THE STATE OF POUSHING VIDEO GAMES SECTION

2015



Source of images: royalty-free materials from depositphotos.com and press materials from the Digital Dragons conference

INTRODUCTION

A little more than a decade ago video games seemed to be an area populated only by the biggest technology enthusiasts and the young generation.

Today, the portrait of a gamer looks very different. Gaming – in various forms – is becoming the entertainment of choice for a growing number of people of all ages, occupations and education levels. Living in a technology-oriented society, they cannot stand a moment of idleness. Even if they do not play PC or console games at home, they still enjoy visiting virtual worlds while on the tram, metro or train. The simplicity of this type of entertainment, its availability and multiple mechanisms it utilises – more and more frequently verging on behavioural psychology – have turned a considerable part of the society into "gamers", at least in developed countries. It is there that we have observed the most dynamic growth of the video game sector over the past few years. A very important factor here is the growing revenue generated by this segment, especially when compared to other fields of entertainment, such as cinema, music, books or television.

The main purpose of the authors was to prepare an exhaustive report which would reach a large number of people and help them understand the current characteristics of the Polish video game industry as a whole, through describing its key components and presenting the profile of the Polish gamer.

Chapter 1 provides general information on the value of the global video game market as well as estimates pertaining to the value of the individual elements of the Polish market. This general section is followed by a detailed description of the main sectors of the market: publishing and distribution, free-to-play (F2P) games, and mobile games. The main factors influencing the current and future market situation are analysed on the basis of the authors' own data and information acquired from the representatives of leading companies through extensive interviews.

Chapter 2 is an in-depth analysis of the results of the "Polish Gamers 2015" study, presenting a detailed portrait of the Polish gamers – from basic socio-demographics to preferences, gaming styles, favourite platforms and expenses. The report is accompanied by an examination of the popularity of various genres and platforms, based on web traffic registered at GRY-OnLine.pl from January to June 2015.

Chapter 3 focuses on the state of the Polish video game industry, providing general information on key companies. Basing on data gathered during the "Polish GameDev 2015" study, the authors list the main factors influencing the creation of new games as well as major challenges faced by Polish game developers.

The creation of this report was made possible by funding from the Ministry of Culture and National Heritage of the Republic of Poland, Creative Europe Desk Poland and the Małopolska Province.

The research project was coordinated by the Kraków Technology Park.









METHODOLOGY

The report is based on the following sources:

- "Polish Gamers 2014" and "Polish Gamers 2015" quantitative studies, conducted as a joint effort between the Kraków Technology Park, Onet.pl S.A. Group, and GRY-OnLine S.A. The research for the latest edition of the studies was performed by the IQS company. The "Polish Gamers 2015" study examined a group of Internet users aged 15-55. The study was conducted in two stages. The first stage, performed between 21 April and 4 May 2015, utilised the RTS method (an online survey available on certain websites). For the second stage, a different research method was chosen: an IQS96 omnibus survey which enabled the analysts to determine the structure of the target group with great precision. A total of 3750 Internet users aged 15-55 participated in the study. Each of them met the basic requirement of having played video games on one or more of the following platforms: consoles, mobile devices (smartphones and tablets), PC, and online - through web browsers and social networks. It should be mentioned that the latter category was not featured in the 2014 study. It was added in the newest edition due to its growing significance. Additionally, 750 respondents were asked questions concerning each of the five abovementioned platforms. In order to obtain more accurate and meaningful data, the final results were calculated using weighted values. All the key socio-demographic factors (sex, age, financial situation, motivation, place of residence, education) as well as detailed information concerning preferences and habits were taken into consideration. The results of the study are accompanied by a statistical and qualitative analysis of web traffic at GRY-online.pl from January to June 2015.
- 2. "Polish GameDev 2014" and "Polish GameDev 2015" quantitative studies, conducted by the Intermarum company. The 2015 study examined a group of 41 video game producers via an anonymous online survey issued to decision-making personnel in various companies. This way, the researchers were able to receive confirmations of completion. The study includes responses from the majority of key video game producers in Poland.
- Foreign industry reports: "Eastern Europe's Digital Games Market 2014" and "Global Games Market Report – 2015" (SuperData Research), "Towards the Global Games Market in 2017" (Casual Games Association & Newzoo).

- 4. A series of structured in-depth interviews with representatives (listed below in alphabetical order) of key market segments, conducted by the authors of the report:
 - Marek Chyrzyński (President of Cenega S.A.)
 - Ewa Czwartacka-Roman (Head of Key Account Management at Plinga GmbH)
 - Michał Gembicki (President of CDP.pl Sp. z o.o.)
 - Netta Emanuel (Head of Business Development, working for Bigpoint among other companies)
 - Tobias Edl (Lead Business Development at InnoGames GmbH)
 - Szymon Janus (Owner of Intermarum)
 - Remigiusz Kościelny (President of Vivid Games S.A.)
 - Michael Kuehne (Co-founder of Freigeist Entertainment Network GmbH)
 - Maciej Miąsik (Owner of PixelCrow)
 - Marcin Marzęcki (Founder and Managing Director of Kool Things)
 - Paweł Miechowski (Senior Writer at 11 bit studios S.A.)
 - Michał Miłosz (Territory Manager CEE at Gameforge AG)
 - Maciej Mróz (President of Ganymede Sp. z o.o.)
 - Bartłomiej Nowakowski (Marketing Manager at Ten Square Games Sp. z o.o.)
 - Michał Nowakowski (Management Board Member at CD PROJEKT S.A.)
 - Wojciech Pazdur (Director of Development at The Farm 51 S.A.)
 - Sergey Sholom (Founder and President of Datcroft Games)
 - Marcin Turski (President of Licomp Empirical Multimedia Sp. z o.o. and Chairman of the SPiDOR Association of Entertainment Software Producers and Distributors)
 - Marek Tymiński (President of CI Games S.A.)
 - Adam Zdrzałek (President of Ubisoft GMBH Sp. z o.o. Branch in Poland)
 - Marcin Ziobrowski (President of Sony Computer Entertainment Polska Sp. z o.o.)
 - Piotr Żygadło (Owner of Grey Wizard Innovative LTD)

ABOUT THE AUTHORS



Michał Bobrowski

Enthusiast of the video game market, travelling, and opera music. His adventure with gaming started in the era of 8-bit computers. In the years 1995-2000 he worked in the outdoor advertising industry. Since 2001, he has combined his interest in virtual entertainment and online advertising with working at GRY-OnLine S.A. – the undisputed leader in the Polish gaming media. In 2011, he became the company's Managing Director and Member of the Management Board. He is a frequent speaker at industry conferences such as Digital Dragons, Games Connection, China Joy or Poznań Games Arena. He is a graduate of the MBA programme at the Polish Open University.



Patrycja Rodzińska-Szary

She combines her professional interest in business and product development with a passion for video games. She has been professionally involved in the gaming industry and the freemium business model market for 8 years. Since 2012, she has worked for the Onet Group – the leader among Polish web portals, reaching more than 72% of the Polish Internet users. As Head of the Paid Products Department, she is responsible for business strategy and development in the online and mobile games segment within the Group (which includes Onet.pl, nk.pl and other websites belonging to Ringier Axel Springer Media AG).

She is also a Programme Council Member of Digital Dragons – the biggest business-to-business game industry conference in Poland. She co-authored the "Polish Gamers Research" study.

She specialises in the development of business relations with international partners, creation and execution of product development strategies, and product distribution and monetisation, collaborating with over 40 video game producers and distributors. 90% of them are foreign partners from countries such as Germany, South Korea, France, Russia, Ukraine, Sweden, China and the Netherlands. She has been a speaker at numerous conferences, including Paris Game Week, Game Connection, Digital Dragons 2015, 2014, 2013, CBE Polska "The Market of Value-added and Multimedia Mobile Services".



Mariusz Socha

Enthusiast of the new media, technology and video games. Graduate of the Tischner European University in Kraków. In his professional career, he has worked as an adviser for technology companies, specialising in market entry strategies, start-up acceleration and investment processes. He is an expert for the Ministry of Economy's programme for the promotion of the Polish video game industry. He coordinated the activities of the Digital Entertainment Cluster (an initiative for Polish developers) on behalf of the Kraków Technology Park. He has been a panellist and speaker at various industry conferences, including Casual Connect, Games Connection, and Game Industry Trends. He is one of the organisers of the Digital Dragons conference for video game developers and publishers. He currently works at GRY-OnLine S.A. In his private life, he loves travelling and exploring new places and flavours.

PREPARATION:

Łukasz Malik Łukasz Gołąbiowski Michał Grygorcewicz

EDITING:

Anna Nowopolska

POLAND IN THE CONTEXT OF THE GLOBAL VIDEO

The revenue generated by the individual branches of the electronic entertainment industry varies depending on the region and socio-demographic circumstances. According to the "Global Games Market" study conducted by SuperData Research in 2015, the annual income generated globally by video games currently amounts to USD 74.2 billion (about PLN 278 billion). Given the continuing upward trend, the industry's financial results will probably increase steadily for at least several years to come before the market is finally saturated.

The distribution of revenue between North America, Europe and Asia is surprisingly even. Although Northern American countries still lead in the ranking (with an annual income of USD 23.6 billion), they should soon be outrivalled by the rapidly growing Asian market (which currently generates USD 23.1 billion). The European income is currently estimated at USD 22.1 billion, and despite a small stagnation in the sector, the annual results keep improving. The region with the least profitable market is Latin America, with revenue amounting to USD 4.4 billion.

1.1 Global video game market divided into regions (in billions of dollars)



Source: compiled on the basis of SuperData Research: "Global Games Market Report - 2015"

According to another research company, Newzoo, the value of the global video game market reached USD 75.5 billion in 2013, and will rise to USD 102 billion by 2017. During this period, the compound annual growth rate (CAGR) is expected to reach 8.1%. The regions with the highest growth rate in the years 2013-2017 will be Asia, Central and Eastern Europe, the Middle East, Africa and Latin America. The development of the market will be driven primarily by online and mobile free-to-play games. By 2017, the global "family" of gamers will welcome 600 million new members, growing to a dizzying 2.2 billion people. It will be made possible mainly because of the dynamic development and increasing availability of online and mobile games.

The growing significance of video games as a form of entertainment is clearly visible in the case of the United States. The trends on the American market often foreshadow the future of the European industry. The analysts from SuperData Research estimate that in 2015, video games will generate an income of about USD 25 billion for the American developers and publishers, leaving behind many other entertainment sectors, such as newspapers (USD 21 billion), magazines (USD 16 billion), music (USD 9 billion) and radio (USD 17 billion). The results indicate that video games generate 13% of the total revenue in the entertainment industry. A few years ago an estimate like this would sound highly improbable.

POLAND IN THE CONTEXT OF THE GLOBAL VIDEO

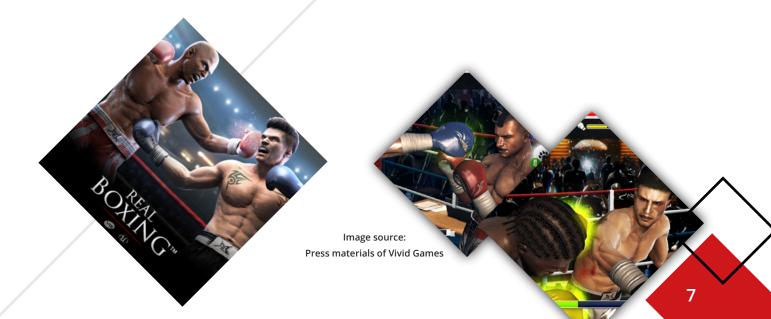
1.2 Global video game market divided into segments (in billions of dollars)



Source: compiled on the basis of SuperData Research: "Global Games Market Report - 2015"

It is worth noting that even within the video game sector, there is a variation in the ways of generating income. Individual genres (types) of games will be discussed later in the report. However, for the present section, it is important to enumerate three main categories constituting the core of income for the video game sector. The first category includes games distributed via "traditional" means, i.e. through retail – at stores, chain stores, by mail order, or in any other way which involves physical transfer of goods. The annual revenue generated through retail amounts to about USD 19.7 billion, even though it is affected by problems related to logistics (production, transport, restocking), secondary market (reselling or renting used console games), and piracy. It is much easier to control and monitor digital distribution, which is currently the biggest source of profit for developers and publishers.

However, it should be kept in mind that this form of distribution is utilised by multiple markets: mobile games (for smartphones and tablets), free--to-play games, PC and console games distributed exclusively via certain platforms (such as Steam or PlayStation Network), social network games as well as other similar types. The sum of revenues from these individual sectors amounts to ca. USD 52 billion. The last category, not very popular yet but very promising, are the so called "playable media": virtual reality (a technology enabling the user to "enter" a virtual world and perceive it with their senses), esports (video game tournaments in which teams of professional players compete for cash prizes), and video materials distributed via websites such as YouTube or Twitch.tv (likely to be joined by Facebook in the near future). The income generated by this form of distribution is still "only" USD 2.4 billion, but it is clear to see that this sector holds great potential. The market share of each of these categories varies by country, but the general trend suggests that digital distribution is going to secure a key position, while the value of retail will steadily decrease.



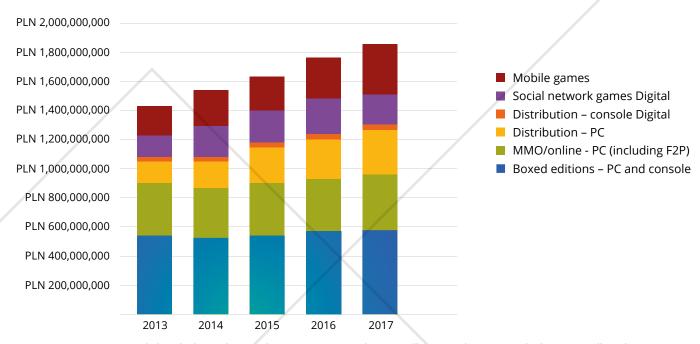
POLAND IN THE CONTEXT OF THE GLOBAL VIDEO

The value of the Polish video game market

Data concerning the estimated value of the Polish video game market has been published several times in the course of the past few years. It should be kept in mind that due to the structural complexity of this market and different research methods used in the studies, estimated values may vary significantly. One example of a modifier can be the value added tax (VAT), which in the case of Poland can increase or decrease the results obtained by 23%. For the purpose of this publication, the prospective values were based on the reports created by the following research companies: SuperData Research, DFC Intelligence, and Newzoo. They are complemented by information obtained from the representatives of the

Polish video game industry. According to this data, as of 2015, the value of the Polish video game market exceeds PLN 1.65 billion (about 400 mln USD). By 2017, this number should grow to over PLN 1.85 billion. If we look at these figures in the context of the global market value, they seem rather modest – Poland contributes only about 0.6% of the global revenue. However, according to Newzoo, we are the second most profitable market in Eastern Europe (and nineteenth in the world).

1.3 The estimated value of the Polish video game market in the years 2013-2017



Source: compiled on the basis of reports by SuperData Research, DFC Intelligence and Newzoo, and information collected from the representatives of the Polish video game industry.



POLAND IN THE CONTEXT OF THE GLOBAL VIDEO

Publishing and distribution in Poland

The dynamic changes taking place in the Polish video game distribution segment mirror the development stages and trends of the market. Several years ago, more than 90% of revenue came from the sales of boxed editions. Today, the value of this segment, estimated at about PLN 550-600 million (basing on available information and our conversations with the representatives of major distributors), constitutes about 30-35% of total market value. What is important, the change does not result from a significant decrease in the sales of boxed editions (as illustrated by the graph on page 8) but rather from the fact that the other sectors of the market have experienced rapid growth. Given the current trends, we can predict that in the course of the next 2-3 years, the market share of traditional distribution will drop below 30% despite similar value levels. While we can observe a certain stagnation in terms of value, traditional distribution has undergone major structural changes – especially in relation to the type of platform chosen by the consumers. As observed by Marek Chyrzyński (Cenega S.A.), 4 or 5 years ago console games still had a marginal share in the market. Currently, they constitute over 50% of total market value in this segment. In terms of quantity, the market is still dominated by PC games, but they are cheaper in comparison. The value growth of the market share of console games distributed via traditional means occurs concomitantly with a drop in the market share of PC games whose users are rapidly migrating to digital distribution. We can assume that this trend will continue.

Michał Gembicki, the President of CDP.pl, also points to the changes taking place in the physical distribution channels: "When we look at today's boxed release market, we can clearly see that brick and mortar stores are slowly disappearing, replaced by rapidly developing e-commerce services. Nowadays, electronic commerce constitutes 3.5% of the total retail turnover in Poland, while the European average is 10%. This shows that there is still much room for growth. From the perspective of my company, e-commerce – in the form of online ordering of boxed games – has been generating 20% of the total income. We need to keep in mind, however, that so far, the growing number of online game stores has not been able to fully compensate for the shrinking demand from traditional retail chains".

The recent years have also marked a change in the distribution model itself. Up to the end of the previous decade, the dominant model based on licences obtained by distributors, granting them exclusive rights to release a given title in Poland (or several Central European countries). Apart from covering the cost of the licence itself, the distributor would also need to pay for localisation (preparing the Polish version of the game), manufacturing (disc pressing, box printing, etc.), marketing, and proper distribution (through retail chains). Nowadays, the distributors buy the majority of new titles as ready-to-sell products which only need to be marketed and distributed.



POLAND IN THE CONTEXT OF THE GLOBAL VIDEO

The key players on the Polish publishing and distribution scene

The Polish publishers and developers can be divided into two groups:

- The Polish publishers and developers can be divided into two groups:
 - Electronic Arts Polska Sp. z o.o. An Electronic Arts branch with an office in Warsaw at Domaniewska 34A. The company publishes and distributes game series such as FIFA, The Sims, Battlefield, or Need for Speed.
 - Microsoft Sp. z o.o. Apart from flagship Microsoft products such as MS Windows and MS Office, the Warsaw branch of Microsoft (located at Aleje Jerozolimskie 195A) also distributes Xbox consoles and Microsoft games (Forza Motorsport, Gears of War, Halo).
 - Sony Computer Entertainment Polska Sp. z o.o. Branch in Warsaw, with an office at Ogrodowa 58. The company distributes PlayStation consoles and PlayStation games published by Sony Computer Entertainment (series such as *Uncharted, God of War, SingStar,* or *Gran Turismo*).
 - **Ubisoft GMBH Sp. z o.o.** Branch in Poland, located in Warsaw at Domaniewska 39A. The company distributes series such as *Assassin's Creed, Far Cry, Just Dance*, or *Might & Magic*.

- Companies publishing/distributing third party games ("",third party publishers")
- CDP.pl Sp. z o.o. Company seated in Warsaw at Jagiellońska 88. Separated from the CD PROJEKT Group in the autumn of 2014. The most widely recognised title distributed by the company is the series of The Witcher games. Since August 2015, CDP.pl has been also distributing Activision-Blizzard games (such as *Call of Duty, Diablo, StarCraft*, or *World of Warcraft*).
- Cenega S.A. Company seated in Warsaw at Krakowiaków 50. One of the biggest Polish game distributors, working with studios such as Take Two Interactive (the Grand Theft Auto, Civilization, BioShock, Borderlands, and Mafia series), Warner Bros. Interactive Entertainment (the Batman and Mortal Kombat series), Square Enix (the Tomb Raider, Final Fantasy, Thief, Deus Ex, and Hitman series) or Bethesda Softworks (the Fallout and The Elder Scrolls series).
- Techland Sp. z o.o. The only company among key video game distributors with a seat outside of Warsaw (the office is located in Wrocław at Jana Szczyrki 12). Apart from publishing its own game series (such as *Call of Juarez* and *Dying Light*), it distributes titles developed by several smaller Western publishers).



CHAPTER 1 POLAND IN THE CONTEXT OF THE GLOBAL VIDEO

The participation of major platforms in paid distribution

A very important factor influencing the physical distribution of video games in Poland is the peculiar situation of console gaming. In the majority of European countries, where the market share of console games sometimes exceeds 2/3 of total market value, three companies compete for the attention and money of gamers: Microsoft with its Xbox family, Sony with its PlayStation, and Nintendo. In Poland, as proven by the results presented in Chapter 2, players still cling to the PC as their gaming platform of choice. The history of the console as the main entertainment device is rather short. Moreover, Nintendo – whose market share exceeds 1/3 in certain European countries – never decided to distribute its products directly in Poland, which prevented it from establishing a real presence on our market.

The company that has really used this situation to its advantage is Sony. In the course of the last 20 years, the PlayStation brand has become nearly synonymous with the word "console". Currently, the sales of games for the newest model (PlayStation 4) are several times bigger than those of the versions produced for its main rival (Xbox One). 2015 should be a decisive year in this regard. The actions (or lack thereof) on the part of Microsoft will show if Poland becomes a market dominated by one brand, or if Xbox can still strengthen its position.

Michał Gembicki of CDP.pl emphasises that the increase in the number of next-gen console owners has been driven also by the fact that new blockbuster titles tend to require very efficient, powerful PCs. Such is the case with this year's *The Witcher 3: The Wild Hunt* whose high technical requirements helped many gamers to make the decision of buying a console. This way, they could play *The Witcher* without spending a large amount of money on hardware upgrades.

While discussing the growing number of next-gen consoles in households, we should also mention the dynamic development of a model involving digital distribution of games directly onto devices, as well as the increase in the sales of digital services, such as PlayStation Plus or Xbox Live Gold subscriptions. Basing on available information, we can assume that Sony – along with its PlayStation Network platform – will be the main beneficiary of this status quo. Digital distribution of games on consoles should generate almost PLN 50 million in 2017. This year's revenue amounts to a little over PLN 39.5 million (about 2.5% of total Polish market value).

The pricing structure of paid distribution games

The fairly low number of consoles in households is chiefly related to the relatively high prices of console games. A decade ago, the average price of a PC game upon its release was twice lower than the price of its console counterpart (about PLN 100-120 for the former and PLN 200-240 for the latter). However, for a few years now we have observed a tendency for PC game prices to rise gradually towards PLN 180-200, while the prices of next-gen console games have gravitated towards PLN 300. The local pricing is thus beginning to reflect Western European trends - EUR 50 for a PC game, EUR 60 for a previous-gen console game (for PlayStation 3, Xbox 360, Nintendo Wii), and finally, EUR 70 for a next-gen console title (for PlayStation 4 and Xbox One). As stressed by the President of the Polish branch of Ubisoft, Adam Zdrzałek, the increase in the release prices of games, especially when it comes to the most popular series, does not necessarily translate to a decrease in the number of copies sold. In the opinion of Michał Gembicki (CDP.pl), this phenomenon is, however, limited to a small group of the most popular titles. Otherwise, the consumers' absolute price limit for PC games is still PLN 129-159.

The publishers, distributors, and retailers are well aware of how sensitive the matter of pricing is among the Polish players.

They try, at the cost of the margin level, to delay the moment when local prices reach European standards. Despite their efforts, a vast number of customers still decide to wait several or over a dozen months until the desired game enters the back catalogue¹. Michał Gembicki (CDP.pl) points out the decrease in prices in this segment – they currently range from PLN 10 to 20, compared to PLN 20-30 a few years ago. In the case of console titles, the lowest level is presently PLN 50-70.

Another fact worth noting is the almost complete disappearance of the mid-price range in physical distribution. A few years ago, entering the mid-price range was a natural part of a video game's life cycle. "We can safely say that the mid-price range is gone. I remember how things used to be 4 or 5 years ago. We would have a strict business plan set in advance", says Adam Zdrzałek (Ubisoft).

"Even if it was a top-shelf title, it would at some point enter the mid-price range and be given a second life. Then, after about a year, it would enter the back catalogue with a ,budget price', and be given a third life. Today, that second life does not exist anymore. Oddly enough, reducing the price to the middle range does not really help that much. People expect it to drop to the budget price after a certain number of months, and it is then that the game's second life begins".

¹ Back catalogue – a colloquial term for games in the lowest price segment.

CHAPTER 1 POLAND IN THE CONTEXT OF THE GLOBAL VIDEO

Opportunities and risks of digital distribution

The factor that contributes the most to the decline of physical distribution is the growing popularity of paid digital distribution. The change is evident when we consider the decreasing value of boxed release sales of PC games. The global digital PC market is dominated by the Steam platform belonging to Valve Corporation (according to IHS Screen Digest, its market share exceeded 75% as early as 2013). The major publishers have also established their own platforms on the global market. We should mention Electronic Arts (Origin), Ubisoft (Uplay), Activision-Blizzard (Battle.net), Sony (PlayStation Network), Microsoft (Xbox Live) or the Polish CD PROJEKT (GOG). From the perspective of the Polish market, it is worth adding that also our local publishers have developed their own digital distribution solutions – Cenega launched Muve.pl, CDP.pl opened the CDP.pl store, and Techland introduced the Boxoff Store service

Interestingly, the segment of digital distribution has been so far dominated by older titles and indie games. "About 90-92% of the big titles are sold as boxed editions", says Adam Zdrzałek (Ubisoft).

"(...) However, we should keep in mind that digital distribution is still a novelty in our country. It has been available for 2-3 years, and 3 years ago it accounted for only 1% of our sales. It has grown significantly during a short period of time, at the cost of the income from physical distribution (...). When we look at the back catalogue, meaning products that have been available on the market for some time, we often realise that digital distribution accounts for 25% or 30% of all sales".

Also Marek Chyrzyński, President of Cenega, predicts that the rapid growth is going to continue: "As we can see by analysing our own platform, digital distribution has been the fastest-growing sector in the recent years. Organic growth ratios have reached several dozen per cent, and if we also consider our affiliates (partner stores of Muve.pl) whose number is still increasing, then the ratios are as high as several hundred per cent. Of course, the base value is also increasing with each passing year, so we should be aware of the fact that it will be difficult to maintain such rapid growth".

Global development of digital distribution has also influenced the changes in the model of paid distribution. Nowadays, almost every big video game title includes not only the base game but also additional content, usually distributed digitally directly through the publisher's online system or platform, such as Steam, GOG, Xbox Live, or PSN. It has become customary to call such extras "DLC" (downloadable content)². For global publishers, the new model comes with a number of benefits. Additional content is an opportunity to increase the income generated by the game. Moreover,

DLC allows the global publisher to shorten the distribution channel as much as possible, excluding local publishers and distributors from sharing in the profits.

Digital distribution holds two major advantages over its traditional

counterpart. The first one lies in the cost of distribution itself. Interestingly, according to the representatives of publishing companies, this is not about saving money on the actual manufacturing costs of disc pressing, box printing, delivery, etc. As Michał Gembicki (CDP.pl) points out: "(...) Unfortunately, in the majority of cases, licensing costs associated with digital distribution even out the potential savings coming from not having to pay for manufacturing and logistics. These costs amount to several per cent, so the fact that we utilise digital channels does not translate to big savings for the distributor. In digital distribution, licensing fees constitute 50-80% of the net revenue – this is how much money goes to the license owner. The remaining margin of about 20-30% is partially used to cover the cost of CDN (server usage cost, including transfer fees based on the size of files), marketing, promotional offers, etc. Paradoxically, after deducting all the additional costs, the margin becomes similar to that generated by traditional sales.

The real advantage of digital distribution lies in the lack of risk related to manufacturing a certain number of physical copies that need to be sold. This form of distribution is usually free from the problem of under- or overestimating the demand for the game. Another plus of digital distribution is its ability to respond to the changing situation on the market incomparably faster than in the case of traditional methods. As Adam Zdrzałek (Ubisoft) points out: "When our market analysis suggests that we should modify our strategy regarding a certain game, with digital distribution, we can make necessary changes within 30 minutes. The problem with traditional distribution that really needs to be addressed is the long reaction time. To make similar amends through traditional channels, we would need about three weeks".

On the other hand, Michał Gembicki (CDP.pl) points to barriers which still pose a problem for digital distribution: "One of those barriers is ownership. I think a very large part of this market consists of young consumers who may not have access to credit cards, or may not be allowed to make payments online. For them, the only way to acquire the game is through retail. (...) Another barrier affects the older population. It may be more prevalent in the book trade, but can also be a problem for game distributors. It lies in the fact that some people fear that they are not going to receive the goods that they had paid for. They visit the product page and see that the price is attractive, the product is well-described, everything seems to be in order... And yet, when it comes to clicking ,Download', they are afraid that they may not receive the item. (...) People still feel uneasy doing this kind of transactions. The fear of technology is still strong". According to Marcin Turski, President of Licomp Empirical Multimedia and the Chairman of the SPiDOR Association of Entertainment Software Producers and Distributors, the main barrier is still the limited access to broadband Internet in Poland. It should be kept in mind that today's games often require the user to download several to over a dozen gigabytes of content. The problem is not as widespread in big cities like Warsaw, Poznań, or Kraków, where cable operators have developed a decent infrastructure, but it is common in smaller towns and rural areas.

POLAND IN THE CONTEXT OF THE GLOBAL VIDEO

Despite that, the authors of the report believe that if efforts are made to eliminate those barriers, the segment of digital distribution, along with the mobile game business, will contribute the most to the growth of the video game market value in the coming years. In 2017, the income generated by digital distribution on PCs and consoles should

exceed PLN 360 million (thus giving this form of distribution a total market share of 20%). Then, within a few years, it should reach the level of revenue from traditional sales.

Challenges and threats of piracy

When describing publishing and distribution, we need to mention the greatest threat in this segment, namely software piracy. However, according to the "Polish Gamers Research 2015" study, the trends among the Polish players seem quite optimistic. The number of people openly claiming to have acquired games from illegal sources is decreasing year by year. It should be borne in mind that the ratio of legal to pirated games in use still leaves the latter in a majority. As Adam Zdrzałek (Ubisoft) admits: "(...) If 20-30% of all games are purchased in a legal way, we already have a reason to be happy". Marcin Turski (LEM) adds: "(...) In comparison with other digital products in the field of culture and entertainment – like books, movies, or music – the segment of games is clearly less corrupted by piracy".

On the one hand, the gradually growing purchasing power of the society triggers an increase in the sales of legal versions. On the other, the very process of game pirating is becoming more and more complex. The latter is most clearly noticeable on the console game market. The previous console generation, especially Xbox 360, was plagued by illegal hardware modifications which allowed users to run pirated versions of games. A similar scope of piracy could be observed in the case of portable devices such as Nintendo DS or PlayStation Portable (PSP). Marcin Ziobrowski (President of Sony Computer Entertainment Polska) summarises the efforts taken to prevent piracy on the example of the PSP system:

"Piracy was quite a big problem for the PSP. Our efforts were twofold. First, we introduced a series of cheap, widely available games, in order to limit piracy on the consumers' part (...). Apart from that, we cooperated with government authorities, which made it possible to limit the scope of the hardware modification business. In addition, we resorted to social education in order to popularise the view that piracy should be considered 'uncool'".

Luckily for Sony, the problem was much less common with PlayStation 3. The information gathered during the interviews with game distributors suggests that while the number of Xbox 360 and PlayStation 3 consoles in households was similar, the sales of legal games for the Microsoft device were decidedly lower. Interestingly, Xbox 360's financial results rose significantly after the introduction of titles developed exclusively for use with the Kinect controller.

It was also proof that casual players³ were much less likely to break the law. The current console generation (PlayStation 4 and Xbox One) utilises better anti-piracy solutions. It can be said that in the case of the newest consoles, the problem of illegal software has almost disappeared.

Also the PC market has developed mechanisms to make it more difficult to use pirated versions of games. This improvement can be partly attributed to the Steam platform. Solutions introduced by Valve Corporation have led the majority of video game publishers to discontinue using DRM (digital rights management⁴) technologies such as SafeDisc or SecuRom. An interesting fact is that the Polish GOG.com platform owned by CD PROJEKT has turned the lack of DRM into one of its flagship assets. "Piracy is still a widespread phenomenon. When gamers reach for pirated games, it may as well not result from their financial situation but rather from certain habits or from dissatisfaction with the policies used by some publishers", says Michał Nowakowski (Member of the Management Board of CD PROJEKT). "As a company, we believe that a large number of pirates are former customers disappointed in the service they had received. We are convinced that we can still persuade many of them to start buying our games from legal sources. We will never know for sure, but we have some signs suggesting that our theory may be working, such as e-mails that we receive from «reformed» pirates".

Piotr Żygadło (Owner of Grey Wizard Innovative) is of the same opinion: "Piracy has always been a form of advertisement. There are stories about games that were fast forgotten because their anti-piracy protection was too efficient. I think the best preventive method in this case is adopting the *«service»* approach. I do not mean just the *«game as a services"* idea, but also the process of equipping the game with services that are only available to owners of legal copies and grant them additional benefits".

It is worth noting that also free-to-play games are affected by piracy. As observed by Michał Miłosz (Territory Manager at Gameforge): "Poland and Russia are countries where pirates are especially *«crafty»*. In other regions, people are much less creative in striving to benefit from breaking laws, regulations, etc.

³ Casual player – a term for players who are usually not interested in the news and trends related to the game industry. Their contact with electronic entertainment is not frequent, often limited to one particular title. There are no good equivalents for the term in the Polish language. Casual players are often given names that suggest that they are inexperienced, mediocre gamers, which can be far from the truth. A good example of this are series such as FIFA or The Sims. Casual players can spend great amounts of time playing those games, but they may not play any other titles.

⁴ DRM – Digital Rights Management; systems designed to prevent unauthorised use of electronic data. DRM technologies include various forms of anti-piracy protection used e.g. in video games.

⁵ Game as a service (GaaS) - an approach in which the developer considers the game to be a service and a means to build a long-lasting relationship with the consumer, instead of treating it as a one-time purchase. The aim of this way of thinking is to keep the client interested in the game for as long as possible.

POLAND IN THE CONTEXT OF THE GLOBAL VIDEO

Of course, the Polish inclination to ,bend the rules' is just one aspect of it. Another problem is the popularity of illegal servers. Many of the illegal game servers that use games published by Gameforge are managed by Poles. Such behaviour has negative impact not only on the business itself, but also on the development of the product. I dare say that the average gamer does not understand that by playing and paying on illegal servers, they are supporting criminals, not the authors of the game". Other game--dev representatives have also shared their views on piracy. "We do not track the exact extent to which our games are affected by piracy. We have always left that to the publishers who control the sales and require us to provide anti-piracy protection", Wojciech Pazdur (Director of Development at The Farm 51) comments. "From my point of view, each of the developing distribution channels (digital distribution, F2P, mobile) contributes to limiting the scope of piracy which is still so widespread in the case of PCs. Thanks to web integration (e.g. Steam) and attractive pricing, piracy is just not that profitable anymore. Polish gamers display a certain degree of solidarity with local developers. Many of them claim that they would never get a pirated version of a Polish game. Then again, there are many who just do not want to pay for games at all". Remigiusz Kościelny (President of Vivid Games) adds:

"In my opinion, the problem of piracy can never be completely eliminated. It is a phenomenon that needs to be taken into account while making business plans. In our case, it is not a grave issue, because our games are available for free. Moreover, every person who downloads the game, even if it is from illegal sources, may cause other people to become interested, and those people may obtain it legally".

Another phenomenon, relatively new and bordering on piracy, is the online trade in activation keys for digital products. It has been a growing challenge for local publishers and distributors of PC games. What is important, this kind of transactions does not always constitute an infringement of intellectual property rights. "The creativity of some people has gone beyond the industry's perception of this business. It is an entirely new phenomenon. The scale has exceeded all expectations", Adam Zdrzałek (Ubisoft) admits. "Of course, I am not talking about things like making payments with stolen credit cards or ,key factories' in various weird places in the world. Of all the keys generated that way, maybe 20% or 30% are working. 70% of them do not work at all".

Marek Chyrzyński (Cenega) provides one example of the mechanisms behind this phenomenon: "The companies export their products abroad, and collect VAT refunds in Poland or any other country. This tax is currently equal to 23% in Poland, while in Hungary it amounts to 27%. The consequence is an entirely different basic price that the companies are able to offer (...). It is definitely a big problem for the publishers, considering the fact that it destabilises the situation on the market to a great extent. And it is not only our local market that I am concerned with – I am talking about the global market".

The Polish element in games

When it comes to the significance of "the Polish element" on the video game market, the experts' opinions are divided. Some of them perceive it to be meaningful, but not necessarily in the context of a game's actual place of origin. "In a way, the *«made in Poland»* mark has no meaning for us globally, because players are really not that interested in the physical whereabouts of the studio", says Michał Nowakowski (CD PROJEKT RED).

"Who cares that DICE is seated in Sweden when they are buying Battle-field? Do the fans of *Hitman* really value the knowledge that the game was made in Denmark? Not really. The game needs to be good in its own right. The way to secure a good position on the market is through superior quality. Cultural immersion is a different matter, but again, I do not think that there is one simple and straightforward way to approach it. It was certainly important in the case of *The Witcher*, because the cultural accents were part of the background created by Andrzej Sapkowski, and the way in which it was presented was simply cool. Of course, it meant more to the Polish consumers than to the foreign audience. At the same time, I think that equipping every Polish game with ,local flavours' is not necessarily a good move. Then again, much depends on the manner in which such accents are served to the player. It is easy to fall into the trap of pathos or a ,dull history textbook' kind of mood".

Remigiusz Kościelny (Vivid Games) is of a similar opinion: "I have the impression that the origin of the game holds very little meaning to the average player. Only the biggest and best executed brands, such as *The Witcher*, have a chance to enter the mainstream and stir an interest in the unique aspects of their culture or history".

However, in the experience of the representatives of the Polish publishing sector, clever marketing of a product's "Polish qualities" can make it generate a much bigger profit. Importantly, this applies both to games that were developed in Poland and to titles that include direct references to Poland. "A few years ago, we were publishing an expansion pack for a Civilization game (Sid Meier's Civilization V: Gods & Kings), which – for the first time in the history of the series – involved some Polish elements", recalls Marek Chyrzyński (Cenega). "We managed to convince the publisher that the Polish edition should get a special version of the cover illustration, featuring two kings. The Polish fans welcomed the idea with enthusiasm. The game sold better than expected".

One example of a successful game that will undoubtedly serve as a model of skilful use of "the Polish element" for the years to come is the aforementioned *The Witcher 3: Wild Hunt*. In Poland, it has been distributed by CDP.pl. A little more than a month post-launch, the sales exceeded 260 thousand copies.

POLAND IN THE CONTEXT OF THE GLOBAL VIDEO

MMO games (free-to-play and pay-to-play)

The "golden age" of the MMO⁶ genre peaked in the first decade of the 21st century. Titles belonging to this category require access to the Internet and often focus on story-driven gameplay (exploring the narrative and developing one's virtual character) or fighting against other players. Some of the most popular MMO games are *World of Warcraft, Everquest II* and *Planetside*. It should be borne in mind that while every MMO game is an online game, not every online game belongs to the MMO genre. The "massively multiplayer online" term refers strictly to productions which involve interaction between a large number of players.

The MMO market can be divided into two main categories - F2P (free--to-play)⁷ and P2P (pay-to-play)⁸. According to the "Eastern Europe's Digital Games Market" study conducted by SuperData Research, free games now generate a global revenue of about USD 8 billion. While Asia leads in the ranking (USD 3.3 billion), the European market follows close behind (USD 2.1 billion). A separate analysis of the Eastern European market (whose share in the European market has reached 38%) shows that developers and publishers can count on annual profits amounting to USD 800 million). According to the latest forecasts, in the course of the next two years this figure will rise to USD 908 million. About a half of the current amount is money generated by Russian players (who spent USD 464 million on free-to-play MMO games in 2014). During the same time period, the Turks paid USD 117 million while Poles contributed about USD 70 million. Smaller markets, such as the Czech Republic and Hungary, earned about USD 45 million each. It should be noted that the Hungarian market is characterised by the fastest-growing number of people playing free-to-play MMO games. By 2017, there should be 2 million players - a great result considering that the total population of Hungary is only 10 million. Compared to neighbouring markets, Poland can boast about 4 million regular F2P MMO players (the trend suggests that the number will rise to 4.4 million within the next two years).

When it comes to gaming expenses of individual nations in our region, an interesting fact is that the leading markets - Russia, Turkey, and Poland - have vastly different preferences concerning payment methods. The publishers and developers are thus forced to adjust their financial strategies to particular markets. Otherwise, they would risk big losses. According to the results of the "Polish Gamers 2015" study, for more than 40% of players the main reason for not making in-game purchases is the unavailability of their preferred payment method. When playing F2P MMO games, Poles like to make transactions using Internet banking (31% of respondents) or payment via SMS (26%). Turks show a preference for credit cards (64%) while Russians use digital wallets (29%), credit cards (19%), and mobile payment (11%). If the publisher manages to attract the gamer to their title, they may count on the gamer's loyalty for about 5 months, with an average of 40 hours per month dedicated to playing the game. Polish gamers spend an average of USD 17.57 per month on MMO games, while the estimated monthly expenses in the whole region of Eastern Europe amount to USD 20.22.

The second model of MMO gaming – pay-to-play – is decidedly less popular. The value of the Eastern European P2P market is estimated at USD 205 million, but the figure has been on decrease on the entire continent. It does not come as a surprise that the key player on this market is Russia (USD 93 million), followed by Turkey (USD 39 million), and Poland (USD 33 million). The pay-to-play model is being replaced by free-to-play.



⁶ MMO – Massively Multiplayer Online; a type of online game (accessible only via the Internet) which can be played by a large number of players at once. The participants can usually use advanced communication tools and influence the game world (e.g. through trade, economy, and politics).

⁷ Free-to-play (F2P) – a variant of game sharing, usually based on a business model involving micro-transactions. The players have the option to buy various expansion packs and enhancements or to unlock new levels. Free-to-play titles can indeed be played for free, but with certain restrictions.

⁸ Pay-to-play – a business model for MMO games, based on paid subscriptions.

POLAND IN THE CONTEXT OF THE GLOBAL VIDEO

Free-to-play games

The free-to-play segment has been aptly characterised by Peter Warman, President of Newzoo: "Free-to-play is not a business model, it is a way to run your business". It is perhaps the most prominent example of a business model change having such great positive impact on the number of game developing companies, on the methods of distribution and the definition of a distributor, on the barrier of entry, and on the size of the gaming community. Free-to-play games (also known as freemium) have begun their rapid conquest of the market ca. 2000. At the time, they were still outnumbered by subscription (pay-to-play) titles that required the player to pay a monthly fee in order to maintain access to the game. A prominent example of a P2P game can be World of Warcraft, developed by Activision-Blizzard. The freemium model has revolutionised the video game market by causing a shift in the way of thinking about game distribution, monetisation, and the player-game relationship. Instead of demanding regular payment for their services, certain developers have changed their strategy. They decided to give the players free access to a legal, fully playable game, with an option to enhance gameplay through micro-transactions. In many cases, freemium games can be played via an Internet browser using and old, cheap PC. Multiple factors, such as low entry barrier (no payment required), easy access to the game, low system requirements, and easy sign-up, have contributed to the explosive success of this segment. The global revenue generated by F2P games is comparable to the income of the console game market.

According to the aforementioned forecasts by Newzoo, online and mobile free-to-play games will be the main driving force behind the value growth of the entire industry. By 2017, the global family of gamers will have welcomed another 600 million members, bringing together a dizzying total of 2.2 billion people. It should be added that this growth will be driven primarily by the dynamic development of online and mobile gaming. The CAGR⁹ ratio for the Polish free-to-play game market in the years 2014-2018 is estimated to reach 13%, placing Poland above the global average.

The information gathered by Newzoo suggests that MMO games generate an income of USD 70 million, with additional USD 56 million coming from social network games, rendering the online games segment more profitable than traditional boxed release distribution.

The Polish free-to-play market is often mentioned as one of the four most promising markets in Eastern Europe with regard to monetisation, accompanied by Russia, the Czech Republic and Hungary. The experts estimate that freemium games generate from 20% to 30% of total revenue in the Polish video game segment. The percentage of players who pay for gaming oscillates between 5% and 15%, depending on the genre. Basing on the assessment created for the purpose of this report, the value of the Polish MMO and social network game market constitutes as much as 1/3 of the total market value – over PLN 550 million

Ewa Czwartacka-Roman (Head of Key Account Management at Plinga) stresses the good standing of the Polish game market. She also gives a warning against the coming change in the F2P business, related to the decrease in the number of browser game users who are gradually migrating to mobile gaming. This trend will force developers to focus on creating cross-platform games which can be accessed using Internet browsers, mobile devices, and PCs. Thanks to one shared database, the player can use their account regardless of the type of device. Combined with social networks and micro-transaction systems, cross-platform games can prove an interesting alternative to titles designed exclusively for mobile devices.

Ewa Czwartacka-Roman (Plinga) provides a commentary on this matter: "In a way, the market is still stable, which is also connected to the growing accessibility of virtual realities to people which used to be excluded because of poor Internet connection or not meeting the system requirements. A much faster migration of F2P browser game users to mobile gaming can be observed in Germany".

Sergey Sholom (President of Datcroft Games) stresses that the increase in the number of gamers by 600 million (from 1.6 billion today to 2.2 billion by 2017) will also result in a different kind of shift. The gaming community will be joined by many inexperienced players whom the developers will have to target will a range of simple games based on aggressive monetisation models (such as pay-to-win¹º). Free-to-play developers should divide their attention equally between browser and mobile versions of their games.



⁹ CAGR – Compound Annual Growth Rate.

10 Pay-to-win – a variant of free-to-play games, rewarding players who pay for additional items or features with significant in-game advantages.

CHAPTER 1 POLAND IN THE CONTEXT OF THE GLOBAL VIDEO

Polish companies on the free-to-play market

Polish game producers enjoy a degree of success on the global freemium game market, exporting products designed both for Internet browsers and mobile devices. Companies such as Ganymede, Ten Square Games, Netinus, Picadilla, or Fuero Games may not be as popular in the media as CD PROJEKT RED, but they are active on many markets worldwide, employing their personnel – programmers, graphic artists, business development and marketing specialists – in Poland. According to data provided by Bartłomiej Nowakowski from Ten Square Games in Wrocław, there are currently several hundred companies on the Polish market that operate in the freemium segment – from individual enthusiasts, through minor studios, to major global producers.

Again, as in the case of traditional boxed releases, the success or failure of a free-to-play game is not dependent on its country of origin. If the game is well localised and fits the requirements of a given market, the players may not even enquire if they are enjoying a Polish, German or Russian production. For the same reason, Polish free-to-play game companies cannot count on a monetisation advantage on the local market only because the game was developed in Poland. What matters is the genuine appeal of the product. Nevertheless, the knowledge of the Polish market dynamics and preferred payment methods may help local developers gain an advantage over foreign producers and distributors.

An excellent example of this can be Let's Fish, developed by Ten Square Games. According to Bartłomiej Nowakowski, a Polish developer can understand the needs of Polish gamers better than competitors from abroad. The fact that players are often unaware of the origin of their game does not change this situation: "No matter where the game was made, the important question is whether it fits the specific needs of the market and the player whom it targets. Our experience tells us that the majority of gamers perceive Ten Square Games to be a foreign company. In the F2P industry, the brand of the game is often far more important than the brand of the studio".

The experts stress the advantages of the Polish market for F2P browser game developers, listing characteristics such as:

- a) low cost of acquiring new users compared to other European countries;
- b) access to numerous payment service providers, and a selection of varied, well-developed payment methods, e.g. credit cards, transfers, SMS Premium;
- c) possibility of cooperation with horizontal portals (e.g. onet.pl, wp.pl, interia.pl, gazeta.pl);
- d) presence of a local social network nk.pl (formerly Nasza Klasa) which allows users to add online games;
- e) low cost of game production, with access to free technological solutions for beginners in the industry.

Bartłomiej Nowakowski adds: "If you want to make games and really profit from it, you have two options. You can either create a viral¹¹ game which will attract millions of users (like *Flappy Birds* or our local *Timberman*) or invest in a title with complex gameplay (like *Let's Fish*) which will keep the player interested for many months. Of course, there are also other alternatives (cross-promotion, leveraging the power of well-recognized brands), but they are usually unavailable to someone just entering the industry".

The aggressive competition on the market, especially from Asian companies with strong financial backup, results in the gradual improvement of free-to-play productions in terms of graphics and gameplay. Their quality becomes comparable to the so called Triple-A titles¹². In the freemium segment, the brand of the game is typically more important than the brand of the company, which gives less popular developers equal chances against well-known PC and console game studios such as Ubisoft or Electronic arts. In the context of the recent changes on the market, the biggest companies have also been investing in the process of shifting their popular paid Triple-A titles towards the free-to-play model.

Examples of this process can be series such as *The Settlers* or *Command & Conquer* which now have their freemium browser counterparts: *The Settlers Online* and *Command & Conquer: Tiberium Alliances*. It is worth noting that even the big companies have no guarantee of success in this segment. While *The Settlers Online* (Ubisoft) has enjoyed global popularity, other free-to-play games by major publishers (e.g. *Silent Hunter, Battlefield Heroes, Battlefield Play4Free, Need for Speed World* or *FIFA World*) have not been so lucky, even if their paid counterparts were very successful. Another interesting case is Star Wars: The Old Republic by Electronic Arts. After a moderate reception in the paid model, it became extremely popular following a partial implementation of a free-to-play system.

According to Bartłomiej Nowakowski: "The quality of F2P games is going to improve. They will grow increasingly similar to PC or console releases. Technological barriers are beginning to blur, and the income generated by F2P keeps rising, which translates to bigger budgets for this kind of productions. The best example of this is Let's Hunt – a free Polish browser game which could compete, in terms of gameplay and design quality, with last year's *«store'»* release of *Cabela's Big Game Hunter"*.

[&]quot;Viral, viral campaigns and actions – currently one of the most popular forms of promotion, based on the idea of "spreading the word". The information about a certain product or service is shared and forwarded among potential customers/players and their friends, spreading like a virus.

¹² **Triple-A / AAA games** – a term indicating the "calibre" of the game. The AAA category refers to games with big budgets, focused on the high quality of the final product, and employing advanced technologies.

POLAND IN THE CONTEXT OF THE GLOBAL VIDEO

Dominance of German companies on the Polish free-to-play market

The Polish free-to-play market has been dominated by German companies which establish local agencies in Poland or interact with the Polish market through German-based employees of Polish origin. What is the cause of this discrepancy? According to Ewa Czwartacka-Roman (Plinga), Germany is the country of origin of many major video game studios and global free-to-play developers. The German video game industry has a long history. That, combined with access to innovative solutions and the overall wealth of the economy, contributed to its strong presence on the European market, including successes in Poland. However, we should keep in mind that the Polish free-to-play market is also home to many local companies and studios from Russia whose market share has been consistently growing.

Michał Miłosz (Gameforge) stresses that the business model employed by the free-to-play segment corresponds well with the strategies of German companies: "The Germans like to call themselves fast and effective. The F2P model is a fast and effective way of running a business. It seems that there is a good synergy between these two philosophies. For our company (Gameforge), it all started with OGame, developed by the founder himself. An F2P strategy game about space conquest turned out to be just what the market needed. It enjoyed great success. This let us raise funds for acquiring licences for certain other games, especially from Asia which is the cradle of F2P. One example can be *Metin2*, which is still definitely one of the biggest free-to-play MMO games in Europe".

The German game market, with its 39 million players and a total value of EUR 2.66 billion, can boast the status of the main branch of the German multimedia-related economy, surpassing the revenue of both the music and movie industries. 70% of German players pay for their games or make micro-transactions in the free-to-play model, rendering Germany the most profitable video game market in Europe (and fourth most profitable in the world).

German authorities perceive development, distribution, and monetisation of video games to be an important source of income. The industry is supported by specialised regional groups, working e.g. in Hamburg, Berlin, Frankfurt, Hanover, Baden-Württemberg, and North Rhine-Westphalia. The regional groups are responsible for the education and improvement of qualifications of video game industry employees as well as for supporting the initiatives aimed at facilitating the establishment of business contacts during trade fairs and local or international conferences.

Apart from the maturity of the German market, industry experts list other factors that have contributed to the success of German companies on the Polish market: cultural similarities between Germans and Poles, similar taste in games, and the vast popularity of PC gaming in both countries.

"German companies, such as Bigpoint or Goodgame, specialise in F2P web games. There is no other country with so many developers creating good browser games that are distributed on horizontal portals. Moreover, as far as culture is concerned, Poles are similar to Germans. This makes the Polish market easier to function on than, for example, the American market, even if it does not bring as much profit", adds Bartłomiej Nowakowski (Ten Square Games).

There are also many other foreign companies operating on the Polish market. The table below includes the list of key companies of the free-to-play segment which distribute games in Polish language versions on the Polish market, along with examples of their productions.



CHAPTER 1 POLAND IN THE CONTEXT OF THE GLOBAL VIDEO

1.4 A list of selected companies of the free-to-play segment, operating on the Polish market

	Country of origin	Company name	Major titles published/distributed by the company
9 86 8	Belarus	Wargaming	World of Tanks, World of Warships
	Bulgaria	XS Software	Khan Wars, Arena Mody
	Bulgaria	Imperia Online	Imperia Online
*)	China	Oasis Games	Legend Online
*>	China	Elex	Happy Harvest
	Czech Republic	Allodium	Infinitum: Battle for Europe
	France	Ubisoft EMEA	The Settlers Online, Might&Magic Heroes Online
	France	Owlient	Howrse
	The Netherlands	Gamovation	Fishao
**	South Korea	Nexon	United Eleven, Combat Arms
*• *	South Korea	Webzen Inc	Rappelz
	Germany	Goodgames Studio	Goodgames Empire
	Germany	Bigpoint	DarkOrbit, SeaFight, Drakensang Online, Farmerama
	Germany	Gameforge	Ogame, Ikariam, Metin 2, Hex, Aion, TERA
	Germany	InnoGames	Forge of Empires
	Germany	Travian	Rail Nation, Travian
	Germany	Plinga	Klondike, Family Barn
	Germany	Looki Publishing	Wargame 1942, Desert Operations
	Germany	Bytro Labs	Supremacy 1914
	Germany	Upjers	My Free Zoo, My Little Farmies
	Niemcy	European Games Group	Hero Zero
	Niemcy	sMeet Communications	Smeet
	Poland	AMJ Solutions	Clash of Swords
	Poland	Ganymede	Bingo, Mahjong
	Poland	Ten Square Games	Let's Fish, Let's Hunt
	Poland	Fuero Games	Age of Cavemen
	Poland	Netinus	Saloon Games
	Poland	Picadilla	New Rock City
	Poland	Kool to Things	Triviador
	Russia	Gaijin	War Thunder, Star Conflict
	Russia	Crazy Panda	The Household
	Russia	101 XP	Call of Gods, Awataria
	Russia	Datcroft Games	Fragoria
	United States	Electronic Arts	Star Wars: The Old Republic, Command&Conquer Tiberium Alliances
	United States	Riot Games	League of Legends
	United States	Activision-Blizzard	Heroes of the Storm, Overwatch, Hearthstone: Heroes of Warcraft
	United States	Valve	Dota 2, Team Fortress 2
à	Sweden	StarStable	Star Stable

Source: own study

POLAND IN THE CONTEXT OF THE GLOBAL VIDEO

Challenges for foreign companies on the Polish free-to-play market

One of the biggest challenges for a foreign video game company entering the Polish market is the necessity to provide a localised version of the product. If the landing page¹³ is not translated, the conversion rate¹⁴ will be lower. As a result, acquisition will be less efficient and more costly. If the page with the description of payment methods lacks translation, users may not make purchases at all. This is one of the main reasons for the players' unwillingness to pay in the case of many social network (Facebook, nk.pl) and browser games. The lack of a localised version can lead to the failure of any game - even a promising title based on popular movies, such as Marvel Heroes. Assuming that the localisation has been prepared, another big challenge is understanding the specific characteristics of the Polish market, such as the consumers' preferences regarding payment - their tendency to make small purchases and pay via SMS, or the generally lower percentage of paying players in comparison with markets like Germany, the United Kingdom, or France. The Polish preference for completing transactions via SMS Premium has a negative impact on the income of game developers. This results from high commission rates of mobile service providers, sometimes exceeding 50%. By way of comparison, commission rates of payment service providers (e.g. Dotpay, PayU) for money transfers or credit card transactions usually amount to 2%.

Why do Poles prefer to pay via SMS Premium? Marcin Marzęcki (Kool Things) seeks the answer to this question in the characteristics of the business model itself: "The majority of free-to-play games allow players to make small purchases or big orders, with the latter usually offering better savings. Polish players tend to make single, small purchases instead of spending money on these more costly deals, even if they are more attractive. In this situation, a higher SMS fee (e.g. PLN 2.99 instead of PLN 1.99) does not make a big difference, while the payment method is definitely more convenient. The conclusion is, unfortunately, the same as in any other Polish segment of sales and services: the purchasing price remains the most important criterion for the average Pole".

However, we can already observe some positive change on the market – there is a growing number of more conscious users, capable of calculating and grasping the fact that it is possible to save money in the long run by purchasing more expensive packs that give them more in-game cash. These packs are paid for using methods different than SMS Premium, and in turn, developers do not have to share so much of their profit with payment service providers. Game developers themselves encourage players to make payments through credit cards and transfers by offering better deals for users choosing those methods, or by highlighting methods different than SMS Premium on the payment pages.

Such initiatives aimed at lowering commission costs paid to service providers are especially important in the case of countries like Poland, where the percentage of paying users is lower than in wealthier markets

The free-to-play segment is not free from the risk of fraudulent practices that happen also with traditional distribution, such as false registrations generated by affiliate networks in the case of the CPL model¹⁵. Fortunately, this problem is becoming less and less common, mainly because of the improving efficiency of security mechanisms, and a gradual shift towards the revenue share model based on the division of player-generated income between the publisher and their affiliate.

More frequently, it is the players themselves who expose producers to income losses through fraudulent behaviours. Western European gamers are especially keen on manipulating payments. Ewa Czwartacka-Roman (Plinga) observes that Polish players are more likely to search for loopholes within the game mechanic, sometimes spending hours trying to make a profit from cheating. They also see nothing wrong in sharing their "workarounds" with the rest of the community.

Michał Miłosz (Gameforge) has similar experience with the peculiar craftiness of the Polish gamers: "Every special initiative or event that we prepare in Poland requires us to read the rules and regulations document five, ten, or even twenty times over. We need to make sure that everything is really clear and straightforward, because the Polish customers love to look for loopholes which would allow them to bend the rules. I remember cases when we used the same rules for Poland that we did for the Western European countries, and then we had to deal with flame wars¹6 started by Polish gamers due to the fact that we penalised unethical behaviours. In a way, they were right, because they were not breaking the rules in the strict sense, but their behaviour was highly dubious morally and ethically".

Tobias Edl (InnoGames) notices a distinct change that has taken place on the Polish F2P market within the past 10 years: "When I was with King, Poland was a negative market for them, we had a very high fraud rate (the highest for all markets) but over the past 10 years the picture changed and I see no difference between Poland and the other European markets".

According to Netta Emanuel (Bigpoint), another challenge is the popularity of the Polish market which results in a big number of developers competing for the best distribution and promotion opportunities: "There are a few partners who can bring a big amount of traffic to games and obviously everyone wants to get their games promoted in the best spots there".

¹³ Landing page – a colloquial term for the registration page of a free-to-play game.

¹⁴ Conversion - in this case the ratio of the number of potential customers who visited the landing page to the number of actual registrations in the game.

¹⁵ Cost Per Lead (CPL) – an accounting model in which the advertiser/publisher pays the ad traffic provider only for the number of leads (e.g. in-game registrations) generated. Related to the concept of online lead generation.

¹⁶ Flame War - a colloquial term for an online guarrel.

CHAPTER 1 POLAND IN THE CONTEXT OF THE GLOBAL VIDEO

When planning their entrance to the Polish market, foreign companies need to decide if they should open a branch office in Poland, hire a Polish employee, or cooperate with a specialised agency. Views on this matter are divided.

Netta Emanuel (Bigpoint) says that a branch office in Poland is not necessary for successful management of a free-to-play business in our country. The German Bigpoint company has never taken that step: "Poland is good to reach, no time difference, everyone speaks English very well and there are many Polish people living in Germany who know the Polish online market and can manage it from Germany". Michael Kuehne (Co-founder of Freigeist Entertainment Network) is of a similar opinion: "My answer would be ,No'. From a localization, community support and a marketing perspective the idea of running the business locally does make sense. However, speaking for German companies and due to the closeness of the market to Germany, it seems by far easier to employ Poles in Germany and manage all the tasks from Germany".

He recommends employing Polish specialists in Germany, and cooperating with Polish companies only for localisation and community support services, in order to minimise the business risk related to the low percentage of paying players.

"Although the Polish market size is among the top markets in Europe from a user base perspective, the monetisation remains on a lower level, which makes running an office and employees in Poland less effective", says Michael Kuehne (Freigeist Entertainment Network).

"Publishers in general only tend to open up subsidiaries in markets that bear either a certain minimum of target group (population) combined with a minimum of buying power (markets like Germany, France, UK) to reduce the business risk".

Marcin Marzęcki (Kool Things) is of a different opinion: "If we care about the quality of customer service and a good adjustment to the needs of the local market, I think it is important to hire people who live in the target country. This not only about the language barrier (...). I believe that a Pole living in Poland will understand the specific needs of the customers and the market itself better than a Pole living in Hamburg. Please note that many foreign companies from the F2P segment (and others as well) have representatives who reside in Poland, or even local branch offices. Some of them also collaborate with specialised local agencies like Kool Things".

An indirect solution seems to be the employment of a Polish expert in the country where the company is seated, or in Poland – without the need to open a new office. According to Sergey Sholom (Datcroft Games), a branch office in Poland is not a necessity, but having local specialists supporting the development of the business proves very important.

As stressed by Ewa Czwartacka-Roman (Plinga): "(...) It is very good for a German company to have employees from Poland – not only for language-dependent tasks like community support or technical assistance, but also for the business benefits. The language barriers are practically non-existent by now, but the needs, demands and expectations of Polish business partners are still best understood by their compatriots. The general aim is to establish a good relationship, which is easier and faster for people using the same culture code. Every company entering the Polish market can benefit from having a Polish-speaking employee".

One of the characteristic traits of the Polish gaming community is the distribution of in-game traffic during the day. The players are very active in the early morning, from 6:00 a.m. up to 10:00 a.m., depending on the genre. Another peak hour is 4:00 p.m. – just before the end of the standard workday. In countries like Germany or the Netherlands, the distribution of traffic is very different. Understanding the typical behaviours of the players is vital when planning special in-game events or promotional offers in which the users can receive virtual currency. Promotions influence player retention¹⁷ and monetisation of the game. The observations on the daily distribution of player activity suggest that F2P games are often played at work. This theory is further supported by the data on the typical Polish gamer: a person with secondary education, working full-time, and aged under 35.

Another challenge for foreign companies on the Polish market is the confrontation with the Polish accounting and settlement policies. One especially inconvenient aspect for free-to-play developers from other countries is the so called withholding tax. In the case of cooperation between a foreign company and a Polish firm, it is necessary to deliver a certificate of tax residence. If an up-to-date certificate is unavailable, the Polish tax-payer is obliged to collect a flat-rate withholding tax, meaning that the invoice for the contracting party would be diminished by up to 20%. A certificate of tax residence makes it possible to lower the amount of tax resulting from an international contract e.g. to 5%.

¹⁷ **Retention in games** – one of the more important percentage ratios used in the video game industry. Denotes the number of players who continue playing the game after a certain period of time (e.g. one week, one month)..

POLAND IN THE CONTEXT OF THE GLOBAL VIDEO

Social network games

Free-to-play games available at social network portals such as Facebook or its local counterparts (nk.pl – formerly Nasza Klasa – in Poland or Odnoklassniki.ru in Russia) require a separate commentary. In this type of play, games are launched directly on social media websites, basing on the so called "social graph"¹⁸. The most popular types of social network productions include farming games, strategies, puzzles, sports and racing games, shooters, and platformers. The spectrum is very broad, but all the genres share certain common characteristics: they can be played for free, they offer micro-transactions (payment for additional items), and they are simple – both to play and to develop. Example titles in this segment are: FarmVille, Mafia Wars, Zynga Poker, Family Barn, Avataria, Angry Birds.

In the case of social network productions, especially farming games, the key to success lies in quality localisation. Ewa Czwartacka-Roman (Plinga), who works for the company that introduced games such as *Family Barn* and *Klondike* on the Polish market, adds: "(...) As we know, farming games do not have complex storylines, but they offer hundreds of items¹⁹ (from fertilisers, through all kinds of fruit and vegetables, to agricultural machinery) that would require an average user who does not speak perfect English to play the game with a dictionary open at all times.

That way, the game would lose much of its appeal. After all, it should be about pure fun, not having to flick through a dictionary in order to complete a mission".

Social network games generate an annual global income of about USD 7.5 billion. The most profitable market is Asia (USD 2.9 billion per year) – despite being already saturated, it has experienced growth of over a dozen per cent in the past year. In Poland, the revenue of the social network game segment is estimated at ca. PLN 200 million per year, which corresponds to 12% of total market value. According to the "Eastern Europe's Digital Games Market 2014" study, the average period of time for which the user keeps playing one social network game is about 4 months, both in Poland and in the whole Eastern Europe. At the same time, Poles play this type of games much less frequently (about 12 times in a month, with an average play session lasting 2 hours) than Russians (22 times a month, with 2.5-hour sessions).

Mobile games

Smartphones and tablets have made games more accessible than ever before. We can now play our favourite titles in every situation. Playing on a mobile device has become a valid way of spending time that would be "lost" anyway – like commuting or waiting for a doctor's appointment.

According to the "Polish Gamers 2015" study, mobile games are currently the second most popular game category in Poland, and they are more popular among women. Poles are especially keen on playing mobile versions of puzzles (62%), action games (35%), card and racing games (23%), and strategies (20%).

72% of Polish mobile gamers choose this type of entertainment for the sole reason of "killing time", which influences many aspects of the mobile game business. Games in this sector are characterised by low customer loyalty and short periods of usage, which makes it difficult to maintain monetisation levels similar to those reached by free-to-play titles. Moreover, the Polish mobile market is dominated by games for the Android operating system (more than 85% of all titles). In Asia, Western Europe and the United States, there are more users of iOS-based devices (iPhones and iPads), who are likely to make more expensive purchases.

The estimated value of this segment on the Polish market for 2015 is over PLN 260 million (more than 15%). According to the forecasts, the revenue generated by video games will exceed PLN 320 million by 2017, reaching a total market share of 17%.

The experts have one advice for developers planning to enter the free-to-play mobile game business: their primary target should be English-speaking countries, not Poland. However, this recommendation does not apply to the browser game segment.

As suggested by Bartłomiej Nowakowski (Ten Square Games): "In the case of mobile games it is best to focus on the United States, but when it comes to F2P browser games, the target should definitely be Europe. Poland is a very good country to start in, for several reasons:

- 1. We are one of the few countries in Europe with a local social network allowing users to add games (nk.pl).
- 2. The cost of acquiring new users is relatively low.
- 3. We have very good online payment systems (credit cards, money transfers, SMS).
- 4. Polish developers can cooperate with horizontal portals on attractive (initial) terms".

¹⁸ Social graph – a complex set of information on users and their interests in relation to their friends on a social network portal.

¹⁹ Item – a virtual object in a game.

POLAND IN THE CONTEXT OF THE GLOBAL VIDEO

By 2017, global market share of mobile games will reach 35%, its total value amounting to USD 35 billion. The development of the mobile market forces video game producers to take the mobile segment into consideration while planning their product strategies.

"In the course of the next two years, the market will continue to shift toward a greater significance of mobile applications – a change that we can already observe", Ewa Czwartacka-Roman (Plinga) summarises.

Michael Kuehne (Freigeist Entertainment Network) points to the costs of introducing mobile games to users who are not easily monetised: "Certainly the proportion of mobile gamers will rise a lot in the coming years, and to my mind this will mainly be driven a lot by developing countries (...). This being said, users from developing countries are unlikely to spend the same amount of money via in-game micro-transactions as users nowadays in the developed countries (...). Supporting such a large new user base technically will however boost technical infrastructure costs at the same time. This will make publishers re-think their monetization strategy. In this regard additional monetization via advertising revenues will become much more relevant than in-game transactions. This in turn means that the overall game mechanics and balancing has to be different from the free-to-play games we know today".

Michael Kuehne (Freigeist Entertainment Network) is sceptical about the supposed levelling of conversion rates (registered to paying players ratios) between mobile and traditional games, based only on transactional revenue, without considering the advertising income: "Higher engagement and activity level in online games usually is paired with higher engagement in clans²⁰ and alike, which require a lot more effort (time=money) to participate and hence drives the user's lifetime value. (…) The experience shows that users are more loyal to Online MMOs – it's not an entertainment *«in-between»* like mobile apps are being used".

The experts stress unanimously that despite the inherent business risk, game developers must not neglect the mobile sector. One of the possible strategies is the development of cross-platform games (playable both in an Internet browser window and directly on smartphones and tablets). Netta Emanuel (Bigpoint) adds that "casual games make probably more sense mobile only with a possibility to play from a browser. For core games it would rather be the opposite, whereas midcore games could be perfect for cross platform".



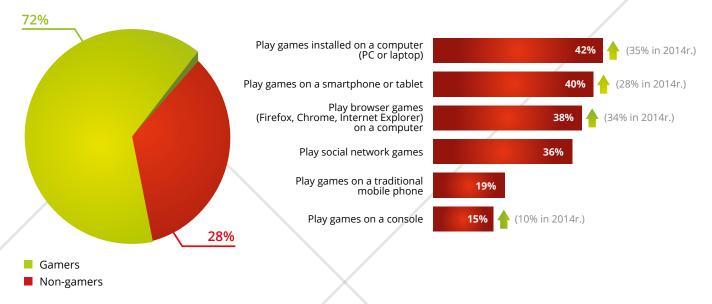
²⁰ Clan – in online gaming, a community of players sharing a common name and undertaking various group tasks together, such as completing missions or battling (or cooperating) with other clans.

THE PROFILE OF THE POLISH GAMER

If we compared the image of a typical gamer from a dozen or several years ago with the current perception of a fan of electronic entertainment, we would notice an enormous shift in opinions regarding this ever-expanding group. Things that used to be considered suitable only for children are growing more and more popular today, becoming part of our culture. We can attribute this change in perception to several elements, such as marketing strategies employed by developers, big gaming trade fairs, or even the growing availability of various gaming platforms. All these initiatives increase the social acceptance of this form of entertainment, and the growing popularity of mobile devices, which are used by almost everyone, makes games a part of our everyday landscape.

However, it does not mean that the gamer community is homogeneous. The fact that it is continuously expanding makes it more important than ever before – from the perspective of both business and production – to determine the users' precise preferences in all the different categories. It is with this idea in mind that the "Polish Gamers" series of studies have been conducted since 2014 by the Kraków Technology Park, the Onet Group, and GRY-OnLine.

2.1 How many gamers are there among the Polish Internet users?



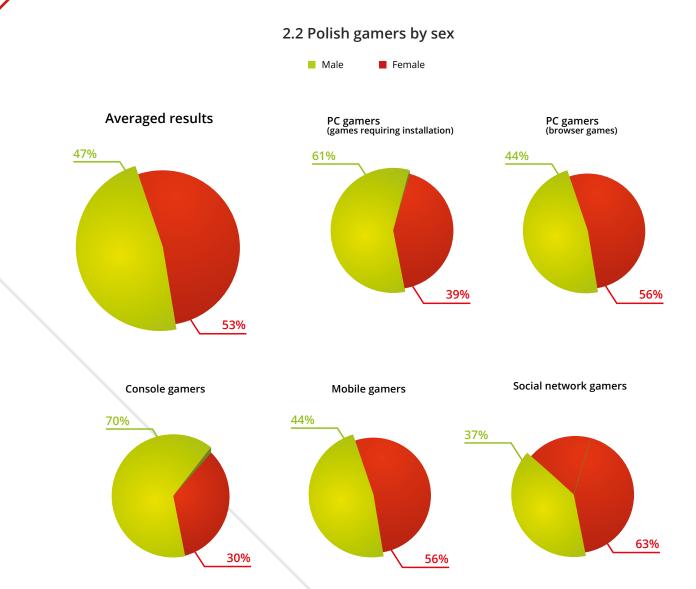
Source: compiled on the basis of the "Polish Gamers 2015" study results

Games have become mass entertainment in Poland. 72% of Polish Internet users are gamers.

Last year, the percentage of gamers among all Polish Internet users amounted to 60%. This year's results show that the upward trend continues. Currently, as much as 72% of all Internet users play video games, meaning that the number rose by 12% in only one year. This progress can be observed in virtually every category. 42% of respondents claimed to play games that require installation on a computer (a 7% increase compared to last year). Also the mobile game segment welcomed many new players (40% vs. 28% last year).

Browser and console games have experienced a slightly smaller influx of new players (34% to 38% and 10% to 15% respectively). As much as 36% have played titles belonging to a category debuting in the classification – social network games. Interestingly, every fifth Pole still plays games on an older type of mobile phone, not supported by newer productions. The results prove that our gaming community is still mostly used to playing games on PCs and laptops. Despite the progress visible on the console game market, Poland still falls far behind the wealthier countries where the sales of Sony, Microsoft and Nintendo console titles are much higher than the sales of PC games. This results primarily from the high prices of console productions in Poland, and a smaller number of free games that are fairly easy to find in the case of PCs or laptops. Another important factor is the computer being a more multi-purpose device that is often obtained for the whole family.

CHAPTER 2 THE PROFILE OF THE POLISH GAMER



Source: compiled on the basis of the "Polish Gamers 2015" study results

As of 2015, there are more female than male gamers. 53% of Polish players are women.

While the results obtained in last year's study corresponded to the stereotype of games being more popular among the male population (57% of gamers among the Internet users were male as of 2014), the situation has shifted by now. Contrary to popular belief, gaming is now dominated by women – they constitute 53% of all players. This change results primarily from the inclusion of social network games in the study.

The number of users of websites such as Facebook or nk.pl (and, by extension, of games offered on these websites) is continuously growing. The natural consequence of this is the increasing popularity of electronic entertainment among women – even if they do not spend great amounts of time playing. Women constitute 63% of all people playing Internet games available at social network portals. They are also in the majority when it comes to browser and mobile games.

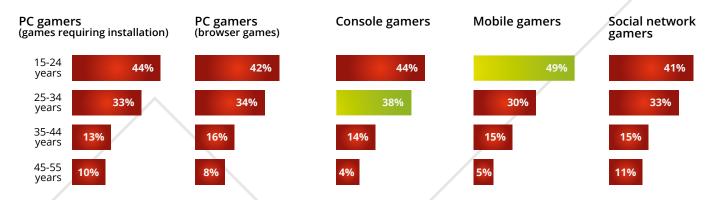
THE PROFILE OF THE POLISH GAMER

2.3 Polish gamers by age (averaged results)



Source: compiled on the basis of the "Polish Gamers 2015" study results

2.4 Polish gamers by age (divided by platform)



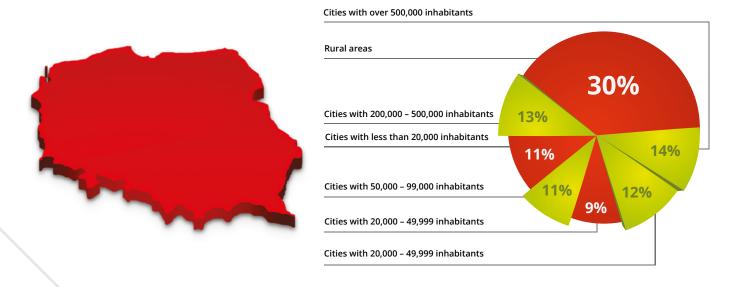
Source: compiled on the basis of the "Polish Gamers 2015" study results

43% of Polish gamers are aged 15-24. The second biggest age group are people between 24 and 35. The percentage of gamers among the 35-44 and 45-55 age groups is lower, but their number has increased significantly since 2014.

As far as age is concerned, the majority of gamers are still young people. 43% of respondents were between 15 and 25 years old, i.e. at the stage which is usually the time of education. People aged 25-34 followed close behind – they currently constitute 32% of all game-playing Internet users, and their number has not changed much since last year (33%). The number of players aged 35-44 and 45-55 is significantly lower, amounting to 16% and 19% respectively. Each of the five platforms is dominated by gamers from the youngest group of respondents.

Their predominance is especially noticeable in the mobile segment, where they constitute 49% of all players, leaving the 25-34 age category 19 points behind. In the remaining segments, this difference usually amounts to several per cent. Gamers aged over 35 come last in the ranking, but it is important to stress their considerable interest in PC and social network games.

2.5 Polish gamers by place of residence



Source: compiled on the basis of the "Polish Gamers 2015" study results

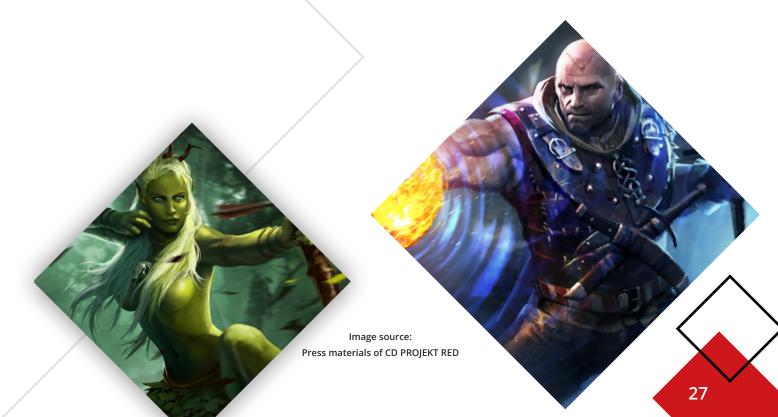
Gaming is the most popular among the inhabitants of small towns and rural areas.

The disparity is much less noticeable when it comes to the classification of players according to their place of residence. The results are congruent with the information gathered in the previous year, although we can notice some some minor percentage oscillation. Once again it turns out that the majority of game-playing Internet users live in rural areas. This group constitutes about 30% of all respondents (a 1% increase). The discrepancies between the remaining groups are rather small.

14% of playing Internet users are residents of cities with over 500,000 inhabitants. Gamers living in cities with a population of 200,000 – 500,000 follow close behind: they constitute

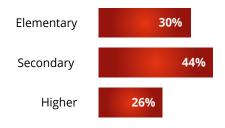
13% of the whole community. The next three population thresholds (less than 20,000 inhabitants, 20,000

- 49,000, and 50,000 - 99,000 inhabitants) gather a total of 11-12% of all gamers. The smallest number of respondents (only 9%) live in cities with 100,000 - 199,999 inhabitants.

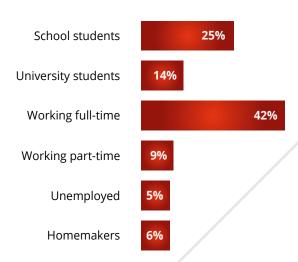


THE PROFILE OF THE POLISH GAMER

2.6 Polish gamers by education



2.7 Polish gamers by occupation



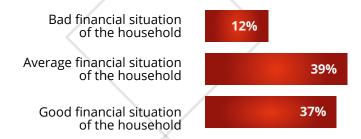
Source: compiled on the basis of the "Polish Gamers 2015" study results

The majority of gamers work full-time and have completed at least secondary education.

As far as the gamers' education level is concerned, there have been no surprising changes since last year. It is worth noting that the number of players with only primary education has been on the decrease (30% this year). At the same time, the percentage of university graduates has risen by 6 points (currently 26%). The number of people with secondary education has not changed much since last year (44%). The results, while not groundbreaking, show that games are gradually becoming popular among people who used to not be associated with this type of entertainment. Video games have long ceased to be the domain of

school students. This is also visible when analysing the occupations of the respondents. This classification is dominated by people working full-time (42%). School students (25%) and university students (14%) are definitely smaller groups. Games are the least popular among the unemployed (5%) and homemakers (6%).

2.8 The financial situation of the Polish gamers



Source: compiled on the basis of the "Polish Gamers 2015" study results

The results above are strictly related to the financial situation of the Internet users, which has much improved in comparison with last year's results. As much as 37% of respondents now claim to be in a good financial situation, while 39% are are somewhat satisfied.

In the former case, the number of gamers who chose this answer rose by 10% in the course of a year. Only 12% of respondents perceive their financial circumstances to be bad. The noticeable increase in the general wealth of gamers is obviously good news for the developers. With higher salaries and an improved standard of living, Poles are more likely to spend bigger amounts of money on various types of games. Average expenses on one-time purchases have increased considerably. This will be described in more detail later in the report.

THE PROFILE OF THE POLISH GAMER

As far as sources of obtaining games are concerned, most people download free titles on the Internet and order boxed editions at online stores. Due to the increasing significance of smartphones and tablets, there is also a growing group of players who download their games

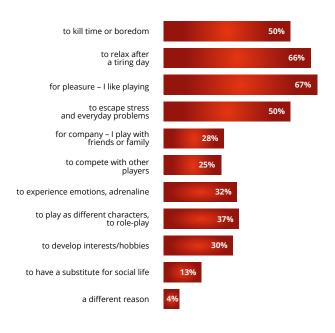
from Google Play Store or App Store. Interestingly, only 13% of respondents utilise illegal distribution channels, which is 5% less than registered in last year's study.

PC gamers (games requiring installation)

The majority of players who prefer PC games requiring installation are male (62% of respondents). Not surprisingly, as much as 42% in this group are people aged 15-24. Their main motivation for choosing this form of entertainment is simple: they just like playing games. This was the answer given by 2/3 of respondents. The second most popular reason is relaxation. About a half of the gamers also claimed to play games in order to kill time or de-stress. Other popular answers included the possibility to play the roles of new characters and experience a rush of adrenaline. It is also worth noting that the dominant type of gameplay on this platform is still single player²¹. As much as 43% of respondents choose this mode, but the result remains in close correlation with the type of games that are dominant on PCs.

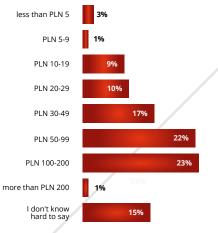
Those are usually strategies and RPG²² (43% each) which are mostly based on single-player gameplay. Other popular genres include shooters (a large part of players prefer using a mouse and a keyboard in FPS²³ games), simulators, and action titles. Sports, economy, and farming games fall far behind.

2.9 Motivation for choosing PC (games requiring installation)

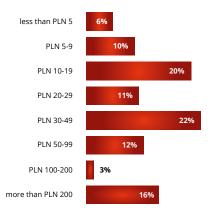


Source: compiled on the basis of the "Polish Gamers 2015" study results

2.10 Average single expenditure on PC games (requiring installation)



2.11 Average single expenditure on add-ons to PC games (requiring installation)



Source: compiled on the basis of the "Polish Gamers 2015" study results

²¹ Single player – a type of gameplay in computer games, designed for only one player.

²² RPG – role-playing games. A computer game genre characterised by complex character statistics and a multifaceted storyline. Some of the subtypes of RPGs include turn-based games, action RPGs with dynamic real-time combat, and jRPGs - characteristic productions with themes derived from the Asian culture.

²⁹ FPS – first-person shooter. A genre of of computer games, with gameplay basing on combat with the use of firearms. The player sees the game world through the eyes of their character (first-person perspective)

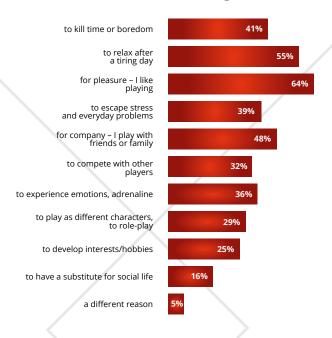
THE PROFILE OF THE POLISH GAMER

For people playing PC games that require installation, the preferred form of payment for new titles is a personal transaction at a traditional store. This answer was chosen by over a half of the respondents, meaning that the traditional transaction involving instant payment and retrieval of goods is still the most trusted method. Internet transfers proved to be 10% less common, and were followed closely by payments involving express transfers (offered by such providers as PayPal or PayU). What is interesting, the latter form is becoming increasingly popular. Reasons for this can be sought e.g. in the improved safety of the whole transaction procedure. Considering the finances, it seems important to also pay attention to the amount of money spent on particular games. The players in this category are most often prepared to spend PLN 100-200 (release day price)

on a single title, as admitted by 23% of respondents. 22% stated that their target amount remains within the boundaries of PLN 50-99, which may mean that they generally do not buy games near the release date, instead waiting for their desired title to become available at a discount or enter the back catalogue. A positive tendency (from the publishers' perspective) can be seen in the fact that there is only a very small percentage of people who declare they would not spend more than PLN 10 on a game – amounts lower than this were selected by a mere 4% of the respondents.

Console gamers

2.12 Motivation for choosing consoles



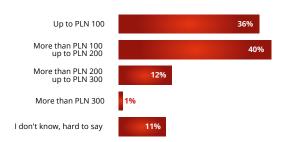
Source: compiled on the basis of the "Polish Gamers 2015" study results

Despite the fact that the Polish console market has never been very well developed, more and more gamers turn to this kind of platform. This group consists of mostly male players (70% of all console users). Contrary to the situation in Western Europe or the United States, console gamers are a minority in the Polish gaming community, yet their preferences are very similar to those of the foreign players. They are especially keen on playing action, sports, and racing games – at least a half of the respondents declared interest in each of these categories.

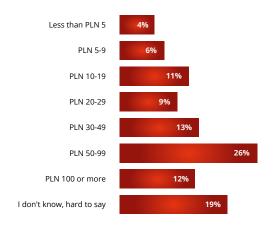
What matters the most for console gamers is fast-paced, dynamic action that titles developed for Sony, Microsoft and Nintendo's platforms tend to abound in. A considerable difference between the users of consoles and other gamers is the former's more frequent use of the multiplayer mode. As much as 72% of respondents tend to choose multiplayer, while 23% play only solo. Unsurprisingly, the dominant age group among console players is 15-24 years. However, because of the higher prices of games, there are also many players aged 25-34 who can afford more expensive entertainment. The costliness of this hobby is also visible in the average gaming expenses of console players.

THE PROFILE OF THE POLISH GAMER

2.13 Average single expenditure on console games



2.14 Average single expenditure on add-ons to console games



Source: compiled on the basis of the "Polish Gamers 2015" study results

40% of the respondents admit that their single expenditure on console games (Xbox, PlayStation) does not exceed PLN 200. In the case of PC-installed games, only 23% of gamers are willing to devote from PLN 100 to PLN 200 at one go.

40% of gamers find it acceptable to spend from PLN 100 to PLN 200 on a single purchase. The answer "less than PLN 100" was favoured by 36% of those asked, while expenditure ranging from PLN 200 to PLN 300 does not pose a problem for 12% of our respondents. 1% declares even bigger sums, which are usually associated with collectors' editions. At the same time, console gamers are eager to buy full-scale add-ons to their favourite franchises. A sum of PLN 50-99 reserved for a DLC is a standard practice in the case of a quarter of console gamers asked in our study, while those who will not pay more than PLN 5 are hard to

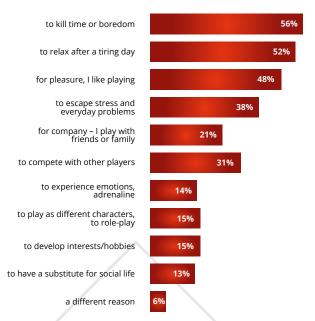
find (only 4%). The fact that consumers are ready to invest more in console gaming can be effectively attributed to the specific nature of this type of entertainment – despite the fact that many people still indicate fun and relaxation aspects as main determining factors driving them to play console games, almost a half of the people we interviewed treat console gaming as a way of spending quality time with their friends and families. In effect, the higher retail price is distributed equally among all the participants.



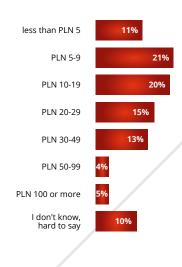
THE PROFILE OF THE POLISH GAMER

PC gamers (browser games)

2.15 Motivation for choosing PC (browser games)



2.16 Average single in-game transaction for PC games (browser games)



Source: compiled on the basis of the "Polish Gamers 2015" study results

In the case of F2P games belonging to the freemium category, both browser and social, the amounts from single micro-transactions are exponentially lower than the price of console or PC boxed games bought in retail. Yet, the overall sum a gamer is willing to splash out in the entire life-cycle of an F2P product can go well beyond the value of a boxed game bought from retailers.

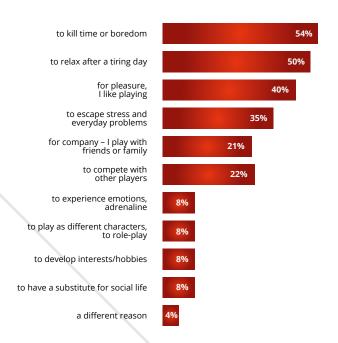
There is a growing group of people who like to play browser games, and it is dominated by female players. Just like in some other cases, the prevailing age group are gamers aged 15-24. Their main motivation to start a game is to kill time (56%) – when you take into account the specifics of browser games (simpler, less engaging), they fit in this model perfectly. Other motivating factors placed high in the ranking are satisfaction derived from gameplay and a chance to relax, let off some steam. One third of our respondents also pointed to the opportunity to compete with other players as a very important factor, which could be a good starting point for those developers who would be willing to experiment with alternative forms of gameplay. While, in general, browser gamers still prefer "puzzle-logic" titles (53%), they also like card games, action games, and strategies, that is the genres where developers can easily implement the PvP mode. The bottom of the popularity ranking is occupied by shooters, sports games and economy-tycoon games which, apparently, do not cater for the specific requirements of this target group. When a player sits down to a browser game, they usually choose single-player mode, although many of them mentioned that they launch the multiplayer mode,

albeit sporadically. The study shows that still only a handful of gamers focus solely on multiplayer, but we need to bear in mind that this trend can largely be attributed to the nature of such titles: either the game does not offer such modes, or they are simply too engaging for a browser gamer. There is a good sign for the future, though. Browser games released on the market are more and more complex and advanced, and this translates into the situation where 61% of browser gamers admit that they play more advanced titles (with 44% focusing exclusively on such titles). What has not changed in recent times is the field of browser game transactions, where SMS is still the dominating form of payment (preferred by 75% of gamers in this category). What is more, if SMS payment is not a valid option in a game, many browser gamers will simply resign from any in-game transactions; this attitude is declared by 41% of our respondents. Still, we cannot forget about other factors that come into play, such as lack of trust in a given form of payment, or the situation where the transaction processes do not match the specifics of the target territory (the question of language or currency). Assuming that a browser gamer's expectations are completely matched in this respect, they are willing to spend a considerable amount of money - it is true that 11% of them still declare less than PLN 5, but we should note that as many as 41% are ready to pay from PLN 5 to 19. A dozen per cent or so will spend from PLN 20 to 29 or PLN 30-49, while 5% are willing to splash out an average sum of more than PLN 100.

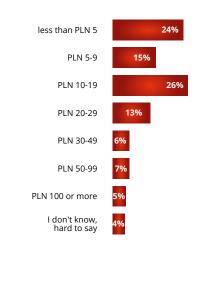
CHAPTER 2 THE PROFILE OF THE POLISH GAMER

Social media gaming

2.17 Motivation to play social games



2.18 Average single in-game transaction for social media games



Source: compiled on the basis of the "Polish Gamers 2015" study results

54% of gamers who use social media, such as Facebook or nk.pl, play to kill time.

Despite the fact that the dynamics of growth of social media are not as steep as they were a few years ago, users are still counted in hundreds of millions, globally. This form of communication has become extremely popular in Poland as well. Consequently, a considerable number of social media users look with a keen eye on entertainment offers found on Facebook or nk.pl. Those platforms present a wide array of genres, from simple arcade games to complex RPGs. Still, the puzzle-logic type retains its position as the first choice, indicated by 43% of respondents. Even though they can be challenging intellectually, they fit right in the process of browsing through the social media platform, as they focus on single-player (mode preferred by almost a half of gamers interviewed) and do not put any time pressure on the gamer. If we have a look at the profile of such users, these will mostly be female players (63%), predominantly young (up to 24 years of age), but it needs to be noted that social gaming is an attractive offer for those aged 35-55 as well (26% of respondents, in total).

Social media gamers do not have any clear-cut preferences in terms of methods of payment. While they will still, most likely, resort to the SMS payment (almost a half of them), they quite frequently choose express bank transfers. A more comprehensive set of payment options translates directly into a smaller percentage of social media gamers who resign from any payment at all due to the inconvenience caused by methods of payment available to them (only 15%).

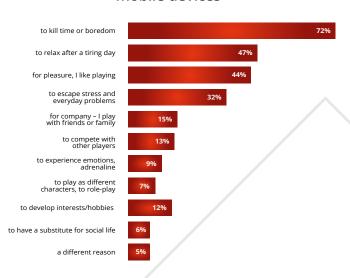
What is quite interesting is the trust that social media services and their e-stores enjoy among their users: only 19% of the social gamers we interviewed admit that they have abandoned the process of payment due to trust issues. On the other hand, though, we need to stress that the sums in question are pretty low in such platforms. Our study shows that the dominating ranges are "less than PLN 5" and "PLN 10-19" (both set at 25%). This tendency is linked with two phenomena: gamers do not feel strongly attached to social media games and they do not spend too much time on them.

THE PROFILE OF THE POLISH GAMER

Mobile gaming (smartphones and tablets)

Currently, smartphones and tablets make up for one of the most profitable and, in consequence, fastest growing market segments. This is evident in sheer numbers of people who are interested in this type of entertainment. We have observed a growth of 12% in the last year, which means that 40 per cent of Polish online gamers stem from the mobile zone. If this trend continues, mobile gaming may become the most popular choice for the players. Touch-screen games are particularly popular with women, although there is not much discrepancy between the sexes in this area (56% to 44% in favour of female users). Since this technology is relatively new, the youngest groups are its biggest aficionados. Hence, 49% of mobile gamers can be found in the 15-24 age group. This platform's phenomenon can be explained by the lifestyle that young people follow; smartphones and tablets accompany them throughout their typical day. Touch-screen devices are both the communication hub and sources of entertainment, an antidote to boredom. Killing time is the main driving force behind launching mobile apps, as confirmed by 72% of our respondents.

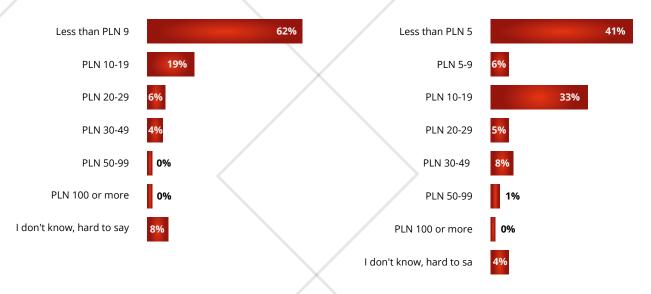
2.19 The motivations for playing mobile devices



Source: compiled on the basis of the "Polish Gamers 2015" study results

2.20 Average single expenditure on mobile games

2.21 The average one-time expenditures for additions to mobile games



Source: compiled on the basis of the "Polish Gamers 2015" study results

THE PROFILE OF THE POLISH GAMER

While sitting on a bus, tram or at a school desk, smartphone owners simply take out their devices and spend a few minutes on a title, just to kill some time, and quickly forget about it. This conclusion is reinforced by their focus on single-player, but also, perhaps most notably, by the types of games which gain vast popularity. In the case of mobile gaming these are the titles that are best-suited for shorter sessions (an ideal example is, of course, Candy Crush), as proved by two thirds of users who claim this would be their first pick. Action games fare much worse, with only 35% of votes, even though in this genre gameplay is also suited for shorter sessions. The only type that can attract attention and hold it for a while longer are strategies (20%), but it should rather be treated as an exception that proves the rule. So, what really lies behind the success of games with a not-so-engaging, short gameplay? Apparently, it is their low price. These are usually single-figure sums and only such amounts can easily leave the mobile gamers' pockets. As many as 61% do not object to spending up to PLN 9 on a single purchase, while one in five is willing to pay up to PLN 20.

Mobile gamers are equally eager to purchase add-ons to their favourite titles and make in-app transactions – 80% of respondents admit that they are ready to spend PLN 5-19. The large percentage of mobile app buyers stems, among other things, also from the way those titles are distributed. A great majority of gamers in this group (82%) will use legal sources only, for instance Google Play Store or App Store. Piracy in the mobile world is virtually non-existent, with only 7% of touch-screen users admitting to having resorted to such illegal practices. What is the underlying reason behind such low figures? It will probably be the fact that pirating on mobile devices requires some in-depth knowledge, so a lot of potential pirates either do not know how to do it, or they think that saving a few zlotys is just not worth the effort.

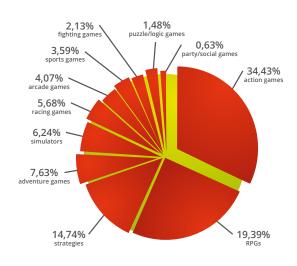
Which games are the most popular among Polish gamers?

In order to supplement this report with additional data, we have also analysed the preferences of GRY-OnLine.pl readers in the period from January to June 2015. This is one of the sources where serious, more engaged gamers search for information about games. This is the target group which can be characterised by their readiness to devote more time and money to gaming. In H1 2015 it was the action games that enjoyed the biggest popularity among users – as many as 35% of total page displays on GRY-OnLine.pl were connected with the abovementioned genre. Role-playing games (placing emphasis on the storyline and development of protagonists), which are the most popular choice with PC gamers, are the runner-up category, but the result here is substantially less impressive, with 20% of total displays generated by content linked with RPG themes. The next position on the podium is occupied by strategy games, with the result of 15%

The unquestionable market leader in the most popular genre (action games) is *Grand Theft Auto* with 2.8% of all GRY-OnLine.pl visits devoted to this title (1.4% for its PC version). The blockbuster from Rockstar, another instalment in a widely recognised franchise focusing on the criminal underworld, was released on PC, next-gen consoles (PlayStation 4, Xbox One) as well as the previous generation of consoles (PlayStation 3 and Xbox 360). What should be noted is the runner-up title in the action games genre, namely *Dying Light* from Techland. This title, whose story unfolds in the open world infested by zombies, boasts a robust 1% of total visits (0.65% for its PC version).

Nevertheless, neither of the titles mentioned above was able to beat the popularity of *The Witcher 3: Wild Hunt*. This role-playing game, released by CD PROJEKT RED on 19 May 2015, generated almost 3% of all page displays (2.1% for the PC version), which is an absolute record. Other titles belonging to the same genre did not fare that well, and their results oscillate around 0.5-1% of all displays. *The Elder Scrolls V: Skyrim* and *Dragon Age: Inquisition* are cases in point. While looking at their results, we also need to bear in mind that they were launched much sooner than *The Witcher 3.*

2.22 Popularity of genres



Source: compiled on the basis of the analysis of web traffic on GRY-OnLine.pl between January and June 2015

On top of a good storyline, one other key feature of all those titles is freedom to roam around and make individual decisions in the same way as in *GTA V* or *Dying Light*. Regardless of the genre, engaged gamers seem to appreciate, above all else, freedom of choice and (seemingly) endless possibilities such games offer. Having said that, it comes as no surprise that we have recently been observing an influx of games which can be loosely categorized as sandboxes. In essence, every single major publisher has such a game in their portfolio.

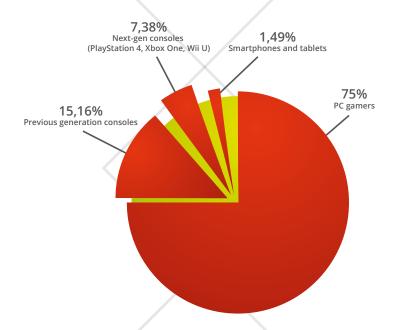
THE PROFILE OF THE POLISH GAMER

Euro Truck Simulator 2, the truck-driving game belonging to the simulation genre, is a little curiosity worth noting here. This game managed to attract a lot of attention, reaching the level of 0.9% of total displays in the period our study spanned. Poles stand out as a nation that really loves simulations of different jobs and specialisations, such as the Farming Simulator series or Car Mechanic Simulator which noted really impressive sales.

All the figures shown above are clear indications as to what type of gameplay Polish gamers look for, a notion further reinforced if we have a look at games which focus on totally different modes of gameplay. Let us take a look at Hearthstone, a worldwide hit among strategy card games targeted at mass audiences. In Poland, its impact is way less impressive, with figures 20 times lower that the attention given to The Witcher game (Hearthstone had only 0.15% of total page hits). The most popular MOBA, League of Legends, fared a little better than that (0.37% of total page hits), but the distance from games mentioned in previous paragraphs is still immense. If this be the case, should we come to the conclusion that Poles avoid these genres and disregard global trends? Not entirely so. For instance, if we investigate deeper into the case of League of Legends, which is currently one of the most popular games generating huge profits for the publisher, we will see that its fans search for information about it in other media sources than classic gaming press. They find suitable material on YT channels or watch live-streamed matches (mainly from Twitch. tv). Furthermore, online games are likely to generate closed communities where communication flows inside dedicated message boards.

The role that websites like GRY-OnLine.pl can play is pretty limited. We can identify certain analogy to LoL in some other popular titles, like Counter Strike: Global Offensive or Minecraft. Both games belong to the industry elite in terms of popularity and profitability, and yet, in our traffic study, they did not even manage to place themselves comfortably in top five games of their genres. This can be explained by the fact that such games attract "casual" gamers who tend to focus on this one title and are not interested in the rest of the gaming world out there. They derive enough satisfaction from first-hand experience with their favourite game, or supplement it with other people's gameplay coverage on YT and Twitch. tv. A similar trend can be observed in the case of mobile legends such as Clash of Clans, the Angry Birds series or Candy Crash Saga, all of them setting unbelievable records of popularity all over the world. These days, few people search for information about mobile games, but in the near future numbers can grow as games gain in complexity. A good case in point will be the recent release of Fallout Shelter (a strategy game focusing on the management of an atom bomb shelter, available on both of the most popular mobile platforms - iOS and Android). It is a clear signal that the ranks of mobile players are joined by battle-hardened, engaged and serious gamers who, as already mentioned, constitute a stable force to be reckoned with, securing good levels of revenue for publishers.

2.23 Popularity of individual platforms



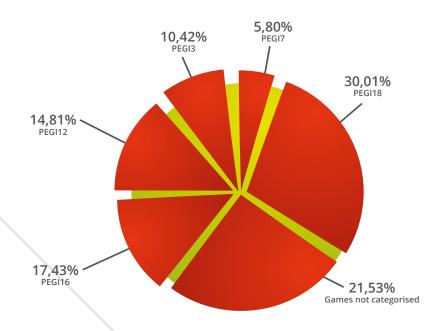
Source: compiled on the basis of the analysis of web traffic on GRY-OnLine.pl between January and June 2015

THE PROFILE OF THE POLISH GAMER

An analysis of platform popularity among audiences who search for gaming information in the media leads us to a handful of interesting conclusions. The unchallenged sovereign is the PC, swallowing 75% of the cake. The next-gen consoles (PlayStation 4, Xbox One, and Nintendo Wii U) are responsible for 7.38% of all page displays, while their previous generation counterparts (including Xbox 360, PlayStation 3, and Nintendo DS) are still way ahead, with 15.15% of the website traffic. Mobile titles generate only a small fraction of traffic, with mere 1.49% of displays.

Looking deeper into those results, particularly the unimpressive figures for next-gen consoles, we need to take two factors into account. First and foremost, the game base on offer is still many times smaller than in the case of previous generation consoles. Additionally, there are still way more units of older consoles under Polish roofs.

2.24 Popularity of games in the context of PEGI rating²⁴



Source: compiled on the basis of the analysis of web traffic on GRY-OnLine.pl between January and June 2015

The last aspect worth mentioning is the popularity of games in the context of their PEGI rating²⁴ (we only counted in the games that were already available on the market, excluding previews and news). Titles targeted at mature audiences (18+) are by far the most popular type among GRY-OnLine.pl visitors, scooping 30.01% of total visits. It seems that gamers choosing this category expect stronger, direct impressions and, more often than others, search for more serious subject matter. Next in line, PEGI 16+ rated games, attract much less attention with just 17.43% of total visits.

The third place is occupied by 12+ (14.81%), while games aimed at kids take up 5.80% (PEGI 7+) and 10.42% (PEGI 3+), respectively. For statistical reasons, we should also note that 21.53% of the traffic is generated by games which have not been categorised by PEGI. What you will find among them are titles available on digital platforms (mainly PC) and all of the mobile titles.

²⁴ **PEGI** – Pan European Game Information. The PEGI system was prepared by Interactive Software Federation of Europe. The system spans the entire European continent and classifies games according to their suitability for audiences of certain age. Currently, it is used in 30 countries, including Poland. The PEGI rating facilitates well-informed purchases. Games are assessed by a panel of experts who take into account aspects such as violence, explicit language, fear, sex, drugs, or gambling. Relevant information in the form of characteristic infographics and the age category (3, 7, 12, 16, or 18) is located on the game box covers.

THE PROFILE OF THE POLISH GAMER

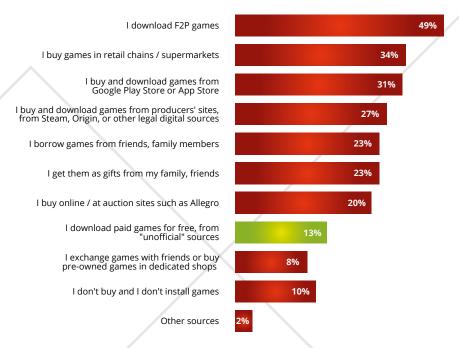
The study summary, crucial data and conclusions

The most crucial conclusion drawn from the study is that a great majority (still growing) of the Polish Internet users describe themselves as gamers. They may play very engaging MMOs, RPGs, or choose simple mobile products, but the common denominator will be the growing amount of time they dedicate to this form of entertainment. The trend is evident, among other things, in the rising popularity of virtually all gaming platforms. And yes, the PC still retains its sovereign position, but mobile devices and social media are gaining momentum and do not fall far behind. The least popular platform are consoles, but even here we have experienced a steep rise, by 50% YTD. Gamers get immersed in virtual worlds to kill time and routine, relax after a day filled with daily duties, or simply – for sheer

pleasure of the experience. The floor is dominated by youngsters, but with a strong representation of the group aged 25-34. It should be noted that, quite in contradiction to the popular cliché, an average Polish gamer is not male. Men make up for less than a half of the Polish players – they are outnumbered by female players, with a 53% share in the gaming community.

As the Polish gamer evolves, their approach and mentality undergo a fundamental change. First of all, there are fewer pirated games acquired from illegal sources. Secondly, the amount a Polish gamer is willing to pay for games and add-ons is constantly rising.

2.25 Sources of new games



Source: compiled on the basis of the "Polish Gamers 2015" study results

13% of respondents in our study admit that they have resorted to pirating games. Users of illegal sources are predominantly found among low-educated males from big cities.

THE PROFILE OF THE POLISH GAMER

When it comes to finalising online purchases, the crucial thing is to adapt the method of payment to the local needs of consumers. Having stumbled upon a deal-breaking barrier such as "payment via SMS is not available for this product", a great majority of potential buyers will abandon the shop basket. What needs to be noted at this point is the great popularity of games based on the F2P model – free-to-play titles are downloaded regularly by almost a half of our respondents, with two-thirds of them having launched a title of this type in recent times. Consequently, F2P developers stand a good chance of monetising their product if they play their cards right in terms of gameplay structure. Another sure shot could be the focus on the single-player mode, as it is still the widely appreciated

form of entertainment on every single platform aside from consoles. It is a strong juxtaposition with global trends, where single-player mode slowly loses ground. We may, as the society progresses, join in the global trends, but even if we don't, the fact remains that positioning, status and the profile of a Polish gamer show great dynamics of change. Our study proves beyond a shadow of a doubt that deeply-ingrained stereotypes ceased to have any real foundation on facts ages ago.

Readers interested in a deeper analysis of the information regarding Polish gamers are welcome to get themselves acquainted with the resentation entitled "Polish Gamers Research 2015".

Those interested in deepening accurate information concerning the Polish players are encouraged to read the presentation of the "Polish Gamers Reaserch 2015".





THE POLISH VIDEO GAME INDUSTRY

Polish games that gained international success

Despite some teething problems, a few obstacles and many flops, in the last few years Poland has consistently worked to gain a status of a country associated with development of widely recognised and acclaimed video games. The third instalment in the Witcher RPG franchise, built around the world created by Andrzej Sapkowski's fantasy books, was released by CD PROJEKT RED on 19 May 2015 and has achieved a gigantic commercial and artistic success, reaching the status of one of the most renowned and best-selling games in recent months, globally. The game has generated revenues comparable to blockbuster movies. *Dying Light*, a Techland game spinning a story of survival in a city infested by zombies, released in the first months of 2015, does not fall far behind. Budgets of both titles were counted in hundreds of millions PLN spent on development and marketing.

The industry is, of course, diversified, divided into smaller segments. Aside from the AAA products, such as those mentioned above, which can be compared to silver-screen blockbusters, there is a wide array of smaller titles, cheaper to develop and market. In this segment, selling a few dozen thousand copies will not only provide return on investment, but also considerable profits. F2P is a model that gains in popularity, particularly on mobile platforms. Developers release their games for free, and then generate income from in-game micro-transactions. The gamer pays, for instance, to speed up their gameplay progress. These are just some of the areas that exemplify the complexity of the gaming market; Polish developers enjoy great successes in virtually all categories the industry has come up with thus far.

Games developed in Poland - the origins

The Polish game-dev scene bumped into several problems in its infancy. Due to political reasons, the early years of IT revolution were seriously hindered, and the industry kicked off later than in developed countries. Many a year had to pass before we managed to catch up with the global level of digitalisation. Even though first personal computers landed on Polish desks in early 1980s, the access to them and to professional literature on programming was very limited. Pioneers who somehow got hold of any hardware tried to form groups, which later utilised the trial-and-error method of learning how to program. The first game to be fully developed in Poland was, according to available sources, *Puszka Pandory [The Pandora Box]*, created by Marcin Borkowski as late as in 1986.

In the years to come, despite horrendous price-tags set on hardware and widespread piracy which seriously jeopardised any actions aimed at gaining profits from game development, a few more projects saw light, among others *Mózgprocesor*, *Robbo* and *Franko*. In mid-1990s, we witnessed some attempts to sell Polish games on a bigger scale, also abroad, but we had to wait all the way until 2004 to see the first real commercial success when Adrian Chmielarz and his studio developed *Painkiller*. It was, in all likelihood, the first moment when the global audiences noticed and applauded a game with the "made in Poland" tag. A few years later, similar success was enjoyed by *The Witcher*, to be followed by such titles as *Dead Island*, *Sniper: Ghost Warrior* and *Bulletstorm*. In the era spanning three decades, the Polish game scene has come a long way, setting off with simple clones of world hits, developed by enthusiasts, to ambitious titles gaining worldwide recognition.

High-budget games (AAA titles)

The most prestigious segment of the video game industry are block-buster titles, the so-called AAA games. They cost dozens or hundreds of millions to develop, while (even more notably) their marketing campaign budgets can even exceed the dev costs. This is especially true for games released by the biggest global publishers. In order to be successful, the objective there is to have a worldwide reach and sell millions of copies. At the same time, this is the most risky segment where one grave flop can land the developer in serious financial ditch. Developers and publishers take this risk, realising that, if successful, they will gain renown and accumulate huge profits. In the last years, three Polish companies have been able to achieve the goal and enter the pantheon of AAA stars.

First in line is Techland, a company that has been specialising in the AAA segment for more than 15 years now. Naturally, the studio has also released a few lesser titles, but it is the most expensive ones that secured them biggest profits. In January 2015, Techland released Dying Light, a game that became the jewel in the crown of this Wrocław-based studio. During the first week only, 1.2 million players launched the game. The figures rose to 3.2 million after a month and a half, soaring to 4.5 million users in May 2015. This is an impressive result, as only a dozen or so titles can count on such commercial success in any given year. Techland can also boast robust sales of Dead Island (2011) and Dead Island Riptide (2013), which had a combined result of more than 7.5 million copies sold. What needs to be stressed at this point is that the rights to publish those two games are held by Koch Media, releasing the game under the Deep Silver brand. With Dying Light, the Wrocław-based studio did not repeat the mistake: even though they secured a worldwide publisher (Warner Bros), they retained intellectual rights to keep the brand. There is one more IP coming from Techland that gained recognition - it is the Call of Juarez series of four instalments that have sold more than 3 million copies in total.

The next Polish studio creating high-budget titles is CI Games. Its biggest commercial success to date has been *Sniper: Ghost Warrior*, which debuted in 2010 and sold 3 million copies. Its sequel, *Sniper: Ghost Warrior 2*, was received with less enthusiasm and only managed to reach the sales of 2 million copies.

Another title from the Warsaw-based studio, *Lords of the Fallen*, received good notes from the media and gamers, and had quite satisfying sales. Because of its high level complexity, the game was directed at a narrower group of gamers, but managed to convince 900,000 buyers in the six-month period following its release in October 2014. The title derived its concept from the popular *Dark Souls* series whose main characteristic was indeed challenging gameplay. This approach is rarely exploited by developers of RPGs, and CI Games perfectly used it to its benefits.

Nonetheless, the biggest success has been enjoyed by CD PROJEKT RED. *The Witcher: Wild Hunt*, released in May 2015, has been one of the most anticipated titles this year, and perfect execution of the final game paved the way from great expectations to gigantic commercial success. This role-playing game, based on Andrzej Sapkowski's novels, had as many as 1.5 million pre-orders. Within three months following the launch, it sold 6 million copies. The result stems from the combination of a few crucial factors: popularity of earlier instalments, the game's quality and a conscious policy pursued by CD PROJEKT RED, which is perceived as a gamer-friendly studio. The two other of *The Witcher* saga games have sold more than 8 million copies since the first one's debut in 2007.

Both CI Games and CD PROJEKT RED are publicly listed on the Warsaw Stock Exchange. Their commercial successes, topped with a positive opinion about the entire Polish game-dev scene, have translated into a considerable rise in the price of their shares in the last months.



Low-budget games

The low-budget segment is characterised by smaller production costs and bigger competition. Owing to the fact that such products are turned out in larger numbers and they cannot attract the gamers' attention in the way the AAAs do, huge financial success is a rare occurrence. On the other hand, however, the very fact that budgets are substantially lower means that it is enough to sell a dozen thousand copies in order to break even financially. There are exceptions, though, when low-budget games manage to sell almost as well as blockbusters. If this happens, low production costs mean multiple return on investment.

To give a good example, let us have a look at *This War of Mine*, a game released by 11 bit studios in November 2014. This unique title, telling a story of a group of war survivors, cost EUR 500,000, broke even within two days from launch, and then accumulated the profit of EUR 3 million in six months. According to the unofficial data gathered by Steamspy. com, TWoM was bought by over 500,000 PC owners. The result in sheer

numbers may be not as impressive as in the case of *The Witcher 3*, but if we take into account the lower production costs, then the perspective changes and the success of *This War of Mine* seems to be much bigger. 11 bit studios is publicly listed on NewConnect (part of the Warsaw Stock Exchange), a trading floor for new and innovative companies with big dynamics of growth.

Another indie title to achieve considerable success was *The Vanishing of Ethan Carter*, an adventure game and the first release from The Astronauts studio founded by Adrian Chmielarz, an industry veteran. In early June 2015, nine months after the debut, we were informed that the game sold 250,000 copies, the success further reinforced by a prestigious BAFTA award for the most innovative game of 2014.

F2P and casual games

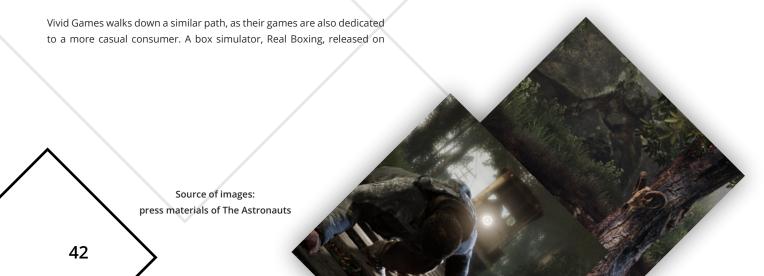
We have established before that there are gamers who describe themselves as serious, hard-core players, but there is another notable group who launch certain titles, but do not feel any strong attachment to them, or the electronic entertainment in general. For these people, a game is just a good addition to run simultaneously with other daily activities. They usually choose free-to-play products where the monetisation model is based on ad displays or small-amount in-game purchases made in order to speed up certain gameplay processes, like buying artefacts to advance to the next level.

Such distribution models are especially popular on mobile and social media platforms (Facebook or nk.pl, formerly known as Nasza Klasa). One of the companies that managed to find a perfect niche within those platforms is Artifex Mundi. For quite a few years now, this developer has been releasing simple hidden-object adventure games targeted at casual audiences. Their titles, just to mention the Grim Legends and Time Mysteries series, may be disregarded by hard-core gamers, but enjoy a considerable, faithful fan base of their own. This results in a situation where a company which is not so widely acclaimed is at the same time one of the most stable dev studios on the video game market.

App Store in November 2012, achieved a notable success, soon to be followed by the games' ports to other platforms, both mobile and desktop. The game attracted 23 million gamers – such impressive figures allowed the studio to stabilise its position on the market and release a new IP in late 2014. This time around, it was another title set in the era of Greek mythology, an action game entitled *Godfire: Rise of Prometheus*. Even though it was no match for *Real Boxing* in terms of popularity, a few million downloads can still be described as a successful outcome. It is worth noting that Vivid Games is publicly listed on NewConnect.

iDreams is another example in the successful category. Up until June 2012, this studio's various titles had been downloaded more than 25 million times, and developers from Gliwice have created many more products since then, including *Sky Force 2014*, an anniversary celebration of their most popular game (5 million downloads on the Android platform alone).

Finally, we must mention Ten Square Games from Wrocław, another representative of the F2P segment. Their major release, *Let's Fish*, a fishing game based on very simple mechanics, is the most popular game of this type in the world, boasting an amazing number of more than 30 million gamers, mainly from Eastern Europe.



Specialisation, a key to success

The three major types of games can further be subdivided into smaller categories, taking into account elements such as console gaming, products available in social media, or with a monthly subscription fee. Among players themselves, the prevailing mode of division is based on gameplay type criteria - what really matters to them is the genre. In other words, they want to know if it is a racing game, an RPG, or a strategy. Our original approach to categorising in this report serves another purpose, namely putting emphasis on one crucial, yet not-so-apparent phenomenon. Poland can take pride in a lot of successful game-dev projects, but they are not limited to the most famous and expensive titles. The growth of the electronic entertainment industry necessitates certain specialisation and many Polish studios seem to be perfectly capable of making the most of it. Sometimes, a handful of people with no previous recognition and limited budgets can make it big in the world. Naturally, the scale of success cannot be compared to the cases of The Witcher 3 or Dying Light, but if we do some math and calculate the levels of return on investment,

those feats are by no means inferior to what CD PROJEKT RED or Techland have pulled off.

The Polish game-dev scene has achieved notable successes in all of the major gaming industry segments and forecasts for the future look optimistic. According to unofficial estimations, there are approximately 150 game developing studios active these days. Obviously, not every single title produced here can be labelled as an exceptional piece of work. Failures are in fact more frequent than success stories, but this is a global trend. Still, the percentage of completed, well-received titles is higher than in other countries. The Polish game-dev industry is doing much better than the movie or music business which have struggled in recent years to turn out products that would be widely acclaimed all over the world.



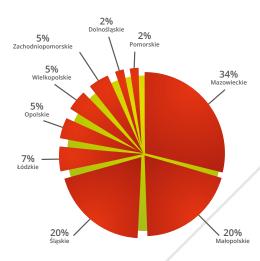
Source of images: press materials of 11 BIT STUDIOS

THE POLISH VIDEO GAME INDUSTRY

Polish GameDev 2015 - current state of play

3.1 Voivodship where companies are located

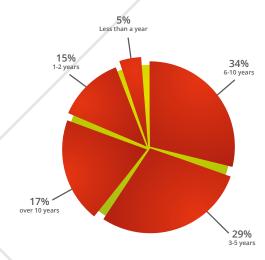
If we have a look at the geographical positioning of game developers in Poland, we will realise that there are three dominating ones: mazowieckie, śląskie, and małopolskie (Mazovian, Silesian, Małopolska). In the case of the remaining regions, we can only speak of a handful or individual companies.



Source: compiled on the basis of the "Polish GameDev 2015" study results

3.2 How long has the company been on the market?

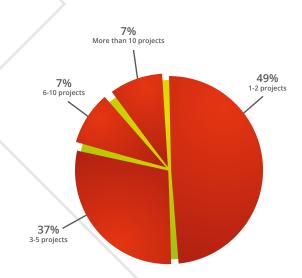
It is worth noting that the industry is stabilising. As many as 80% of the companies have operated for more than 3 years, and only 20% have been working for less than 2 years. If we set this data against a historical background – in past years this industry segment was very turbulent – it seems that we can speak of a great achievement in this respect.



Source: compiled on the basis of the "Polish GameDev 2015" study results

3.3 The number of projects in development

Companies are usually focused (49% of them) on developing 1-2 projects at the same time, while only 7% have the capacity to run 10 projects simultaneously. Interestingly, as many as 37% are working on 3 to 5 games right now.



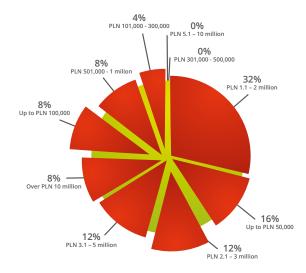
Source: compiled on the basis of the "Polish GameDev 2015" study results

THE POLISH VIDEO GAME INDUSTRY

If we compare the current state with data from the past, we will notice a substantial improvement in terms of funding for game development (the so-called game budgets). Currently, more than 8% of studios can dedicate more than PLN 10 million, which is a growth of 6% YTD. A growing percentage of studios have budgets of PLN 2 to 5 million; this is true in 24% of cases. At the same time, we have observed a drop in low-budget projects, where only PLN 100,000 to PLN 300,000 can be reserved for development. Finally, a notable ratio of companies (16% of them in fact) declares a budget of up to PLN 50,000.

At this point, we should investigate how budgets are distributed, that is how much money needs to be devoted to programming, and how much to the QA testing, production, distribution, and promotion phases. We have asked those questions but most of our respondents left them unanswered, justifying their decision with confidentiality of such business data. Maciej Miąsik from Pixel Crow was the only one to disclose some information: "It cannot be clearly defined, as every project is different, and so are the developers that run them. It is rumoured that *The Witcher 3* has a marketing budget that exceeds production costs, while the reality of most of the studios is completely different – they have just a fraction of the sum devoted to publicity, and sometimes no money for marketing at all. The QA testing costs vary, depending on the complexity of your project and the number of platforms the game will be launched on".

3.4 Total, the indicative budget planned games



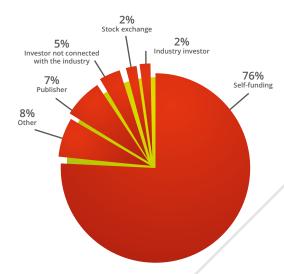
Source: compiled on the basis of the "Polish GameDev 2015" study results



THE POLISH VIDEO GAME INDUSTRY

3.5 Financing a company

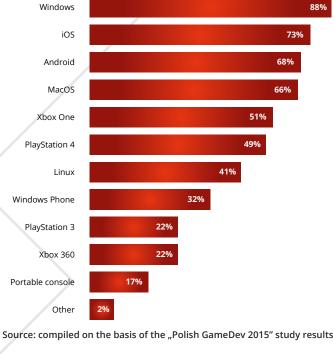
We have shown by now that the financial model prevailing in Poland is self-funding (76%), which can be perceived as a token of strength of Polish game-dev studios. Financing comes from the money those companies have previously earned from other projects released on the market. Presently, very few companies resort to floating. There are only two companies listed on the main floor of the Warsaw Stock Exchange, namely CD PROJEKT RED and CI Games. NewConnect, in turn, hosts companies such as 11 bit studios, Vivid Games, Bloober Team, The Farm 51, or Forever Entertainment.



Source: compiled on the basis of the "Polish GameDev 2015" study results

3.6 Platforms chosen by game-dev companies

The data shown in the chart indicate a notable growth of Windows as a target platform for games. When we asked the same question last year, only 41% pointed to Windows, while this year as many as 90% of our respondents admitted they developed games for Windows. A similar rise has been enjoyed by iOS, with the change from 33% to 73%. The next in line is Android with 68%.



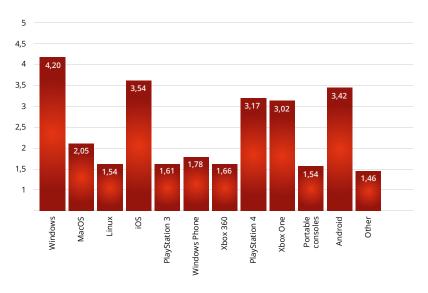


Source of images: press materials of Flying Wild Hog

THE POLISH VIDEO GAME INDUSTRY

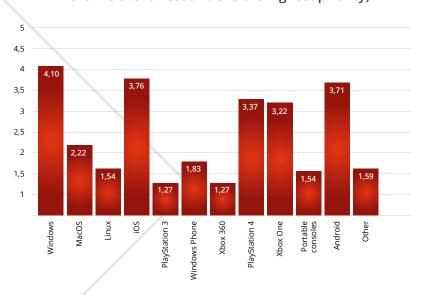
Next, we asked the representatives of the developers to assess the following:

3.7 Assess those platforms in the context of their importance for your current projects (average score, where 1 is the lowest and 5 is the highest priority)



Source: compiled on the basis of the "Polish GameDev 2015" study results

3.8 Assess those platforms in the context of their importance for your future projects (average score, where 1 is the lowest and 5 is the highest priority)



Source: compiled on the basis of the "Polish GameDev 2015" study results

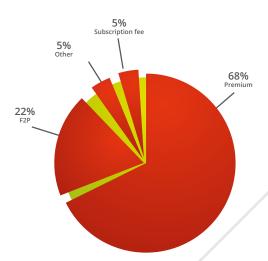
Comparing this year's data with what we saw last year, we will notice an expected drop in the importance of previous generation consoles in the context of current projects, which is compensated by a slight rise in the notes given to PS4 and XONE (3.17 and 3.02, respectively, as opposed to 2.75 last year). It is only natural that the old consoles are even less important when it comes to future projects. MacOS and Linux are two more platforms that do not get much focus from game-dev companies, and

their scores continue to drop. The podium is taken by Windows, iOS, and Android. Speaking of mobile platforms, it needs to be emphasised that Windows Phone has lost some of its charm and was given lower scores than last year (a drop from 2.46 to 1.78), which could mean that it is not very attractive from the business point of view.

THE POLISH VIDEO GAME INDUSTRY

3.9 Most profitable business model in the context of your game-dev projects

The study shows that Polish game-dev companies still rely heavily on the premium model (68%), an interesting observation if we remember the global trends. This could be explained by the fact that it is much safer than the F2P model (22% of votes) and requires less money in the process of acquisition (funds needed to attract more players to your game).

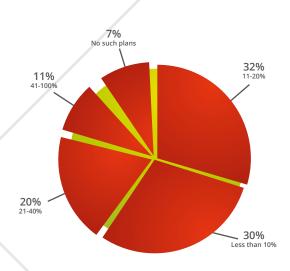


Source: compiled on the basis of the "Polish GameDev 2015" study results

3.10 Number of employees

2% 31-50 employees 11-30 employees 12% 1-5 employees 20% 6-10 employees

3.11 Plans to hire more employees in the next six months



Source: compiled on the basis of the "Polish GameDev 2015" study results

Undoubtedly, there is a very strong tendency to hire on more staff. Currently, 22% of the companies place themselves in the region of 51-100 employees, a rise of 3 per cent from last year. Equally fast is the growth of smaller companies, employing from 11 to 30 people: it is now the biggest group with a 37% share of all companies (last year it was only 20%). In our previous study, as many as 60% of the companies hired fewer than 10 employees, while now this group has shrunk to the level of 32%. We have also witnessed the continuation of the trend to expand from the level of 31-50 staff – in the majority of cases, such game-dev crews have expanded to enter the mid-level echelon.

The tendency to expand levels of employment in game-dev studios is confirmed by industry experts. Remigiusz Kościelny (Vivid Games) makes the following comment: "At this point, we are speaking of a few thousand people employed by our industry. Assessing the dynamics of employment at Vivid Games and the industry in general, my conclusion is that

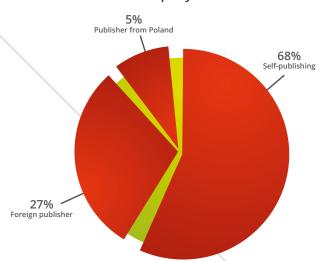
the numbers will definitely grow, and they will grow fast. Companies from our sector are joined by staff coming from other industries, fresh graduates and people from abroad". Piotr Żygadło from Grey Wizard Innovative narrows down the figures in question: "It could be somewhere in the region of 5 to 6 thousand people, out of which 2,000 are the employees for whom this is the primary source of income". Michał Nowakowski from CD PROJEKT RED summarises the phenomenon this way: "It is a tough question, but off the top of my head, I would bet this should be a few thousand people, give or take. I think we may speak of over 2,000 staff, including hundreds of really small studios, Polish publishers, trade staff involved in this sector, IT companies, media, QA labs (Testronic, Lionbridge, etc.), other companies such as recording studios, actors. If we take out just the devs, this number would be lower. Let us take our studio as an example: we employ 350 people and are still growing". In order to give our readers some perspective - the German gaming industry employs more than 10,500 people.

THE POLISH VIDEO GAME INDUSTRY

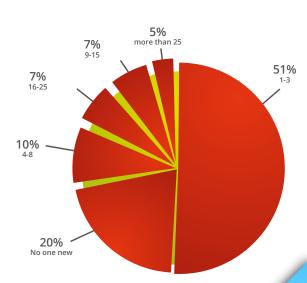
Looking at the Polish video game industry, we need to note that while distribution and publishing sectors are divided between Polish-owned and foreign companies, the developers' sector, in other words the most creative segment, is largely populated by companies owned by Poles, with just a few exceptions of smaller foreign studios on the way. We were reminded of this fact by Maciej Miąsik from Pixel Crow, who, in his attempt to position the Polish industry on the global scene, mentions: "I think that recently, we have sent a strong signal abroad. What is more, our strength derives from the operations of local companies – we are not the deliverers of cheap, outsourced labour force for the needs of

foreign corporations". His words are reinforced by a chart attached on this page, showing that the bulk of Polish devs opt for self-publishing²⁵. Yes, it may be risky, but if successful, it brings much bigger profits. Our study specifies that only 27% of the companies resort to funding coming from foreign publishers. Szymon Janus from Intermarum agrees with Maciej Miąsik: "In my opinion, Poland has created a unique market, particularly in the area of capital and human resources availability. Global successes raise hopes that more and more Poles will choose our industry for their career, and there will be a steady influx of capital".

3.12 Which model of publishing prevails in your company?



3.13 How many new employees are you looking for?



Source: compiled on the basis of the "Polish GameDev 2015" study results

Summing up, it seems that the Polish video game industry has entered the path of stable growth in the last few years. Success enjoyed by Polish games has strengthened the position of our studios on the global scene. If we combine growing budgets, sheer numbers of new projects under development, rise in the number of people employed and financial stability, then one can look into the future with optimism. Having matured, the industry is constantly growing and needs both the new capital and human resources. Currently, only 20% of the companies are not looking for new staff, while the rest are active on the job market, with 19% of them searching for more than nine new employees. Slight corrections, as exemplified by those companies which look for 1-3 new people, are declared by 51% of game-dev studios in Poland.

Source of images:
press materials of Flying Wild Hog

²⁵ Self-publishing – developing and marketing a game without any participation or funding from traditional companies who act as middlemen between producers and customers, that is without traditional publishers and distributors.

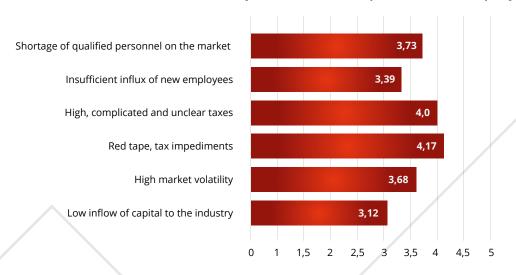
THE POLISH VIDEO GAME INDUSTRY

Polish GameDev 2015 - future challenges

Most developers agree that due to such rapid development of companies and growth of employment, the biggest problem of the Polish video game industry is shortage of qualified personnel available for hiring. This

is also confirmed by the experts. As stated by Remigiusz Kościelny (Vivid Games): "(...) Maintaining the required number of highly qualified employees will surely be one of the major challenges".

3.14 Elements other than sales that may hinder the development of the company

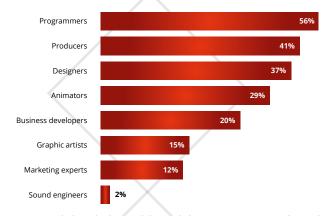


Source: compiled on the basis of the "Polish GameDev 2015" study results

Piotr Żygadło (Grey Wizard Innovative) observes that the problem is rooted much deeper: "The general problem with education in Poland is beginning to take its toll on the video game industry. The last "generation" of well-qualified programmers (who received proper mathematical

education) has already entered the market, and their successors will not be as skilled. This means that the industry's ability to maintain the current rate of development will be strictly related to the quality of talent acquisition²⁶".

3.15 What types of specialists are the hardest to find on the market?



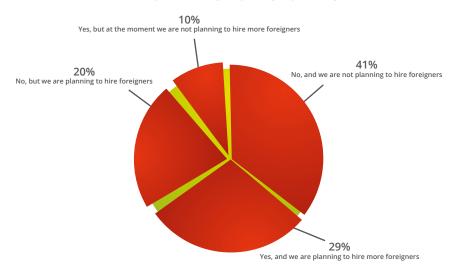
Source: compiled on the basis of the "Polish GameDev 2015" study results

According to the study, 56% of respondents claim that it is the hardest to find a qualified programmer. This result is very similar to the answers provided two years ago. Other hard-to-find specialists are: producers – 41%, designers – 37%, and animators – 29%. We can observe significant changes in comparison with earlier studies, especially in the case of designers and producers. In 2013, only 13% of employers found it difficult to recruit qualified specialists for the latter position. Currently, there seem

to be two plausible solutions to the problem of talent shortage. In the short term, our market may benefit from accepting a greater number of foreign specialists. As claimed by Maciej Mróz (Ganymede), President of the Kraków-based company with over 100 employees: "Sooner or later, we will be faced with a shortage of talent. We will need to hire foreigners, because our own talented specialists will not stay in Poland". This prognosis is also supported by the results of the study.

THE POLISH VIDEO GAME INDUSTRY

3.16 Does your company employ foreigners?



Source: compiled on the basis of the "Polish GameDev 2015" study results

Currently, as many as 51% of Polish companies are not interested in employing foreigners. 41% of firms do not even plan on hiring specialists from abroad, while another 10% already have foreign employees but do not plan on increasing their number. However, it is worth noting that 49% of companies have plans to recruit personnel from other countries, while in 2014, only 27% of respondents declared a will to do so. Paweł Miechowski (11 bit studios) confirms that the future looks optimistic for specialists from abroad: "We have no foreign employees with permanent contracts at the moment, but we have worked with foreigners on numerous occasions. However, we have interns, both from Poland and from abroad. We offer paid internships that usually last three months. The intern learns new skills by working with us. At the same time, the rules are pretty flexible – after all, we are offering these positions to students.

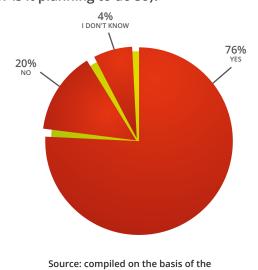
The experts' opinions on the subject of education are divided. Wojciech Pazdur (The Farm 51) remains optimistic:

"Luckily, game-related university programmes are slowly beginning to arm students with knowledge that actually proves useful. Game-dev and the education system are still struggling to find common ground, but in recent years, thanks to the stubbornness and persistence of many people on both sides, we can finally see some progress. Maciej Mróz (Ganymede) is of a similar opinion: "The improvement that we have observed over the past few years is considerable, but we are still far behind the West. Students can take part in an increasing number of initiatives as part of their university programmes or post-graduate courses. Moreover, forward-looking companies begin to approach future specialists with educational offers". Also Marek Tymiński (CI Games) is satisfied with the students' level of preparation for work: "I think the situation is pretty good. Of course, it is a small market with a limited talent pool, so there are only so many experienced specialists that you can choose from. Recruitment is a challenging task for every company. However, there is a growing number of people who lack experience but are talented and eager to learn. There are certain advantages to this situation - personally, I am happy with the way this works".

I think that this model works really well. One of the interns has even stayed with us as a junior designer. We are going to continue our internship programme, with both local and foreign students".

The second possible solution to the problem of talent shortage is more of a long-term objective. It is based on investing in the education of future industry specialists to give them solid foundation for their careers. We can already observe some change in this area. Game producers become increasingly active at universities, through projects such as Techland Academy. They also organise private initiatives like Game Dev School or Ganymede Academy. The results of the study show that as many as 76% of Polish companies invest in educating their future employees.

3.17 Does your company fund or organise educational workshops/lectures for future industry specialists (or is it planning to do so)?



"Polish GameDev 2015" study results

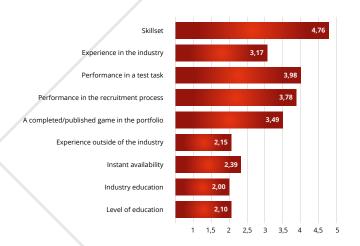
THE POLISH VIDEO GAME INDUSTRY

Szymon Janus (Intermarum) does not agree with his fellow experts: "So far, we have had 12 interns at our office. I must say that their level of knowledge and preparation for the tasks at hand were rather disappointing. Those people would require many months of training to be able to take a *junior* position, and to be trusted with simple responsibilities". Paweł Miechowski (11 bit studios) takes the middle ground on this matter: "Some developers have established long-term cooperation with universities. Things are looking up, but of course, there is still much to be improved. Some of us have been giving lectures at various universities (Warsaw University of Technology, Łódź University of Technology, Game Dev School). We have been covering subjects like programming, art design, marketing, management, etc. It is clear to see that there is a great demand for sharing knowledge and experience. A growing number of Polish universities begin to consider the actual needs of game-dev studios when planning their curriculum. The logic is simple and faultless: a well-educated student will make a better employee. We value our collaboration with the Łódź University of Technology, the organiser of the nationwide game jam contest. Of course, it is not every year that students come up with a gem like SUPERHOT, but the general quality of the entries keeps improving. The majority of graduates of game-related programmes still require much additional training in the company, but the progress is evident. It's like with driving: getting a licence does not make one an experienced racer. Then again, on the other side of this spectrum, there are schools that are willing to improve, but their level of incompetence is truly shocking. I won't mention them by name". Michał Nowakowski (CD PROJEKT RED) points to yet another aspect of this matter: "I don't think our company has ever hired anyone on the sole basis of their game--dev education (even though we have employees who completed such programmes). Other qualities – like experience, or simply pure talent displayed during interviews and test tasks - are usually far more important. Getting a degree in game-dev does not guarantee employment at our office, and I think this just the way that things are everywhere. Not every medical graduate will make a great doctor".

The results of our study prove that professional skills are the paramount factor in the recruitment process. It is also worth noting that game-dev education, or the level of education in general, are among the least important aspects. We may then come to a conclusion that despite the favourable opinions voiced by some developers about the growing synergy between the game industry and the education system, the general view on the quality of Polish game-dev education is still negative.

As stressed by Remigiusz Kościelny (Vivid Games): "Real game-dev education is still in its infancy. The number of schools that offer game-related programmes is still too small. If the education system wants to address the real needs of the industry, some major changes are in order, also on the part of the government. I hope that the inclusion of our industry on the list of national smart specialisations will be an impulse for such changes". The answers regarding cooperation with the government prove that many developers share this position. However, it is important to stress that despite pointing to the shortage of qualified specialists as the most urgent problem, the respondents placed governmental support of game-related education as third on the list (ex aequo with the financing of game production) of the most important areas of potential cooperation.

3.18 What is the most important factor in the process of recruiting an employee?



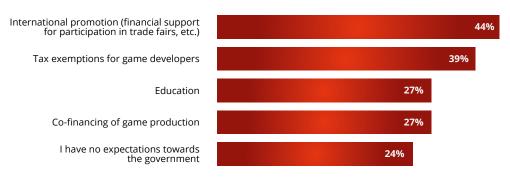
Source: compiled on the basis of the "Polish GameDev 2015" study results



Source of images: Press materials of One More Level

THE POLISH VIDEO GAME INDUSTRY

3.19 Which of the following areas should receive support from the government administration?



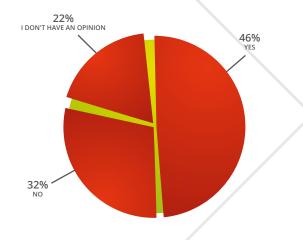
Source: compiled on the basis of the "Polish GameDev 2015" study results

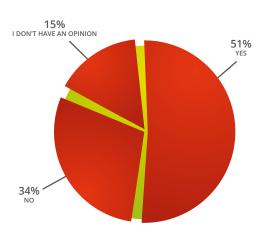
Basing on the graph above, we may come to the conclusion that developers are more interested in engaging the government in the promotion of our industry on the international arena and in receiving tax exemptions than in obtaining support for the education system. The experts are unanimous on this matter. Maciej Mróz (Ganymede) observes: "We should look to the West and follow its example, if only to prevent international competition from getting too far ahead of us. The government administration should support game producers in the areas that are mostly inaccessible for private companies, such as the creation of special

economic zones, modifying the education system, and – if needed – introducing tax exemptions". Remigiusz Kościelny (Vivid Games) is of a similar opinion: "The government could play a major role in the development of our industry, as we can see on the example of countries like Canada. This could include introducing tax exemptions and modifying the priorities within the system of higher education".

3.20 Would the option to finance games as part of film funds (both nationwide and locally) facilitate the development of the industry, like it did in countries such as Germany?

3.21 Would you be interested in this type of funding?





Source: compiled on the basis of the "Polish GameDev 2015" study results

As mentioned above, the majority of game producers point to a number of problems that appear more urgent than the need for public financing of game production. Interestingly, should this type of funding become

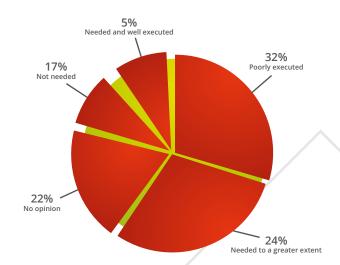
a viable option, as many as 51% of the respondents would like to take such opportunity.

THE POLISH VIDEO GAME INDUSTRY

It is also worth noting that 32% of the surveyed companies claim that government support is being poorly executed. Additionally, 72% of the respondents believe that in general, government support leaves much to be desired. Only 5% are satisfied with the efforts of the government. 22% claim to have no opinion on the matter, which may suggest that they have never received support from this source.

Also our experts have rather negative views on the quality of collaboration between the public administration and video game companies. As Maciej Miąsik (Pixel Crow) states openly: "I think the level of cooperation is really poor, not only in the case of game developers but in most branches of business. The game industry is not unique in that all its successes have been achieved with no support from the public administration. We could even say that they were achieved despite the negative impact of governmental policies. The industry manages to cope with its own problems. Even if we received support, I'm sure that not all of it would go where it is needed. Of course, we are always happy to hear about situations where the government actually contributed to some positive change, and someone actually profited from that, but in my experience, governmental initiatives tend to miss the point and result in a waste of money. The problems faced by the game industry are not much different from the general issues plaguing our economy. The lack of proper game-dev education reflects the general shortcomings of our education system, especially the overwhelming idleness of the people who manage it, and the resistance from university personnel, reluctant to accept any changes". Regulatory problems are also mentioned by Piotr Żygadło (Grey Wizard Innovative): "First of all, the administration should introduce a viable system of tax settlement with the exporters. Tax inspections after every VAT refund (and in the case of exporters, this kind of refund is very frequent) are an unjustifiable waste of money, and cause many companies to leave Poland. One positive change that has been achieved by the current authorities is the renegotiation of the contract between Poland and the United States concerning the withholding tax. Polish companies can now cooperate with American partners on much better terms. Of course, there is much left to be done in this matter, because companies in other countries (such as the United Kingdom) still enjoy better conditions. In general, the state of Polish regulations regarding modern technologies is pretty embarrassing. It's not without a reason that we have been compared to third-world countries in this matter. Poland simply lacks a proper set of rules, regulations, and procedures that would govern all kinds of areas - from facilitations for local investors, to tax settlement. And I think that the authorities have no idea what could be done in order to make things easier. When it comes to support from the government, - the general experience of our industry proves that the people who benefit the most from this kind of help are crafty opportunists who not only bring zero contribution to the development of our branch but also give it a bad name among the authorities, and on the international arena".

3.22 Assess the ministerial/governmental support for the industry.



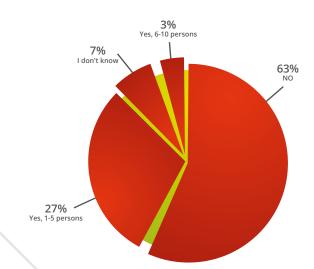
Source: compiled on the basis of the "Polish GameDev 2015" study results

Michał Nowakowski (CD PROJEKT RED) remains slightly more optimistic: "I think that it would really help if the government introduced tax exemptions for game developers, and if it facilitated tax settlement for international revenue from licences and intangible property. A nice example of that is Quebec in Canada. All in all, however, the situation in Poland is not that bad".

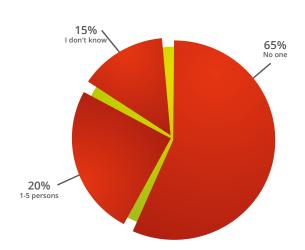
Returning to the problem of the shortage of qualified employees on the market, it is advisable to consider the shared characteristics of the film and video game industries. It may seem that these two creative branches have much in common, and could support one another, e.g. in terms of human resources. However, our study as well as in-depth interviews with developers show that the two businesses constitute completely separate worlds. They may be related, but their relationship bases on sporadic interaction rather than long-term cooperation.

THE POLISH VIDEO GAME INDUSTRY

3.23 Does the company employ people with a degree in film (higher eduction in this field)?



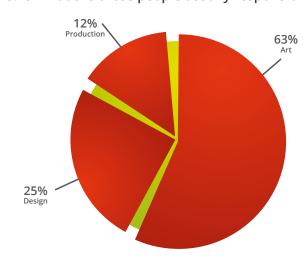
3.24 In the last five years, how many employees in your company have moved from working in the film industry to the gaming industry?



Source: compiled on the basis of the "Polish GameDev 2015" study results

The study reveals that ca. 30% of producers hire people with a background in the film industry. However, as much as 63% of the surveyed companies do not employ such people. The majority of film-makers moved to the game industry within the last 5 years. These should be viewed as isolated cases rather than a clear trend. The results corroborate the opinion voiced by Wojciech Pazdur (The Farm 51), who describes the collaboration between the developers and the film industry as follows: "I can't see a trace of such synergy, most definitely in Poland, and as far as the rest of the world is concerned, I think (and hope) that games are increasingly less trying to mimic films and increasingly more trying to accentuate their own identity (although, of course, the majority of gaming blockbusters draw heavily from the language of cinema). However, considering the fact that both games and films tell stories by means of moving pictures, experts from both fields can make their contribution to both areas. During our last year's projects, we've established permanent cooperation with several people from the film industry". Michał Nowakowski (CD PROJEKT RED), whose company developed the biggest Polish blockbuster²⁶, speaks out in a similar vein: "The Polish film industry has little to no influence on the video game industry. It seems to me that the Polish game industry fares much better (at least worldwide) than its film counterpart. As far as employment goes, yes, we hired people from the film industry a few times, but these individuals were more closely connected to advertising, animation, etc. But it's not to say that the Polish film industry is a treasure trove brimful of potential game developers. Apart from the fact that some people from the film industry simply do not wish to work on games, their skills don't necessarily coincide with what game producers look for. And vice versa, I suppose".

3.25 What are these people usually responsible for?



Source: compiled on the basis of the "Polish GameDev 2015" study results

This doesn't mean, however, that attempts at a broader cooperation weren't made. Maciej Miąsik (Pixel Crow) observes: "Thus far, the two industries do not intertwine strongly, although we've been trying to remedy that for the last few years, through e.g. Film Spring Open. We're trying to develop methods for mutual support and cooperation of the two".

²⁶ Blockbuster – in the broadest sense, the term denotes a work (a film, play, or computer game) that became a hit and generated substantial income.

THE POLISH VIDEO GAME INDUSTRY

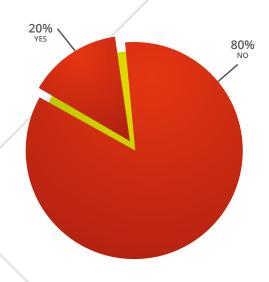
Apart from staff exchange and contributing to selected projects, it might be useful to examine how the idea of cross-media (i.e. the intermingling of films, books, and comics) fares in Poland. Michał Nowakowski (CD PROJEKT RED), just like the majority of experts, points to one particular title: "To be honest, I'd have to name our products, *The Witcher*, which originates from Andrzej Sapkowski's novels and stories, and *Cyberpunk 2077*, which is based on the pen-and-paper RPG system created by Mike Pondsmith and his team. I'd be hard-pressed to give any other examples of this phenomenon in Poland". Piotr Żygadło (Grey Wizard Innovative) is not entirely sold on the idea of cross-media in Poland: "Apart from the obvious cases (*The Witcher*), there haven't been many cross-media projects in Poland. We can find plenty of games based on tabletop games and a handful of amateur projects based on less known books, but that's all".

Besides, looking for inspiration in Polish cinema doesn't make sense, and Polish literature, although interesting, doesn't provide any marketing edge whatsoever". In a similar vein, Remigiusz Kościelny (Vivid Games) observes: "The Polish market is still too small to achieve a big commercial success. If you want to go big, you have to sell globally, and the majority of Polish brands have little recognisability on the Western markets. For that reason, Polish producers often acquire foreign licenses, adapt values that are popular and appreciated abroad, and not the other way around". These opinions support the following data which indicate that as much as 80% of game developers don't collaborate with third-party film publishers or producers.

Maciej Miąsik (Pixel Crow) sums up the whole thing in the following manner: "I've discussed these issues with insiders from other industries, chiefly film, but not only. The crux of the problem is that often no one knows how to finance these cross-media initiatives, because each industry has its own funding acquisition and product monetisation schemes, and they don't always overlap. Also, the knowledge of clients, pertaining to reaching them or turning a profit, often differs vastly, just like the customer base. The fact that a certain book was read by a million people doesn't mean it translates to the same number of potential players. What's more, solutions which work perfectly fine in one medium don't pan out in the other, so it's often the case that mediocre solutions are introduced just to have a potentially profitable tie-in product. The upshot is that we often get a well-thought-out and complex film accompanied by a terrible game that only shares the world or heroes with its cinematic predecessor, but is characterised by iterative and schematic gameplay mechanics".

Cooperations between game developers and musicians seem to work out much better. In the words of Maciej Miąsik (Pixel Crow): "I've often reached for works of musicians who don't operate in the game industry, not limiting myself to video game music composers. But they were niche and little known artists, because they were the only ones I could afford. Licensing-in popular tracks or collaborations with well-known musicians is beyond reach for the majority of game developers, and if someone eventually manages to strike a deal, it's usually thanks to crafty negotiations or personal contacts". The majority of experts have stressed that this facet of game production is the one that's most often outsourced. Piotr Żygadło (Grey Wizard Innovative) comments: "From what I know, such musicians usually work on contracts. Only the biggest players on the market can afford to hire such talents full-time. In our company, we have a reliable sound designer/musician with whom we are working on various projects. Such persons join the team when the project reaches a certain milestone". This claim is supported by Michał Nowakowski (CD PROJEKT RED): "(...) As far as using third-party music is concerned, to this day, we've licensed it only sporadically.

3.26 In the last two years, have you collaborated with third-party film publishers or producers?

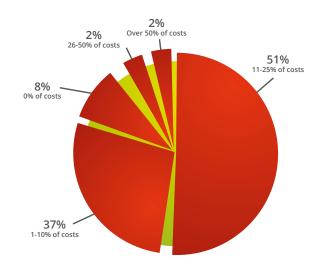


Source: compiled on the basis of the "Polish GameDev 2015" study results

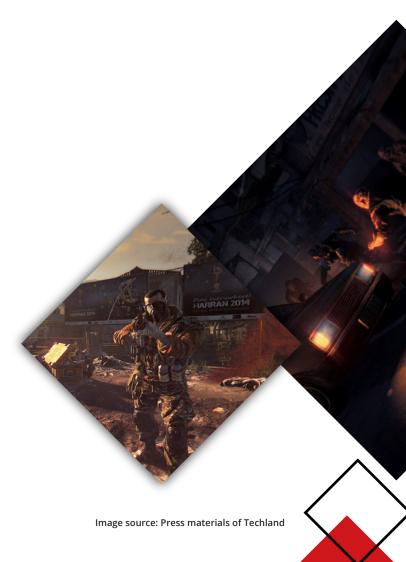
Chiefly for the purpose of trailers or similar materials. As far as music pieces for a game itself are concerned, we're using an in-house team that takes care of music, although we've outsourced some things a few times". Wojciech Pazdur (The Farm 51) is of a similar opinion: "Presently we hire both a musician and a sound designer, but we still resort to outsourcing. We just don't have any other option in some cases, when we require a globally recognised composer who lives abroad".

At this moment, it might be wise to direct attention at the general position of outsourcing in the overall production process of a project. The graph shows that most of the Polish companies use outsourcing services (92%). The majority of them (51%) allocate 11-25% of the project budget for this end. Maciej Miasik (Pixel Crow) lays out the characteristics of outsourcing in gamedev, observing: "It varies from project to project, but outsourcing gains increasingly more importance in Polish productions. It allows us to produce more content within a given budget and save ourselves logistic and organisational hassles. Outsourcing is not a money-saving mechanism – good outsourcing service costs a substantial amount o money, regardless of where we find the contractors. It does, however, save you the trouble of building a team, providing its members with tools and work continuity. I've been involved in projects where e.g. 90% of the graphic assets were created externally, but the scale of outsource varies from project to project - there's no overarching rule. It's good to commission things that are based on relatively established production processes: graphics, music, sounds, sometimes plots or cinematics". Marek Tymiński (CI Games) also mentions the positive sides of outsourcing: "(...) Currently, as part of the Sniper 3 project, we're collaborating with one of the most eminent American music composers - I can't reveal the name yet. Because we're not doing it in-house, we can choose from a variety of artists from numerous fields, and choose the one that best fits our needs. Of course, the core game content is developed in the studio, e.g. sound selection or its integration with various in-game objects and events". Obviously, the industry includes companies that base their development efforts primarily on their own resources, CD PROJEKT RED could serve as a good example. Michał Nowakowski (CD PROJEKT RED) notes: "We're trying to use as little outsourcing as possible. Our policy is that we want to produce as much as possible within the bounds of our studio. Nevertheless, the deadlines sometimes force us to outsource certain tasks. I won't attempt to assess the percentage of such situations, but it's definitely small". Another facet of game production that is often outsourced is language localisation. Putting it most simply, it consists in translation along with an adaptation of the text to the cultural and social conditions of the country the game will be released in. There are a handful of Polish companies that specialise in this line of business, such as QLOC, Roboto Translation, Albion Localisations, which have been in operation on the market for years, localising titles released by foreign publishers, as well as collaborating with Polish studios. It should be kept in mind that localising a game for various markets can contribute to the commercial success of a given title. On the other hand, this service is quite costly and few producers can afford to prepare several language versions of their works. Exploring the topic of localisation, we've decided to ask our experts about how this issue is handled in their companies, and whether they remember about the Polish market while preparing various language versions of their products. Opinions on this matter were divided. Answering this question, Remigiusz Kościelny (Vivid Games), observes: "Yes, and we've found out the hard way how important localisation is. Currently, we can provide 8 language versions, but we're kicking that number to 14 in Real Boxing 2. Our decisions concerning the number of language versions that will be included in a given game are based primarily on business rationale.

3.27 What percentage of project costs is assigned to outsourcing?



Source: compiled on the basis of the "Polish GameDev 2015" study results

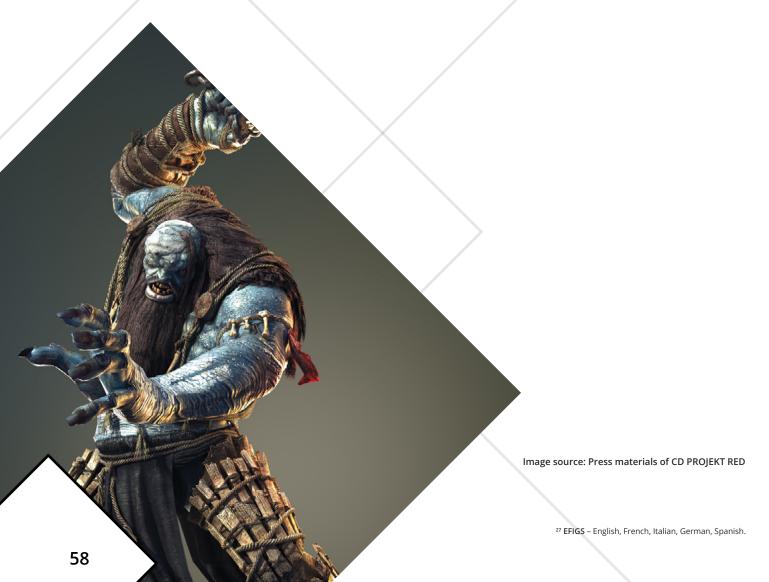


57

The Witcher had even more language versions, mentions Michał Nowakowski (CD PROJEKT RED): "For the purposes of *The Witcher*, we've created 15 localisations. The localisation process itself is key for us. We believe that a game such as ours, i.e. one that's plot-heavy, would be difficult to play if you have a poor command of a foreign language. English is the default language of a majority of video games, but despite its prevalence, it's not very well known in many countries. If a game is to achieve good financial results in numerous regions, it has to be localised. These are, certainly, risky decisions, because localisation can be expensive and entails a multitude of technical challenges, but if you approach it correctly, it's always a good move. The Polish localisation is a must for us, obviously. And it's not necessarily because we're a Polish studio (although, of course, it is a contributing factor). It's simply a prudent business decision, and that's what our customers demand - for years, all major titles have been localised into Polish. I think that a lack of Polish localisation in the case of The Witcher would be shameful". Another example of a game localised into a larger number of languages is the F2P game Let's Fish, developed by Ten Square Games, which was translated into 17 languages, including Chinese, Arabic, and Turkish. Marek Tymiński (CI Games) has a rather different view on the matter:

"It all depends on the product. We were sometimes forced to make various language versions, so to say. Generally speaking, we prepared dubbed versions for the French, German, and often Spanish and Italian markets. And of course, Polish, although it differed from one project to another.

The same goes for Russian. As far as other countries go, we've opted for subtitle-only versions. It's all about the profits - English is always the biggest version, and for that reason it's always created first, it has to have the highest quality". Maciej Miasik (Pixel Crow) wraps up the topic of localisation, remarking: "We usually translate games into Polish, because it's a relatively easy task. Many games are created in Polish, and then they're localised into English, so the Polish version is free, so to say (not counting the costs of proofreading and recording sessions). The decision whether to localise a game or not has to strike a balance between costs, which can be substantial, and potential benefits (the game being more successful on a given market). It's obvious that if you want to achieve success on certain markets, you must prepare a localised product, but at the end of the day, it's always an individual decision. We know that one language version of every Polish game is mandatory, the English one - the rest are optional and dependant on a number of factors. For some time it was common practice to prepare EFIGS²⁷ localisations, but presently developers usually limit themselves to English and German. However, emerging market languages are gaining prominence, mainly Asian, with China being the prime example. Then again, a lot depends on the game itself - some titles can be localised fast and cheap, so the decision about a new language version is easy. But some games are nightmarish when it comes to translating them, so you have to deal with the fact that their availability will be limited on some markets".



THE POLISH VIDEO GAME INDUSTRY

"Polish GameDev 2015" report - conclusions

It transpires from a variety of sources that ca. 150 video game companies operate on the Polish market. Of course, this list includes big studios such as CD PROJEKT RED, CI Games, Techland or Ganymede, who employ several hundred people, medium-sized companies, which employ several dozen people, such as 11 bit studios, ATGames, iDreams, and the small independent studios with only several people on staff, such as Pixel Crow, Digital Melody or Grey Wizard Innovative. It's extremely difficult to come up with an accurate estimation of the number of such companies, due to extreme fluidity and rapid development of this industry. Wojciech Pazdur (The Farm 51) characterizes the industry in the following words: "(...) The global gaming market develops in so many directions that soon more and more of its branches will start to break under their own weight, and we'll probably never know which ones, until it actually happens". All of this means that companies operating in the gaming industry must be set to continuously adapt to market condition changes and still strive to be innovative. If companies don't respond quickly enough to changes, they often go bust and are replaced by new companies that spotted the upcoming market shifts. It seems, however, that the fairly stable situation of the majority of Polish developers in recent years shows that Polish companies fare quite well in this ever-changing environment.

For many years, Polish columnists dealing with economic affairs have mentioned the need to build a strong Polish export brand, i.e. recognisable Polish products on the global market. These products should be a testament to qualitative and technological changes that have taken place in our economy since the fall of communism. Polish games boast great production values and are increasingly more financially successful.

In the first half of 2015, two Polish titles ranked among the global top ten best-selling games. These were the already mentioned The Witcher 3 and Dying Light. It would seem, then, that the Polish game industry, which is currently going through its best period in history, has a good chance to become the Polish soft power²⁸ around which you can build the image of Poland as a modern and open country. The survey results are also optimistic. Over a half of the developers (51%) are working on more than two projects at the same time. There's also a marked increase in the funds allocated for game development. Presently, 64% of developers have a budget in excess of a million zlotys. This has a direct impact on employment, which increased greatly, especially with respect to the smallest companies. A year ago, 60% of companies employed less than 10 people. Presently, this percentage dropped to 32%. In addition, the overwhelming majority of companies that were surveyed (93%) report an increase in employment within 6 months. This doesn't mean, however, that in the next few years the industry won't encounter some difficulties that can effectively slow down its development. According to our respondents, the greatest threat to the development of the industry in the future may prove to be the absence of qualified specialists. This claim is supported by experts who seek the causes of this phenomenon in the deterioration of the quality of education in Poland and poor cooperation with higher education institutions. Despite the involvement of the Polish companies in education, this may lead to an increase in employment of foreigners (49% of companies plan to employ a foreigner) or the opening of new branch offices outside of Poland.

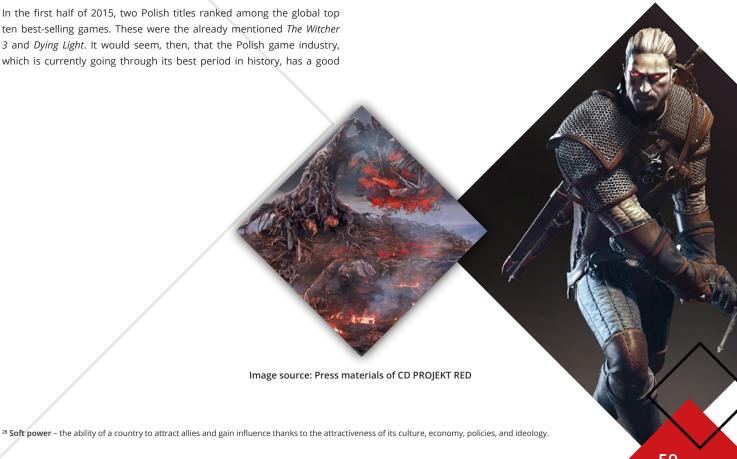


TABLE OF CONTENTS

Introduction	p. 3
Methodology	
About the authors	p. 5
	'
CHAPTER 1: POLAND IN THE CONTEXT OF THE GLOBAL VIDEO GAME MARKET	p. 6
The value of the Polish video game market	p. 8
Publishing and distribution in Poland	p. 9
The key players on the Polish publishing and distribution scene	p. 10
The participation of major platforms in paid distribution	p. 11
The pricing structure of paid distribution games	p. 11
Opportunities and risks of digital distribution	p. 12
Challenges and threats of piracy	p. 12
The Polish element in games	p. 13
MMO games (free-to-play and pay-to-play)	p. 15
Free-to-play games	p. 15
Polish companies on the free-to-play market	
Dominance of German companies on the Polish free-to-play market	p. 17
Challenges for foreign companies on the Polish free-to-play market	p. 10 p. 20
Social network games	p. 20 p. 22
Mobile games	p. 22 p. 22
Mobile garries	ρ. ΖΖ
CHAPTER 2: THE PROFILE OF THE POLISH GAMER	p. 24
PC gamers (games requiring installation)	p. 29
Console gamers	p. 23
PC gamers (browser games)	p. 30 p. 32
	p. 32
Social media gaming	
Mobile gaming (smartphones and tablets)	p. 34
Which games are the most popular among Polish gamers?	p. 35
The study summary, crucial data and conclusions	p. 38
CHAPTER 3: THE POLISH VIDEO GAME INDUSTRY	p. 40
Polish games that gained international success	р. 40 р. 40
Games developed in Poland – the origins	p. 40 p. 40
	•
High-budget games (AAA titles)	p. 41
Low-budget games	p. 42
F2P and casual games	p. 42
Specialisation, a key to success	p. 43
Polish GameDev 2015 – current state of play	p. 44
Polish GameDev 2015 – future challenges	p. 50
.Polish GameDev 2015" report – conclusions	p. 59

FIGURES, TABLES AND DIAGRAMS

1. CHAPTER 1: POLAND IN THE CONTEXT OF THE GLOBAL VIDEO GAME MARKET	
1.1. Global video game market divided into regions (in billions of dollars)	p. 6
1.2. Global video game market divided into segments (in billions of dollars)	p. 7
1.3. The estimated value of the Polish video game market in the years 2013-2017	p. 8
1.4. A list of selected companies of the free-to-play segment, operating on the Polish market	p. 19
2. CHAPTER 2: THE PROFILE OF THE POLISH GAMER	
2.1. How many gamers are there among the Polish Internet users?	p. 24
2.2. Polish gamers by sex	p. 25
2.3. Polish gamers by age (averaged results)	p. 26
2.4. Polish gamers by age (divided by platform)	p. 26
2.5. Polish gamers by place of residence	p. 27
2.6. Polish gamers by education	p. 28
2.7. Polish gamers by occupation	p. 28
2.8. The financial situation of the Polish gamers	p. 28
2.9. Motivation for choosing PC (games requiring installation)	p. 29
2.10. Average single expenditure on PC games (requiring installation)	p. 29
2.11. Average single expenditure on add-ons to PC games (requiring installation)	p. 29
2.12. Motivation for choosing consoles	p. 30
2.13. Average single expenditure on console games	p. 31
2.14. Average single expenditure on add-ons to console games	p. 31
2.15. Motivation for choosing PC (browser games)	p. 32
2.16. Average single in-game transaction for PC games (browser games)	p. 32
2.17. Motivation to play social media games	p. 33
2.18. Average single in-game transaction for social media games	p. 33
2.19. Motivation to play on mobile devices	p. 34
2.20. Average single expenditure on mobile games	p. 34
2.21. Average single in-app transaction for mobile games	p. 34
2.22. Popularity of genres	p. 35
2.23. Popularity of individual platforms	
2.24. Popularity of games in the context of PEGI rating	p. 37
2.25. Sources of new games	p. 38
3. CHAPTER 3: THE POLISH VIDEO GAME INDUSTRY	
3.1. Voivodship where companies are located	p. 44
3.2. How long has the company been on the market?	p. 44
3.3. The number of projects in development	p. 44
3.4. Total estimated budget of planned games	p. 45
3.5. Financing a company	p. 46
3.6. Platforms chosen by game-dev companies	p. 46
3.7. Assess those platforms in the context of their importance for your current projects	
(average score)	p. 47
3.8. Assess those platforms in the context of their importance for your future projects	. 47
(average score)	p. 47
3.9. Most profitable business model in the context of your game-dev projects	p. 48
3.10. Number of employees	p. 48
3.11. Plans to hire more employees in the next six months	
3.12. Which model of publishing prevails in your company?	
3.13. How many new employees are you looking for?	•
3.14. Elements other than sales that may hinder the development of the company	p. 50
3.15. What types of specialists are the hardest to find on the market?	p. 50
3.16. Does your company employ foreigners?	p. 51

FIGURES, TABLES AND DIAGRAMS

3.17. Does your company fund or organise educational workshops/lectures for future industry	
specialists (or is it planning to do so)?	p. 51
3.18. What is the most important factor in the process of recruiting an employee?	p. 52
3.19. Which of the following areas should receive support from the government	
administration?	p. 53
3.20. Would the option to finance games as part of film funds (both nationwide and locally)	
facilitate the development of the industry, like it did in countries such as Germany?	p. 53
3.21. Would you be interested in this type of funding?	p. 53
3.22. Assess the ministerial/governmental support for the industry	p. 54
3.23. Does the company employ people with a degree in film (higher eduction within this field)?	p. 55
3.24. In the last five years, how many employees in your company have moved from working	
in the film industry to the gaming industry?	p. 55
3.25. What are these people usually responsible for?	p. 55
3.26. In the last two years, have you collaborated with third-party film publishers or producers?	p. 56
3.27 What percentage of project costs is assigned to outsourcing?	n 57





Designed by: puracreations