.9. Gaming habits for games played on PC. How do Polish gamers get new games?



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The habits of Poles using consoles and personal computers related to obtaining new games are trending towards obtaining free games. The prices of games at the level of those applied in Western Europe still constitute an obstacle for Polish gamers. This year's research proves that 57% respondents download free games from the Internet. Moreover, a traditional distribution still prevails (46%) over digital distribution (40%). Exchange of games between friends and family is an interesting phenomenon on the Polish market. 30% of the respondents obtain new games that way and that form of redistribution is becoming increasingly popular. 16% of the respondents admit stealing intellectual property and downloading pirate games from illegal sources, which constitutes a decrease by 5 percentage points in comparison to 2019. 5% of the respondents do not buy new games at all.

Chart 2.10.10. Gaming habits for games played on PC. Physical or digital distribution?



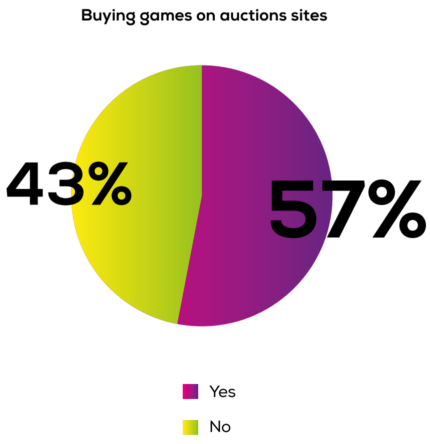
Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

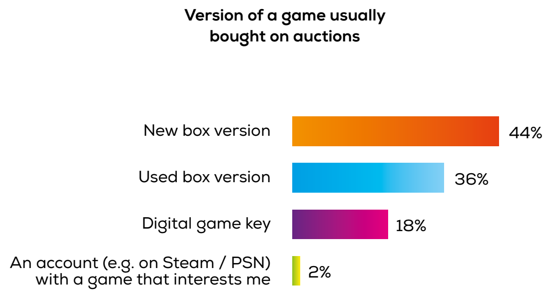
The present research has been expanded by questions concerning significant factors affecting the decision to purchase physical or digital versions of games for personal computers. The most important argument for 66% of the gamers choosing a physical version is that they obtain a tangible item. The second most important reason for purchasing a physical version for 38% of Poles is that they can resell it later. According to 37% of the respondents, the prices of physical versions are more attractive than those of digital ones. The collectors purchasing physical versions of games because of the additional content such a books or collectible figures constitute only 23% of all respondents.

What are the arguments for purchasing digital versions in the case of personal computer and console gamers? 66% of the respondents think that purchasing a digital version is much more convenient. During the coronavirus pandemic, the safety issues are also important, which has been mentioned by 39% of the respondents. 38% of the gamers notice that digital versions are offered in more variants than the physical versions. There are also the so-called impatient customers who constitute 29% of the respondents and choose the digital versions because of the preinstallation option before the game is officially released.

Steam remains the most popular purchasing platform for the gamers using personal computers who purchase digital versions (38%). Origin has been indicated by 13% of the respondents. Popular auction portals, such as Allegro, eBay or OLX are slightly less popular (12%). **Microsoft** Store and Epic Game Store have been indicated by 6% of the gamers. The last store has been famous not only for the popular *Fortnite Battle Royale* game published by **Epic Games**, but also because of a conflict with **Apple** resulting in removing *Fortnite* from the **Apple** Store, as well as an aggressive policy of sharing popular paid versions of games for free. GOG owned by **CD Projekt** has been indicated only by 3% of the respondents and Uplay, a digital distribution platform of **Ubisoft**, by 2%.

Chart 2.10.11. Gaming habits for games played on PC. The popularity of physical and digital versions of games on auction sites



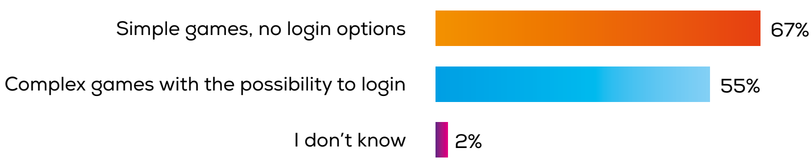


Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

57% of the respondents choosing both digital and physical versions of games decide to purchase them on auction sites. It should be noted that Poles often search for physical versions of new games on auction sites, but they are interested in used games as well. Only 18% of the gamers purchase digital keys, while 2% admits to purchasing accounts for Steam or PSN (PlayStation Network) which is illegal within the light of, among others, Polish law.

2.11. Characteristics of browser platform and gamers playing browser games

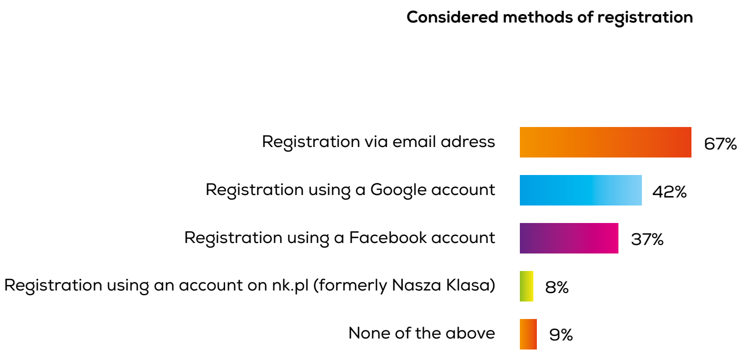
Chart 2.11.1. Gaming habits related to browser-based games. Types of games

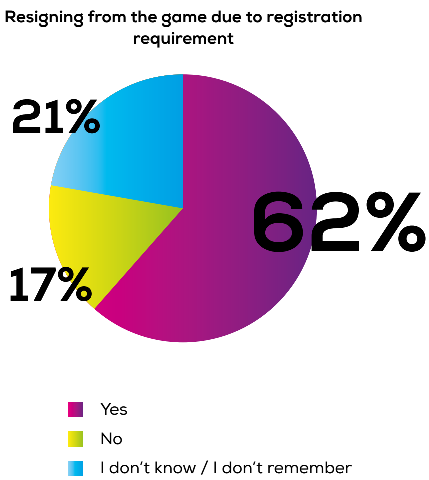


Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The majority of Polish gamers who declare that they play browser games select simple productions which do not require logging in. The result of 67% at that platform should not be surprising considering that the respondents devote in average from 15 to 60 minutes for a single session of such games. Apart from the above, registration constitutes a problem for some people, in particular if it is complex and requires the provision of sensitive data.

Chart 2.11.2. Gaming habits related to browser-based games. Resigning from registration and accepted registration forms



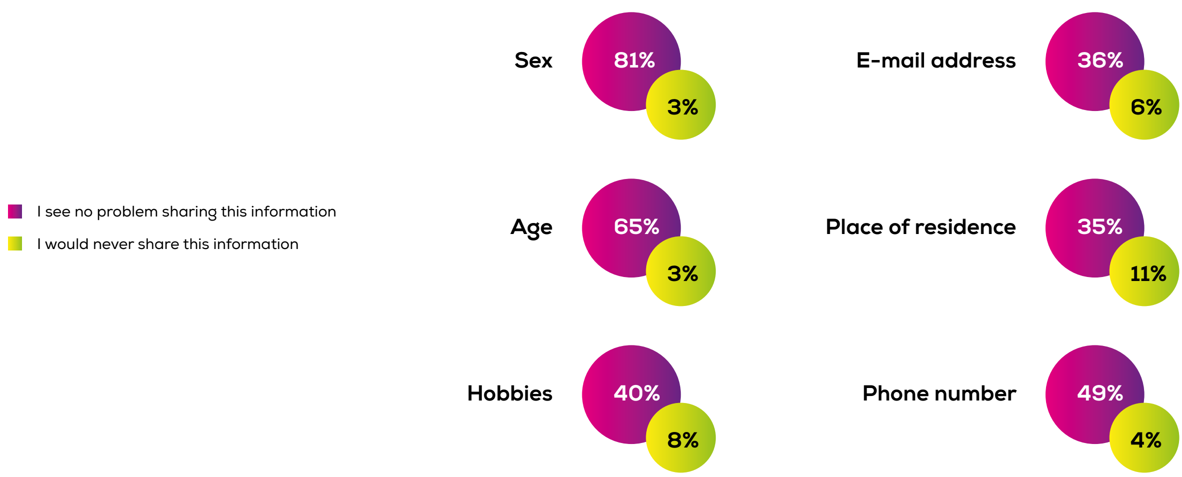


Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

Browser games face the problem of converting the people visiting their websites into registered gamers and, as a consequence, the monetisation of the games. Similarly, as in the previous surveys, many Polish gamers admit that they resigned from registration in a browser game. According to the respondents participating in the research in May 2020, 62% (4 percentage points less than in 2019) declared that they resigned from creating an account. Only 17% did not give up playing because of complex registration requirements. That trend has remained at a similar level for five years.

Polish gamers are most willing to register an account if it requires providing an e-mail address. Such registration method is admissible for 67% of the respondents. 42% of them are willing to register if they can use their **Google** accounts and 37% prefer using their **Facebook** accounts.

Chart 2.11.3. Gaming habits related to browser-based games. Data the gamers are willing to share while registering their accounts



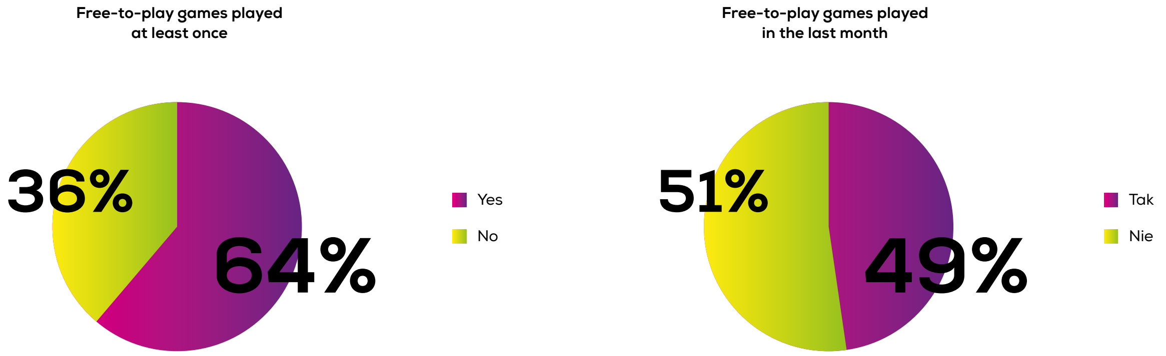
Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

Polish Internet users are becoming increasingly aware of the use of personal data. According to the research of the European Commission "Special Eurobarometer 487a", the Poles are familiar with the application of the rules of the general data protection regulation (GDPR). 56% of the Polish respondents of the EC survey are aware of the issues mentioned in the regulation, while the average result for the entire Community is 36%.

Polish gamers value privacy and personal data protection, although slightly less than in previous years. The most important protected information is the telephone number - 49% of the respondents would never provide it while registering an account in a browser game. However, the value of that information has decreased - three years ago 87% of the respondents would not have shared that information and 65% answered that they "would never provide their telephone number". 35% of the respondents would never provide their place of residence if required in order to register to a browser game.

According to the present research, the Poles are the most willing to share their gender (81%), age (65%), interests (40%) and e-mail address (36%).

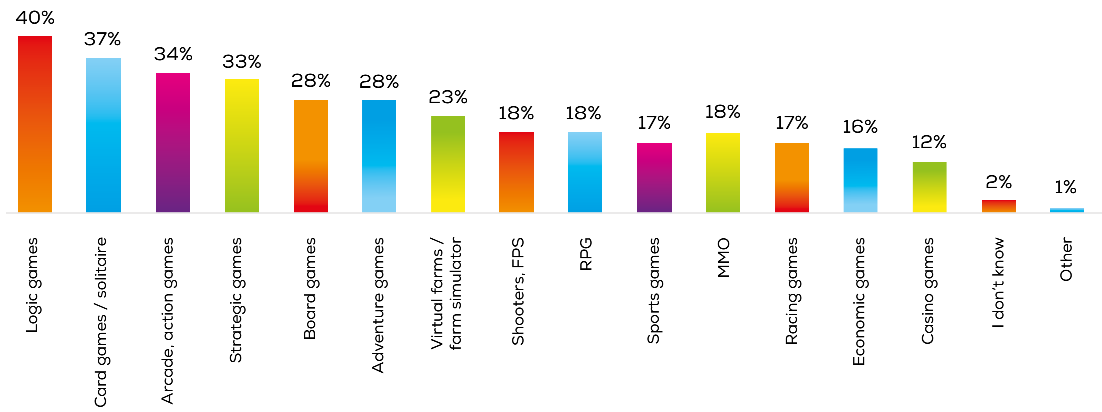
Chart 2.11.4. Gaming habits related to browser-based games. Popularity of free-to-play browser games



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

Free-to-play is the leading model of accessing browser-based games. In May 2020, 64% of the respondents stated that they have played a free-to-play game at least once. 49% of them encountered such games in the month preceding the survey date.

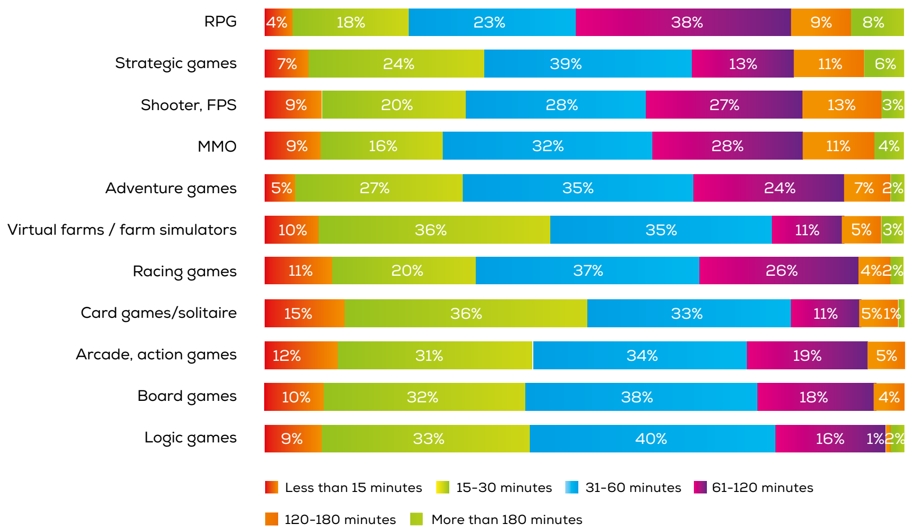
Chart 2.11.5. Gaming habits related to browser-based games. Favourite game genres



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

Gamers playing browser-based games have been asked about their favourite genres. Logical games are an unquestioned leader in that scope, indicated by 40% of the respondents. The next spots have been taken by card games (37%), arcade games (34%) as well as strategic games (33%).

Chart 2.11.6. Gaming habits related to browser- based games. Average time spent playing

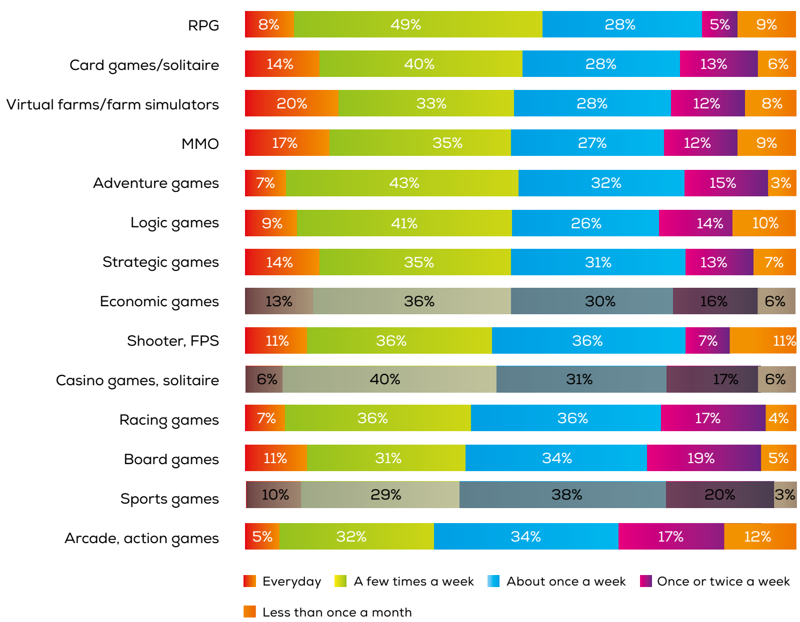


Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The fans of browser games spend on average from 15 to 60 minutes on a single session. RPGs constitute an exception, similarly as in previous years, as the gamers spend from 61 to 120 minutes on a single session. It should be noted, however, that in comparison with the results of the 2019 research, the share of gamers who spend more than 121 minutes on a single session significantly decreased in 2020 for all genres of browser games. In the case of the most engaging genre, i.e., RPGs, in 2019, 29% of the respondents spent at least 2 hours playing, while in 2020 only 9% declared that they spent from 121 to 180 minutes and 8% - more than 180 minutes.

In the case of an insufficient number of indications of a given category, the results have been excluded from the analysis and marked in dark. They are presented for review only.

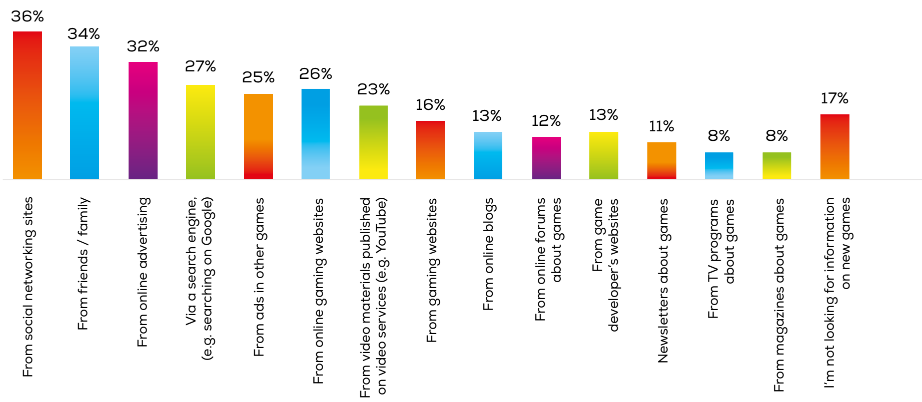
Chart 2.11.7. Gaming habits related to browser-based games. Gaming frequency



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The gamers playing browser games have been asked questions about the frequency of playing those types of games. In the case of all analysed genres, the majority of Poles play a few times a week or at least once a week. The most engaging genres attracting the gamers to play every day include farming simulators (20%), MMO games (17%), strategic games (14%) and card games (14%). While analysing the results for the previous year for all genres, a decrease in the number of respondents declaring that they play browser games every day has been observed.

Chart 2.11.8. Gaming habits related to browser-based games. Sources of information about new games



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

In the case of browser games, social media is the most popular source of information. Such a source has been indicated by 36% of the respondents. In 2019, such an answer was given by 37% of the respondents, but more popular sources in that period included Internet advertisements (42%) and information received from family and friends (42%). In this year's research, 34% of the gamers learn about new games from their friends and family. Such response was given by 36% of the people playing social media games in the previous year's edition of the survey. A minor decrease in popularity of that form of obtaining information about games when compared to the previous edition of the survey may be a result of isolation and restriction of contacts connected with the pandemic. A decrease has also been observed with respect to TV programmes (12% in 2019 and 8% in 2020), newsletters/mailing (17% in 2019 and 11% in 2020) and online game websites (32% in 2019 and 26% in 2020). What is interesting, the share of the people who do not search for information about new games at all is the highest in that group (17%), similarly as in the case of gamers using personal computers.

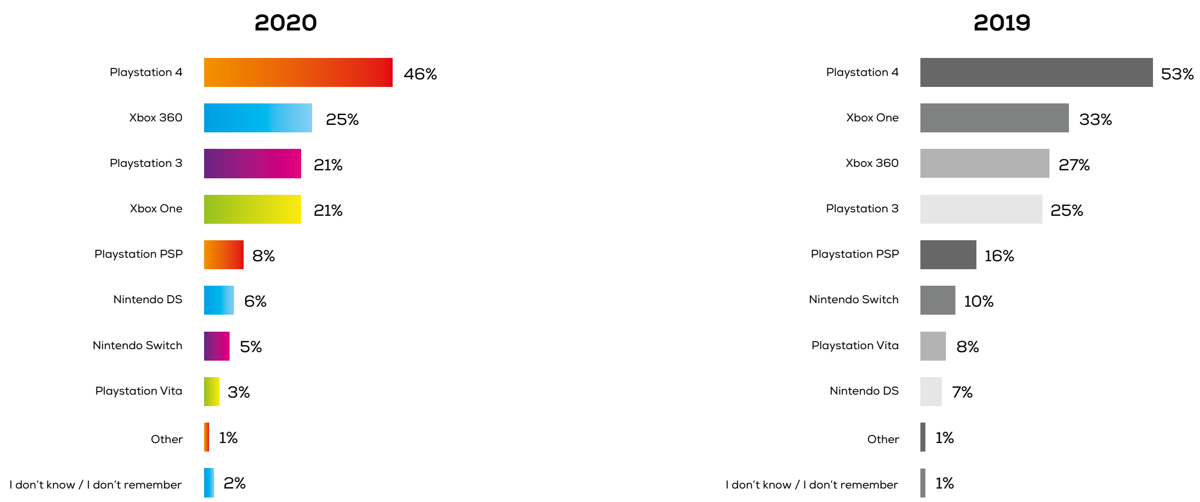
The preferences regarding gaming style largely depend on the selected platform. Singleplayer is significantly more important for PC gamers. Console and browser games are more related to multiplayer modes through dynamic gameplay focused on action. 60% of the gamers have played with other people at least once. However, because of a growing popularity of logic and card games among the users of browser games, the share of people who always play alone is increasing (37%).

2.12. Characteristics of the console platform and gamers

While analysing the characteristics of gamers preferring consoles, two important factors affecting that market segment in Poland for many years should be mentioned.

First, the Polish market can still be perceived as strongly focused on PC. Popularity of consoles as gaming platforms started with the introduction of PlayStation 2. With the current generation of consoles, the situation is much better, which is confirmed by the results of selling games for consoles, but Poland still has a long way to go before it reaches the percentage share of consoles at the level of Western Europe. Another characteristic factor for Poland is the symbolic presence of **Nintendo** consoles.

Chart 2.12.1. Gaming habits related to console games. Popularity of console models



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

While analysing the answers to the questions regarding the console models preferred by Poles, it can be observed that PlayStation 4 is still the leader. 46% of the respondents of the present survey answered that they played on that console in the last month. However, when compared with 2019, that result means a decrease of 7 percentage points.

Similarly, as in the previous year, the second place is occupied by relatively obsolete Xbox 360, which was indicated by 29% gamers (decrease by 4 percentage points in comparison to Polish Gamers Research 2019) and its successor, Xbox One is in the third place together with PlayStation 3 with the result of 21%.

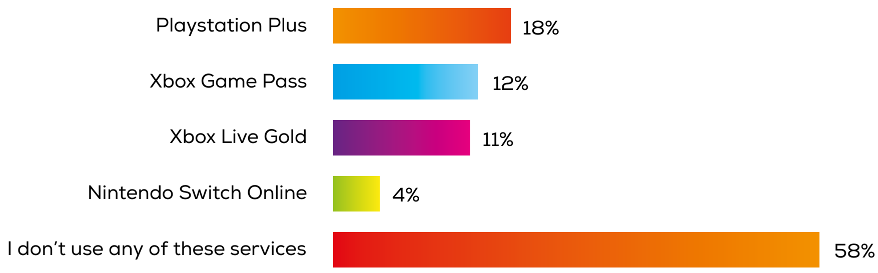
Such answers are surprising because they do not correspond to a low number of logging in to the **Microsoft** online services by the users of Xbox 360. On the other hand, the most popular auction site in Poland, Allegro, still records significant interest and turnover generated on that model, both with respect to used consoles and used games. It can be assumed that for many parents, in particular those in worse financial situations, Xbox 360 is still the primary choice of the first console for their children.

In 2020, PSP, a mobile PlayStation console, was indicated by 8% of the respondents and **Nintendo** DS was selected by 6%, while **Nintendo** Switch by only 5% of Polish gamers.

It should be noted that the percentage share of **Nintendo** devices among Polish gamers is very low. The share of **Nintendo** on the Polish market is still a fraction of the participation of **Nintendo** Switch or **Nintendo** DS in the global gaming market. Over 137 million items[43] of the above consoles have been sold in aggregate around the world from their release dates, while in the period from April to June 2020, during the lockdown caused by the coronavirus pandemic, the sale of **Nintendo** Switch consoles around the world increased up to nearly 170%[44].

[43] Sales of Nintendo Switch 61.44 million items, sales of Nintendo3 DS 75.87 million items as at 30.06.2020. Source: https://www.nintendo.co.jp/ir/en/finance/hard_soft/index.html.
[44] Source: https://www.nintendo.co.jp/ir/en/finance/hard_soft/index.html.

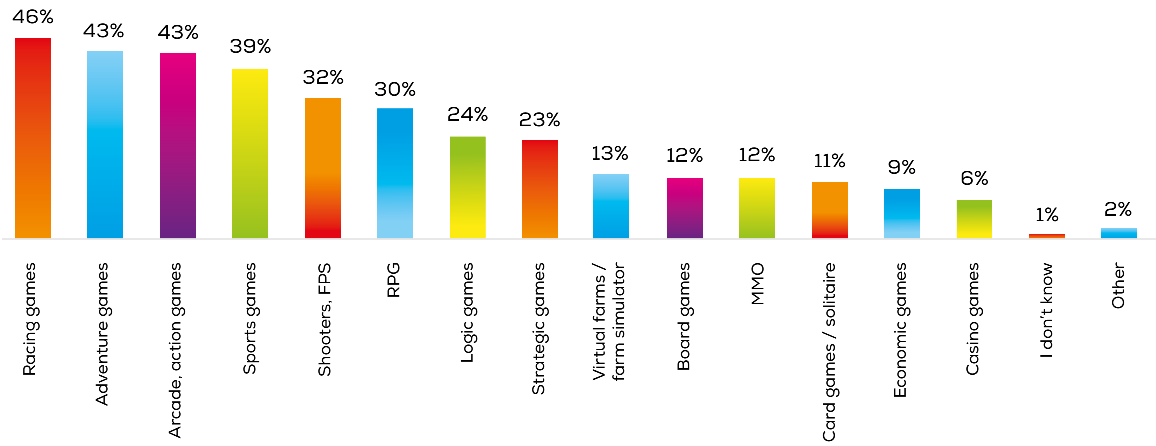
Chart 2.12.2. Gaming habits related to console games. Popularity of the subscription model



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

This year, console users have been asked whether they currently use the subscription services. It is not surprising that because of the popularity of PlayStation 4 on the Polish market, the first place is occupied by the PlayStation Plus service (18%). The second and third place belong to two **Microsoft** services - Game Pass (12%) and Live GOLD (11%). 4% of the gamers indicated **Nintendo** Switch Online, which is consistent with the marginal position of **Nintendo** in Poland. 58% of Polish gamers stated that they did not use the subscription services, which leaves the space for the potential growth of their share in our market.

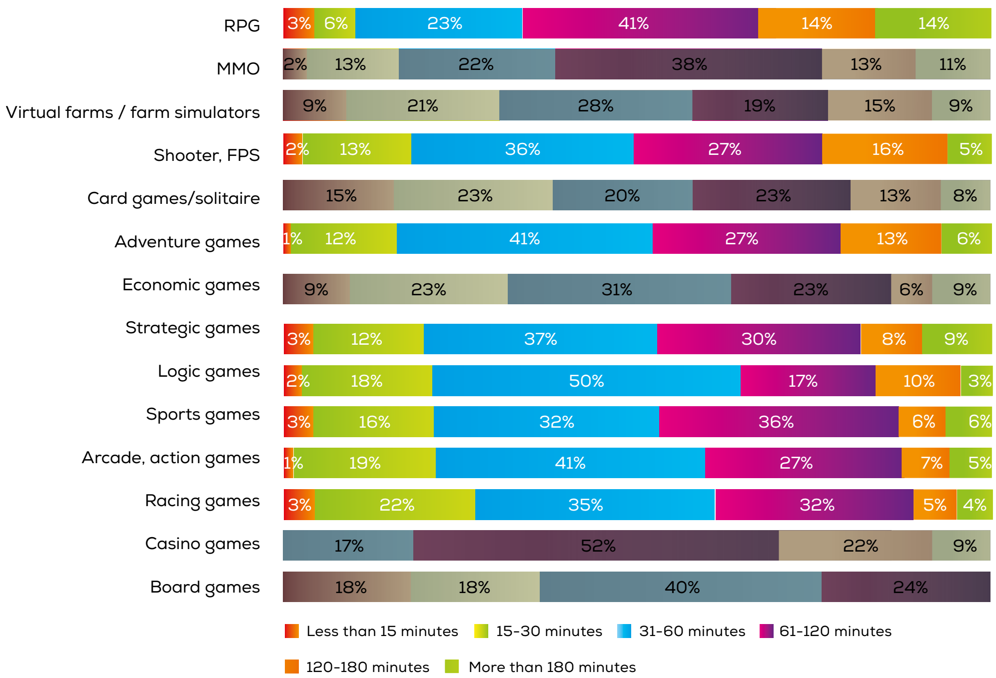
Chart 2.12.3. Gaming habits related to console games. Popularity of gaming genres



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The most popular genres among the console gamers are racing games (48%), adventure games (43%) and action games (43%). Sports games, which are usually played in the multiplayer mode, were indicated by 39% of the respondents. Further on, there are the so-called first-person shooters (FPS) with the result of 32%. The fans of role-playing games (RPG) constituted 30% of the surveyed console users. What is interesting, logic games (24%) were more popular than strategic games (23%) which suggest that consoles are also used by casual players. Economic (9%) and casino (6%) games are the least popular among console players.

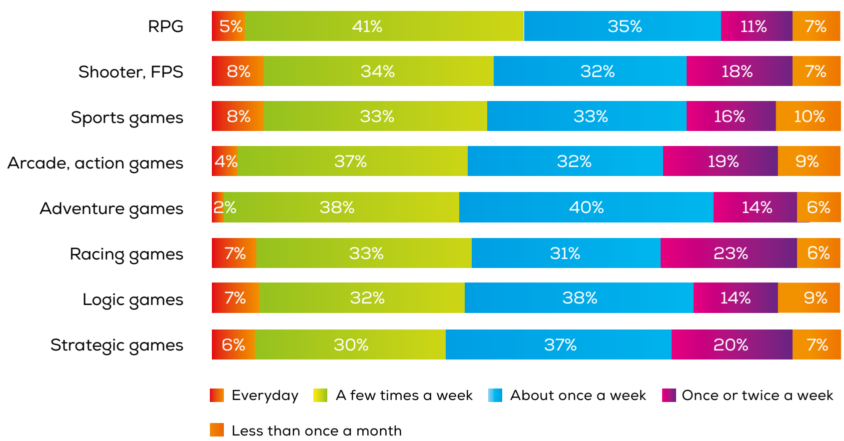
Chart 2.12.4. Gaming habits related to console games. Game time



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

When Polish gamers launch their console games, they usually spend from 30 to 60 minutes on a single session, although in the case of more engaging RPGs, a single session can last as long as over two hours in the case of 28% of the respondents. FPS games are also very engaging, as 16% of the gamers spend from 120 to 180 minutes on a single session. The same time is spent playing by 13% of the respondents when playing adventure games. In the case of an insufficient number of indications of a given category, the results have been excluded from the analysis and marked out in dark. They are presented for review only.

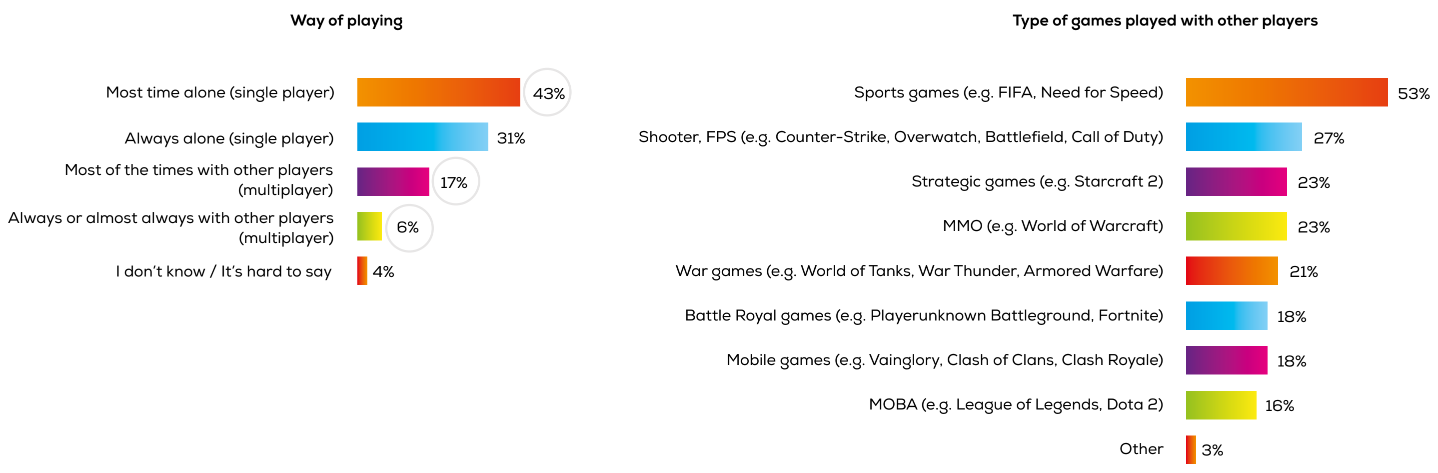
Chart 2.12.5. Gaming habits related to console games. Gaming frequency



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

Every day playing on a console is not very popular among Polish gamers. They usually play on a console a few times a week or at least once a week, and less than 8% spends some time playing on a console every day. The fans of sports games and shooters are the most willing to play every single day.

Chart 2.12.6. Gaming habits related to console games. Gaming style. Playing alone or with other people

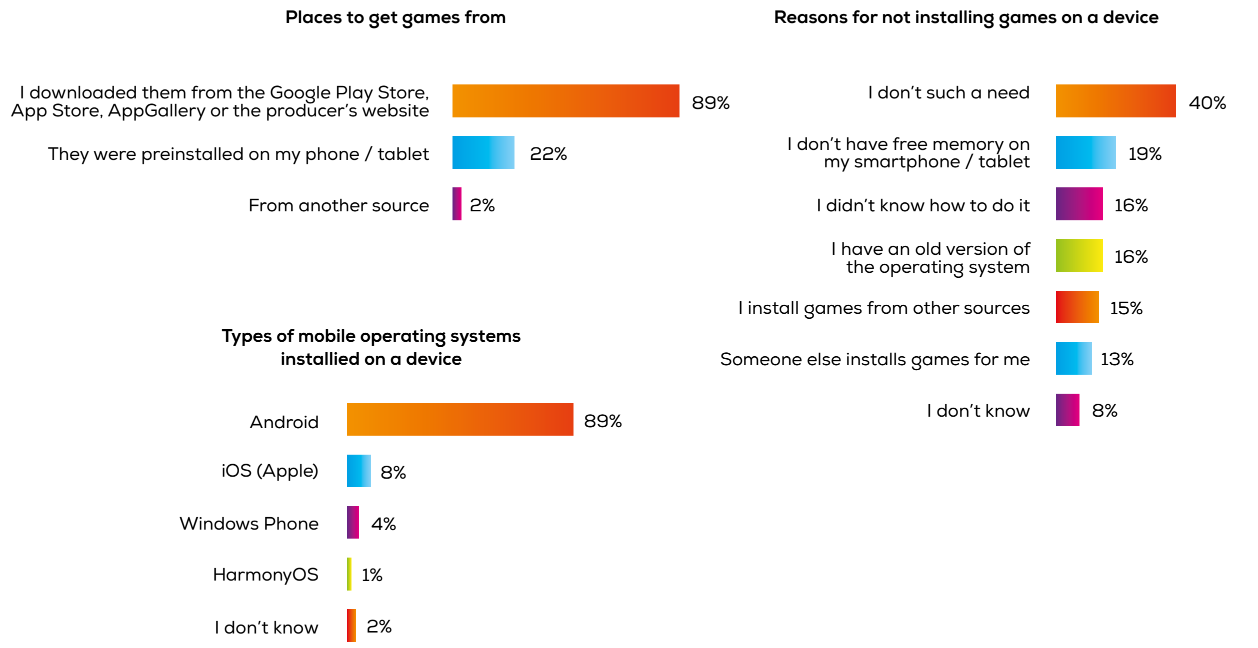


Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The results of six editions of the Polish Gamers Research confirm that console players most frequently declare their willingness to play with other people, when compared to other platforms. Such results are significantly affected by the *Fifa* series, as well as racing games such as Need for Speed or Forza. 53% of the respondents mentioned those genres if they intended to play in the multiplayer mode. 27% of the respondents willing to play with other people choose first-person shooters such as *Call of Duty*, Counter Strike, Battlefield, *Overwatch*. Strategic games (23%) such as *Starcraft* 2, are also very popular. War games such as World of Tanks were indicated by 21% of the respondents interested in playing in multiplayer mode. The battle royale genre, popularised by Fortnite, was indicated by 18% of the respondents. MOBA[45] games represented by DOTA 2 or League of Legends were indicated by only 16% of console gamers.

2.13. Characteristics of the mobile platform and gamers

Chart 2.13.1. Mobile games. Sources of games. Popularity of the operating systems. The reasons for resigning from installing games



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

[45] MOBA ((multiplayer online battle arena) – video game constituting a subgenre of real-time strategy games with a limited number of players. The players are often divided into two teams fighting at the arena. The term was created by Riot Games for the release of League of Legends.

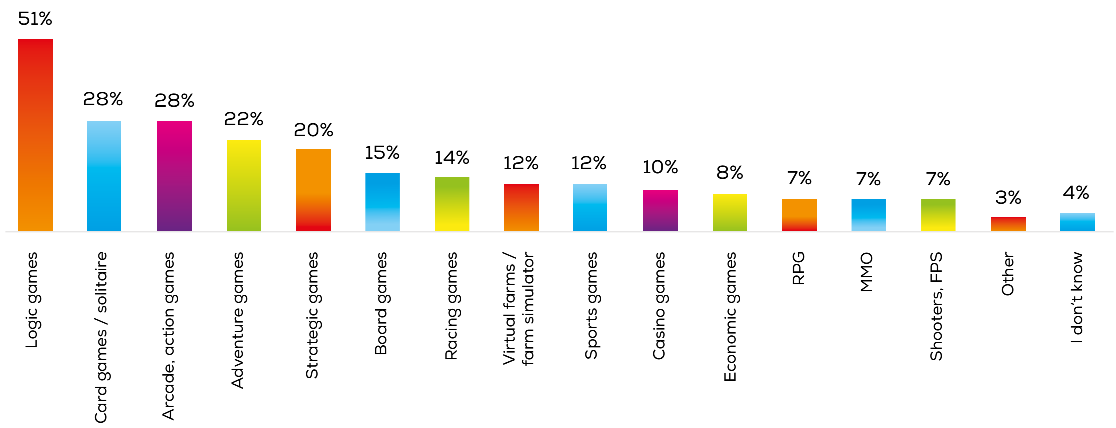
The Polish market of mobile games for smartphones and tablets is dominated by Android by **Google**, indicated by the vast majority of gamers (89%). **Apple** devices with iOS have been chosen only by 8% of the respondents. While analysing the share of mobile operating systems around the world in May 2020, when the share of Android amounted to 74%, it can be noticed that the number of gamers using Android is higher[46].

It is interesting to note that many Poles are still quite sentimental about Nokia. In the period of the mobile phone revolution, that brand was the most popular on the Polish market. Therefore, it is not surprising that 4% of the Polish gamers still use a Windows Phone. The Harmony system, developed by Chinese Huawei company, mainly as a result of the Chinese and American business and technology war, was chosen by only 1% of Polish gamers.

The analysis of the most popular sources of new games for mobile devices expressly proves that Polish gamers are the most willing to download games from official stores such as **Google** Store or App Store, as well as other websites of the producers. Only 22% of the respondents use games preinstalled by the supplier of the mobile device, while 2% choose completely other sources.

There are a few reasons why gamers do not decide to install new games using digital platforms/mobile game stores. The first one (specified by 40% of the respondents) is simply no need to do so. The second one is the lack of free memory on their device (19%). 16% of the respondents admitted that they did not have the required skills and used old telephone models which did not support the games. In 2017, only 7% of the gamers declared that they used equipment too old to run the current games. The segment of the older generation gamers who rarely replace their phones with new ones may constitute a new group of recipients if they are offered educational services related to using mobile devices. 15% of the respondents install games from other sources and 13% receive assistance of other persons in installing games, which constitutes an increase by 4% in relation to the results of the research published in 2017.

Chart 2.13.2. Gaming habits related to mobile games. Popularity of gaming genres

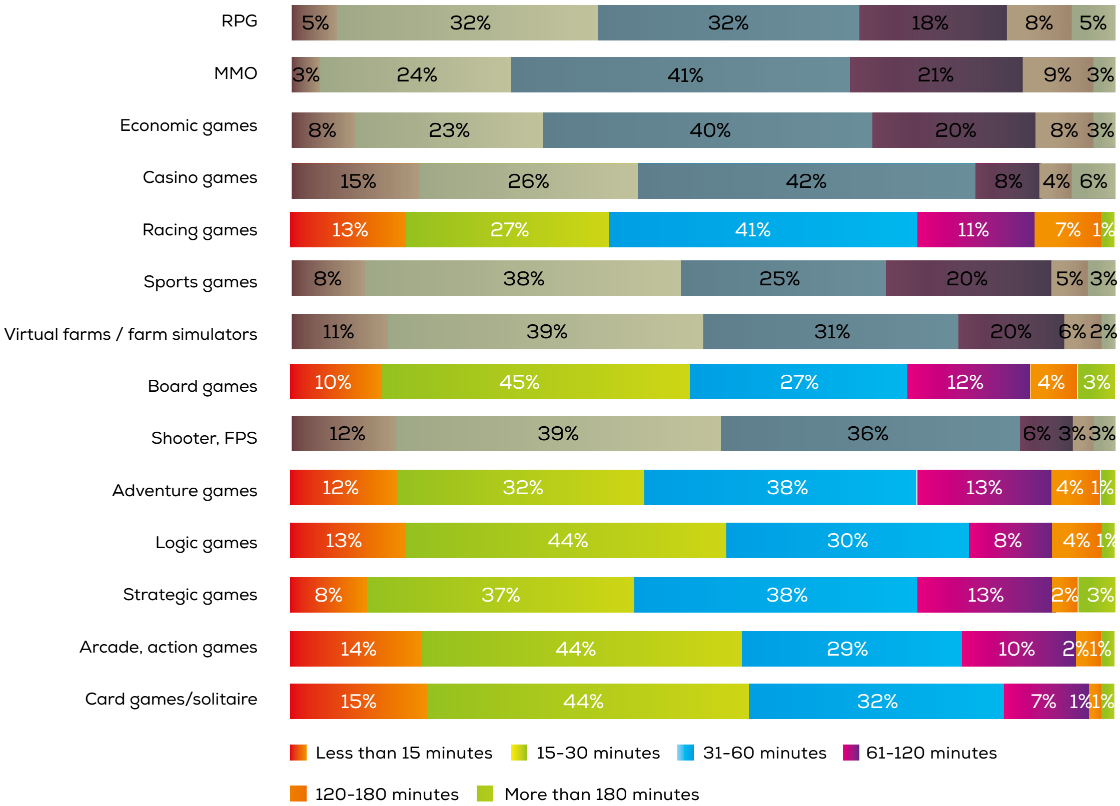


Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The most popular genre specified by the respondents using mobile devices are logic games, which are played by 51% of Poles. In that scope, the trends have not changed within the last six years. The second place with the result of 28% is taken by card games (different than those simulating casino games, which were indicated by 8% of the respondents) and arcade games. The fourth place is occupied by adventure games with the result of 22%. 20% of the respondents chose strategic games. The difference in popularity of specific game genres is still visible depending on the platform. Popular games played on personal computers and consoles, such as racing, adventure, RPGs, FPS or sports games are significantly less popular among the respondents using mobile devices, a group dominated by females.

[46] *Mobile operating systems' market share worldwide from January 2012 to July 2020*, https://www.statista.com/statistics/272698/global-market-share-held-by-mobile-operating-systems-since-2009/.

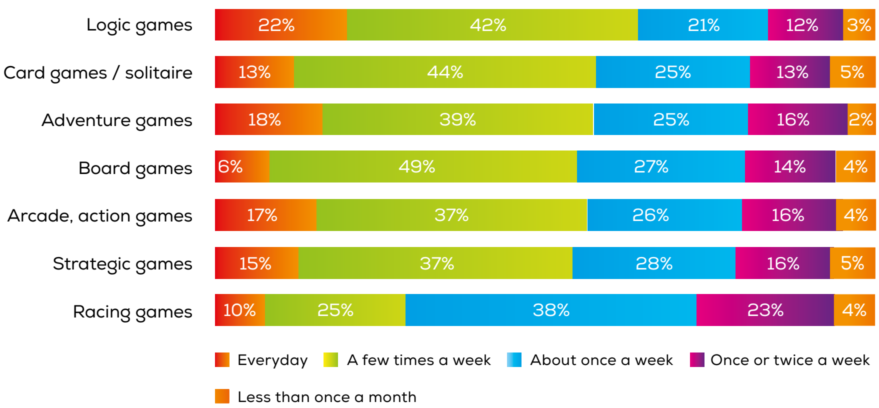
Chart 2.13.3. Gaming habits related to mobile games. Game time



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

Gaming sessions of mobile gamers are relatively the shortest in comparison to the other platforms. Mobile gamers usually spend from 15 to 60 minutes on a single session. Strategic and adventure games constitute an exception, as in the case of those two genres, 13% of the fans spend from 61 to 120 minutes on a single session. In the case of an insufficient number of indications of a given category, the results have been excluded from the analysis and marked out in dark. They are presented for review only.

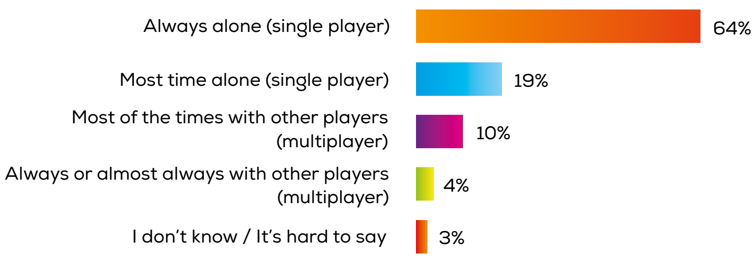
Chart 2.13.4. Gaming habits related to mobile games. Gaming frequency



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The most popular genre among mobile gamers, i.e., logic games, are also played the most frequently. 22% of Poles using the mobile platform play them every day. It is interesting that with respect to gaming frequency, the second place is occupied by adventure games with the result of 18%. Further on, there are arcade games (17%) and strategic games (15%).

Chart 2.13.5. Gaming habits related to mobile games. Gaming style

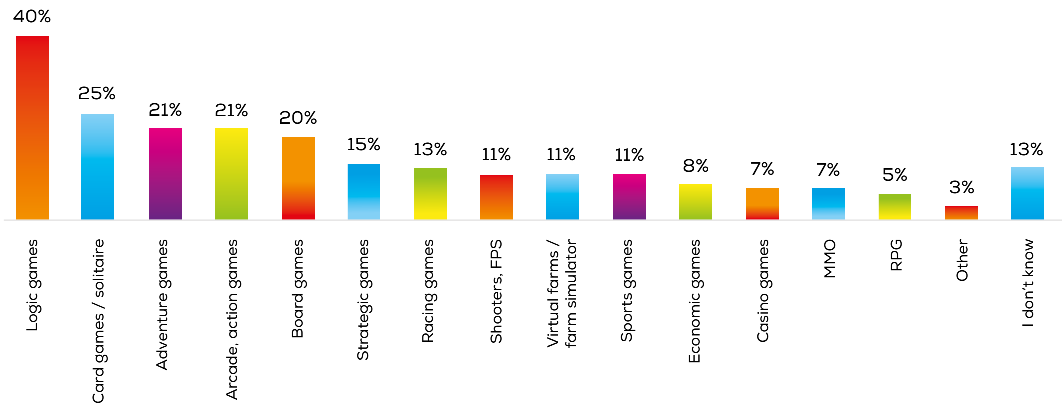


Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The gathered data presents the gaming style on specific platforms in reference to other participating gamers or lack thereof. In the case of mobile gamers, it is noticeable that they constitute the group usually preferring to play alone (64%). That trend has not changed since 2014.

2.14. Characteristics of the social media platform and gamers

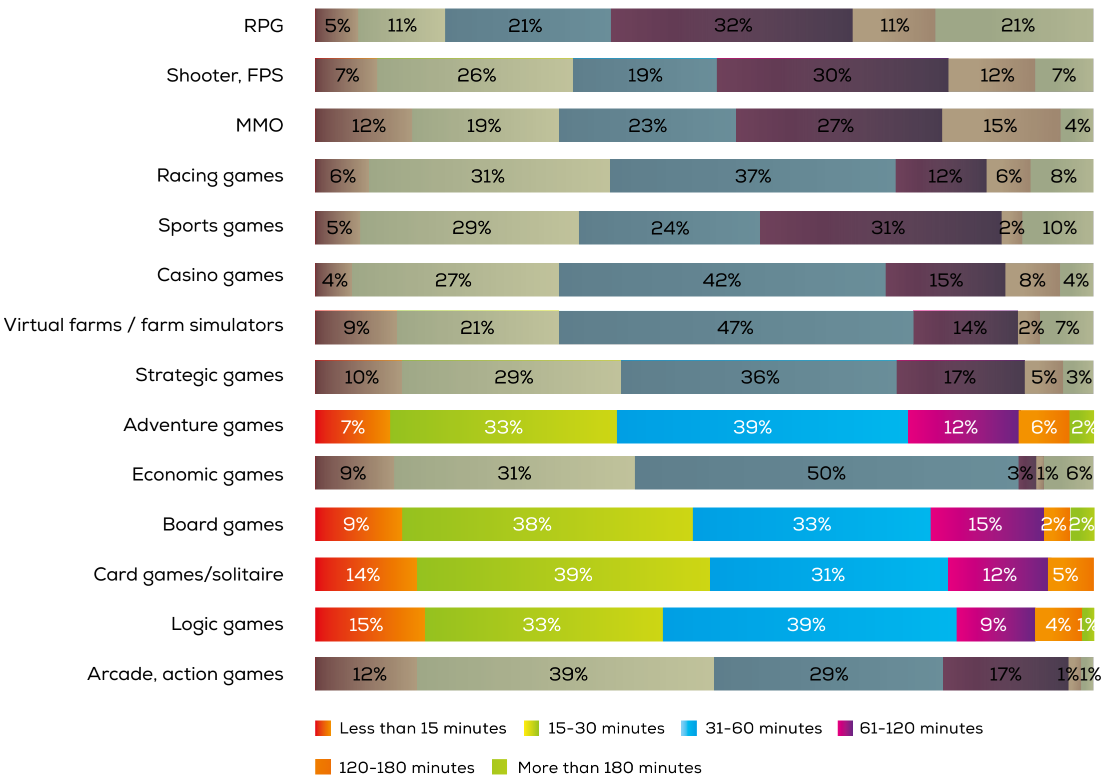
Chart 2.14.1. The habits of Polish gamers playing on social networks. Popularity of gaming genres



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The gamers using social networks, similarly to mobile gamers and gamers using browser games, most commonly play logic games. That genre has been indicated by 40% of the respondents. The second place is occupied by card games - 25% of the respondents, which constitutes by 15 percentage points less than logic games. 21% of the respondents prefer adventure and arcade games. MMO games and RPGs are the least popular among the respondents playing on social networks. 13% of the respondents cannot assign the game they play to a specific genre and that is the highest share among all five groups of gamers.

Chart 2.14.2. The habits of Polish gamers playing on social networks. Game time

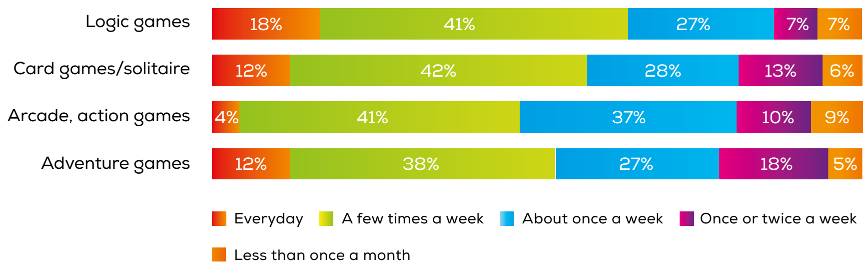


Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

As there was not a sufficient number of answers to the question regarding gaming frequency in relation to specific genres in social networks, reliable results refer only to four of them: adventure games, online board games, card games and logic games. Other results have been marked out in dark on the chart, but they are left for the information of the readers.

Based on the analysis of the answers for four genres, it can be stated that their fans usually spend from 15 to 60 minutes playing.

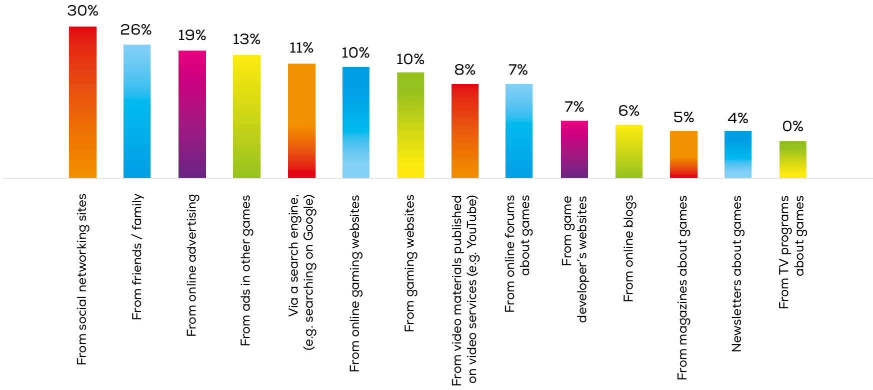
Chart 2.14.3. The habits of Polish gamers playing on social networks. Gaming frequency



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The results of Polish Gamers Research prove that in the case of games in social networks, the most engaging genre from the point of view of gaming frequency is logic games, which are played every day by 18% of Polish gamers. Two other genres, i.e., card games and adventure games, attract 12% of the respondents to playing every day. In the case of arcade/action games, only 4% spend some time on playing every day. The majority of gamers playing on social networks are involved in that activity from once to a few times a week.

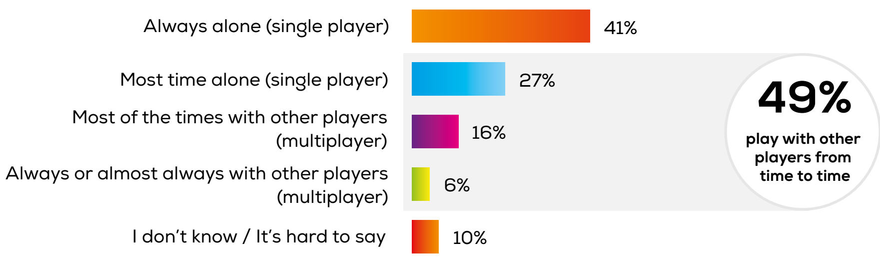
Chart 2.14.4. The habits of Polish gamers playing on social networks. Sources of information about games



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

Where do gamers usually find information about games available on social networks? The principal source is the websites of those platforms, which provide information about new games to 30% of the respondents. The second most common source is family and friends. Such a response has been given by 26% of the gamers. Online advertisements have been indicated by 19% of the respondents. 13% of them mentioned advertisements implemented in other games. Only 8% of the respondents obtain information about new games from video materials on such services as YouTube. **It is interesting that no person mentioned TV programmes about games as the source of information about the products available on social networks.**

Chart 2.14.5. The habits of Polish gamers playing on social networks. Gaming style

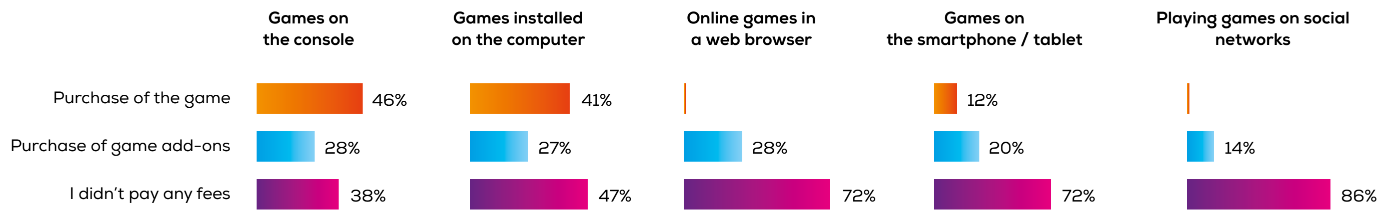


Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The gathered data presents the gaming style on specific platforms in reference to other participating gamers or lack thereof. The preferences regarding gaming style largely depend on the selected platform used by the gamers. In the case of games available on social networks, 41% of the respondents always play alone and 27% usually play alone. It would seem that the leading goal of social media - being in touch with your friends - should favour playing together, but there is no direct relation. On the other hand, 22% of the fans of social media games always or usually play in multiplayer mode and after adding the answers of those gamers who sometimes play with other people, the share of gamers using that platform who have ever played in multiplayer mode increases to 49%.

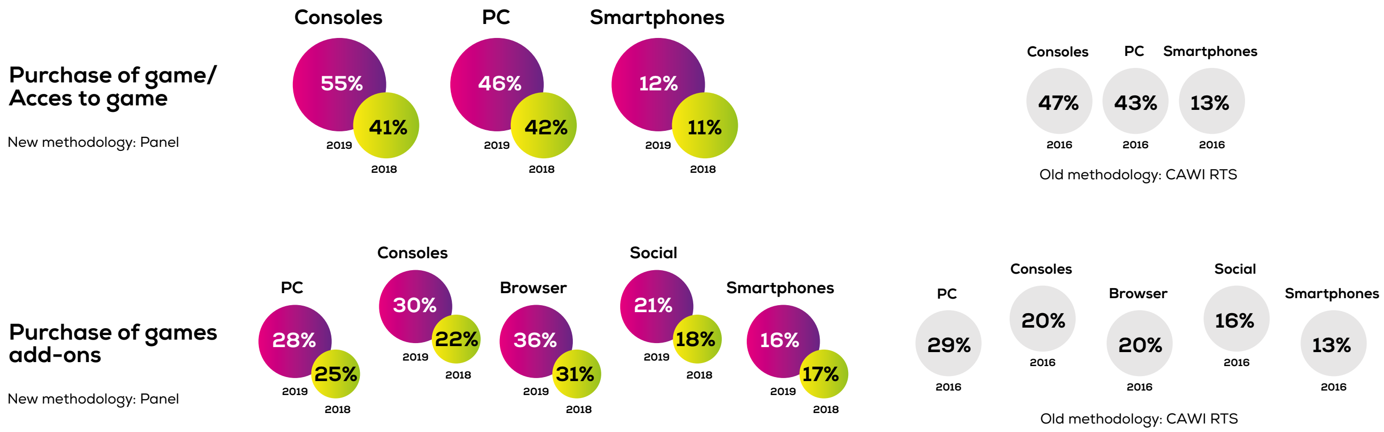
2.15. The habits of gamers connected with purchasing games and expansions

Chart 2.15.1. The percentage share of gamers who have paid for a game or an expansion, according to platforms in 2020



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

Chart 2.15.2. The percentage share of gamers who have paid for a game or an expansion, according to platforms, in the years 2016–2019



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

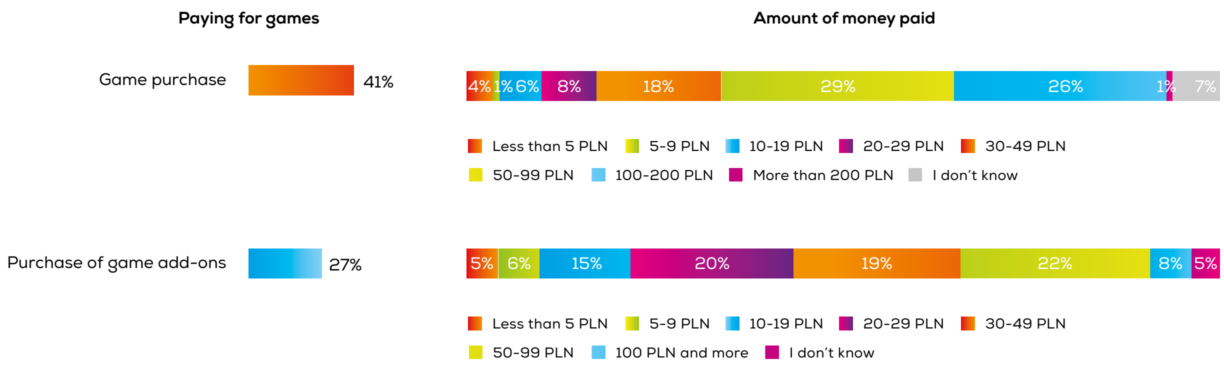
Similarly, as in previous years, the respondents answered questions not only related to their willingness to pay for games or expansions on specific platforms, but also to the amounts of such expenses and the most popular payment forms.

The trend visible in recent years has been confirmed - console gamers most frequently declare that they spend money on games (46%) and expansions. It should be noted that in comparison to the previous year, less console gamers (by 9 percentage points) declare payment for games. 28% of the console users (2 percentage points less than in the previous year) spend money on expansions. Only 38% of console users are not interested in spending money on new games at all. That share is significantly higher among gamers using personal computers, in comparison to console users. Nearly a half of PC gamers (47%) do not spend money on games at all, using only free to play games or games received during promotions, such as the Epic Store giveaways. 41% of PC gamers still purchased paid versions of games and 27% of them purchase expansions as well.

The users of games available on social networks, where the business model is based on free-to-play and advertisement revenues, are on the opposite side. Among the users of games in social networks, 86% do not spend any money and only 14% purchase expansions and virtual goods from time to time. Considering a change of the research platform, a decrease in the people paying for expansions/virtual goods when compared to the previous editions of the research should be recorded anyway. In 2019, 21% of the respondents paid for expansions to games on social networks. The preferences of mobile gamers are relatively stable. Similarly, as in the previous years, approximately 12% of them purchased paid games in **Google** Play or AppStore and 20% purchase paid expansions, which constitutes an increase by 4 percentage points YoY.

2.16. Average amounts spent on games installed on PC

Chart 2.16. Average amounts spent on games installed on PC



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

41% of gamers using personal computers pay for their games, which constitutes a decrease of 5 percentage points when compared to the results of Polish Gamers Research 2019. The share of the respondents who pay for expansions is maintained at the level of 27% in relation to the results for 2019. However, the price is still a sensitive issue. Currently, the prices of PC games in Poland are practically equal to the price level in Western Europe, which constitutes a problem for gamers and contributes to the decisions to purchase more expensive games for consoles. Additionally, AAA games for personal computers require much more expensive equipment than their console versions, which makes some of the mainstream gamers decide to play on consoles.

In the Polish Gamers Research 2019, 21% of the gamers declared expenditures at the level from PLN 100 to 200. In 2020, that share increased to 26%, which proves that more gamers are willing to spend significant amounts.

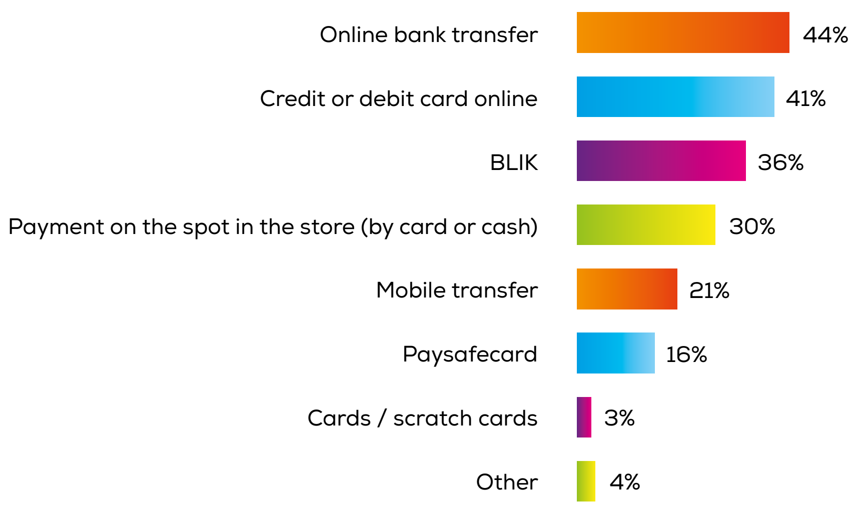
Unfortunately, simultaneously the share of gamers who were willing to spend more than PLN 200 on a PC game decreased from 7% in 2019 to 1% in 2020, which can be associated, among others, with the consequences of the coronavirus pandemic, lockdown and the related careful consumption of more expensive goods.

In the case of expansions, an increase has been recorded for the expenditures of PLN 20-29 from 15% in 2019 to 20% in 2020, and in the brackets of PLN 10-19 from 8% in 2019 to 15% in 2020, which is similar to the situation from five years ago. The highest level of expenditures for expansions, over PLN 100, is maintained at the same level of 8% since 2019, which means that the current epidemic situation did not affect the consumer decisions of more affluent gamers. In 2015 and 2016, gamers willing to spend more than PLN 100 on an expansion constituted only 3%. However, a decrease of the expenditures by 3 percentage points has been observed in relation to 2019 for the brackets PLN 30-49 (19%) and PLN 50-99 (22%).

An uncertain future, growing unemployment and lockdown forced Poles not only to reorganise their lives, but also to consider their expenditures.

2.17. Favourite payment methods of poles in the case of PC games

Chart 2.17. Payment methods selected by Poles when purchasing PC games

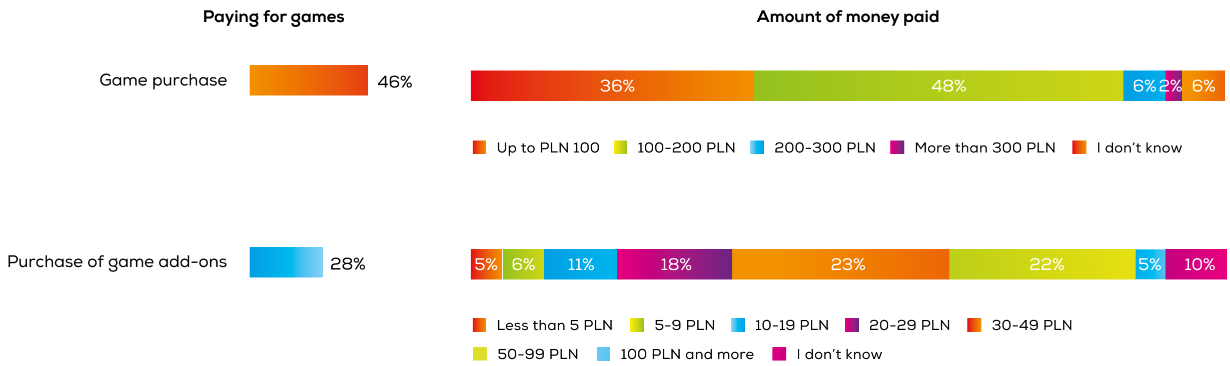


Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

Four years ago, the most popular payment method for PC games among Polish gamers was cash or credit card in a brick-and-mortar store (58%). The consumer habits of gamers have significantly changed since that time. In 2020, that payment method was indicated by 30% of the respondents. Currently, the most popular payment method among PC gamers is Internet transfer. That payment method is preferred by 44% of the gamers. They are also happy to pay with a credit or debit card on the Internet. BLIK payments[47] are at the third place with 36% of indications. Mobile transfers are used by 21% of the respondents and Paysafecard[48] by 16%. It is interesting that payments using scratching cards are used by only 3%, while four years ago that method was selected by 9% of the Poles.

2.18. Average amounts spent on console games

Chart 2.18. Average amounts spent on console games



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

With the 76% share of Polish gamers in the Internet population aged 15-65, only 22% of the respondents stated that they used consoles, which places console games on the lowest, fifth position among the five gaming platforms. However, console gamers purchase the highest numbers of games and spend the highest amounts of money. 46% of console gamers purchase games. However, a decrease of 9 percentage points has been observed when compared to the results of the Polish Gamers Research 2019.

Pursuant to the results of this year's research, an increase of 5 percentage points has been observed in relation to 2019 in the case of expenditures for new console games up to PLN 100, and also in the PLN 100-200 bracket. On the other hand, a significant decrease has been recorded for the highest amounts, i.e., PLN 200-300, from 18% in 2019 to 6% in 2020. The decrease refers also to declarations of payments exceeding PLN 300, from 3% in 2019 to 2% in 2020. However, in 2015, the highest bracket was indicated by 12%.

Similarly, as in 2019, 28% of the console gamers pay for expansions, but those payments are also trending towards lower amounts. In the case of expansions to console gamers above PLN 100, a decrease by 8 percentage points has been recorded, from 13% in 2019 to 8% in 2020. In the case of the average price brackets, an increase in indications has been observed. For PLN 30-49, an increase by 5 percentage points took place when compared to Polish Gamers Research 2019, while for PLN 50-99, that increase amounted to 7%.

As the survey was conducted in May 2020, during the nationwide lockdown, the decreases in the higher brackets may be directly connected with the pandemic and more general consumer care in spending higher amounts of money.

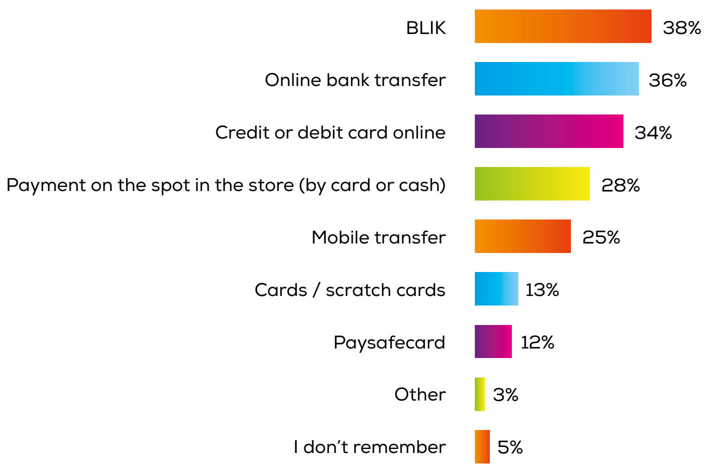
2.19. Favourite payment methods of poles in the case of console games

A radical change regarding the favourite payment methods of console gamers occurred within the last five years. In 2015, Polish gamers usually paid for console games and expansions by cash or credit card in brick-and-mortar stores. **In 2020, the favourite payment method is BLIK with the result of 38%.** Internet transfers, leading on the last year's list, are placed on the second position with 36%. Payments using credit or debit cards on the Internet are selected by 34% of the gamers. 28% of the respondents are still happy to pay with cash or credit/debit card in brick-and-mortar stores, although it constitutes a major decrease when compared to 56% in 2019. Mobile transfers were indicated by 25% of the respondents, which is 4% higher than among PC gamers.

The first place of a relatively new payment method, BLIK, indicates that console gamers are open to changes and technological novelties.

[47] BLIK - a Polish mobile payment system enabling the users of smartphones to pay in stores and online, withdraw and deposit cash in ATMs, make immediate interbank transfers and generate cheques with 9-digit codes. The system is developed by the Polish Payment Standard (PSP). The shareholders of PSP are: Alior Bank, Bank Millennium, Santander Bank Polska, ING Bank Śląski, mBank, PKO Bank Polski and Mastercard.
[48] Paysafecard - an online prepaid payment method based on vouchers with 16-digit PIN, independent from the bank account, credit cards and other personal data.

Chart 2.19. Payment methods selected by Poles when purchasing console games

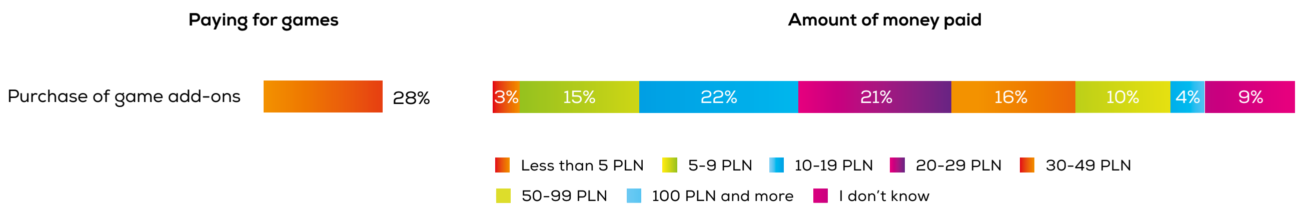


Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

2.20. Average money amounts spent on browser games

28% of the users of browser games declare that they pay for game expansions. The expenditures for browser games have remained at a similar level for many years. Over half of Polish gamers choose fees in the brackets of PLN 5-30. It should be noted that the results are very similar practically on all markets offering browser games. Approximately 3-4% of the gamers are the so-called whales, or VIP gamers, who spend much higher amounts than all the other people. The same result can be observed based on the declarations of gamers using that platform. 4% of browser gamers state that they spend more than PLN 100 on expansions.

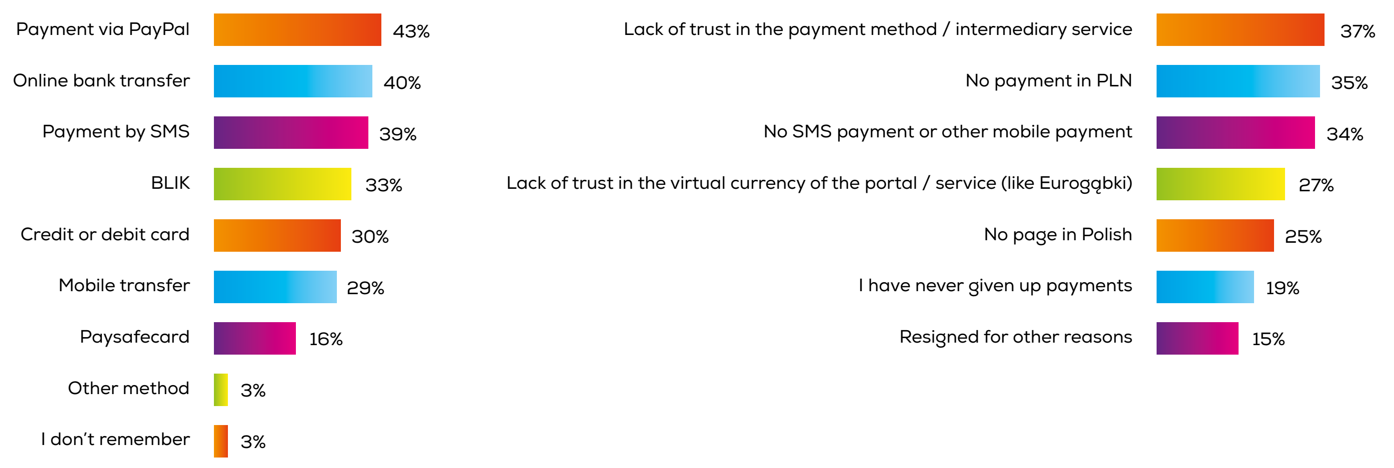
Chart 2.20. Average money amounts spent on browser games



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

2.21. Favourite payment methods of poles in the case of browser games

Chart 2.21. Payment methods selected by Poles when purchasing browser games and the reasons of resigning from payment



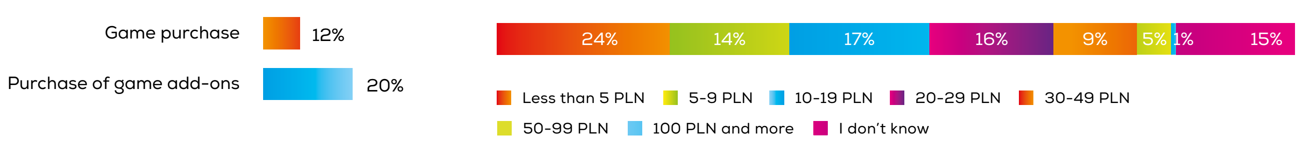
Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

A change regarding the favourite payment methods of browser gamers occurred last year. In 2019, Polish gamers usually paid for expansions to browser games by SMS Premium (52%). **In 2020, the favourite payment method is PayPal with the result of 43% (increase by 8 percentage points YoY)**. Internet transfers are placed on the second position, similarly as in the previous year (40%, decrease by 9 percentage points YoY). Payments using SMS Premium are selected by 39% of the gamers, which constitutes a decrease by 13 percentage points YoY. BLIK is on the fourth place with 33% of the indications. 30% of the respondents are still happy to pay with credit/debit card, although that result constitutes a decrease when compared to 40% in 2019. Mobile transfers are used by 29% of the respondents and the Paysafecard by 16%.

Resignation from payments for game expansions constitutes a significant problem faced by the producers of browser games. **Unfortunately, some of the producers repeatedly make mistakes resulting in resignations from payment. There are five principal reasons for such decisions**. The most common is a lack of trust regarding the proposed payment method (37%). Another factor is connected with ignoring the local requirements - no Polish currency constitutes the reason to resign from payment for 35% of the respondents. Because of a high commission collected by telecommunication companies providing mobile payments, some of the game producers do not implement payments using SMS Premium or other mobile payment methods, which causes 30% of the gamers to resign from payments. 27% of the respondents do not trust the virtual currency available in the games and 25% do not accept the lack of translation on the website used to make payments into the Polish language. 19% of the respondents never resigned from making payments in the games.

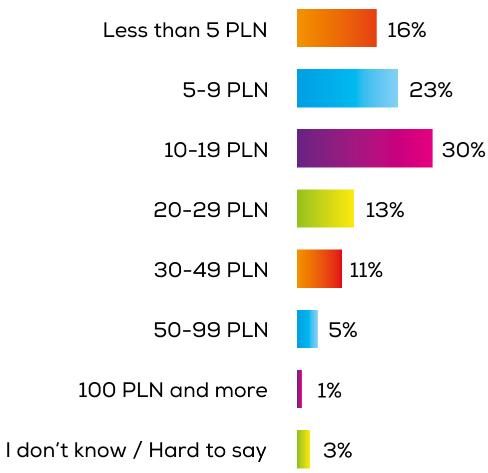
2.22. Average amounts of money spent on mobile games

Chart 2.22.1. Average amounts of money spent on mobile games in 2020



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

Chart 2.22.2. Average amounts of money spent on mobile games in 2019



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

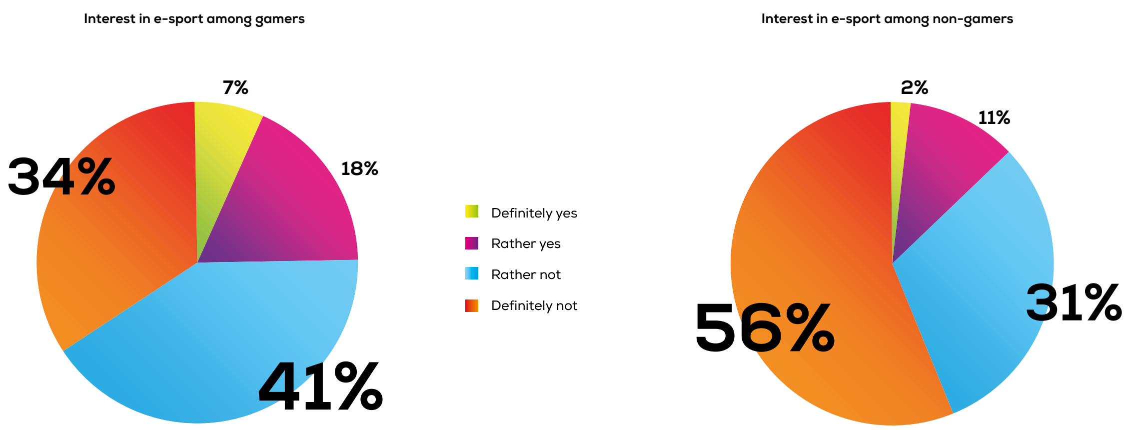
Similarly, as in the previous year, 12% of mobile gamers decide to purchase games on **Google** Play or the AppStore. The most frequently accepted price level in the case of mobile games is PLN 10-19.

With respect to the expenditures on expansions of mobile games, the most common answer is the level up to PLN 5. 24% of the mobile gamers, by 8 percentage points more than in the previous year, declare payments of such an amount. In 2019, 30% of the gamers decided to spend PLN 10-19 on expansions to mobile games. Next year, that share was only 17%.

The level of the highest expenditures on expansions to mobile games was only slightly changed, which means that the gamers who spent the most in the past and were included in the VIP group from the point of view of their expenditures and did not change their habits regardless of the pandemic.

2.23. The interest of Polish gamers in e-sports

Chart 2.23.1.Habits of the gamers. Interest in e-sports of gamers and non-gamers

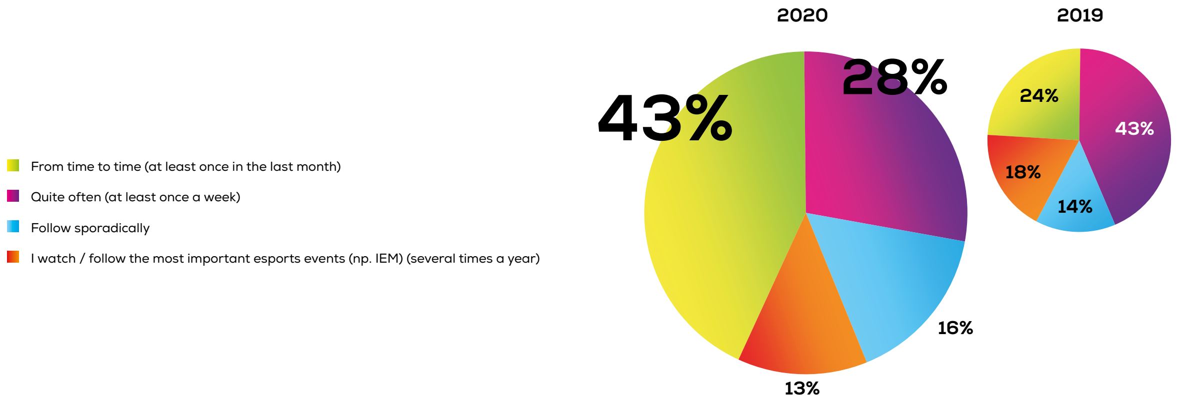


Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The question about e-sports has been asked for the third time in the Polish Gamers Research. 75% of gamers are not interested in it, with 41% answering that they were rather not interested in e-sports and 34% that they were definitely not interested. 25% of the respondents confirmed their interest in e-sports and the biggest fans constitute 7% of that group.

It should be noted that interest in e-sports is declared by people not playing video games as well. In total, 13% of the respondents who are not gamers also declared their interest in e-sports.

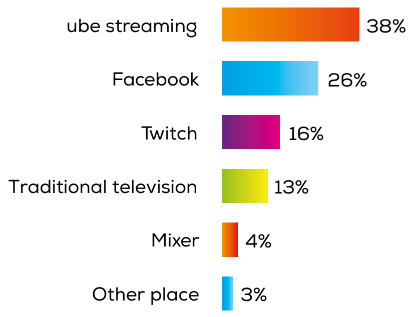
Chart 2.23.2. The habits of e-sports fans. Frequency of watching e-sports



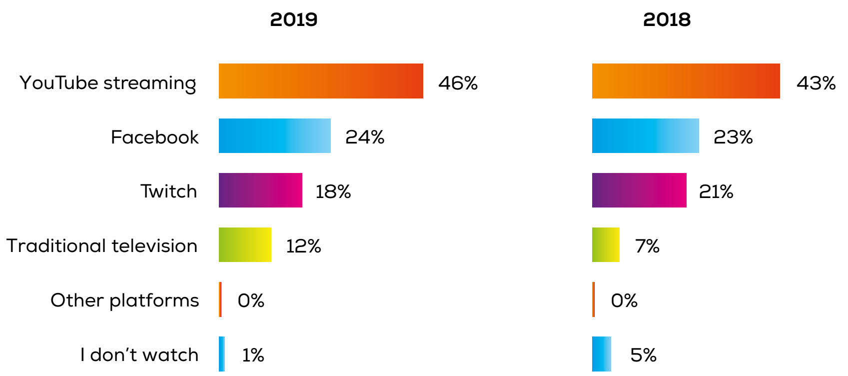
Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The majority of gamers interested in e-sports (43%) watch e-sports from time to time (i.e., at least once during the month preceding the survey). 28% of the gamers declared that they regularly watched e-sports (i.e., at least once a week), which corresponds to the above group of the most active e-sports fans. 16% of the persons interested in e-sports sporadically follow the games and 13% of the people interested in that topic follow only the most important games a few times a year, such as the Intel Extreme Masters (IEM) in Katowice.

Chart 2.23.3. The habits of e-sports fans. The most popular platforms for watching e-sports in 2018–2020



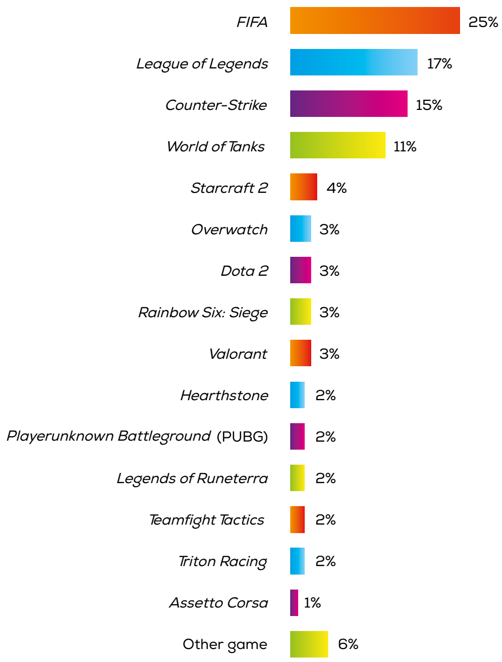
Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The main channels used to watch e-sports have not changed for years. YouTube streaming is still the most popular streaming platform. Although this year, that platform was indicated by 38% of the gamers, it still recorded a decrease of 8 percentage points in comparison to 2019 and by 5 percentage points in comparison to 2018. Facebook is on the second position with the result of 26%. Twitch, purchased in 2014 by Amazon.com for the amount of USD 970 million, occupies the third position (16%). The popularity of traditional television has been growing for the last three years, among others because of such channels as Polsat Games. In 2018, only 7% of the respondents indicated traditional television as the platform used to watch e-sports. Two years later, that share increased to 13%. Mixer belonging to **Microsoft** since 2016 (purchased as Beam and transformed into Mixer a year later) was indicated by 4% of Polish e-sports fans in May 2020. However, two months later, in July 2020, **Microsoft** closed its streaming platform and began cooperation with Facebook Gaming.

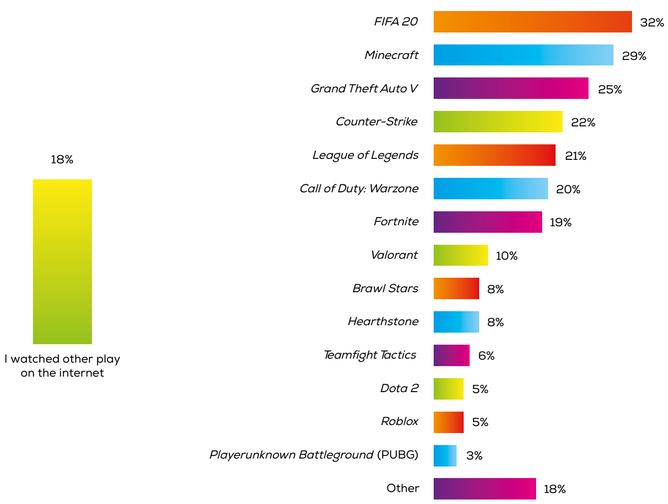
Chart 2.23.4. The habits of e-sports fans. The most popular eSports games in Poland



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

While analysing the results of the Polish Gamers Research for this and the previous year, it can be observed that Polish gamers are relatively stable with respect to the most popular e-sports games. *Fifa* by **Electronic Arts** is the leader, which recorded an increase of 1 percentage point in comparison to 2019. League of Legends by Riot Games is in the second position with a decrease of 2 percentage points, and Counter-Strike by **Valve** occupies the third location with the same result as in the previous year. 11% of the respondents indicated World of Tanks, a tank battle simulator developed by Wargaming studio from Belarus both this year and in 2019. *Starcraft* 2, a real-time strategy game by **Blizzard Entertainment** obtained 10% of the indications in 2019 and only 5% in 2020. Other games generated an insignificant number of indications at the level of 1-3%.

Chart 2.23.5. The habits of e-sports fans. The most frequently watched e-sports games in Poland

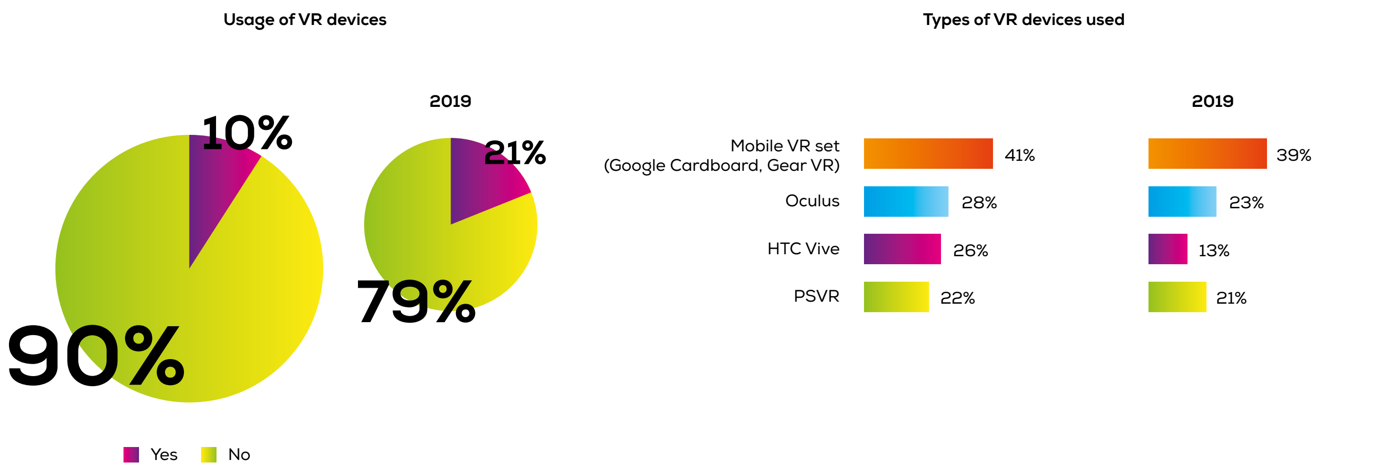


Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

18% of the respondents stated that they have watched another gamer play online within the recent month. The results of the most popular e-sports games should additionally be compared to the list of games which Polish gamers like to watch. *Fifa* by **Electronic Arts** achieved first place in that category again. However, the presence of games which do not belong to e-sports should be noted. The indicated titles included such games as Minecraft purchased by **Microsoft** for USD 2.5 billion or the famous *Grand Theft Auto* V by Rockstar, as well as Fortnite from **Epic Games** or *Call of Duty*: Warzone, a free-to-play battle royale, a part of *Call of Duty*: Modern Warfare.

2.24. The interest of Polish gamers in virtual reality (VR)

Chart 2.24.1. The popularity of VR among Polish gamers



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

Polish gamers have been asked the question about their experiences connected with directly using virtual reality technology. In comparison to 2019, a decrease has been observed in that area. Last year, 21% of the respondents declared that they had any experience at all with the VR technology. This year, that share decreased to 10%. Simple, unexpensive sets, such as **Google** Cardboard or Gear VR, developed with a designation for mobile devices, are invariably leading in the category of the most popular VR devices. Each of the more advanced sets, such as Oculus, HTC Vive or PlayStation VR, reaches approximately 1/4 of the respondents. That result is not surprising because of the high threshold connected with the prices of those devices. This year, Oculus, belonging to Facebook Technologies LLC, a subsidiary of Facebook Inc., manufacturing virtual reality sets, including Oculus Rift and Oculus Quest, was indicated by 28% of the gamers who have used VR devices. HTC Vive achieved 26% of the indications. PlayStation VR is on the worst position in that comparison - only 22% of the people who used VR sets indicated the **Sony** product. Although the share of all gamers using VR devices decreased year over year, a higher interest and testing of various types of devices can be observed among virtual reality fans.

2.25. Parents and children vs games

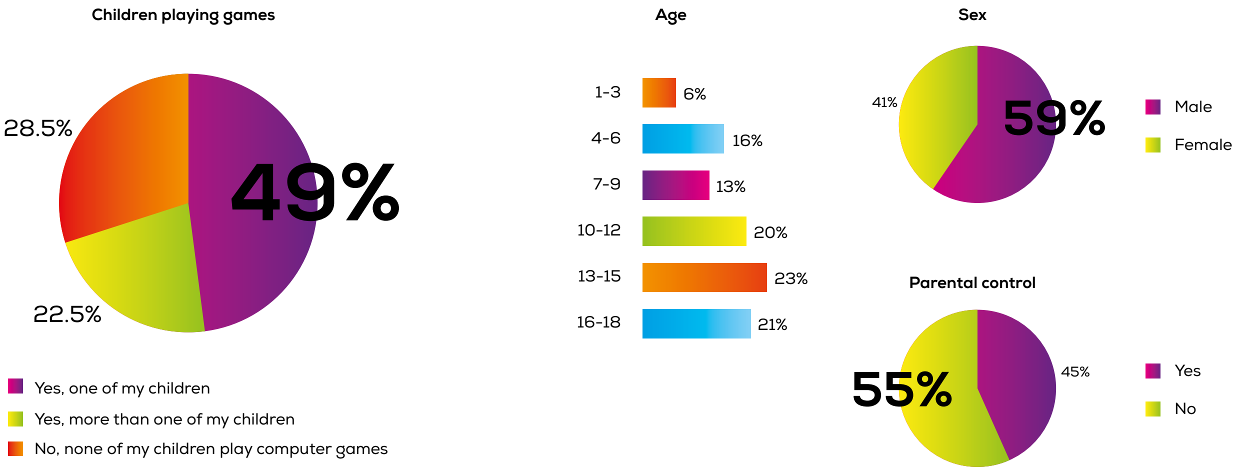
Similarly, as in 2018 and 2019, a significant part of the Polish Gamers Research has been devoted to consumer habits of the youngest Polish gamers and their parents. The research also focuses on the knowledge and the level of adherence to PEGI[49], European video game content rating system, and the level of parental control over children playing video games.

That part of the Polish Gamers Research 2020 is connected with the care about the youngest participants of the electronic entertainment world, who will be accompanied by video games throughout their entire childhood. The results of the research are addressed not only to game producers and distributors, but first of all to parents who are responsible for the development of their children. The research should raise a debate in the media, in particular dealing with parenting issues, in the public opinion and among parents because of the disturbing results. The survey indicates insufficient knowledge about PEGI among the parents of children playing video games and an insufficient adherence to the guidelines contained in that classification.

On the basis of the results of the Polish Gamers Research 2020, it has been observed that there is a need to intensify the efforts aimed at educating the parents within the scope of learning about and understanding the importance of following the age rating guidelines. The age rating confirms that a given game is appropriate for a person of a given age and it should support making a conscious consumer decision.

[49] PEGI offers age classification for video games in 38 European countries. The age rating confirms that a given game is appropriate for a person of a given age. PEGI system is recognised in the entire Europe and supported by the European Commission..

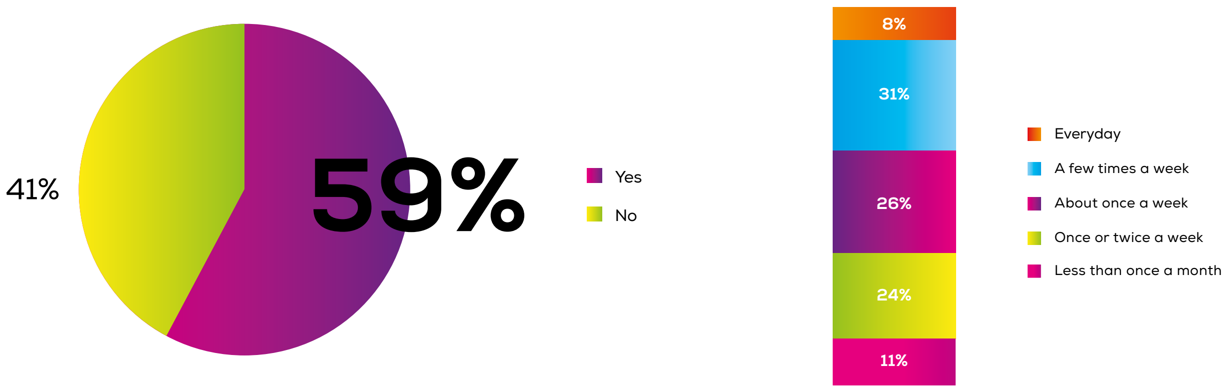
Chart 2.25.1. How many children in Poland play video games, what is their age and gender? What is the parental control level?



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

In the present survey, 72% of the parents positively answered the question whether their children up to 18 years of age played video games. It is 1% less than in 2019 and by 6% more than in 2018. 28% of the parents declare that their children do not play video games. The highest share of playing children (over 20%) is recorded in the age groups of 10-12, 13-15 and 16-18. Pursuant to the declarations of the parents, more boys than girls play video games (59%). 45% of the parents use the parental control technologies on the devices used by their children to play.

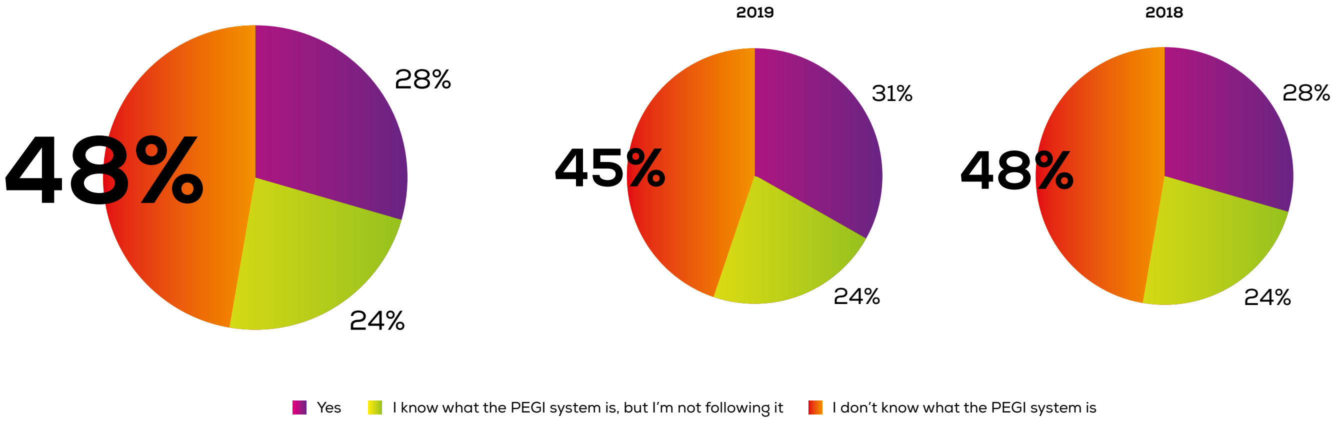
Chart 2.25.2. How many parents play with their children and how often?



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

A negative trend, which has been observed since 2018, is that less parents play with their children. In 2020, 41% of the parents provided a negative answer to the question whether they played video games with their children. In 2018, 69% of parents stated that they played with their children; in 2019 it was 65%. A positive phenomenon is that the parents who decide to spend their time with children playing video games do it more often than last year. 8% of the respondents play with their children every day (6% in 2019), 31% do it a few times a week (27% in 2019). The participation of parents in playing video games is very important from the point of view of controlling the time spent on playing and the contents consumed by the children. Parents who play video games are more conscious consumers, who understand the threats for the children's development connected with playing video games inappropriate for a given age.

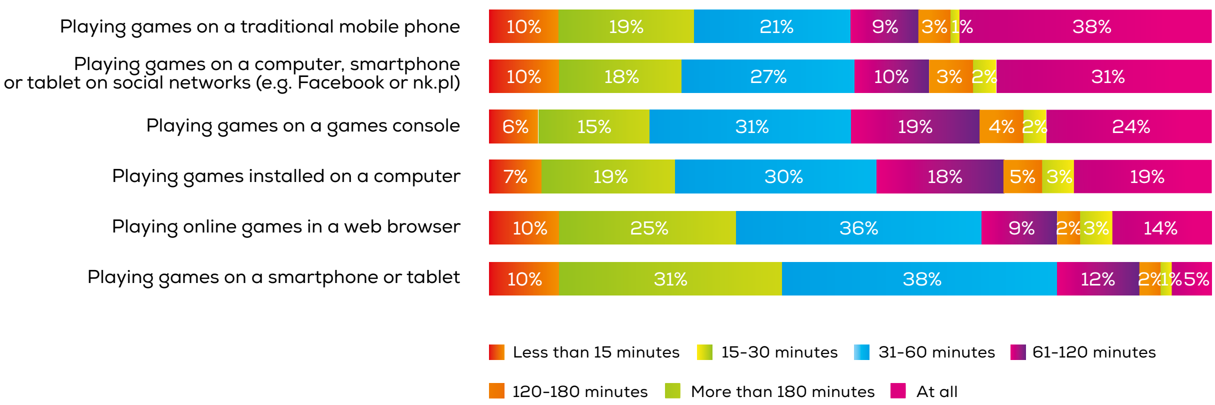
Chart 2.25.3. Familiarity with the PEGI system among parents



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

Familiarity with the PEGI age rating system (stickers and warnings specifying the age which is required for children to play a given game) and adherence to its guidelines are decreasing year after year in Polish society, which is quite disturbing. In comparison to 2019, 48% of parents admitted that they were not familiar with PEGI, which was by 3% more than the year before. 24% of parents ignore the recommendations of age ratings, although they are familiar with them. Only 28% of the parents know what PEGI is and follow its guidelines while purchasing or sharing games with children. Lack of knowledge or ignorance of the parents of playing children combined with an increased level of no parental controlling on the devices used by children to play video games (from 44% in 2019[50] to 55% in 2020) is a troubling forecast. The consequences may be noticeable not only in the development of children, but also in the functioning and perception of the game industry by the public opinion, investors, media and state authorities which currently support the sector.

Chart 2.25.4. Habits of underaged gamers. Game time

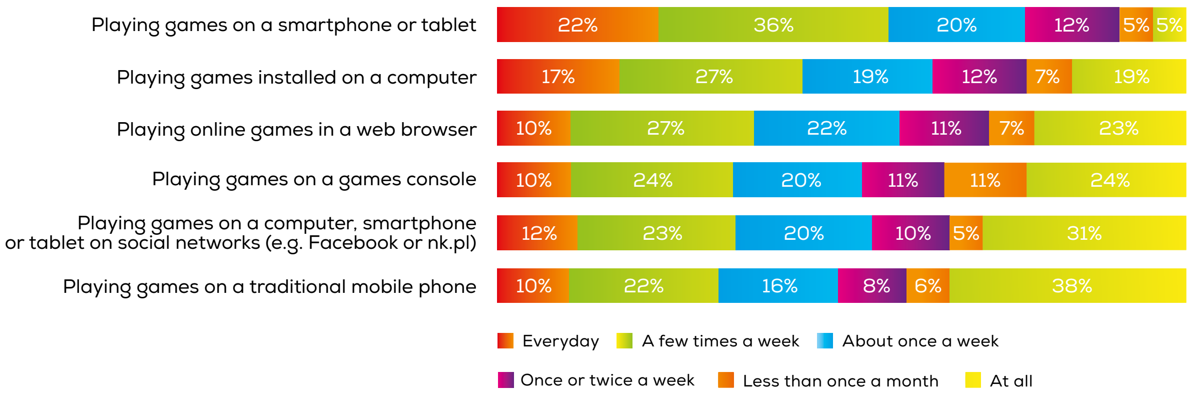


Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

Similarly, as in the case of the Polish Gamers Research last year, according to the parents, their children usually spend from 31 to 60 minutes on a single gaming session. The highest share in that group are children using smartphones (38%). 36% of children playing browser games, 31% of those using consoles and 30% of children using personal computers also spend from 31 to 60 minutes on a single session. It should be noted that 19% of children using consoles, 18% of children using personal computers and 12% of children playing on smartphones and tablets spend from 61 minutes to 2 hours on a single session. From 2 to 3 hours are spent on a single gaming session by 3% of children playing on traditional telephones and social networks, 4% of console users and 5% of personal computer users.

[50] Polish Gamers Research 2019, https://Polishgamers.com/pgr/Polish-gamers-research-2019/parentschildren-gaming-habits/using-parental-control/.

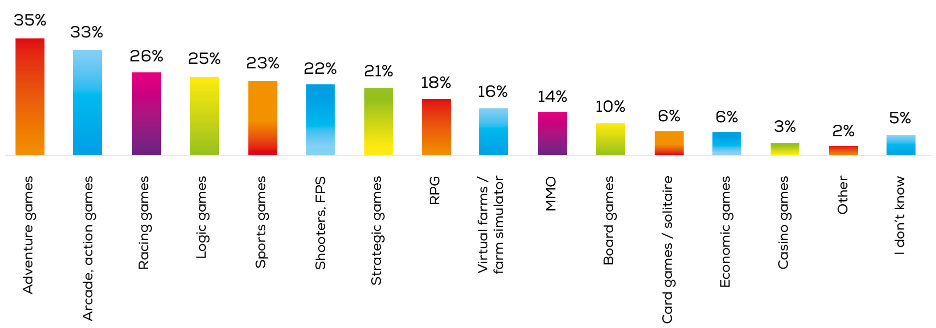
Chart 2.25.5. Habits of underaged gamers. Gaming frequency



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

In relation to the results for the previous year, the share of children playing every day on all five platforms decreased. The highest decrease has been observed for mobile devices. In 2019, 30% of children played on smartphones every day, while in 2020 those were only 22%. A significant decrease by 15 percentage points has also been recorded in the case of games on social media, such as Facebook or nk.pl - from 27% in 2019 to 12% a year later. That phenomenon can be explained, among others, by the decreasing popularity of Facebook among the youngest Internet users. The frequency of every day playing on consoles decreased by 5 percentage points to 10% in 2020 and by 7 percentage points for browser games, also to 10% in the recently analysed period. The most stable results have been observed for games installed on personal computers - a decrease amounted to only 3 percentage points YoY. Such a change in the behaviour of some parents may be caused by better knowledge concerning the impact of spending time playing on a child's development, including sight. This knowledge is spread by the World Health Organisation, medical practitioners and parenting media.

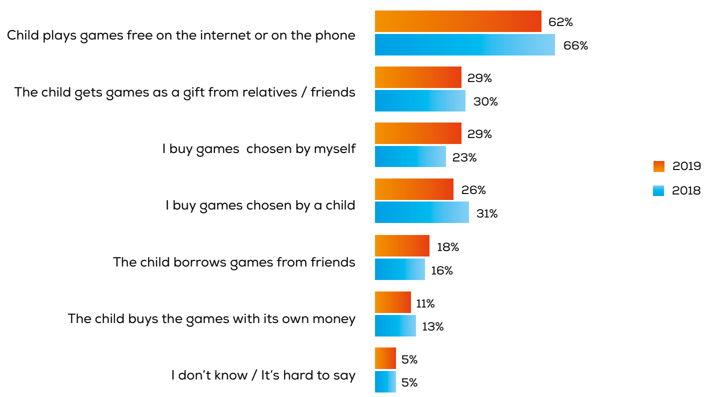
Chart 2.25.6. Habits of underaged gamers. Favourite game genres



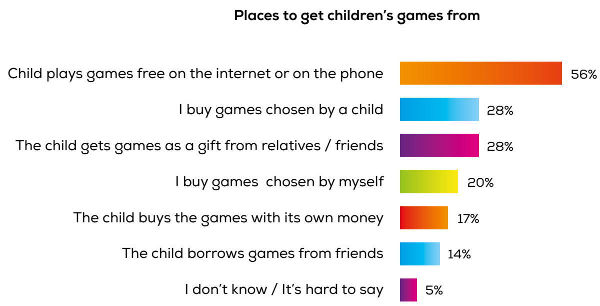
Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

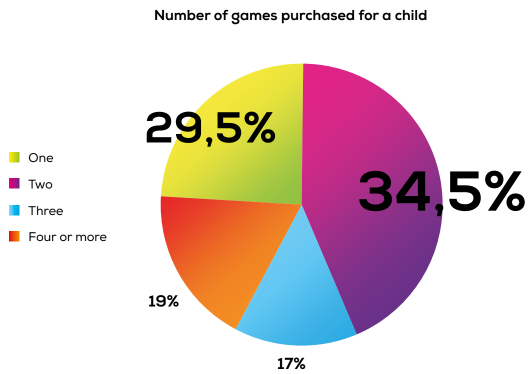
According to parents of gaming children, 35% of them prefer adventure games, 33% choose arcade games, over 20% like racing, logic, sports games, shooters and strategic games. According to 18% of the parents, their children choose RPGs and 16% choose farming simulators. 3% admitted that their children played games that simulate casinos, which is surprising as such games are addressed to adults.

Chart 2.25.7. Habits of underaged gamers. Sources of new games, games purchased by parents Comparison of the results for 2018–2020



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.



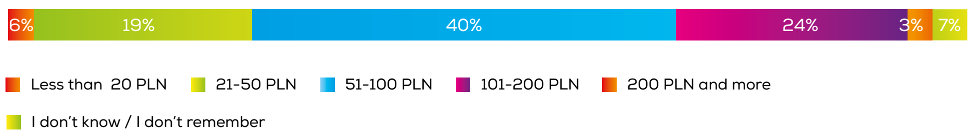


Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

When compared to 2018 and 2019, in 2020 the share of children playing free games available on the Internet on personal computers or smartphones decreased. However, that group still constitutes 56% of playing children. The second place was occupied ex aequo by two answers at the level of 28%. The first refers to gifts received from the family and was at a similar level in the previous year (29%). It is surprising that the share of parents purchasing the games directly specified by children increased, while the parents who independently buy the games of their choice for children decreased (29% in 2020, decrease by 9 percentage points YoY). That answer confirms the trend of lower involvement of the parents in controlling the contents consumed by their children. The parents are more willing to allow their children to individually choose their games than in the previous years; additionally, more children purchase games for their own money (increase by 6 percentage points YoY) than in 2018 and 2019. The children less frequently borrow games from friends (decrease by 4 percentage points YoY), but it may be directly connected with the coronavirus pandemic.

During the survey, parents of children playing video games were asked about the average number of games they purchased for their children within the last 12 months. The results are similar to the previous year. The highest number of parents purchased one (29.5%) or two (34.5%) games. 17% of parents purchased three games, 19% - four or more.

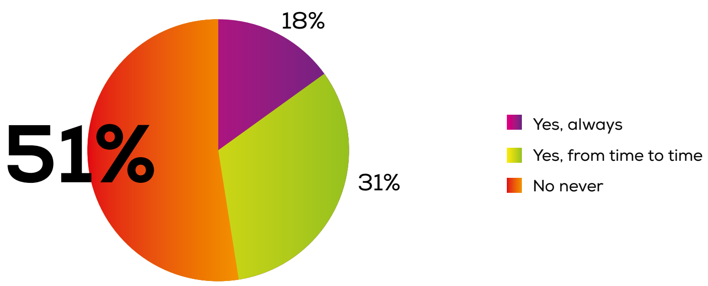
Chart 2.25.8. Habits of parents of underaged gamers. Average amounts spent on games



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The amounts usually spent by parents on games for their children did not significantly change in comparison to 2019. 40% of parents are willing to spend PLN 51-100 on a game. The share of parents spending PLN 101-200 decreased by 9 percentage points in 2020, which can be directly connected with the lockdown in the country, during which the survey was conducted.

Chart 2.25.9. Habits of parents of underaged gamers. Allowing children to buy skins and items in games

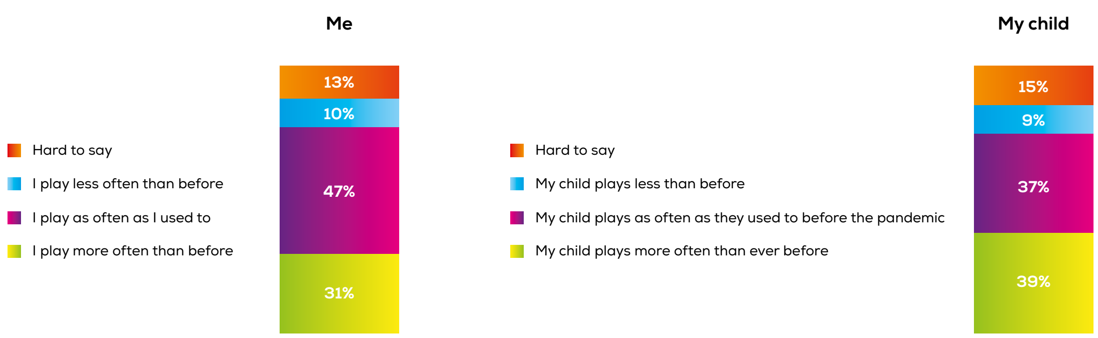


Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

Parents were asked whether they allowed their children to buy skins, virtual items and virtual currency. According to the answers, opinions differ in that scope. 51% of parents do not allow such purchases, 31% allow them only from time to time and 18% of parents always agree for such purchases.

2.26. The impact of the coronavirus pandemic on the habits of Polish gamers and amounts spent on games

Chart 2.26.1. Coronavirus pandemic and the habits connected with gaming frequency



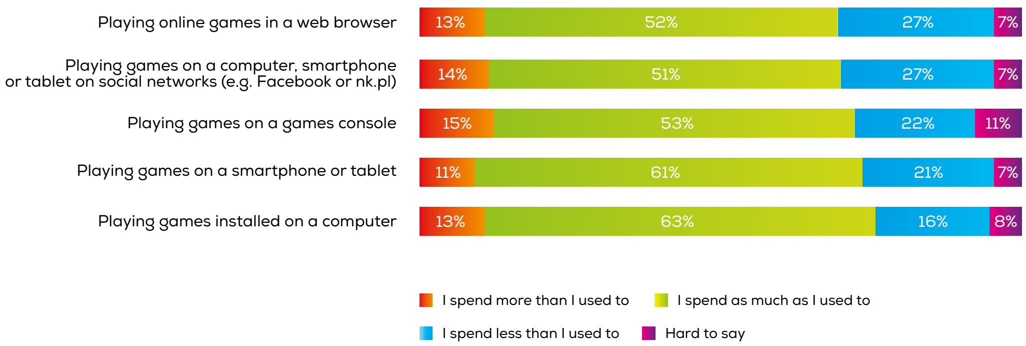
Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The current Polish Gamers Research has been conducted in May 2020, during the lockdown caused by the coronavirus pandemic. The survey was expanded by questions concerning the impact of the pandemic and social isolation on gaming habits and amounts spent in games and on games.

It is not surprising that the forced stay at home increased the interest in gaming as a form of passing time, both among adults and children. 31% of the adult respondents declared that they played more frequently because of the pandemic. Only 10% stated that they played less frequently than before the COVID-19 pandemic.

According to declarations of parents, 39% of children played more frequently during the pandemic and only 9% played less frequently than before the lockdown. The trends on the Polish market are similar to those observed in other countries. In accordance with the data from the Video Game Tracking (VGT) tool delivered by an American research company, Nielsen, in order to analyse the consumer behaviours among the gamers, the number of gamers who admitted playing more frequently during the COVID-19 pandemic increased from March 23 2020. The highest increase has been observed in the United States (46%), France (41%), United Kingdom (28%) and Germany (23%)[51].

Chart 2.26.2. Coronavirus pandemic and the expenditures of gamers using different platforms



Source: compiled based on the results of the Polish Gamers Research 2014 - 2020.

The Polish gamers who declared that they paid for games or made in-game purchases, have been asked about the impact of the pandemic on their expenditures on specific platforms. On the basis of the answers received in May 2020, it has been noticed that more frequent gaming as a result of the lockdown did not correspond to increased expenditures. In the case of the majority of gamers, their spending level did not change. The share of answers regarding increased expenditures for games is at the level of 11-15%, however, apart from games for personal computers, the number of answers stating decreased expenditures for games is twice more frequent than their increase. 27% of the gamers playing browser games and games on social networks declared lower expenditures connected with gaming. 22% of console users and 21% of mobile gamers also decreased their gaming expenditures. The lowest savings have been observed among gamers using personal computers (16%).

Some of the gamers decided to save because of the uncertainty regarding employment and economic situation. On the other hand, free-to-play games, popular in Poland, allow many hours of entertainment without involving any financial resources. Some of the gamers may also decide to return to the games they purchased in the past or received during promotions, which have previously been put aside.

[51] The Nielsen Company, *3, 2, 1 GO! Video Gaming Is at an All-time High during COVID-19*, https://www.nielsen.com/us/en/insights/article/2020/3-2-1-go-video-gaming-is-at-an-all-time-high-during-covid-19/.

CHAPTER III
Profile of Polish gamedev

3.1. The impact of COVID-19 pandemic on the Polish gaming industry

Introduction

The general opinion is that the pandemic did not have any negative impact on the gamedev studios; to the contrary, it has contributed to increased revenues, which has already been mentioned in the first chapter. Although the "*Polish Gamedev 2019*" research was conducted at the turn of 2019 and 2020, before the coronavirus pandemic, we decided to expand the report by additional information connected with activities of the companies already during the pandemic. In the opinion of the authors, that unprecedented event affecting all domains of life should be taken into account right now and its long-term consequences will be examined in the next edition of the report. Information presented in this report were collected during in-depth interviews with the representatives of over 30 companies from the Polish video games sector.

Selling games during the pandemic

The beginning of the pandemic and implementation of the related lockdown resulted, among others, in a significant increase in consumption of the media and widely understood electronic entertainment, including video games. All of our interlocutors confirmed that sales results in the pandemic months and during the period of various restrictions are satisfactory. Damian Fijałkowski from **T-Bull** noted that it was the only available form of entertainment for some time: "*They did not go to the movies or restaurants; that role has been automatically assumed by Netflix, YouTube and video games. Children and adults had to pass the time in the afternoons, so all streaming services and online gaming systems became extremely popular.*"

It seems that the producers of mobile games are the most optimistic in assessing the pandemic results, as they unanimously stated that the restrictions had a positive impact on involvement of the gamers and acquisition of new users. It should be remembered that because of the specific nature of mobile platforms and the used payment systems, the producers of mobile games receive the information about sales increase much faster. In the case of personal computers or consoles, the access to sales reports is extended in time and sales results significantly depend on the life-cycle of the products.

The above does not change the fact that the representatives of the studios working on such productions positively assess the results of their games as well. In some cases, the pandemic and introduction of global restrictions coincided in time with releases of Polish games. This was the case, among others, with the expansion to *Green Hell* implementing the cooperation mode: "*There was that moment when the virus was spreading and we did not conduct any promotional actions, but the sales of Green Hell increased by about 20%. A while later, we released the expansion, which resulted in even more growth,*" says Krzysztof Kwiatek from **Creepy Jar**.

Piotr Babieno from **Bloober Team** is moderately optimistic about the results of their sales: "*It is true, the sales increased a little, but I would not say that it was an enormous change. It is not an extraordinary growth, because our games are mainly sold during sales, but I am satisfied. However, some of my colleagues say that their results increased considerably.*"

Challenges regarding work organisation during the pandemic

According to the interviews with the representatives of the sector, organisation and adjustments at the studios to work in the pandemic situation were not problematic, although there were some challenges regarding technical, production and administrative aspects of such migration. In the case of the majority of the teams, adjustment to the new reality and remote work took from one to two weeks. Efficient implementation of remote work results from technological advancement of the companies, using the tools which can be used to work that way also during ordinary times etc. It should also be noted that the companies which implemented such mechanism earlier found it much easier to change their working methods. Michał Mielcarek from **Draw Distance** notices that: "*We managed to implement home office very smoothly, as we have been preparing for it for some time. We did not really need it; it was aimed more at having a kind of emergency solution. It is obvious that sometimes people are ill, sometimes they prefer to stay at home, and we strive to encourage our employees to complete their projects, not force them to sit at work for eight hours.*"

The Internet connection quality in Poland, one of the best in Europe, also contributed to easier implementation of new processes in the companies. In practice, it means that the employees of gaming studios usually had access to broadband Internet connections at home, which made their work significantly easier.

The studios have also generally allowed unrestricted access to office space for the employees who could not work at home. They implemented the appropriate precautions: face masks, body temperature control, division of the teams into groups or allowing the use of the offices only on specific days.

Although switching to remote work was relatively seamless, after a few months of such work, they are able to define the biggest challenges and problems. The most common problem was communication and a widely understood exchange of knowledge inside the company, which usually took place in informal office situations. Jakub Rokosz from **Fools Theory** admits that it was one of the largest problems at the beginning of the pandemic:

"The challenge we faced was learning new ways of communication. It is much easier to communicate with someone sitting next to you. We had to make people aware that the receiver icon is there for them to emulate such everyday situations in the office. Currently, I call people about 40 times a day." In the opinion of the majority of our interlocutors, the information exchange process while discussing projects or approving milestones is slightly limited because of remote work conditions. The application of appropriate communication procedures, and even implementation of additional IT solutions in the case of some companies, partially mitigates the consequences of that problem. Przemysław Marszał from **11 bit studios** noticed another aspect of communication problems: *"I am positively surprised, the projects are progressing, the teams have learned a lot. With respect to remote work, we are planning such meetings. We have three principal teams and a few additional ones, such as marketing or publishing, and we encourage them to share their knowledge about functioning at home office, to exchange the mechanisms we learned. There are teams working perfectly and those who still need various solutions."*

Establishment of new procedures making it easier for the teams to work at home was a challenge for smaller studios which used to rely mainly on office meetings. Quality testing turned out to be a problem, in particular in the case of mobile studios, as it could not be conducted in a remote manner because of lack of access to the required IT equipment. Paweł Gumiński, the owner of **Rage Quit Games**, states that: *"Our production slowed down, in my estimate by about 20-30%. However, our revenues increased significantly, which compensates the losses incurred in other areas."*

The impact of the pandemic on employment

Apart from work organisation during the pandemic, another challenge for Polish gamedev companies was re-organisation of the entire recruitment and employee onboarding process. We have emphasised many times that regardless of the successes achieved, the Polish game developers very often encounter staff deficiencies and low availability of qualified employees on the labour market. Therefore, efficient organisation of the recruitment process during the pandemic was very important.

Interviews with the representatives of the sector prove that the first months of the pandemic and lockdown almost entirely suspended all recruitment processes in the companies. On one side, the general uncertainty made the studios suspend their recruitment procedures, analysing the financial situation or moving the human resources to support already employed personnel. On the other hand, the potential candidates were also more careful with changing their employers or online recruiting. Przemek Marszał from **11 bit studios** states that *"at the beginning of the pandemic, recruitment really slowed down. The general rules were changed, there were different options available in relation to meeting the candidates, there was also anxiety about the employees. People did not know where they stood, they were less resistant to risks and decision-making stopped."*

In the general opinion of the industry's representatives who talked to us, the stagnation lasted from March to May 2020. In that period, the companies managed to develop recruitment procedures and standards for the new conditions, often entirely online. The job interviews in that form were relatively easy to organise, but the onboarding of the new employees turned out to be much more difficult. Grzegorz Dymek (**Anshar Studios**) notes that a lot depends on the experience of the employees: *"If you recruit a senior, they should manage, but I would be concerned about recruiting and introducing a junior to the company entirely online."* Remote onboarding was something both the companies and the employees had to learn in a very short time.

It seems that the pandemic will also contribute to the popularisation of remote work and outsourcing in the video game industry, in particular because of their task-based nature. No requirement to work in the office and the general changes occurring in behaviours and approaches to work, both among the candidates and the employers, significantly favour such cooperation and, additionally, result in geographical expansion of recruitment.

Cyberpunk 2077, CD Projekt RED

3.2. Selected Polish game developers on the Warsaw Stock Exchange

Note: EBIT and EBITDA present the operating profit reported by the companies.

11 bit studios

Market value (2020-10-30): PLN 1,134.63m

11 bit studios is a Warsaw-based studio present in the gaming sector since 2009. In October 2010, the company entered the NewConnect market and in December 2015 it moved to the main trading floor. The studio specialises in producing PC and console games. Own titles of the company include the Anomaly franchise (the first productions of the company released in the years 2011–2014), *This War of Mine* (released on 14.11.2014 for PC, Metacritic rating 78–83/100 depending on the platform, the total revenues on sale of the game and expansions exceeded PLN 100 million and the company sold over 4.5 million copies) and *Frostpunk* (released on 24.04.2018 for PC, Metacritic rating 84–87/100, revenues on sale of the game exceeded PLN 100 million, the sales volume is over 1.4 million copies one year after release). Currently, the company is working on three projects developed by the studio, with release dates planned for 2022+. Simultaneously, the company is developing its publishing division (11 bit Publishing), whose portfolio included among others Tower 57, Beat Cop, *Moonlighter* (over 1 million copies sold) and *Children of Morta*. Currently, the studio is working on four publishing projects.

In September 2020, the company employed 150 people.
In 2019, the company generated PLN 71.2 million revenues (-13% YoY), PLN 23.9 million operating profit (-49% YoY) and PLN 21.7 million net profit (-42% YoY).

Table 3.1. 11 bit studios – summary of financial results in the years 2018–2020 (PLN million)

11B PW (PLN million)	2018	2019	1st half 2020
Revenues	82,1	71,2	50,3
EBITDA	51,4	30,3	31,2
EBIT	46,9	23,9	26,4
Net profit	37,5	21,7	25,0

Source: Company, IPOPEMA Research

7Levels

Market value (2020-10-30): PLN 13.13m

7levels is a developer of **Nintendo** video games specialising in platform games. Since 2014, the company has been developing, testing and distributing titles for various platforms under commissions of other producers. In 2018, the shares of the company were introduced to the NewConnect market.

Until now, the company published such games as: Castle of Heart (Metacritic rating around 50/100), Warplanes: WW2 Dogfight (Metacritic rating around 50/100), Golf Peaks (Metacritic rating around 80/100), Jet Kave Adventure, Inbento, Destrobots, Crowdy Farm, Solitaire TriPeaks Flowers.

In June 2020, the company published its game - Destrobots. Its rating at Metacritic reached 70/100.

In 2019, the team of **7levels** was composed of 13 people.
In 2019, the company generated PLN 2.04 million revenues (+214% YoY), PLN

Table 3.2. 7levels – summary of financial results in the years 2018–2020 (PLN million)

7LV PW (PLN million)	2018	2019	I poł. 2020
Revenues	0,65	2,04	0,99
EBITDA	–1,04	–0,63	0,19
EBIT	–1,07	–0,63	0,19
Net profit	–1,06	–0,63	0,21

Source: Company, IPOPEMA Research

All in! Games

Market value (2020-10-30): PLN 517.02m

Note - the results for previous years were not connected with the video games industry.

All in! Games is a Polish producer and publisher of video games, operating since 2018, with its registered office in Kraków. In October 2019, Setanta signed the merger plan with **All in! Games**. The merger was concluded in 2020. Setanta debuted on the main trading floor of the Warsaw Stock Exchange in January 2017, moving from the NewConnect market, where it was present from January 2013.
All in! Games publishes games for PC, PS4, Xbox One and **Nintendo** Switch, designated for the international and the Polish market.

Until now, the company published such games as: Metamorphosis, Paradise Lost, Tools Up!, Space Company Simulator, Alaloth: Champions of the Four Kingdoms, Fort Triumph, Arboria, Of Bird and Cage, Space Cows and Ghostrunner.

At the beginning of 2020, **All in! Games** employed over 50 people.

Table 3.3. All in! Games – summary of the financial results in the years 2018–2020 (PLN million)

ALG PW (PLN million)	1st half 2020
Revenues	0,00
EBITDA	-0,06
EBIT	-0,06
Net profit	-0,06

Source: Company, IPOPEMA Research

Artifex Mundi

Market value (2020-10-30): PLN 96.37m

Artifex Mundi is a producer of video games, specialising in hidden object puzzle adventure (HOPA) games and RPGs for mobile platforms. The company was established in 2006 and listed at the WSE since November 2016. The company is recognised mainly because of its extensive HOPA games portfolio including approximately 80 titles. Currently, the company is active porting older games (initially released for PC) to consoles, including **Nintendo** Switch. Within the scope of developing the HOPA games segment, the company is working on the Unsolved application which should enable gathering all games of the studio in one place. Currently, the app contains 14 games and it should be expanded by new titles soon (the management does not exclude creating more applications). With respect to RPG, **Artifex** is focusing on the production of Bladebound, a mobile game released in November 2017, now expanded by Boss Challenges and time-limited events. **Artifex** also began initial design works on its new production, which will presumably not be revealed before 2021.

Artifex Mundi currently employs 85 people (September 2020), including 28 people working on HOPA productions, 32 on F2P RPG and 24 people in the company back office.

In 2019, the company generated PLN 16.7 million revenues (-17% YoY), PLN 14.4 million operating loss (vs. PLN 12.9 million in the previous year) and PLN 13.7 million net loss (vs. PLN 10.5 million in the previous year).

Table 3.4. Artifex Mundi – summary of financial results in the years 2018–2020 (PLN million)

ART PW (PLN million)	2018	2019	1st half 2020
Revenues	20,1	16,7	5,6
EBITDA	-12,4	-13,0	2,2
EBIT	-12,9	-14,4	1,8
Net profit	-10,5	-13,7	1,4

Source: Company, IPOPEMA Research

Bloober Team

Market value (2020-10-30): PLN 247.42m

Bloober Team is a producer of psychological horror games operating on the market since 2008 and listed on the NewConnect market since 2011. The company's team is composed of 120 people (September 2020). The portfolio of the company includes such games as: Layers of Fear (released on 15.02.2016, Metacritic rating 72–78/100 depending on the version), >observer_ (released on 15.08.2017 r., Metacritic rating 77–86/100), Layers of Fear 2 (released on 28.05.2019, Metacritic rating 63–70/100) and *Blair Witch* (released on 30.09.2019, Metacritic rating 65–69/100, the game was released within Xbox Game Pass). The company's strategy assumes expansion of the business within the widely understood horror genre. New games will contain more action and will be created in the third-person perspective (TPP). The production will last longer, which should enable better quality and higher unitary prices (over USD 30 per copy). The management is planning a simultaneous production of two large titles (one release every 1.5-2 years) and smaller productions in cooperation with external studios. In 2020, the studio plans a release of The Medium - a psychological horror with two-screen gameplay, and a remaster of >observer<. **Bloober** also cooperates with a global publisher on the game based on the partner's IP (production budget exceeding PLN 30 million). The company is currently analysing its strategic opportunities (M&A transaction is considered).

In 2019, the company generated PLN 28.9 million revenues (+17% YoY), PLN 4.7 million operating profit (+0% YoY) and PLN 3.1 million net profit (-14% YoY).

Table 3.5. Bloober Team – summary of financial results in the years 2018–2020 (PLN million)

BLO PW (PLN million)	2018	2019	1st half 2020
Revenues	24,6	28,9	20,6
EBITDA	5,3	5,7	8,6
EBIT	4,7	4,7	5,9
Net profit	3,6	3,1	8,2

Source: Company, IPOPEMA Research

BoomBit Games

Market value (2020-10-30): PLN 263.03m

Boombit Games focuses on the mobile games market, in the free-to-play segment (F2P). The company was established in 2012 and entered the WSE in 2018. **Boombit Games** is involved both in producing its own games and publishing external titles. In total, the company produced over 500 games for Android and iOS (over 550 million downloads), which include Dancing Line (over 100 million downloads), Darts Club and Tiny Gladiators. The leading titles of the studio also include Tanks a Lot! The company produces its games on GAAS and GAAP models. In 2020, Boombit decided to expand the hyper-casual games segment (simple games monetised by installed advertisements), which currently (2020) constitute the dominating part of the company's revenues. It is also intensively developing the analytics, business intelligence and user acquisition divisions, employing a team composed of a few dozens people. The entire capital group employs 170 people in 12 countries.

In 2019, the company generated PLN 49.7 million revenues (+33% YoY), PLN 11 million operating loss (vs. PLN 10.5 million profit in 2018) and PLN 9.9 million net loss (vs. PLN 8.4 million in 2018).

Table 3.6. BoomBit Games – summary of financial results in the years 2018–2020 (PLN million)

BBT PW (PLN million)	2018	2019	1st half 2020
Revenues	37,5	49,7	70,2
EBITDA	14,9	–4,3	16,1
EBIT	10,5	–11,0	10,4
Net profit	8,4	–9,9	8,4

Source: Company, IPOPEMA Research.

Carbon Studio

Market value (2020-10-30): PLN 87.24m

Carbon Studio is an independent producer of video games designed for virtual reality devices. The company was established in July 2015 and is involved in creating games on all stages, starting from the design, through production and marketing, and ending with distribution in digital stores. Its position on the market was established because of The Wizards franchise. The series was appreciated by the gamers - with Metacritic rating at the average level of 80/100 and over 150 thousand copies sold. The company participated in development of such titles as: Painkiller Hell & Damnation, *Deadfall Adventures* and Get Even. In 2020, the company began the work on Warhammer Age of Sigmar, a fantasy game designated for VR. Currently, Carbon Studio employs over 20 people.

In 2019, the company generated PLN 2.02 million revenues (+130% YoY), PLN 1.27 million operating profit (+234% YoY) and PLN 1.13 million net profit (+232% YoY).

Table 3.7. Carbon Studio – summary of financial results in the years 2018–2020 (PLN million)

CRB PW (PLN million)	2018	2019	1st half 2020
Revenues	0,88	2,02	0,82
EBITDA	0,40	1,48	0,42
EBIT	0,38	1,27	0,27
Net profit	0,34	1,13	0,46

Source: Company, IPOPEMA Research.

CD Projekt

Market value (2020-10-30): PLN 32,238.65m

CD Projekt was established in 1994. It entered the WSE in 2010 as a result of a merger with Optimus **S.A.** At the beginning, the company's business was focused on the distribution of foreign games in Poland. In 2002, its development studio, **CD Projekt** Red, was established, and in 2003 it began working on the first part of *The Witcher* series based on the books by Andrzej Sapkowski. The game was developed by a team of 100 people with a budget of PLN 20 million. The company released three games from that franchise: *The Witcher* (released on PC on 26.10.2007, Metacritic rating 86/100), *The Witcher* 2: Assassins of Kings (released on PC 17.05.2011 r., Metacritic rating 88/100) and *The Witcher 3*: *Wild Hunt* (released on PC/PS4/XONE 19.05.2015 r., Metacritic rating 91–93/100), which were sold in over 50 million copies in total. *The Witcher 3* was among the most distinguished titles, winning over 300 awards until the end of 2015. In the following years, **CD Projekt** released two expansions to *The Witcher 3* (Hearts of Stone and Blood and Wine), as well as *Gwent*: *The Witcher* Card Game (23.10.2018, Metacritic rating 80/100) and Thronebreaker: *The Witcher Tales* (23.10.2018, Metacritic rating 80–85/100). Currently, the company is working on its largest project: *Cyberpunk 2077*, its release is planned for 19 November 2020. Until now, the game has received over 200 awards, becoming one of the most expected titles in 2020. A team of over 400 people is involved in its production.

In 2008, **CD Projekt** created the GOG.com website, a digital games distribution platform. Currently, GOG offers over 4,100 titles. Since 2018, the group also includes the Spokko studio responsible for production of a mobile game in AR technology, *The Witcher: Monster Slayer*, which should be released in the incoming years.

Currently (June 2020), the **CD Projekt** group employs nearly 1,100 employees, including approximately 700 developers. The company's medium-term strategy assumes simultaneous work on two AAA productions.

In 2019, the company generated PLN 521.3 million revenues (+44% YoY), PLN 180.3 million operating profit (+60% YoY) and PLN 175.3 million net profit (+60% YoY).

Table 3.8. CD Projekt – summary of the financial results in the years 2018–2020 (PLN million)

CDR PW (PLN million)	2018	2019	1st half 2020
Revenues	362,9	521,3	364,0
EBITDA	129,0	217,8	174,3
EBIT	112,4	180,3	156,1
Net profit	109,3	175,3	146,8

Source: Company, IPOPEMA Research.

Cherrypick Games

Market value (2020-10-30): PLN 58.72m

Cherrypick Games is specialised in production of free-to-play (F2P) games for mobile platforms (Android, iOS). The company was established in 2014 by former managers of such undertakings as **CI Games** and Atari. It is listed on the NewConnect market since 2017. Until now, **Cherrypick** released 20 games, which have been downloaded over 22 million times. The most popular titles of the studio include Touchdown Hero (global release in 2014), My Hospital (global release in 2017) and My Beauty Spa: Stars & Stories (global release in 2018). In 2018, the company sold the rights to My Hospital to KuuHubb, which did not pay the related liabilities. In 2020, **Cherrypick** won the case in the arbitration court in Helsinki, which means that KuuHubb is obliged to repay the liabilities together with interest. Currently, the key productions of the company include Solitaire: Wildlife Adventures (version 1), developed in cooperation with the publisher, Huuuge Games, and Solitaire: Wildlife Adventures (version 2), developed in cooperation with the Skillz Inc. platform. **Cherrypick** is also working on Crime Stories, a visual novel game, currently without a release date. At the end of the first half of 2020, the company employed 16 employees.

In 2019, the company generated PLN 5.3 million revenues (+33% YoY), PLN 3.4 million operating loss (vs. PLN 1.1 million profit in 2018) and PLN 3.0 million net loss (vs. PLN 0.7 million profit in 2018).

Table 3.9. Cherrypick Games – summary of financial results in the years 2018–2020 (PLN million)

CHP PW (PLN million)	2018	2019	1st half 2020
Revenues	4,0	5,3	2,4
EBITDA	1,5	–2,7	–0,5
EBIT	1,1	–3,4	–0,8
Net profit	0,7	–3,0	–0,3

Source: Company, IPOPEMA Research.

CI Games

Market value (2020-10-30): PLN 197.58m

CI Games conducts independent publishing, production and distribution activities in the premium segment of the global video games market. The company began its operating activities in 2002 and entered the WSE in 2007. Currently, **CI Games** operates in Warsaw, New York and Amsterdam. The most popular titles of the company include the *Sniper: Ghost Warrior* series (total sale of over 7 million copies, Metacritic rating around 50–60) and Lords of the Fallen (Metacritic rating 73/68/71, as appropriate, for PC/PS4/XONE, over 9 million copies sold). Currently, **CI Games** is working on continuation of *Sniper: Ghost Warrior Contracts* (release planned in 2020) and Lords of the Fallen 2, which will be developed by a newly established subsidiary studio of the company, Hexworks (development team of approximately 25 people). Since 2018, **CI Games** also conducts publishing activities under the United Label brand, whose portfolio includes such titles as Röki or Eldest Souls. At the end of 2019, the team of **CI Games** was composed of 56 people, including 41 developers.

In 2019, the company generated PLN 47.5 million revenues (+16% YoY), PLN 1.0 million operating profit (vs. PLN 22.4 million loss in the previous year) and PLN 2.9 million net loss (vs. PLN 22.7 million loss in the previous year).

Table 3.10. CI Games – summary of the financial results in the years 2018–2020 (PLN million)

CIG PW (PLN million)	2018	2019	1st half 2020
Revenues	22,0	47,5	27,0
EBITDA	–10,9	20,5	16,7
EBIT	–22,4	1,0	5,2
Net profit	–22,7	–2,9	4,7

Source: Company, IPOPEMA Research.

Creativeforge Games

Market value (2020-10-30): PLN 64.81m

Creativeforge Games was established in 2011 and has been present on the NewConnect market since 2018. It specialises in producing games for PC and consoles. The company's portfolio includes such titles as Ancient Space (PC, released on 23.09.2014, Metacritic rating 68/100), Hard West (PC/Switch, released on 18.11.2015, Metacritic rating 73/100, over 700 thousand copies sold) and Phantom Doctrine (PC/PS4/XONE/Switch, released on 14.08.2020, Metacritic rating 67–73/100 depending on the platform). The company's strategy includes the development of tactical, strategic and other games. Within the scope of marketing support, publishing and testing, the company cooperates with the **PlayWay** group (which is also its strategic shareholder). The key productions presently developed by the company include: Aircraft Carrier Survival, *House Flipper City*, Builders of Greece and two unrevealed titles based on movie IP. **Creativeforge** is also active in the publishing area, partially financing the games published by it. The team is composed of approximately 45 developers (September 2020) and the majority of the team holds at least five years of experience in the gaming sector.

In 2019, the company generated PLN 1.6 million revenues (-56% YoY), PLN 0.2 million operating loss (vs. PLN 0.7 million loss in 2018) and PLN 0.2 million net loss (vs. PLN 0.9 million loss in 2018).

Table 3.11. Creativeforge Games – summary of financial results in the years 2018–2020 (PLN million)

CFG PW (PLN million)	2018	2019	1st half 2020
Revenues	3,7	1,6	1,6
EBITDA	-0,6	-0,1	0,4
EBIT	-0,7	-0,2	0,4
Net profit	-0,9	-0,2	0,4

Source: Company, IPOPEMA Research.

Creepy Jar

Market value (2020-10-30): PLN 689.6m

Creepy Jar is an independent game developer from Warsaw specialising in the survival simulation genre. The company was established in 2016 and entered the NewConnect market in August 2018. The management is planning to move the company to the main trading floor at the turn of 2020 and 2021. The **Creepy Jar** team gathered their experience in Polish studios specialising in AAA games, in particular **Techland**. Its first production, *Green Hell*, a survival simulator in the Amazonian jungle, was released at Steam (PC) with early access on 29.08.2018, but its popularity significantly increased after the expansion introducing the cooperation mode, which was released in April 2020. In June 2020, the game sales exceeded 1 million copies. The Metacritic rating of the game is 77/100. The current company strategy assumes further support for *Green Hell* in the form of other expansions, and development of a new game with the working title Chimera. Pre-production of Chimera has already started and the development is estimated for 2–3 years. The game will belong to the base-building simulator genre, simultaneously focusing on survival elements. The team is composed of 24 people (September 2020) and its expansion to 30 people is planned for the next two years.

In 2019, the company generated PLN 7.0 million revenues (+50% YoY), PLN 0.5 million operating profit (-83% YoY) and PLN 0.1 million net profit (-95% YoY).

Table 3.12. Creepy Jar – summary of the financial results in the years 2018–2020 (PLN million)

CRJ PW (PLN million)	2018	2019	1st half 2020
Revenues	4,7	7,0	23,1
EBITDA	3,8	5,1	21,2
EBIT	2,7	0,5	20,2
Net profit	2,6	0,1	16,1

Source: Company, IPOPEMA Research.

Drageus Games

Market value (2020-10-30): PLN 12.18m

Drageus Games is a publisher and developer of independent games in the premium segment. The company specialises in development, porting and publishing console games, in particular **Nintendo** Switch. It has been listed on the NewConnect market since January 2020.

Its publishing portfolio since 2017, i.e., from the beginning of its operations, contains over 20 games for the newest **Nintendo** console.

The most popular, first own project of the studio for **Nintendo** Switch was Tactical Mind, a strategic game. Tactical Mind (Metacritic rating around 60/100) was released in December 2017.

In 2019, the company generated PLN 1.10 million revenues (+103% YoY), PLN 0.16 million operating loss and PLN 0.15 million net loss.

Table 3.13. Drageus Games – summary of financial results in the years 2018–2020 (PLN million)

DRG PW (PLN million)	2018	2019	1st half 2020
Revenues	0,54	1,10	0,67
EBITDA	–0,15	–0,11	–0,08
EBIT	–0,16	–0,16	–0,10
Net profit	–0,15	–0,15	–0,09

Source: Company, IPOPEMA Research.

Draw Distance

Market value (2020-10-30): PLN 19.67m

Draw Distance is a development studio specialising in independent video games, previously operating under the name iFun4all (until July 2019). The company's history goes back to 2000, when it was established as a part of the **Bloober Team**, the horror games producer from Kraków. Initially, the team was involved in the execution of orders for external entities. Currently, the principal business of the company includes the production of their own games from the indie segment. While creating their projects, the team uses real-world data (information acquired from the real world to modify the gameplay). **Draw Distance** specialises in the production of multi-platform, action-adventure titles.

The company creates and publishes video games for all popular platforms: **Sony** (PlayStation), **Microsoft** (Xbox), **Nintendo** (Wii), **Apple** (iOS), PC and Mac.

Until now, the company has published such games as: *Vampire: The Masquerade* – Coteries of New York (Metacritic rating 70/100), Ritual: Crown of Horns (Metacritic rating around 58/100) and Serial Cleaner (average Metacritic rating 72/100).

In 2019, the company generated PLN 2.49 million revenues (-17% YoY), PLN 0.12 million operating loss and PLN 0.1 million net loss.

Table 3.14. Draw Distance – summary of the financial results in the years 2018–2020 (PLN million)

DDI PW (PLN million)	2018	2019	1st half 2020
Revenues	3,00	2,49	0,59
EBITDA	0,89	–0,11	0,05
EBIT	0,86	–0,12	–0,05
Net profit	0,81	–0,10	–0,06

Source: Company, IPOPEMA Research.

Duality Games

Market value (2020-10-30): PLN 29.00m

Duality Games is a development studio belonging to the **PlayWay** group, established in 2017 and located in Warsaw. It debuted on the NewConnect market at the end of September 2020. The studio is planning to develop various types of games for different target groups. The company intends to create games for PC/Steam and port the most profitable projects to PlayStation, Xbox and **Nintendo** consoles.

Until now, the company published Barn Finders with 60 thousand copies sold until September 2020. The game's rating at Metacritic reached approximately 70/100 and Steam had it at 9/10.

The company's strategy assumes the production and publishing of new games every 2–3 years, with the budget exceeding PLN 1 million. **Duality Games** is planning to expand its publishing division and production capacity.

In 2019, the company generated PLN 1.15 million revenues (-1% YoY), PLN 0.03 million operating loss and PLN 0.03 million net loss.

Table 3.15. Duality Games – summary of the financial results in the years 2018–2020 (PLN million)

DUA PW (PLN million)	2018	2019	1st half 2020
Revenues	1,16	1,15	1,40
EBITDA	–0,07	–0,01	0,54
EBIT	–0,11	–0,03	0,54
Net profit	–0,11	–0,03	0,57

Source: Company, IPOPEMA Research.

ECC Games

Market value (2020-10-30): PLN 37.02m

ECC Games have been operating in the video games industry since 2010 and debuted on the NewConnect market in February 2019. The company is based in Warsaw and belongs to the **PlayWay** capital group. It is involved in the production of games from the premium segment and free-to-play (F2P) games designated for mobile platforms. The company specialises in various automotive games. Its key projects include Drift21 published in cooperation with 505 Games in the early access version on 7.05.2020 for PC (Steam), and mobile game Car Mechanic Simulator 2018, the most popular mobile game from the **PlayWay** group until now, downloaded over 24 million times. Car Mechanic Simulator 2018 received over 381 thousand reviews with the average result of 4.4/5. Currently, the company is working on the completion of Drift21 and will begin another premium project with a release planned for 2022. The new game will be based on the GearShift technology (motor vehicles behaviour engine in the Unreal environment and AI modules generating maps and physics related to vehicle movement), for which the company obtained co-funding in the amount of PLN 4.9 million. The company is also working on a new mobile game - Car Mechanic Simulator Racing, which should be released this year (presumably on selected markets).

Currently (September 2020), the team is composed of 30 people.

In 2019, the company generated PLN 5.3 million revenues (+113% YoY), PLN 1.8 million operating profit (+261% YoY) and PLN 1.5 million net profit (+206% YoY).

Table 3.16. ECC Games – summary of the financial results in the years 2018–2020 (PLN million)

ECC PW (PLN million)	2018	2019	1st half 2020
Revenues	2,5	5,3	2,2
EBITDA	0,6	1,9	0,3
EBIT	0,5	1,8	0,2
Net profit	0,5	1,5	0,2

Source: Company, IPOPEMA Research.

Forever Entertainment

Market value (2020-10-30): PLN 238.82m

Forever Entertainment has been operating in the video game industry since 2010 and debuted on the NewConnect market in 2011. They develop and publish games for all platforms, but specialise in **Nintendo** Switch - Forever is currently the third largest publisher of games for that console (over 80 games). In total, the company released nearly 150 games for various platforms. The key titles of the studio include Thief Simulator for **Nintendo** Switch (over 0.5 million copies sold), Timberman (over 0.5 million copies sold until now) and Panzer Dragoon: Remake (released on 26.03.2020, NSwitch, Metacritic rating 63/100).
The three principal elements of the company's business model include: production of games based on own IP, porting of external games for consoles, in particular NSwitch, and the production of remakes of old, popular games. The current strategic goals of the company include reaching the position of the second largest publisher of games for **Nintendo** Switch in the world, production of 3-4 games from the remake segment and further specialisation on the console market. The key projects include the port of *Green Hell* to **Nintendo** Switch, port of *Drug Dealer Simulator* to **Nintendo** Switch and remakes of Panzer Dragoon II Zwei and House of the Dead series. The company employs over 120 people (September 2020).

In 2019, the company generated PLN 13.7 million revenues (+40% YoY), PLN 3.5 million operating profit (+4% YoY) and PLN 6.4 million net profit (+96% YoY).

Table 3.17. Forever Entertainment – summary of financial results in the years 2018–2020 (PLN million)

FOR PW (PLN million)	2018	2019	1st half 2020
Revenues	9,8	13,7	15,0
EBITDA	3,6	4,5	7,2
EBIT	3,4	3,5	6,7
Net profit	3,3	6,4	13,4

Source: Company, IPOPEMA Research.

Games Operators

Market value (2020-10-30): PLN 108.50m

Games Operators is a company specialising in premium segment games. It belongs to the PlayWay capital group. It was established through the transformation of CITYPRO founded in 2015. In 2020, **Games Operators** debuted at the WSE. The principal sales market of the company's games is the PC platform (Steam store), but its games are also ported and published for consoles and mobile platforms. The key product in the company's portfolio is 911 Operator (a simulator of the emergency notification system released in 2017), with over 1.1 million copies of the game and expansions sold until the end of January 2020 (PC, XONE, PS4). The mobile version of the game has been downloaded over 1.8 million times. In 2020, the company released another game from that genre - 112 Operator. Additionally, the portfolio of the company includes such games as: Radio Commander (2019), Counter Terrorist Agency (2019), Cyber Ops (2020), BE-A Walker (2020), Paws and Soul (2020) and Transport INC (2020). The company cooperates with a few dozens of developers (teams from two to 20 people) which, in accordance with the company's strategy, should allow the release of 4-8 games per year. Currently, the key projects of the studio include Reptiles: In Hunt and Rustler.
In 2019, the company generated PLN 8.5 million revenues (+56% YoY), PLN 5.3 million operating profit (+33% YoY) and PLN 4.2 million net profit (+20% YoY).

Table 3.18. Games Operators – summary of the financial results in the years 2018–2020 (PLN million)

GOP PW (PLN million)	2018	2019	1st half 2020
Revenues	5,4	8,5	1,5
EBITDA	4,1	5,5	0,6
EBIT	4,0	5,3	0,5
Net profit	3,5	4,2	0,5

Source: Company, IPOPEMA Research.

Gaming Factory

Market value (2020-10-30): PLN 64.71m

Gaming Factory is a producer and publisher of games for PC and consoles. It was established in 2017. The key assumptions of the company's strategy include releasing low and medium-budget games, including searching for projects with high sales and marketing potential and increasing the revenues on production of own titles based on the active marketing strategy. The company creates and publishes simulators, adventure games, action games and tycoon games.

It is principally specialised in production and distribution of games for PC, **Nintendo** Switch, PlayStation 4 and Xbox One.

At the end of the first half of 2020, the company completed porting six external games, which should ensure stable cash flows in the future.

Until the end of 2021, **Gaming Factory** is planning to finance and publish over 30 titles, half of them being its own projects. Additionally, the company is working on over 20 ports of games to **Nintendo** Switch and by the end of next year, the company is planning to complete ports of 50 more games. The company cooperates with over 25 development teams, which means that the number of people working on the **Gaming Factory** projects exceeds 100.

In 2019, the company generated PLN 4.7 million revenues (-87% YoY), PLN 0.1 million operating profit (vs. PLN 1.0 million operating loss in 2018) and PLN 4.7 million net profit (-42% YoY).

Table 3.19. Gaming Factory – summary of the financial results in the years 2018–2020 (PLN million)

GIF PW (PLN million)	2018	2019	1st half 2020
Revenues	0,6	4,7	0,6
EBITDA	-1,0	0,1	0,2
EBIT	-1,0	0,1	0,2
Net profit	2,8	4,7	0,2

Source: Company, IPOPEMA Research.

Jujubee

Market value (2020-10-30): PLN 23.23m

Jujubee is a development studio involved in the creation of such titles as: FLASHOUT 3D, Suspect in Sight, Take Off – The Flight Simulator, real-time strategy Realpolitiks (Metacritic rating at the level of 50/100), documentary adventure game KURSK and *Deep Diving Simulator*.

The company's goal is to develop games for all popular gaming platforms, such as iOS (iPhone, iPod, iPad), Android, Mac, PC and consoles. The studio's business model is based on the diversification of production into four market segments: premium, free-to-play (F2P) and production ordered by external entities. **Jujubee** focuses on their own high-budget titles and production of games for external publishers.

In 2019, the company generated PLN 0.88 million revenues (-38% YoY), PLN 3.03 million operating loss and PLN 3.07 million net loss.

Table 3.20. Jujubee – summary of the financial results in the years 2018–2020 (PLN million)

JJB PW (PLN million)	2018	2019	1st half 2020
Revenues	1,43	0,88	0,54
EBITDA	-0,18	-2,97	0,09
EBIT	-0,24	-3,03	0,08
Net profit	-0,36	-3,07	0,60

Source: Company, IPOPEMA Research.

Klabater

Market value (2020-10-30): PLN 44.66m

Klabater is a publisher and producer of video games for personal computers and consoles, operating in three segments: publishing, development and porting. The company was established in 2016 by CDP and debuted on the NewConnect market in October 2019. CDP intended to use the brand to enter the global market as a publisher of indie games. The principal goal of the company is publishing video games developed by its own studios and external development studios, to be sold on digital distribution platforms.

Until now, the company has published such games as: We. The Revolution, Regalia, Skyhill, Roarr!, Heliborne, Apocalipsis, 90s Football Stars, From Shadows and Alice VR.

Currently, the team is working on a special edition of the inn simulator - *Crossroads Inn*. The first version of the game was released in October 2019 and achieved an average Metacritic rating of 60/100.

In 2019, the company generated PLN 5.8 million revenues (vs. PLN 0.5 million revenues in 2018), PLN 1.2 million operating profit (vs. PLN 0.3 million operating loss) and PLN 1 million net profit (vs. PLN 0.3 million net loss in 2018).

Table 3.21. Klabater – summary of the financial results in the years 2018–2020 (PLN million)

KBT PW (PLN million)	2018	2019	1st half 2020
Revenues	0,5	5,8	2,8
EBITDA	-0,2	1,2	0,3
EBIT	-0,3	1,2	0,3
Net profit	-0,3	1,0	0,4

Source: Company, IPOPEMA Research.

Moonlit

Market value (2020-10-30): PLN 27.60m

Moonlit specialises in the production of its own titles and games ordered by third parties. The company operates locally and on the international market. Its portfolio includes 19 completed titles, among others for such companies as **PlayWay**, **Bloober**, **Slitherine**, **Matrix Games**, **Ultimate Games**, **Frozen District** and **GameKraft**. The company creates games for personal computers, Xbox and PlayStation consoles. It has been present on the market since 2014 and debuted on the NewConnect market in June 2019.

In the third quarter of 2019, the company launched preproduction of a new project (working name SecretProject #1) - the first simulator of building models for PC. On 11 November 2019, Model Builder reached the 487 position in the Top Wishlist ranking (the most anticipated games) on Steam. In 2020, **Moonlit** is planning to release its very first own game, Model Builder, and starting from July 2020, it intends to intensify the work on its second project - Dog Trainer, the release is planned for the first quarter of 2022.

Moonlit employs a team of over 20 developers.

In 2019, the company generated PLN 0.9 million revenues (-20% YoY), PLN 0.5 million operating loss and PLN 0.66 million net loss.

Table 3.22. Moonlit – summary of financial results in the years 2018–2020 (PLN million)

MLT PW (PLN million)	2018	2019	1st half 2020
Revenues	1,12	0,90	0,03
EBITDA	0,03	-0,36	-0,11
EBIT	-0,09	-0,50	-0,13
Net profit	-0,08	-0,66	-0,12

Source: Company, IPOPEMA Research.

Movie Games

Market value (2020-10-30): PLN 226.44m

Movie Games was established in 2016 by Mateusz Wcześniak (CEO), Aleksy Uchański (journalist specialising in video games) and Maciej Miąsik (developer and producer with many years of experience in the sector).

The company employs about 100 graphic artists and programmers (June 2020) working in over ten associated development studios. **Movie Games** produce horrors and simulators. The first large production of the studio was The Beast Inside (horror released on 17.10.2019, Metacritic rating 74/100), and the second - *Drug Dealer Simulator* (released on 16.04.2020, Metacritic rating 59/100, over USD 1 million revenues within one month after release). The studio has also published a few minor titles, including Plane Mechanic Simulator and Lust for Darkness. Currently, the key projects of the company include Lust from Beyond (a continuation of Lust for Darkness, release planned in 2020) and Alaskan Truck Simulator (release planned in 2020). The latter is aimed at filling one of the larger gaps in the video games market - the truck simulator genre. The company's strategy assumes working on ten or more games at the same time, with a production period of approximately 12-16 months.

In 2019, the company generated PLN 4.5 million revenues (+15% YoY), PLN 0.9 million operating profit (+42% YoY) and PLN 0.8 million net profit (+58% YoY).

Table 3.23. Movie Games – summary of financial results in the years 2018–2020 (PLN million)

MOV PW (PLN million)	2018	2019	1st half 2020
Revenues	3,9	4,5	7,0
EBITDA	0,7	0,9	5,1
EBIT	0,7	0,9	5,1
Net profit	0,5	0,8	4,0

Source: Company, IPOPEMA Research.

One More Level

Market value (2020-10-30): PLN 445.26m

One More Level is a studio from Kraków, specialising in producing PC and console games published usually in cooperation with an external entity. The company was established in 2014. It entered the NewConnect market in 2018 as a result of a merger with Laser-Med. Its portfolio includes the following games: Deadlings (released on 11.11.2014), Warlocks vs Shadows (released on 19.08.2015) and *God's Trigger* (released on 18.04.2019, Metacritic rating 71–79/100).

In August 2019, the company presented its newest product, Ghostrunner published by **All in! Games** and 505 Games. Ghostrunner attracted a lot of interest from the gamers (the wish list on Steam exceeded 600 thousand entries before the release, the game trailers were displayed millions of times on YouTube). The release of the game on all platforms (PC, PS, XONE and NSwitch) is planned for 27 October 2020. The company's strategy assumes production of games from the indie premium segment (AA+) with an average budget of USD 2.6 million and production period of 2-3 years per one project.

The team is composed of nearly 30 people (September 2020).

In 2019, the company generated PLN 2.5 million revenues (+12% YoY), PLN 5.6 million operating loss (vs. PLN 1.9 million loss in the previous year) and PLN 6.0 million net loss (vs. PLN 1.8 million loss in the previous year).

Table 3.24. One More Level **– summary of financial results in the years 2018–2020 (PLN million)**

OML PW (PLN million)	2018	2019	1st half 2020
Revenues	2,2	2,5	1,6
EBITDA	–1,0	–1,1	–2,7
EBIT	–1,9	–5,6	–2,7
Net profit	–1,8	–6,0	–2,7

Source: Company, IPOPEMA Research.

Ovid Works

Market value (2020-10-30): PLN 22.19m

Ovid Works is an independent studio from Warsaw, established in 2015. The company produces high quality first-person perspective (FPP) games for personal computers, consoles and VR devices. Its first game, Interkosmos, was released in 2017 in a virtual reality environment. The game presents a story of an astronaut, packed with various plot twists, international intrigues and cold war absurdities. Interkosmos is a simulator with survival elements. The game debuted on personal computers for HTC Vive and Oculus Rift. Currently, it is available on Steam. The reviews have been positive and the game has been downloaded 8,127 times by the end of 2019.

Another project of the studio is Metamorphosis with the plot based on the novel by Franz Kafka with the same title. The story is set in a surrealistic world and told in the first-person perspective. Metamorphosis reached the average rating of 70/100 on Metacritic.

At the beginning of 2020, **Ovid Works** was composed of 15 people. In 2019, the company generated PLN 1.47 million revenues (vs. PLN 0.03 million revenues in 2018), PLN 0.71 million operating profit (vs. PLN 1.03 million operating loss in 2018) and PLN 0.70 million net profit (vs. PLN 1.05 million net loss in 2018).

Table 3.25. Ovid Works – summary of financial results in the years 2018–2020 (PLN million)

OVI PW (PLN million)	2018	2019	1st half 2020
Revenues	0,03	1,47	0,50
EBITDA	–0,79	0,94	–0,35
EBIT	–1,03	0,71	–0,37
Net profit	–1,05	0,70	–0,37

Source: Company, IPOPEMA Research.

PlayWay

Market value (2020-10-30): PLN 3,425.40m

The **PlayWay** group specialises in the production of games for personal computers, but it also publishes games for other platforms (consoles, mobile games). The company was established in 2011 and debuted on the main trading floor of WSE in October 2016. It is one of the global leaders of the simulator segment. **PlayWay** operates on the basis of the model of many independent production teams with various sizes and experience of the developers. The group is composed of over 100 teams with over 60 operating as separate companies, where the developers are also shareholders (which is an important element of the incentive plan for those teams). The current operating scale allows the production of a few hundred games at the same time, with over 100 titles being new PC games. The key projects of the company include the Car Mechanic Simulator series, in particular the last instalment entitled Car Mechanic Simulator 2018 (released on PC on 28.07.2017, with sales exceeding USD 10 million on Steam) and House Flipper (released on 17.05.2018, with sales exceeding USD 10 million on Steam). Both games have been sold over 1 million copies. The key productions currently developed by the company include: Builders of Egypt, *Bum Simulator*, Junkyard Simulator and Mr. Prepper.

In 2019, the company generated PLN 130.9 million revenues (+66% YoY), PLN 82.5 million operating profit (+65% YoY) and PLN 86.9 million net profit (+85% YoY).

Table 3.26. PlayWay **– summary of financial results in the years 2018–2020 (PLN million)**

PLW PW (PLN million)	2018	2019	1st half 2020
Revenues	78,7	130,9	35,1
EBITDA	50,1	83,1	23,5
EBIT	49,9	82,5	23,3
Net profit	47,0	86,9	21,2

Source: Company, IPOPEMA Research.

Prime Bit Games

Market value (2020-10-30): PLN 8.16m

Prime Bit Games is an independent designer, developer and publisher of mobile, personal computer, console and browser games. The company also provides a service within the scope of porting, co-development, graphic design and games ordered by third parties. Its principal activities include production of games for mobile devices, PC, **Nintendo** Switch, Xbox, as well as games sales and promotion. Monetisation of the gaming segment is based on two distribution models: freemium (based on advertisements and micropayments) and premium (without advertisements and additional payments). That model is commonly used all around the world and presently dominates the game market, prevailing over the subscription model. **Prime Bit Games** engages subcontractors in providing programming services. Those are usually teams/entities composed of four people, depending on the project. Until now, the company published such games as: Caveman Chuck, Magic Nations: Card Game, Dark Tower, Bouncy Birds, Inside Grass and other.

In 2019, the company generated PLN 1.74 million revenues (+138% YoY), PLN 0.40 million operating loss and PLN 0.41 million net loss.

Table 3.27. Prime Bit Games – summary of financial results in the years 2018–2020 (PLN million)

PBT PW (PLN million)	2018	2019	1st half 2020
Revenues	0,73	1,74	0,40
EBITDA	–0,34	–0,23	–0,14
EBIT	–0,43	–0,40	–0,24
Net profit	–0,41	–0,41	–0,24

Source: Company, IPOPEMA Research.

Pyramid Games

Market value (2020-10-30): PLN 79.77m

Pyramid Games is a producer of games and a contractor working for third parties. The company was established in January 2012. In February 2017, it was transformed into a limited liability company and established cooperation with a publisher - **PlayWay**. Its business activities are carried out in two areas: the production of its own games and the production of commissioned games.

The first own titles of the studio were presented in 2018 - those were games released for Android and iOS: *RMX Real Motocross* and *Motorcycle Mechanic Simulator*, as well as a PC game, *Alter Cosmos*. The company's plans for 2020 include early access to Occupy Mars. The full version of the game should be released in 2021.

Further plans include conclusion of agreements with platforms selling games for PlayStation and **Nintendo** Switch.

The team of **Pyramid Games** is composed of 38 people. While publishing games, the company cooperates with **PlayWay**, which is its biggest shareholder, and with a few other entities from the group, such as **Ultimate Games** and **SimFabric**.

In 2019, the company generated PLN 1.09 million revenues (+294% YoY), PLN 0.01 million operating loss and PLN 0.02 million net loss.

Table 3.28. Pyramid Games – summary of financial results in the years 2018–2020 (PLN million)

PDG PW (PLN million)	2018	2019	1st half 2020
Revenues	0,37	1,09	1,20
EBITDA	–0,06	–0,01	0,04
EBIT	–0,06	–0,01	0,04
Net profit	–0,05	–0,02	0,04

Source: Company, IPOPEMA Research.

QubicGames

Market value (2020-10-30): PLN 54.40m

QubicGames is a publisher and developer of independent games from the premium segment. The company was established in 2004. It specialises in the development, porting and publishing of console games, in particular for **Nintendo** Switch. It is a global publisher cooperating with developers from over 10 countries. Its publishing portfolio contains over 30 games for the newest **Nintendo** console with sales exceeding 1.5 million copies.

The most important own projects for **Nintendo** Switch include: Robonauts, Astro Bears Party, Geki Yaba Runner, Coloring Book and Puzzle Book, and external projects published by the company: Mana Spark, Blazing Beaks, Warlocks 2: God Slayers, Akane, One Strike, Not – A Brain Buster. **QubicGames** cooperates with 21 people.

In 2019, the company generated PLN 9.14 million revenues (+161% YoY), PLN 0.74 million operating profit (vs. PLN 0.25 million net loss in 2018) and PLN 2.75 million net profit (+55% YoY).

Table 3.29. Qubic Games – summary of the financial results in the years 2018–2020 (PLN million)

QUB PW (PLN million)	2018	2019	1st half 2020
Revenues	3,50	9,14	3,28
EBITDA	0,96	1,88	0,46
EBIT	−0,25	0,74	0,22
Net profit	1,77	2,75	0,68

Source: Company, IPOPEMA Research.

SimFabric

Market value (2020-10-30): PLN 95.63m

SimFabric is a producer, a porting studio and a publisher of video games. The company develops simulators, games for personal computers and mobile devices (iOS, Android). It was established in 2016, after receiving the main award of the European Space Agency (ESA) in the competition for the best space application. In April 2020 it debuted on the NewConnect market. Since 2018, the company is a certified producer and publisher of games for **Nintendo** Switch, PS4 and Xbox One. In July 2019, **SimFabric** established a branch in Łódź, responsible for research and development aimed at creating innovative solutions for the video game industry. The principal assumption of the company's business is the porting and publishing of a few low and medium-budget as well as high margin games by scattered, small development teams. Apart from the video game market, the company concluded a few agreements regarding e-learning and audio materials. In 2019, by a capital transformation, **SimFabric** became a joint-stock company. The most important project of the company until now has been Farm Expert 2018, the mobile version has been downloaded in over 2.5 million copies.

At the beginning of the second half of 2020, **SimFabric** employed 50 people divided into 12 development teams, and a research and development team composed of 8 people.

In 2019, the company generated PLN 2.7 million revenues (+218% YoY), PLN 0.5 million operating profit (vs. PLN 0.04 million operating profit in 2018) and PLN 0.4 million net profit (vs. PLN 0.01 million net profit in 2018).

Table 3.30. SimFabric – summary of financial results in the years 2018–2020 (PLN million)

SIM PW (PLN million)	2018	2019	1st half 2020
Revenues	0,8	2,7	3,2
EBITDA	0,1	0,5	0,4
EBIT	0,0	0,5	0,4
Net profit	0,0	0,4	0,2

Source: Company, IPOPEMA Research.

Sonka

Market value (2020-10-30): PLN 37.88m

Sonka operates in the video game market, specialising in the porting of games to consoles and the development of its own games. The company was established in August 2017 by Rafał Sankowski, Bartosz Moniewski, and the companies **PlayWay** (producer and publisher of video games) and **QubicGames**.

Its most important own title is a series of games under the Astro Bears licence. According to the company, the first version of Astro Bears is one of the most recommended party games for **Nintendo** Switch. Apart from the above, the company develops projects for mobile devices and a board game under that licence.

At the beginning of 2020, the team was composed of 11 people.
In 2019, the company generated PLN 2.73 million revenues (+61% yoY), PLN 0.86 million operating profit (+310% YoY) and PLN 0.77 million net profit (+305% YoY).

Table 3.31. Sonka – summary of the financial results in the years 2018–2020 (PLN million)

SOK PW (PLN million)	2018	2019	1st half 2020
Revenues	1,70	2,73	2,25
EBITDA	0,23	0,87	0,66
EBIT	0,21	0,86	0,66
Net profit	0,19	0,77	0,64

Source: Company, IPOPEMA Research.

Starward Industries

Market value (2020-10-30): PLN 181.80m

Starward Industries is a development company established in 2018 by Marek Markuszewski (CEO, co-founder of the branch of **CD Projekt** in Kraków, where he performed the function of a senior producer), Daniel Betke (member of the management board, designer and chief programmer of GRACE 2 engine, programmer of engines, among others, for *The Witcher 3* or *Cyberpunk 2077*), Mariusz Antkiewicz (member of the management board with many years of experience in the gaming industry) and other developers from such companies as **CD Projekt**, Reality Pump, **Bloober Team** and **Techland**. The team of the company is composed of 10 people and the management is planning to double that number in the second half of 2020. In 2019, the company's pre-IPO obtained PLN 3 million from the issue of 73 shares (4% of the current capital) with the valuation of PLN 74 million (post-money). The company debuted in the NewConnect market in 2020. Currently, it is working on The Invincible game from the sci-fi thriller genre, based on the novel by Stanisław Lem with the same title. The game will be developed using Unreal Engine and will be based on a single-player campaign. The release for PC, PS4 and Xbox One is planned for the second half of 2021. The company estimates the sales potential to be 500–700 thousand copies in the first year after the release (PLN 21–27 million revenues in the case of no cooperation with a publisher).

In 2019, the company generated PLN 1.6 million revenues, PLN 1.2 million operating loss and PLN 1.4 million net loss.

Table 3.32. Starward Industries – summary of financial results in the years 2018–2020 (PLN million)

CIG PW (PLN million)	2019	1st half 2020
Revenues	1,6	0,6
EBITDA	–1,1	–0,6
EBIT	–1,2	–0,6
Net profit	–1,4	–0,6

Source: Company, IPOPEMA Research.

T-bull

Market value (2020-10-30): PLN 24.29m

T-bull is a company specialising in designing, production and distribution of games for mobile devices. It was established in 2010 and entered the main trading floor of WSE in 2018.

Its development team creates mobile games based on the free-to-play model (F2P). The games are available on global platforms: **Google** Play (Android), App Store (iOS **Apple**), Windows Phone (Windows Mobile), BlackBerry World (BlackBerry OS), Amazon and the Opera Mobile Store.

One of the largest projects of the company, Top Speed, reached the first ten of the most profitable racing games in the US, Canada, United Kingdom, France, Germany, Portugal, Turkey, South Korea, Argentina, Australia and South Africa. The company's most recent game, Top Speed 2, was downloaded over 200 times at the beginning of 2020. In January 2020, **T-bull**'s games were downloaded approximately 6 million times. In addition, at the beginning of 2020, the downloads number for the entire portfolio were close to 460 million.

In 2019, the company generated PLN 6.58 million revenues (-9% YoY), PLN 1.28 million operating profit (vs. PLN 0.03 million operating loss in 2018) and PLN 2.1 million net profit (+319% YoY).

Table 3.33. **T-bull – summary of financial results in the years 2018–2020 (PLN million)**

TBL PW (PLN million)	2018	2019	1st half 2020
Revenues	7,23	6,58	1,64
EBITDA	4,08	5,90	1,65
EBIT	–0,03	1,28	–0,08
Net profit	0,50	2,10	–0,05

Source: Company, IPOPEMA Research.

Ten Square Games

Market value (2020-10-30): PLN 4,592.94m

The company was established in 2011 and entered the main trading floor of WSE in May 2018. **Ten Square Games** specialises in mobile games for iOS and Android. Until now, it has published 250 titles, downloaded over 280 million times, with the number of active players at the level of 21 million. The key products in the company's portfolio include *Fishing Clash* (released in October 2017, the game was included in the Top 50 most profitable games in the **Google** Play store in June 2020, generating nearly PLN 60 million revenues per month, with nearly 7 million users logging in to the game per month), *Let's Fish* (released in July 2012, currently the game generates over PLN 1 million per month, with an average number of 400 thousand users logging in to the game every month) and *Wild Hunt* (over 1 million users per month in the second half of 2020). Currently, the company develops new mobile games which are currently at the global testing stage (*Hunting Clash*, Soli*Tales* and *Flip This House*). The recent strategy of the company assumes further development of its own games (including the completion of the testing stage) and the possible acquisitions of other mobile companies, which could be connected with foreign expansion.

Currently, the team of **Ten Square Games** includes approximately 280 people (September 2020). The developers work in eight production teams with an average composition of 20 people (the *Fishing Clash* team is the largest - approximately 45 people). In total, the company employs over 200 developers, but it also holds extensive analytical departments (business intelligence, user acquisition and others).

In 2019, the company generated PLN 241.1 million revenues (+109% YoY), PLN 84.6 million operating profit (+91% YoY) and PLN 76.4 million net profit (+109% YoY).

Table 3.34. **Ten Square Games – summary of financial results in the years 2018–2020 (PLN million)**

TEN PW (PLN million)	2018	2019	1st half 2020
Revenues	115,3	241,1	264,6
EBITDA	45,0	85,7	68,4
EBIT	44,3	84,6	67,0
Net profit	36,5	76,4	61,0

Source: Company, IPOPEMA Research.

The Dust

Market value (2020-10-30): PLN 39.90m

A development studio seated in Wrocław, working on a game based on the Inquisitor's series by Jacek Piekara, and another game entitled Together. The company also offers a wide range of tools in the areas of advergaming, projects using AR and VR technologies and the production of mobile games (own and commissioned). It received many prestigious awards and distinctions, among others: Effie Awards Poland, Golden Arrow, Mobile Trends, Impactor. Its business model assumes operation at two levels: production of own games and production of games commissioned by third parties. **The Dust** has been listed on the NewConnect marked since April 2018.

The company completed various advergames, among others; Kapsel Run!, Kapsel Run 2 Challenge, Kubuś games (Tymbark and Kubuś brands – Maspex Group). Its portfolio also includes the first game in the AR technology designated for the **Microsoft** platform - King of Cards (Metacritic rating around 80/100). Additionally, they plans to release over ten medium-budget titles. For that purpose, the company concluded an investment agreement for funding PC and **Nintendo** Switch games. The work on those productions should be launched this year.

In March 2019, the studio concluded an agreement with Jacek Piekara. The developer and the writer are going to create a game based on the Inquisitor's series by Piekara. The company also purchased the rights to produce the game for consoles, PC and mobile devices.

In 2019, the company generated PLN 1.56 million revenues (-4% YoY), PLN 0.75 million operating loss and PLN 0.66 million net loss.

Table 3.35. The Dust – summary of financial results in the years 2018–2020 (PLN million)

THD PW (PLN million)	2018	2019	1st half 2020
Revenues	1,49	1,56	0,49
EBITDA	0,16	–0,58	–0,07
EBIT	0,01	–0,75	–0,09
Net profit	0,09	–0,66	–0,09

Source: Company, IPOPEMA Research.

The Farm 51 Group

Market value (2020-10-30): PLN 202.95m

The Farm 51 is a producer founded in 2005, operating on the markets of video games, virtual reality (VR) and new technologies. The company has been listed on the NewConnect market since 2012. **The Farm 51** Group published over ten titles for PC, consoles (PlayStation 3, PlayStation 4, Xbox 360, Xbox One) and mobile consoles. Until now, the studio completed many of its own projects, among others: *NecroVisioN*, *NecroVisioN: Lost Company* and *Deadfall Adventures*. In 2016, it entered the VR market publishing the application entitled *Chernobyl VR Project* on various VR platforms (HTC Vive, Samsung Gear VR, Oculus, PlayStationVR). Currently, the company implements a two-stage development strategy, which includes performance of own projects and commercial use of the Reality 51 technology, constituting a modern tool enabling the company to create VR applications, 3D scanning, development of films and 360 shots upon commission.

The Farm 51 is a team composed of over 100 people.

In 2019, the company generated PLN 5.8 million revenues, PLN 1.5 million operating loss and PLN 1.7 million net loss.

Table 3.36. The Farm 51 Group – summary of financial results in the years 2018–2020 (PLN million)

F51 PW (PLN million)	2018	2019	1st half 2020
Revenues	9,7	8,7	10,2
EBITDA	1,3	–1,1	5,2
EBIT	0,1	–1,5	4,9
Net profit	–3,0	–1,7	4,9

Source: Company, IPOPEMA Research.

Ultimate Games

Market value (2020-10-30): PLN 135.98m

Ultimate Games was established at the end of 2015 and joined the **PlayWay** group, where it functions until now. The company debuted on the NewConnect market in 2018 and moved to the main trading floor of WSE in 2019. It is involved in the production and publishing of games for various platforms, including mobile ones. The company's business model is based on the production of many low-budget titles by scattered development teams publishing even a few dozens titles per year (including ports). In 2019, the company was the fourth largest publisher for NSwitch from the point of view of the number of releases. The most popular titles include Ultimate Fishing (released on 30.08.2018) and porting House Flipper to **Nintendo** Switch. The key productions which are planned for the future include Thief Simulator 2 and Ultimate Fishing 2. The company also produced Ultimate Fishing Simulator mobile (released in 2017 and downloaded over 5 million times on **Google** Play until now).

Currently (September 2020), the company cooperates with 40–50 development teams.

In 2019, the company generated PLN 8.5 million revenues (+88% yoY), PLN 4.6 million operating profit (+147% YoY) and PLN 4.2 million net profit (+111% yoy).

Table 3.37. Ultimate Games – summary of financial results in the years 2018–2020 (PLN million)

ULG PW (PLN million)	2018	2019	1st half 2020
Revenues	4,5	8,5	6,6
EBITDA	1,9	4,6	3,9
EBIT	1,9	4,6	3,8
Net profit	2,0	4,2	4,4

Source: Company, IPOPEMA Research.

Varsav Game Studios

Market value (2020-10-30): PLN 35.69m

VARSAV Game Studios specialises in the production of games from a "different perspective", presenting a unique perspective of the hero, unknown in other games until now. The company is listed on the NewConnect market and operates in the video game industry since 2017.

It operates mainly in virtual reality (VR) and augmented reality (AR) segments, producing its own games and applications and working with external development teams. In addition, it provides consulting services for technological companies and creates technological and business backup facilities for projects.

The first production of the studio, *Bee Simulator*, was released on 14.11.2019 for PC, PlayStation 4, Xbox One and Nintendo Switch in boxed and digital versions. *Bee Simulator* was the first Polish game exclusively published on the Epic Games Store. Its average rating at Metacritic was 47/100. Currently, the studio is working on Giants Uprising and finishing pre-production of the game with the working title ARIA.

VARSAV currently employs 40 people.

In 2019, the company generated PLN 4.11 million revenues (vs. PLN 0.23 million revenues in 2018), PLN 2.92 million operating loss and PLN 2.3 million net profit (vs. PLN 3.00 million net loss in 2018).

Table 3.38. Varsav Game Studios – summary of financial results in the years 2018–2020 (PLN million)

VAR PW (PLN million)	2018	2019	1st half 2020
Revenues	0,23	4,11	0,71
EBITDA	–3,63	–2,92	–0,32
EBIT	–3,63	–2,92	–0,35
Net profit	–3,00	2,30	–0,34

Source: Company, IPOPEMA Research.

Vivid Games

Market value (2020-10-30): PLN 54.56m

Vivid Games is a Polish producer, publisher and distributor of games for mobile devices, personal computers and consoles. Its history goes back to 2006, when it concluded first agreements for production of mobile games (with Mobility Zone). In 2012, the company debuted on the NewConnect market. In September 2016, it moved from NewConnect to the main trading floor of WSE.

The biggest success of the company is the Real Boxing series available on mobile platforms. The studio was awarded with the title of Best Indie Developer, received the Best Polish Game of the Year prize and the prestigious distinction of **Apple** Editors' Choice.

In 2019, the company generated PLN 19.7 million revenues (+13% YoY), PLN 1.76 million operating profit (vs. PLN 4.43 million operating loss in 2018) and PLN 0.42 million net profit (vs. PLN 5.49 million net loss in 2018).

Table 3.39. Vivid Games – summary of financial results in the years 2018–2020 (PLN million)

VVD PW (PLN million)	2018	2019	1st half 2020
Revenues	17,49	19,70	6,37
EBITDA	1,87	6,62	2,22
EBIT	–4,43	1,76	1,09
Net profit	–5,49	0,42	1,01

Source: Company, IPOPEMA Research.

Green Hell, Creepy Jar

3.3. Successes and failures of Polish companies in the video game industry

The Witcher 3: *Wild Hunt* released in 2015 by **CD Projekt** entirely changed the Polish video game industry. The title turned out to be an enormous success all around the world and is extremely popular among gamers until this very day. At the end of May 2020, the authors announced that they sold over 50 million games from the franchise, which makes it one of a few dozens of the most profitable series in the history of the entire industry.

The success of *The Witcher 3* became an inspiration for thousands of developers who joined hundreds of studios established in the recent years and producing many successful games, as well as for the investors and the government, who have been paying much more attention to the video game sector since then and are more willing to fund the projects in that area. The release of *Wild Hunt* started the period of dynamic development of that sector, which has been growing rapidly ever since.

According to the data of the international analytical platform, Newzoo, in 2017 the Polish video game market had a value of PLN 1.85 billion (USD 520 million). Only two years later, its value increased by over 25%, reaching PLN 2.32 billion (USD 619 million). The number of Polish gamers increased as well, from 14.36 million in 2017 to 18.05 million in 2019. More and more people in Poland purchase and play video games.

Although the majority of the companies design video games thinking about international sales, the Polish market continuously provides a positive environment for the development of Polish companies from the sector. According to the data compiled by Kraków Technology Park, approximately 476 development studies operated in Poland at the beginning of March 2020, publishing in total over 200 titles every year. Principally, those are small teams involved in the production of low-budget titles, but there also are bigger companies, including those competing with the international market leaders with respect to their size and ambitions. The most important ones include: **CD Projekt**, **Techland**, Polish branch of Huuuge Games, **11 bit studio**s, **Ten Square Games**, **PlayWay**, **Bloober Team** and **People Can Fly**.

2019 and the months of 2020 included in the research (until September) were quite extraordinary for the Polish companies from the video game industry. No high-budget game which could be compared to *The Witcher 3* debuted during those 20 months - all Polish projects of that scale which we are aware of were still in progress. Some of them, among others, *Cyberpunk 2077* by **CD Projekt** RED, Medium by **Bloober Team** and Outriders by **People Can Fly** should be released in 2020. Therefore, many large companies have not been included in the analysis, because they did not encounter any significant success or failure in that period.

Although there were no releases of the biggest games, recent months included releases of many interesting titles from the low and medium-budget segment. The horrors entitled Layers of Fear 2 and *Blair Witch* by **Bloober Team** attracted a lot of interest. **CI Games** recorded a successful return after a mediocre reception of *Sniper: Ghost Warrior* 3 in 2017. The company lowered its ambitions and created a moderate, but quite successful instalment of the series in the form of *Sniper: Ghost Warrior Contracts*. The debut project of **Creepy Jar**, *Green Hell*, turned out to be a big hit - the survival game was very warmly received by the gamers. Other good Polish titles included, among others, Carrion, Driftland: The Magic Revival and *God's Trigger*.

Polish companies from the video game industry were quite popular on the stock exchange between January 2019 and August 2020, both on the main trading floor of WSE and on the NewConnect market, designated for smaller enterprises. The value of shares of 26 among 27 companies from the video game industry listed on the stock exchange increased in the period from 2 January 2019 to 10 August 2020. In the case of 16 of them, the increase exceeded 100% and for eight, the increase even exceeded 400%. Although in March 2020, the prices of shares of many companies recorded a rapid downfall because of the crisis caused by the coronavirus pandemic, the panic on the market turned out to be short-lived and the prices of many shares peaked already in April.

The number of companies from the sector who decide to enter the stock exchange is growing year by year. In 2019, 10 entities listed on the Warsaw Stock Exchange were joined by one more - BoomBit, in 2020 - by three more: **All in! Games**, **Games Operators** and **Gaming Factory**. In 2019, nine new companies from the sector debuted on the NewConnect market, and in 2020, until the beginning of September, six more.

The financial results of the Polish companies with record-high valuations are not exactly consistent with those successes. Although after adding up profits and losses it turns out that the companies from the sector earned in total PLN 348,581,830.43, which is a better result than in 2018 (a little over PLN 198 million) and 2017 (over PLN 234 million), a closer look at those results takes a little optimism away. Among the 44 companies from the sector listed on the stock exchange who shared their financial reports, 23 ended 2019 with profits. 21 of them recorded losses. In addition, the majority of the profits came only from three companies: **CD Projekt** with profit in 2019 at the level of PLN 175.315 million, **PlayWay** with the result at the level of PLN 97.267 and **Ten Square Games** which achieved a little over PLN 76.385 of net profit (without any new releases). Without the results of those three largest enterprises, it turns out that the Polish companies in the video game industry attract a lot of interest from the investors, but they more frequently record losses than profits.

Those results look even less impressive when you take a closer look at the financial statements of those companies. They often contain a significant disproportion between net revenues on sales and net revenues on sales of the products. The first revenues include, among others, the copies of games which have been produced but not yet sold, contained in the item "movement of warehouse stocks". That way, the companies may record profits, which they did not actually achieve in a given period, which is a relatively common practice among the Polish companies in the sector.

A significant element affecting the companies in Poland and abroad was the coronavirus pandemic and the related lockdown, which had an immense impact on the economy in 2020. It forced many companies to suspend their business or move work from offices to homes. Because of the nature of the video game industry, the majority of companies managed to adjust to the situation and continue remote work on their projects. Because of more problematic communication between the teams, the work slowed down and many games will be released later than planned, but in general, the video game sector was one of the areas of the economy which has not been significantly affected by the new reality. Some companies, such as **CD Projekt**, claimed that pandemic did not affect the progress of work on *Cyberpunk 2077* and its release date at all. **Bloober Team** developed an aid programme for the freelancers from the sector who have been dismissed from work, offering employment and work on its projects.

An increased interest in video games was an additional effect of the pandemic and the fact that many people were forced to stay at home.

The producers from the entire segment reported that in the first quarters of 2020 the sales of products from their portfolios increased, generating higher profits than in the same periods of previous years.

In 2019 and in the first months of 2020, **CD Projekt** did not release any big game, focusing mainly on further development and releasing its previous titles on new platforms (*The Witcher 3*, *Gwent*: *The Witcher* Card Game, Thronebreaker: *The Witcher Tales*). Regardless of the above, the company closed 2019 with net profit higher than in 2018, earning PLN 175.315 million (in 2018 - PLN 109.334 million). A positive trend in the studio was continued in 2020, as the interest in the brand and games additionally increased because of a successful premiere of *The Witcher* series on Netflix at the end of December 2019 (although **CD Projekt** did not participate in its production in any way). In May 2020, the company announced that the titles from the franchise were sold to 50 million gamers.

The limited activity of **CD Projekt** in 2019 and at the beginning of 2020 was connected with continuation of the work on the most important project since *The Witcher 3 - Cyberpunk 2077.* The game has been developed since 2012 by the main development studio of the company, **CD Projekt RED**. The title will be a first-person action RPG with an open world, using the licence of the Cyberpunk 2020 system. The release date has been postponed a few times and is currently set for November 2020. It is one of the most anticipated releases of the year and many analysts predict that if **CD Projekt** manages to fulfil the expectations of the gamers, the production may be a financial success bigger than *The Witcher 3*.

In the meantime, **CD Projekt** is still working on its smaller projects: GOG.com store with digital versions of games, conversion of *The Witcher 3* for the next generation consoles (the work on that title were commissioned to **Saber Interactive**) and a mobile game *The Witcher: Monster Slayer*, developed by **Spokko**, a studio belonging to the **CD Projekt** group.

In the absence of high-budget games, the most popular Polish game released in 2019 was *Blair Witch* by **Bloober Team**. The horror connected with the series of popular films was released in August for PC and XONE, in December for PS4 and in June 2020 for **Nintendo** Switch. The title was well-advertised among the gamers, among others because of the trailer displayed during presentation of **Microsoft** at E3. Unfortunately, the final result did not meet expectations. Some of the critics and gamers were disappointed, mainly because of the poor technical quality of the released version. **Bloober Team** did not announce sales of that game, although in September 2019 the company mentioned that it was the fastest selling title of the studio.

A few months before *Blair Witch*, **Bloober Team** released one more title, a continuation of its warmly received horror Layers of Fear of 2016. The second instalment was disappointing, it was assessed as average by the critics and gamers, the sales numbers were low - 50 thousand purchases in the release period. However, appreciation was expressed towards Arkadiusz Reikowski, who received an award at the Digital Dragons Awards 2019 for the soundtrack prepared for the needs of Layers of Fear 2. Regardless of no significant recent successes, **Bloober Team** has high hopes connected with the end of 2020, when the largest project of the studio, Medium will be released for personal computers and the Xbox Series. The studio has been working on that game since 2012 and hopes to be included in the group of the top world's international developers of interactive horrors.

Creepy Jar turned out to be a dark horse of 2019. Although it holds much more moderate resources than **Bloober Team**, without even mentioning **CD Projekt**, it achieved an enormous success and sold over half a million of copies of its debut title, survival simulator entitled *Green Hell*. Early access to the game was available in 2018 and already gained popularity with 180 thousand copies sold. The final version was released in September 2019, which significantly improved that result. The game also received the title of the best Polish production of 2019 granted by the jury of the Digital Dragons Awards. Currently, *Green Hell* is available for personal computers only and **Creepy Jar** is working, among others, on conversions to consoles, which means that the present sales results can be multiplied.

Star Drifters also had a successful debut in the video games industry. The fantasy strategic game *Driftland: The Magic Reveal* released in April 2019 gained popularity and achieved satisfactory sales. Another project developed by the studio, a cyberpunk rougelite game entitled Danger Scavenger, was released in June 2020, but did not find so many fans. Successful debuts include the release of two-dimensional action game Carrion developed by Phobia Game Studios, which was released in June 2020, had very good reviews and was purchased 200 thousand times during the first week after the release.

Although **CI Games** closed 2019 with a loss of nearly three million, they have reasons to be optimistic. In 2017, because of *Sniper: Ghost Warrior* 3, the company intended to join the top international league of video game developers, which ended with a failure, as the game's cold reception caused a deterioration of the company's image and exposed it to significant losses in 2018 (over PLN 22 million). After that failure, **CI Games** changed its strategy and focused on medium-budget projects, which allow recovering the production costs with lower sales. The first title created according to the new strategy was *Sniper: Ghost Warrior Contracts* released in November 2019, which was rated much higher than its predecessor and the production costs were recovered after a few months. The company continues the new strategy and intends to release *Sniper: Ghost Warrior Contracts* 2 at the end of 2020 or at the beginning of 2021. In September 2020, **CI Games** opened a new development team which should complete the work on Lords of the Fallen 2, a problematic title in development for many years.

Another positive year was recorded by **11 bit studio**s, which strengthened its already strong position (because of amazing *This War of Mine*) with the sales of another hit - *Frostpunk*, as well as interesting publishing activities (*Children of Morta* and *Moonlighter*). Although in 2019 the company recorded sales results lower by 13% (PLN 71.22 million compared to PLN 82.11 million in 2018), it still held financial resources at the level of PLN 82.2 at the end of the year, which is a result higher by nearly 46%. It is obviously partially the impact of *Frostpunk* and releasing three expansions to that game in 2020 (*The Rifts*, *Last Autumn* and *On The Edge*). The revenue on sales of that unique city-builder from the release until March 2020 is said to amount to over PLN 100 million. 2020 was another successful streak not infringed by the lockdown caused by the pandemic. In an interview with GryOnline.pl, Paweł Miechowski and Kuba Stokalski from the company stated that it took them three days to move the company from the office to homes and it did not have any negative impact on its operation or profits.

Very good financial results of the studio are not the only success. The internationally iconic *This War of Mine* became the first game on the official reading list of Polish schools. That achievement can be interpreted in many ways, but by creating works which discuss important social issues, **11 bit studio**s change the opinions about games in Poland, often among the parents of gamers. With respect to that issue, in June 2020, the Prime Minister Mateusz Morawiecki said that the official reading list in Polish schools would be expanded by games in order to "*develop our imagination and bring something new to the culture - not only in Poland, but around the world*".

Record-high profits were recognised in 2019 by **PlayWay**, which earned PLN 97.267 million in that period, regardless of extensive investments and no large sales hits similar to Car Mechanic Simulator from 2014.

The company has been consequently implementing its long-term strategy of establishing subsidiaries engaged in the production of low and medium-budget games using topics which could be interesting for the gamers. Although the industry critics often disregard the production of that enterprise, they always provide **PlayWay** with significant financial resources.

House Flipper released in 2018 (by Frozen District from Kraków) was so successful that in February 2020 the company decided to port the game into all leading platforms (PS4, Xbox One and **Nintendo** Switch). A version for iOS and Android phones should be released in October this year. Encouraged by that success, the **PlayWay** Group announced *House Flipper City*, where you can use the solutions developed in the original to redecorate and sell real estates with profit.

PlayWay knows not only how to limit its losses and generate profits, but it's also an expert in arousing interest, sometimes using controversial topics. The games released or planned for 2020–2021 include, among others, *The Pope: Power & Sin* (*Pope simulator*), *Flight Catastrophe* (*Flight Catastrophe* simulator), *Bum Simulator* (homeless simulator) or *Drug Dealer Simulator*. Controversies are related not only to the topics themselves, but also to their presentation in the games. It should be noted that such titles are very often successful on Twitch and YouTube.

Paradoxically, that specific publishing policy makes the investors concerned. A lot suggests that in the incoming years, the Group will be forced to face the issues which made it extraordinary. The issue that was treated as a unique but profitable publishing activity was widely criticised in September 2020, when Polish Gamedev published an article about **SimFabric S.A.** (a company from the **PlayWay** Group which until now could only boast a positive image – for example two months after its debut on the NewConnect market, its value increased by 600%). The company was charged with announcing releases of subsequent games without securing the resources for their completion or releasing trailers for products which were actually not developed, which mislead not only the consumers, but also the investors.

The situation is completely different from the last company listed at WG.Games. **Ten Square Games** generates significant profits and continues its business in the sector of mobile and browser games, developing its proven portfolio. In 2020, "Puls Biznesu" considered the company the biggest success of 2019. *Fishing Clash*, released in 2017, has been downloaded to Android devices over 10 million times and the reception was very positive (4.6 stars in **Google** Play). Another similar game developed by the studio, *Let's Fish*, achieved a similar success with over 10 million downloads for Android devices (and 4.5 stars). The hunting simulator, *Wild Hunt*, reached 10 million downloads and the rating of 4.3 stars was given by satisfied consumers. The successes are connected with financial results - **Ten Square Games** closed the second quarter of 2020 with revenues at the level of PLN 169.6 million (compared to PLN 49.9 million in the previous year) and profit of PLN 25.7 million (13.1 million in 2019). Such revenues are connected principally with the enormous success of *Fishing Clash* (only in the first six months of 2020, the game generated PLN 242.7 million revenues; currently, there are approximately 7 million active users. As a comparison, in 2015, the number of active users of *World of Warcraft* was estimated at the level of 5.6 million).

Ten Square Games does not treat the situation as the end of the road and is working on its new potential hits. Their offer includes: *Hunting Clash* (over 1 million downloads), a house renovation game titled *Flip This House* (over 500 thousand downloads), a new version of solitaire Soli*Tales* (over 500 thousand downloads) and *Golf Rush* (until now, "only" 50 thousand downloads). Since 2018, the company has been attempting to enter the Chinese market with *Fishing Clash*, but until now, it has not received the certificate from the Chinese authorities. If successful, it would be a good opportunity to multiply the profits.

Other interesting games released between January 2019 and September 2020 include *SUPERHOT: Mind Control Delete* (July 2020), an independent expansion to a logic action game from 2016 created by *SUPERHOT* Team and a cooperation 2.5D shooter *God's Trigger* by **One More Level**. It seems that the studio from Kraków can be considered the author of one of

Serial Cleaners, Draw Distance

the biggest Polish successes in 2020. The estimated revenues on sales of Ghostrunner exceeded EUR 2.5 million on the release date (27 October 2020), which means exceeding the costs spent on the development of that game. It can be assumed that because of very good reviews in the specialised media and on Steam, that amount should increase by the end of the year.

Vile Monarch, who released a marihuana sales strategy entitled *Weedcraft Inc.* in April 2019, also has reasons to be optimistic. Regardless of the controversial topic, which resulted in some problems with promotion of the game on Facebook and YouTube, it aroused a lot of interest among gamers.

It was also an interesting period for **Forever Entertainment**, which combines independent game development with publishing and porting of external titles, usually for **Nintendo** Switch. In 2019, the company published 46 titles of other companies, 44 of them were released for **Nintendo** Switch and many of those versions have been developed by **Forever Entertainment**. The company is becoming a specialist in porting games of other Polish teams unto the **Nintendo** platform. It has a little more problems with its own productions - the science fiction horror entitled Hollow from 2017 was released for Xbox One in May 2019 and the reception was very cold, similarly as in the case of previous versions of that title. In March 2020, **MegaPixel Studio**, a partner company of **Forever Entertainment**, developed Panzer Dragoon Remake for **Nintendo** Switch which became quite popular.

In addition, **Flying Wild Hog** reminded us about itself in 2020. After releasing its biggest hit, *Shadow Warrior 2*, the company did not disclose its plans. In February 2020, it announced the production of three new games, including two AAA productions. A little later the company mentioned that one of them is *Shadow Warrior 3* (which will once again be released by Devolver Digital). The first trailers were assessed in a positive way. In July 2020, the studio is also going to release *Devolverand Expo* and then announces an action RPG created on Unreal Engine 5 in cooperation with the British Jagex. During the unexpected ownership changes announced in November 2020 (100% of the company's shares were acquired by **Embracer Group** briefly described in chapter I, with the intermediation of Koch Media), it was also noted that the team of over 260 people is currently simultaneously working on 4 projects (including the already revealed *Shadow Warrior 3*), which should be released in 2021-2022.

Interesting things are happening in **Klabater**, which recorded PLN 6 million net revenues on sales in 2019. The company has been generally associated with publishing, but it has recently been involved in development as well. With respect to its first title, *Crossroads Inn*, the reviews were at a medium level among critics (59 metascore at Metacritic) and gamers (6.9 user score at Metacritic), but its production costs repaid within one week after the release. That success was deteriorated by the technical condition of the game, which forced **Klabater** to announce an anniversary edition - an enhanced version of the game without bugs. Encouraged by the results achieved by its first game, **Klabater** announced another title - *Moonshiners: The official video game*, based on the American Discovery series about moonshiners. Additionally, **Klabater** continues its publishing activities in 2020, focusing principally on an interesting adventure game based on real events - This is the *Zodiac Speaking*.

There is still no news about the plans from **People Can Fly**. The years 2019–2020 have been connected mainly with the production of a new, large game, Outriders (ordered by a well-known publisher, **Square Enix**), whose release was moved to February 2021. Its other game without a disclosed title, developed by the American branch of **People Can Fly** established in 2019 in New York, is also still in production. It should also be noted that the company is planning to enter the stock exchange by the end of 2020. However, it should be remembered that the company has not released anything the studio made for a long time (the last hit was the remaster of *Bulletstorm Full Clip Edition of 2017*), so Outriders will be a turning point and simultaneously a test for the company.

Conversely, **Techland** has encountered a lot of problems in 2020. Although the team from Warsaw is among the most profitable (because of *Dying Light* and its expansions), the news about *Dying Light 2* is not optimistic. Postponing the release date has been received in an opposite manner than in the case of *Cyberpunk 2077* by **CD Projekt**, i.e., negatively. The delays have been caused among others by a conflict between the famous developer of *Fallout 2* and *Fallout: New Vegas*, Chris Avellone, with the management of **Techland** with respect to the game scenario and a general lack of concept regarding the game. It is not known whether those reports are true (Avellone dismissed the rumours), but after postponing the release in spring 2020, the authors did not specify a new date and the press predicted that the continuation of the second instalment of the game will not be available earlier than in 2021. Problems and burdens in production are experienced by large and small companies in the same way. Astronauts, the team responsible for the warmly received *The Vanishing of Ethan Carter*, has not specified the release date for the promising *Witchfire*, which was first mentioned as early as in 2017. The times are much worse for Farm 51 (FPP *Chernobylite*), which still encounters problems connected with their previous production. After early access debut in 2018, *World War 3* has still not been released. A bad start to the early access and negative reviews of the gamers resulted in removing the game from Steam and starting a general reconstruction together with MY.GAMES. Considering poor results on the stock exchange and a failure of *World War 3*, it is difficult not to worry about *Chernobylite*.

Artistic success is not always connected with good sales, which could be confirmed by **Artifex Mundi**, recognising increasing losses in its annual reports (PLN 13.699 million in 2019). The company has been specialising in hidden object puzzle adventure (HOPA) games for years, but recently attempted to expand its portfolio by bigger and more ambitious games. In 2019, they released *Irony Curtain: From Matryoska with Love*, and in 2020 - *Hot Shot Burn*. Both titles are of high quality, but went almost unnoticed by the gamers and the critics.

There was not much interest in *Deep Diving Simulator* released in May 2019 by **Jujubee** either, which resulted in the company closing the year with a loss exceeding over PLN 3 million. The situation was supposed to be improved by *COVID: The Outbreak*, a strategic game using the popular pandemic topic, released at the end of May 2020. The reception was surprisingly warm for a short production period, but it did not become a sales hit. The debut project by **Varsav Game Studios**, *Bee Simulator*, has also been sold below expectations, reaching only 64 thousand purchasers from November to the end of 2019.

Layopi Games did not record a successful debut either. The adaptation of a novel by Paweł Leśniak (founder of the studio) entitled *Równowaga* (*Balance*) into the game *Devil's Hunt* turned out to be a low-quality title which received poor reviews and was quickly forgotten.

While assessing the market in 2020 (and many announced productions), it seems that COVID-19 did not disrupt the successes, because of its nature and distribution methods, the sector did not experience the pandemic as strongly as the movie industry. Moreover, it seems to be resistant to it. Although mass events connected with games, such as Intel Extreme Masters in Katowice, had to take place without an audience, losing their importance and prestige, the stock exchange profits and the general sales increased as a result of many gamers spending more time at home.

Frostpunk, 11 bit studios

The promotion of products also had to change - the previous large events with announcements and promotion of new games, including the Polish ones, did not take place at all (Electronic Entertainment Expo in Los Angeles) or were replaced with virtual equivalents (Gamescom). It could slow down the marketing promotion projects for many games, but two things should be remembered: first, the selected studios could spend significant resources saved because of a lack of participation in such events on other goals, second, large events have been replaced with higher numbers of small online presentations - presented in a less attractive way, but also very influential. **Bloober Team**'s promotion could be seen on **Microsoft**'s Xbox Insider and **CD Projekt** RED created a regular event entitled Night City Wire, where it presents materials connected with *Cyberpunk 2077*. The above proves flexibility and readiness - even in the face of the pandemic changing practices and markets all around the world. It is possible, but very hard to actually predict, that positive trends will be slowed down by long-term effects of the pandemic - unemployment rising from reduced jobs and a decrease of the money trading may deteriorate investments in the entertainment market. However, although the preventive savings have certainly been considered in 2020, in the opinion of many game developers, COVID-19 did not affect work progress or efficiency. The representatives of **11 bit studio**s, **Flying Wild Hog** and **Destructive Creations** interviewed by GryOnline.pl assured that the method of work has changed, but its quality remains at the same level.

Instead of the pandemic, the biggest problems in the sector include the financial situation, morale and skills of the employees, stock exchange fluctuations and many other issues connected with the human factor. However, gathering all the above games in one portfolio would give a perfect vision of the Polish gaming sector - strong, dynamically developing, successful abroad - and responding to the needs of various types of consumers. It is also difficult to forget the very hard and meticulous work on advertising Polish gamedev abroad, which has been performed by such entities as Indie Games Polska Foundation or Kraków Technology Park with its Digital Dragons initiative.

It seems that the end of 2020 will belong not only to **Sony** and **Microsoft** with their next generation consoles, but also to **CD Projekt** RED and *Cyberpunk 2077*, which has already become an export product promoting the Polish gaming industry. In addition, we would also wish to be able to discuss *Dying Light 2* by **Techland** and many other games which are currently being created in Polish homes and offices.

3.4. Polish Gamedev 2019/2020 - a survey of game producers in Poland

Introduction and methodology description

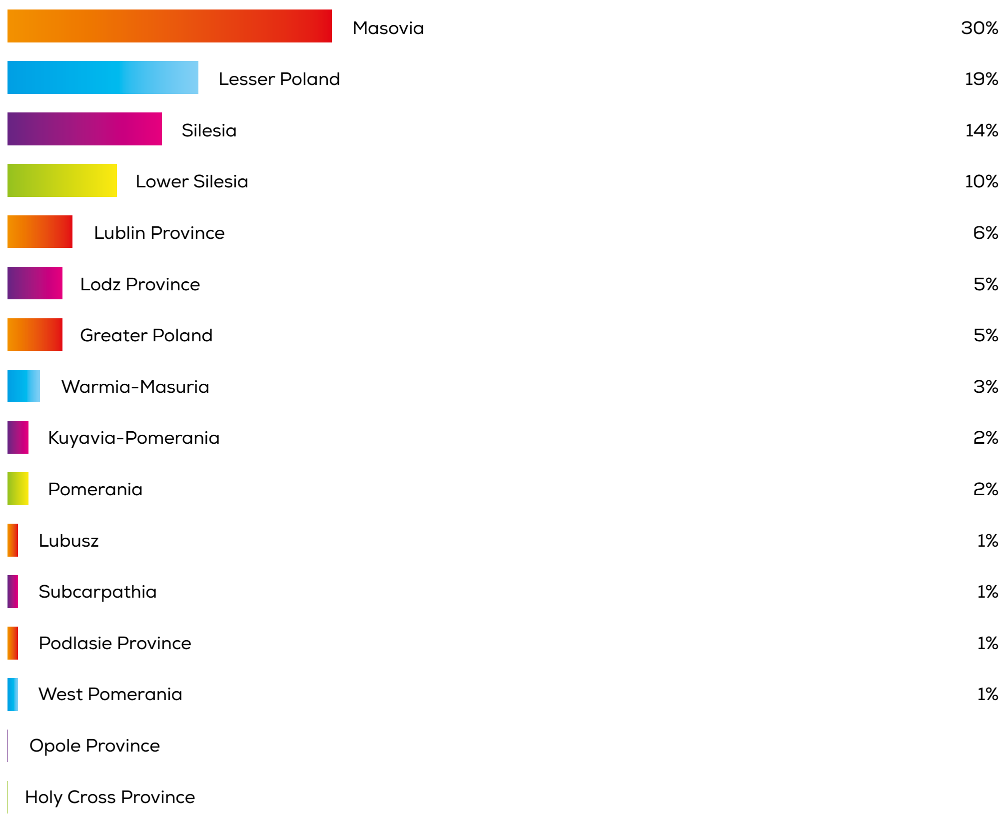
This work contains the results of a survey conducted among the game producers in Poland in the period from September to October 2019 for the needs of "*The State of Polish Video Games Industry 2020*" - a comprehensive survey of the Polish gaming industry". The contact list used to distribute the survey contained a verified collection of 476 Polish companies producing video games. The questionnaire of the online survey contained 34 questions subject to previous substantive reviews. During the research, 100 fully completed surveys have been received, which means maintaining a test sample size at the level of the previous report from 2017. The test sample contained studios differing from the point of view of size, location, revenues or types of published games. The report focuses on the essential aspects of functioning of the gamedev companies on the market, including production of games, employment, project budgets or relations with external business partners. The data generated in the survey has additionally been combined with the opinions of experts representing selected design studios, business organisations and scientific institutions. That stage of the project was completed using the method of 18 structured interviews. Such triangulation of research methods allowed developing an in-depth approach to the most important phenomena for the Polish video games sector in 2020.

The gathered data was supplemented by the results of the research "HR policy and salaries in the Polish video games sector" conducted by manaHR upon request of the Kraków Technology Park. The data has been gathered using an online form at the turn of August and September 2020, directly from the representatives of the companies participating in the research. They are valid as of 31 July 2020. The survey was conducted with respect to the group of 2241 employees of the companies producing video games, including 1700 from the gamedev area. In order to limit the impact of large enterprises on the final results, the sample was *Balanced*. For the needs of the research, two groups have been distinguished among the employees: gamedev - employees working on the positions directly connected with creating the products and support - employees working on the positions supporting the organisations in HR, administration, accounting and marketing activities.

3.4.1. The basic characteristics of the companies, business and budget issues

Locations of the companies

Chart 3.4.1.1. The province where the company's headquarters is located



Source: compiled based on the results of the "Polish GameDev 2019"

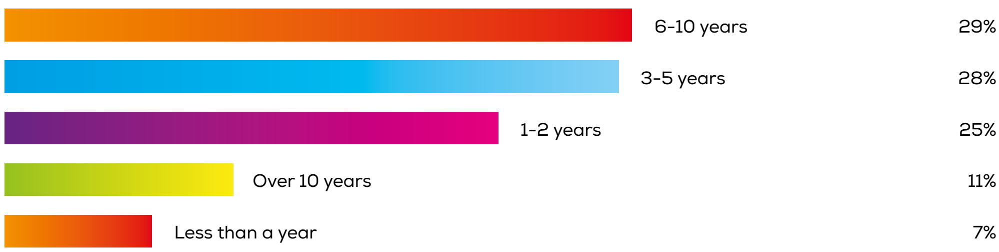
In the group of the surveyed companies, the majority are seated in the Mazowieckie province, specifically in Warsaw, as 29 among 30 entities from that province have their headquarters in the capital. Although Warsaw is clearly a leader on the gaming map of Poland, from the geographical point of view, the test sample is better represented by the entities scattered in the southern area of the country - in Małopolskie and Śląskie provinces (in total, 34 entities). On the other hand, there are only a few companies located in the North. Such locations may be connected *"simply with the numbers of people in the agglomerations. There are many inhabitants in Śląskie, Małopolskie or Mazowieckie provinces, as well as many universities. Other obvious reasons include access to good infrastructure, network, and employees. Big agglomerations offer not only gamedev companies, but also advertising, media and similar enterprises. People have more opportunities to meet, exchange ideas, views, talk to one another, therefore such locations drive development and deliver new people, because not all of them graduated from IT schools, they have various types of education"* (Przemek Marszał, **11 bit studio**s). Piotr Jurek (**ARP Games**) noted that the above may also be affected by historical conditions: *"Podkarpacie and Małopolska are the cradle of Polish gaming. In those regions, games were developed at the beginning of the 80s, on 8-bit computers. Electro Body was created there. In those regions, there were many people with families in the United States and they were the first to receive privately imported computers in large numbers. Those were the times when you could not go to a store and buy a computer. Later, in the 90s, those regions were accompanied by Dolny Śląsk with Techland, Leryx Longsoft and the founders of Metropolis, which constitute the foundations of CD Projekt Red, 11 bit studios or People Can Fly."*

An interesting approach was presented by Krzysztof Kostkowski from **PlayWay**: *"In the case of our teams, it is common that a success of a single developer attracts others. It happened in Kraków (House Flipper) or Katowice (Code Horizon)."*

That general trend has not changed when compared to the previous research, but Lubelskie and Dolnośląskie provinces recorded significant gains[2]. In general, it may be connected with a growing HR and business potential of Lublin and Wrocław. The latter (similarly as Warsaw, Kraków, Katowice or Poznań) has been present on the gamedev map of Poland for years. It does not seem that the situation could drastically change because the highest increase of young companies (operating for up to two years) was recorded again in Mazowieckie (31.2%), Śląskie (18.7%), Małopolskie (15.6%), Dolnośląskie (9.3%) and Lubelskie (6.2%) provinces.

Market structure

Chart 3.4.1.2. The period of presence on the market



Source: compiled based on the results of the "Polish GameDev 2019"

Similarly, as three years ago, companies operating for less than one year (7%)[52] and for more than 10 years (11%) are the least common in the tested samples. A similar share of 68% of companies operating for more than three years and a few percentage points of increase up to 40% of companies with over five years long presence on the market have been recorded. Again, one third (32%) of the surveyed entities has been operating for less than two years. The results on one hand show a stable trend of the market development, and on the other - its stabilisation in the area of enterprises with a few years of experience. Simultaneously, as mentioned by Michał Mielcarek (**Draw Distance**), games development is connected with a certain risk *"currently, the situation on the market is stable, but it does not mean that there are no companies threatened with bankruptcy in Poland. This sector is characterised by high risk and sometimes one failed project, in which you invested two years, is sufficient. In addition, the stock exchange is becoming more open for gaming companies."* The last issue is connected with a certain level of concern among some developers. Tomasz Tomaszewski (**Crunching Koalas**) is one of them: *"there are many companies who are unprofitable and would not have been able to survive a failed project if not for the investors and the stock exchange."* Other market destabilisation factors have been noticed by Piotr Babieno from **Bloober Team**: *"the stability problem includes access to qualified employment staff. The more studies, the bigger the rotation between them. It is also more common that people working in companies wish to have their own businesses, because if there are a few dozens of entities on NewConnect, then why shouldn't they leave their companies and start something on their own? Changing fiscal and legal conditions are also an important destabilising factor for the gaming market."*

In the examined population, the youngest companies, when compared to the oldest ones, complete a lower number of projects per year (usually 1-2), use a more limited range of financing sources (no public funds), have less employees (more often below 10 people), are significantly less willing to offer employment contracts, while maintaining a lower share of employees leaving them within the past year. It is also less common for them to use the self-publishing model, instead of working with external publishers.

[52] See *The State of Polish Video Games Industry 2017*, p. 69.

Number of projects developed in the past year

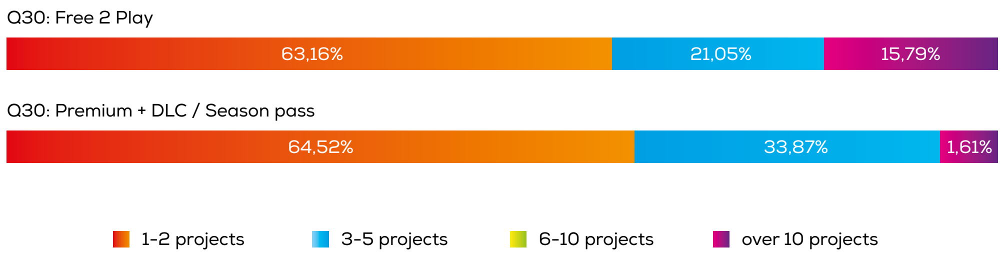
Chart 3.4.1.3. Projects developed by the studio in the past year

Source: compiled based on the results of the "Polish GameDev 2019"

The distribution of answers to the question regarding the number of projects launched in the past year does not suggest any significant changes within the recent years. The majority (62%) of the surveyed entities is still able to develop 1-2 projects per year, and 7% - more than 10[53]. In the opinion of Paweł Kopiński (**Superbright**), working on up to two games at the same time, "by overlap", is a good practice. He says that it means "that the first game has not been released yet, but is at the final stage and the people who have already completed their work on that project, for example concept artists, can work on a new project."

Such an approach is confirmed by Tomasz Majewski from All in Games: "*Everything depends on your target market. If it is the premium market (PC, consoles), the optimal pipeline is one title and at the final stage you can begin prototyping or thinking about a new one. The resources are moved when the project approaches completion. If you mean the free-to-play market, the development of many projects at the same time is more valid because of a significantly shorter production period. Continuous prototyping is required.*" It should also be noted that there is no big difference in relation to the number of projects worked on within the past year between the companies creating premium and F2P games, although the studios distributing companies in the latter model are still more willing to work on over 10 projects per year.

Chart 3.4.1. 4. The number of projects the company has worked on during the last year



Source: compiled based on the results of the "Polish GameDev 2019"

[53] See *The State of Polish Video Games Industry 2017*, p. 69.

Funding sources

Chart 3.4.1.5. Funding source for the companies

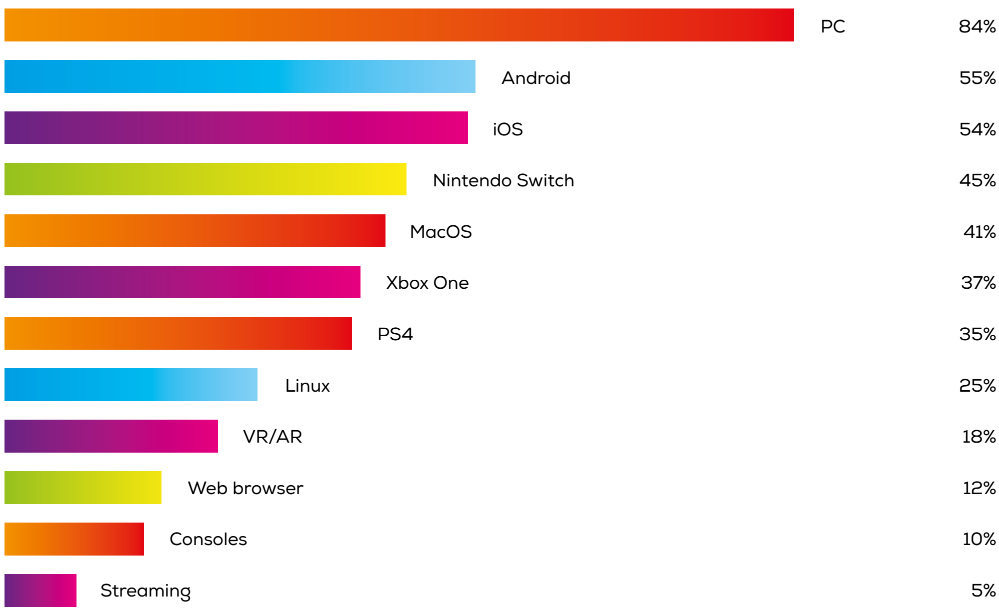
Source: compiled based on the results of the "Polish GameDev 2019"

Own resources remain the most popular type of funding, as indicated by 78% of the companies. The earlier observation is confirmed that they are more often used by companies with longer experience, which allows drawing a conclusion that the success of their games enables them to finance subsequent production. Such funding can also be beneficial for smaller entities, which was noted by Paweł Gumiński (**Rage Quit Games**): *"We established our company on our own, creating small games with very low budgets. We built our capital that way. We have no investors or funding, and we finance everything on our own. It is very convenient."* Specialised publishers/investors constitute another popular funding source, but they have been indicated significantly less often (37%). The publishers from Poland are still more common (approximately 2/3 of the cases). One fifth of the respondents indicated an investor from the sector as the project funding source. In this edition of the survey, the respondents could also indicate co-funding from the public resources and the European Union, which was used by 13%. Such form of public funding is used only by companies operating on the market for at least three years, who are interested in employing new people (over 90% of indications), outsourcing production tasks (nearly 77% of indications) and publishing games mainly in the premium model (nearly 70% of indications). Searching for financial support at the stock exchange is relatively unpopular - that option received only 4% of indications. It should be noted that such results may be connected with the profiles of the companies who participated in the survey and numerous alternatives, because our interlocutors emphasised a growing interest in funding sources, not only the stock exchange. It has been noted, among others, by Piotr Jurek (**ARP Games**): *"Funds, aid schemes are one of the sources, there also are private investors or the option of transforming the company so that you can use the stock exchange funding. The interest in obtaining capital is obviously very high."* The approach focused principally on generating high interest on the side of the potential investors has been criticised by Piotr Babieno (**Bloober Team**), stating that *"there is a growing number of "shell companies" which are focused only on making a strong NewConnect entry. It is not necessarily connected with any company value, but I hope that life will verify such entities and even if they entered the market due to such reasons, in the end, they will begin developing good games."* An interesting remark about the stock exchange has been made by Grzegorz Dymek (**Anshar Studios**): *"There weren't many companies who indicated stock exchange, because it all depends on the method of entering it. There are stock exchange debuts which are aimed at cashing investors, which does not mean that the capital appears in the company. Such a situation requires detailed analysis of the prospectus, for example the number of new shares which strengthen the company's capital, the number of already registered shares, which have only been put into trading. There are cases when the stock exchange funds are used to repay the existing liabilities"*.

In the answer "Other", there were nine responses indicating alternative, significantly less popular funding sources, for example grants from an AR equipment producer, loans, working on external commissioned agreements or Kickstarter campaign.

Popularity of platforms

Chart 3.4.1.6. Popularity of platforms among the game producers in Poland

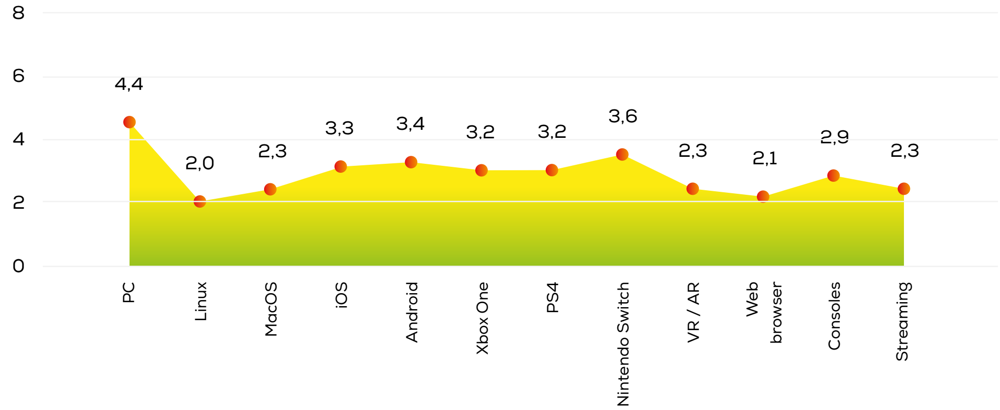


Source: compiled based on the results of the "Polish GameDev 2019"

Personal computers are the most popular platform; 84% of the surveyed companies create games for them. The market importance of PC is additionally strengthened by the fact that 41% of the entities declared publishing games for computers with MacOS, 25% with Linux and 12% - production of browser games. Why do companies prefer that platform? Rafał Szrajber (Łódź University of Technology, Academy of Fine Arts In Łódź) indicated the option of easy testing on computers: "*the majority of tools is created for them and it is the easiest to test products*". Mobile segments maintain their strong position because over half of the entities also develop games for devices with Android and iOS. A high share of indications regarding **Nintendo** Switch can be surprising - 45% of the Polish gamedev studios create games for that console. Our interlocutors mentioned a few reasons for such a situation. Jakub Wójcik (Indie Games Polska) emphasised the importance of quality of the published games and changes in the cooperation terms with **Nintendo**: "*good games and good cooperation with external partners resulted in growing popularity of that console.*" The above is confirmed by Michał Mielcarek (**Draw Distance**): "*I think that it is connected with a rather drastic change of Nintendo's policy. Previously, it was based on omitting smaller entities and selecting only those who would be included in future cooperation. Now everyone can publish a game, creation is free and the author can be a publisher, Nintendo does not obstruct it in any way.*" Therefore, that developing market became interesting and less saturated than others in the opinion of many Polish developers. The above is also confirmed by Krzysztof Kostkowski (**PlayWay**) who notes that his group, noticing the popularity of **Nintendo** Switch, transferred some of the assets to porting games into that platform: "*Our goal was to transfer practically everything we have into Switch. A few porting companies began their operations and currently we publish the highest number of productions under the Ultimate Games brand.*" Damian Fijałkowski (**T-bull**) is also optimistic about further popularity of **Nintendo**. "*Switch is a compromise linking two worlds: PC and mobile. On one hand, it is mobile because you can carry it, perhaps not in your pocket, but in a bag or a backpack. On the other, it attempts to present games taken from PC, maybe a little better, with more advanced graphics. There are many games with a storyline, this is a world in-between, and that is why it is so attractive. It attempts to combine two opposite worlds and that is the key to its success." Przemek Marszał from 11 bit studios notes another aspect Switch: "it has never focused on production value. That platform accepts games easily and lightly, such a method fits it, and therefore it is a little different. On PS4, you need very good graphics and other elements, or at least that is expected by the majority of the gamers on those platforms, so it is possible that on Switch, the gamers just expect fun and the production value is a little more secondary, it allows that lightness offered by indie studios.*"

The current generation consoles, Xbox One (37%) and PlayStation 4 (35%) are located in the middle of the list, and the survey includes the next generation of those devices, which are already included in production by 10% of the surveyed companies. We observed differences in the approach to the next generation of consoles among our interlocutors. Some of them emphasised that the current generation is still a leading market because of a massive user base. It was mentioned by Tomasz Tomaszewski (**Crunching Koalas**): "*Old consoles have and will have an enormous user base, which means that PlayStation 5 will be sold in 10 million copies, while PlayStation 4 will still have around 100 million users. It seems that those consoles are a must have for new games, but for smaller ones the previous generation will still be necessary.*" VR and AR games are gaining some popularity (18% of indications), similarly as streaming services, although the latter should rather be treated as marginal for the entire device ecosystem. VR market and technology are perceived by some as the area of innovation. Such approach was expressed by Paweł Kopiński (**Superbright**): "*We are looking for a niche here and we wish to enter it as early as possible, we wish to be pioneers in that sector and participate in developing it, not only publish the related products.*"

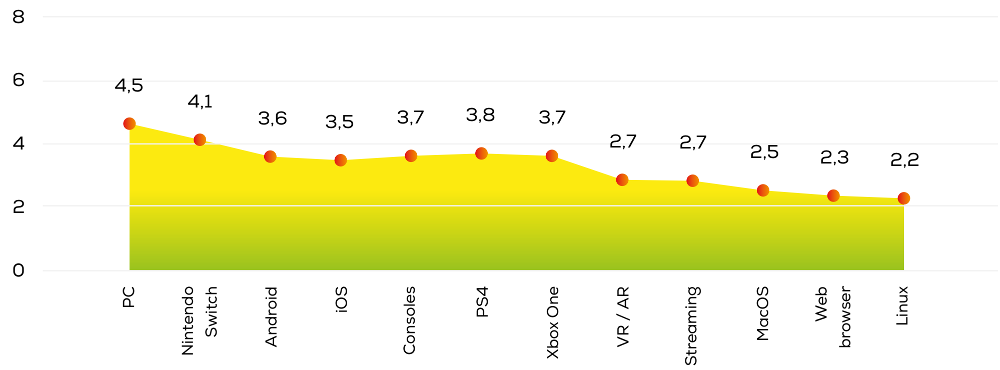
Chart 3.4.1.7. Importance of specific platforms for the currently developed projects.



Source: compiled based on the results of the "Polish GameDev 2019"

The popularity results of specific platforms among the companies surveyed correspond to their declared importance for the currently developed projects. In average, personal computers are the most important, followed by **Nintendo** Switch and mobile platforms (Android, iOS). A similar result was achieved for the current generation of consoles. Browser games, streaming services and other operating systems apart from Windows (Linux, MacOS) are the least important for the current production work.

Chart 3.4.1.8. Importance of specific platforms for projects developed in the future.

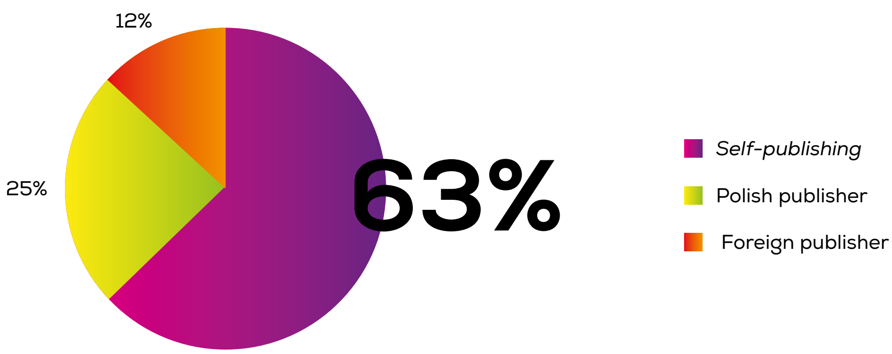


Source: compiled based on the results of the "Polish GameDev 2019"

The above situation should not drastically change in the nearest future, because the production plans of the surveyed companies focus around the platforms which are the most important for them at present: PC, **Nintendo** Switch, current consoles (PS4, XO) and the next generation, as well as mobile devices (Android, iOS). Damian Fijałkowski (**T-bull**) states that "*it may be the reflection of our market, the structure of our developers in Poland. There are a few big companies which try to develop games for the new consoles, but there are also many small developers who focus on PC and a few other platforms, and even smaller developers who create their first, second or third game or prepare something for mobile devices. It still requires skills, there is a kind of barrier to enter the consoles. It is not only the requirements, but also the human mindset.*" Fijałkowski summarises the trend saying that "*we are talking about the new companies, start-ups developing games, and there is nothing surprising in the fact that such start-ups look towards the financial market, searching for funds. Therefore, the potential financial investors should be convinced that the product you are preparing is good and will earn them some money. The same scenario is applied to Kickstarter campaigns - you also have to convince people. It is a little easier to convince them with respect to a bigger game on Steam than to any mobile game, because the awareness of an average recipient is that computers are the target, best platform. People grade it that way, if someone cannot develop AAA games for PC, they do it for mobile devices - it is obviously incorrect thinking, there are games earning millions of dollars on mobile devices. But it is easier to present one PC title and say: this is the history of success. If I asked an average person about a good game on the mobile market, it would be difficult to indicate such a title. It is also connected with the way you purchase: on your smartphone, you just click something and buy, you do not even always remember the title, but rather associate it with an icon on your screen. Advertising of mobile games is becoming more common on the Internet and the public space, but there are significantly more PC games, because they are "bigger". It is also easier to talk about money, because "a game was sold on the release date" in a specific number of copies, which means that the developer earned USD 20 million and it is a big success, while a free-to-play mobile game is designed to earn nothing within the first month after its release, because it usually begins earning six months later or even more. You have to wait for the money, they are spread in time, it is a different characteristic and you cannot indicate a single success. It is easier to achieve the success with a PC game than a mobile game; Switch is somewhere in between because it is partially an exotic platform. If Switch is not fully existent in the consciousness of the people who are investors, it is more difficult to convince them to invest in such projects, therefore Switch is lower on the list. That is why, in my opinion, PC is always first.*"

Business model

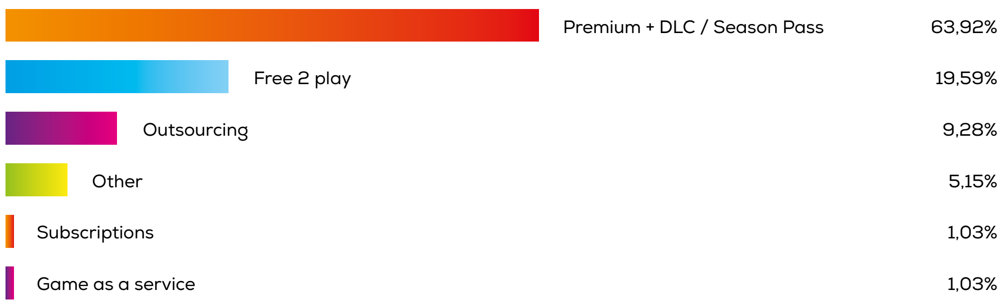
Chart 3.4.1.9. Games publishing model



Source: compiled based on the results of the "Polish GameDev 2019"

Nearly two thirds of the surveyed companies publish their games in the self-publishing model, appreciating freedom of that approach, as well as the possibility of keeping all profits in the company, which seems even more attractive when the physical distribution is losing its importance. Krzysztof Kwiatek (**Creepy Jar**) talks about self-publishing from the point of view of a smaller company: "*Self-publishing seems to me the only proper way of creating and publishing games (...). While establishing Creepy Jar, we were aware that it is not good to have a publisher, although I know that there are developers who appreciate it. I am obviously talking about Creepy Jar, because AAA games perhaps require such cooperation. On our scale, if you have a poor product, it will not sell. It cannot be helped even by a publisher, because there is always a gamer at the end, we have forums where it is very easy to find reviews.*" Kwiatek adds that: "*If you do not have money, it is a good idea to find a publisher, who will usually assume the rights to the created IP which is only at the starting stage, and will also obtain a large share of the profits from further sale. We talked to our friends from the industry on the way (...) and we learned that a publisher does not guarantee a sales success, often later the developers think that they would have sold the same number of copies themselves.*" In comparison with 2016, there are minor changes in preferences related to game publishing models. First of all, more companies decide to cooperate with an external publisher (2016 - 31.4%, 2019 - 37%), which is usually a Polish company. There is a significant change for the benefit of the Polish publishers, who are selected twice as often as the foreign ones. Three years ago, that difference was insignificant[1]. It can be explained with the development of the Polish publishing sector and easier or less expensive procedure of establishing such relations in comparison to foreign publishers. Tomasz Majewski (**All in! Games**) suggests that the publishing companies still have a long way to go: "*Publishers in Poland do not have a good opinion. It is a very popular assumption that they always attempt to drain the companies and apart from that they do not contribute much to the team.*" It should also be noted that self-publishing is a dominating form of publishing games regardless of the company's age, although the general trend shows that older companies more frequently decide to publish their games independently. Maciej Zużałek (**Ten Square Games**) also prefers that model: "*The benefit is that we control the entire process of reaching the customers, which obviously forces us to have appropriate skills in order to do it effectively. It may be a challenge for smaller companies, because the people who create games do not necessarily have access to distribution networks. They can use the intermediation of companies who publish games. We focused on publishing games on our own because the benefit is that we keep the entire margin.*"

Chart 3.4.1.10. Profitability of the game publishing models

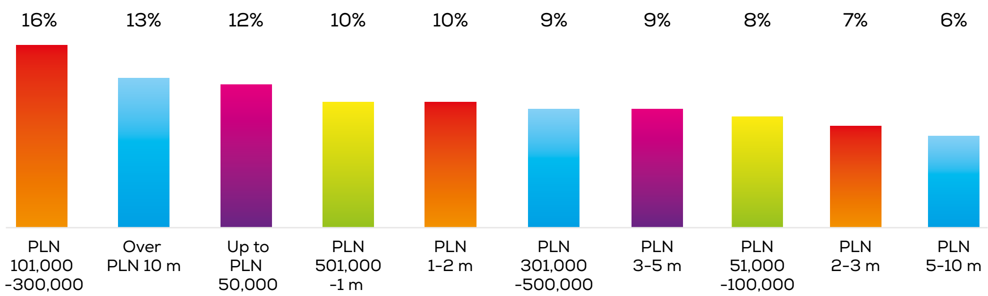


Source: compiled based on the results of the "Polish GameDev 2019"

The business model most popular among the surveyed companies is still the premium model (nearly 62% of indications) and the second choice is F2P (19.5%). In relation to 2016, there was no increase in the importance of subscriptions, which were then treated as a new alternative for the traditional sales approach[53]. Piotr Jurek (**ARP Games**) presented a wider context for those results: "*subscription services, if not properly structured, may be disastrous for smaller companies. The games market, similarly as the movie market, is based on hits, where the best promotion and popularity brings the best profits, while other games may not earn anything. In the case of a movie, it lasts for two hours, in the case of a game, it can be played for a week, two weeks or a year. In such a case, that person does not play other titles, or plays one or two more. A movie fan will watch approximately 100 films during the year, and a hardcore gamer will play three or four games. That model may result in a significant decrease of the companies developing games, because the rest will not be able to break through.*" Currently, a similar status can be assigned to the games as a service model because its popularity was marginal in the group surveyed. However, outsourcing was indicated by nearly 10% of the companies. An interesting strategy mentioned in the "Other" category is sales through UE4 Marketplace and Unity Asset Store.

Production budget

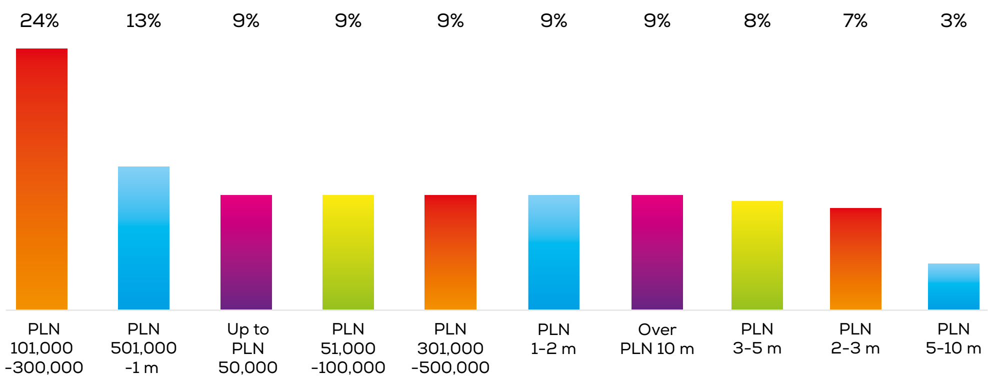
Chart 3.4.1.11. Total, approximate budget for planned games over the next three years



Source: compiled based on the results of the "Polish GameDev 2019"

The distribution of answers to the question regarding the planned budget for the next three years suggests an adjustment of the estimations in comparison to the previous edition of the research. Those are not large differences, but in relation to 2016 the companies less frequently declare high budgets at the level of a few or over ten million zlotys. That change is best visible in the movement of the most frequently selected budget brackets from over 10 million in 2016 to PLN 101–300 thousand currently. In the case of the latter brackets, the change is significant from only 5.9%[54] to 16%. Jakub Wójcik (Indie Games Polska) diagnosed those changes as a result of the development of the production model based on development of many low and medium-budget games by one entity, which gathers smaller producers of video games. He said that "*such trend results from the fact that in Poland, there are many entities connected with the PlayWay group, creating games in such business model and for such remunerations.*" Damian Fijałkowski from **T-bull** has an interesting opinion on that topic: "*I associate that type of budget with a kind of boom which occurred some time ago with respect to hyper-casual games, which are very simple from the point of view of graphics, gameplay, and I think that many companies are overly enthusiastic about them. Smaller companies may develop a hyper-casual game with that budget, but obviously development and profits are a differ-*

Chart 3.4.1.12. The planned budget of the largest title in three years



Source: compiled based on the results of the "Polish GameDev 2019"

[53] See *The State of Polish Video Games Industry 2017*, p. 71.
[54] See *The State of Polish Video Games Industry 2017*, p. 85.

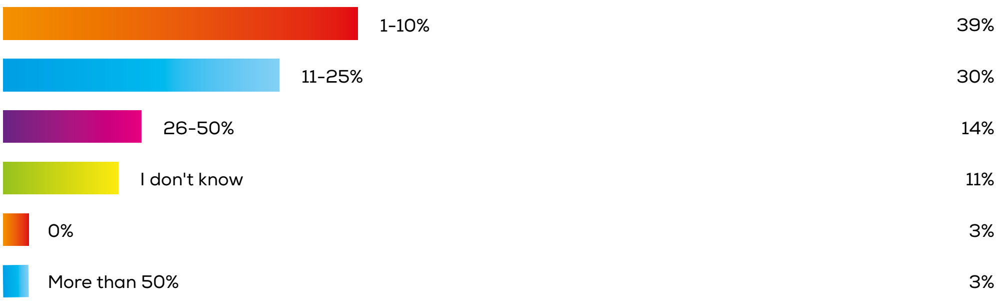
A similar adjustment of the financial plans may be noticed in reference to the planned budget of the largest title in the next three years. In this case, the most common indication was PLN 101–300 thousand (24%), while three years ago it was PLN 501 thousand - 1 million (18.6%)[55].

Chart 3.4.1.13. Percentage of the cost spent on producing a single game project

Source: compiled based on the results of the "Polish GameDev 2019"

In the group of the surveyed companies, the largest financial strain is generated by production of games - 74% of the entities designates over half of the budget for that area. Simultaneously, only 7% of the entities designate 25% of the budget or less for that purpose.

Chart 3.4.1.14. The percentage of costs spent on marketing for the production of a single game project



Source: compiled based on the results of the "Polish GameDev 2019"

The recent edition of the research shows a slight movement at the level of declared expenditures for marketing activities. The companies still usually designate up to 10% of the costs of a single project for that purpose, but there is a decrease in relation to 2016 from 47.1% to 39%[56]. Simultaneously, currently the respondents more often (increase from 20.6% to 30%) indicated the level of 11-25%. Other brackets remain at a similar level. Przemysław Marszał (**11 bit studio**s) assesses that such changes are caused by more advanced games which have to enter a more competitive market: *"The more complex the games are, the more important marketing is. It is presumably a curve which begins to turn in a specific direction."* He adds that: *"It is not surprising for me. The market is massive. You have to work hard to break through and attract gamers. We are fighting for the gamer's time here, not so much for the money."*

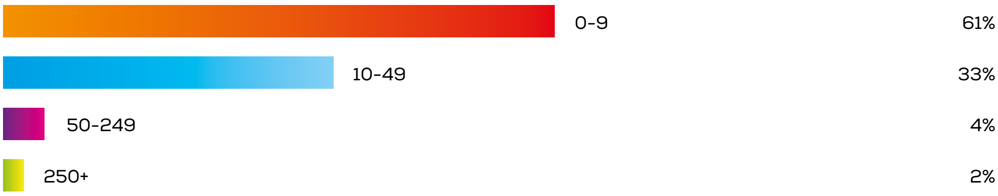
Considering the characteristics of the companies, the significant role of the applied distribution model for advertising budgets is confirmed. Studios publishing F2P games rarely spend less than 25% of the budget of a single project on marketing in comparison to the companies which prefer the premium model (52.6% F2P, 75.8% premium). Simultaneously, a higher share of the enterprises using the F2P model spend 26% and more funds on marketing (31.5% F2P, 14.5% premium). Paweł Gumiński (**Rage Quit Games**) warned against an excessive investing in marketing in the case of F2P games: *"with respect to free-to-play and mobile games, it order to advertise it, it has to be really good, because the costs of winning the customers is very high. (...) If the game is excellent, it advertises well. In such case, I am not surprised that 70% of the monthly costs are spent on marketing because the companies earn on that."* Marketing is discussed in an interesting way, from the perspective of a close cooperation with a producer of a specific device, by Paweł Kopiński (**Superbright**): *"In our case, the marketing expenses have not been high (...) but it was due to a few reasons. First, we had a very good, close cooperation with Oculus, which not only produces the devices, but is also the owner of the only platform on which the game was available. At that moment, we did not have to spend anything on trade marketing, which means marketing at the point of sales, for example purchasing advertisements in order to ensure good positioning of the game in the stores, because both we and Oculus wanted to have the game in the best possible locations in the Oculus Store."*

[55] See *The State of Polish Video Games Industry 2017*, p. 86.
[56] See *The State of Polish Video Games Industry 2017*, p. 87.

3.4.2. Human resources in the companies

Employment

Chart 3.4.2.1. Size of the companies



Source: compiled based on the results of the "Polish GameDev 2019"

An analysis of the companies participating in the survey confirms the previous conclusions on the domination of micro and small companies in the Polish electronic entertainment sector. 61% of the entities employ less than 10 people, and a little more than one third of the companies have 10–49 employees. Large enterprises constitute only 6% of the respondents. With respect to the preferred employment forms, civil law agreements still prevail, indicated by 57% of the surveyed companies.

3.4.2.2. The most popular employment forms

Source: compiled based on the results of the "Polish GameDev 2019"

The employers emphasised, first of all, the flexibility of civil law agreements and their adjustment to the reality of working in the gaming industry. Such a standpoint was presented by Kuba Rokosz (Fools Theory): "*The number of documents and requirements connected with the employment contract are an obvious disadvantage. I don't really care how much time a person spends developing a given feature. If we agree that it should be done within two days, that is the most important.*" Tomasz Tomaszewski (**Crunching Koalas**) noted another context of taxes and contributions: "*Everyone would like to give the employees as much as possible and we are always discussing net amounts during the interviews. Only later, we think about taxes.*" However, he admits that in his company, employment contracts prevail because of the interests of the employees: "*The majority of our team works under employment contracts because we wanted to provide our employees with added value and also bind them to the company.*" Przemysław Marszał (**11 bit studios**) has a similar opinion: "*As 11 bit studios, around two years ago, we decided to abandon civil law agreements and there were two reasons for it. The first one was that the legal situation of such agreements is so unclear and ambiguous that we did not wish to take responsibility for the interpretations made by the authorities (...). The second was that at a certain moment in time we noticed that civil law agreements are a little short-sighted. It is possible that we felt a little overprotective and those agreements, when you are talking about young people who are at the beginning of their careers, make sense because it is the time when you start your real work. But in my opinion, they are a little misguided because you can accumulate capital when you earn significantly more than you spend, and the civil law agreements were often applied rather tight, so that the employee received as much as he or she needed for some entertainment and that was all.*" Simultaneously, our analysis proves that the employment contract is the principal employment form only in 24% of the enterprises, while B2B agreements - in 19%. Tomasz Majewski states that senior employees expect B2B agreements because they wish to receive as much as possible and they prefer managing insurance, pensions etc. on their own.

It is a visible trend that employment contracts are offered when the company grows. The smallest gamedev studios usually rely on civil law agreements.

Polish gamedev employee - characteristics

Chart 3.4.2.3. Characteristics of a Polish gamedev employee

Male
but the number of his female colleagues increases every

Young
nearly 50% of the employees are under the age of thirty

Educated
74% of employees surveyed had a higher education

Young team
45% of the employees have been working in their company for less than two years

Multinational team
48% of the companies employ foreigners

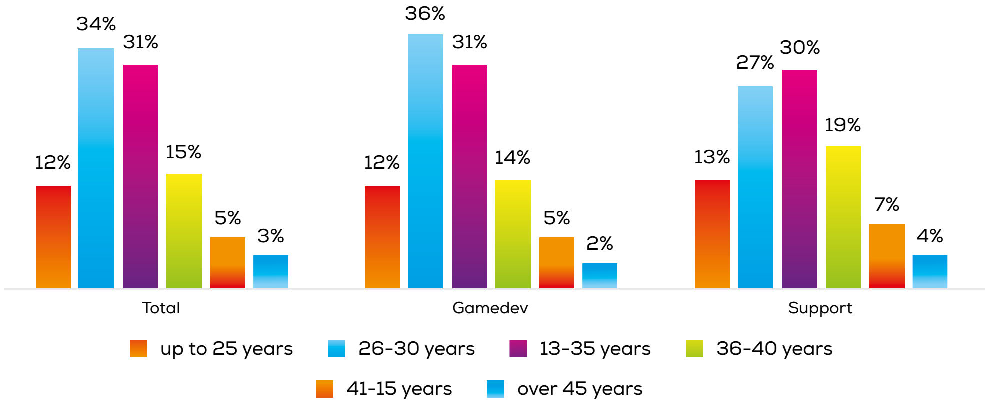
Hungry for knowledge
60% of the companies offer co-funding of participation in conferences and training activities

Supported
65% of the companies finance healthcare

Source: compiled based on the results of the "HR policy and salaries in the Polish video games industry"

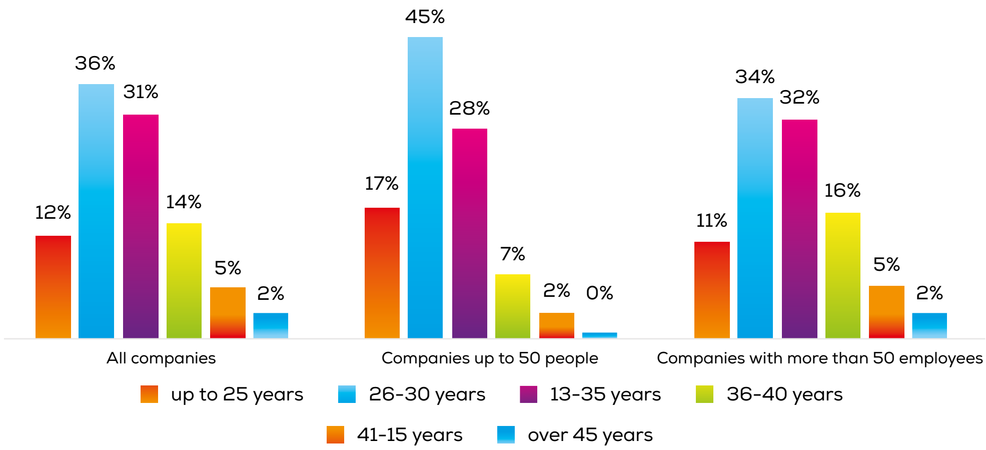
The age of employees

Chart 3.4.2.4. Age of employees in the gamedev and support areas



Source: compiled based on the results of the "HR policy and salaries in the Polish video games industry"

Chart 3.4.2.5. Age of employees in gamedev areas in companies of all sizes

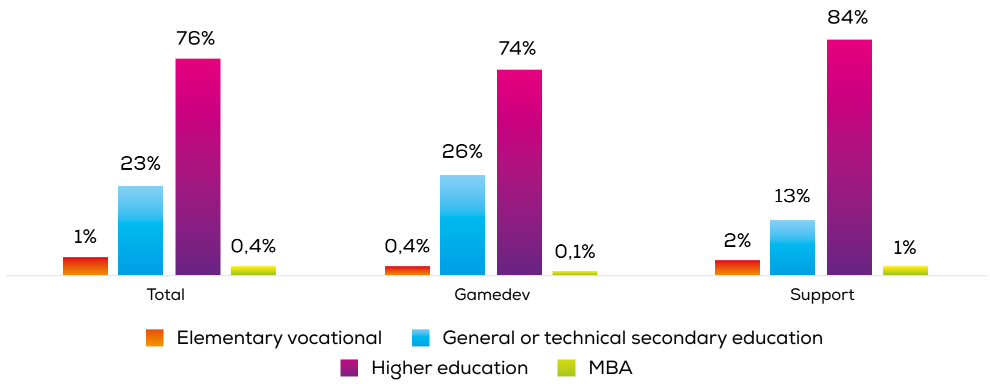


Source: compiled based on the results of the "HR policy and salaries in the Polish video games industry"

The results of the *"HR policy and salaries in the Polish video games industry"* research indicate that the game development environment in Poland is relatively young. People aged 26-35 dominate in almost all of the companies, regardless of their size.

Education

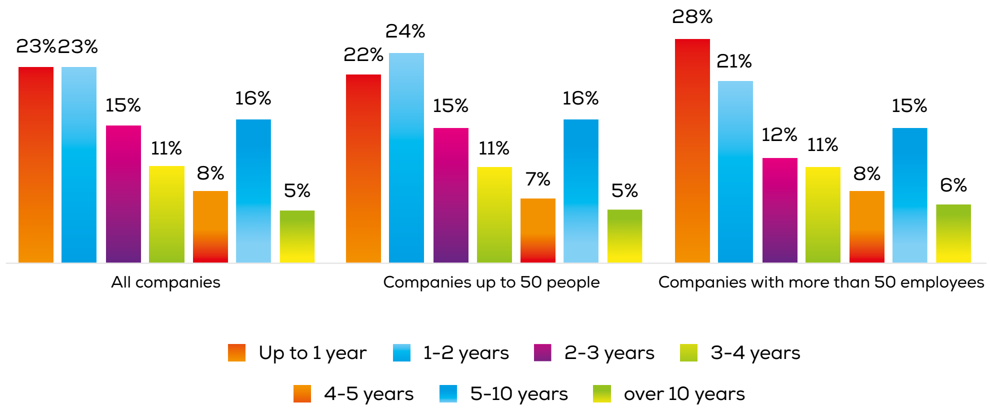
Chart 3.4.2.6. Employee education in the areas of gamedev and support



Source: compiled based on the results of the "HR policy and salaries in the Polish video games industry"

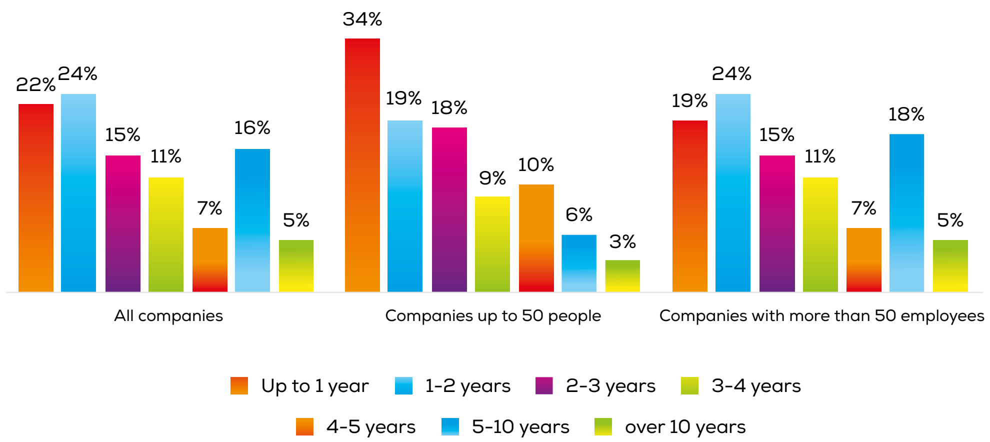
Regardless of the problems with higher education mentioned in the present report, the highest number of the employees from the gaming industry, both in the gamedev and the support areas, are university graduates. There is no significant difference between companies employing below 50 and over 50 people. In both cases, the share of the employees with higher education is at the same level.

Chart 3.4.2.7. Length of service



Source: compiled based on the results of the "HR policy and salaries in the Polish video games industry"

Chart 3.4.2.8. Apprenticeship of employees from the gamedev area in companies of various sizes

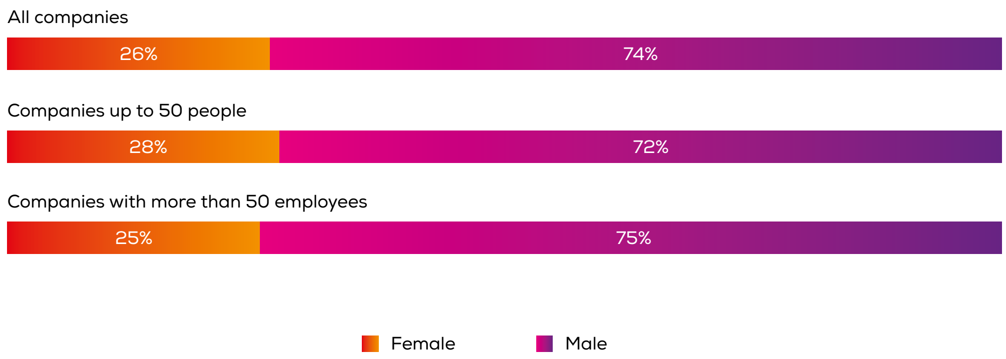


compiled based on the results of the "HR policy and salaries in the Polish video games industry"

In the case of the length of service, it should be noted that smaller companies have a higher share of the employees working for less than one year. It is often 1/3 of the team in the companies with up to 50 employees. A longer term of service is typical for the employees of bigger companies, which results first of all from the production cycle and execution of bigger projects.

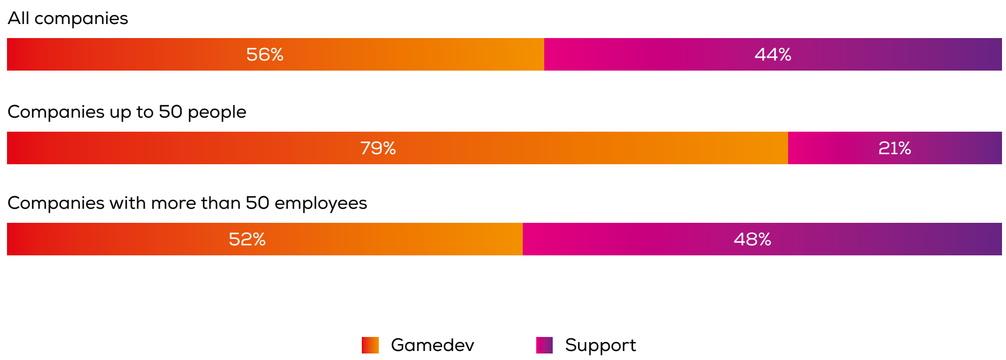
Women in gamedev

Chart 3.4.2.9. Employment structure by gender



Source: compiled based on the results of the "HR policy and salaries in the Polish video games industry"

Chart 3.4.2.10. Women in the company structure



Source: compiled based on the results of the "HR policy and salaries in the Polish video games industry"

In comparison with the results presented in 2017 in *The State of Polish Video Games Industry 2017*, an increase by 11% was observed with respect to employment of women in the companies developing video games. In 2020, they constituted in average 26% of all employees. 56% are directly involved in developing games, the remaining share works on the support positions. In smaller companies (up to 50 people), nearly 80% of the employed women work in the gamedev area, in larger companies, women more often occupy support positions (52%).

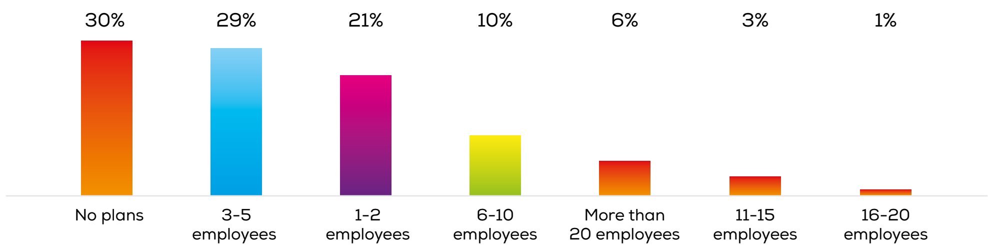
Recruitment

Chart 3.4.2.11. Does the company plan to hire new employees in the next year?

Source: compiled based on the results of the "Polish GameDev 2019"

The question about recruitment plans reveals a continuous demand for new employees. The majority (72%) of the companies intend to expand their teams within the oncoming year, which constitutes a minor decrease in comparison with 2016, when such answer was given by 78.4% of the respondents[57]. The above allows us to conclude that the Polish video game market should be continuously growing with respect to the employment structure. Sebastian Wojciechowski (**People Can Fly**) confirms the above: *"Recently, we counted that we have over 100 open recruitment slots. Additionally, we apply the opportunity hire policy, which means that if we find a very good employee, they are employed regardless whether we have open recruitment for a given job."* The necessity to expand the teams is common in all companies except the smallest ones (0-9 employees), of which 44.2% are not planning to employ a new person in the oncoming year. Similarly, the majority of companies with different periods of market presence reported a need for new people; those were usually the companies operating for 1–2 years (88%) and 3–5 years (75%).

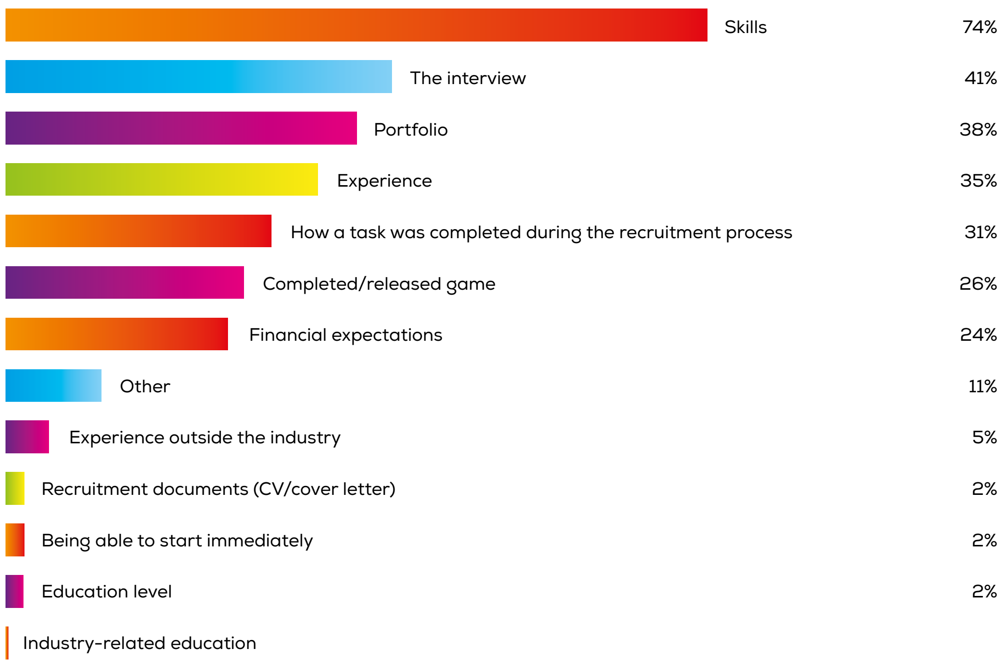
Chart 3.4.2.12. Number of employees sought over a year



Source: compiled based on the results of the "Polish GameDev 2019"

Extensive recruitment needs of the Polish gamedev studios are confirmed by the fact that half of the companies expressing an intention to employ new people would like to find 1–5 new employees within the next 12 months. The above is consistent with the tendency from 2016[58]. Expansion of the team usually (29%) means 3–5 new people in the company. Simultaneously, 10% of the surveyed companies intend to employ more than 10 people, which suggests a stable, but not revolutionary, development in that area. It should also be noted that 55.8% of the smallest companies (0–9 people) declare expansion of their teams by 1–5 new employees, which means a significant increase of employment in the case of some of those micro-enterprises. Rafał Szrajber (Łódź University of Technology, Academy of Fine Arts In Łódź) explains the factors which can accelerate the discussed trends: *"I think that now, when GameInn started and with the pandemic, the employment will be increased. It is clearly visible in Łódź. One of the companies has over 60 employees, which is a significant number for Łódź, but I know that they use external financing."*

Chart 3.4.2.13. The most important factors influencing the employment of an employee



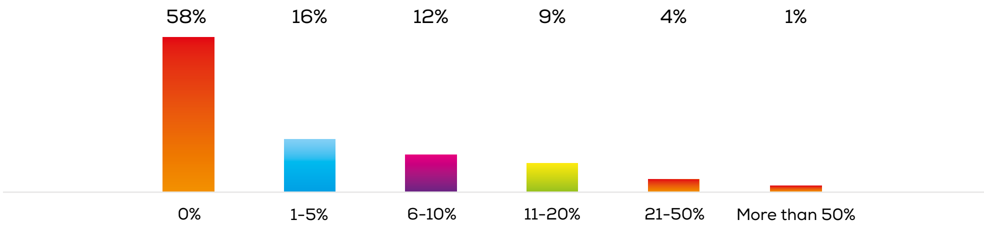
Source: compiled based on the results of the "Polish GameDev 2019"

[57] See *The State of Polish Video Games Industry 2017*, p. 74.
[58] See *The State of Polish Video Games Industry 2017*, p. 74.

Similarly, as three years ago[59], the employment opportunity in the game industry is based principally on skills - that answer was selected by 74% of the respondents. The job interview is also important (41%), often connected with the necessity to complete a test task during recruitment (31%). The achievements confirming practical skills of the candidates are very important - they can be confirmed by a portfolio (38%), experience in the sector (35%) or a completed or published game (26%). Financial expectations are also taken into account (24%). Simultaneously, a low share of answers regarding such indications as experience in other sectors (5%), application documents (2%) or the general education level (2%) allow a conclusion that the respondents are not interested in knowledge and competences which are not related to the game development area. Such results are confirmed by Kuba Rokosz (Fools Theory): *"For us, the competences of the future employee are essential. They are actually presented in the portfolio, as it is rather common that people cannot talk about their experiences because of NDA, but still, they have amazing skills."* He also emphasised the importance of personality fitting the team and the candidate's attitude: *"Team spirit is also important (...) it often happens that you employ a junior who is promising, but they are a person who remains in the comfort zone and takes only a tiny step forward within the next five years regarding their skill set, while sometimes you encounter a person who can do nothing but is able to develop so much within a half a year that they become one of the best employees."*

It is surprising that the answer regarding the ability to start work at once was rarely selected (2%), in particular considering the described recruitment needs of the surveyed entities. Presumably, the companies are searching for qualified employees, not necessarily available immediately. Similarly, it is quite surprising that few employers are interested in specialised education, regardless of the ambiguous attitude of the respondents towards the degree of preparation of the higher studies graduates to work in the industry, which has been discussed further on in the report. A low status of the specialised education has also been noted in the report issued in 2017[60], regardless of involvement of the gamedev companies in higher education. The respondents who selected the answer "Other" (11%) noted, among others, the importance of personality or character of the candidate in the context of adjustment to the atmosphere in the team. Individual answers also included such features as responsibility, engagement, passion for games and a potential for devlopmet. It should be noted here that, for example, the Warsaw Film School provides related support. Ewa Szczepanowska says that *"in our school, the curriculum is organised so that within three years we teach our students to develop games, but we also help them to create a portfolio, something they can present at a job interview."*

Chart 3.4.2.14. The number of employees who left the company in 2019



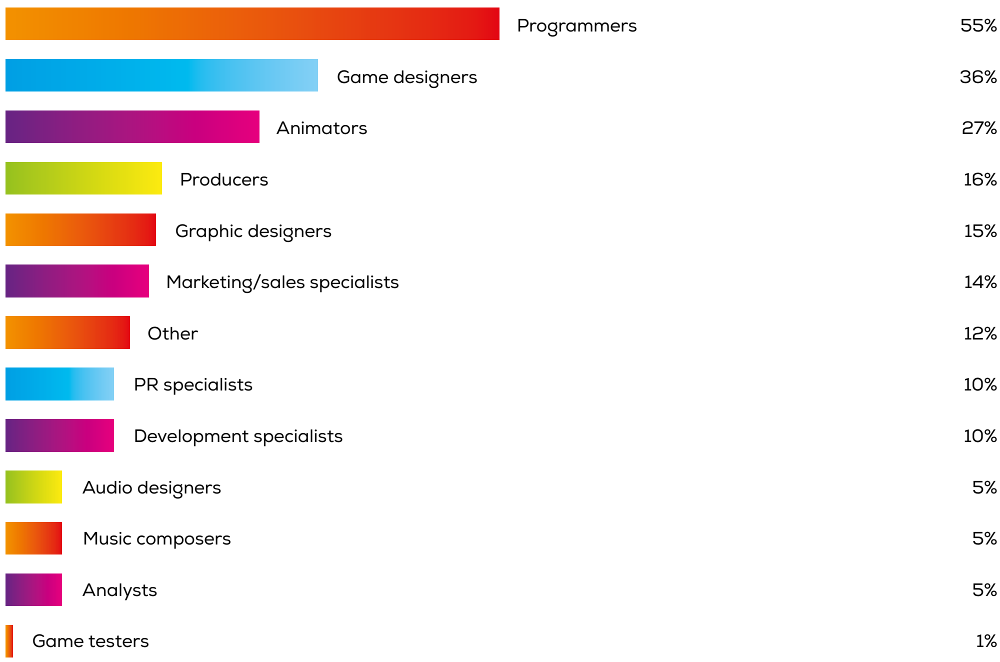
Source: compiled based on the results of the "Polish GameDev 2019"

The analysed entities do not usually have problems with employees leaving, as declared by 58% of the respondents. Nearly one third of the enterprises had to face 10 or less percent of the employees leaving the company. Those results are consistent with the findings from the previous report and additionally confirm the employment stability[61]. Damian Fijałkowski (**T-bull**) has a similar opinion: *"Fluctuation always happens (...). It works the same way for everyone, there isn't a company which would be an exception. I assess the situation as good. There is a little more stability but it may be a result of the fact that many companies mature; they have been present on the market for some time and people know what to expect from them."*

Moreover, the smallest studios (0–9 people) lost their employees significantly less frequently within the recent year, which was indicated by 81.9% of their representatives. It can be explained by the fact that in the case of micro-enterprises, self-employment is very common and, additionally, the resignation of one person poses a larger threat of destabilisation of the entire production process.

[59] See *The State of Polish Video Games Industry 2017*, p. 81.
[60] See *The State of Polish Video Games Industry 2017*, p. 81.
[61] See *The State of Polish Video Games Industry 2017*, p. 75.

Chart 3.4.2.15. Which employees are currently the most difficult to find on the market



Source: compiled based on the results of the "Polish GameDev 2019"

The distribution of answers regarding the most popular specialists is not surprising. Since 2013[62], the highest demand has been related to programmers, which are searched for by 55% of the surveyed enterprises, regardless of the size, number of projects or the period of presence on the market. Programmers can select various career paths, so working in the gaming industry, with its specific requirements and sometimes uncompetitive salary, constitutes one of the alternatives. Sebastian Wojciechowski (**People Can Fly**) confirms the above: *"It is difficult to find good people in all specialisations, but programmers are the group we usually seek. It is also difficult to find persons, who are strongly specialised in small domains."* Damian Fijałkowski (**T-bull**) additionally emphasises that: *"In my opinion, programmers are the most stable professional group in gamedev with respect to their binding to the team. They are the least willing to change jobs, so they are less available on the market."* The problems may also refer to game designers searched for by 36% of the companies. Animators are also popular, searched for by 27% of the respondents. A lower number of offers is addressed to sound specialists (5%), music composers (5%), analysts (5%) and, first of all, game testers (1%). It is possible that a high number of people interested in that position, combined with easy employment, result in a low demand for the testers. The smallest enterprises are in the worst situation because their recruitment problems refer to the majority of the above jobs. Piotr Babieno (**Bloober Team**) shared an interesting view regarding the marketing specialists: *"It does not mean that it is difficult to find someone to the marketing department. It is difficult to find people who worked in marketing in the video game industry, not in Poland but on the international market."* Tomasz Majewski (**All in! Games**) also confirms problems with experienced marketing specialists: *"We have problems with marketing specialists. We receive applications from people from other sectors, but you should be aware that yoghurt is not a game. There are no good marketing specialists because the publishers in Poland are few. In self-publishing, the entire company is involved in marketing, there are no specific people."*

[62] See *The State of Polish Video Games Industry 2017*, p. 78.

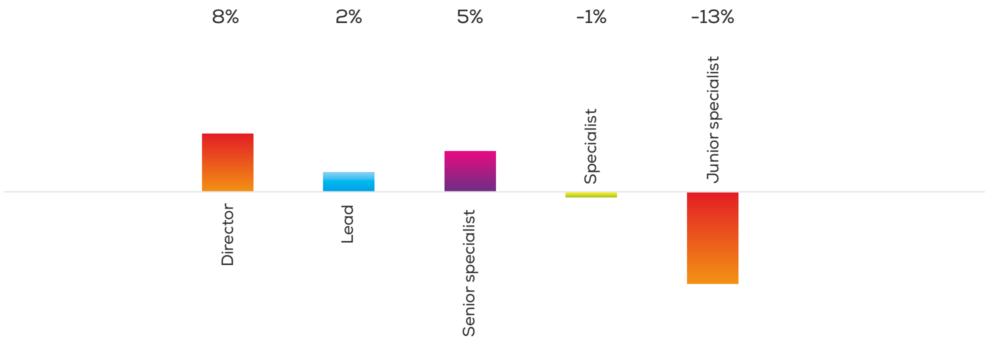
Salaries in the video game industry

Table 3.40. Average basic net salary for specific positions [PLN]

	All companies	Companies from Warsaw	Companies outside Warsaw	Companies up to 50 people	Companies over 50 people
Director	15 016	15 787	14 577	11 304	18 994
Lead	10 610	10 767	10 587	8 257	11 721
Senior Specialist	8 555	9 389	8 968	7 736	8 921
Specialist	5 470	5 927	6 015	4 870	5 781
Junior Specialist	3 746	3 475	3 994	3 663	3 796

Source: compiled based on the results of the "HR policy and salaries in the Polish video games industry"

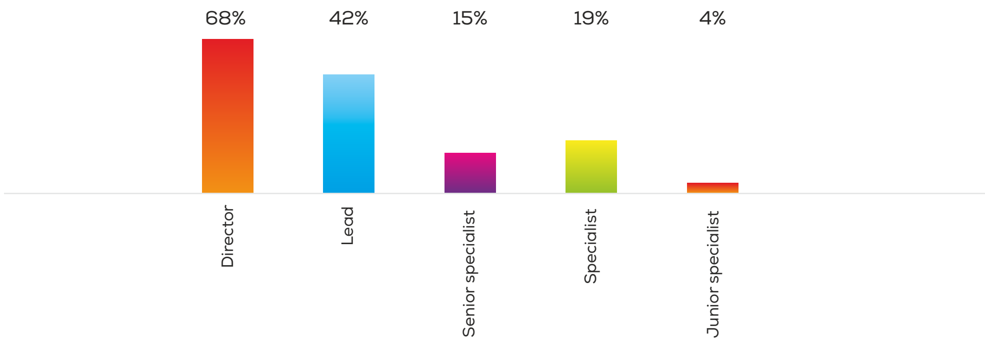
Chart 3.4.2.16. Differences in average net basic salaries at the position level (Warsaw vs. outside Warsaw)



Source: compiled based on the results of the "HR policy and salaries in the Polish video games industry"

The average salaries in Warsaw and outside Warsaw are very similar. The highest discrepancies refer to the junior specialist level. The companies from Warsaw in average pay 13% more to inexperienced employees than those outside Warsaw. There are minor differences at the level of director (rates higher by 6% in Warsaw) and senior specialist (rates higher by 5% in Warsaw).

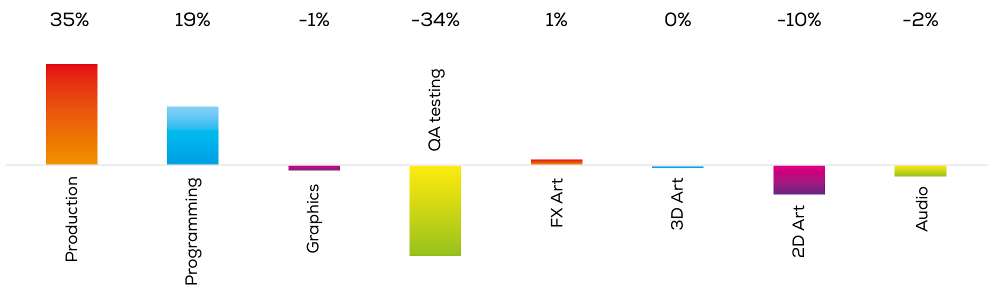
Chart 3.4.2.17. Differences in average net basic salaries at the level of positions (companies above vs. below 50 people)



Source: compiled based on the results of the "HR policy and salaries in the Polish video games industry"

Senior positions are connected with a higher discrepancy in the salaries of companies employing over and below 50 people. The salaries are similar at the junior specialist level. In the case of more experienced specialists, the rates become a little different. Larger companies offer 19% higher salaries for specialists and by 15% higher for senior specialists. In the case of leads, the salaries are 42% higher and the top staff earns even by 70% more in bigger companies.

Chart 3.4.2.18. Regular specialist - salary by specialization vs. average salary at the position level

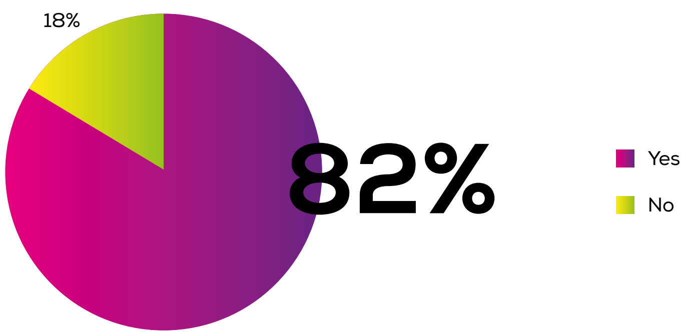


Source: compiled based on the results of the "HR policy and salaries in the Polish video games industry"

The lowest salaries, when compared to other specialisations, are offered at the level of regular specialist in a QA specialisation. They are lower by 34% from the average, regardless of the specialisation. The highest salaries, when compared to other specialisations, are offered to the production specialists (+35%) and programming specialists (+19%).

Bonuses

Chart 3.4.2.19. Does the company pay any bonuses?



Source: compiled based on the results of the "HR policy and salaries in the Polish video games industry"

The majority of companies (82%) apply a bonus system and pay bonuses to their employees. In 55% of the organisations, the bonus amounts depend on the sales results of the game. During the bonus payment, the factors considered usually include the position, length of service and involvement in the project, sometimes also the employee's attitude. 15% of the companies offer share options

Benefits

Table 3.41. The share of companies offering benefits at the position levels (companies up to 50 people)

Companies up to 50 people	Specialist	Team leader	Director
Conferences in Poland	55%	65%	65%
Training	45%	45%	45%
Health care	45%	40%	40%
Online courses	40%	40%	40%
Conferences abroad	15%	30%	35%
Co-financing of sports activities	20%	20%	20%
Laptop	20%	15%	25%
Co-financing insurance	20%	20%	20%
Share purchase schemes	15%	20%	20%
Mobile phone	5%	0%	5%
Studies	5%	0%	0%
Company car	0%	0%	5%
Co-financing of meals	0%	0%	0%
Co-financing cinema/theatre tickets	0%	0%	0%
Co-financing of commuting	0%	0%	0%
Other	0%	0%	0%

Source: opracowanie własne na podstawie wyników badania „Polityka personalna i wynagrodzenia w polskiej branży gier".

Table 3.42. The share of companies offering benefits at the position levels (companies over 50 people)

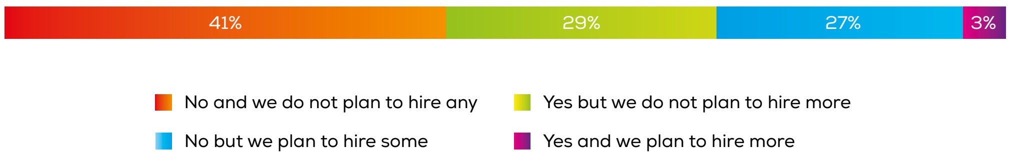
Companies over 50 people	Specialist	Team leader	Director
Conferences in Poland	86%	86%	86%
Training	100%	100%	100%
Health care	100%	100%	100%
Online courses	100%	100%	100%
Conferences abroad	100%	100%	100%
Co-financing of sports activities	100%	100%	100%
Laptop	57%	86%	86%
Co-financing insurance	43%	43%	43%
Share purchase schemes	14%	29%	43%
Mobile phone	71%	71%	71%
Studies	43%	43%	57%
Company car	0%	0%	29%
Co-financing of meals	14%	14%	14%
Co-financing cinema/theatre tickets	14%	14%	14%
Co-financing of commuting	0%	0%	0%
Other	57%	57%	57%

Source: opracowanie własne na podstawie wyników badania „Polityka personalna i wynagrodzenia w polskiej branży gier".

Similar benefits are offered regardless of the position in the majority of the companies. There are significant differences regarding the benefits policy depending on the company's size. Benefits which are a standard in the companies employing over 50 people (such as health care, courses, training, conferences, co-financing of sport activities) are offered in approximately half of the smaller companies. Each of the companies employing over 50 people offers at least seven benefits from the above list to its employees. Every fifth company employing up to 50 people does not offer any benefits to its employees.

Expats in the Polish video games industry

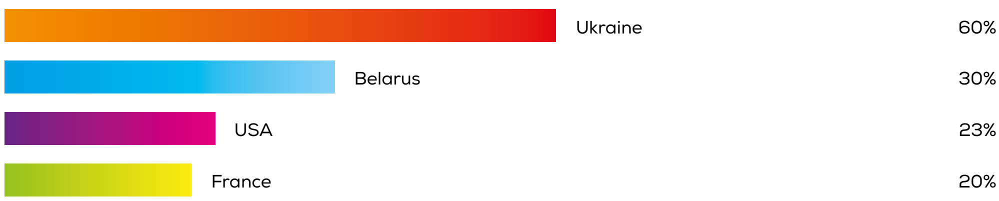
Chart 3.4.2.20. Do foreigners work in the company?



Source: compiled based on the results of the "Polish GameDev 2019"

The insufficient supply of specialists in Poland could be solved by inviting foreign employees. In general, 30% of the surveyed companies employ people from other countries and nearly one third intends to do so in the future. The continuation of such a trend would cause an increase in the share of the foreigners employed in Poland in relation to the Poles. As noted by Piotr Babieno (**Bloober Team**): "*We post our announcements at international portals and we do not really care where they come from. We have employees from Ukraine, India and America.*" Such change occurs faster in bigger companies, because already in 2016, they employed foreigners more often than smaller companies[62]. In the current edition of the report, it has been observed again that there is a dependence between the company's size and its attitude towards employing people from abroad. Bigger companies employ foreigners more often and are more willing to do so in the future, in comparison to smaller entities. The discussed issue is mentioned by Michał Mielcarek (**Draw Distance**) who notes that employing foreigners cannot be considered at certain stages of the company's development: "*We are not planning it right now, because our team still needs some integration, we are learning to work with an actual producer etc. (...) We would cause chaos if we introduced a foreigner right now. This is a risk we do not wish to take at the moment.*"

Chart 3.4.2.21. The most popular foreigner recruitment directions



Source: compiled based on the results of the "Polish GameDev 2019"

Our Eastern neighbours are continuously the most popular region where the foreign specialists employed in the Polish video game companies are found[63]. Among the companies declaring employment of foreigners, people from Ukraine are the most popular, indicated in the present edition of the report twice as often as in 2017. The second position was occupied by Belarus (30%) which replaced Russia, which was more popular three years ago. It should be noted that the United States of America (23.3%) and France (20%) gained a significantly higher share than in the previous survey. Furthermore, there is also United Kingdom, Germany, Russia and Turkey (13.3% each). Such distribution of answers indicates that on one side, the local development studios are looking for the employees who are close to us culturally and geographically, but on the other - they are becoming more competitive on the global employment market, because they attract the citizens from Western countries.

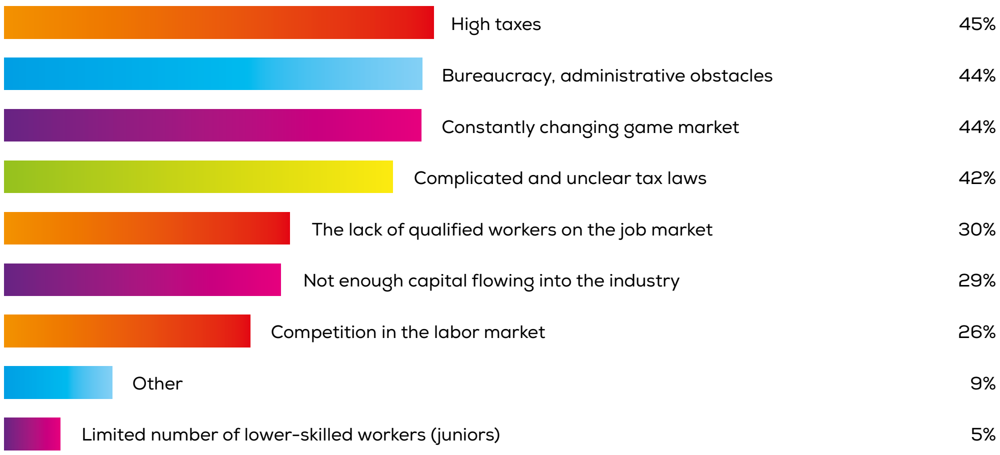
[62] See *The State of Polish Video Games Industry 2017*, p. 79.

[63] See *The State of Polish Video Games Industry 2017*, p. 80.

3.4.3. Polish video game producers in the social and institutional context

The factors impacting company growth

Chart 3.4.3.1. Factors adversely affecting the company's development in 2019



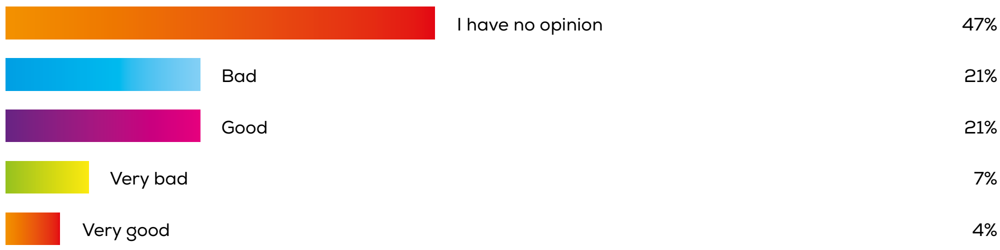
Source: compiled based on the results of the "Polish GameDev 2019"

The research proves that high taxes (45% of indications), overly bureaucratic procedures and administrative problems (44%), high volatility of the game market (44%), complex and unclear taxes (42%) constitute the biggest problems in developing the companies in 2019. In relation to the data from 2016, the respondents more often mentioned problems with high taxes and high volatility of the game market, and less often - insufficient access to qualified employees[64]. The responses concerning overly bureaucratic procedures remained at a similar level, which suggests that this aspect of the legal and institutional environment has not improved within the last few years. Sebastian Wojciechowski (**People Can Fly**) explained the problems connected with running a company producing video games: *"I do not think that there are many problems obstructing such business in Poland. There are a few procedures which are not properly solved. For example, withholding tax, which should be paid in the case of purchasing intellectual property abroad. (...) In my opinion, the biggest problem is the slowness of the authorities. Relocation procedures last for a very long time, sometimes a few months. It requires a lot of time and energy."* Tomasz Majewski (**All in! Games**) has a similar opinion: *"For me, the biggest threats and problems include bureaucracy and tax encumbrances. Unclarity of the law is problematic, because VAT and CIT cases are simple, but the majority of the companies do not deal for example with withholding tax. Some people do not know that this tax is applied in the EU. For example, it is 10% between Poland and Italy. With respect to unclarity, for example you do not know what the moment of sales is, the moment of receiving a report or an invoice".*

[64] See *The State of Polish Video Games Industry 2017*, p. 81.

Education level

Chart 3.4.3.2. Preparation for work of university graduates who find employment in the gaming industry



Source: compiled based on the results of the "Polish GameDev 2019"

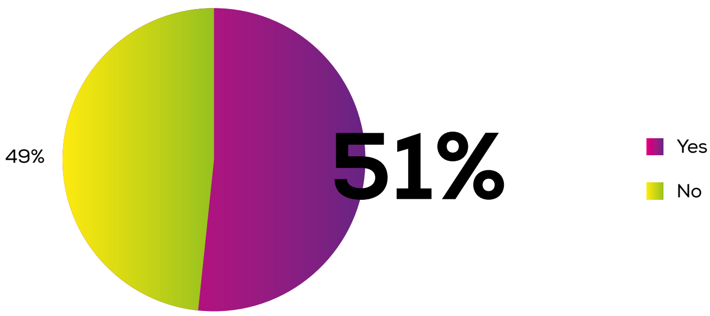
The graduates of higher schooling institutions may fill in the HR deficiencies in the companies, but their representatives found it difficult to assess the preparation level of the graduates, which was declared by nearly a half of them (47%). Among the other respondents, there was an ambiguous attitude to that issue, because 28% is convinced that the graduates are prepared at a poor or a very poor level, while 25% think that the level of preparation is good or very good. Krzysztof Kwiatek (**Creepy Jar**) is rather critical about that and emphasises an excessive focus of the students on the general knowledge and insufficiently developed specific skills: *"I agree that the graduates are often unprepared to work in gamedev. (...) many of those people think, while studying, that after graduation they will know everything, they focus on the studies, on completing the assignments, but I think that, at least those people I encountered, did not fully (...) invest in their free time, in development. (...) There were people with higher education and an amazing portfolio. They did not show us their class assignments, but proved that they always wanted to be graphic artists and did a lot of work at home, which they could show during the interviews."*

Damian Fijałkowski (**T-bull**) notes other problems with learning: *"There are no schools which would teach the necessary skills. The schools are dealing with the problem of being bureaucratised and the market is dynamically changing. With respect to designing games, some principles remain the same, but knowledge should be practical. It is difficult to train a good game designer if such person did not have an opportunity to work in a team, in a company, with access to analytical data and the option to check what works and what doesn't."*

Higher educational institutions are gradually becoming aware of the necessity to create attractive and valid teaching programmes. Ewa Maria Szczepanowska (Warsaw Film School) describes the beginnings of their Video Game course: *"The curriculum was created by people working in the industry. It was entirely created by the people who develop games, work on them every day, so they knew perfectly well what the young people need to learn and what they would need to create games."*

Regardless of such different attitudes, there is a positive change in relation to 2016, when only less than 10% of the respondents assessed the competences of the graduates as good or very good[65].

Chart 3.4.3.3. Does the company support, intend to support or organize industry workshops / lectures / trainings to prepare for work in the gaming industry



Source: compiled based on the results of the "Polish GameDev 2019"

[65] See *The State of Polish Video Games Industry 2017*, p. 82.

The attitude towards organisation or support of training divides the respondents into two nearly equal groups - with a slight advantage of the developers who support or intend to support organisation of events preparing for working in the sector. On the one hand, it requires additional time, on the other - constitutes one of the solutions for staff deficiencies - at least in a certain scope. There are companies who, regardless of the systemic solutions connected with cooperation with universities, encourage their employees to take such initiatives. Damian Fijałkowski (**T-bull**) emphasises great value of such knowledge: *"We know that a few of our employees conducted lectures in various domains after work. I think that it is amazing, because that knowledge comes straight from the market, it is not outdated."*

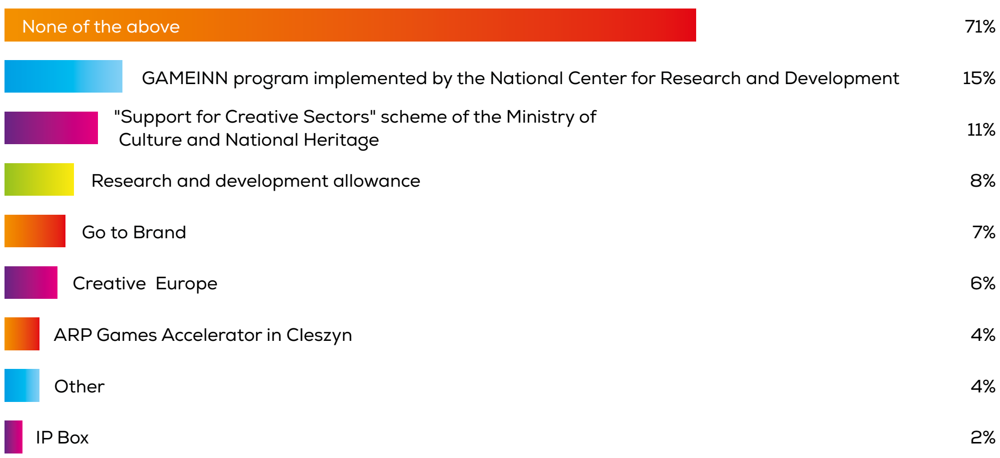
Organisation of courses or lectures provides an opportunity to meet skilled candidates and constitutes a supplementation of the offer of the widely understood education sector. In comparison to 2016, there is a decrease by a few percentage points in the declared readiness to support such initiatives[66]. There can be many reasons - both negative (discouragement on the side of the developers) and positive (their higher involvement in formal education at the universities). Piotr Babieno (**Bloober Team**), the co-founder of the European Games Academy, which was a pioneer years ago, noted that the companies are principally focusing on tangible effects of their involvement in the education projects: *"After talking to my friends, you can come to a conclusion that it is more beneficial for us to create a course or go to a specialised event, to organise a panel, talk to the people."*

Support schemes

Chart 3.4.3.4. Known public forms in the gaming industry

Source: compiled based on the results of the "Polish GameDev 2019"

Chart 3.4.3.5. The most commonly used forms of support



Source: compiled based on the results of the "Polish GameDev 2019"

[66] See *The State of Polish Video Games Industry 2017*, p. 84.

In the report of 2017, you can read that 44.1% of the surveyed companies expect the state or local government institutions to grant support in financing of the games[67]. In the years 2016–2019, between the editions of our research, a few forms of such support appeared. The most popular is the sector support scheme entitled GameInn, handled by the National Research and Development Centre - both in the question concerning its recognition (83% of indications) and use (16%). Piotr Babieno (**Bloober Team**), whose company remains one of the largest beneficiaries of GameInn, made such a comment: *"GameInn is the most popular, but is it the best? It seemed that GameInn will be a project actually supporting the sector, but I am surprised to discover that renowned companies with interesting projects did not receive funding. Unfortunately, it seems that the process is quite discretionary."* In the context of GameInn, other respondents complained about bureaucracy, the necessity to conduct research or insufficient evaluation of the financed projects. Krzysztof Kostkowski (**PlayWay**) asked about GameInn adds that: *"Certainly, many teams used it. However, it is difficult to say to what extent those innovations were actually used in creation of games."*

In the opinion of Michał Mielcarek (**Draw Distance**), GameInn affects the stability of the Polish sector: *"It is certainly helpful for a stable development of the sector that there is an increased interest among the potential recipients. You can also add the support of GameInn and other funding schemes. Because of GameInn, we could offer employment contracts to our employees, which increases the employment stability and makes us more competitive on the market."*

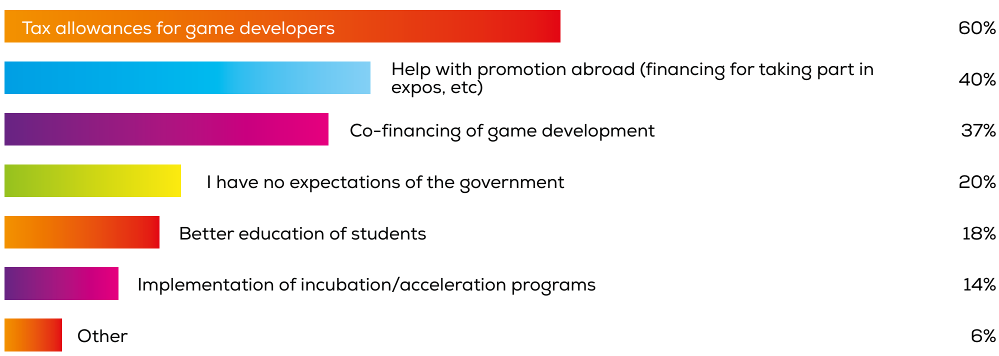
Good recognition at the level of 40-50% was achieved by: Accelerator **ARP Games** in Cieszyn, Creative Europe, Digital Dragons Incubator and the research and development relief. Support for Creative Sectors of the Ministry of Culture and National Heritage was placed in the middle of the list with the result of 38%. IP Box and Go to Brand are less popular (26-29%). The latter is praised by Jakub Wójcik (Indie Games Polska): *"I prefer any actions which support foreign travels, so Go to Brand is a very good example of properly using the funds, because at the fairs, you have the best opportunity to reach new business partners, the media, and also the gamers."*

Ewa Maria Szczepanowska (Warsaw Film School) notes that in the case of smaller companies, the most comprehensive and significant aid is still granted by the Indie Games Polska Foundation: *"There is not enough support for the small enterprises, but Indie Games Polska provides a very good form of aid. Those guys do a great job, they support young developers and obtain aid to promote those projects."*

Simultaneously, in general, the majority of the surveyed companies do not use the most popular forms of public aid (71%), only 4% of the respondents mentioned other offers: de minimis loan surety of BGK or the EU framework scheme Horizon 2020.

During our interviews with the sector representatives, an interesting form of support was proposed by Grzegorz Dymek (**Anshar Studios**), suggesting the option of cross-promoting Polish music using the popularity of games: *"I wish we could use Polish audio tracks as an in-game music, or for promotional and marketing purposes. I have ideas for N trailers, where we could use Polish music. It would be perfect to have a database of such music, which could be used by the Polish developers, making lump payments in return."*

Chart 3.4.3.6. Companies' expectations regarding forms of support from state or local government institutions



Source: compiled based on the results of the "Polish GameDev 2019"

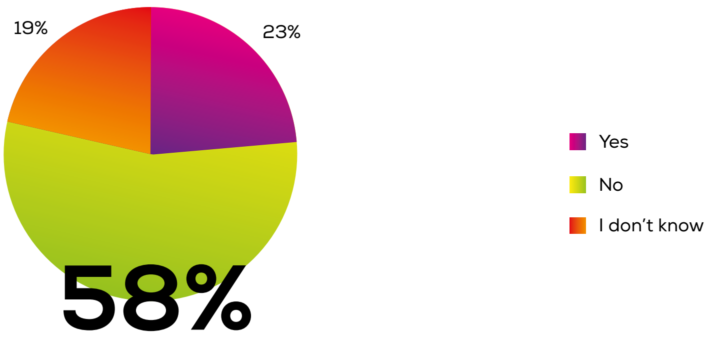
In the question regarding the preferred forms of the external support, the highest share of the respondents, i.e., 60%, indicated tax allowances for game developers. Similar results were achieved in the research in 2016[68], which suggests that the tax law solutions necessary from the point of view of the gaming industry have not been developed yet. A lower demand for foreign promotion (currently 40%, 57.8% in 2016) suggests that actions and efforts in that scope brought a positive change, although a significant share of the respondents still see a place for improvement. A relatively high share of the respondents still indicates the necessity of co-funding of the game production (37%) which may on one side mean that the current programmes are insufficiently promoted, and on the other hand - that they are not adjusted to the reality of the video game industry in Poland. It has been noted by Piotr Jurek (**ARP Games**): *"There is a clash of two vectors here - the developers want the schemes to be simple, transparent and designated for specific ideas of defined games. However, they support the process of developing games, or their elements, not the creation of games. (...) Looking at the programmes from the time perspective, recalling the first EU schemes, which were available to the enterprises, there was a real progress, the current schemes are much more consistent with reality."*

[67] See *The State of Polish Video Games Industry 2017*, p. 81.
[68] See *The State of Polish Video Games Industry 2017*, p. 88.

3.4.4. Relations with the publishers and outsourcing

Publishers and *self-publishing*

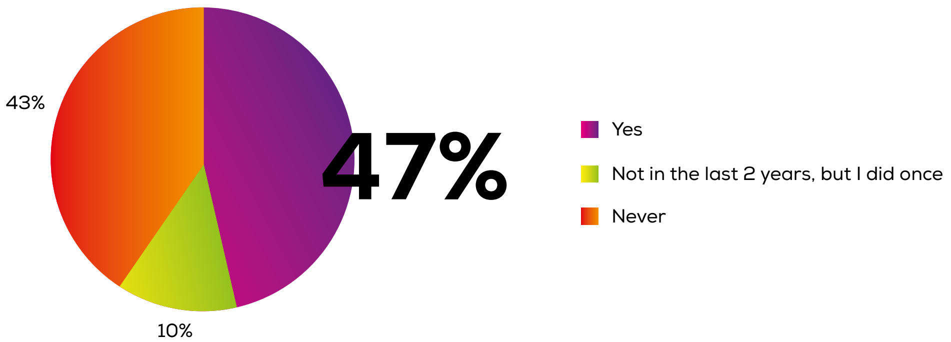
Chart 3.4.4.1. Are you going to release games from other developers in the near future



Source: compiled based on the results of the "Polish GameDev 2019"

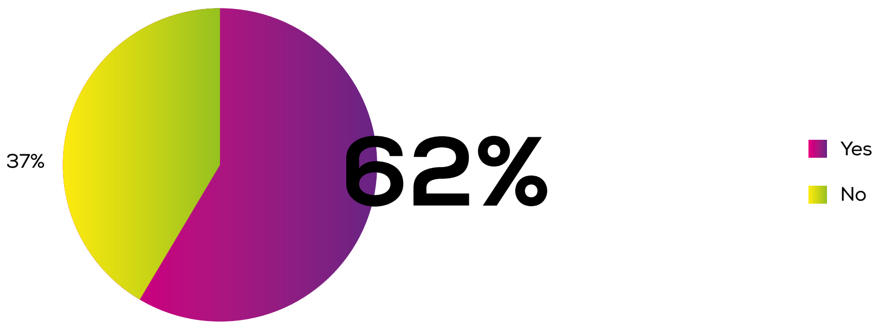
The majority of the surveyed companies focus on their own production and are not interested in publishing games by other developers, which was declared by 58% of the respondents. There have been no significant changes in comparison to the data from 2016[69]. The readiness to publish games made by other companies is usually declared by the representatives of bigger companies, which hold the resources necessary for such additional tasks.

Chart 3.4.4.2. Have you used a third party publisher in the last two years



Source: compiled based on the results of the "Polish GameDev 2019"

Chart 3.4.4.3. Whether your publisher was a company registered in Poland



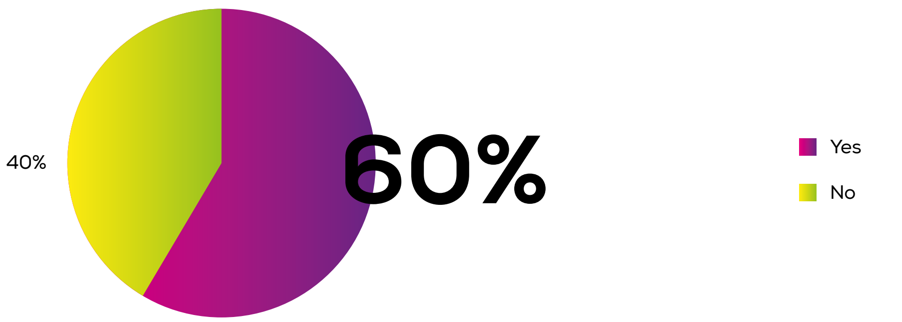
Source: compiled based on the results of the "Polish GameDev 2019"

[69] See *The State of Polish Video Games Industry 2017*, p. 82.

Minor changes in relation to the data from 2016 have been noted in the question regarding cooperation with external publishers in the last two years[70]. There was a turn not only towards self-publishing, but also towards Polish publishers. Such changes can be explained by the decreased importance of physical distribution for the benefit of digital distribution (in various forms), and also by the development of the Polish publishing market. The Polish publishers are particularly attractive for small entities employing up to 9 employees (74.1% of the indications). The bigger the company, the lower the share of answers confirming such cooperation.

Outsourcing

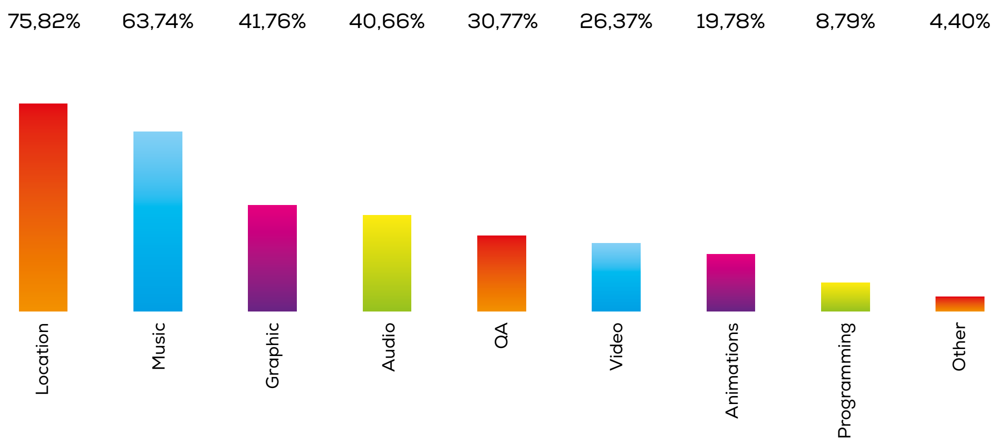
Chart 3.4.4.4. Do you use the services of outsourcing companies to produce games?



Source: compiled based on the results of the "Polish GameDev 2019"

The majority of the surveyed companies, i.e., 60%, moves certain production stages to external partners; principally localisation and music, while the tasks connected with programming are outsourced very rarely. "Other" answers included production of trailers and porting. An important element of production, which is often outsourced, as stated by Piotr Babieno from **Bloober Team**, the external QA.

Chart 3.4.4.5. Outsourced production components



Source: opracowanie własne na podstawie wyników badania „Polish GameDev 2019".

The experience of Krzysztof Kwiatek (**Creepy Jar**) shows that outsourcing makes sense first of all in relation to the works performed incidentally or exceeding the team's competences: "*We outsourced everything that requires incidental work, such as writing dialogues or the main framework of the plot, and putting it in one person, it turns out that we needed a writer. A sound specialist who begins the work at a certain stage, a composer who is also needed in the middle of the work to create the soundtrack – we needed such people. We also often outsourced graphics because, as far as I know, it can be even 25% of the costs of the entire game production.*" Attention should be paid to the localisation of games, which may initially seem insignificant because of the popularity of the English language. However, it turns out that there are countries where the localised version is essential. Our interlocutors mentioned Germany, Japan, Russia, Korea or China. Przemysław Marszał (**11 bit studios**) still considers it necessary to adjust the language versions to the needs of a given market: "*There was a time when we noticed that the costs of localisation, translation into other languages, are very high. We began to ponder whether it actually made sense. But it always turned out that all those costs paid off.*"

[70] See *The State of Polish Video Games Industry 2017*, p. 84-85.

The list of specialised industry events

Table 3.43. Consumer events

City	Event	Description	Link
Poznań	Poznań Game Arena	The biggest Polish video games fair organised for the industry and individual consumers. It includes new releases of games and devices, e-sports competitions, an indie games area, conferences and business meetings, as well as booths for the companies presenting the devices and indie games producers. The event in 2020 was cancelled.	https://www.gamearena.pl/pl
Warsaw	Warsaw Games Show	The event accompanying Warsaw Comic Con. It includes publishing news, thematic areas such as Retro Games area or Indie Games Festival, as well as booths with hardware, video games and gaming accessories.	https://warsawgamesshow.eu/
Katowice	Intel Extreme Masters	The international tournament of CS:GO and Starcraft II. One of the most important tournaments of that type with the prizes worth over USD 0.5 million. It takes place simultaneously with IEM EXPO which offers gaming equipment and other attractions. The edition of 2020 took place without an audience.	https://www.intelextrememasters.com/season-14/katowice/pl/
Katowice	Night video games market	The night video game market takes place within the Ars Independent Festival and offers the newest games and a showcase of interactive media. It offers an opportunity to meet young authors of independent games and learn about the recent events in the indie games scene in Poland.	http://www.arsindependent.pl/pl/program/nocna-gielda-gier-wideo/
Warsaw	Pixel Heaven	One of the biggest gamedev events. Distinguishes itself because of the retro atmosphere based on 80s and 90s combined with pixel art. The festival includes among others: Pixel Connect Conference, Pixel Expo and Pixel Awards Europe. It also offers exhibition areas for interested parties.	https://www.pixelheavenfest.com/
Katowice	MINE GameDev Conference	Conference for video game developers aimed at exchanging experiences and integrating the gamedev sector from Śląsk and other regions. Apart from lectures and "round table" panels, it includes a mentor cafe where less experienced content creators can meet experienced developers in order to improve/prepare a portfolio and discuss their career paths.	https://minegamedev.pl/
Kraków	Digital Dragons	One of the largest events of the kind in Poland. Nearly 2000 visitors and hundreds of companies. Includes an Indie Showcase, the most prestigious competition for the authors of Indie games in Poland. It also includes granting the Digital Dragons Awards for the best Polish games.	http://digitaldragons.pl/
Poznań	Game Industry Conference	The event takes place simultaneously with Poznań Game Arena but is mainly addressed to gamedev. It offers B2B exhibitions, employment fairs, lectures, indie area and Meet to Match meeting zone which allows organising meetings with business partners.	https://gic.gd/
Kraków	Digital Dragons Academy	Digital Dragons Academy is a series of lectures and professional workshops concerning the creation of games from scratch.	http://academy.digitaldragons.pl/
Łódź	Zespołowe Tworzenie Gier Komputerowych (Group Computer Game Development)	The competition is regularly organised by the Institute of Information Technology of the Faculty of Technical Physics, Information Technology and Applied Mathematics of Łódź University of Technology. The participants include students who enrolled for one of the key subjects which includes video game development. In the competition, the student teams present their projects and exchange experiences with other content creators.	http://gry.it.p.lodz.pl/main/index.php/pl/
Warsaw	GameCamp Conference	Focused on the business aspects of mobile games. The discussed topics include among others monetisation of mobile games, methods of winning new users in various countries and a demographic profile of the people playing mobile games.	http://www.gamecamp.io/
Warsaw	Games and Postproduction Academy	Paid workshops which teach selected skills, from programming games to designing and composing sounds. The lecturers include the people working in the video game industry and the teaching focuses on practical skills, not theory.	https://www.akademiagier.pl/#1
Warsaw	Gamedev & Creative Careers Expo	A place for the people searching for a job or wishing to learn more about gamedev and the related sectors. It offers fairs, conferences devoted to gamedev, as well as presentations entitled jointly "Why not to join us?".	http://gcce.eu/
Warsaw	Gaming at the stock exchange	A regular conference organised in cooperation with the Warsaw Stock Exchange. Every edition has a different theme, but all focus on investments in the gamedev industry and the situation of the Polish gaming companies listed at WSE and NewConnect.	https://www.gpw.pl/aktualnosc?cmn_id=109640&title=Konferencja+Gaming+na+Gie%C5%82dzie
Warsaw	Mastering the Game	A conference of the Ministry of Culture and National Heritage regarding legal and business aspects of the video game sector. It has been organised every year since November 2015. It focuses mainly on legislative issues, which are problematic for small, independent game studios, connected with the functioning on the global video game market. In 2019, the conference took place within the Creativity Days.	http://sektorykreatywne.mkidn.gov.pl/pages/strona-glowna/creativity-days-2019/mastering-the-game.php
Warsaw	Game Dev Fest	Regular meetings with the veterans of Polish gamedev, open to everyone. It is an excellent opportunity to get some advice from experienced Polish developers and discuss various interesting issues. Everyone can find something for themselves, from juniors to seniors. The lectures are organised by Koło Naukowe Twórców Gier Polygon (Scientific Association of Game Developers Polygon).	https://www.facebook.com/ts/1344291629043436/; https://www.kntgpolygon.pl/?fbclid=IwAR03AE2L-DOt4Z7fiLctzDhu8hrjpb19-Cn71kuYbmw-X43hNzYE-3GpNFaq4Y #inicjatywy

Non-governmental organisations

Table 3.44. Non-governmental organisations

KRS number	City	Name of the organisation	Website	Description
0000234071	Poznań	Polskie Towarzystwo Badania Gier (Games Research Association of Poland)	https://www.ptbg.org.pl/	The Games Research Association of Poland is the first academic ludological society in Poland (founded in 2004 and registered in 2005). It gathers scholars and students of numerous universities, who are involved in the widely understood games domain, in particular RPGs and other video games. The aim of the association is to popularise and develop the knowledge of games, both in the theoretical (interdisciplinary, as well as from the point of view of particular disciplines) and practical (creating and distributing games, didactic applications) perspective.
0000584099	Warsaw	Indie Games Polska	http://igp.org.pl/	The Indie Games Polska Foundation works for the benefit of the most numerous group of Polish video game developers, i.e., micro- and small enterprises with a high growth potential. The foundation actively promotes Polish developers at the largest national (Poznań Game Arena, Game Industry Conference etc.) and international (PAX, Gamescom etc.) events. Its activities also include the organisation of conferences and seminars aimed at expanding the competences among the developers and the entities promoting video games as an equal member of the cultural market.
0000569533	Warsaw	Stowarzyszenie Polskie Gry (Polish Games Association)	http://polskiegry.eu/	Polish Games Association gathers the largest and most recognised companies producing video games in Poland. Its principal goal is to support development and increase the competitiveness of the domestic video game sector on the international market.
0000544724	Poznań	Poznańska Gildia Graczy (Poznań Gamers Guild)	https://gildiagraczy.pl/	The association gathers gamers from Poznań and the surrounding areas in order to conduct educational and cultural activities, in particular within the scope of initiation, supporting and aiding performance of the projects aimed at animation of the gamer society in Poznań in virtual and non-virtual space.
0000562432	Lublin	LUBLIN GAMEDEV Foundation	http://lublin-gamedev.pl/	The principal activities of the foundation include supporting cultural, educational and industrial initiatives, in particular connected with creative business. In practice, it means organisation of lectures concerning video game development. One of the Foundation's activities is LubJam, functioning within the Global Game Jam.
0000545213	Warsaw	Stowarzyszenie Twórców Gier „Polygon" (Association of Game Creators Polygon)	https://www.facebook.com/STGPolygon/	The association creates, promotes and executes the programmes aimed at developing skills connected with game development. In addition, the organisation supports business development, including enterprise growth, employment promotion and professional activisation for the people looking for a job in the video game industry.
0000768933	Wrocław	Association of Games Research and Development GAMEUP	https://gameup.org.pl/	The association supports the development of institutions and business entities using video games. Its goals include research, training, consultations and audits for the entities from the creative sectors and other business entities using games as a medium.
0000494705	Wrocław	Foundation Promoting Old Information Technology "Old Computers and Games"	http://www.dkig.pl/	Since 2010, the organisation has been helping in reaching back to the nostalgic memories connected with computers and games from decades ago. From the very beginning, it has been trying to restore the atmosphere of information technology from decades ago. During the events organised by the Foundation, you can see old equipment, listen to lectures concerning the history of computers and play old games.
0000680662	Wrocław	Games and Computers of the Past Era Foundation	https://gikme.pl/	The Foundation runs the Games and Computers Museum in Wrocław, which takes the visitors back in time to the 70s, 80s and 90s, when information technology and video games were in constant development.
0000310427	Gdynia	Stowarzyszenie Twórców Gier „FUNREAL" (Association of Game Creators)	http://www.funreal.org/	The association was founded in order to support and integrate the video game creation sector, strengthen the importance of role-playing games as shaping the culture and developing various skills, improving the plot and mechanical solutions applied in field role-playing games and create an open space for exchanging experiences and ideas by the authors.
0000643710	Katowice	Esports Association Polska	https://polskiesport.pl/	ESA is the biggest esports NGO in Poland. Since establishing in 2016, it strives towards promoting and professionalizing the polish esports industry, focusing mainly on grassroots initiatives. Among projects realized by the association there is managing the National Esports Team, organizing a nationwide varsity league called EDU and creating & implementing an original curriculum for high schools called Interdisciplinarity of Electronic Sports.
0000311449	Warsaw	Polish Association of Entertainment Software Developers and Distributors (SPIDOR)	https://www.spidor.pl/	SPIDOR was established in April 2008. The activities of SPIDOR cover four areas: promotion of the safe use of video games, collecting data and conducting the research, promotion of the use of video games in education and representation of the association in Poland and abroad. Since its beginning, the Association has been running numerous campaigns aimed at raising awareness of responsible gaming use. The association's priority is to protect minors from accessing inappropriate content by promotion of the PEGI game rating system.

The list of higher education fields

Table 3.45. The list of higher education fields

University	Faculty/Institute	Field of study/ Specialisation	Mode	Number of students in one year	Telephone	E-mail
Białystok						
Białystok University	Physics Faculty	Physics of video games and robots	full-time	60	48 85 745 70 80; 48 85 745 70 53	rekrutacja@uwb.edu.pl
Bielsko-Biała						
University of Information Technology and Management		Computer graphics	part-time	50	(33) 822 90 70; 506 495 335	biurowsiz@gmail.com
Bydgoszcz						
Kazimierz Wielki University	Institute of Social Communication and Media	"Research and design of video games (specialisation at Humanities Study 2.0)"	full-time	40	+48 52 326 64 35	dziks@ukw.edu.pl
Higher School of Economics		Graphics and 3D design	full-time	without limit	52 567 00 00	rekrutacja@byd.pl
Chorzów						
Entrepreneurship College of Silesia Karol Goduli		Graphic design (specialisation in the field of Games and interactive graphics)	full-time and part-time	without limit	32 349 48 03	rekrutacja@gwsp.edu.pl
Entrepreneurship College of Silesia Karol Goduli		Video games design (specialisation in the field of Games and interactive graphics)	full-time and part-time	without limit	32 349 48 03	rekrutacja@gwsp.edu.pl
Cieszyn						
University of Silesia in Cieszyn	Faculty of Arts and Educational Science	Computer Games Graphics (specialisation in the field of Games and Virtual Reality Design)	full-time	24 for 1st cycle 16 for 2nd cycle	+48 32 359 22 22	info@us.edu.pl
University of Silesia in Cieszyn	Faculty of Arts and Educational Science	Music in multimedia	full-time	16	+48 32 359 22 22	info@us.edu.pl
Elbląg						
The State University of Applied Sciences in Elbląg		Computer graphics and multimedia	full-time	without limit	55 629 05 54	rekrutacja@pwsz.elblag.pl
The State University of Applied Sciences in Elbląg		Computer graphics and multimedia	post-graduate	without limit	55 629 05 54	rekrutacja@pwsz.elblag.pl
Gdańsk						
Academy of Fine Arts in Gdańsk	Faculty of Graphic Arts	Animation (specialisation in the field of Graphic Arts)	full-time	30	58 301 28 01	biuro.rekrutacji@asp.gda.pl
WSB University in Gdańsk		Designing video games	full-time and part-time	without limit	58/350 16 26	rekrut@wsb.gda.pl
Gliwice						
Silesian University of Technology	Faculty of Automatic Control, Electronics and Computer Science	Interactive 3D graphics	full-time	Depends on the number of candidates	32 237 24 98	inf_waei_rekrutacja@polsl.pl

University	Faculty/Institute	Field of study/ Specialisation	Mode	Number of students in one year	Telephone	E-mail
Katowice						
University of Silesia	Faculty of Science and Technical Studies	Video games programming (specialisation in the field of Computer Science)	full-time	40	32 359 19 70	katarzyna.szczerba@us.edu.pl
University of Silesia	Institute of English Cultures and Literatures	Interactive entertainment design and localisation of games and software	full-time	50	(32) 3640 828	filologia@us.edu.pl
Academy of Fine Arts in Katowice		Animation and video games studio	full-time and part-time	from 7 to 20 people	(32) 758 78 15	dziekanat_proj@asp.katowice.pl
University of Economics in Katowice		Games and mobile applications	full-time and part-time	80 for full-time 50 for part-time	+48 32 257-7152, +48 32257-7158	rekrutacja@ue.katowice.pl
University of Economics in Katowice		Programming games and mobile applications	full-time and part-time	100 for full-time 50 for part-time	+48 32 257-7152, +48 32257-7158	rekrutacja@ue.katowice.pl
Institute of Information Technologies in Katowice		Designing games and virtual reality	full-time	without limit	32 207-27-20	rekrutacja@wsti.pl
Katowice School of Technology	Faculty of Architecture, Civil Construction and Applied Arts	Designing visual elements in games (specialisation in the field of Graphic Design)	full-time and part-time	Depends on the number of candidates	32 60 72 440	rekrutacja@wst.com.pl
Kielce						
Kielce University of Technology	Faculty of Electrical Engineering, Automatic Control and Computer Science	Computer graphics	full-time and part-time	Depends on the number of candidates	41 34 24 818	weaii@tu.kielce.pl
Jan Kochanowski University of Kielce	Arts Faculty	Applications and games design	full-time	25	41 349 66 53	rekrutacjaws@ujk.edu.pl
Jan Kochanowski University of Kielce	Arts Faculty	Multimedia design	full-time	10	41 349 66 53	rekrutacjaws@ujk.edu.pl
Koszalin						
Koszalin University of Technology	Faculty of Electronics and Computer Science	Internet and mobile technologies	full-time	50	(94) 34 - 78 - 654	monika.polakowska@tu.koszalin.pl
Cracow						
College of Economics and Computer Science in Cracow		Graphics and animation in video games	full-time	40 for full-time 40 for part-time	515388491 or 517708245	rekrutacja@wsei.edu.pl
College of Economics and Computer Science in Cracow		Game Design	full-time and part-time	40 for full-time 40 for part-time	515388491 or 517708245	rekrutacja@wsei.edu.pl
Tischner European University		Digital Art	full-time	without limit	12 683 24 04/07	rekrutacja@wse.krakow.pl
Tischner European University		Game Design	full-time and part-time	without limit	12 683 24 04/07	rekrutacja@wse.krakow.pl

University	Faculty/Institute	Field of study/ Specialisation	Mode	Number of students in one year	Telephone	E-mail
Cracow University of Technology	Faculty of Computer Science and Telecommunications	Computer graphics and multimedia	full-time and part-time	54 for full-time 36 for part--time	12 628 31 48	rwf@pk.edu.pl
Pedagogical University of Krakow	Media Art Institute	Digital Design	full-time	26	12 662 60 93	rekrutacja@up.krakow.pl
Jagiellonian University	Faculty of Physics, Astronomy and Applied Computer Science	Computer graphics and design	full-time and part-time	170	+(48) 12 663 1401, 663 1408, 663 1441, 663 1414	rekrutacja@uj.edu.pl
Jagiellonian University	Faculty of Physics, Astronomy and Applied Computer Science	Computer science in video games	full-time and part-time	170	+(48) 12 663 1401, 663 1408, 663 1441, 663 1414	rekrutacja@uj.edu.pl
Andrzej Frycz Modrzewski Krakow University	Management and Social Communication Faculty	Computer graphics and multimedia	full-time and part-time	30 for full-time 30 for part--time	12 252 44 00, 12 252 44 04	rekrutacja@afm.edu.pl
Lublin						
The John Paul II Catholic University of Lublin	Faculty of Natural Sciences and Health	Computer graphics and multimedia	full-time and part-time	100	(81) 445 41 37	rekrutacja@kul.pl
Maria Curie-Skłodowska University	Faculty of Humanities	Digital technologies in cultural animation	full-time	45 for first cycle 27 for second cycle	(81) 537 58 70, 537 58 80	rekrutacja@umcs.pl
Maria Curie-Skłodowska University	Faculty of Political Science and Journalism	Production in the video game industry	full-time	55	(81) 537 58 70, 537 58 80	rekrutacja@umcs.pl
Łódź						
Academy of Fine Arts in Łódź	Faculty of Interior Architecture	Virtual objects and spatial design for video games	full-time	40	+48 42 254-75-08	rekrutacja@asp.lodz.pl
Academy of Fine Arts in Łódź		Illustration, comics and preproduction of games and films	full-time	17	+48 42 254-75-08	rekrutacja@asp.lodz.pl
Academy of Fine Arts in Łódź	Graphic Design and Visual Information Institute	Multimedia graphics and games	full-time	9	+48 42 254-75-08	rekrutacja@asp.lodz.pl
Academy of Fine Arts in Łódź		Illustration and comics with the elements of preproduction of games and films	post-graduate	from 16 to 32 people	(42) 254-74-83	podyplomowe@asp.lodz.pl
Lodz University of Technology	Faculty of Technical Physics, Computer Science and Applied Mathematics	Computer graphics and multimedia	full-time and part-time	210	426 312 092	rekrutacja@info.p.lodz.pl
Lodz University of Technology	Faculty of Technical Physics, Computer Science and Applied Mathematics	Video games and simulations technology	full-time and part-time	210	426 312 092	rekrutacja@info.p.lodz.pl
University of Social Sciences		Computer graphics - designing games and effects	full-time and part-time	20 for full-time 60 for part--time	42 664 66 56/57	rekrutacja@san.edu.pl

University	Faculty/Institute	Field of study/ Specialisation	Mode	Number of students in one year	Telephone	E-mail
University of Lodz	Faculty of Philology	Video games	full-time	50	+48 42 635-40-86, 635-40-83	rekrutacja@uni.lodz.pl
University of Humanities and Economics in Lodz	Faculty of Arts	3D graphics and game art	full-time	Without limit	42 631 58 00/01	rekrutacja@ahe.lodz.pl
Nowy Sącz						
National-Louis University		Game developer	full-time and part-time	20 for full-time 20 for part-time	(+48) 18 44 99 101/103	rekrutacja@wsb-nlu.edu.pl
Nysa						
University of Applied Sciences in Nysa		Video games and multimedia	full-time and part-time	without limit	(77) 447 48 49	rekrutacja@pwsz.nysa.pl
Opole						
University of Opole	Faculty of Philology	Game studies	full-time	30 for 1st cycle 15 for 2nd cycle	x	rekrutacja@uni.opole.pl
University of Opole	Institute of Linguistics	Culture of video games	post-graduate	Without limit	x	rekrutacja@uni.opole.pl
Płock						
Mazovian State University in Płock	Faculty of Economics and Information Technology Sciences	Computer graphics and game design (specialisation in the field of Computer Science)	full-time	without limit	x	m.szewczyk-jarocka@mazowiecka.edu.pl
Poznań						
University of the Arts in Poznań	Animation Faculty	Animation laboratory (specialised laboratory at the Animation studies)	full-time	10	519 838 945	rekrutacja@uap.edu.pl
Poznań University of Technology	Faculty of Computer Science and Telecommunications	Games and Internet technologies	full-time and part-time	210 for full-time 120 for part-time	61 665 3548; 61 665 3640	rekrutacja@put.poznan.pl
Collegium da Vinci		Games and interactive media design (specialisation in the field of Computer Science)	full-time and part-time	Depends on the number of candidates	(+ 48) 61 27 11 102; 697 690 034	rekrutacja@cdv.pl
Collegium da Vinci		Animation and interactive graphics (specialisation in the field of Graphic Arts)	full-time and part-time	Depends on the number of candidates	(+ 48) 61 27 11 102; 697 690 034	rekrutacja@cdv.pl
Radom						
Radom Academy of Economics		Computer graphics and multimedia technologies	full-time	without limit	603 441 717	rekrutacja@wsh.pl
Rzeszów						

University	Faculty/Institute	Field of study/ Specialisation	Mode	Number of students in one year	Telephone	E-mail
University of Information Technology and Management		Graphic art in digital entertainment	full-time and part-time	without limit	17 866 11 88, 17 866 11 99	rekrutacja@wsiz.rzeszow.pl
University of Information Technology and Management		Video game engineering (specialisation in the field of Computer Science)	full-time and part-time	without limit	17 866 11 88, 17 866 11 99	rekrutacja@wsiz.rzeszow.pl
University of Information Technology and Management		Designing video games	full-time	without limit	17 866 11 88, 17 866 11 99	rekrutacja@wsiz.rzeszow.pl
Szczecin						
West Pomeranian Business School	Faculty of Economics and Computer Science	Game design	part-time	30	91 81 49 412	rekrutacja@zpsb.pl
Academy of Arts in Szczecin	Faculty of Graphic Arts	Interactive graphics (specialisation in the field of Graphic Arts)	full-time	10	664080223; 664 080 235	sekretariat@akademiasztuki.eu
Academy of Arts in Szczecin	Design Faculty	Visual communication and video games	full-time	10	664080223; 664 080 235	sekretariat@akademiasztuki.eu
Toruń						
Nicolaus Copernicus University	Faculty of Physics, Astronomy and Applied Computer Science	Game development (specialisation in the field of Applied Computer Science)	full-time	70	56-611-46-91; 56-611-46-92; 56-611-46-94	rekrutacja@umk.pl
Warsaw						
Academy of Fine Arts in Warsaw	Faculty of Graphic Arts	Designing games and comics	full-time	40 for full-time	(+48 22) 320 02 63	grafika@asp.waw.pl / grafika.wieczorowa@asp.waw.pl
Vistula University in Warsaw		Video games engineering	full-time and part-time	Depends on the number of candidates	22 45 72 400	rekrutacja@vistula.edu.pl
Warsaw Film School		Sound creation: film, TV, games	full-time	20	48 785 706 155	info@szkolafilmowa.pl
Warsaw Film School		Video games development	full-time	15	48 785 706 155	info@szkolafilmowa.pl
WIT Warsaw school of Information Technology		Advanced multimedia (specialisation in the field of Graphic Arts)	full-time and part-time	without limit	x	rekrutacja@wit.edu.pl
WIT Warsaw school of Information Technology		Multimedia technologies (specialisation in the field of Graphic Arts)	full-time and part-time	without limit	x	rekrutacja@wit.edu.pl
Kozminski University		Management on gambling and sports betting market	post-graduate	25	22 519 22 07	podyplomowe@kozminski.edu.pl
University of Economics and Human Sciences in Warsaw		Designing and programming of video games	full-time and part-time	Depends on the number of candidates	736 150 285	rekrutacja@vizja.pl
Video Games Creation School				60	887 555 108	sekretariat@liceumgier.pl
Polish-Japanese Academy of Information Technology		Multimedia – 3D animation	full-time and part-time	10 for full-time 30 for part-time	22 58 44 500	pjatk@pja.edu.pl

University	Faculty/Institute	Field of study/ Specialisation	Mode	Number of students in one year	Telephone	E-mail
Polish-Japanese Academy of Information Technology		Multimedia - games programming	full-time and part-time	20 for full-time 40 for part--time	22 58 44 500	pjatk@pja.edu.pl
Polish-Japanese Academy of Information Technology		3D animation school Anima-Tricks	part-time	30	22 58 44 500	pjatk@pja.edu.pl
Włocławek						
State Vocational University in Włocławek		Computer graphics and Internet applications (specialisation in the field of Computer Science)	full-time	35	668-075-602	beata.jakubowska@puz.wloclawek.pl
Wrocław						
School of Computer Science and Management "Copernicus"		Video game development	full-time	Without limit	(71) 79-50-393 / (71) 79-50-399	dziekanat@wsiz.wroc.pl
WSB University in Wrocław		Programming of VR/AR applications in unity 3D	full-time and part-time	50-60	71 758 22 30	rekrutacja@wsb.wroclaw.pl
WSB University in Wrocław		Computer graphics and multimedia technologies	full-time and part-time	50-60	71 758 22 30	rekrutacja@wsb.wroclaw.pl
University of Lower Silesia		Video game programming	full-time and part-time	without limit	71 356 15 31; 71 356 15 32; 71 356 15 73	rekrutacja@dsw.edu.pl
University of Lower Silesia		Game Design	full-time and part-time	without limit	71 356 15 31; 71 356 15 32; 71 356 15 73	rekrutacja@dsw.edu.pl
University of Lower Silesia		Games and animation design	full-time and part-time	without limit	71 356 15 31; 71 356 15 32; 71 356 15 73	rekrutacja@dsw.edu.pl
Wroclaw School of Information Technology „Horyzont"	Faculty of Informatics	Video game programming	full-time and part-time	without limit	71 799-19-37	tadeusz.mydlarz@horyzont.eu
The Eugeniusz Geppert Academy of Art and Design in Wroclaw		Laboratory of designing video games and virtual forms	full-time and part-time	6 for first cycle 5 for second cycle	(71) 343 80 31	ama@asp.wroc.pl
Zielona Góra						
University of Zielona Góra	Faculty of Humanities	Popular literature and game world creations	full-time	30	(68) 328 32 64	Sekretariat@wh.uz.zgora.pl

The list of websites dealing with video games

Table 3.46. The list of the largest websites dealing with video games in Poland. Gemius/PBI research for the selected areas in December 2019

Lp.	Site-centric audit	Users (*real users*)	Instalments	Time [h]	Average time per user [h:min:s]	Reach among the Internet users
1	GRYOnline.pl	2 252 404	29 663 251	343 519,42	00:09:09	8,14%
2	eurogamer.pl	986 623	5 366 075	110 817,92	00:06:44	3,56%
3	ppe.pl	738 965	8 062 215	153 056,45	00:12:26	2,67%
4	gry.wp.pl	581 951	1 116 048	20 162,53	00:02:05	2,10%
5	gry.interia.pl	461 954	1 158 554	21 070,24	00:02:44	1,67%
6	gram.pl	369 506	1 374 246	12 624,33	00:02:03	1,34%
7	miastogier.pl	310 127	1 403 204	13 115,02	00:02:32	1,12%
8	cdaction.pl	302 633	1 992 288	29 398,98	00:05:50	1,09%
9	planetagracza.pl	134 616	172 720	1 058,28	00:00:28	0,49%
10	ign.com	128 229	240 368	2 139,68	00:01:00	0,46%

Source: badania Gemius/PBI dla wybranych węzłów w grudniu 2019 r.

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