2023 BRAZILIAN GAMING INDUSTRY

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MINISTRY OF
DEVELOPMENT,
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BRAZILIAN GOVERNMENT
BRASIL
UNITING AND REBUILDING

Survey and report by

GA Consulting

The aim and significance of the annual mapping of the Brazilian Game Industry

The launch of the 2nd National Survey of the Game Industry extends far beyond simply documenting a moment experienced by Brazilian game developers. This marks the second phase of a much larger commitment assumed by Abragames in 2021 when we started the project. Our primary objective is to anqnually map the studios in the country, identify different aspects of the sector, and capture a "picture" of the ecosystem. This serves as a crucial tool to identify areas requiring evolution, improvements over the previous year, and potential directions to go ahead.

With such important and never-before-reached goals in the Brazilian industry, it is normal to encounter difficulties, learn lessons, and even recalculate the route. This year's survey shows us that this process is essential for improving results, and I am certain that the evolution can already be perceived in the following material, the result of intense work by many people concerned about the future of our studios and professionals.

Nevertheless, we were confident that the forthcoming material would boast a significantly enhanced depth and comprehensiveness. This decision was pivotal to have year-to-year comparisons with greater coherence and to incorporate a broader array of pertinent insights into the study.

The data for the year 2022 is to identify where the structuring of the industry needs to toughen and where an immediate reaction is needed. In the next edition of the study, which should be published in 2025, the reflection of these results will be essential to understand the evolution of the period. In fact, the 2nd National Survey of the Game Industry makes it clear how important it is for this monitoring to be done annually. The gaming market as a whole is extremely dynamic, and this cannot be disregarded with each new report of our industry.

Therefore, at this moment, the greatest legacy of the survey, without a doubt, is the "data update" factor, which gives us a broad and real overview of the market. Another important factor that needs to be mentioned is the evolution of the results and how to identify them; especially when comparing to the first mapping done by Abragames, which had a 2018 survey as the closest reference.

The 2nd National Survey of the Game Industry pointed out important movements in mobile gaming, copyright intellectual property, the most used technologies, among many other relevant points for the sector. It also helped understand the change in intentions of entrepreneurs, developers, producers, actors, and market professionals.

Moreover, we can mention other aspects that affected the sector in some way throughout 2023. Among them: market turbulence in technology related to game production, from revenue generation to efficiency; and changes in international market investment, with many bets on already established franchises.

With the report, it is clear that, at this moment, our industry is mainly made up of micro and small studios. For these and other reasons, the mapping data allows us to understand where we are as an industry, our size, and what we need to grow. Given the mentioned scenario of 2023, short-term – and even emergency – actions will be necessary from different market players over the next few months. The survey also prompts us to consider where we need to take action as an industry and how we should alert the government to participate in this movement.

In other words, it is necessary to identify the problems to act, and the survey is a great ally in this process. After all, in order to maintain sector growth, as predicted in previous surveys, what is needed? How to increase revenues? Exports? The number of studios in the country? The quantity of professionals?

The survey shows us the strengths and weaknesses of the industry, details not perceptible, and trends that will be very important for the coming years. It also provides us with subsidies to address critical issues, which are at the base of a market that is projected to become a solid segment in the near future. From it, we can build ways of acting and develop suggestions for various players, as well as for private and public entities belonging to the game sector's production.

Our plan is to constantly maintain the survey, at a frequency that allows us to show the market's evolution and the importance of investing in data quality. We want the data, when published, to generate a faithful report of the industry. Therefore, what will be seen in the following pages is a portrait of the sector's evolution and studios in the year 2022.

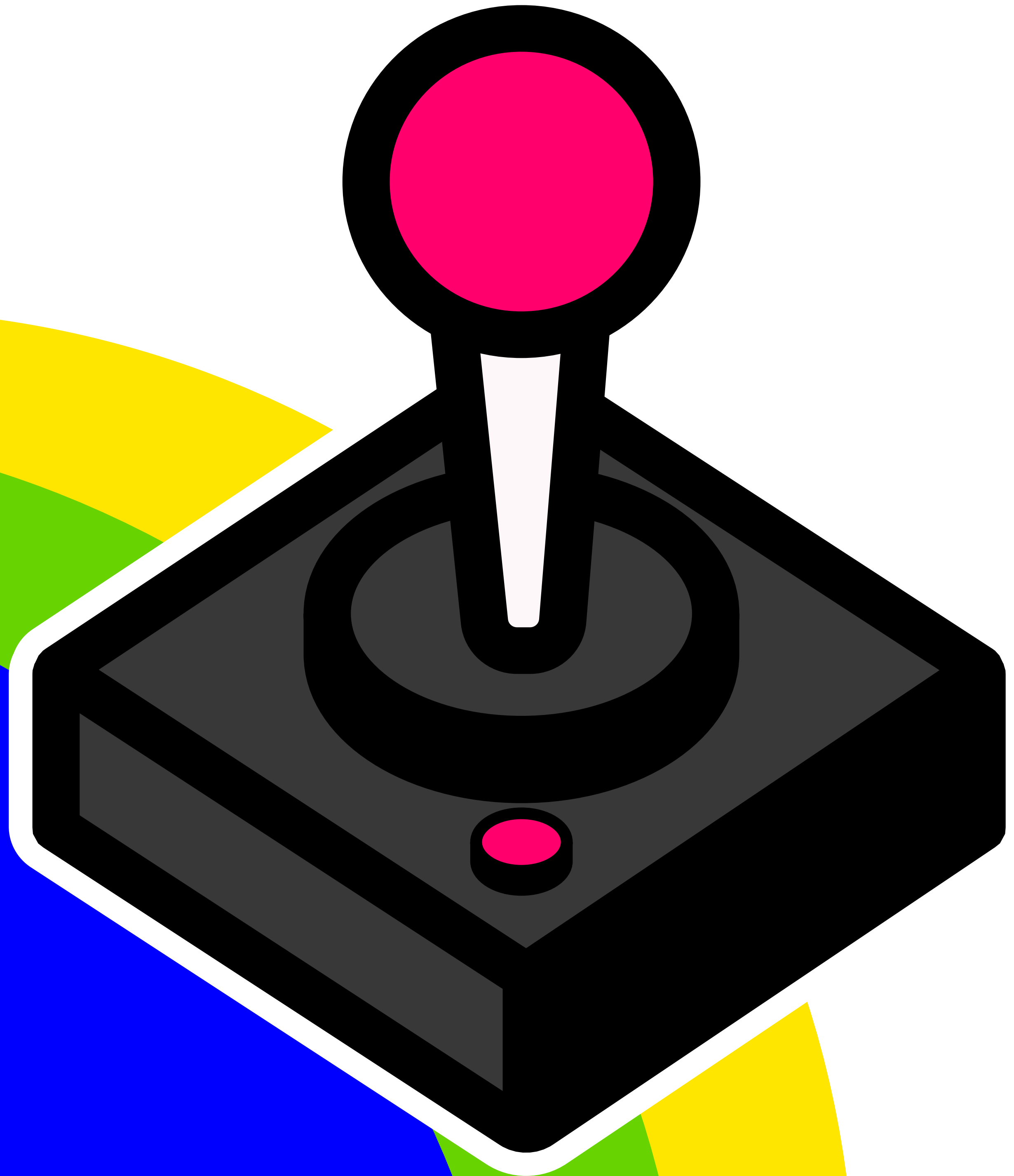
In the role of a market producer, we need to understand companies' mobility regarding their growth and support the ecosystem with precise information that helps strengthen the sector in Brazil. Finally, I take this opportunity to emphasize the significance of the partnership between Abragames and ApexBrasil in the Brazil Games Sector Project, as well as in the construction of this valuable database developed to map the industry.

For over ten years, we have been cultivating the international presence of this sector, garnering recognition and visibility for studios. Through our partnership, we have established international platforms to enhance the visibility of Brazilian studios abroad. The success of these initiatives is evident in the impact of Brazil's participation in major international gaming events, among which the 2023 gamescom, which took place in Cologne, Germany, and where Brazil was honored as the featured country.

Enjoy your reading, and remember that Abragames is always open to dialogue!

Rodrigo Terra
Presidente da Abragames.

1.
Introduction



1.1 About the 2023 survey and its report

For the second year running, the Brazil Games project, a partnership between Abragames and the Brazilian Trade and Investment Promotion Agency (ApexBrasil), has produced a study on the digital gaming sector in Brazil. The 2023 Brazilian Gaming Industry Survey, conducted by GA Consulting, moves forward on the work that began in 2022.

Its purpose is to build a comprehensive map of the current state of the digital games' ecosystem in Brazil, considering the year 2022 and how it stands when compared to the previous study. The main focal point was companies and their prospects for sustainable development of the sector. The survey used a mixed methodology, focusing mainly on mapping and questionnaires, using bibliographical references, and drawing on the knowledge already gathered and analyzed from the 2022 survey[1].

The report is organized into six parts. The first part briefly presents an overview of the global gaming market during the reporting period, where the Brazilian development industry fits into the world context, and some aspects of its history.

[1] FORTIM, Ivelise (Org). 2022 Brazilian Gaming Industry Survey. ABRAGAMES: São Paulo, 2022.

The second part (chapters 2 to 9) presents the results found in the survey, highlighting the current state of the industry, studio mapping, game development profiles, how human resources and diversity are shaping up in the industry, the use of technological resources and services, the stage of internationalization among developers, the financial landscape, and their sources of funding.

The third part (chapters 10 and 11) gives an overview of the associations and collectives operating in the country, and the industry-related events held during the survey. In the fourth section (chapters 12 to 14), the report demonstrates the findings regarding the respondents' perceptions of the effects of the pandemic, the trends and prospects for the coming years, and the challenges faced by developers.

The fifth part (chapter 15) provides an overview of other participants in the gaming ecosystem in Brazil, such as support companies and freelance developers. Lastly, the sixth section (chapters 16 and 17) presents final considerations and the methodology used in the study.

1.2 Status of the Global Market

Digital games have long since ceased to be entertainment just for children and adolescents and, have become part of popular culture in many countries. Along with the "aging" of gamers have come other applications, including education, company training and qualification, industrial simulations using VR/AR and even in the health sector.

The emergence of an industry with significant economic potential and the impact of introducing digital games as a new technology in other sectors are of great relevance. However, in this section, we will focus on the current scenario of this global industry.

Second only to TV in the ranking of the world's entertainment businesses[2], the digital gaming industry's revenues fell to USD182.9 billion in 2022, a 5.1% drop from 2021 and the first ever retraction since it began to be monitored by Newzoo[3]. The decline wasn't larger because Latin America grew 3.3%,

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[2] STATISTA. [S. l.], 2022. Available at: https://www.statista.com/. Accessed on: September 15, 2023.

[3] NEWZOO. Newzoo's video games market size estimates and forecasts for 2022. [S. l.], 2023. Available at: https://newzoo.com/resources/blog/the-latest-games-market-size-estimates-and-forecasts. Accessed on: September 20, 2023.

and the Middle East and Africa grew 5.8% compared to 2021. The reasons for this downturn include rising inflation in some countries resulting in an allocation to other expenses, the lack of components for hardware production, continued impact of the Covid-19 pandemic, and the uncertainties of war and geopolitical instability in Europe.

For 2023, Newzoo projects growth which will not only overcome the drop in 2022, but will generate real growth compared to 2021, reaching USD 193.7 billion, and climbing to USD 206.4 billion in 2025. This projection indicates that digital games will continue to be one of the sectors that will drive the growth of the entertainment industries in the coming years.

1.3 The Brazilian digital gaming ecosystem

The digital games industry, like other technology and entertainment sectors today, is inherently international. The low barriers to international operation allow small companies to place themselves within a global ecosystem, without the need to act in a local one.

To illustrate this point, a Brazilian company can work with international partners to develop a game and distribute it directly on Steam in English, without having a footprint in the local ecosystem.

As presented in the "2022 Brazilian Gaming Industry Survey", the Brazilian ecosystem is part of the global ecosystem. Local companies, each with their own characteristics and ways of operating, will create business networks within global or local value chains, with the players in these chains varying according to the type of services offered by the developing companies.

While studios focused on entertainment games (end consumer or development for third parties) can forge relationships with studios of all sizes and support companies (publishers, consulting firms, distributors, etc.), studios that develop training games, advergames and educational games will have companies, schools, training area experts, among others, in their value chain.

This variety of players and arrangements allows developers to occupy different positions in the market, and they can vary their operations at different points in their business evolution, including operations in other related sectors, such as animation and gamification projects.

1.4 Where Brazil fits into the Global context

In recent years, the Brazilian gaming industry has presented two vital characteristics that show robust development. On the one hand, the demand for games in Brazil maintained 3% growth in 2022, contrasting with the global decline of 5.3% observed in the same year, according to Newzoo data. Although the Game Brasil Survey showed that the number of Brazilians who say they play a game has fallen from 74.5% (2022) to 70.1% in 2023, around 82.1% of Brazilians say that playing digital games is one of their main forms of entertainment[4].

[4] Game Brasil Survey. PGB 10 Years 2023 Edition. Available at: https://www.pesquisagamebrasil.com.br/. Accessed on: October 2, 2023.

As the largest Latin American market, Brazil is considered to be the 5th largest in terms of online population, with an estimated 103 million players[5]. The mobile market accounted for 49% of revenues in 2022, with the PC making up 26% and consoles 25%. Another relevant data point observed in the PGB (2023) was the inversion in the ratio between male and female players. The survey found that men represent 53.8% of gamers, while women account for 46.2%, a fact that hasn't happened since the 2016 survey.

The age distribution among players is increasingly balanced, with the 19 to 44 age group ranging from 10.1% to 16.2%, the latter being the 25 to 29 age group, followed by people aged 30 to 34 (16.1%). The over-50 age group grew by 2%, reaching 8.5%.

With regard to ethnicity, the majority of Brazilian gamers responding to the PGB (2023) identify themselves as white (42.2%), followed by mixed race (41.4%) and black (12.7%). The biggest variation was in the mixed race group, which grew by 4.1%. Then, in smaller numbers, 2.0% declared themselves as yellow, 0.8% as indigenous and 0.4% as other colors or races. And as far as social class is concerned, there has been no change in the profile of the Brazilian gamer, with 65.7% belonging to classes B2, C1 and C2, followed by class B1, at 11.7%; class A, at 12.3%; and classes D and E, at 10.4%.

The preference of gamers in relation to platforms shows that smartphones grew by 3.4%, now accounting for 51.7% of gamers. Home consoles now rank second, with 20.5% of the public's preference, overtaking PCs (desktops and laptops), which dropped to third place at 19.4%, with other platforms accounting for 8.4%, according to PGB (2023).

On the other hand, the number of studios and the launch of Brazilian companies abroad has grown, as has the interest of international studios and publishers investing in Brazil.

[5] NEWZOO. Key Insights into Brazilian gamers – Newzoo Gamer Insights Report. Available at: https://newzoo.com/. Accessed on: June 7, 2023.

As shown in this report, over 1000 studios were mapped in the country, with more than 2600 games released between 2020 and 2022, 1009 of which were released just last year. One way to measure the growing success of Brazilian gaming companies overseas is the reception for their products in the various markets where they operate, both in terms of their own products and third-party offerings. Half of the domestic developers operating in international markets obtained over 70% of their revenue internationally. This number rises to 65% when considering studios whose overseas revenue exceeds 50%. This growing number of games launched abroad reinforces the position of Brazilian studios in terms of their performance in the consumer market.

Brazil's potential as a promising region for External Development services, as indicated in the 2021 and 2022 XDS Summit reports[6], shows that Brazilian studios focused on external development are meeting international demands with quality. Indeed, Brazil is highlighted in the report for its artistic as well as engineering and co-development capabilities, in addition to its favorable time zone for communication with both Europe and the United States.

In addition, there has been direct investment in local projects and companies, such as the acquisition by Fortis Games and investments by Room 8 Group, along with EPIC Games' investment in the company Aquiris, from Rio Grande do Sul.

Finally, it's worth noting that the estimated revenue of local studios amounts to only 10% of the consumption of Brazilian gamers, which shows that despite the growth and strengthening of Brazilian developers, there is still a lot of room for evolution.

[6] XDS – External Development Summit. 2022 Insights on external development for the video game industry. Available at: https://xdsummit.com/wp-content/uploads/2022/03/XDS_2022_Insights_Report.pdf. Accessed on: August 29, 2023.

1.5 Our moment in history

The 2022 Brazilian Gaming Industry Survey[7] presented a brief history of the Brazilian gaming industry divided into five stages: 1) 1983 to 1992 – The Beginning: the domestic trail blazers; 2) 1993 to 2001 – Professionalization: the CD-ROM era; 3) 2002 to 2010 – Coordination: The industry gets organized; 4) 2011 to 2017 – Rise: Opening the doors to the global industry; and 5) 2018 to the present – Pandemic and consolidation: the sky is the limit.

This section seeks to complement what was previously presented with relevant information on what happened in the Brazilian gaming industry in the years 2022 and 2023. As part of the historical moment, it was decided not to determine whether the year 2023 continues the fifth stage presented by the 2022 survey, nor to state that it begins a new historical moment.

The 2022/2023 biennium was marked by international acquisitions and investments in Brazilian companies. In March 2022, the Londrina, Parana based studio Oktagon, which developed the smartphone games Armies & Ants and Dungeon Battles, was bought by Fortis, a newly created North American company and publisher, and joined the already acquired Doppio Games and Metagame. In November 2022, Pernambuco studio PUGA, which specializes in art production, was bought by developer Room 8 Group. Epic Games acquired the Aquiris studio, making an initial investment in 2022 and completing the purchase in April 2023, creating Epic Games Brasil.

Also in 2022, the studio Rogue Snail had its game Relic Hunters: Rebels distributed exclusively by Netflix.

Brazil was the country honored at the world's biggest gaming event, Gamescom 2023, held in Cologne, Germany. As a Country Partner, the Brazilian delegation stood out at the event, reflecting the growth of Brazilian developers.

[7] FORTIM, Ivelise (Org). 2022 Brazilian Gaming Industry Survey. ABRAGAMES: São Paulo, 2022.

In terms of public policies, the main highlight was the approval of the Paulo Gustavo Law (LPG), Complementary Law No. 195/22, which allowed up to BRL 1.95 billion to be earmarked to support audiovisual productions. In the details of Decree No. 11.523/23, the production of games was included among audiovisual productions. In September and October, several cultural secretariats published calls for proposals to support the creation of electronic games, the results of which had to be published by the end of 2023.

Figure 1 presents these events and others, such as Brazil's highlight at XDS in 2022 and ABRAGAMES' unprecedented partnership with BGS, in the same year. In 2023, the first edition of Gamescom Latam in Brazil was announced for 2024. The beginning of the partnership between Games Connection and BGS was announced for the year 2024 and the active contribution of ABRAGAMES and Regional Associations in the replacement text of the Brazilian Games Legal Framework.

Figure 01: Highlights 2022-2023

2022

- **XDS Insights Report** places **Brazil** at the **top of emerging markets** in the gaming sector**.**
- **Oktagon** is acquired by **Fortis Games.**
- **PUGA** is acquired by **Room 8 Group.**
- **Relic Hunters: Rebels,** developed by **Roque Snail,** is the first. game to be released **exclusively** on the **Netflix Games** service.
- **YUKI, by ARVORE, is a finalist in the D.I.C.E. Awards**
- **ABRAGAMES** and **BGS (Brazil Game Show)** establish an **unprecedented partnership** for **members.**

2023

- The **first edition** of **Gamescom Latam announced** for **2024** in Brazil.
- **Aquiris** is acquired by **Epic Games**, becoming **Epic Games Brasil.**
- **Brazil** is a country **honored** at **Gamescom 2023.**
- **Public grants** from the **Paulo Gustavo Law** are launched with games being covered.
- Active contribution of **ABRAGAMES** and **Regional Associations** in the **replacement text** of the **Brazilian Games Legal Framework.**
- **Game Connection** joined forces with **BGS (Brasil Game Show)** to create **Game Connection|BGS** for **2024.**

2.
State of the industry

2.1 The challenges of mapping Brazilian digital games companies

Mapping any sector of the economy takes time and a perspective that mixes methodological rigor and market aspects. Mapping the digital gaming industry in Brazil adds some extra challenges that should be pointed out for a better understanding of this report and its use for decision-making.

One problem that has been observed and addressed in the literature for some time now is the lack of a specific CNAE (National Economic Activity Classification) for game development companies. This is neither a new problem, nor is it exclusive to the Brazilian industry, as the 2022 Finnish Industry Report[8] indicates the same challenge. As seen in the 2022 Survey, one of the CNAEs used by Brazilian companies is 3240-0/01 – Manufacture of electronic games, which, because it is not exclusive to development studios, is confused with other activities, such as the construction and rental of arcades, for example.

Other options chosen by Brazilian studios, already showcased in the previous survey, are CNAEs 6201-5/01 – Development of computer programs to order;

[8] The Game Industry of Finland - Report 2022. Available at: https://www.playfinland.fi/. Accessed on: June 20, 2023.

6202-3/00 – Development and licensing of customizable computer programs; 6204-0/00 – Information technology consultancy; 6209-1/00 – Technical support, maintenance and other information technology services, or other audiovisual production CNAEs. All of these are shared with different companies that often don't share any characteristics with digital game developers.

Another barrier in surveying the number of companies active in the market is related to one of its specific characteristics, which is that it is highly dynamic, with low barriers to new entrants. Many companies can be informal and remain so until their product is very close to launch, while other young companies remain inactive for some time due to a lack of resources, but can return to activity at a later date. Other studios, although closed, have active games on the market with revenues, and there are cases of individual developers with Corporate Taxpayer Registry (CNPJ) numbers, among others.

While the lack of a CNAE does not allow us to define a more precise universe of companies, the other barriers and situations make it difficult to understand which companies are actually active.

1042
Active studios

2.2 Number of developer studios in Brazil

Bearing in mind the difficulties presented above and maintaining the logic previously established, it was decided to adopt the same definition of "Digital Game Developer", i.e. "a company or business, made up of one person or more, that performs one or more of the following: a) develops digital games for smartphones and tablets, computer, web, virtual reality (VR), augmented reality (AR), social networks or console, for profit and non-profit, as a main or secondary activity; b) develops entire games or provides game development services for clients or partners." It is also worth considering the fact that these companies could engage in other activities.

When analyzing the respondents to the previous survey, it became clear that some of the mapped studios were formalized individual developers. With this in mind, it was decided to keep them on the list of studios (active or inactive), since in order to develop their products these studios hire services or create partnerships with other developers, or they may even have changed their company structure during this period.

However, since filling in the questionnaire is optional for the respondent, they could fill in the data as a freelancer, based on their choice.

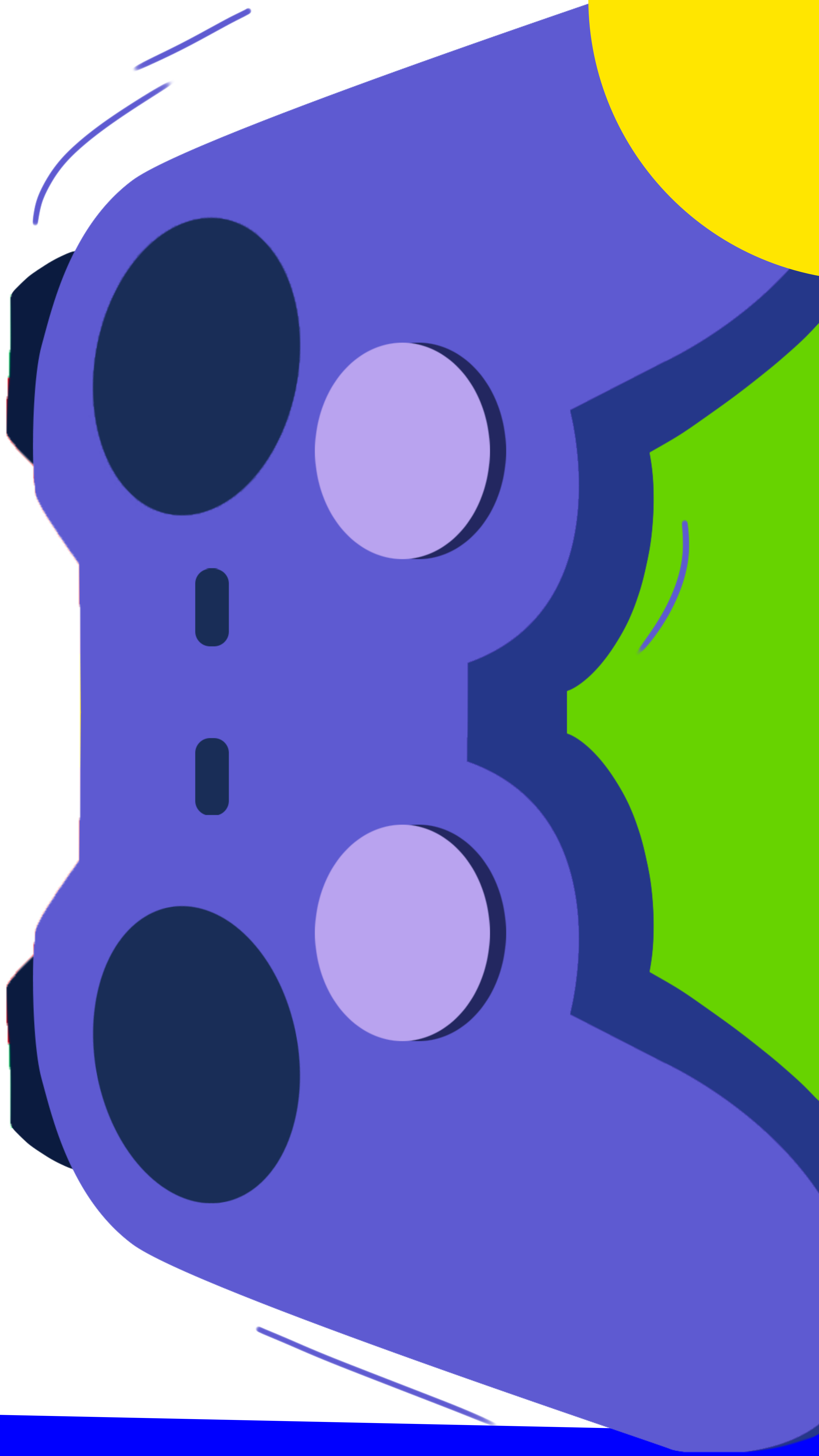
In order to avoid generating a statistical break in the sample between the years, the criteria for considering a mapped company as active in the survey were maintained for 2022 with one change.

To be active, developers had to meet at least one of the following criteria: a) participate in a specific regional digital games association/collective; b) have answered the survey questionnaire; c) have a company website and/or social networks with activity in the years 2021/2022; d) have a game released in the year 2021/2022; e) have a company with an active game and revenue, as measured by the AppMagic platform; f) have an active CNPJ and a main CNAE consistent with the game development activity; g) have confirmed receipt of the survey by telephone; h) have one or more games updated in 2021/2022/2023; or i) have a Google account indicating the company's operating hours. Additionally, j) have a product participating in the "MADE IN

BRAZIL SALE 2023" on the STEAM platform. Using these criteria, 1042 active studios developing digital games in Brazil were mapped.

In the 2023 survey, 309 companies responded as developer studios, an increase of around 39% compared to 2022 (223 companies). The respondent studios represent 29.7% of all active developers. In addition, 34 studios on this list answered the questionnaire as self-employed because they have individual companies, most of them MEI (these companies are analyzed in chapter 15).

This brought us to 343 responses from companies considered active, reaching 33% of the active developers mapped by the stipulated criteria. Given that this sample can be considered representative, as in 2022, it is estimated that the respondent studios represent the industry, with the exception of the two largest companies focused on the mobile market and two large studios that have been acquired by international companies. The fact that not all the companies answered all the questions led to the number of answers varying depending on the question. This led us to indicate the number of responses in the respective charts.



2.3 We continue to grow

In order to keep the data historical and to be able to compare the evolution of the industry, we used data from the 2022 Brazilian Gaming Industry Production Capacity Survey[9], which used data collected that year, comparing it with the First Census[10] and the Second Census[11] of the Brazilian Digital Gaming Industry, as can be seen in Table 1. It should therefore be kept in mind what was already pointed out in 2022, that the first two mappings used census research methods.

Table 1: Evolution of the number of developers (2014, 2028, 2022 and 2023)

GAME DEVELOPERS	2014	2018	2022	2023
Formalized developers	133	276	203	263
Non-formalized developers	-	99	40	46
Respondent developers	133	375	243	309
Estimated % of respondents over total	89%	94%	24%	29,7%
Estimation of total developers	150	400	1.009	1.042
Growth	-	167%	152%	3,2%

Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

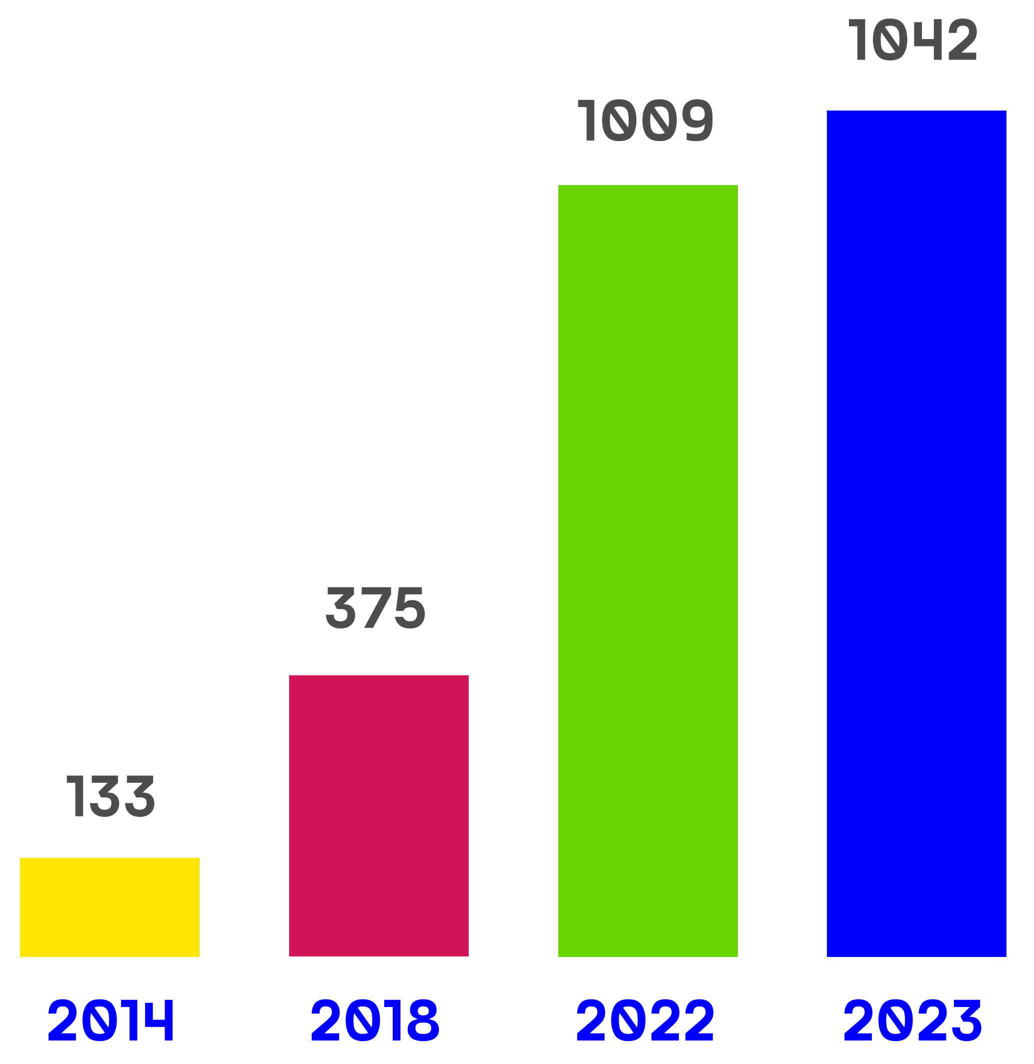
[9] FORTIM, Ivelise (Org). 2022 Brazilian Gaming Industry Survey. ABRAGAMES: São Paulo, 2022.

[10] FLEURY, Afonso; SAKUDA, Luiz Ojima; CORDEIRO, José H. D. I Censo da Indústria Brasileira de Jogos Digitais, com Vocabulário Técnico sobre a IBJD. Available at: https://censojogosdigitais.com.br/wp-content/uploads/2020/03/I-CENSO-II-CENSO.pdf. Accessed on: April 4, 2023.

[11] SAKUDA, Luiz Ojima.; FORTIM, Ivelise (Orgs.). II Censo da Indústria Brasileira de Jogos Digitais. Ministry of Culture: Brasília, 2018. Available at: https://censojogosdigitais.com.br/wp-content/uploads/2020/03/AF-IICenso-completo.pdf. Accessed on: May 3, 2022.

The estimated growth in the number of developers between 2022 and 2023 is 3.2%, while growth over the last 5 years (2018-2023) has reached 177%, always taking into account the aforementioned criteria.

Figure 02: Evolution of the number of developers



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

2.4 Activities performed

In addition to developing games, some of the studios surveyed also perform other activities in parallel. This is because some of these studios have recently started developing games, or to supplement their income. In this case, they are not services for which they are contracted to perform for other gaming companies, which will be discussed in the next topic, but activities that the company carries out in addition to producing games.

Of the respondent studios, 211 performed other activities, while 98 dedicated themselves exclusively to game development. Among the main changes is the drop in gamification activities, which in the 2022 Survey was conducted by 32% of companies.

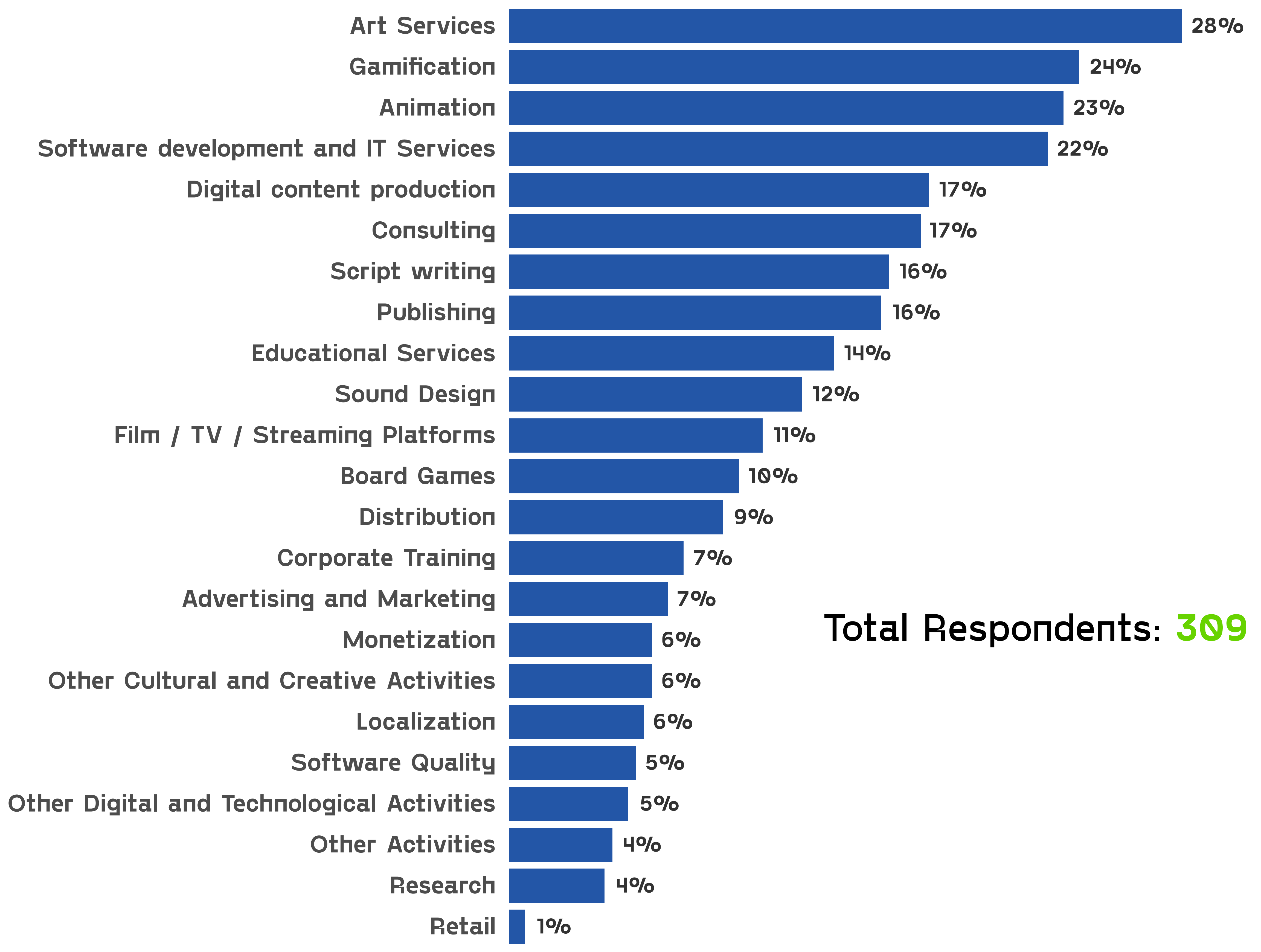
Art Services (28%) became the most performed activity, overtaking Gamification (24%), which remained in second place, tied with Animation, which rose from eighth place (21% in the previous survey) to second place, with 75 companies (24%) performing the activity.

Software development dropped from 25% to 23%, now ranking as the fourth most performed activity by developers. Figure 3 shows the main activities conducted in 2022.

2.5 Services provided to other gaming companies

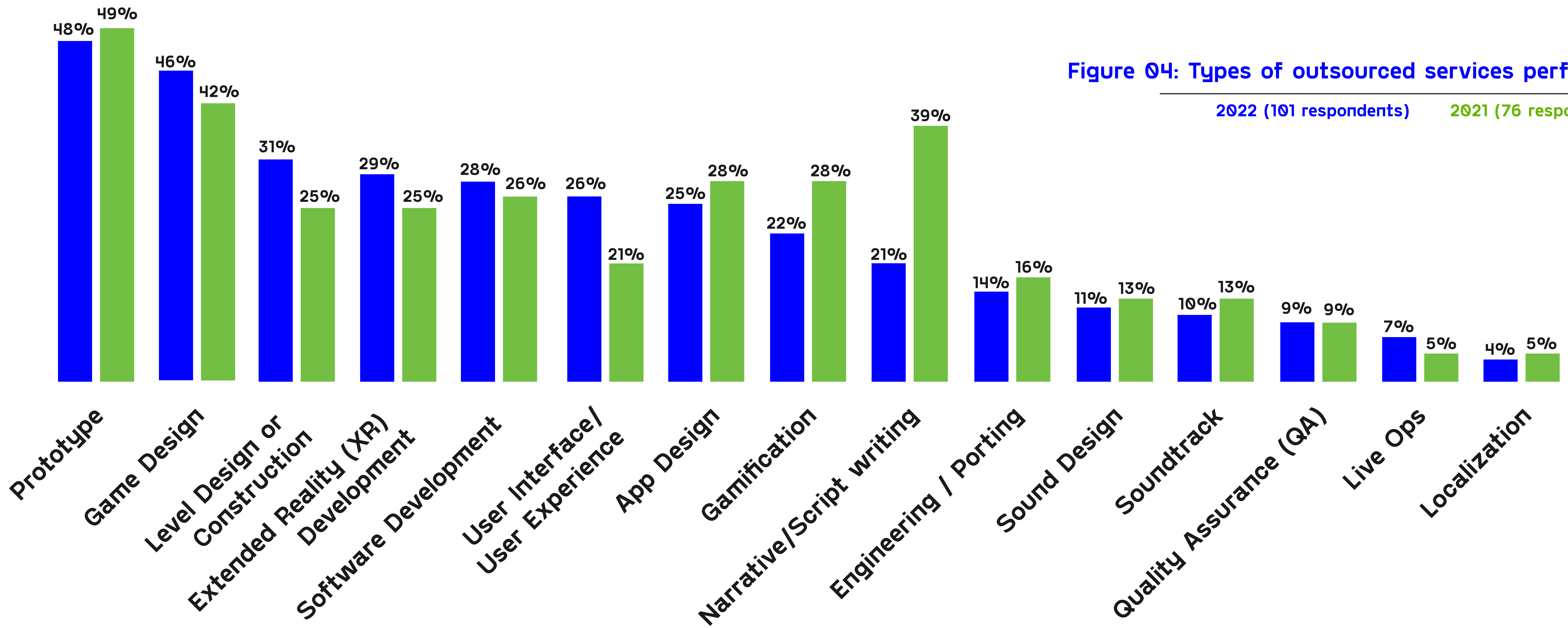
The percentage of companies that provided services to third parties fell from 56% in 2020/2021 to 50.8% in 2022. The percentage variation, however, is low, pointing only to a variation caused by the different samples, and not necessarily a trend. However, it will be important to track this trend going forward in order to better understand its impact in the future. Figure 4 shows the changes from 2021 to 2022.

Figure 03: Activities carried out by developers



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Figure 04: Types of outsourced services performed



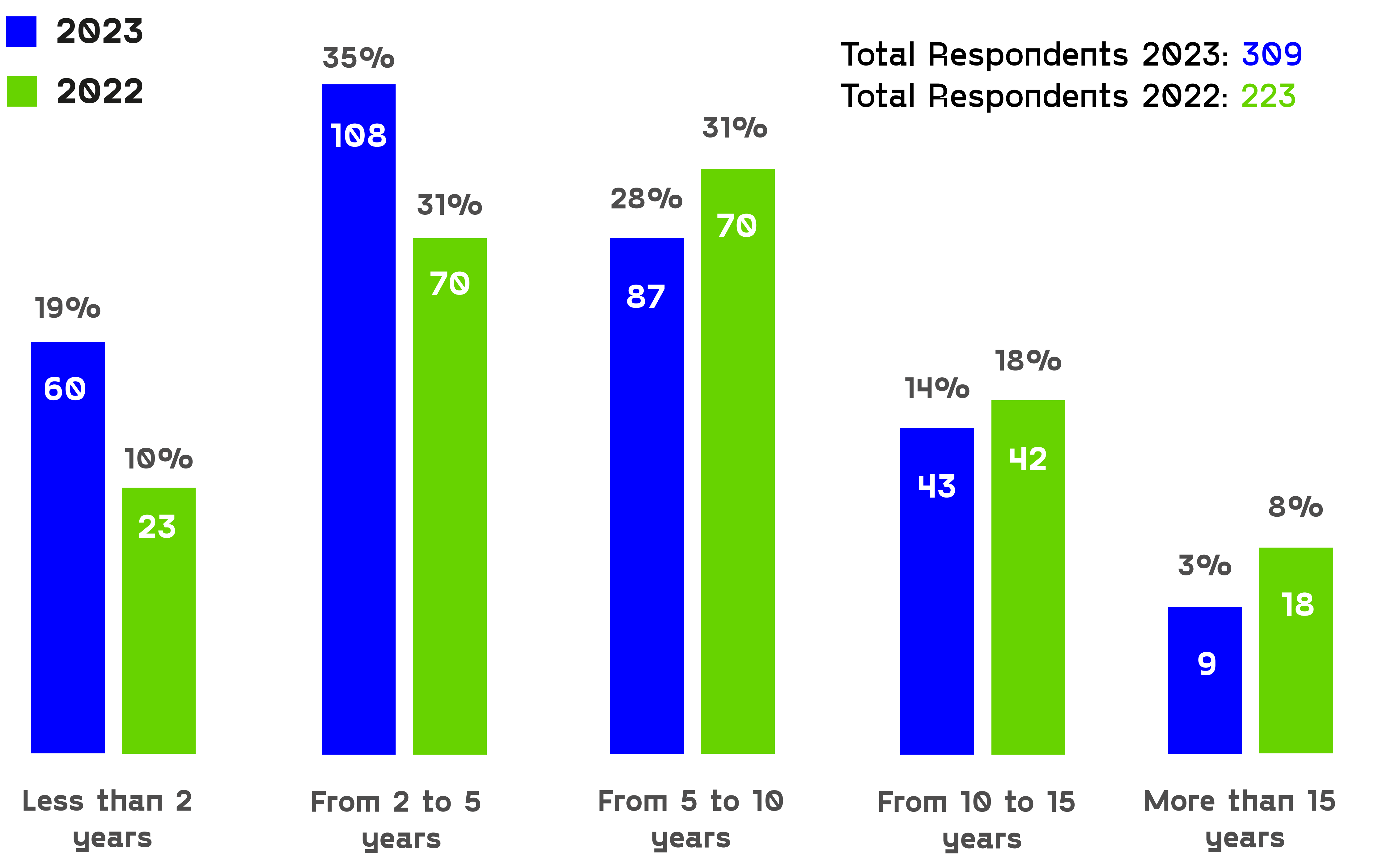
Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

In 2022, the prototype development service continued to be the service most provided to third parties at 48%, one percentage point less than the previous year, followed again by Game Design, at 46%, compared to 42% in 2021. In 2021, application design and gamification followed with 28% each, but application design fell to seventh place in 2022 with 25%, while gamification came in eighth at 22%. The types of outsourcing that took third and fourth place were Construction/Level Design (31%) and Extended Reality (XR) Development (29%). On the other hand, localization (5% in both years), Live Ops (5% in 2021 and 7% in 2022) and QA (9% in both years) are the least outsourced services, which may be the result of the growth of support companies specializing in these segments.

2.6 Operating Time

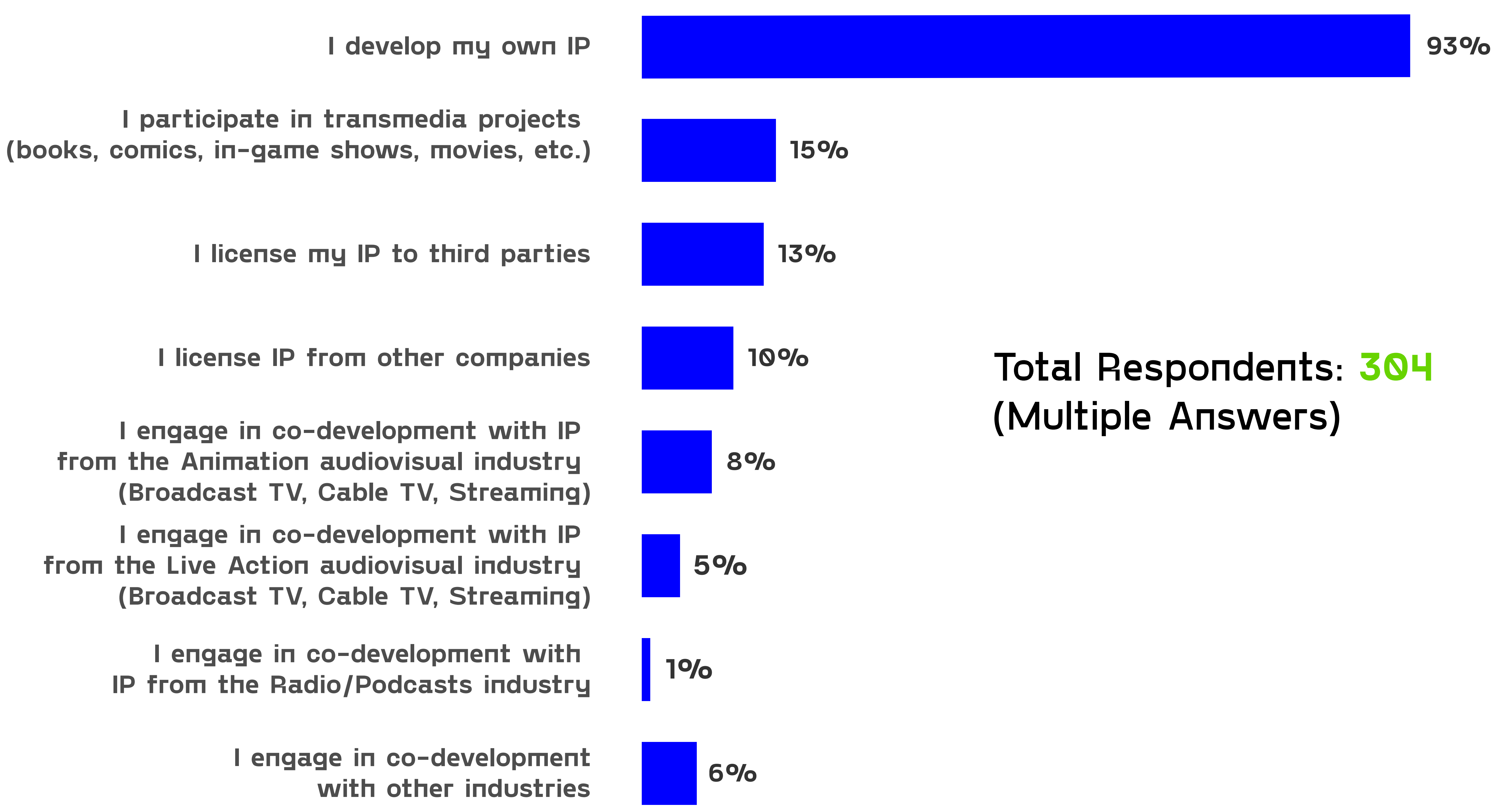
Compared to the 2022 survey, the absolute number of respondent companies over 15 years old fell due to the non-participation of some older companies in the market that were acquired or invested in 2022. The data collected during the BIG Festival 2023 in June showed a greater number of young companies, which in percentage terms almost doubled from 10% to 19%, and more than doubled in absolute numbers. (Figure 5)

Figure 05: How long the studios have been around



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Figure 06: Aspects related to Intellectual Property



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

These results do not invalidate the conclusion that companies are becoming increasingly long-lived, presented in the 2022 report. Clearly, compared to the 2018 census, companies are staying around longer; however, the difference between the samples collected in 2022 and 2023 generates these percentage differences.

2.7 Intellectual Property

Similar to 2021, the vast majority of Brazilian studios (93%) developed their own intellectual property (IP) in 2022 (Figure 6). However, participation in transmedia projects (15%) and licensing their own IPs to third parties (13%) surpassed licensing IPs from other companies (10%), which held the second place at 18% in the previous year. Developers exclusively using their own IP rose from 59% to 64%.

3.

Studios on the Map

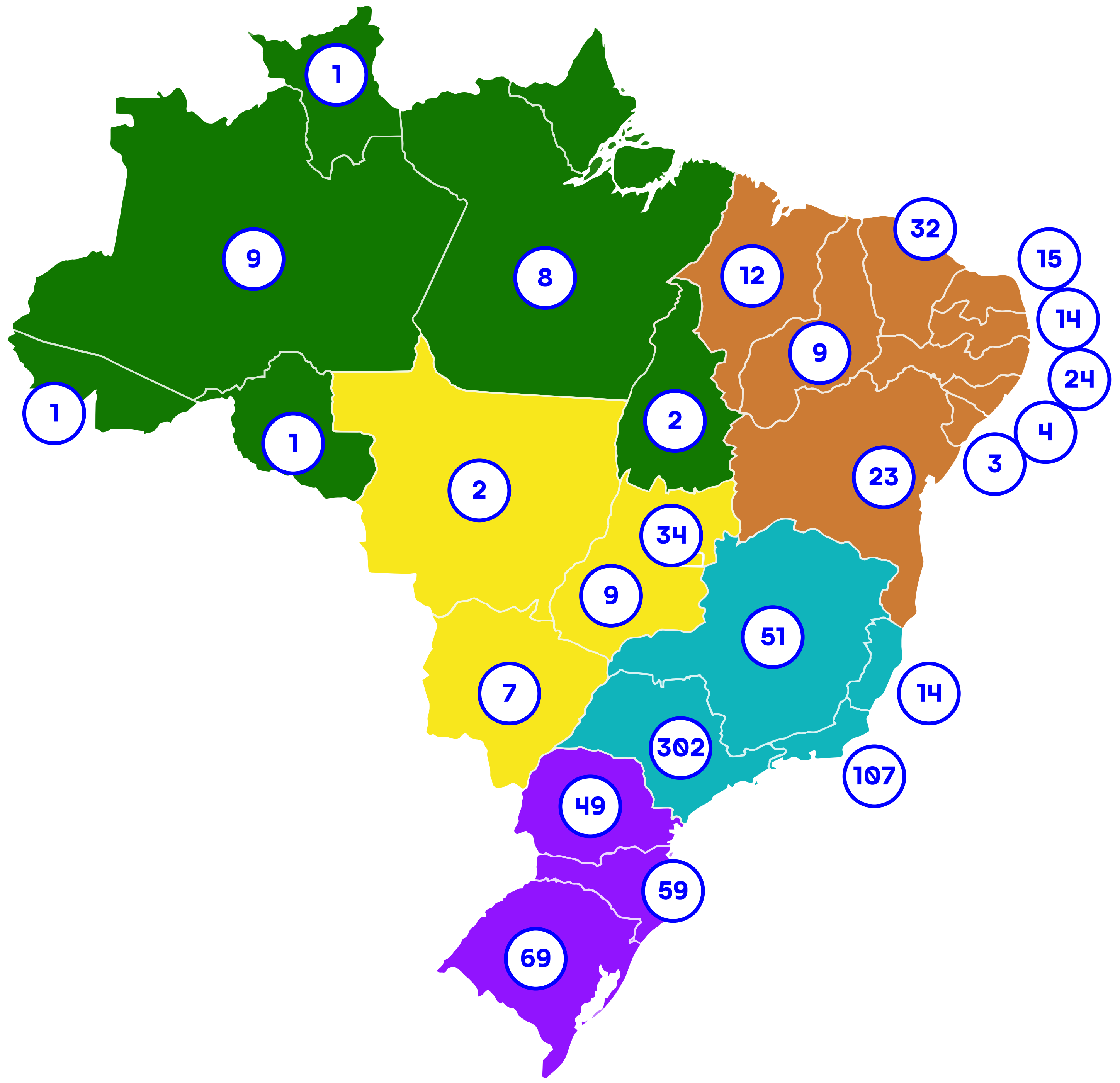
3.1 Map with distribution of companies by state

Although there are studios in practically every state in Brazil, the concentration remains in the southern and southeastern parts of the country. This historical concentration is due to the emergence of the first game design and digital game development courses in these regions, as well as the entire creative ecosystem present in their key cities.

Figure 7 shows the distribution of 861 developers across the country. Their locations were obtained from data collected on their websites and social networks, using the data from the 2022 and 2023 surveys and/or in other ways. It is worth noting that it was not possible to estimate the location of 181 companies when the final version of the report was completed.

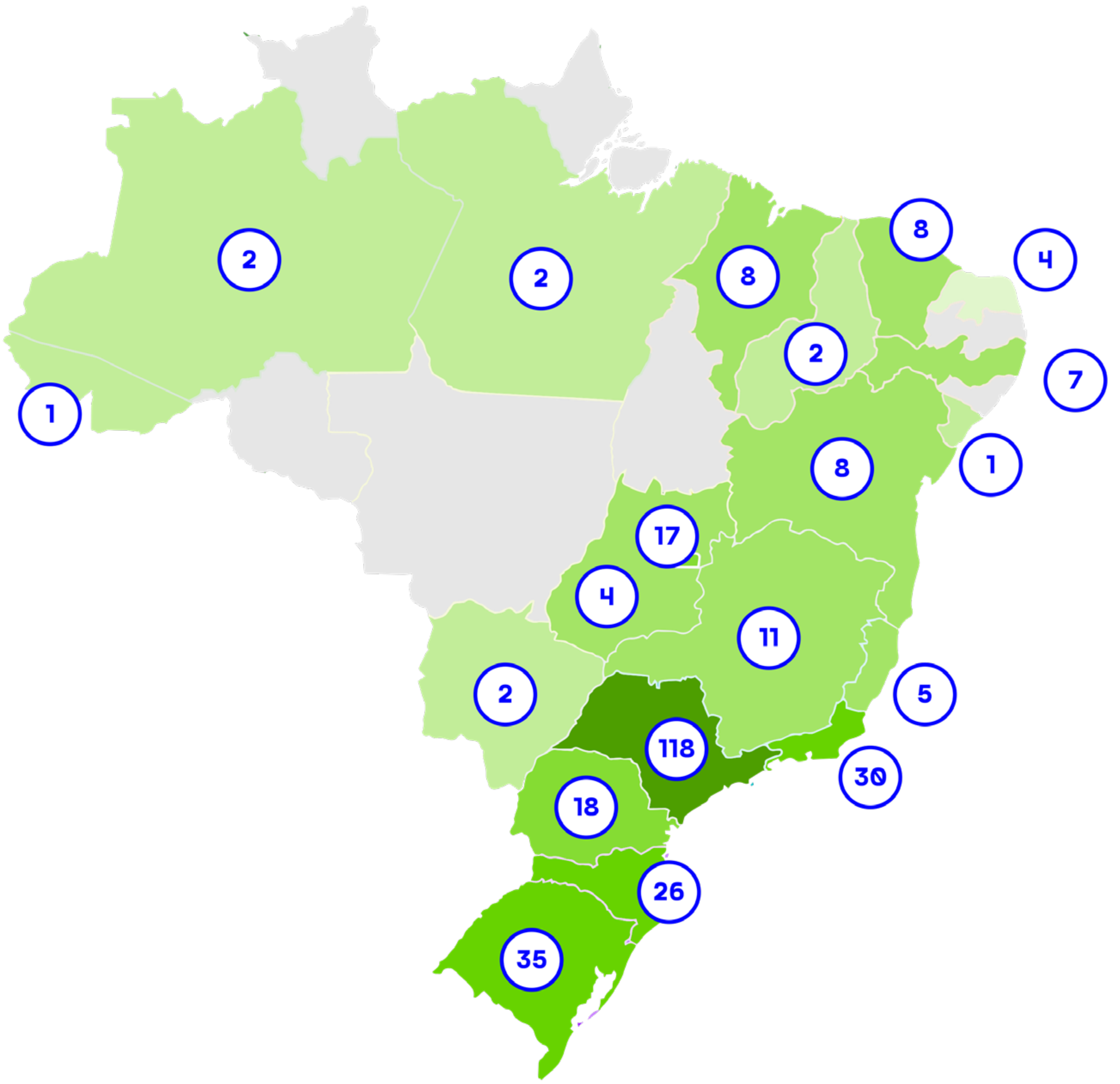
The mapping shows that the states with the highest concentration of developers are: São Paulo (302 companies); Rio de Janeiro (107); Rio Grande do Sul (69); Santa Catarina (52); Minas Gerais (59); and Paraná (49). The figures show a concentration of developers in the southeastern

Figure 07: Distribution of developers mapped throughout the country



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Figure 08: Distribution of respondent developers



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

and southern areas of the country. Amapá is the only state without any developers, while Acre, Rondônia and Roraima only had one company each.

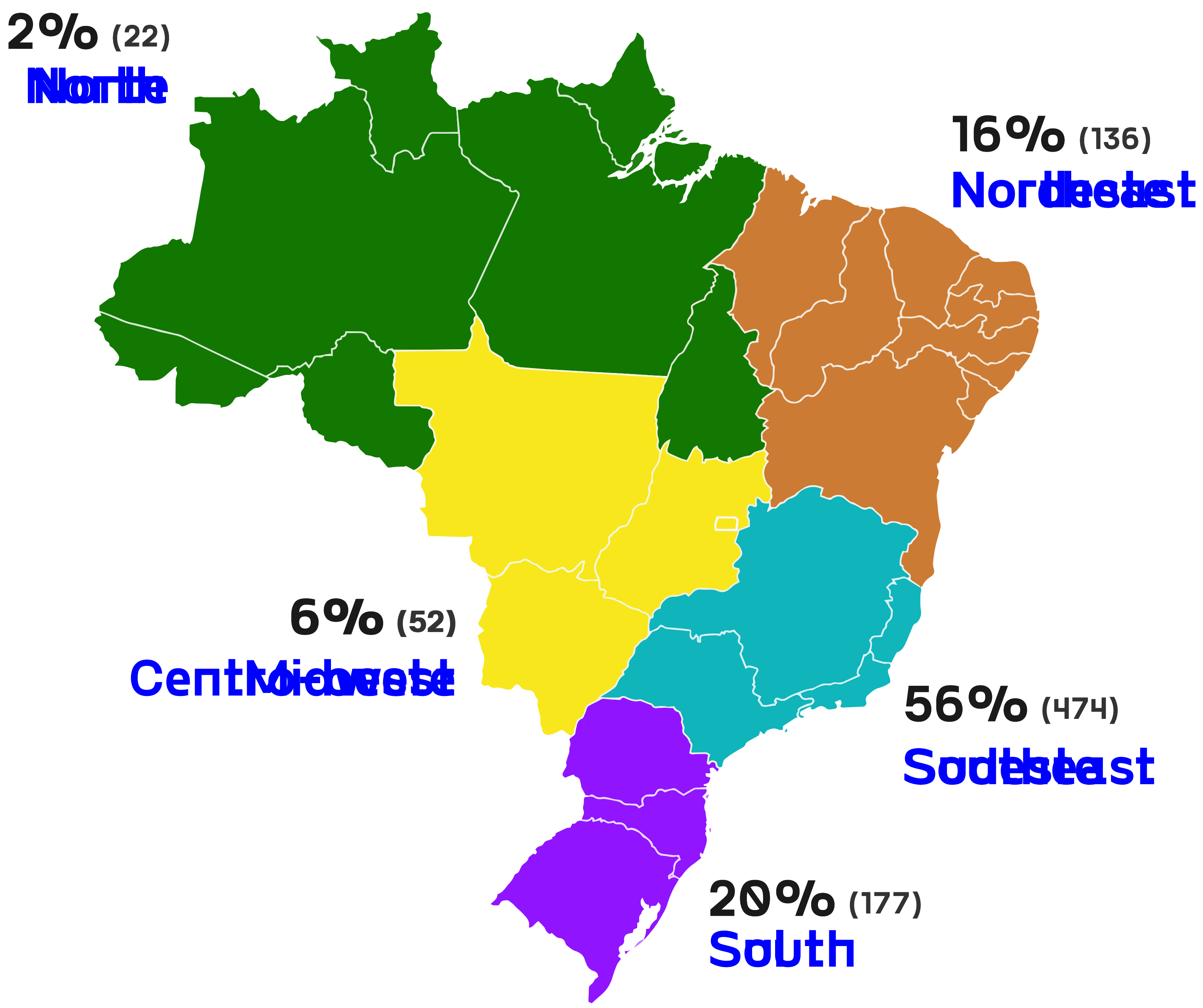
The distribution of studios responding to the survey by state is shown in Figure 8. The result is similar to that suggested by the initial mapping, with the following distribution: São Paulo (118 companies); Rio Grande do Sul (35); Rio de Janeiro (30); Santa Catarina (25); Paraná (18); and Brasília (17). Rio Grande do Sul and Brasília stood out, with at least 50% of the mapped developers having responded to the survey.

3.2 Distribution map of developers by region

As pointed out in the 2022 survey, the distribution of companies by region reflects some critical points in the development of the gaming industry in any country, such as: the creation and longevity of educational courses for game development (design or programming), computer science and the arts, and consequently the market for professionals trained in these areas; the maturity of the technological infrastructure; the existence of other players in the ecosystem that support the growth of the sector and, finally, the more proactive relationship of the public sector with the industry.

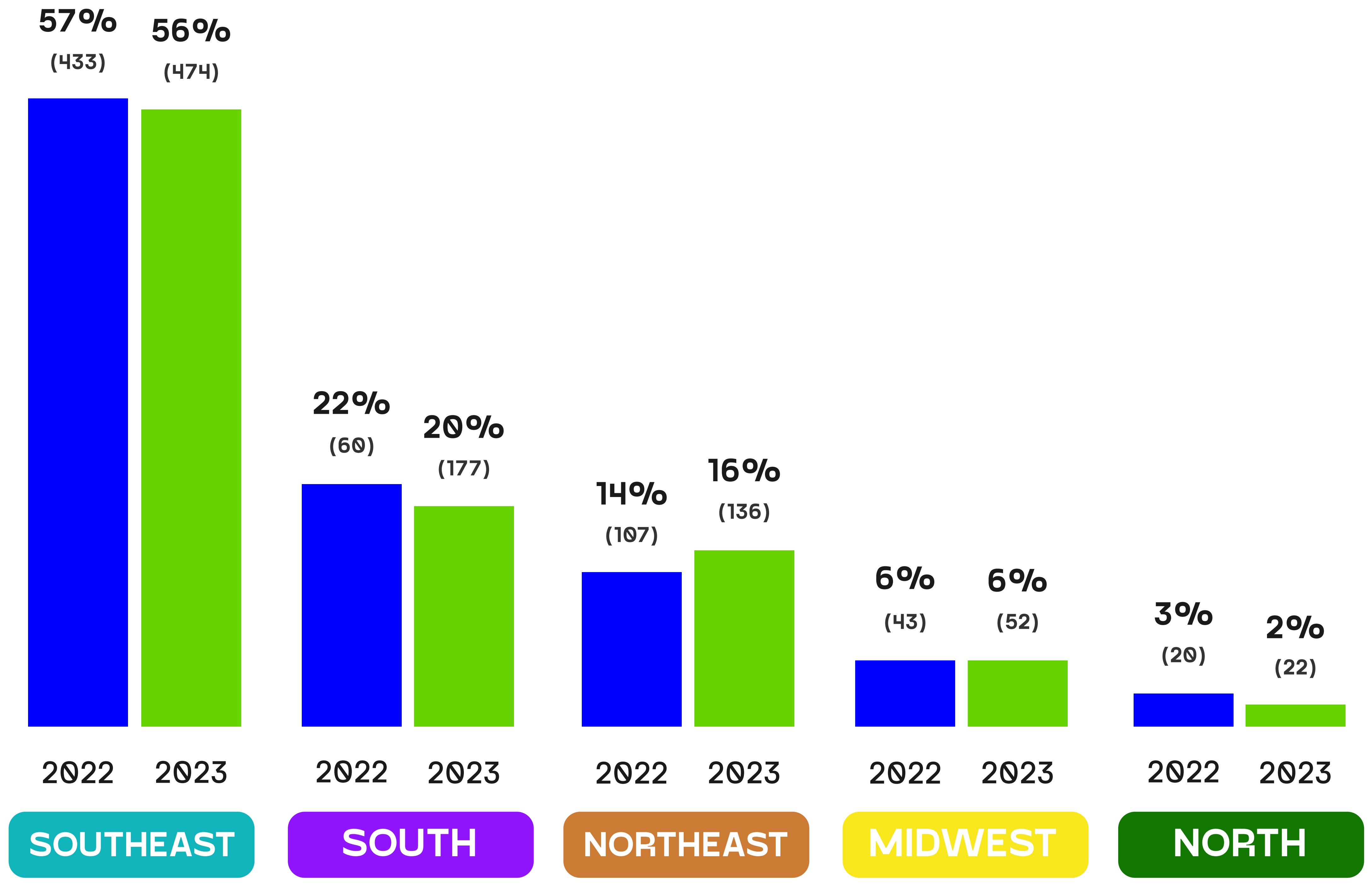
The digital games industry can be considered one of the industries in the Creative Economy. For this reason, their companies are expected to grow closer to cities or regions that support more technology- and creativity-intensive companies. Based on this reasoning, the next section seeks to analyze the ranking of cities with the most mapped companies in 2023.

Figure 09: Mapping by Region



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Figure 10: Comparison of distribution of developers by region in 2022 and 2023



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Of the 861 developers analyzed in 2023, 56% are concentrated in the Southeast, 20% in the South, 16% in the Northeast, 6% in the Midwest and 2% in the North. It is worth noting that the Southeast and South appear with 1% less than in 2022 and the Northeast with 2% more. The Southeast continues to concentrate more than half of Brazil's developers, but the growth of the Northeast does not necessarily indicate more companies operating in the region, but rather that in 2023, the majority of the 99 additional companies whose location can be established were found to be located in the Northeast.

3.3 The main cities where developers are located

Table 2 illustrates the fact that digital game developers set up and develop in cities where the technological and creative structure is more developed. São Paulo has the largest number of mapped studios (167), followed by Rio de Janeiro (71), Curitiba and Porto Alegre (34), Belo Horizonte (32) and Brasília (31), and Curitiba (14).

Table 2: Top 10 mapped cities with the largest number of digital game developers.

CITIES	STUDIOS
São Paulo	167
Rio de Janeiro	71
Curitiba	34
Porto Alegre	34
Belo Horizonte	32
Brasília	31
Florianópolis	29
Fortaleza	21
Recife	17
Salvador	15

Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Table 3: Mapped cities with 5 or more respondent digital game developers.

CITIES	STUDIOS
São Paulo	77
Rio de Janeiro	27
Porto Alegre	18
Brasília	16
Curitiba	14
Florianópolis	12
Belo Horizonte	9
Salvador and São Luis	7
Fortaleza and Recife	6
São José dos Campos	5

Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

When we consider the cities with more than five developers responding to the 2023 survey, we see that the list is in line with the cities, almost all of them capitals, from the initial mapping (Table 3). São José do Campos is the only non-capital city with at least 5 studios based in the city.

4.

Games overview

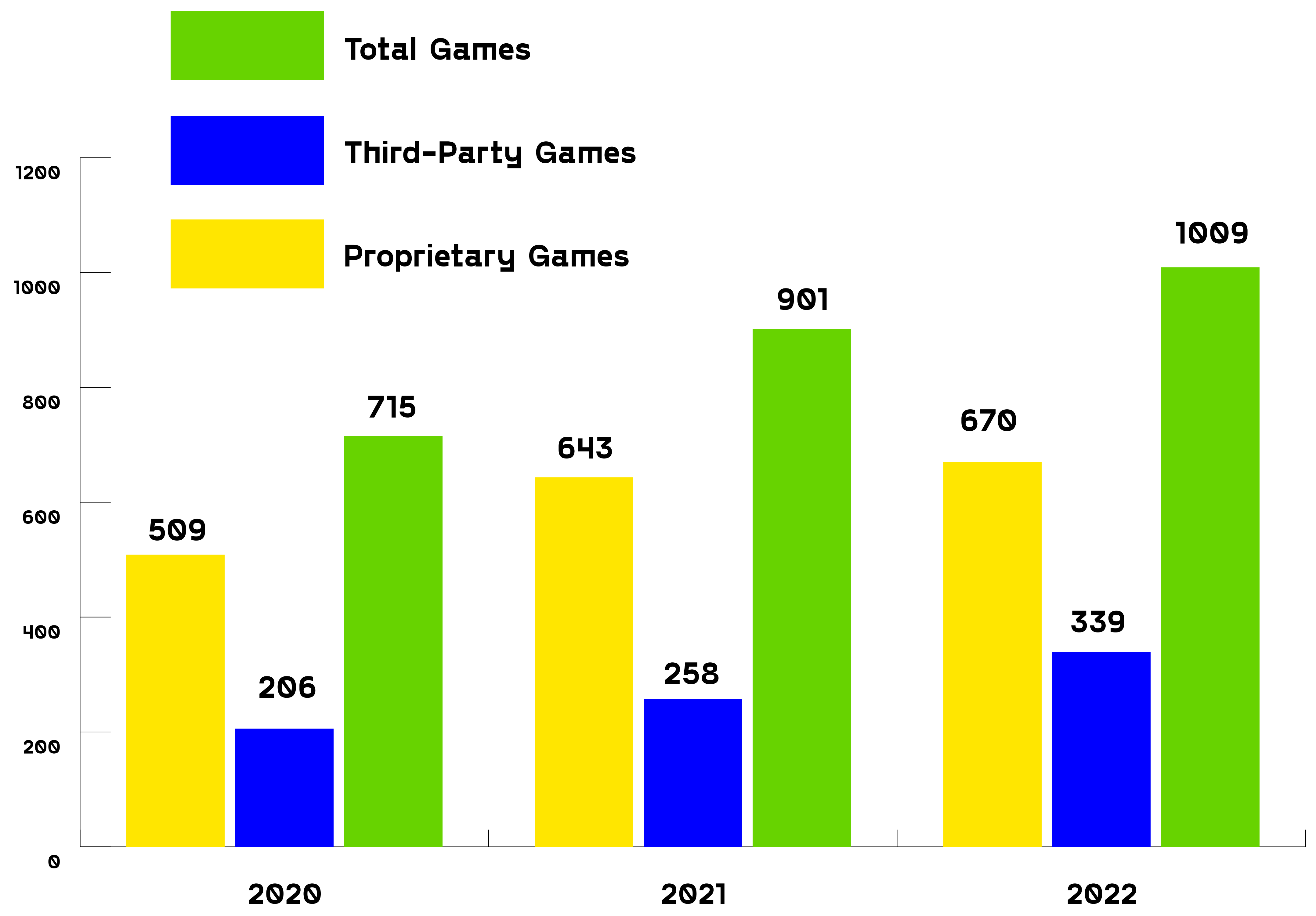
An overview of the games produced in 2022, according to the respondents' data, will be presented in this chapter. The data, when compared with those for 2020 and 2021 from the previous year's survey, should be analyzed considering that the sample for both years is different.

4.1 Number of games

Of the 309 respondent companies, 49% produced a proprietary game in 2022. The number of proprietary games developed reached 670 in 2022 compared to 643 in 2021, up 4.1%. The total number of proprietary games produced in the last three years has reached 1,822.

Adding games for third parties, the production of games in 2022 reached 1,009 games, an increase of 12% over 2021 (901 games), thus totaling a production of 2,625 games over the 3 years. Figure 11 shows the growth of games released between 2020 and 2022.

Figure 11: Evolution of the number of games developed from 2020-2022



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

4.2 Types of games developed

To allow comparison between the years, the categorization by type used in the 2022 survey was maintained. It's worth noting that games in one category are not the same as games in another, either in terms of the investment made in their development or the time taken to complete them. The same applies to games in the same category.

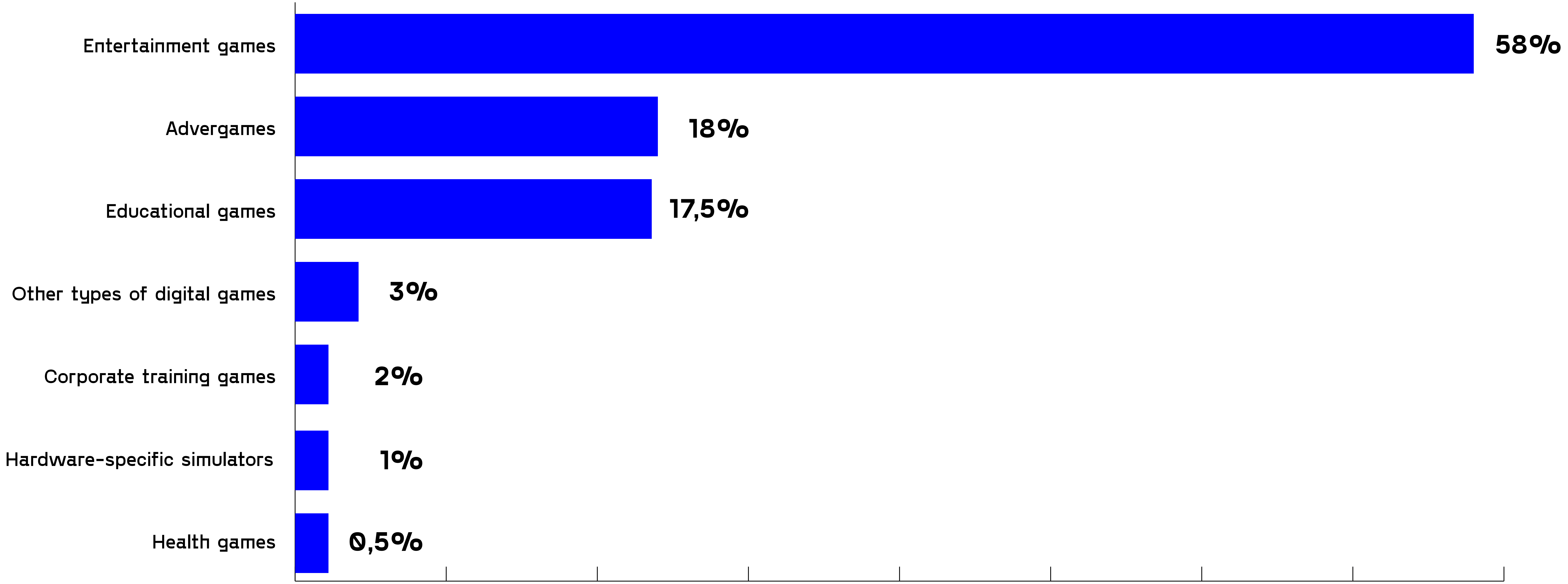
Table 4 shows the production percentage in each of the categories. The increase within a given category may indicate activity growth in the category, since studios don't tend to change their production profile.

Table 04: Games produced by category in 2020, 2021 and 2022.

GAMES PRODUCED BY CATEGORY IN 2020, 2021 AND 2022.	2020	2021	2022
Entertainment games	36%	44%	58%
Advergames	9%	6%	18%
Educational games	35%	26%	17,5%
Other types of digital games	3%	5%	3%
Corporate training games	15%	16%	2%
Hardware-specific simulators	2%	2%	1%
Health games	1%	0%	0,5%
TOTAL GAMES PER YEAR	509	643	670

Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Figure 12 – Types of proprietary games produced in 2022



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

In 2022, around 670 games were developed, with the entertainment games category (58%) producing 390 games (Figure 12). Advergames and educational games came next. As indicated in Table 4, there has been a big change compared to 2021. This change is partly explained by the composition of the sample, since the number of companies that responded that they produce games for this category increased by 35%.

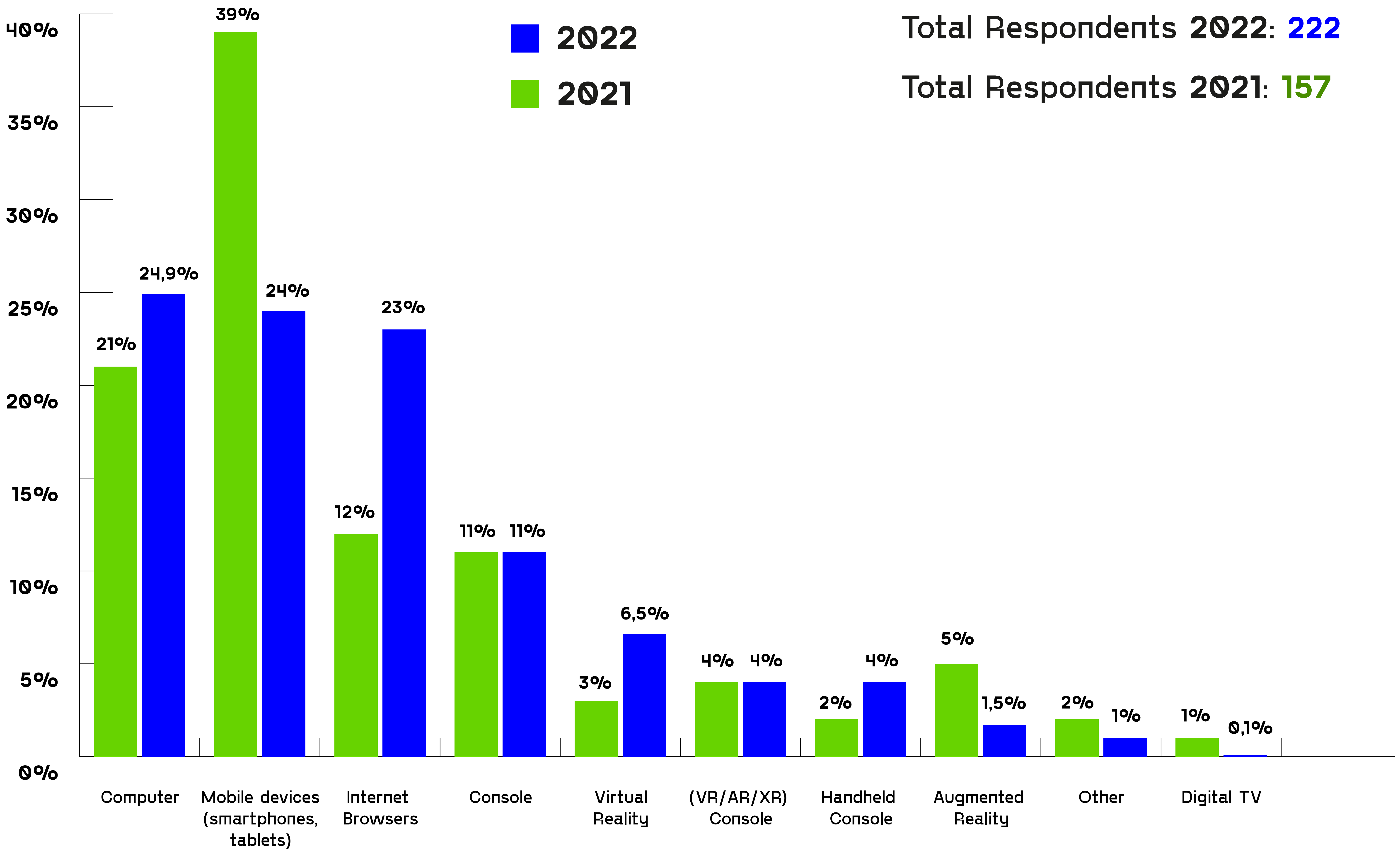
Another impacting factor was the variation in the average number of games produced by the advergames, educational games and corporate training games categories. The average number of games produced per company in the advergames category climbed from 3.2 to around 10.9 games between the years surveyed, while educational games fell from 8 games on average to 4.7 and corporate training games dropped from 10.3 to 1.6 games on average.

4.3 Games developed by platform

When we compare the distribution of games developed by platform, we see that, once again, the difference in the samples in this study compared to the previous year explains the different results for 2022. In the previous study, there was stability between the platforms in 2020 and 2021. However, in 2022, web browser games jumped from 12% to 23%. This result was impacted by three educational and corporate games companies that make their projects available in web format. If the company with the highest production of the three were to be removed from the sample, just for comparison, web browser games would account for 13.4% of the total, close to what was found in 2021.

Figure 13 shows the full results and, most significantly, the computer platform overtook smartphones and tablets, at 24.9% for the former and 24% for the latter. The web browser platform comes third, as indicated above, with 23% and consoles maintained their share at 11%, as in previous years. The digital TV platform, despite being an innovation with the possibility of future growth, fell from 1% to 0.1%, with only 2 projects developed, and social networks again had no response.

Figure 13: Number of games developed by platform in 2021 and 2022

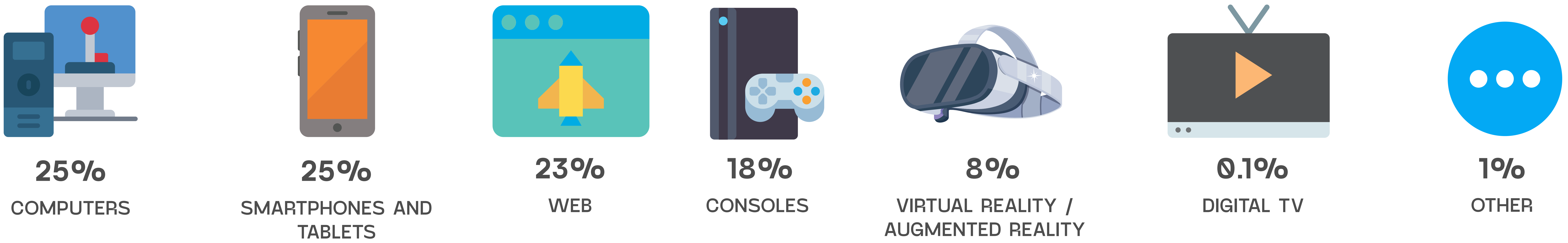


Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Another relevant factor is the continued growth in the production of games for consoles, which was already pointed out in the 2022 survey. Production reached 5% in 2018, 17% in 2021 and 19% in 2022, with an even greater emphasis on portable consoles, which doubled compared to the previous year. Figure 14 shows the distribution of development by platform.

Figure 14 – Summary of development by platform

Total Respondents: 222



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

One figure that demonstrates the multiplatform development trend is the average number of platforms for which the studios produce. In 2022, on average, each of the 222 respondent studios developed for 2.2 platforms. Although it is not possible to guarantee that the same game was made available on more than one platform, it is most likely, as small and medium-sized studios have fewer resources to allocate to different games.

4.4 Distribution

The way games are distributed is directly linked to their development platform. Companies with multiplatform games tend to distribute games through different means, which is why the companies here were able to choose more than one distribution option for their games. As seen in Figure 15, the main platforms for entertainment games are digital download platforms/stores (Steam, Nuuvem, itch.io, among others), accounting for 65% of responses, and mobile application platforms/stores (Play Store, App Store, among others), at around 41%. In line with the production of games for computers and mobile devices presented earlier, the least common include Retail – physical media (4%), Streaming (3%), Other (2%), and Embedded in Hardware, representing 1% of the responses. The results found are in line with the 2022 Survey, when analyzing the order of use of entertainment game distribution platforms.

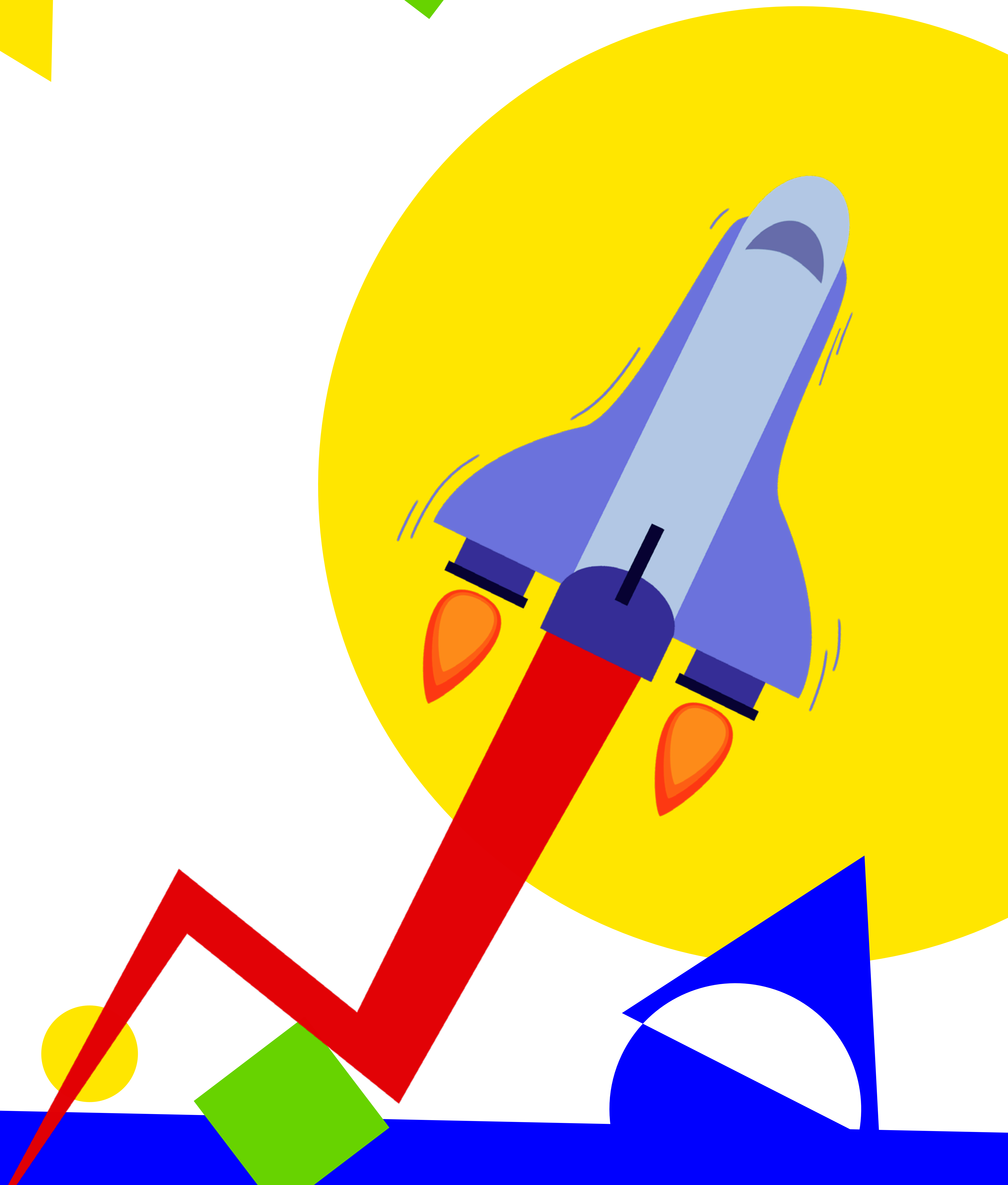
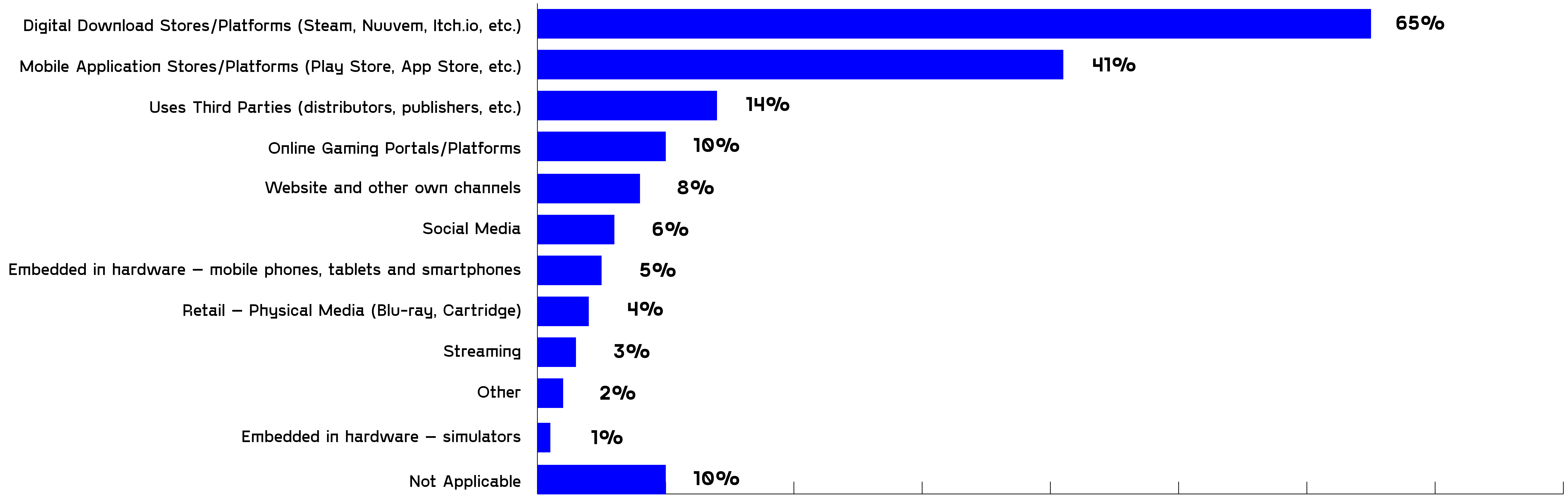


Figure 15 – Distribution platforms for entertainment games

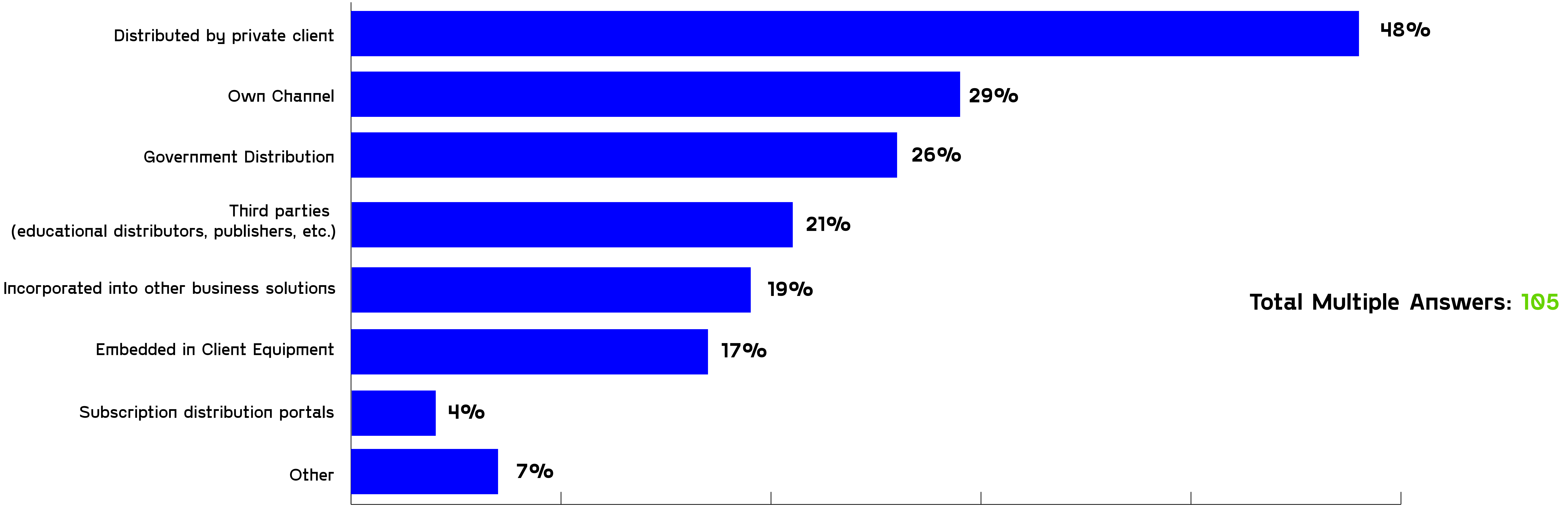
Total Multiple Answers: 280



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Regarding the distribution of impact games/serious games (Figure 16), the main methods cited were: distribution by private clients, representing 48% of the responses; by own channel (29%) and by government distribution, with around 26% of the responses. The least common means of distribution is through subscription distribution portals, at 4%. The distribution of impact games, serious games, through their own channels overtook government distribution in the current survey, whereas in the previous survey government distribution stood second by a small margin.

Figure 16 – Distribution platforms for impact/serious games



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

4.5 Outsourcing games and services

In 2022, the respondent companies indicated that they carried out 1,064 service outsourcing projects. The increase compared to 2021 was around 62%. It should be noted that there was a 30.2% increase in the number of companies providing services, i.e. the number of respondent companies grew from 76 to 99. At the same time, there was an increase in the average number of outsourced services per company, which rose from 8.6 to 10.8. The distribution of these projects is shown in Figure 4 of item 2.5 in this report.

As shown in Figure 17, 157 of the respondent companies (51%) reported providing services to third parties in 2022. Developers that said they did not provide services to third parties amounted to 150 (49%). When compared to 2021, the percentage of companies that said they provide services to third parties fell from 56% to 51%.

Figure 17 – Provision of services to third parties in 2022 **Total Respondents: 307**

Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

However, in relation to games developed for third parties in 2022, as shown in Table 5, we find that entertainment games reach 40%, when adding up the games produced for international and national clients. Entertainment games for international customers (28%) overtook educational games (23%) in 2022, reversing the order presented in 2021. Corporate training games rose to 18%, versus 10% in 2021, taking the third position reported, overtaking full advergames, which fell from 23% to 15%.

Complete health games and complete simulators using specific hardware remain the least outsourced services, at 2% each.

Table 5 – Types of outsourcing by game category

TYPES OF OUTSOURCING BY GAME CATEGORY	2020	2021	2022
Full Entertainment Games (international customers)	18%	23%	28%
Full Educational Games	33%	28%	23%
Full Corporate Training Games	10%	10%	18%
Full Advergames	29%	23%	15%
Full Entertainment Games (national clients)	7%	12%	12%
Full Health Games	1%	1%	2%
Hardware-specific full simulators	2%	3%	2%
TOTAL PER YEAR	106	258	339

Respondents (2020-2021): 72 (multiple responses)
Respondents (2022): 71 (multiple responses)

Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Table 6 — Types of outsourcing by art service

TYPES OF OUTSOURCING BY ART SERVICE	2020	2021	2022
3D Art	14%	14%	21%
2D Art	12%	20%	21%
Animation	11%	10%	13%
Concept Arts	9%	10%	13%
Art – Illustration	27%	19%	11%
Art Direction	8%	12%	8%
Art – Full project	15%	11%	7%
Technical art	4%	5%	6%
TOTAL PER YEAR	303	545	1067

Total Respondents: 63

Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

In 2022, developers conducted around 1,067 outsourced art projects. The main outsourced services were 2D Art and 3D Art at 21%, with 3D Art growing 7% compared to 2021, surpassing Art – Illustration which fell 8% to become only the fifth outsourced art service. Conceptual Arts and Animation follow with 13% each, both of which grew by 3%. Technical arts, despite having grown by one percent compared to 2021, reaching 6%, remain the type of service least outsourced. (Table 6)

4.6 Awards

The number of respondent companies with national or international awards fell from 34% to 28%, mainly as a result of the growth in the number of companies with less than 2 years in the sample. As highlighted in the 2021 survey, "the awarding of prizes allows developers to accumulate symbolic capital, attracting interest from both investors and the end public."[12]

Among the national awards mentioned as relevant by the developers, in order of citation rather than importance, we have SBGames, Sebrae Nacional, BIG Festival, Gamepolitán, Animaí, Cubo de Ouro, Inovaapps, Pixel Show, Guarnicê Film Festival, IGN Brasil, Rio2C, Drops de Jogos, Prêmio Quirino, Brasil Game Show, Games for Change America Latina, and Brazil Game Awards. Others are also mentioned, such as the Curitiba City Council, the ADVBRS/APEXBRASIL Export Award and Inovativa Brasil.

[12] FORTIM, Ivelise (Org). 2022 Brazilian Gaming Industry Survey. Page 52. ABRAGAMES: São Paulo, 2022.

The international awards cited were those received at VIDEOJUEGOS MX, Epic MegaGrants, Games Gathering Conference, Bienal de Veneza, Google Play, Primetime Emmy for Outstanding Innovation, D.I.C.E, Japan Media Arts Festival, IGF - Independent Games Festival, Dubai Game Expo, Casual Connect Serbia, Indigo Design Award, NYX Game Awards, Behance Portfolio Review, Raindance Festival, GDC play, Game Connection America Global Top Round, Overcome Film Festival, Qualcomm Vuforia Vision Awards, Casual Connect, PAX East and West, Square Enix Latin American Contest, Kidscreen Awards, EGW and comKids Prix Jeunesse Iberoamericano, among others.

There were also awards for game development marathons, such as Buildbox Game Jam, Game Jam Plus, MAD GAME JAM, Good Game Brazil Game Jam, Indie Game Jam and Facebook Game Jam.

5.

Human Resources and Diversity

Human capital is the main factor in the so-called Creative Economy. This chapter aims to present how human resources currently present themselves in the Brazilian digital games industry, as well as the situation of diversity.

5.1 Estimation and evolution of the numbers of people at developers

Using data from the 2022 Survey, we can see how the estimated number of people working at Brazilian developers has evolved.

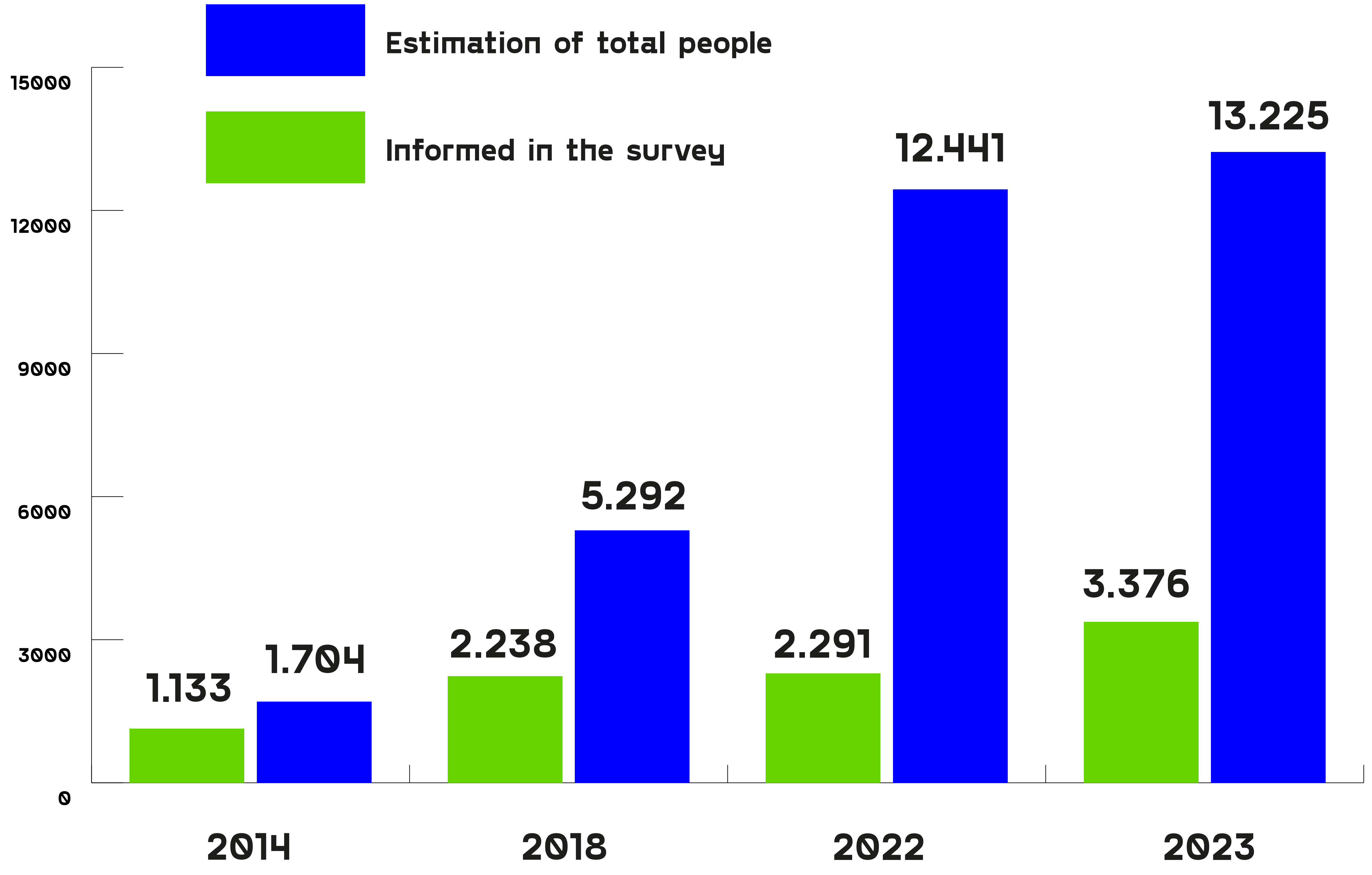
Table 7 – Number of people and developers

PEOPLE	2014	2018	2022	2023
People in formalized companies	1133	2238	2291	3131
People in non-formalized companies	-	492	101	245
Number of formalized respondents	133	201	164	220
Number of non-formalized respondents	-	57	30	34
Respondent estimation	89%	65%	19%	24%
Average number of people in formal companies	8,5	11,1	14,0	14,2
Average number of people in non-formal	-	8,6	3,4	7,2
Estimation of people	1278	4234	12441	13225
GROWTH	-	231%	194%	6%

Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

THE ESTIMATED NUMBER IS
13,225 PEOPLE
AT DEVELOPERS OF BRAZILIAN GAMES

Figure 18 – Evolution of the number of people at developers (2014, 2018, 2022 and 2023)



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

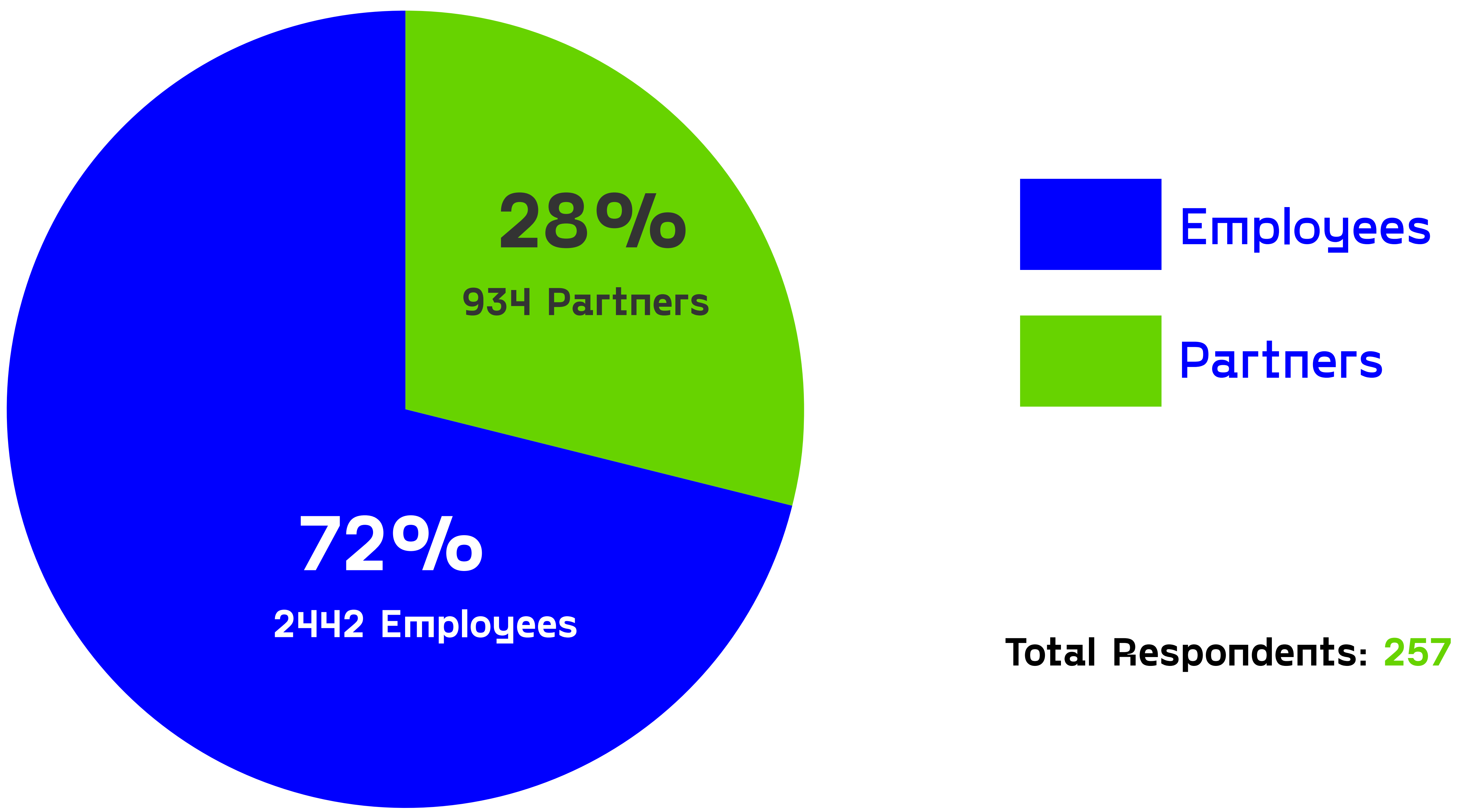
It is estimated that the number of people working for game developers in 2023 reached 13,225 (Table 7 and Figure 18). This is an estimated growth of 6% over the previous year. The average number of people in formal companies grew very little, from 14.0 to 14.2 people. Non-formal companies, on the other hand, saw an increase in the average, which more than doubled, although it didn't return to the 2018 figures.

Even with the large number of layoffs occurring in the largest companies during 2022, it is estimated that 784 people started working at Brazilian game developers.

5.2 Ratio of partners to employees

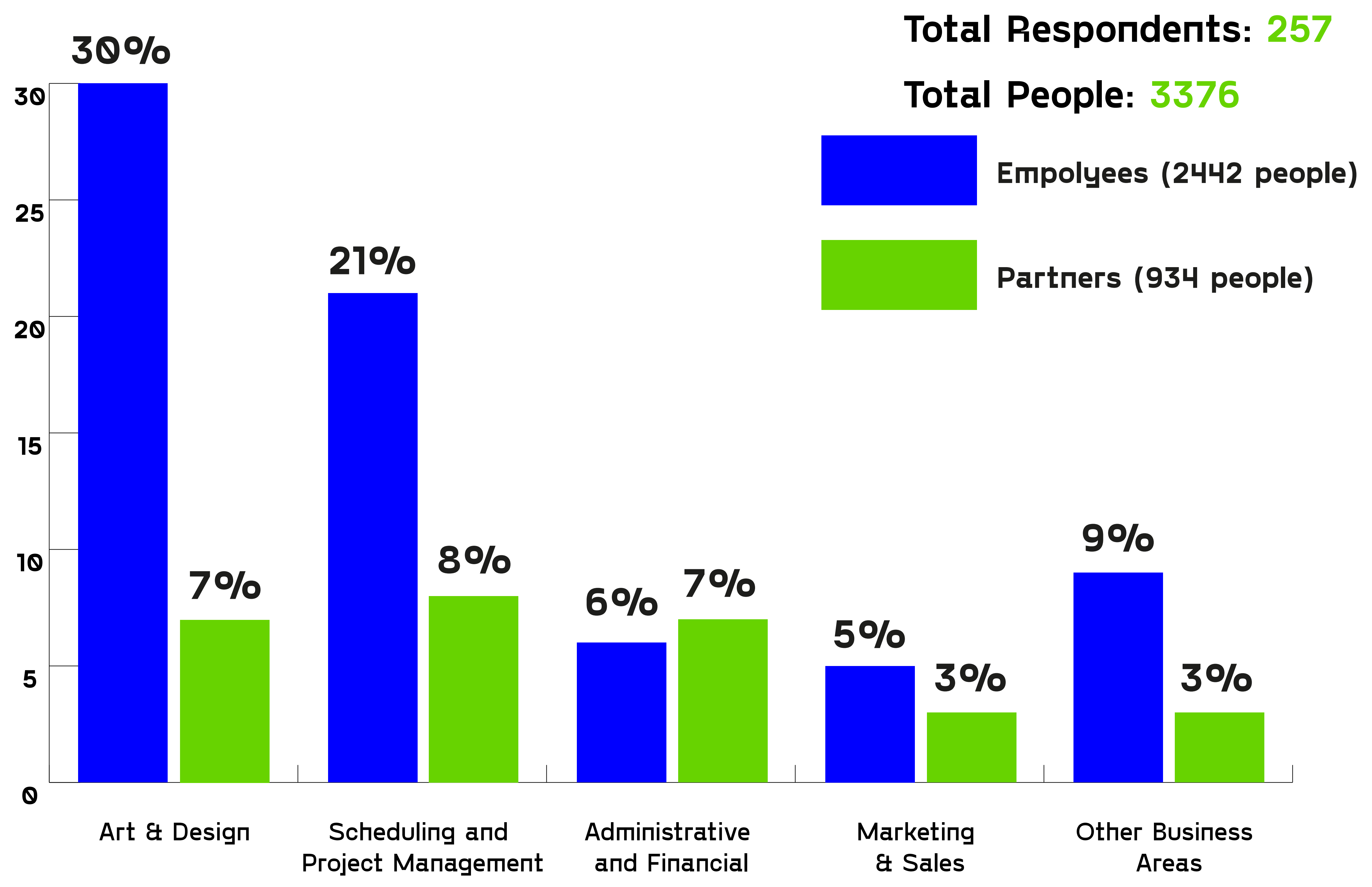
The ratio of partners in developers fell by 1% from 29% in 2021 to 28% in 2022 (Figure 19). The number of employees thus automatically rose to 72%. As already indicated in the 2022 survey, if we consider that partners accounted for 36.2% in Census II of 2018, this ratio indicates a tendency for the average size of companies to grow.

Figure 19 – Ratio of partners to employees



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Figure 20 – Professional/area ratio – Partner-employee division



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Figure 20 illustrates the ratio of professionals by area. It can be seen that the Art and Design area concentrates the largest number of people in the respondent developers, 37%, followed by Programming and project management at 29%. Only in the Administrative and Financial area is the number of partners (7%) slightly higher than that of other employees (6%).

The average number of partners in formalized and non-formalized developers is practically the same. However, it was possible to observe that the number of partners in non-formalized companies is higher than the number of employees. Although this is common in early-stage organizations, the gap has narrowed, as in 2021 the results showed 2.1 partners to 1.3 employees, while in 2022 the data shows 3.6 partners to 3.3 employees. (Table 8)

Table 8 – Average number of partners and employees per formalized and non-formalized developer

AVERAGE NUMBER OF PARTNERS AND EMPLOYEES			
FORMALIZATION	FORMALIZED	NON-FORMALIZED	GRAND TOTAL
Developers	220	34	254
People	3131	236	3367
Employees	2327	112	2439
Partners	804	124	928
People/Developer	14,2	6,9	13,3
Employees/Developer	10,6	3,3	9,6
Partners/Developer	3,7	3,6	3,7

Respondents: 254 (multiple responses)

Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

5.3 Work regime

Table 9 – Work regime at developers

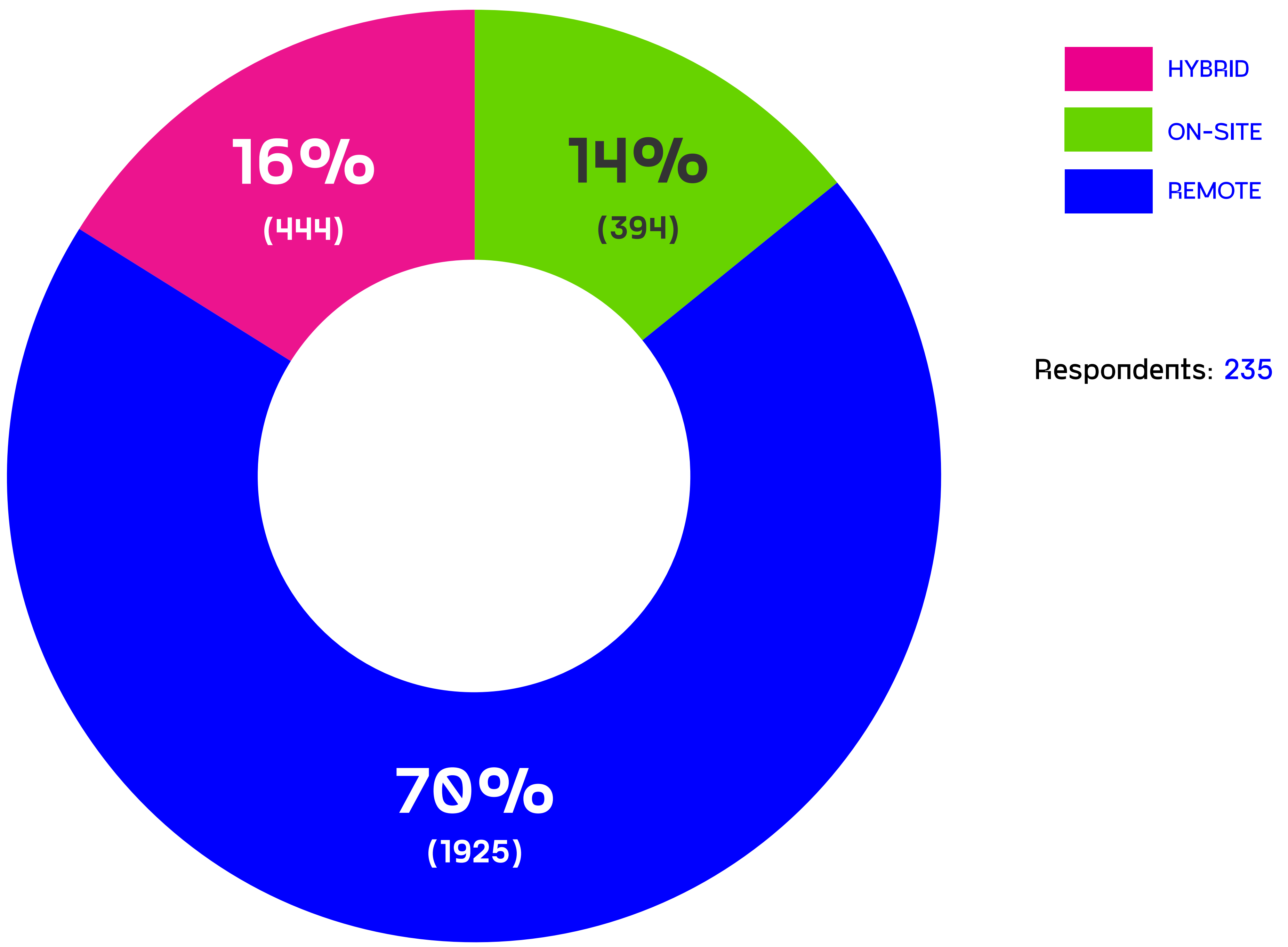
WORK REGIME AT DEVELOPERS						
WORK REGIME	ON-SITE		REMOTE		HYBRID	
CLT	123	31%	363	19%	243	55%
Outsourced	77	20%	1105	57%	125	28%
Researcher/Fellow	4	1%	7	0%	0	0%
Intern	30	8%	41	2%	13	3%
Young Apprentice	1	0%	3	0%	1	0%
Non-formalized	36	9%	126	7%	4	1%
Partner	123	31%	280	15%	58	13%

Respondents: 235

Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

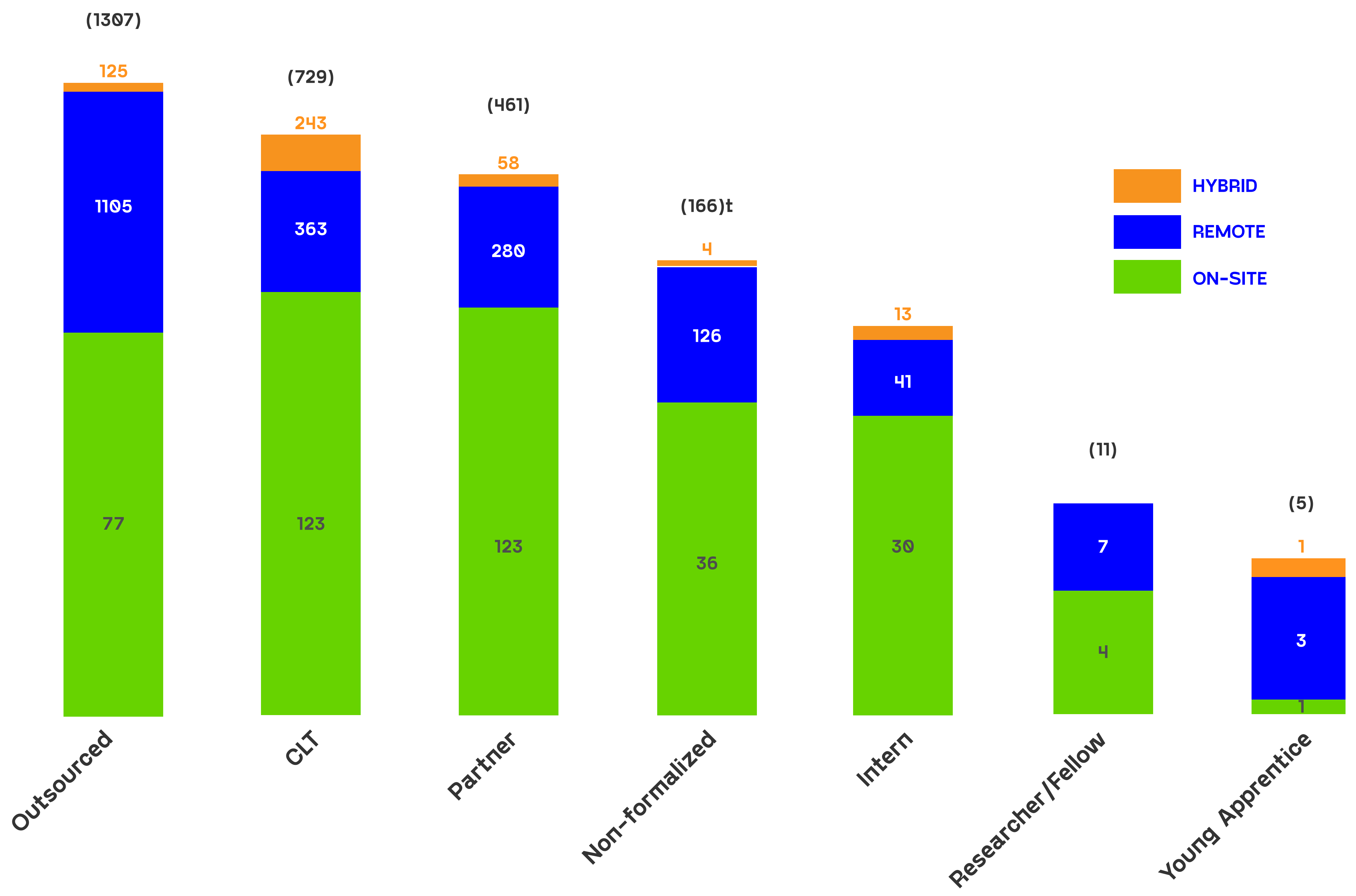
The predominant work regime at developers is outsourcing at 47%, followed by CLT at 26%, partners at 17%, non-formalized at 6%, interns at 3% and scholarship holders and young apprentices at less than 1% each. Companies reported that remote work continues to be the most used this year, a trend that came in strong during the Covid-19 pandemic, which started in 2020. Of the total number of people, 70% are working remotely, 14% on-site and 16% in a hybrid manner (Figure 21). It is noteworthy that the main work regime is remote work, especially among outsourced workers, where 85% of employees work remotely. CLT employees and interns have the lowest percentage of remote work, reaching 50% and 49% respectively. It was also observed that hybrid work is higher than on-site work for CLT employees and outsourced workers, but for other types of employees, on-site work ranks second. (Table 9 e Figure 22)

Figure 21 - Total employees per office location.



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Figure 22 - Distribution of employees by location and classification[13]



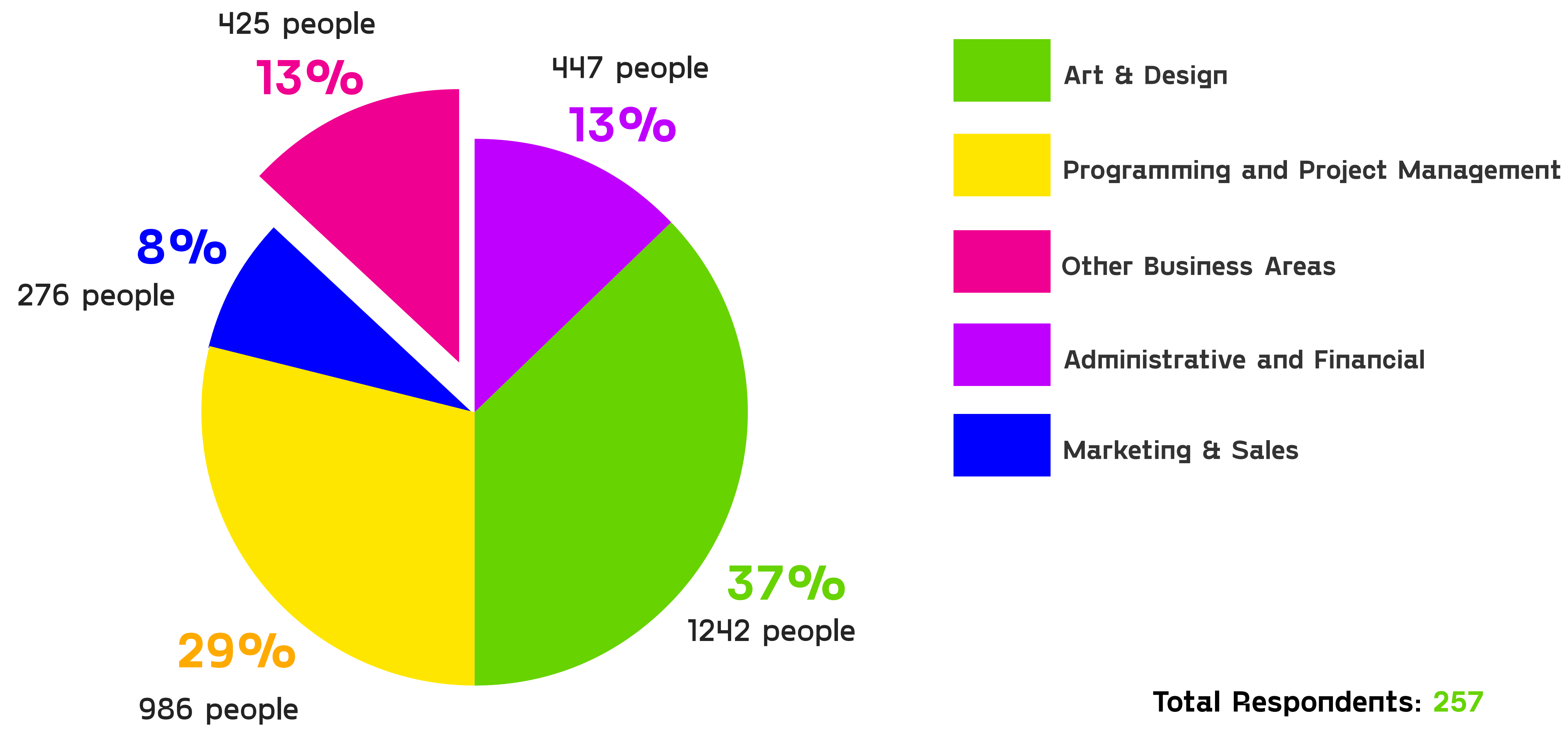
Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

[13] Due to the difference in the values found and presented in the graph in Figure 22, the bars were developed using a logarithmic scale, and for this reason, they are not proportional to the values shown.

5.4 Distribution by area of the company

Regarding professional distribution within developers, 37% of respondents focus on the area of art and design, the same percentage found in the previous survey, while in the area of programming and project management, which remains the second largest area, there was a drop from 31% to 29% of the people allocated within developers. The administrative and financial area maintained the same 13%, tied with other business areas, which grew by two percentage points, and the marketing and sales area, which maintained the same 8% (Figure 23).

Figure 23 – Professional/area ratio



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

The difference between the 2022 and 2023 survey was basically a migration of more technical positions from the programming and project management area to the more business-oriented area, i.e. the administrative and financial area. This migration may indicate a greater maturity of companies, which now have more people in management areas that are important for the long-term success of the organization. However, the figures still show the great importance of the technical area in the industry.

5.5 Diversity of the workforce

Diversity is a very relevant factor in the creative industries. Having a diverse workforce brings benefits to companies, which can better adapt to the demands of different consumers, at the same time, generating greater possibilities for creative development. As in 2022, 57% of companies stated that there are black, indigenous, disabled, neurodiverse, foreign, refugee, trans people and people over 50 years old. The absolute number of developers with a diverse workforce grew from 111 to 160. (Figure 22)

Figure 24 - Presence of black, indigenous, disabled, neurodiverse, foreign, refugee, transgender, and/or individuals over the age of 50.

Total Respondents: 282

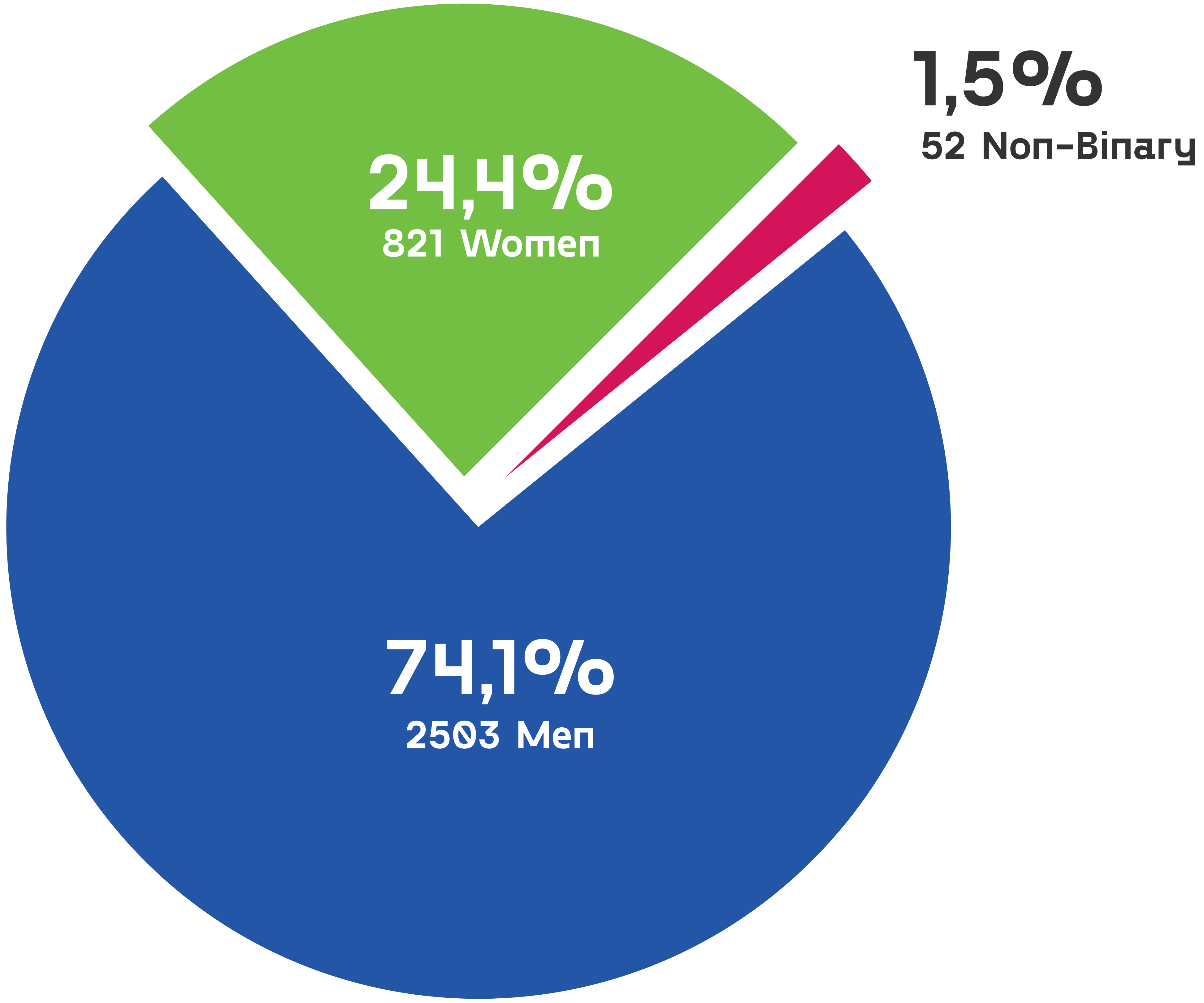
Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

5.5.1 Gender

The data collected shows that men are the most present within developers as partners and employees, accounting for around 74.2% of respondents, up from 68.7% the previous year. The percentage of women fell from 29.8% in 2022 to 24.3% in this survey. Despite this, as indicated in the 2022 survey, the number of women in the industry has been gradually climbing, with 15% in 2014 and 20% in 2018. The number of non-binary people remained at 1.5%. (Figure 25)

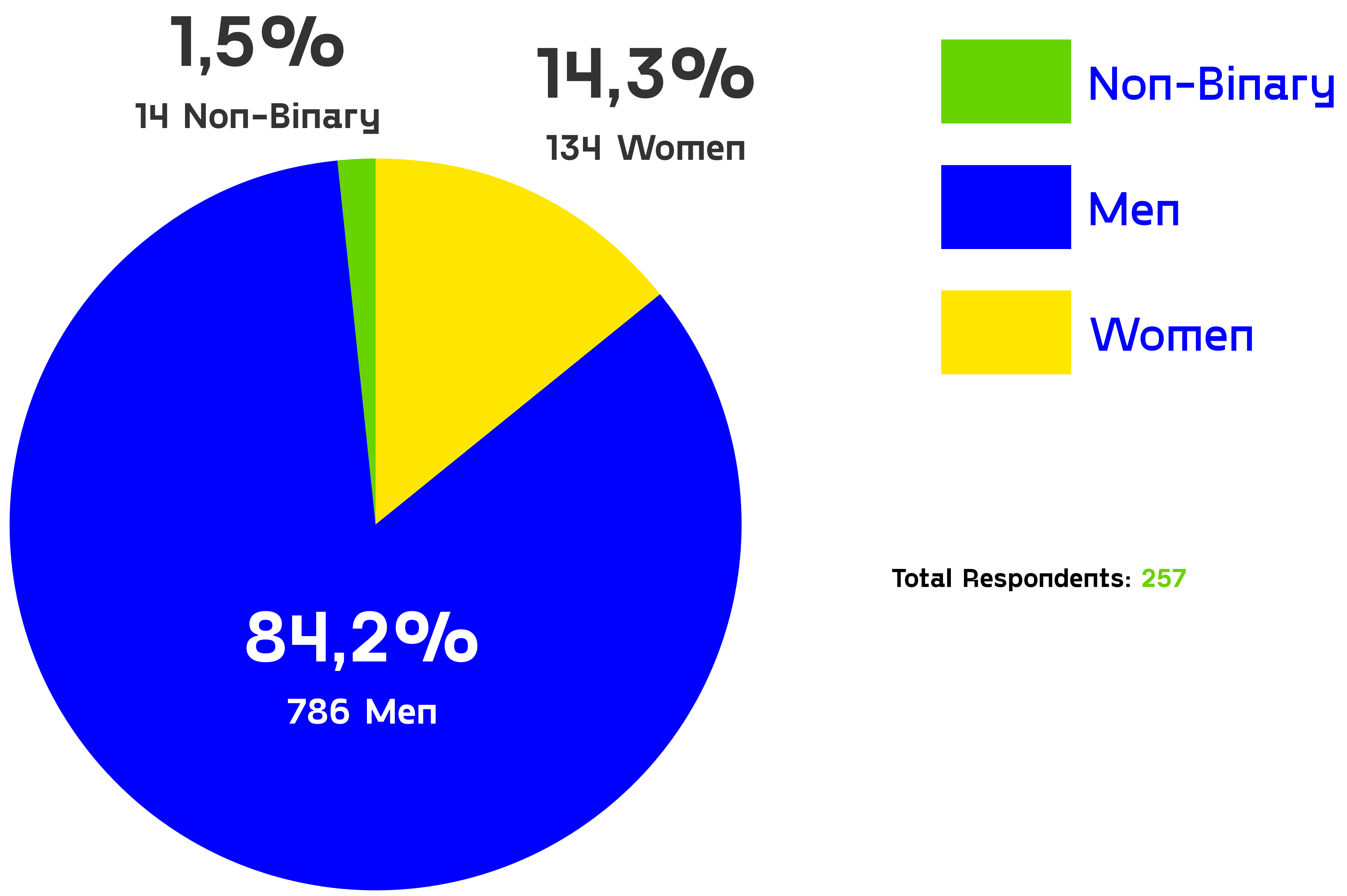
One of the explanations for the reduction in the number of women between the last two years is the sample effect, since the companies responding to the two surveys were different.

Figure 25 – Distribution of partners and employees by gender



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Figure 26 – Distribution of partners and employees by gender



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)4

When analyzing the ratio of employees, men continue to represent the majority of the workforce at 70.3% (Figure 26), compared to 65% in 2022. The number of women grew in absolute terms from 552 to 687, but in percentage terms the number fell from 33% to 28.1%. While the number of non-binary people rose from 33 to 38, the percentage fell from 2% to 1.6%.

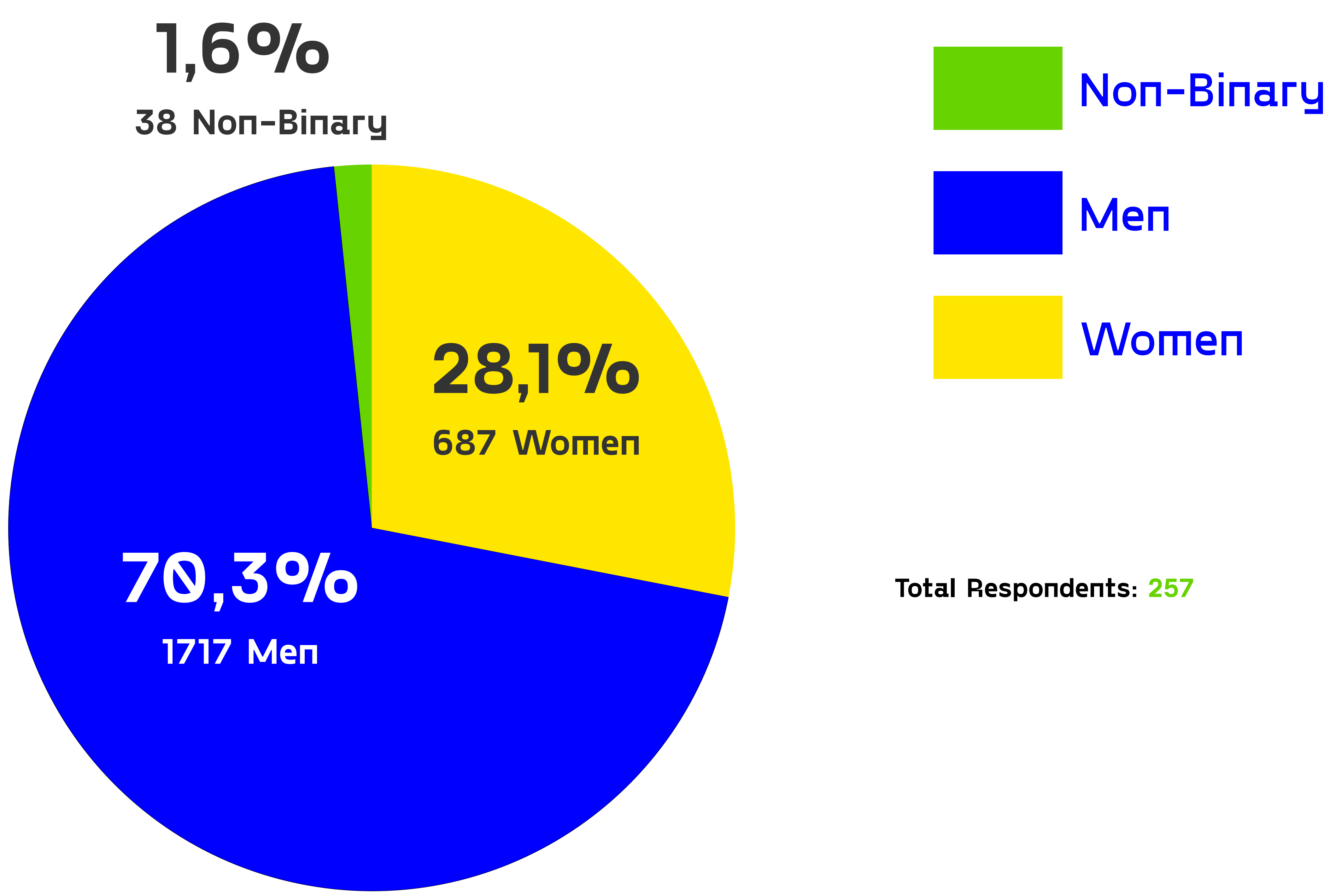
The number of female partners fell from 17.6% (2022)[14] to 14.2% in the current survey (Figure 26). The absolute number of partners rose from 110 to 132. The number of non-binary people rose from 0.4% to 2% and the number of male partners climbed from 81.8% to 84%. Just as the absolute number of women grew over the years, so did the number of men and non-binary people.

[14] Revision of the 2022 partner figures showed a different distribution from that originally presented. A total of 81.8% were men, 17.6% women and 0.6% non-binary people. The proportion of employees was also corrected to 64.3% men, 33.7% women and 2% non-binary people.

Focusing only on employees, the proportion of men grew from 64.3% in 2022 to 70.4% in 2023, while the proportion of women dropped from 33.7% to 28.1% and non-binary people fell from 2% to 1.6%. However, it's worth noting that all genders grew in absolute numbers. Women went from 621 in 2022 to 685 in 2023, men from 1183 to 1716 and non-binary people from 34 to 38. (Figure 27)

The drop in the number of women is influenced by a change in the sample of respondent companies, since some companies responding in 2022, whose female staff was proportionally higher than the figure found in 2022, did not respond to the questionnaire in 2023.

Figure 27 – Proportion of employees by gender



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Table 10 shows that in none of the areas surveyed did women or non-binary people outnumber men among the partners. The largest proportion of men is in the area of Programming and Project Management at 30% (237 people), a lower proportion than in 2022 (35%), although the absolute number has risen. Meanwhile, marketing and sales continues to be the area with the lowest male participation.

As in 2022, the Art and Design area has the highest number of female partners, followed by the Administration and Finance area. A difference was found in 2023 in the predominant area of non-binary partners, which became Programming and Project Management at 50% (7 people), surpassing Art and Design, which was the area with the most non-binary people in the previous survey.

The area with the lowest female participation was no longer Other Business Areas, as seen in 2022, but Programming and Project Management in 2023, with 12% of female partners (16 employees). The current survey did not report the presence of non-binary people only in the Marketing and Sales area, driven by the number of members of this gender rising from 3 in 2022 to 14 in 2023.

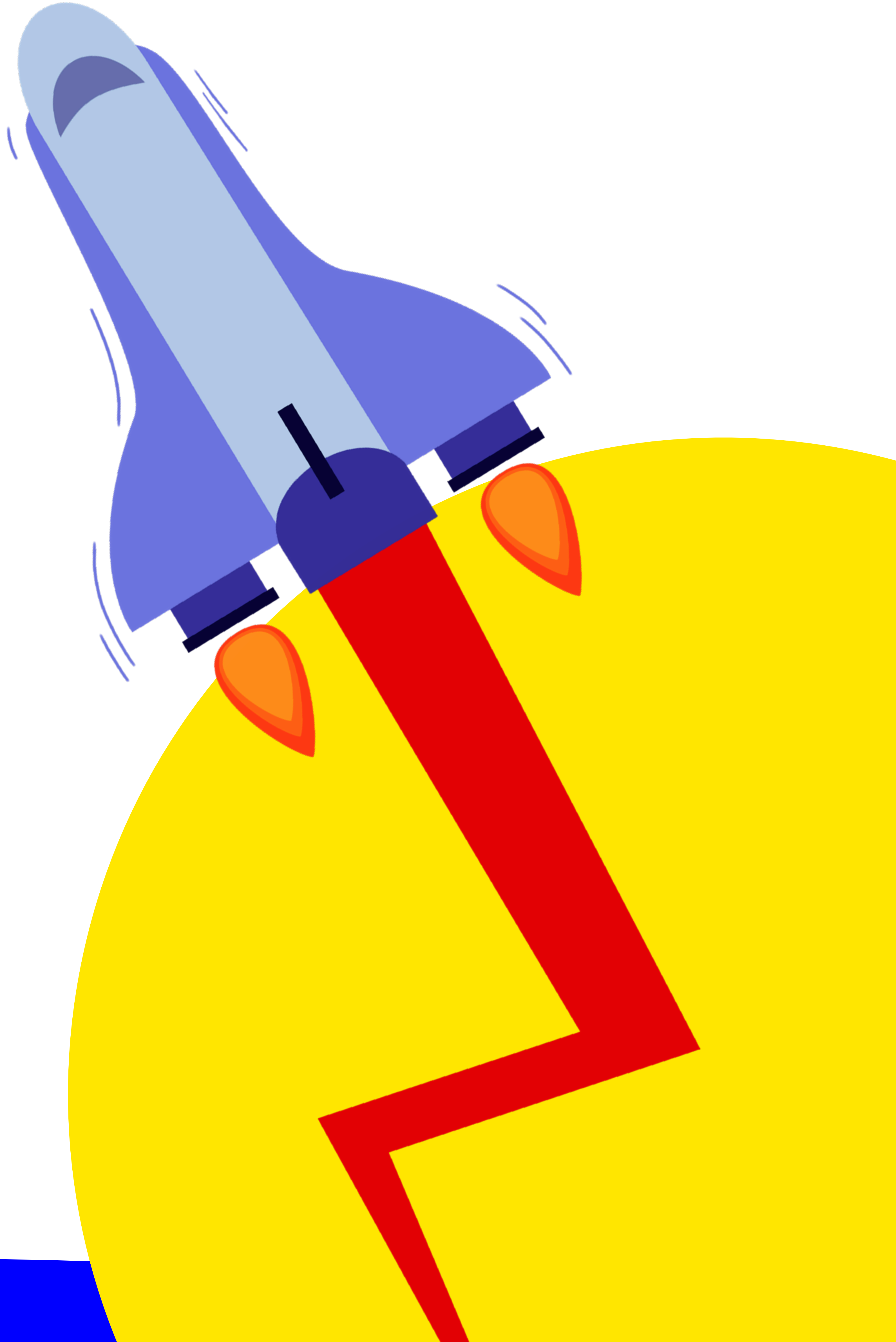


Table 10 – Distribution of partners by area and gender at developers

DEVELOPER PARTNERS BY GENDER	Men		Women		Non-Binary	
Administrative and Financial	192	(24%)	38	(28%)	1	(7%)
Art & Design	191	(24%)	42	(31%)	5	(36%)
Programming and Project Management	239	(30%)	16	(12%)	7	(30%)
Marketing & Sales	74	(9%)	19	(14%)	0	(0%)
Other Business Areas	90	(11%)	19	(14%)	1	(7%)
TOTAL	786	(100%)	134	(100%)	14	(100%)

Total Respondents: 257 (multiple responses)

Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

The results found in terms of employee gender by area indicate that, with the exception of the Administrative and Financial area, where women are in the majority with 114 employees, men outnumber women and non-binary people. Unlike in 2022, where the majority of men were concentrated in the Programming and Project Management area (430 and 616 employees respectively), in 2023 it was the Art and Design area that concentrated the largest number of male employees (426 in 2022 and 675 in 2023). The Administrative and Financial area had the lowest number of men (100 in 2023 and 76 in 2022), swapping places with the Marketing and Sales area, which had the lowest number of men in 2022 (202 in 2023 and 69 in 2022). (Table 11)

As in 2022, the majority of female employees are concentrated in the areas of Art and Design (44%), with a drop of 3%, now followed by Administration and Finance at 17% (14% in 2022) and Programming and Project Management, which maintained the same 15%. Marketing and Sales is still the area with the lowest incidence of women, although it has risen from 11% to 12% of employees.

Little has changed in relation to the presence of non-binary employees in Brazilian developers, since it can be seen, as in 2022, that they are present in all areas, but still in small numbers. The highest concentration continues to be in the area of Art and Design, which has risen from 18 to 25 non-binary people; however, in the other fields, the number still doesn't reach one decimal place. Compared to 2022, the lower concentration is reversed, with the Marketing and Sales area having only 1 representative, and Administration and Finance with 2 members.

Table 11 – Distribution of employees by area and gender at developers

DEVELOPER EMPLOYEES BY GENDER						
	Men		Women		Non-Binary	
Administrative and Financial	100	(6%)	114	(17%)	2	(5%)
Art & Design	675	(39%)	304	(44%)	25	(66%)
Programming and Project Management	616	(36%)	103	(15%)	5	(13%)
Marketing & Sales	103	(6%)	79	(11%)	1	(3%)
Other Business Areas	223	(13%)	87	(13%)	5	(13%)
TOTAL	1717	(100%)	687	(100%)	38	(100%)

Total Respondents: 257 (multiple responses)

Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

5.5.2 Diversity

The presence of black people at development companies is still far below their participation in society. In the current survey, the companies reported having 43 male partners, 12 female partners, 115 male employees, 70 female employees and 7 non-binary employees. Compared to the previous report, with the exception of black male partners who decreased by 3 and non-binary partners who had no reported presence, the number of black positions increased. Even so, the gap between men and women and non-binary black people is still wide among developers. (Table 12)

The second group with the largest presence reported by the developers is neurodiverse with 101 people, up 172% compared to the 2022 report. Of these, 27 are male partners, 11 are female partners, 4 are non-binary partners, 30 are male employees, 25 are female employees and 4 are non-binary employees. The result showed a greater balance when comparing neurodiverse employees, men and women.

With regard to data on trans people, 47 people were reported in this survey, compared to 34 in 2022, of which 4 are female partners, 5 partners are non-binary people, 1 male partner, 9 are male employees, 21 are female employees, 7 employees are non-binary people. As can be seen, unlike other minority groups, the trans population within developers is characterized by a predominance of women and non-binary people.

The number of people over 50 reached 40 in 2023, distributed as follows: 22 are male partners, 2 female partners, 11 male employees, 5 female employees and non-binary partners and non-binary employees appear in the sample. This number has almost doubled from 22 in 2022. Next came the group of foreigners who reached 27 in 2023, compared to 7 in 2022, i.e. more than tripling in the period. Of these, 4 are male partners, 15 are male employees and 8 are female employees. These two groups reinforce the predominance of men in most of the groups studied.

The presence of people with disabilities is also quite scarce. The study reported 25 people with disabilities (PwDs), which, despite being more than double that of 2022 (10), is still a long way from their participation in society. Regarding the PwDs, 6 are male partners, 2 are non-binary partners, 10 are male employees and 7 are female employees, with no female partners or non-binary employees reported.

The indigenous population remains a minority with 16 people reported in 2023 compared to 10 in the 2022 survey. Of these 16, 3 are male partners, 8 are male employees, 3 are female employees and 2 are non-binary employees, and there is no data on female and non-binary indigenous partners. Finally, no refugees were found working for local developers. Of the categories presented so far, these have been the least included among developers.

Table 12 – Distribution of diversity among partners and employees

DIVERSITY		
CATEGORIES	MEMBERS	PEOPLE
Black People	Partners	55
	Employees	192
Indigenous	Partners	3
	Employees	13
Disabled	Partners	8
	Employees	17
Neurodiverse	Partners	42
	Employees	59
Foreigner	Partners	4
	Employees	23
Refugee	Partners	0
	Employees	0
Trans	Partners	10
	Employees	37
Over 50 years of age	Partners	24
	Employees	16

Total Respondents: 144

Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

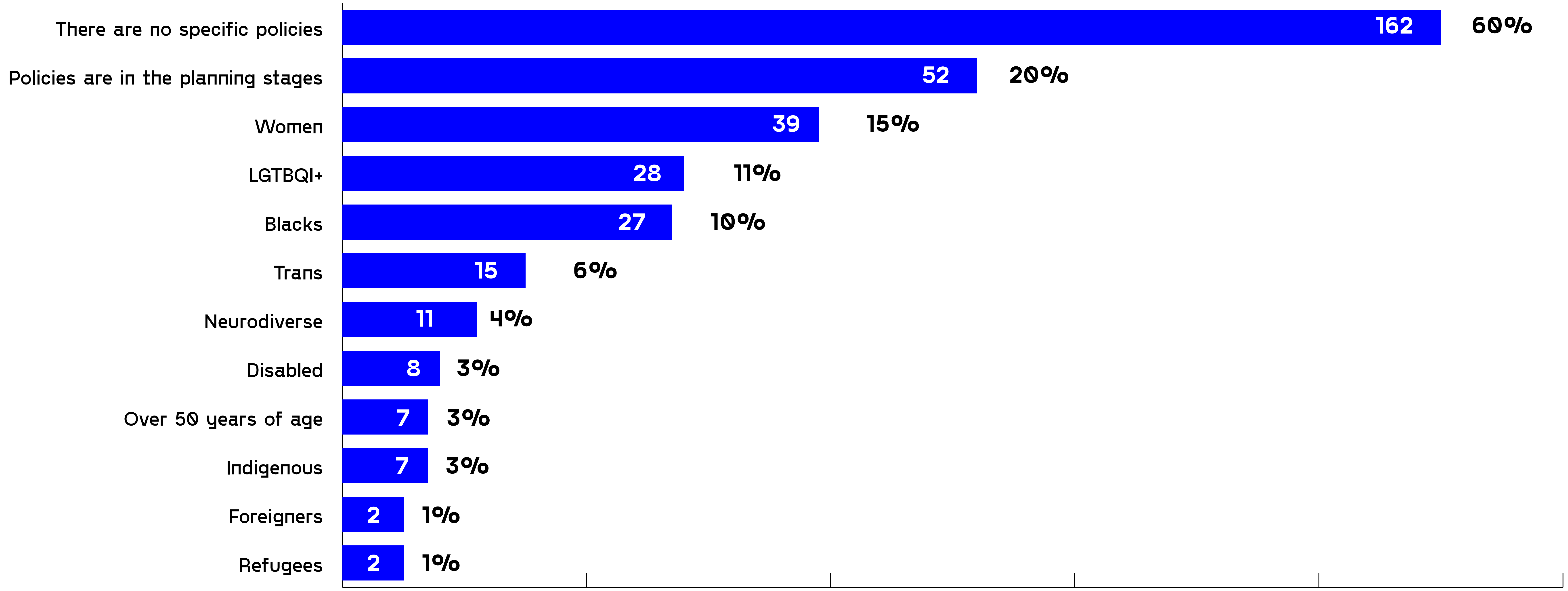
When asked whether or not they had inclusion policies, 162 or 62% of the companies said they did not have specific policies, up 8% compared to the 2022 survey, while 20% reported that policies are in the development phase, a drop of 8% compared to the previous year. In other words, around 82% of companies do not have inclusion policies, the same number as reported last year. However, the situation seems to have worsened, as fewer companies are working on a policy and more are simply not thinking about adopting them (Figure 28).

Women are the group with the highest number of inclusion policies, representing 15% of developers, 1% less than in 2022. The other inclusion policies are represented as follows: 11% for LGBTQIA+ people; 10% for black people; 6% for trans people; 4% for neuro-diverse people; 3% for disabled people, indigenous people and people over 50, and 1% for refugees and foreigners.

The number of people from these groups at development studio shows that in some groups we are still far from reflecting their representativeness in Brazilian society. The biggest differences are certainly in the groups of women and black people, who according to the IBGE make up more than 50% of the population. Despite the low number of trans people at developers, 47 including partners and employees, they represent 1.4% of the sample, a figure close to the 1.9% presented in surveys conducted in the country. The initiative of companies to put inclusion policies into action will always be welcomed and supported in today's market.

Figure 28 – Inclusion policies

Respondents: 260 (Multiples Responses)



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

As pointed out in the 2022 survey, there are actions for the inclusion of these people in the industry beyond the internal policies of the companies. These actions include game jams (Women Game Jam, We Game Jam, Sampa Diversa, Game Jam das Minas) and the Abragames Diversity Council, which awards Diversity Seals (race, gender, LGBTQIA+ and PwD) to Abragames member companies with diverse employees.

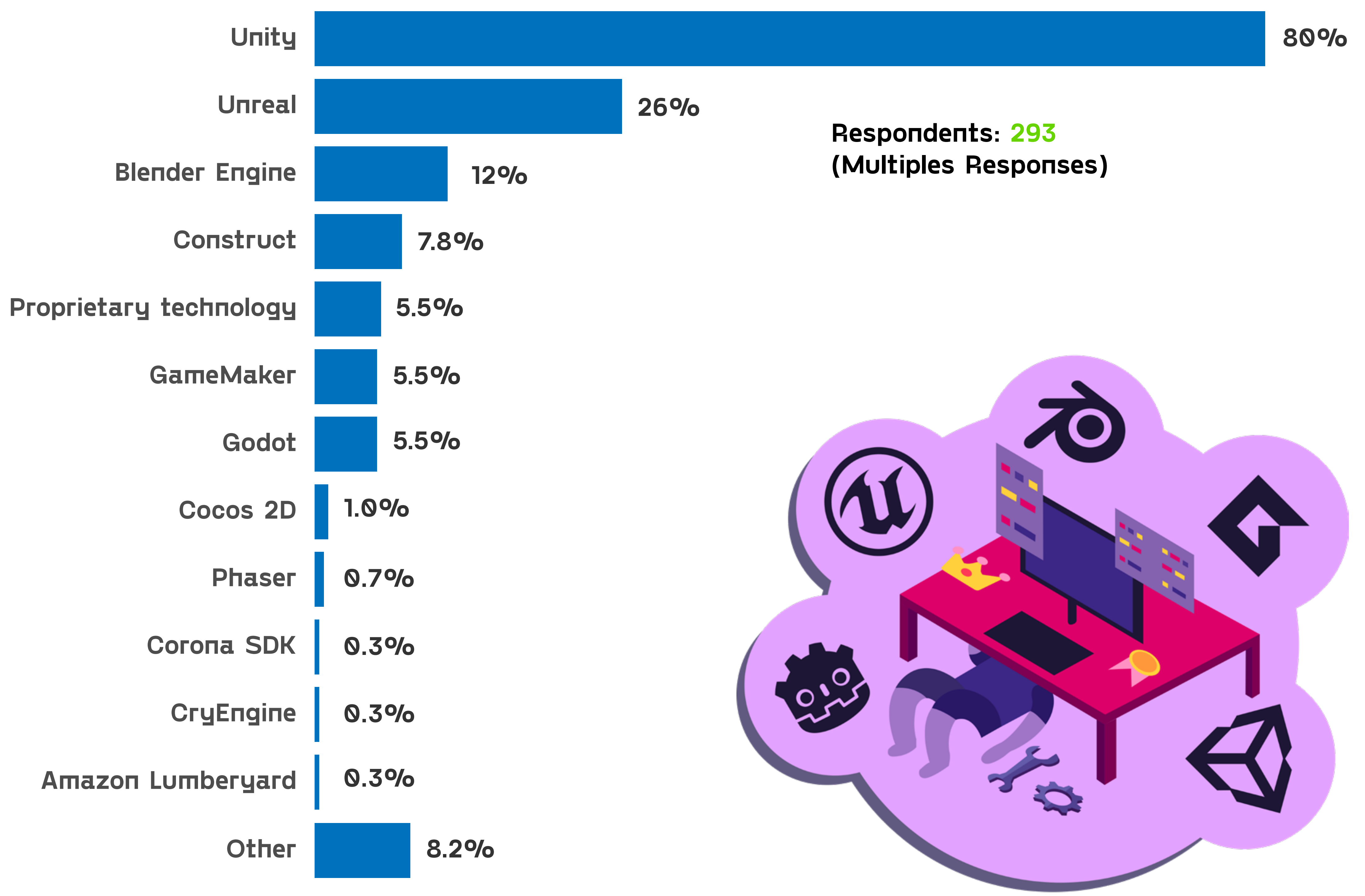
6.
Technological Resources and Services Used

6.1 Engines used in development in Brazil

When it comes to accessing software technology, Brazilian companies face no limitations compared to other markets. Local developers can choose from the leading technologies and tools available internationally, with around 80% opting for the Unity engine in 2022 (Figure 29), down from 83% in 2021.

Epic's Unreal engine remains the second choice among Brazilian studios, having grown by two percentage points in 2022, reaching 25% of studios. Despite trailing far behind Unity in adoption rate, Unreal was the only engine to experience growth in its usage among all the surveyed engines. Studios are also diversifying the use of engines to better meet the demands of work coming from abroad, simultaneously reducing dependence and improving the industry's competitive position. On average, studios use 1.5 engines in their productions, with 8% of developers using 3 or more engines in their production.

Figure 29: Most used engines



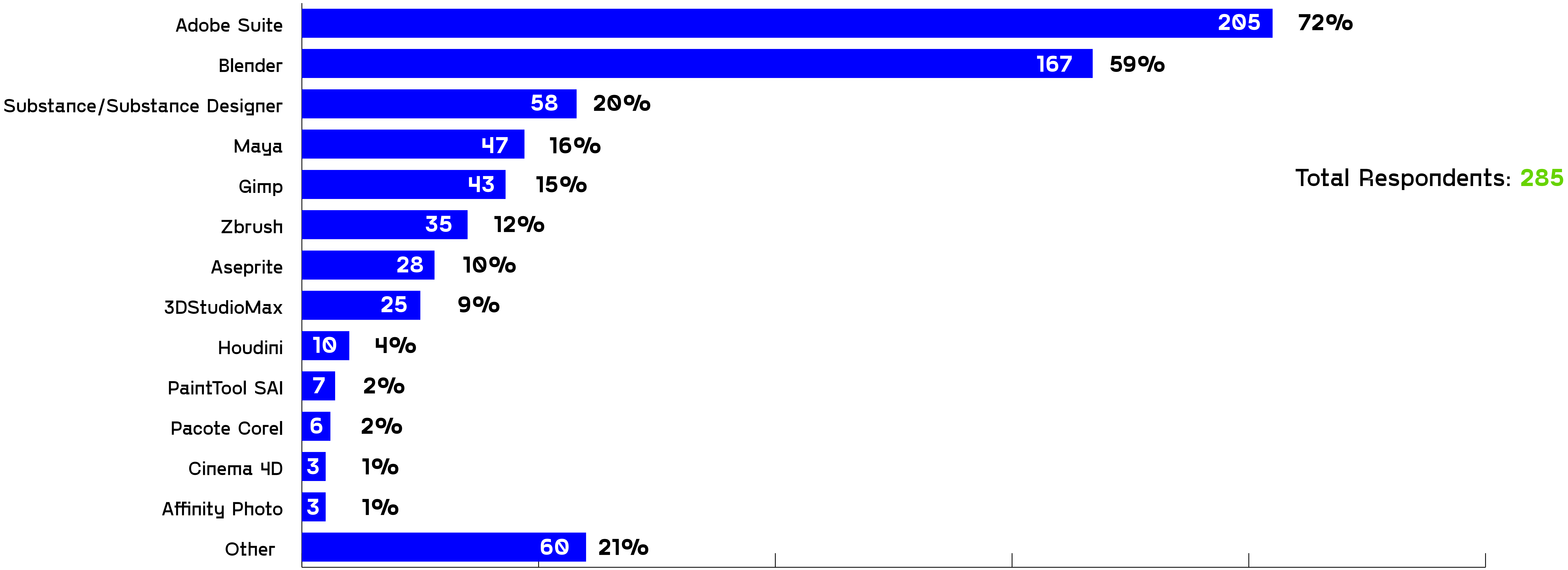
Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

6.2 Software and licenses

Among the development software used, the Adobe Creative package continues to be the most used by 72% of companies, a drop of 8% when compared to the 2022 survey, and this leadership is maintained due to the diversity of applications offered. (Figure 30)

The use of Blender for rendering rose from 56% to 59% of respondents, followed by the image production and processing tools Substance, Maya and Gimp, with a more significant drop in the use of ZBrush from 21% to 12%. Another highlight was that 10% of studios mentioned using Aseprite, pixel art image editing software, which did not appear among the suggested options. The software least used by developers are Cinema 4D and Affinity Photo, with 3%, and XSI was no longer mentioned by the respondent companies.

Figure 30: Most used software/licenses



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

6.3 Services used

Among the services used by the respondent developers, Figure 31 shows an increase in Accounting Advisory Services (44%), which overtook Analytics (35%) in 2023, whereas in 2022 they accounted for 39% and 43% respectively. The responses indicated that Legal Advice (30%) and Marketing (28%) outweighed Cloud Services (26%), which indicates the hiring of services focused on the more managerial and business side, although the technical side remains relevant.

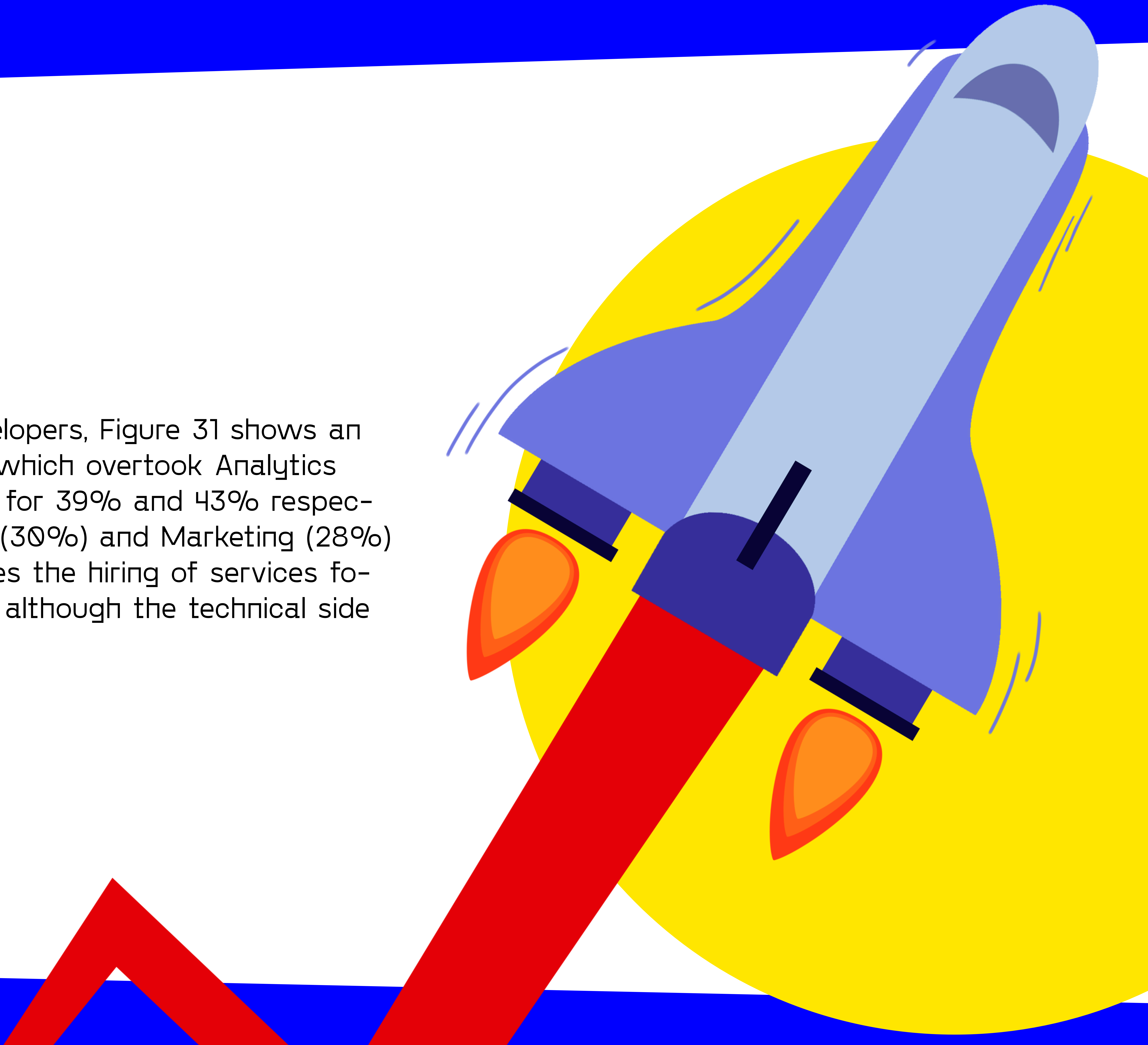
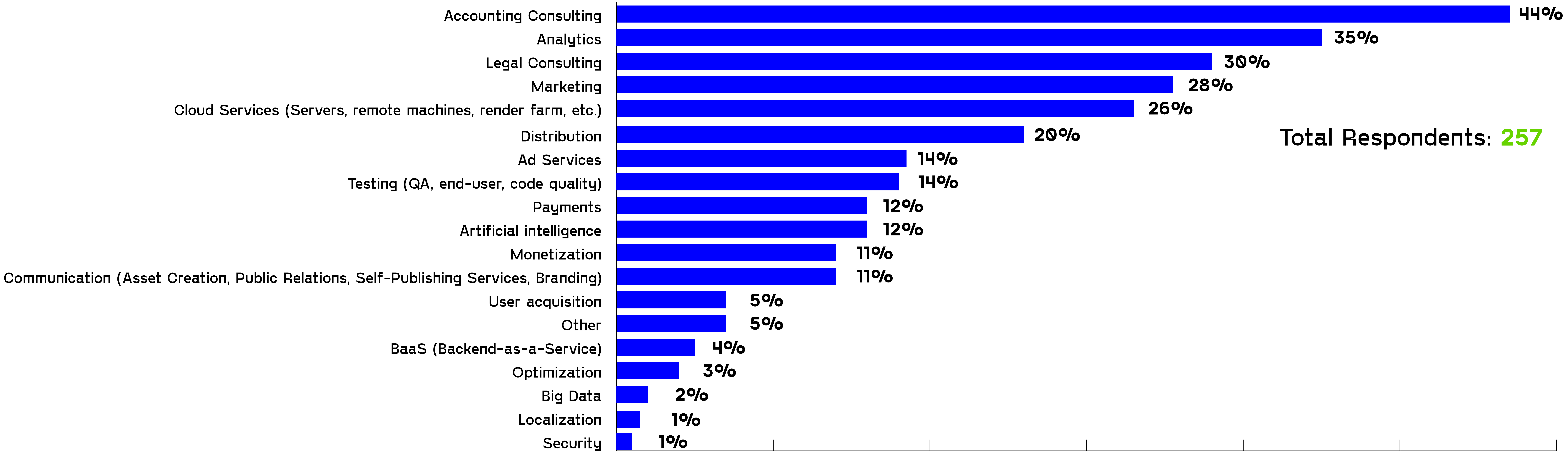


Figure 31: Most used services



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

7.
Internationalization of companies

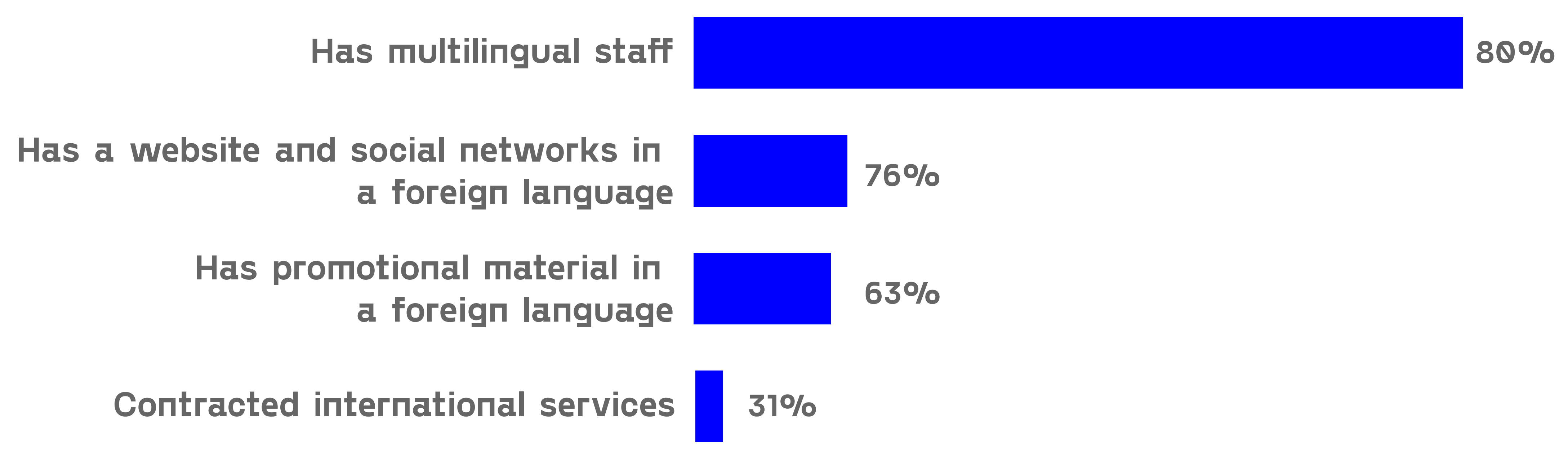
7.1 Conditions for internationalization and exposure to the international market

The digital distribution of games allows quick access to international markets, mainly for studios focused on the consumer market and developing entertainment games. Platforms such as Steam, Google Play, Apple Store, Streaming, among others, allow games to be released in multiple languages at product launch.

The number of companies declaring that they have no relationship with foreign markets fell from 18% in 2021 to 16% in 2022. Of the responding companies, 64% said they had international users and 58% had already provided services to foreign clients.

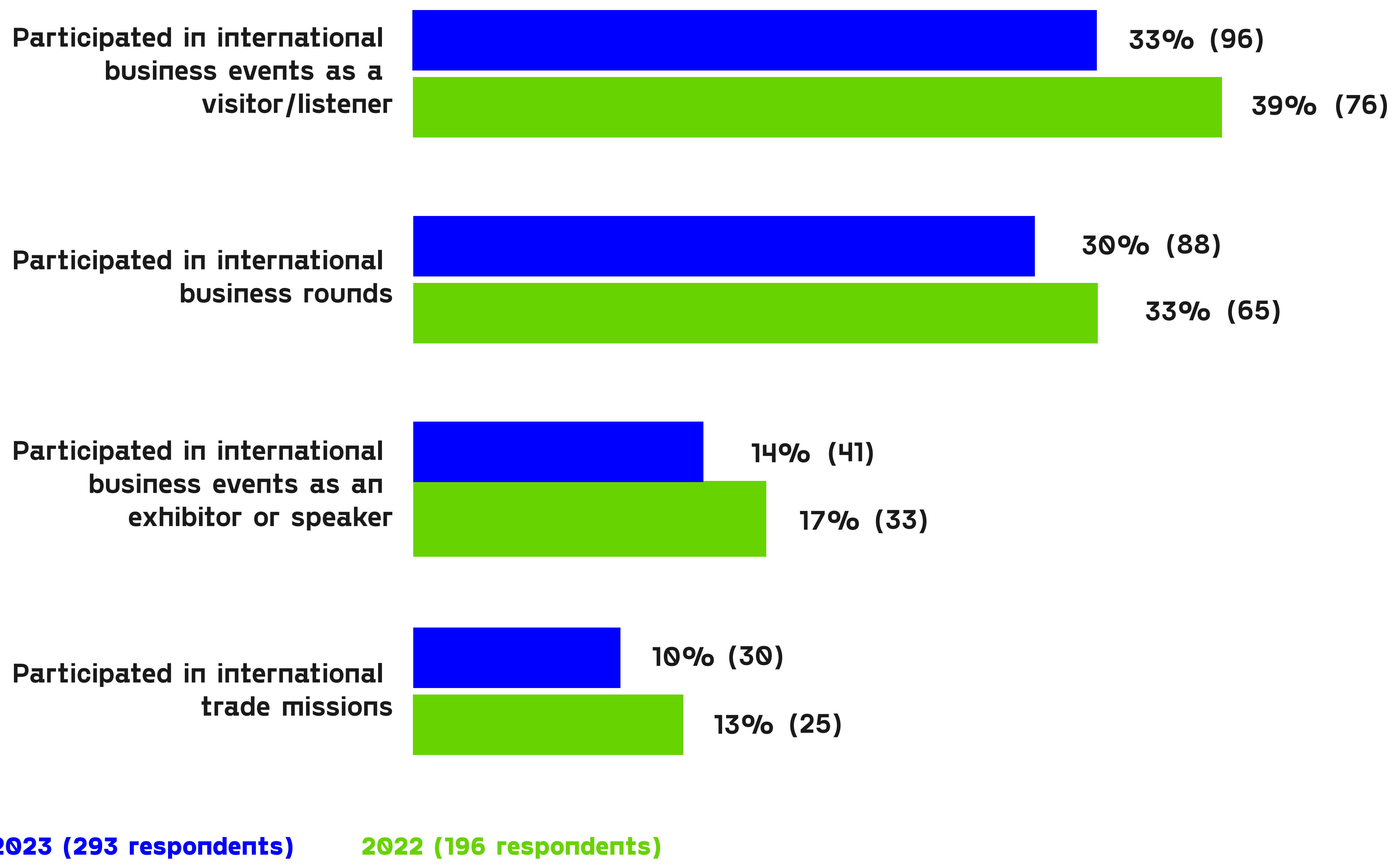
Some characteristics of the companies can indicate whether the developers have the basics to start internationalization or are already operating internationally. Figure 32 shows how these conditions are presented in the companies participating in the survey. While 80% of developers have multilingual staff, 76% have a website and social networks in another language, 63% have promotional material and 31% had already contracted international services in 2022.

Figure 32: Basic conditions for internationalization



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Figure 33: Exposure to the international market



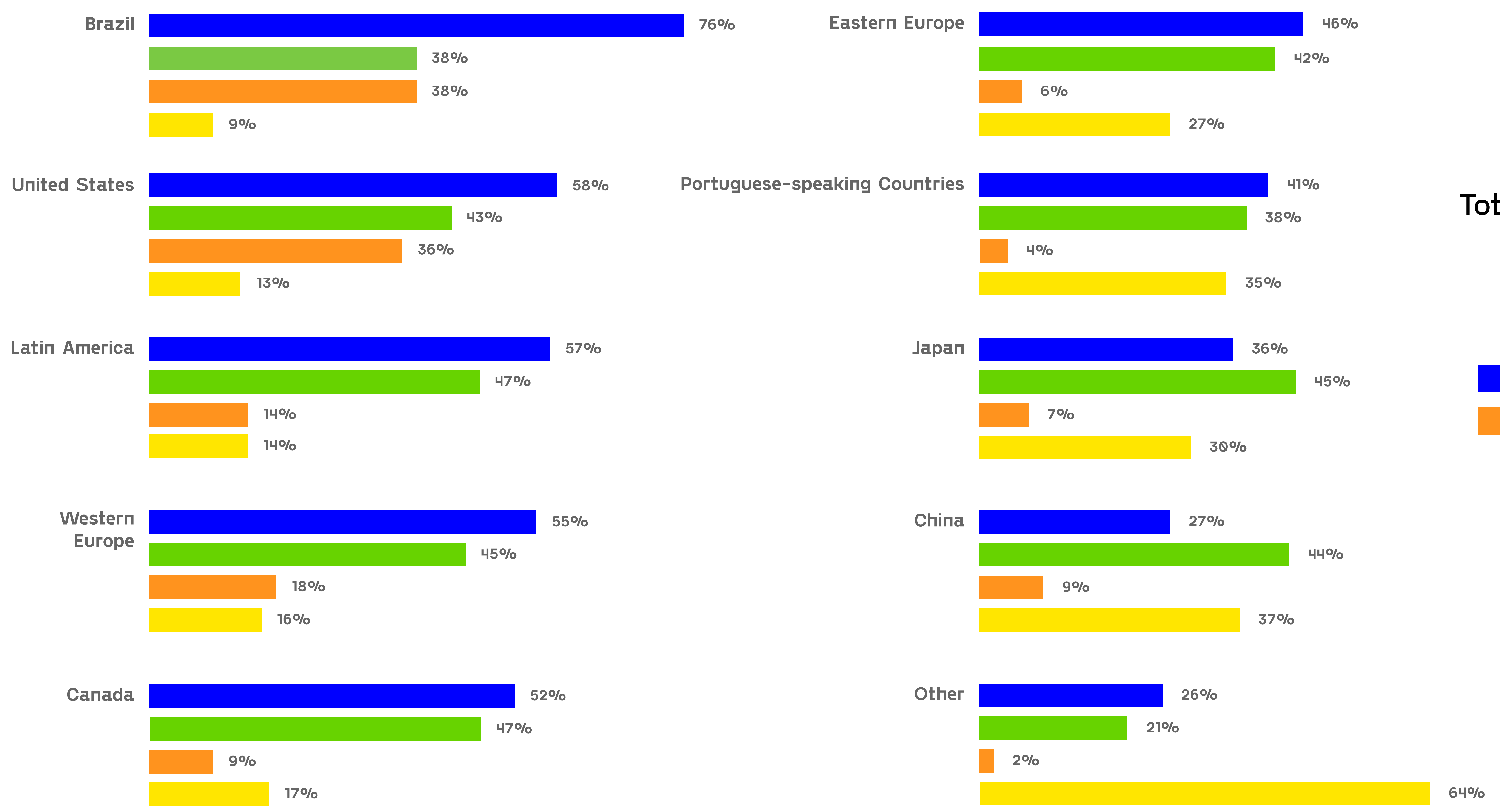
Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Exposure to these markets becomes a decisive factor for companies to boost international maturity. The Brazil Games project has contributed to exposing various Brazilian companies to international experiences. Figure 33 shows that participation in international business events as a visitor/observer has been the most common situation among Brazilian companies. In this regard, the statistical effect of increasing the sample generates a distortion when considering the absolute number of companies, as it is evident that exposure, on average, grew by around 26%, reaching 35% when considering participation in international business rounds.

7.2 Target markets

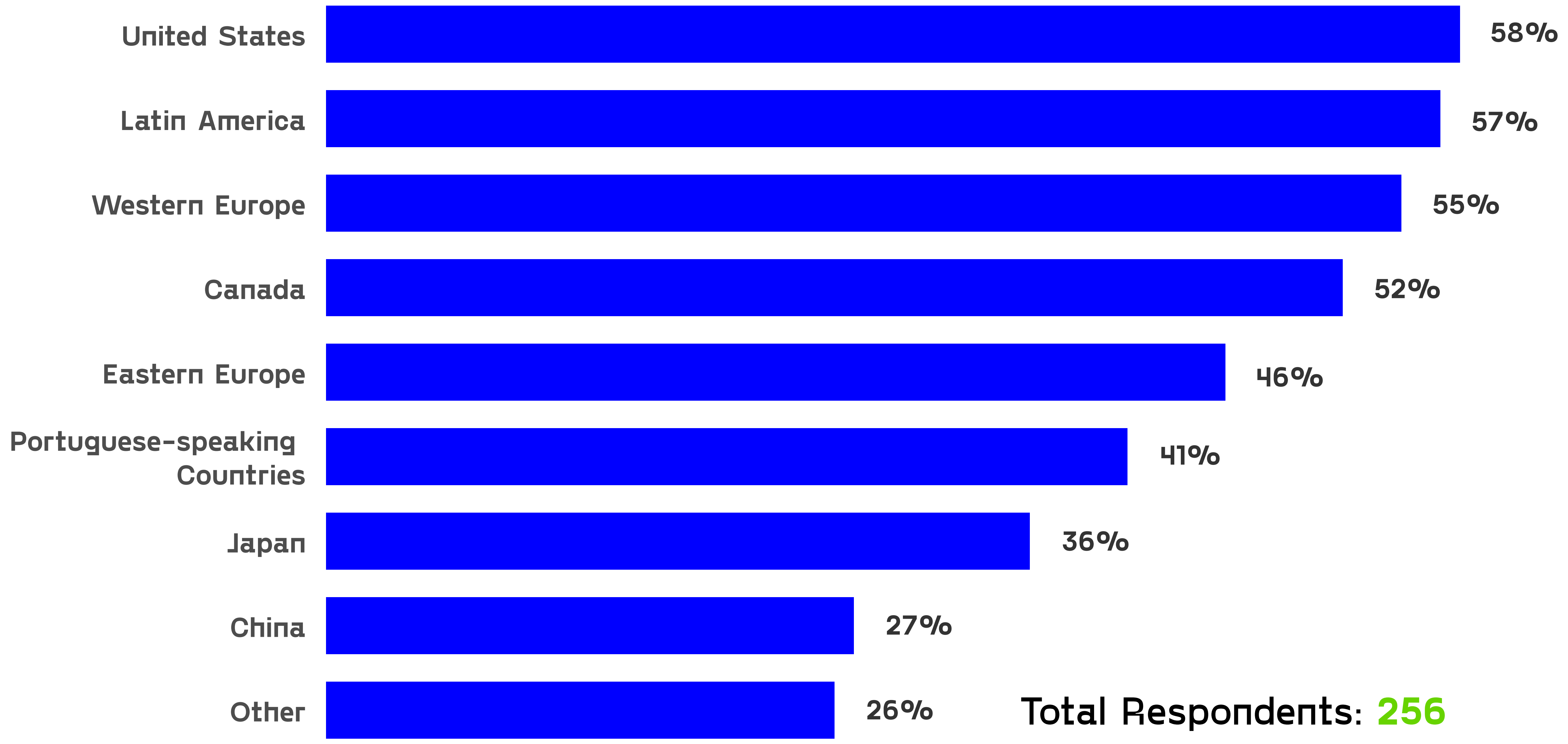
Brazil continues to be the main target market for most developers at 76% and for some companies focused on the unique market of serious games. The United States and Latin America continue to be the primary markets for Brazilian companies selling abroad at 58% and 57%, respectively. The growth of these markets in the survey from 2022 to 2023 was 3% for the United States and 4% for Latin America. Western Europe saw the highest growth as a target market from the 2022 to 2023 survey, rising from 49% to 55%. (Figures 34 and 35)

Figure 34: Performance of Brazilian developers in relation to the main markets



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Figure 35: Main international markets



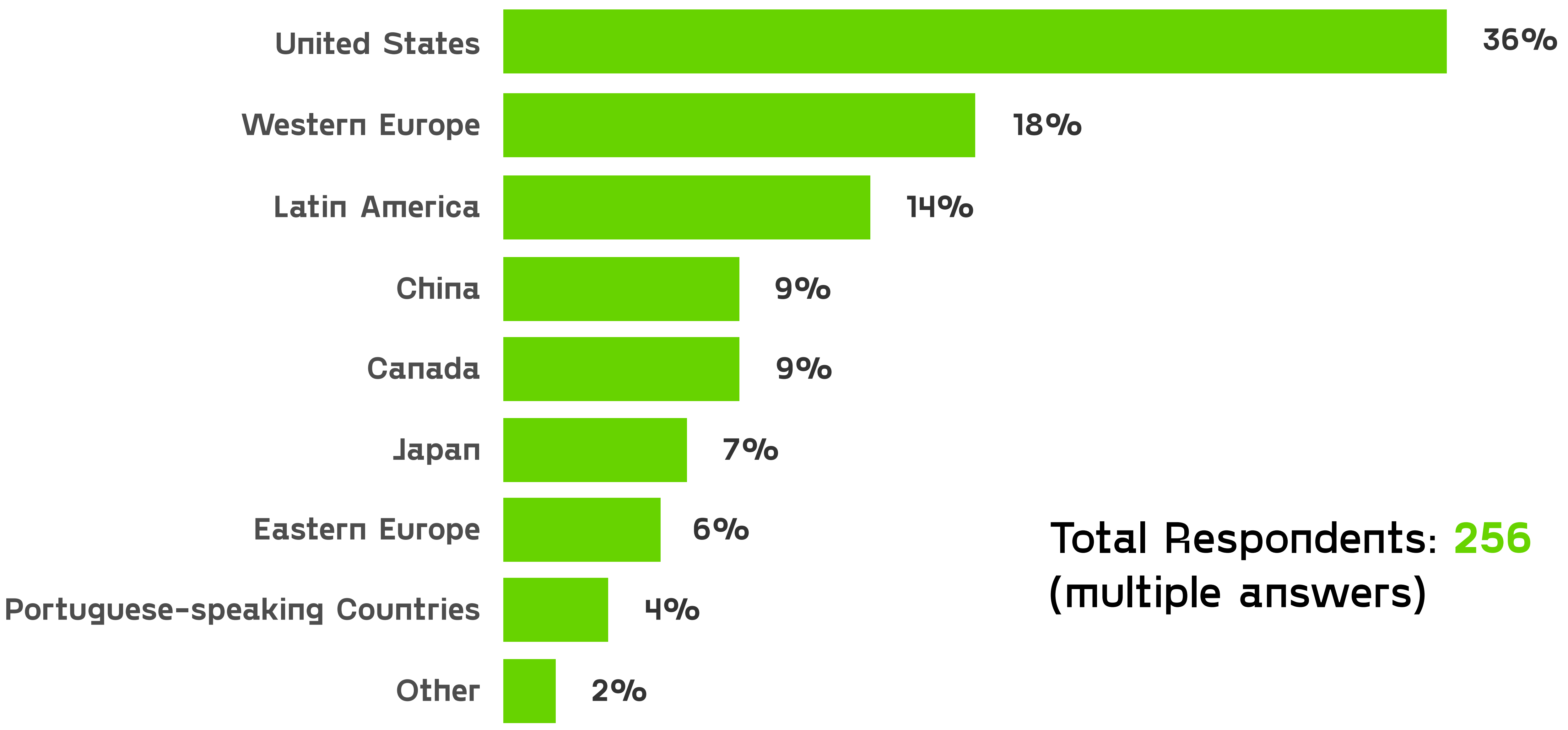
Total Respondents: 256
(multiple answers)

Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Penetration in Asia continues to be the lowest among foreign markets, especially in China. These markets generally require local partners, both to better localize the software and for distribution. The fact that there are several digital stores selling games for mobile phones and tablets, more relevant than Google Play itself in the country, suggests the complexity of operating in these markets.

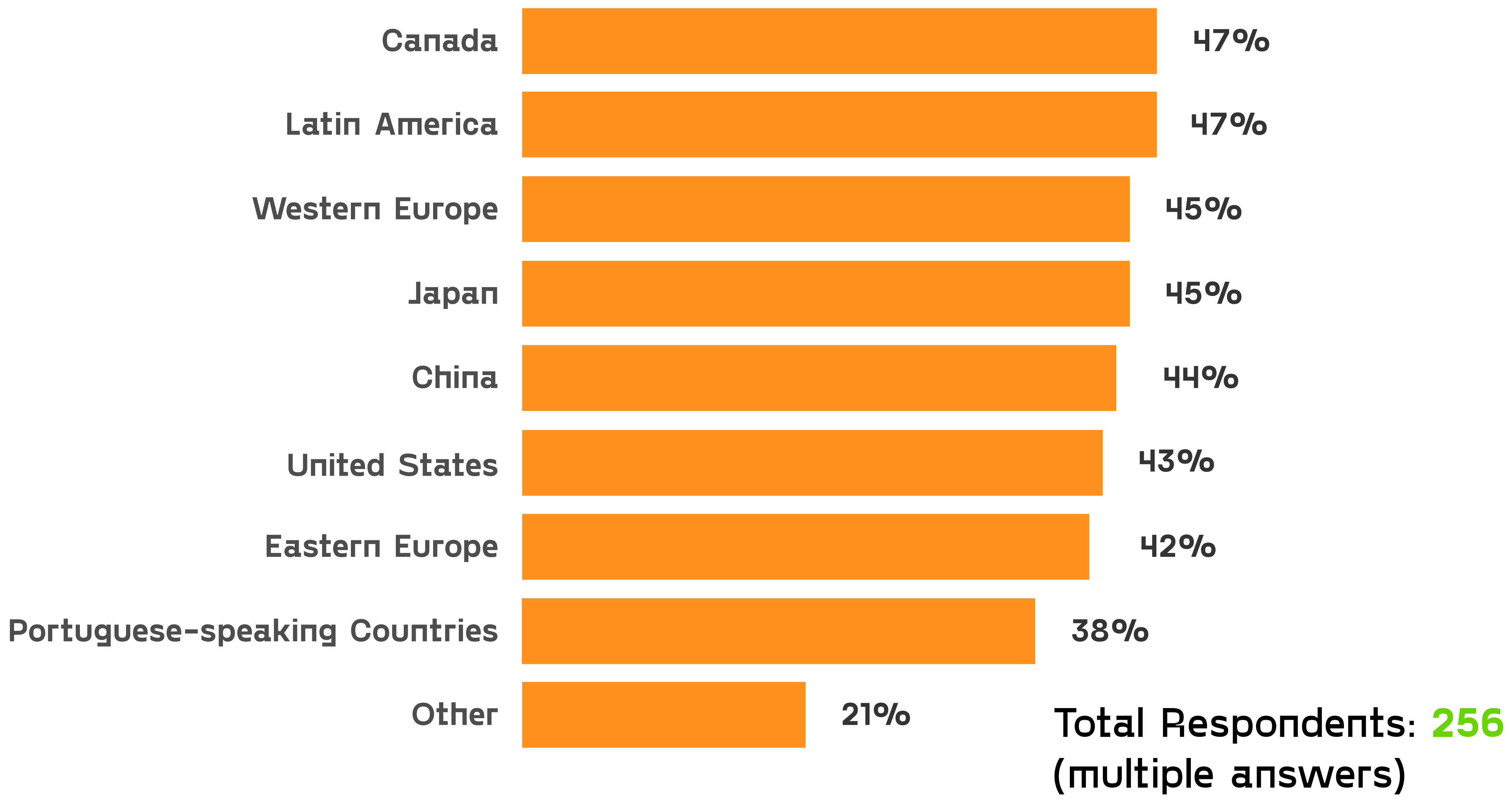
With regard to the three main external markets today, Latin America (8% in 2022 and 14% in 2023) has overtaken China (9% in both years) in the opinion of the respondent developers, with the United States and Western Europe remaining 2 of the 3 main markets for 36% and 18% of the companies respectively. (Figure 36)

Figure 36: Three main markets



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Figure 37: Sales planning for the next three years



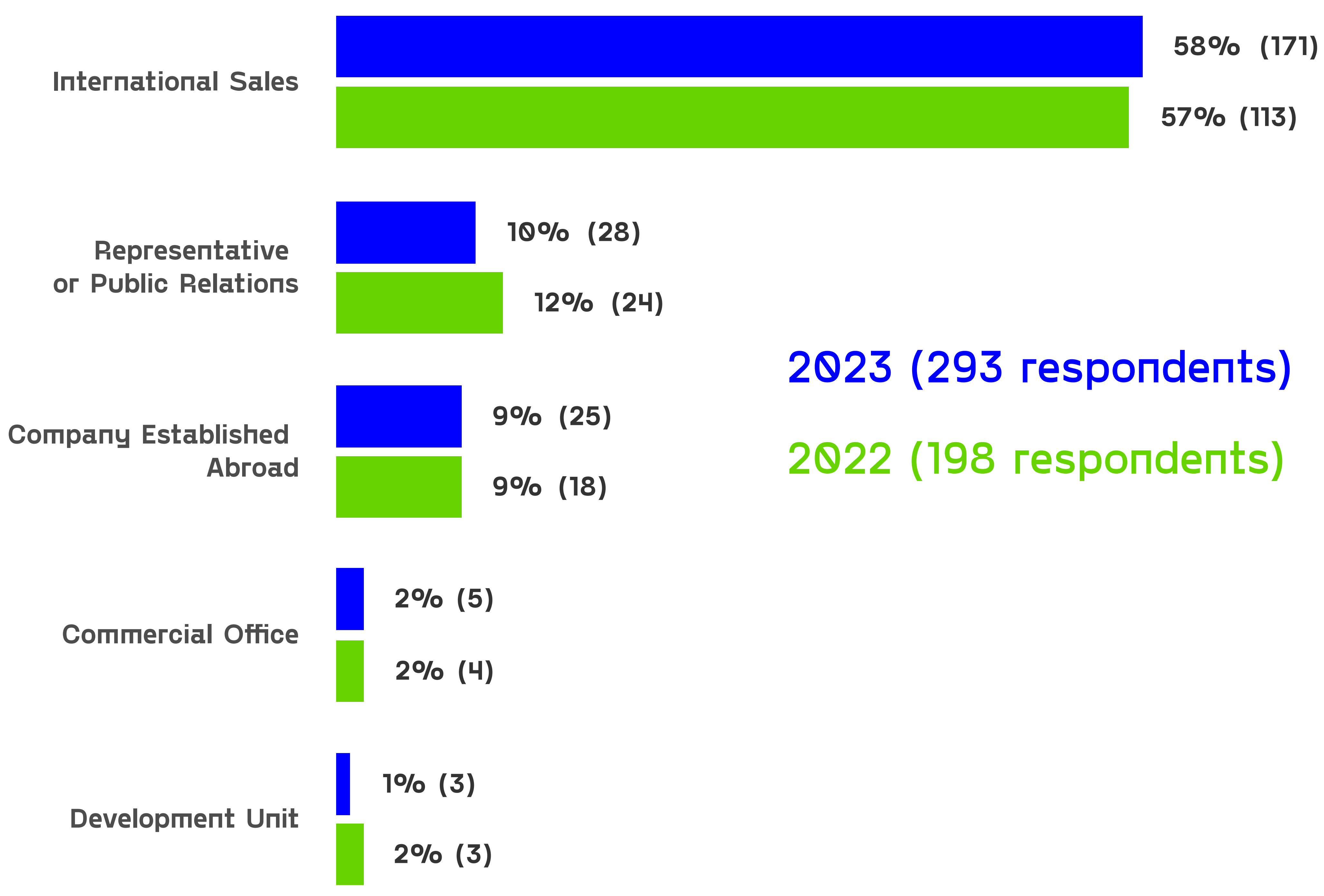
Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Understanding the future direction of developers, in terms of planning sales abroad, is an indication of their efforts and resources in the internationalization process. At 47%, Canada and Latin America appear as the main countries in sales planning for the next three years, followed by Western Europe and Japan at 45%. Although it holds 44%, China dropped from second to fifth in the ranking of markets of future interest. This may reflect the difficulties previously indicated for working in that country. (Figure 37)

7.3 Export maturity

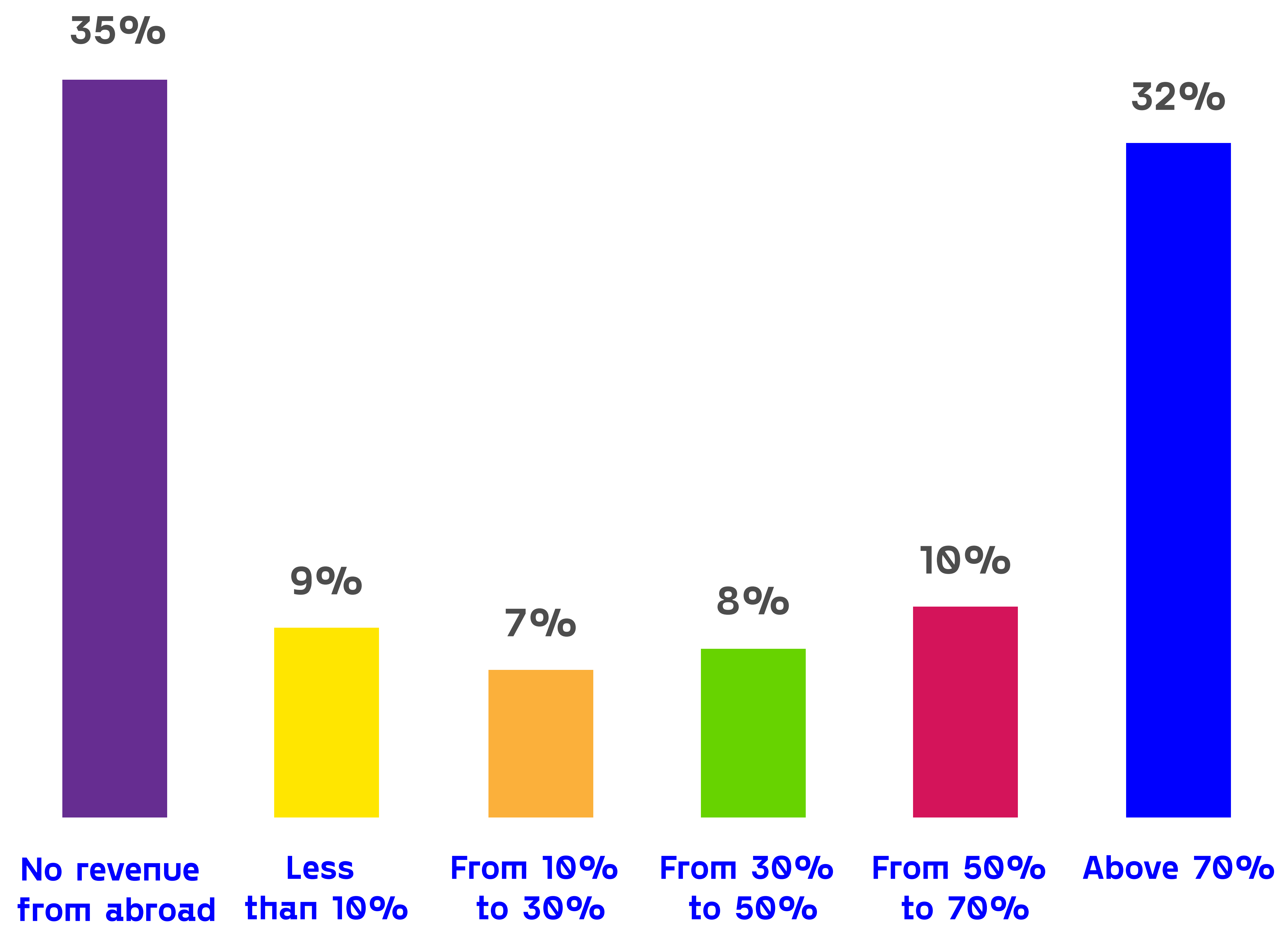
Despite the absolute growth in the sample of studios, the variation between 2021 and 2022 in terms of various degrees of internationalization maturity was small. As shown in Figure 38, 58% of developers sold their products internationally, while 10% had fixed representatives or public relations hired abroad.

Figure 38: Degree of Internationalization



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Figure 39: Revenue from abroad



Total Respondents: 294

Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

7.4 Revenue from abroad

The results, in terms of revenue from abroad, were reversed compared to the 2022 survey. This year, 35% of developers had no foreign revenues, while 32% said they earned more than 70% of their revenues abroad. As already noted in the previous survey, there is a group of companies focused on the development of serious games, which operate almost exclusively in the local market, while developers of entertainment games can distribute them through global platforms and stores. (Figure 39)

8.

Financial Overview

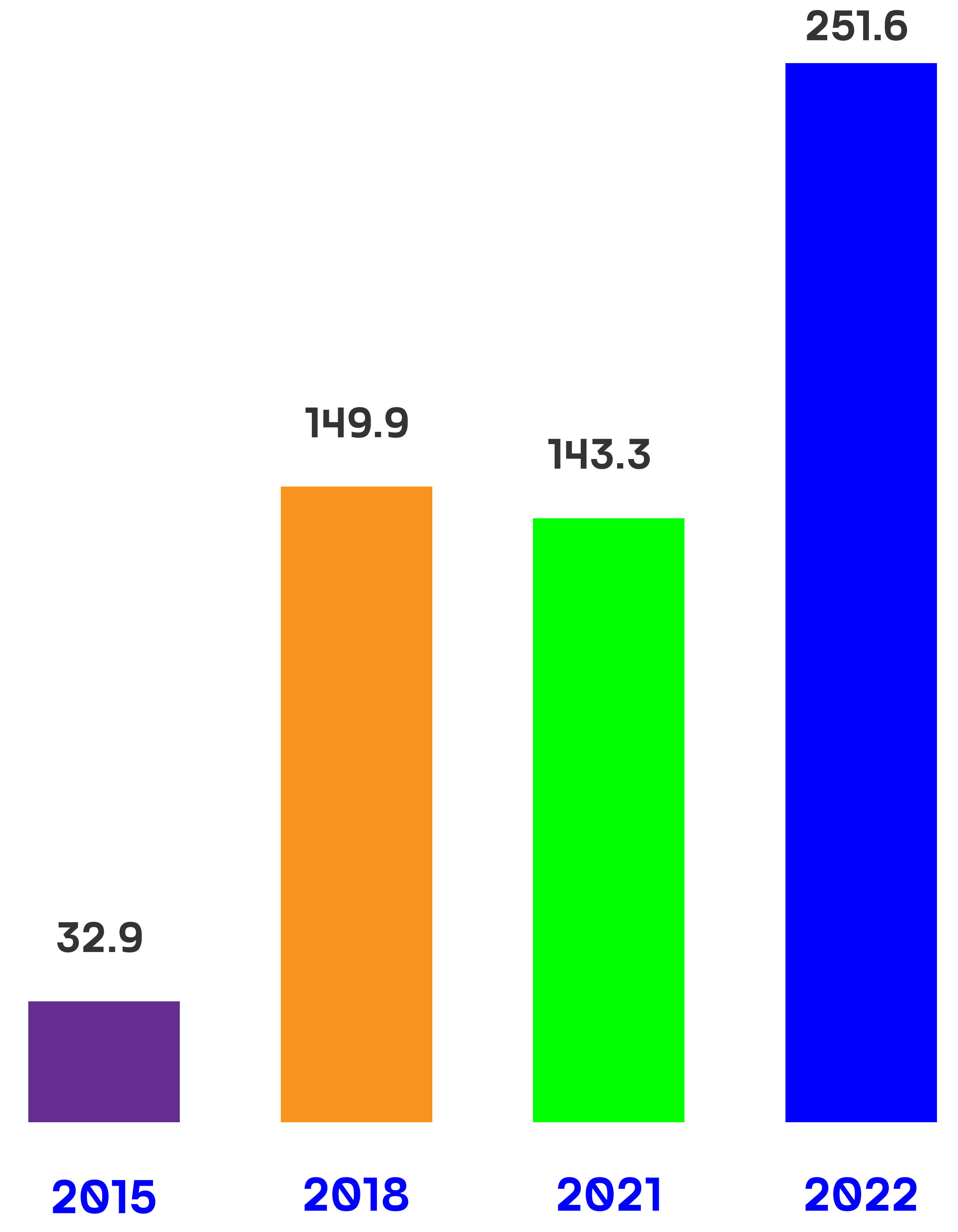
8.1 General industry revenues

Different models or methods can be used to estimate an industry's revenue when you don't have 100% of such data for the companies in the sector. Each model or method is based on certain assumptions. Despite considering the method used in the 2022 survey to be correct, based on the assumptions used, especially the possibility of comparison with the years 2015 and 2018, it was decided to change the calculation method in the current survey.

The main supposition that drove the change of method is the fact that the previous model only considered the revenue of developers that catered to the consumer and entertainment market, not considering games and services developed for third parties, educational games, advergames etc. Therefore, even at the risk of losing the possibility of a direct comparison with previous years, the following steps were used to calculate the revenue for 2022.

The first step was to use the data collected from the question regarding company revenue, multiplying the number

Figure 40: Estimated General Revenue 2015-2022 (in Millions/USD)



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

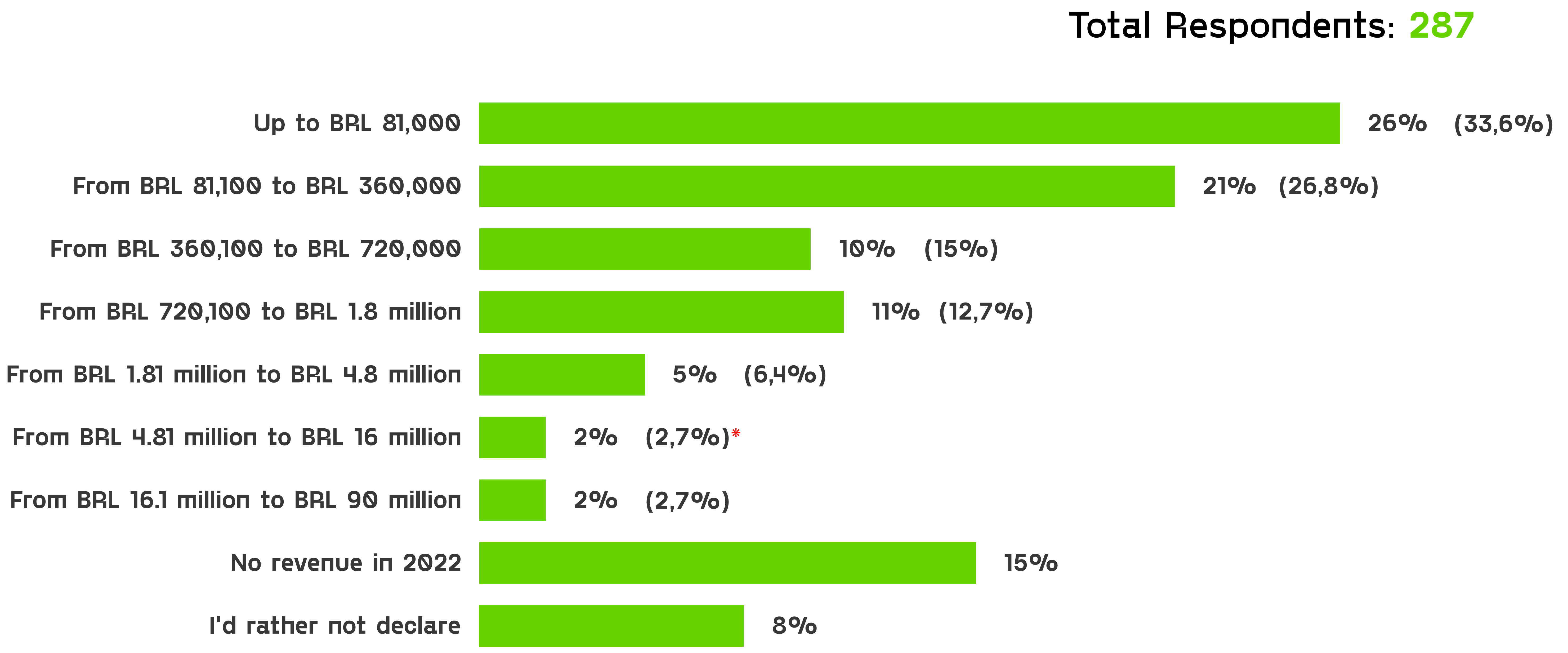
of companies in each range by their lower value, with the exception of the first range up to BRL 81,000, where an average value of BRL 40,000 was adopted. The second step was to remove the Brazil Games Project developers from this calculation. The revenue of the respondent developers belonging to the Brazil Games project was then adjusted in the next step, since there were specific questions regarding their exports in U.S. dollars. As such, the value of exports and the percentage of revenue coming from abroad were used to find the new revenue of these companies. Next, the revenue in U.S. dollars of developers not belonging to Brazil Games was calculated using the average U.S. dollar exchange rate of BRL 5.16.

Finally, data regarding the revenue of the non-responding companies available on the AppMagic platform was collected and added to the result obtained, arriving at an estimated revenue of USD 251.6 million in 2022. Figure 40 illustrates the growth between 2015 and 2022, with the necessary assumptions.

8.2 Revenue of respondent companies

To simplify the number of ranges, the 2023 questionnaire kept the first range as the revenue ceiling for the Individual Micro-Entrepreneur (MEI): up to BRL 81,000, and then used a mix with the criteria of company size defined by the BNDES and the Simples Nacional ranges, adding the ranges from BRL 4.8 million to BRL 16 million, and from BRL 16 million to BRL 90 million. Since this is a very sensitive matter for some companies and others might not have invoiced in 2022, other options were included, such as no invoicing in 2022 and "I prefer not to declare", as shown in Figure 41.

Figure 41: Game developers' revenues in 2022



*% Calculated without companies that did not earn revenue in 2022 and preferred not to respond

Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Comparing the results between 2023 and 2022, it was observed that in the current survey 60.4% of companies have revenues of up to BRL 360,000, compared to 65% in the 2022 survey. The biggest difference is in the range of up to BRL 81,000 Brazilian reais, which fell from 39% to 33.3%. The revenue range between BRL 360,000 and BRL 1.8 million climbed from 23% to 27.7%. This growth reinforces the movement detected in 2022, that developers are in the process of maturing, added to the high exposure to the international market, which provides an increase in revenues in Brazilian reais, arising from the low value of this currency observed in 2022.

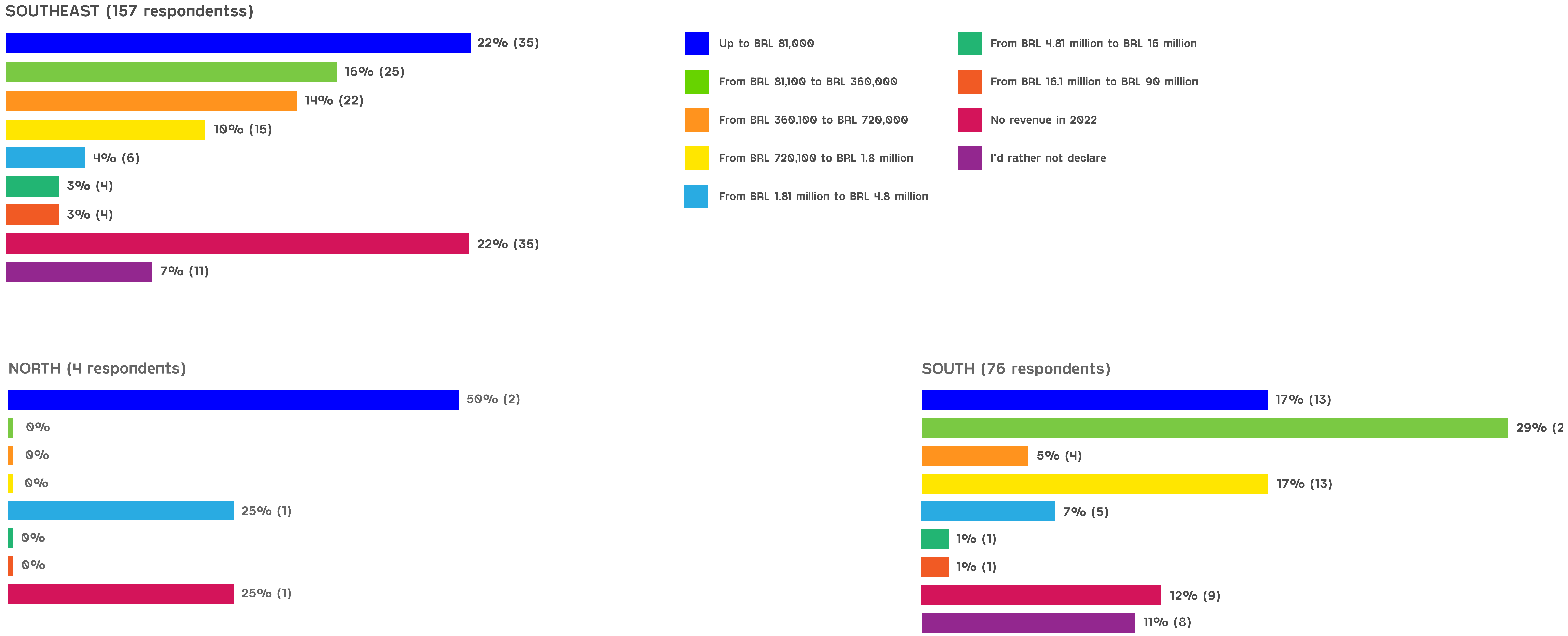
In general, the respondent developers tended to consider revenue to be a sensitive issue, resulting in answers not being filled in or often with low accuracy. In this survey, due to the addition of specific questions for developers belonging to the Brazil Games project, regarding their exports and export maturity, the declared values of these companies seem to be more accurate when compared to the declared exports.

8.3 Revenues by region

With the large concentration of companies in the Southeast, it was expected that the region would have companies of various sizes, with a greater number of large companies when compared to other regions. Considering companies with revenue of over BRL 16 million, four companies were found in the Southeast, one in the South and one in the Northeast.

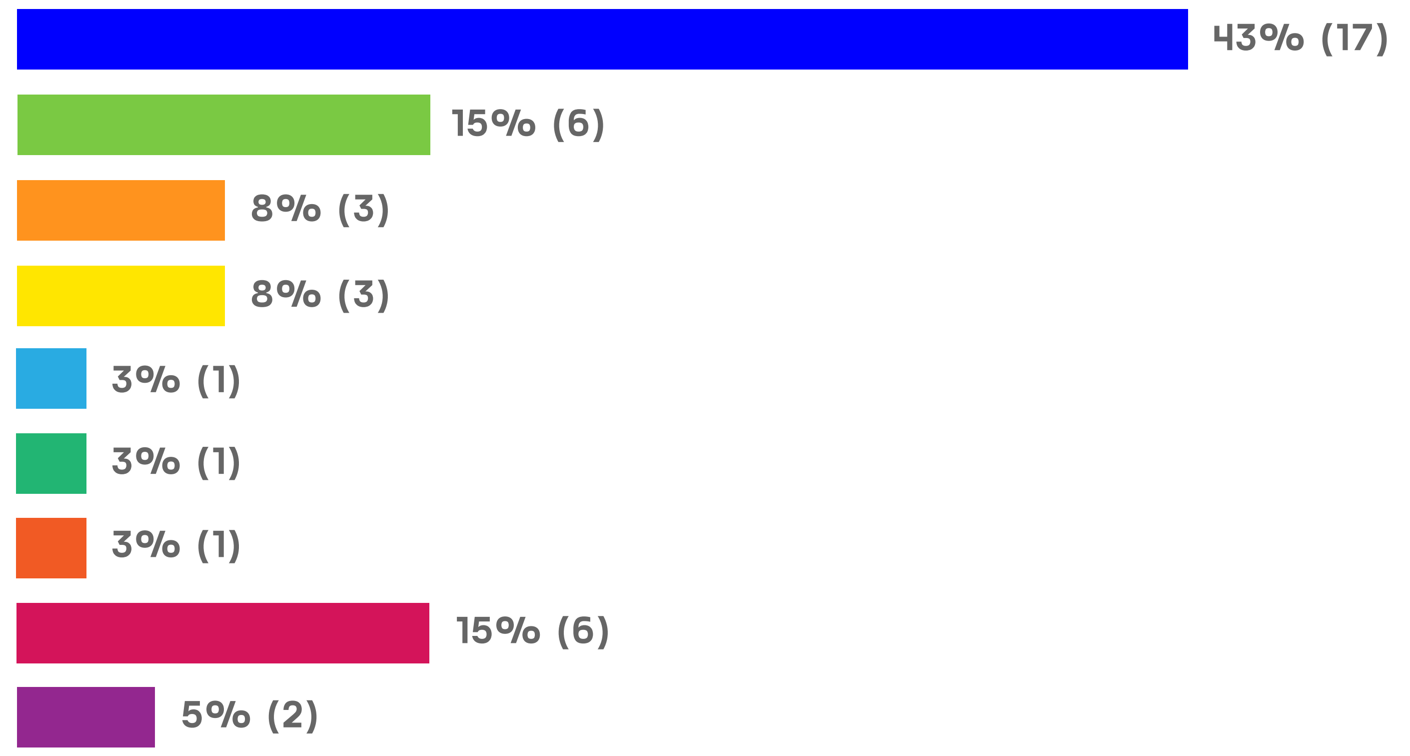
The South is the only region where the majority of companies are not in the range of up to BRL 81,000, and in the other regions the largest number of companies are in this range. However, the number of companies in the first range in the North and Northeast differs greatly from the others in percentage terms. In the South, on the other hand, the predominant revenue range is from BRL 81,000 to BRL 360,000. Figure 42 illustrates the results presented above.

Figure 42: Developer revenue by region

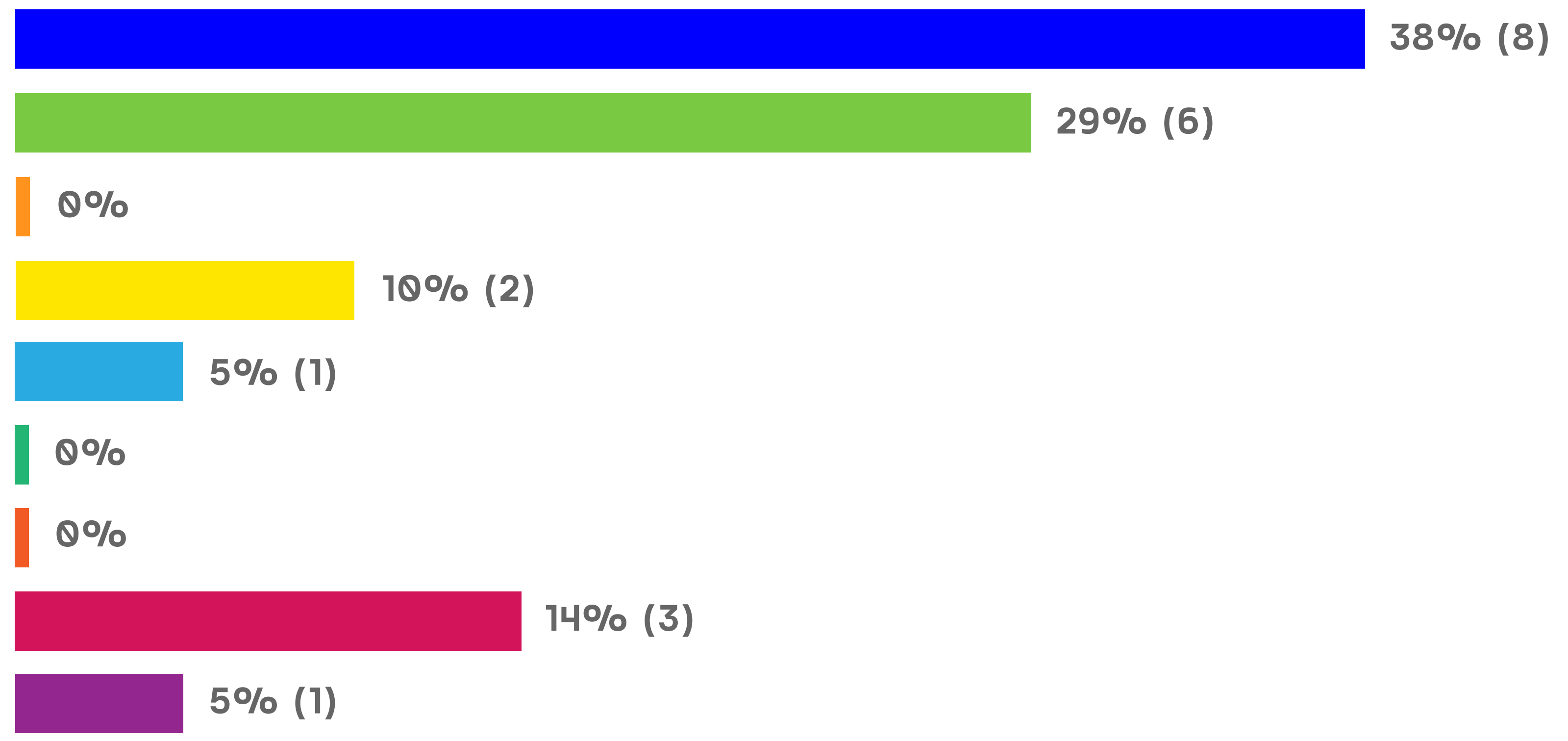


Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

NORTHEAST (40 respondents)



MIDWEST (21 respondents)

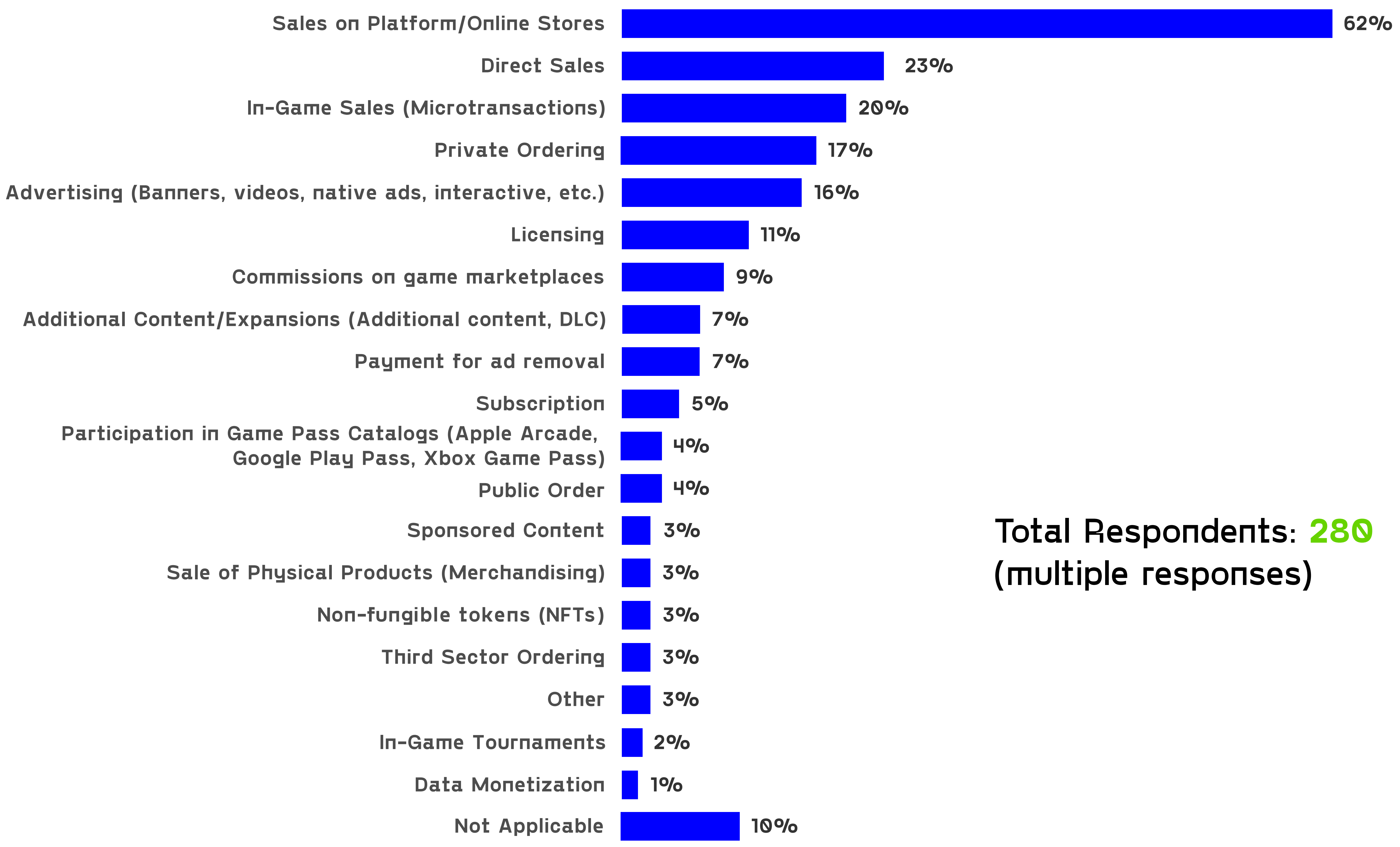


Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

8.4 Sources of revenue and type of monetization

Revenues from game sales through platforms grew from 54% in 2021 to 62% in 2022. While direct sales fell from 30% to 23% in the same period, microtransactions followed at 20%, private orders at 17% and advertising at 16%. Data monetization (1%) and in-game tournaments (2%) were the sources that appeared the least, along with trial periods/paywalls with no response. Among the emerging sources of revenue, Game Pass grew 1% (reaching 4%), while NFTs slid in the opposite direction by 2% (dropping to 3%). (Figure 43)

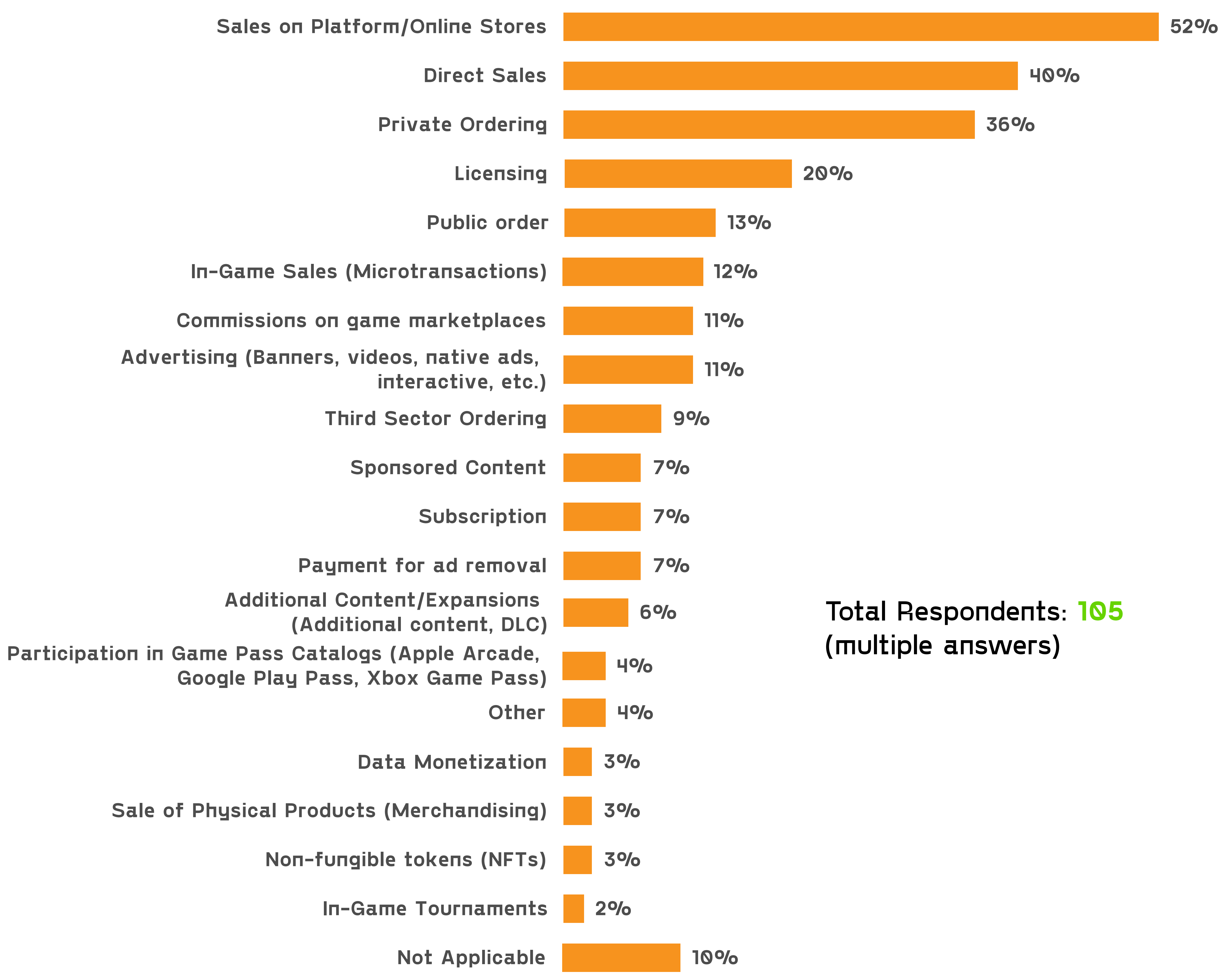
Figure 43: Sources of revenue from entertainment games



Total Respondents: 280 (multiple responses)

Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Figure 44: Sources of Revenue – Impact/serious games

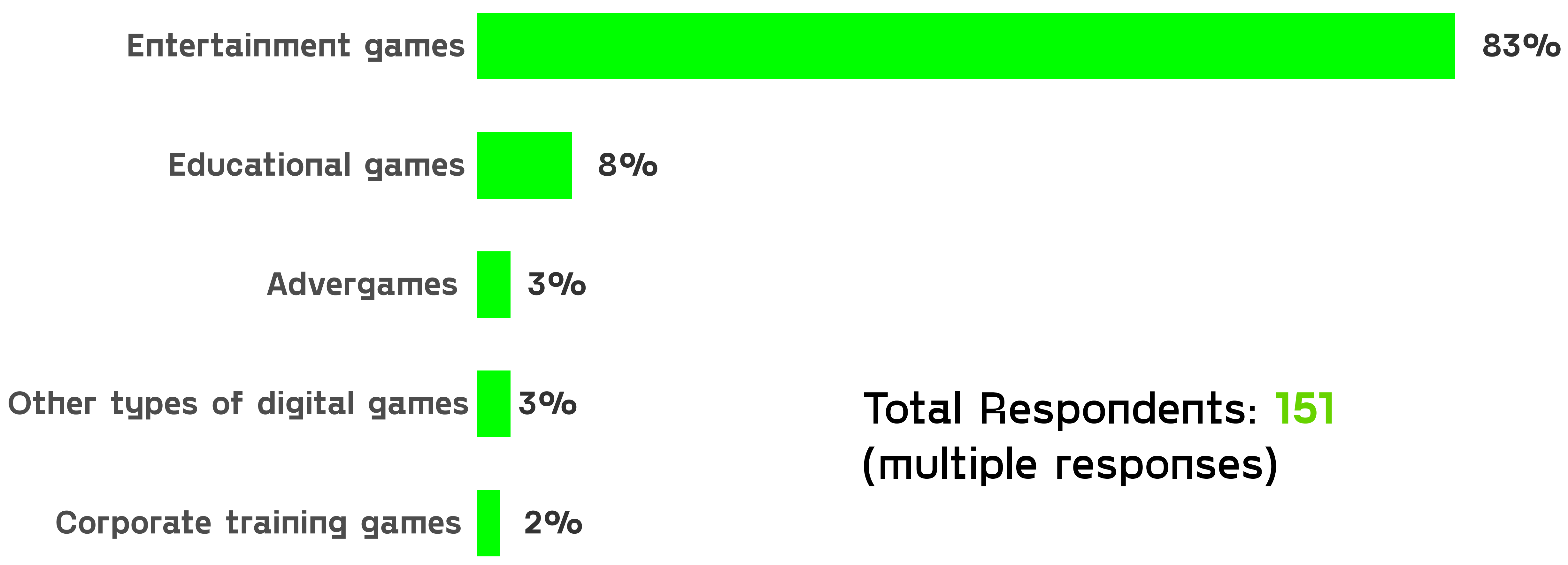


Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Of the respondent companies that develop impact/serious games, 52% reported that most of their impact/serious games' revenue comes from sales on online platforms/shops, while 40% said that their revenue comes from direct sales and 36% said that this revenue comes from private orders, with the least frequent revenue source being in-game tournaments at 2%. (Figure 44)

8.5 Main source of revenue by type of game

Figure 45: Main revenue sources by game type



Total Respondents: 151
(multiple responses)

Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

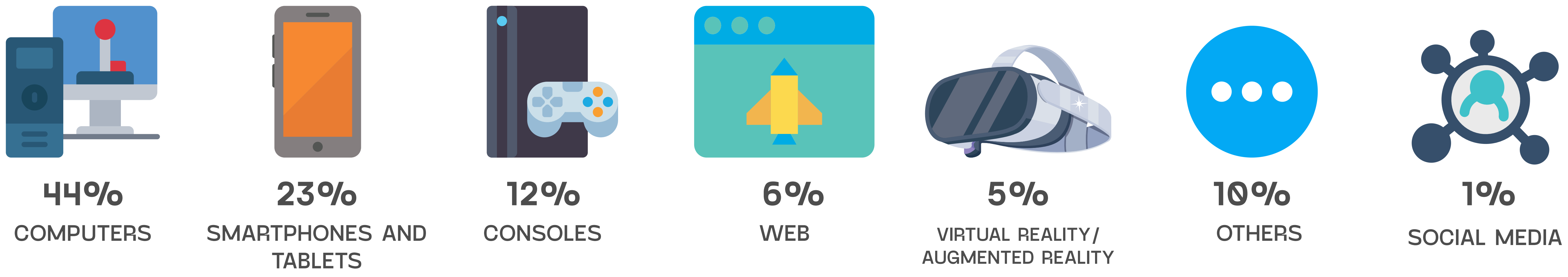
The analysis of the developers' revenue sources shows that entertainment games remain the main source of revenue, although studios generate profit from multiple types of games. In this survey, 83% of companies indicated that entertainment games were their main source of revenue (Figure 45), followed by educational games (8%), advergames (3%), and corporate training (2%). Concentration on entertainment games expanded by 8% compared to 2022, while educational games dropped 4% and other types represented half of that shown in the 2022 survey. Simulators were not mentioned this year. However, it cannot be said that 83% of the industry's revenue comes from entertainment games, as the survey did not capture revenue data by game type, plus the fact that only 50% of the companies answered this question.

8.6. Main revenue source by platform

When considering the platform that generated the most revenue for developers in 2022, the majority of companies indicated computers with 44%, followed by mobile devices (23%) and consoles (12%).

Figure 46: Platform generating the most revenue

Total Respondents: **265**
(multiple answers)



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

09.

Sources of Financing

9.1 Private Funding

As is to be expected in markets where there are few barriers to entry, facilitating the emergence of smaller companies, the main private source of funding reported comes from founders, family, friends and other individuals, with 46% of developers having used this form of funding. This was also the main source in 2022, but for 50% of developers.

International publishers came in next with the same 16% as in 2022, and then 8% of developers had private grants for digital games and angel investment as their source of funding. This raises concerns about private investment, as only two forms of private funding serve more than 10% of companies.

It is important to note that 33% of respondents reported not using any private source of funding in 2023, compared to 28% in 2022. (Figure 47)

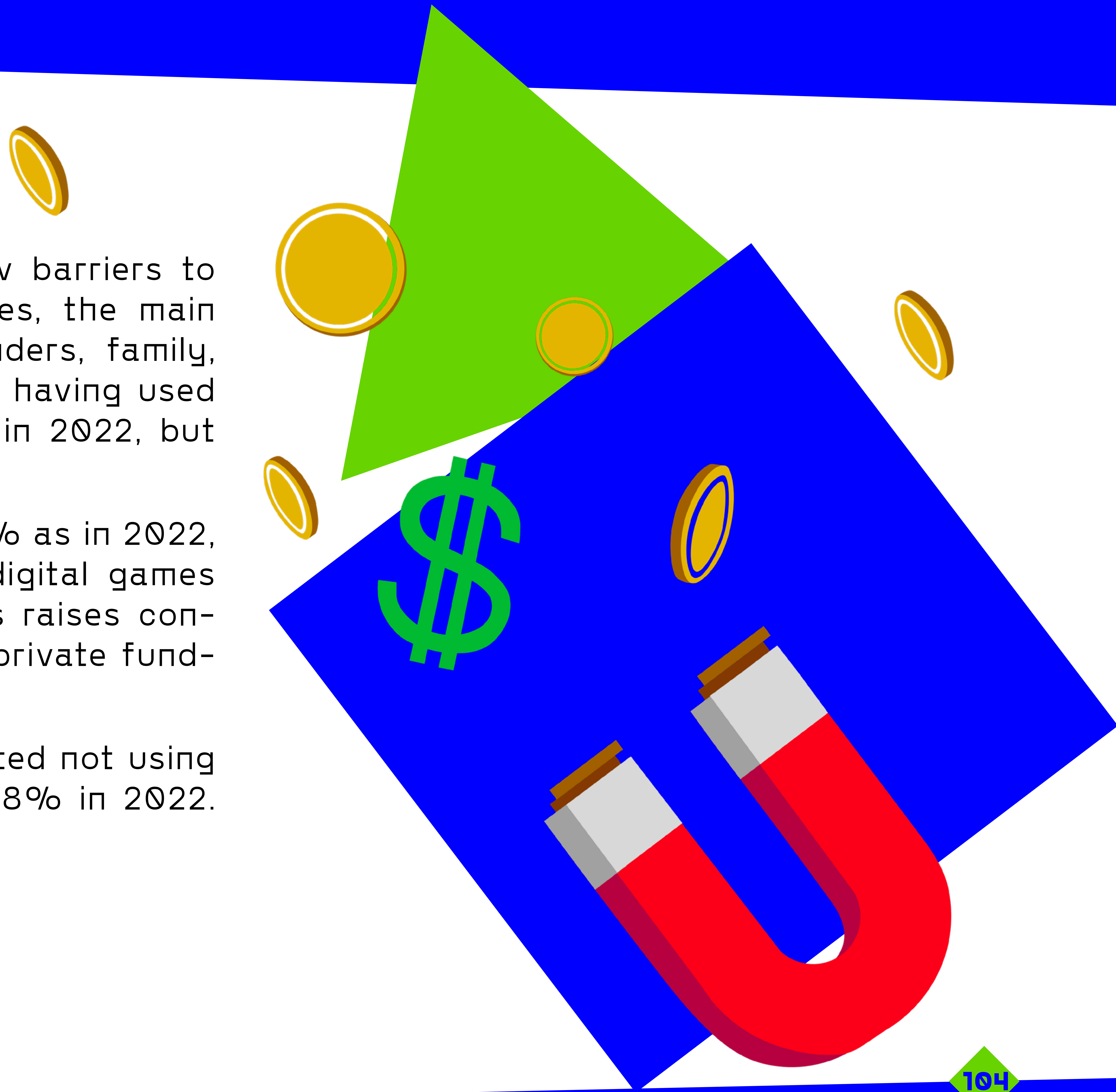
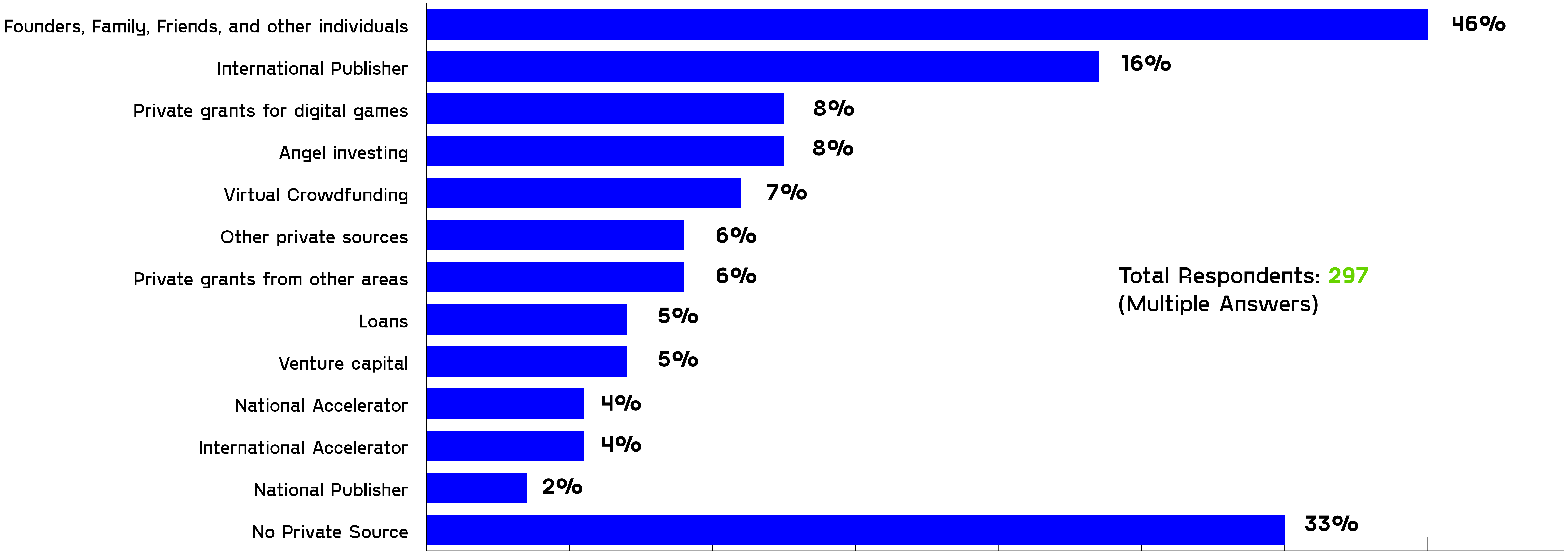


Figure 47 - Sources of private funding



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Some of the international publishing partners cited in 2022, in the order they appeared in the survey, included: Fulqrum Publishing (Czech Republic), QubicGames (Poland), HypeTrain Digital (Russia), Paradox Interactive (Sweden), Bandai Namco (Japan), Plug In Digital (France), Neowiz (South Korea), Skystone Games (USA), Soedesco (Netherlands), Tap Nation (France), Crazy Games (Belgium), Akupara Games (USA), DreadXP (USA), Raw Fury (Sweden), Chillingo (UK), Digital Dragons (Poland), Gamemill (USA), 505 Games (Italy), Libredia Entertainment (Austria), Studio Wildcard (USA), Nutaku Publishing (Canada), Dangen Entertainment (Japan), bitComposer (Germany), Ysbryd Games (Singapore), tobspr games (Germany) and Surefire Games (China).

The two publishers that were most cited were Soedesco (Holland) and Dangen Entertainment (Japan).

Although national publishers appear in much smaller numbers, DX Gameworks, QUByte Interactive and Magalu were mentioned

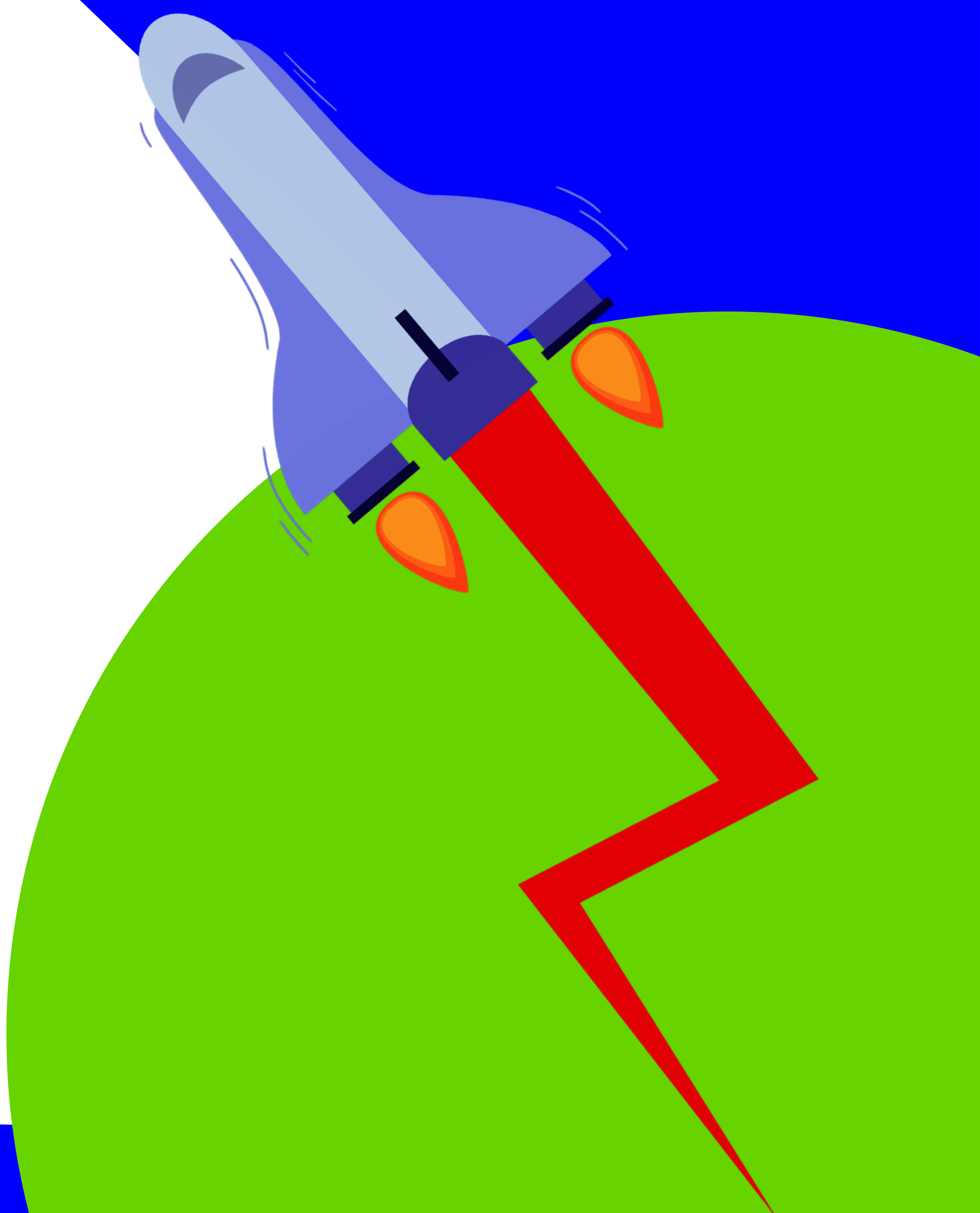
The following were mentioned among private grants: Magalu's New Games Call for Proposals; Rumos Itaú Cultural Program; Telefônica Foundation's Pense Grande Program; and the Entrepreneurship Award.

Among the international accelerators mentioned in the survey, Game Founders continues to be the most cited, as it was in the 2022 survey. Also mentioned are the Black Founders Fund, the IGA – Indie Games Accelerator (Google), and ELEVATE 2020: GDC Relief Fund Accelerator and Boost VC. The national accelerators mentioned were Inova Bossa Nova, AmazonCap and Samsung Ocean.

The developers used Virtual Crowdfunding from the Kickstarter, Catarse and Ko-fi platforms.

Most angel investors come from the state of São Paulo, but other states, countries (USA) and continents (Europe) were mentioned. Brazilian cities listed include São Paulo (SP), Campinas (SP), Rio de Janeiro (RJ), Salvador (BA), Pelotas (RS) and Timóteo (MG). Among the international cities mentioned were Sydney (Australia) and Tallahassee (USA). Examples of investors cited were Garan Ventures, Raja Valley and Bossanova.

As for sources of venture capital, in addition to VCs based in Brazil (Acate Venture Capital, Equitas VC, Biz Venture Capital), VCs based in the USA and the Netherlands were also mentioned.



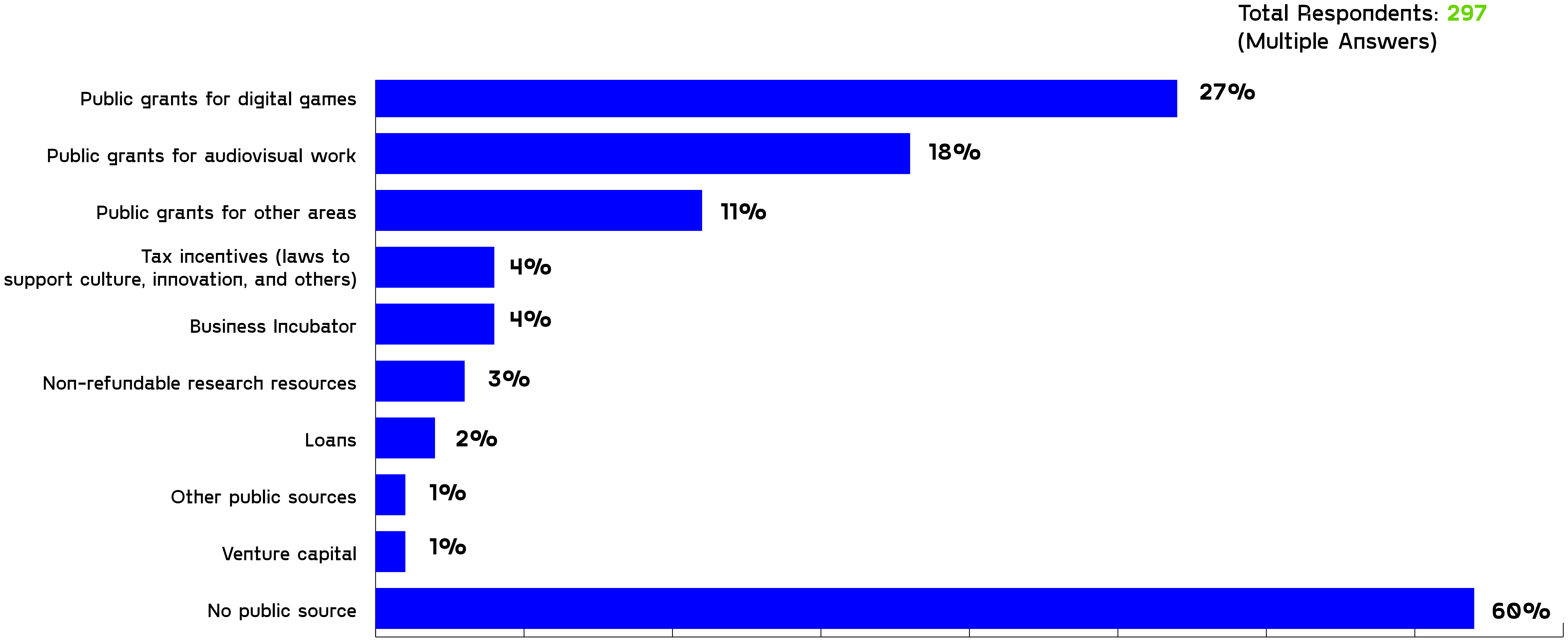
9.2 Public Funding

Public funding in the form of direct funding (funds and grants), or indirect funding (subsidized interest and taxes), has been one of the ways in which governments such as those in Germany, Canada and Finland have helped the local digital games industry to flourish.

In Brazil, we find public sources of funding focused directly on digital games, in areas that are affiliated with it, such as culture and technology, or even to encourage startups and entrepreneurship. These sources can come from federal, state or municipal entities, each of which has its own rules for allocating funds.

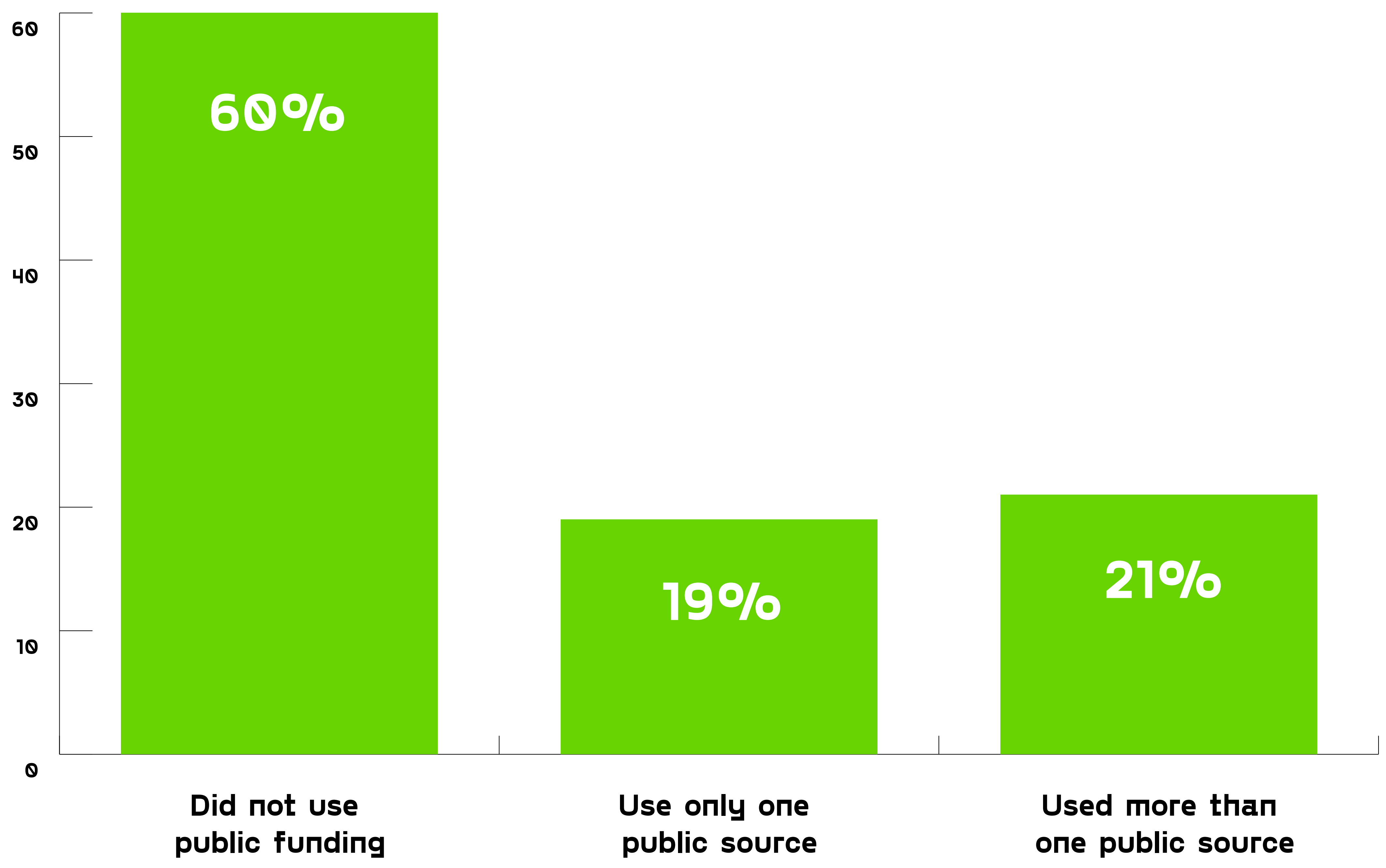
Around 60% of the respondents did not use public funding, 27% used public grants for digital games, 18% raised funds via public grants for audiovisual projects and 11% said they used public grants focused on other areas (Figure 48) . A total of 21% of developers state they have used more than one source. Figure 49)

Figure 48 - Sources of public funding



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Figure 49 – Use of public funding sources



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

With regard to specific resources for digital games from the federal government, the most frequently cited line of grants was the Brazilian Audiovisual Development Support Program (PRODAV), with resources from the Audiovisual Sector Fund (FSA), managed by the National Film Agency (Ancine). The Ministry of Culture is also cited for the policies it has implemented, such as BRGames and JogosBR, the Aldir Blanc Law and the grants issued by the Audiovisual Secretariat (SAv). INOVApps, of the then Ministry of Communications, also appeared among those mentioned.

Various Science, Technology and Innovation bodies were mentioned, such as Finep and the system of state research support foundations: Fapesp, Facepe, Faperj, Fapes.

The FUNDECI (Economic, Scientific, Technological and Innovation Development) public grant, administered by Banco do Nordeste, appeared among those mentioned. The incubators named were those linked to the University of Brasilia, CIETEC (University of São Paulo), Núcleo Softex Campinas, the Federal University of Santa Maria (UFSM) and Miditec (ACATE-Sebrae/SC). Sebrae's actions were mentioned at the state level in Rio Grande do Sul.

At the state level, ProAC (Cultural Action Program) was the most cited by developers. Other public grants linked to the culture secretariats were mentioned, such as: RS (FilmaRS and Fac Movimento), BA, MA (Inova Maranhão), AM, DF, RJ, MA, CE, MT (MT Criativo), and SC (Edital Catarinense de Cinema).

At the municipal level, the City of São Paulo stands out with its Spcine actions. Several other municipalities were mentioned, such as Rio de Janeiro (RJ), Belo Horizonte (MG), Gramado (RS), Florianópolis (SC), Natal (RN), Nova Hamburgo (RS), Pelotas (RS) and São José dos Campos (SP).

9.3 Public policies

Few public incentives focused on digital games have been implemented at the federal level in recent years. With the exception of ApexBrasil's internationalization actions, with the Brazil Games program, in partnership with Abragames, which has been going on since 2013/2014, all the other actions have come to a standstill.

In April 2022, Finep, once again active in the sector, opened the Finep Space Acceleration Program - 3rd Edition – 2022, which includes games in theme 9, Creative Industry (innovations in the areas of architecture, design, engineering, generation and distribution of online content, electronic media, electronic games and digital/social platforms).

Sebrae Nacional, as well as its regional offices, have various initiatives to support developers. In addition to its support services for micro and small businesses, it also offers technological programs. In this regard, Sebrae RS has stood out with the SEBRAE Global Games Project.

The highlight at the municipal level is the Spcine action in São Paulo, which once again launched a call for proposals to incubate gaming companies in 2023.

Public investments, on the other hand, occurred only at local and state levels. These public grants, when launched, were initiated by culture departments or programs focused on culture in municipalities and states, stemming from the work carried out by regional associations.

The novelty on the federal level was the approval of the Paulo Gustavo Law (Complementary Law no. 195, dated July 8, 2022), aimed at the cultural sector, which was adopted as a result of the impact of the economic and social effects of the Covid-19 pandemic. The values and allocation of these resources to the gaming sector were to be discussed in 2023. Several public notices, both municipal and state, were released as of September 2023.

10.

Associations and Collectives

10.1 Mapped associations

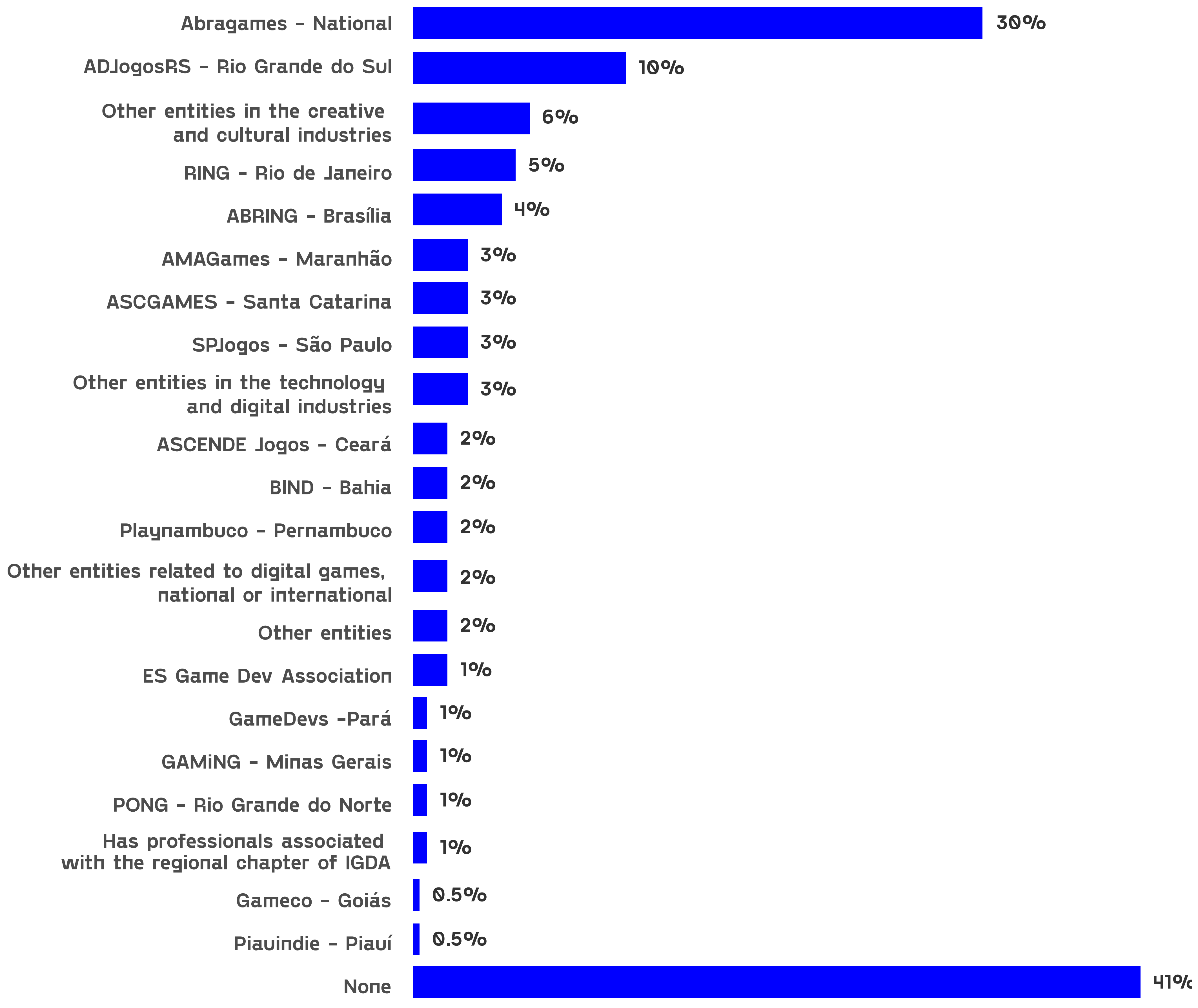
As companies spread across the country and increase in number, regional representation becomes key for dialogue with local government entities. Seventeen regional associations and collectives were mapped, as presented in Table 1, two more than in the 2022 survey.

Chart 1 – Regional associations and collectives

ABRING	Brasília
ADJogos-RS	Rio Grande do Sul
AGD	Amazonas
AMAGAMES	Maranhão
ASCENDE Jogos	Ceará
ASCGAMES	Santa Catarina
Associação Game Dev	Espírito Santo
BIND	Bahia
GameDevs	Pará
GAMEGO	Goiás
GAMinG	Minas Gerais
Piauindie	Piauí
PING	Paraíba
Playnambuco	Pernambuco
PONG	Rio Grande do Norte
RING	Rio de Janeiro
SPJogos	São Paulo

Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

Figure 50: Associations/collectives of the respondents

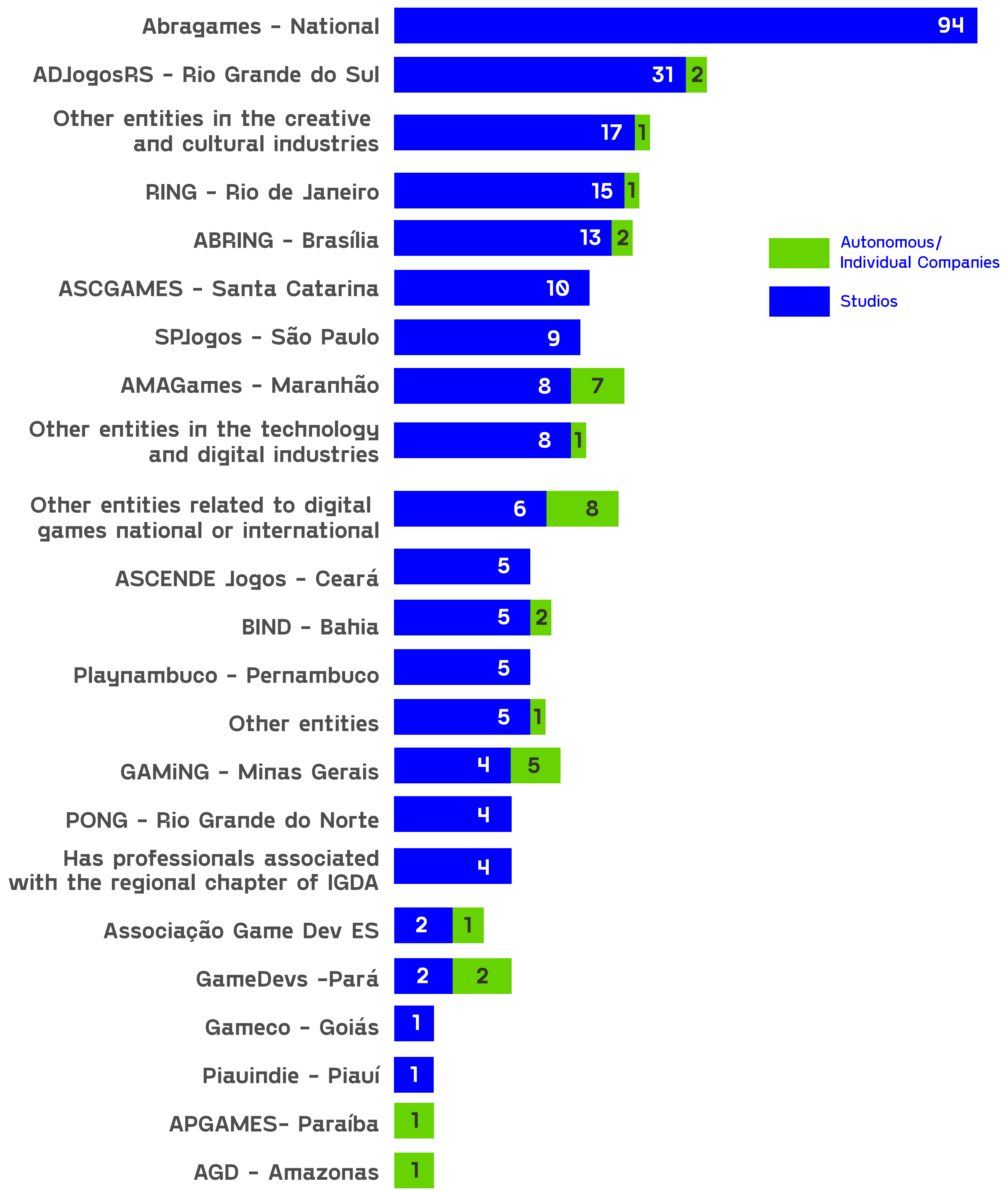


Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

10.2 Associations of respondents to the survey

Among the associations and collectives, Abragames, mentioned by 30% of the developers, followed by ADJogosRS, from Rio Grande do Sul (10%), and RING, from Rio de Janeiro (5%), stand out the most for being national. Among those mapped, there were no responses from members of PING - Paraíba and AGD - Amazonas, and about 41% of the respondents are not associated with any representative entity. During the analysis of the data, it was observed that some companies that responded as autonomous or individuals were members of associations and collectives. Some associations and collectives only had individuals as respondents, such as AGD and APGAMES. Others such as GAMiNG, AMAGAMES and GameDevs in Pará doubled in number of respondents when individuals were added. (Figure 51)

Figure 51: Associations/Collectives of respondent studios + autonomous/individual companies



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

The Hub de Games Association, in São José dos Campos, which represents companies from the Vale do Paraíba region, in the state of São Paulo, was mentioned 5 times, however, there are developers associated with other entities, such as: BRAVI (Brazil Independent Audiovisual), ABRANIMA (Brazilian Animation Association), XRBR (Brazilian Extended Reality Association), ACATE (Santa Catarina Technology Association), Abrinq (Brazilian Toy Manufacturers Association), APLRS (Local Productive Arrangement of the Audiovisual Sector - Rio Grande do Sul), Santacine, FAGT (Acre Federation of Games and Technology), WAWA (Worldwide Audiovisual Woman Association), APLRS (Local Productive Arrangement of the Audiovisual Sector - Rio Grande do Sul), CBL (Brazilian Book Chamber), among others.

11.

The return of On-site Events

11.1 The return of on-site events

As in other industries, the city of São Paulo tends to be the hub for major events in the gaming industry. However, with the growth and emergence of developers across various states, there has been a rise in other events across the country in 2022 and 2023.

Not only are these events spreading throughout Brazil, but their formats and objectives are becoming more diverse. Gaming events may strategically target the Business-to-Business (B2B) market, with a focus on generating business between companies in the sector. Other events are more consumer-oriented, where developers and publishers showcase their releases or create opportunities to get closer to their consumers, and there are academic events as well, which seek to discuss knowledge within the sector. Large events usually include lectures, as well as B2B and consumer areas, where visitors learn about companies, the industry, and relevant topics.

In 2022 and 2023, we saw the return of on-site events in Brazil, and São Paulo hosted the two biggest events of the biennium. In July 2022 and June 2023, the recently renamed BIG Festival (Best International Games Festival) took place, considered the largest gaming festival in Latin America, which has been the main moment for business generation (B2B), in addition to the largest independent game exhibition in Latin America, since 2012. Now in partnership with Omelete Company, the event takes place in a hybrid manner (on-site, but with remote transmission of some lectures). The event drew 30,000 visitors, with 669 participating companies, 429 of them Brazilian in 2022. In 2023 there were more than 50,000 people and 725 companies (482 of which were Brazilian) from 56 countries.

The Brazil Game Show (BGS) took center stage in October 2022 and 2023, the largest gaming fair in Latin America, which stands out as the main event focused on consumers, and has also featured a B2B area for over a decade. The estimated number of visitors, in both cases, was around 328,000, and last year the event presented 12 AAA games, 3 times more than presented in 2022.

The Brazilian Symposium on Games and Digital Entertainment (SBGames), whose main focus is academic discussion and is held in a different location each year, was held in Natal, RN, during the month of October 2022. Organized along the Arts & Design, Computing, Culture, Education, Industry and Health tracks, the event receives submissions of articles produced by researchers from Brazil and around the world. The next edition will take place in November 2023 in Rio Grande, Rio Grande do Sul.

Several other events were also held in Brazil in 2022 and 2023, serving as opportunities for digital gaming fans to gather, without just focusing on major releases or business.

11.2 New formats, games invade the events

Several other events were also held in Brazil in 2022 and 2023, serving as opportunities for digital gaming fans to gather, without just focusing on major releases or business.

Focused on geek culture, Comic Con Experience (CCXP) took place in São Paulo and also offers a gaming area, having attracted around 280,000 people. It is scheduled to hold its 2023 edition in December. In a Game Park model, Game XP, held in Rio de Janeiro, was not held during the years of this survey, but is being cited here as an innovative way to bring gamers together outside the traditional event model.

Highlights in the competitive development format include Game Jam Plus, with regional stages taking place in various cities, Global Game Jam, held in Brazil since 2019, and Women Game Jam, which focuses on women, trans and non-binary people.

With the growth of the gamer culture, the presence of spaces for games in events focused on education has become more common, as was the case at Bett Brasil Educar, aimed at education and technology, held in São Paulo. This is also true for events focused on creativity and innovation, such as Rio2C, held in April of 2022 and 2023 in Rio de Janeiro.

11.3 Regional events

Boasting strong engagement by local associations and both public and private incentives, regional events took place across various states, many of them held in person. States that hosted gaming events in 2022 and 2023 include Bahia, Brasília, Ceará, Rio Grande do Sul, Santa Catarina, among others.

12.

The Post-Pandemic Period

The moment when certain data is collected can directly determine the respondents' perception of a given issue. The 2022 Brazilian Gaming Industry Survey[15] can capture perceptions of respondent companies that are very close to the pandemic event and its immediate impacts on Brazilian developers. Some factors, such as the increase in players during the pandemic due to social distancing and the adoption of remote work, have already been widely reported. This study sought to analyze the responses, indicating the effects that are perpetuated in the daily routines and business of the developers in order to complement the findings of 2022, without analyzing outside this specific context.

Of the respondent companies, 34 claimed not to have experienced any impact at the time of Covid and 17 stated that it did not apply because the company came about during or after the restrictions. Most of the companies highlighted three axes of impact: remote work, participation in events, and other direct impacts on the business.

[15] FORTIM, Ivelise (Org). 2022 Brazilian Gaming Industry Survey. ABRAGAMES: São Paulo, 2022.

12.1 Remote Work

Remote work, which was already taking place in several studios, sometimes in a hybrid format, was adopted in most studios, remaining as reported in item 5.3 The vast majority of companies were in favor of the change, mainly for cost reasons. The following are some of the arguments for and against this regime.

The developers' positive arguments in favor of moving to remote work were the possibility of accessing labor from other states and countries, the drop in office overhead costs, the increase in sales and the upswing in players, the flexibility of employment contracts, the change in the vision of clients and partners when holding online meetings.

On the other hand, the developers who rated the switch to remote working negatively described a loss of productivity that has only now started to improve again with hybrid work, the way employees communicate is still creating barriers, the loss of employees to companies abroad, and the fact that remote meetings can affect creative work, often making it stressful.

12.2 Impact on studios

In terms of revenue and business growth, perceptions about the pandemic were mixed. While some companies celebrated the increase in sales, those companies that relied on a closer relationship with customers experienced a drop. The latter reported that the moment was very difficult and some even stated that they put the company in "hibernate" mode during this period. However, with the end of the pandemic, companies were able to restructure themselves using a new business model.

Some of the companies stated that they started developing games during the pandemic because the model is scalable. On the other hand, some of the studios needed to diversify the services they provided to generate recurring revenue. In both scenarios, the pandemic permanently affected the business model of companies.

Companies focused on serious games were affected by the partial or total closure of some clients. With reduced activities, clients decreased their spending, directly affecting these developers. Such an event can only be reversed, and sometimes only partially, with the end of the pandemic and the return of old clients to their activities and the possibility of accessing new ones.

Another factor mentioned was the negative impact on the mental health of partners and employees. Some developers reported that even today some people have not recovered, forcing them to leave their teams or in other cases causing a negative effect on the productivity of these employees.

12.3 Online events

Events being held online during the pandemic were welcomed by studios, whose resources did not allow them to attend. Even though on-site events are returning at an accelerated pace, practically all events have been organized under a hybrid format.

In turn, larger developers that used event networking as a strategy suffered more from online events. The costs of participating in events limits competition from smaller studios, and the fact that this barrier diminished has increased the possibility of new players entering the market. This is added to the fact that some partnerships have a maturity period, especially in companies focused on B2B. The possibility of making games available for on-site testing was another factor indicated by both large and small companies; however, the latter was overcome with the return of on-site events.

13.
Trends and perspectives

In this section, just as in the previous one, an attempt was made to present the respondents' perceptions of trends and perspectives, in order to complement what was presented in the 2022 survey.

13.1 Technological trends

The great hype given to the new possibilities of generative Artificial Intelligence (AI) has pushed some of the characteristics that could become reported trends in 2022 to the back burner, such as the development of games using the blockchain system, the development and growth of virtual, augmented or mixed reality (XR) and the metaverse.

Almost half of the respondents cited or commented on AI as a trend, both in the short and long term. Some said that AIs and their applications will have practical impacts, whether in the co-production of art, texts, programming or interactivity with players. In the longer term, AI will not only be applied in development or application, but will also have an impact on the planning and direct work of other employees in different areas. There is a perception that AI should be used to improve the performance of development teams, without necessarily replacing the team, but rather enhancing them.

The use of expanded or mixed reality (XR) ranks second as a trend, both in the short and long term. Like AI, the possibilities of using virtual reality (VR) and augmented reality (AR) were men-

tioned by more than 50% of companies. The viability of VR/AR projects, however, hinges on the improvement and high availability of 5G technology, improvements in devices and game quality and the popularization of hardware, which is currently unfeasible for a large part of the population in countries in the Southern Hemisphere. Respondents continue to be excited about the participation of major players such as Apple, Samsung, Google, among others, as their interest in the technology confirms its effective evolution.

The possibility of using XR for gamified applications focused on health, advertising and other applications should allow developers to have their own revenues for the development of their IPs, generating more content and feeding back into the industry.

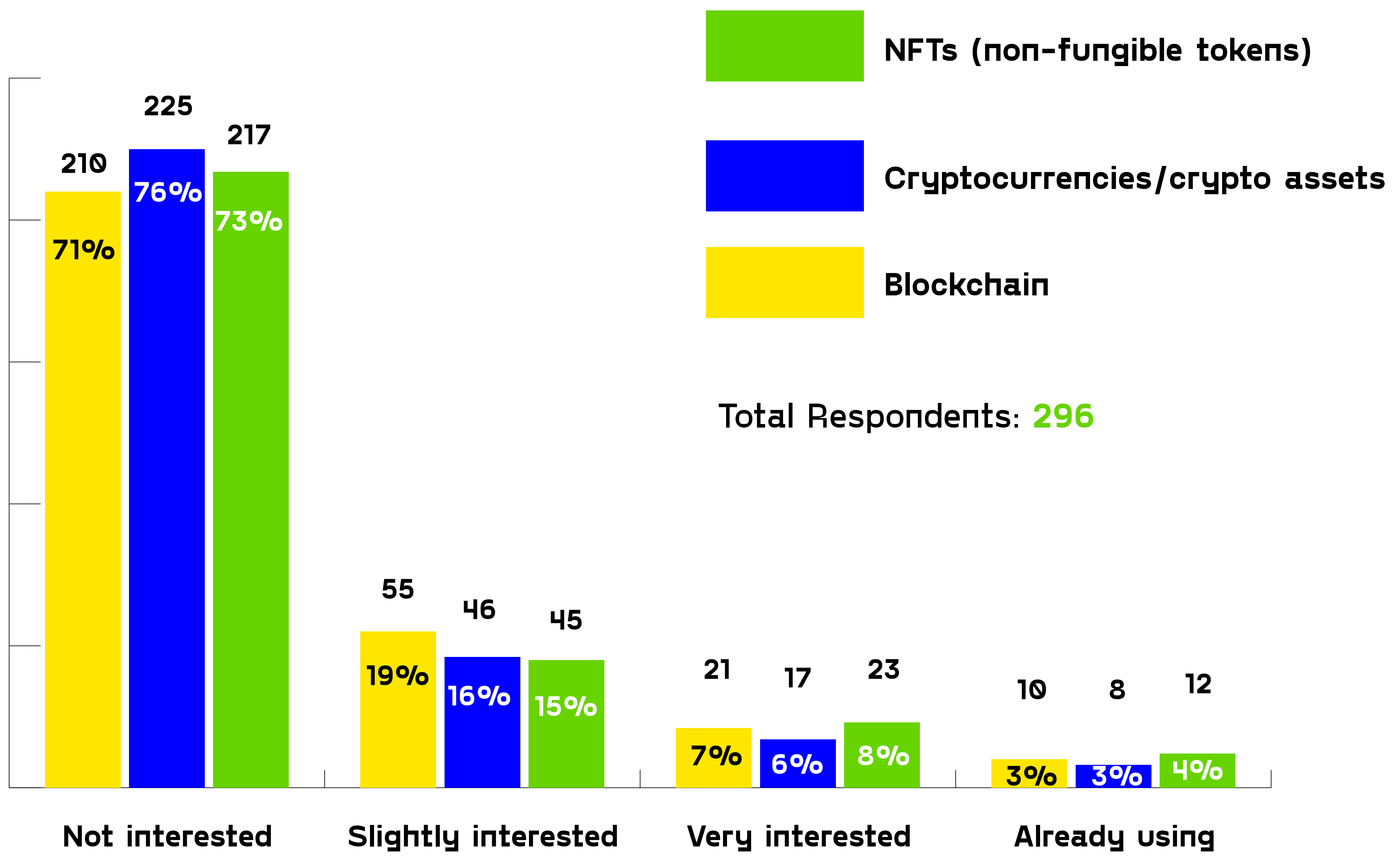
Around a quarter of the interviewees mentioned 5G technology, mostly linked to cloud gaming or VR/AR applications. After all, in the opinion of the respondents, 5G technology is not an end in itself, but a means to enable the growth of other technologies.

One factor that has once again been mentioned as a trend is new technologies in relation to engines such as Unreal Engine 5, the new powerful and portable consoles such as Steam Deck, and the application of all the technologies described here in simulators, education platforms and gamification.

13.1.1 NFTs, blockchain, cryptocurrencies

Despite being a trend identified in 2022 by technology experts, the negative events in relation to NFTs and cryptocurrencies from mid-2022 onwards have further cooled the interest of Brazilian developers in these technologies. Only 6 positive mentions were made of blockchain in the current study and none of the other two technologies. Figure 52 illustrates the respondents' current interests.

Figure 52: Interest regarding blockchain, cryptocurrencies and NFT



Source: Pesquisa Capacidade de Produção da Indústria Brasileira de Games (2023)

13.2 Market trends

13.2.1 Main trends

As in 2022, among the biggest market trends highlighted by respondents and the most frequently mentioned, are cloud gaming, subscription gaming and the greater acceptance and use of remote working with companies in different countries.

Cloud gaming is becoming increasingly popular, allowing players to access games in real time without the need for expensive gaming hardware. Platforms such as GeForce Now, Netflix, Xbox Game Pass and Amazon Luna are spearheading this market.

The growth of the mobile platform continues to be a factor influencing Brazilian developers, generating the possibility of creating ports and native games for mobile phones and the like.

The demand to “create more feminist, inclusive and diverse content at all levels”, cited by one respondent, is in line with the rise of “Wholesome Games”, games without violence, with a more narrative aspect, and generates a market opportunity. The popularization of educational games was also cited by at least 8 respondents.

Electronic sports (eSports) are becoming increasingly popular, with millions of players watching and taking part in online competitions. The major gaming companies are investing heavily in this market, and it is expected to continue to grow over the next few years. Also representing a strong market trend, eSports are already having a major impact on how the upcoming games are designed.

It was mentioned that privacy laws are already having an impact on the advertising industry and User Acquisition, and that developers will have to adapt to this reality. On the other hand, two developers are reinforcing the use of AI and Analytics for User Acquisition.

13.2.2 International competitiveness

It seems clear to the developers that, in the words of one of the respondents, "the market is reaching a more advanced level of sophistication. Shortly, the simple act of innovating or improving mechanics from other games won't be as effective as before, so it's increasingly important to develop your own 'brand' and IPs, as well as practicing business development. This is in the context of those who aim to produce original games."

Competition on a global level is now not only for consumers, but also for financial and human resources. The expected appreciation of the Brazilian real, due to the country's economic and political stability, could lead to a drop in sales of games sold on international platforms, while at the same time allowing access to skilled labor, thus protecting Brazilian intellectual capital to some extent. One developer pointed out that in the long term the U.S. dollar is expected to gradually lose its strength as an international currency, opening up the market for distribution in other countries, without centralized localization in the marketplaces of the Global North.

The lack of a double taxation agreement and the difficulties of importing devkits were sometimes cited as factors that inhibit international competitiveness.

One of the common themes was the respondents' positive view of the return of grant programs for digital games. Virtually all the comments in this regard concerned the need for more consolidated public policies for gaming in Brazil in the future, with the Aldir Blanc Law being cited as an example by the respondents.

13.2.3 Metaverse

The Metaverse, as in 2022, was a topic mentioned by respondents, mainly as a long-term trend. However, its applicability and form of operation do not yet seem clear, since almost no reference has specific comments on how working in the metaverse will effectively impact companies. One of the few elaborate comments presented the growth of platforms focused on the Metaverse as a trend, such as the arrival of the Unreal Engine Fortnite and the evolution of XR headsets.

14.

Challenges for companies

The challenges identified by developers in 2023 differ little from those raised in 2022. Thus, this section presents the respondents' impressions; however, some subsections have been added to separate the challenges that apply to smaller and larger companies.

14.1 Access to financial resources

The return of grant programs, via the Paulo Gustavo Law, has not diminished the perception that there is a shortage of financial resources directed at the gaming industry. As long as there are not enough private resources, there will be a need for government resources to meet this demand. The existence of public funds earmarked for the digital gaming sector in countries like Finland, Canada, and Germany generates a negative perception among developers, despite government efforts in the country. The few positive mentions in this regard are linked to the actions of state and municipal culture secretariats, such as SPcine in São Paulo, which have taken the lead in grant programs.

The greatest demand presented by the respondents is for financing initial projects (mainly for their own IPs) in start-up and medium-sized studios, as the lack of funding leads the partners of these companies to work part-time in other studios or companies outside the area. Respondents from more structured studios say that the lack of funding makes it impossible to expand their activities, as it limits investment in marketing and hiring more professionals, thus slowing down business growth.

It is important to note that the demand for financial resources exists at all levels of company maturity. As such, there is a need for government grant programs for gaming projects at an early stage and also when they are being finalized and marketed. In addition, the high interest rates practiced in the country and the profile of companies that are often unable to access more attractive lines of credit, such as smaller studios, generates a demand for private investment at all levels. In such cases, the challenge is to expose studios to different participants in the ecosystem, such as angel investors and venture capitalists, publishers, accelerators, among others, so that their projects can be evaluated and improved for more efficient funding.

14.2 Attracting and retaining talent

The issue of training the workforce for the digital gaming industry has been discussed for at least a decade. The remote work regime has added another variable to this complex equation, namely the retention of talent in Brazil.

The education of developers by universities and free courses in Brazil is seen by companies as generalist or incomplete. Developers sometimes claim that universities do not keep up with the speed of technological change, and train professionals who are disconnected from the reality of the market.

The education of this workforce is concentrated in private higher education institutions (99.73%), or in readily available online courses, a global trend resulting from the pandemic. The 4000+ undergraduate courses registered in the Brazilian Ministry of Education are distributed across approximately 140 higher education institutions, with over 40% of them located in the Southeast. Until 2010, the participation of women in higher education for digital games represented less than 3% of graduates. This number practically quadrupled between 2011 and 2020, reaching 12%, and then doubled in the two-year period of 2021 and 2022, reaching 24%, according to data from private higher education institutions.

As in 2022, one of the main solutions could come from the reformulation of curricula or even more specialized courses. However, university institutions indicate that changing their curriculum is a bureaucratic process which takes place every three to five years.

The solution found by developers has historically been to have experienced employees train the new ones. However, the adoption of remote work has accelerated the process of experienced professionals leaving for the international market. What used to be an exception – Brazilians going to work in countries like Canada – has become commonplace, since foreign companies can freely hire Brazilian employees without them having to travel to these countries, thus reducing bureaucratic barriers.

The demand for Brazilian development labor has risen to the point where countries like Canada and Finland have stands at events such as the BIG Festival, where companies that are hiring new professionals and conditions for migration are presented.

Given this scenario, two respondents made the following observation: companies are less motivated to invest in training new employees, worried that they would soon leave the company since the devaluation of the Brazilian real makes it possible to earn a higher income working for companies abroad.

Respondents point out that salaries for 3D animation and programming professionals have risen, sometimes making it impossible to produce projects for clients (a company focused on B2B). They also experience difficulty in finding qualified professionals who are available for original projects.

On the other hand, a few studios have hired employees from countries with weaker currencies, such as Argentina. Some studios have indicated they have been hiring people, including from Europe, to cover local positions.

14.3. Structuring the business

The different stages of the respondent companies indicate different challenges. Structuring the business seems to be the main concern for companies in the formalization phase and solo developers who are already formalized as individual micro-entrepreneurs (MEIs).

In this sense, the former have the challenge of raising investment or generating enough fixed income to allow all the partners and employees to work full time on the projects, which would lead to an improvement in the quality of the products and also a more efficient and faster production. These companies are among those that point out barriers to entry in fundraising via current grant programs because they are recently established. They also have difficulty closing deals with international publishers who are not willing to deal with bureaucracies involving indie companies in Brazil.

Formalized solo developers find it difficult to secure partnerships in areas where they are not active, such as marketing and distribution. And in both cases, there is a problem with formalizing their team since they have little formal training and scarce knowledge of the organizational processes of game production. These companies say they have to resort to providing services in the areas of digital games or technology in order to obtain the resources to produce their own IPs.

14.4. Larger and more complex

In addition to the recurring concern regarding marketing, which encompasses companies of different sizes, larger companies have challenges due to the increased complexity of operations. This was also noted in the 2022 survey.

Among the challenges cited, the search for financial viability with sustainable growth ,shows the concern of developers to create an industry that does not become dependent on government actions in the long term. Although the challenges are slightly different, between companies that develop entertainment or impactful games for third parties, and developers of their own IPs, both are challenged with maintaining a consistent flow of projects via the opening of distribution and sales channels. A constant revenue stream would, in the words of one respondent, make it possible to guarantee the monthly payments of employees, without the need for partners to supplement their coffers. Another respondent, would like to be able to regularize all their employees as CLTs when they reach the break-even point.

Maintaining contact with clients, especially international ones, can be a challenge for companies that have been in the market for longer but still have lean structures. Often, these contacts are made at international events, which can be very costly depending on the price of the U.S. dollar.

Companies that sell directly have the challenge of establishing a more balanced relationship with streaming platforms, and both distribution models often require contracting accounting and legal partners to create a banking and tax structure for international receipts.

Increasing the quality of games for publication was also cited by some developers as a challenge, sometimes linked to a lack of resources to hire talent. The lack of an administrative structure, such as a human resources department, can also have a negative impact, for example, on talent management and retention.

Some challenges are specific to certain companies, such as the popularization and growth of the XR market and bureaucratic aspects regarding sales to government entities. However, legal aspects regarding the protection of intellectual property, mentioned only once, could potentially be a major challenge in the coming years.

14.5 More international competition and the challenge of attention

The challenge of competition and attention was already reported in 2022, and competition for skilled labor was discussed earlier in this chapter. The keyword presented by 27 developers is “Marketing”. Marketing was the most cited challenge in the study, and if we add other terms such as advertising and distance marketing for fundraising and talent acquisition, it increases.

The concern with marketing reflects the fierce competition with foreign companies, which often invest more in promoting their products. Achieving visibility in the midst of various product releases will be a growing challenge every year, both on mobile and PC gaming distribution platforms. In addition, as already pointed out in the 2022 survey, older games are still available on these platforms, creating a timeless competition.

The study showed that developers are seeking alternatives such as international public relations or partnerships with publishers to make it easier for Brazilian games to enter international markets. However, some developers still need to implement a basic marketing process to at least understand their current and future target audience, in order to allocate resources.

For companies that provide development services or develop impact/serious games, increasing visibility often means participating in more international events and/or increasing their sales team. As the sales cycle for B2B products is longer than that for the end consumer, companies must prepare to exhibit at events more often in order to be remembered. The secret (and challenge) cited in the survey is to get recurring contracts that allow for proximity to clients, ensuring a more stable flow of projects.

Finally, an additional challenge is related to the increased cost of acquisition, also the result of greater competition.

14.6. Taxation

The lack of a double taxation agreement with other countries was the most cited aspect of taxation in this survey. As the vast majority of developers sell abroad on platforms such as Steam and Google Play, taxes in these countries reduce profitability. Some companies have opened offices in these countries to reduce this impact.

Another aspect with repeat citations is the taxation on development kits, hardware, and software, since most of them are priced in USD. These items are fundamental to the development of games and should be treated as capital goods, which have tax incentives in Brazil.

Tax complexity generates additional costs, such as accountants and/or lawyers specializing in importing and exporting items. Although larger companies can cover these costs, small and medium-sized digital gaming companies pay more taxes due to the lack of resources for this purpose.

Finally, some companies reported that they have sought to overcome the high costs of maintaining CLT employees by hiring outsourced workers after the change in the labor regime implemented in the country by the Temer government.

14.7 Regulatory aspects

Several regulatory issues were indicated by the companies. The most cited is the lack of a specific National Economic Activity Classification (CNAE) for game development companies. This concerns not only studios, but also individual micro-entrepreneurs (MEI), who, according to one of the respondents, are "working magic" to fit in and work in the industry.

The complexity of taxes and a tax regime that can help start-ups, as indicated in 2022, are factors that discourage the emergence and growth of companies locally. The bureaucracy involved in importing development kits is one of the factors always cited as a problem in most studies conducted in the digital gaming industry. This scenario illustrates how regulatory aspects can limit the technological growth of a sector.

14.8 Regionalization

Some of the challenges mentioned are directly linked to the distribution of companies in the various Brazilian states. While the alignment of the various regional associations and collectives with ABRAGAMES seems to be taking its first steps, the lack of coordination between the other public and/or private entities could lead to different results in the long term.

One of the challenges cited in this regard is the difficulty of finding qualified people in the region. As we have already seen, this is due to the concentration of courses in the country's main capitals and also to high salaries, which often make it impossible for local companies to hire them.

Successful participation in events and business roundtables is also an issue, because they are concentrated in the Southeast, making the comparative costs for those who live in the Northeast and North much higher and access to publishers and other participants in the ecosystem unfeasible.

15.

Other Players in the Ecosystem

15.1. Support companies for game development

In order to keep the same logic and enable comparisons with the 2022 survey, this study used the same definition of “Digital Games services and development support organization,” which was previously defined as “a company or business of one person or more that offers services to the gaming industry, including animation, consulting, localization, digital content development, research, media, cinema, TV, advertising and publicity, corporate training, software development, distribution, monetization, retail, publishing, activities related to and electronic sports, among other activities.”

Of the 80 support companies that responded to the survey, only 3 (4%) were not yet formalized, and 54% had been in business for more than 5 years. Both of these results were in line with the 2022 findings. The vast majority are located in the state of São Paulo (44), with 6 in Rio Grande do Sul, Minas Gerais and Santa Catarina and 4 in Rio de Janeiro. The number of companies outside the Southeast/South regions doubled to 8.

Among the 70 companies that responded about their revenue, 8 had no revenue in 2022, 17 had revenues between BRL 81,100 and BRL 360,000, 15 did not exceed the MEI ceiling of BRL 81,000, and 13 had revenues between BRL 4.81 million and BRL 16 million. Five companies reported earnings of more than BRL 16 million, and two reported earnings of more than BRL 300 million. The composition of more mature support companies in this survey had a direct impact on the revenue results reported. Remember that support companies can provide services to industries other than just games. For example, when it comes to localization, they have been providing services to international publishers for years.

The most common of the activities carried out by companies is consulting (26%), followed by customized projects for brands (21%), educational services (19%), software development and IT services (18%) and animation (16%). However, few respondents claimed to work with data science and trade in hardware and peripherals for games (1%), specialized advocacy and distribution of games (3%) and investments (4%). Among these, the activities identified as the largest source of revenue were localization (9%), software development and IT services (8%), animation (6%) and consulting (5%).

Funding from founders, friends, family and other individuals (34%) is the most common form of support. The number of companies that said they had no source of private funding (40%) is also striking. The use of angel investment and venture capital is limited to 4% of companies, and they are not common means of obtaining financing when compared, for example, to loans (13%). With regard to public funding, the result was in line with that found in 2022: the majority of companies were not funded by any public source (69%), an increase of 4%, while games grant programs (8%), tax incentives (10%) and grant programs for other areas (13%) were the main sources.

15.2. Freelance developers

The 2022 survey allowed freelance developers to participate in the survey. Despite not being the focus, this possibility ended up attracting developers who were included in the mapping according to pre-defined criteria. Since some of these developers produce much or all of their games in a solitary effort, they do not see themselves as a studio but rather as an independent developer.

For this reason, this year's survey continued to include the activities of freelance developers, which made it possible to capture the opinion of 34 of them who were included in the mapping of the 1042 active studios. In this way, the definition of "Freelance Digital Games Professional" was maintained, as presented in the 2022 survey as being "an individual who: a) develops digital games for mobile devices (mobile phone, tablets), computer, web, virtual reality, augmented reality, social networks or console, for-profit or non-profit, as a main or secondary activity; b) develops entire games or performs game development services for clients or partners; c) offers services to the gaming industry, including animation, consulting, localization, digital content development, research, media, film/TV, advertising and publicity, corporate training, software development, distribution, monetization, retail, publishing, among other activities[17]."

A total of 214 responses from this audience were considered valid, with 52% operating as formal companies, up 9% compared to 2022. The Southeast is the region with the highest number of respondents, totaling 63%. São Paulo is the largest with 47%, a growth of 18% compared to 2022, followed by Rio de Janeiro and Minas Gerais (7%), Rio Grande do Sul (6%), Paraná (5%) and Piauí (4%). Of the eight respondents from Piauí, six were associated with Piauindie - Piauí and one with AMAGames - Maranhão. No professionals were reported in the states of Acre, Amazonas, Amapá, Rondônia, Tocantins and Mato Grosso.

Regarding diversity among freelance developers, the results were better than in 2022, but far from ideal. Male developers account for 83% of the sample, which is a drop of 12%, women 14% and non-binary people 3%, which is a higher rate than reported at developing companies. Of the respondents, 72% reported being white, 10% black, down 6% from 2022, 4% brown, 2% yellow, only half of the rate from 2022, and 1% indigenous. In addition, 21% defined themselves as LGBTQIA+ and 2% as trans, both twice as many as in 2022. PwDs accounted for 3% of respondents and neuro-diverse people represented 14% of the sample, an increase of 8%, and 1%

[17] FORTIM, Ivelise (Org). 2022 Brazilian Gaming Industry Survey, page 128. ABRAGAMES: São Paulo, 2022.

of the sample reported being over 50 years old. No respondent was classified as a refugee or foreigner.

Game development is carried out by 85% of respondents, who also outsource art design (30%), script writing (23%), animation (21%) and software development (20%).

The main source of income for freelance developers is game development, followed by software development and art design, as well as other activities not related to digital games. Only 41% of professionals said they would develop digital games in 2022, and the main platform generating revenue is the PC (52%), followed by smartphones and tablets (24%).

Around 12% of freelancers didn't earn any revenue in 2022, as they hadn't launched their first game by the time they responded to the survey. Regarding freelance developers, most of them plan to develop games for PC (86%), Android (48%), Playstation 5 (26%) and XBox Series (25%).

As for their average monthly income, of those who reported earnings, 27% reported earning up to BRL 1,100 from game development, followed by 22% who reported earning between BRL 1,908.01 and BRL 4,770.00, and 14% between BRL 1,100.01 and BRL 1,908.00. Of particular note is the emergence of a new range, between BRL 1,908.01 and BRL 4,770.00, which indicates a real increase in average income for these workers.

The freelancers reported having produced 128 complete games of their own as of 2022. Most of which are entertainment games (98). As for outsourced games, freelancers reported to have participated in 167 games projects in 2022. Regarding outsourcing services, the top outsourced services in 2022 continued to be 2D (108 projects), art design (83 projects), 3D (56 projects), prototyping (47 projects) and game design (53 projects).

16.

Final Considerations

It is clear that the Brazilian gaming development industry not only sustains consistent growth but also displays resilience even in times of crisis. At the same time, Brazilian gamers remain eager for new content and products. This seems to be the perfect mix for a successful gaming market in the long run.

The story that brought us here may be extending or ending a moment of consolidation, or even starting another moment of growth, which we will only be able to fully understand in the years to come.

The prospects for improvements in the Brazilian economy, bolstered by a more stable political landscape, stand in contrast to the instability of the global market. Both generate potential opportunities and challenges for the coming years. The local scenario becomes an opportunity for an ecosystem that has grown and diversified.

Brazil boasts higher education courses in the field of digital gaming spread throughout the country, along with supporting companies (localization, monetization, animation, among others) for developers, studios offering products for consumers, external development services, and the presence of international players such as Garena, Tencent, Ubisoft, among others.

The local challenge consists of organizing the various public and private players in order to take advantage of the industry's momentum, to complement the ecosystem where there are still gaps, as in the case of accelerators and financing of initial projects, and allow for an allocation of synergistic resources.

The alignment among public entities at various levels and areas (ApexBrasil, FINEP, BNDES, State Secretaries, among others), ABRAGAMES, and regional associations for better understanding and targeting of public investment will enable sustained growth of the industry's foundational pyramid. At the same time, the participation of private industry companies with their expertise, such as Google with its Indie Games Accelerator project, will enable a healthier business environment for established companies.

The unstable international scenario has led to some unexpected changes within the gaming industry in recent years. While borderless remote work has solidified as a reality in the post-pandemic era, the conflict in Ukraine has, in turn, elevated costs in Europe, with a potential impact on future development in certain countries. Simultaneously, it has prompted the migration of game development companies from Ukraine to the United Kingdom.

Being part of global production chains will be a challenge for local developers to face. Exhibiting their products and services at events such as BIG Festival, GDC and Gamescom becomes almost an obligation to achieve long-term success, attracting investment and placing themselves on the international market.

This scenario, combined with the recognized quality of outsourced development by Brazilian companies, enables the absorption of technology and knowledge derived from projects executed in collaboration with international studios and publishers. This generates more qualified individuals who will in turn nourish the local ecosystem. Simultaneously, as the external demand for remote employees amplifies this transfer, it becomes necessary to create more accessible and diverse human resources.

17.
Method

The research method applied was mixed, including mapping strategies, questionnaire, database data and bibliographic references. The mapping phase was carried out to define the number of active companies and the questionnaire allowed collecting quantitative data on the profile of the developers, and qualitative data on their perspectives and challenges.

The respondents corresponded to 29.7% of the developers mapped and validated as active. The sample can be considered representative, as its characteristics are in line with the profile of companies found in the 2022 survey and in other previous studies.

17.1 Mapping of developers

The mapping began with the database built in the 2022 Brazilian Gaming Industry Survey[18], both active and inactive, since the inactive status could have changed, adding the companies: a) from the STEAM platform that participated in the "MADE IN BRAZIL SALE 2023"; b) recently associated with Abragames; c) recently associated with the Brazil Games Project; d) the 16 regional associations that partner with Abragames; and e) questionnaire carried out by the researchers.

In order to maintain statistical coherence with the 2022 survey, the criteria for considering a mapped company as active in the survey were maintained with one change (item j). To be active, developers had to meet at least one of the following criteria: a) participate in a specific regional digital games association/collective; b) have answered the survey questionnaire; c) have a company website and/or social network with activity in the years 2021/2022; d) have a game released in the year 2021/2022; e) have a company with an active game and revenue, as measured by the AppMagic platform; f) have an active CNPJ and a main CNAE consistent with the game development activity; g) have confirmed receipt of the survey by telephone; h) have one or more games updated in 2021/2022/2023; or i) have a Google account indicating the company's operating hours. Additionally, j) have a product participating in the "MADE IN BRAZIL SALE 2023" on the STEAM platform. Using these criteria, 1042 active studios developing digital games in Brazil were mapped.

17.2 The company profile questionnaire

A questionnaire similar to the one applied in 2022 was used to assess company data.

[18] FORTIM, Ivelise (Org). 2022 Brazilian Gaming Industry Survey. ABRAGAMES: São Paulo, 2022.20 June 2023.

17.2.1 Instrument

The data collection instrument was a structured questionnaire with closed questions, with pre-defined answers (single or multiple answers), and essay questions. The questionnaire was built using the tool applied in the 2022 survey as a basis, with some changes defined in a meeting with Abragames, ApexBrasil and the Brazil Games program.

The main changes included: a) the relaxation of the obligation to answer some questions, since the size of the questionnaire often led respondents to stop before completing it; b) the inclusion of some questions about exports and mandatory export maturity only for companies in the Brazil Games Project; and c) the inclusion of the option "I prefer not to declare", in some issues considered sensitive, such as, for example, the developer's revenue range.

Following the 2022 research methodology, four audiences were defined: 1) formalized developers; 2) non-formalized developers; 3) formalized digital game service and development support organizations; and 4) freelance professionals.

Those belonging to the Corporate Taxpayer Registry (CNPJ) were considered formalized companies and those registered as MEI, or as freelance professionals, which issue a Self-Employed Professional Receipt (RPA) were considered to be formalized self-employed professionals.

Three questionnaires were then made available within a single database: one for developers, another for organizations supporting development and services in digital games and one for self-employed professionals. Participants were directed to their questionnaire by answering which of the three categories they belonged to and then about their formalization.

17.2.2 Confidentiality of information

At the beginning of the questionnaire, respondents were presented with a General Data Protection Law (LGPD) agreement, and it was explained that only registration data would be disclosed individually, and with the consent of respondents. The results could only be used in a consolidated manner to guarantee the confidentiality of confidential information that they made available.

17.2.3 Sampling plan and disclosure

An online questionnaire was made available using the questionpro tool with a public link. An invitation to participate in the survey was then sent through the tool to the initial mailing list.

A week after the first sending, a new invitation was sent to companies that had not started the questionnaire, or that had not completed it. From the second week onwards, after the first sending, a follow-up telephone call was made to the companies that were part of the initial mailing, asking those that had not done so to complete the survey. One month after the initial sending, a weekly email was sent to respondents who had partially completed the questionnaire.

The survey was available online between March 29, 2023 and November 10, 2023. It was closed from July 26 to August 17, 2023, for the preparation of a partial report, focusing on Gamescom 2023.

The questionnaire was also published in Abragames newsletters and via email to new Abragames members. An invitation was also sent to representatives of the 16 regional associations to reinforce the importance of their members' participation in the survey. In the cases of ADjogosRS, GAMinG, RING and ASCGames, a weekly follow-up was conducted in the first two months of collection.

The questionnaire was also disseminated by the research team in communities and groups, through social networks (Facebook and LinkedIn), and via WhatsApp. When telephone contact was impossible, the survey link was sent directly on Discord, or via the companies' social media accounts (Facebook, Instagram, Twitter and LinkedIn).

The questionnaire was publicized at the BIG Festival 2023 event, between June 28 and July 2, 2023. In addition to a QRCode at the ABRAGAMES stand, four researchers visited the companies participating in the event to collect data, using tablets.

17.2.4 Final Sample

A total of 603 questionnaires were validated and used for analysis. In cases of duplication, the most complete or most recent questionnaire was kept, depending on the case. The final sample was made up of **309 developers, 214 freelance professionals, and 80 digital game service and development** support organizations.

The methodology that directed our efforts in crafting the report

With great enthusiasm we proudly unveil the 2nd National Survey of the Games Industry, the most comprehensive and up-to-date report on the digital games ecosystem in Brazil. The following content is the result of extensive research, mapping, and consolidation of information gathered from developers and studios across Brazil. This study builds upon the excellent work carried out in the first edition of the survey, released in 2022.

Considering the main proposal of this new study - which is to reveal the evolution of the national games industry based on various parameters and present a broad overview of the current state - it was natural that, in order for comparisons with previous years to make sense, we used the same criteria as in the 2022 material. In other words, a mixed methodology, with the main focus on mapping and the questionnaire answered by studios.

It is also important to note that the initial focus of the study was only on the year 2022, and its publication would have been in 2023. However, based on feedback from the industry, researchers, and Abragames' own perceptions of significant changes in the Brazilian and global games ecosystem, it was concluded that it would be interesting and productive to keep the survey open for as long as possible. Therefore, an extra effort was made to collect data in person during the BIG Festival 2023, an important event that gathers and attracts companies from other cities and allows for a broader national understanding of what is happening in the sector.

The period for the questionnaire was extended, and the set of questions was made available online to make the results even richer and more useful. With this decision, more studios and developers were able to respond to the survey, and we collected relevant data that affects the analysis.

As a result, 309 companies proactively responded to the questionnaire, an increase of about 39% compared to the previous year (223 companies). Additionally, 34 studios filled out the questionnaire as independents (as individual companies), bringing the total respondents to 343.

Finally, another implemented change concerns the questionnaire, which, based on feedback from studios that participated in the first survey, no longer included mandatory questions, as in 2022. Therefore, the number of responses may vary for each question, and as a result, the study always indicates the number of respondents in each graph.

Marcos Vinícius Cardoso
Co-Founder of GA Consulting, responsible for the 2023 Survey.

ABRAGAMES

Rodrigo Terra, Presidente
Carolina Caravana, Vice-Presidente

EXPORT SECTOR PROJECT BRAZIL GAMES

Eliana Russi, Diretora Executiva

APEXBRASIL

Eros Silva, Gestor do Projeto Setorial de Exportação Brazil Games

GA CONSULTING

Marcos Vinicius Cardoso, Coordenador Geral da Pesquisa

RESEARCHERS

Cláudio Braune Gusmão

Jonathan J. Harris

Marcos Vinicius Cardoso

Graziela Ghirotti Andreatta

Henrique André Castro Silva

Ingrid Pereira Santos

Lucas Pimenta Rodrigues

GRAPHIC DESIGN AND PUBLISHING

Cláudio Gusmão

Luís Guilherme Correa de Paula

Anna Beatriz Caetano Beraldi

ILLUSTRATION

Luan Pereira Santos

Bruno Moreira Candido

REVISION

Fabiana Domingues Cardoso (Português)

Jonathan J. Harris (Inglês)

LOCALIZATION AND TRANSLATION

Equipe Zaum Langs

ABRAGAMES BRAZILIAN GAME COMPANIES ASSOCIATION

Abragames, the Brazilian Game Companies Association, was founded in 2004 and represents Brazilian studios developing games in various platforms. Besides catalyzing the game production in the country by training and promoting expertise, Abragames aims at making Brazilian creativity and technology available to the main players of the international game industry.

BRAZIL GAMES EXPORT PROGRAM

The Brazil Games Export Program, is the export program created by the Brazilian Game Companies Association, ABRAGAMES, in partnership with ApexBrasil, the Brazilian Trade and Investment Promotion Agency. Our goal is to promote the Brazilian Game industry internationally, developing new business opportunities for our companies. The Brazil Games Program also promotes Brazil as the hub for business in Latin America and invites buyers, investors and publishers for BIG Festival, Brazil's Independent Games Festival, the most important international indie games festival and the hub for international business in Latin America.

APEXBRASIL

The Brazilian Trade and Investment Promotion Agency (ApexBrasil) works to promote Brazilian products and services abroad and attract foreign investments to strategic sectors of the Brazilian economy. In order to achieve its goals, ApexBrasil carries out several trade promotion initiatives aimed at promoting Brazilian products and services abroad, such as prospective and trade missions, business rounds, support to the participation of Brazilian companies in major international fairs, visits of foreign buyers and opinion makers to learn about the Brazilian productive structure, among other business platforms that also aim at strengthening the Brazil brand.

How to cite this report

CARDOSO, Marcos V.; GUSMÃO, Cláudio, HARRIS, Jonathan J. (Org). **2023 Brazilian Gaming Industry Survey.** ABRAGAMES: São Paulo, 2023.

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