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# **The Rise of the Virtual Gaming World and its Economic Implications**

Mémoire présenté par:

**Amira MARAQA**

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Promoteur :

**Arastou KHATIBI**

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# **Introduction**

## **Abstract**

The main reason I chose this research subject was to help people understand the true depth of this industry, of E-sports and online gaming. I also wanted to shed the light on how it has the potential to highly affect a country's economy, how turning it into a profession is starting to normalize, and essentially, how it helped build new communities with the help of tools like E-sports and streaming services, especially during the past 2 years. The problem for this research is to answer, the virtual gaming world, a new era in the world's economy. Or a generation trend?

This thesis will study the gaming industry on a macro level, and how each country's economy and budget should dedicate more of its time and resources to this growing industry. It will also add a significant focus on the growing communities (players and spectators) that were built during the past 2 years, as well as the expected growth of every stakeholder in the near future. It will also study the effect of technological advances on shaping the future of an industry that will be one of the most popular and fast-growing among hundreds of industries.

## **Choice of topic and Motivation**

As a business student and a future entrepreneur, I'm very interested in learning how people should or do adapt to new trends, that become a profession for some, and a form of entertainment for others. This difference was intriguing which allows us to analyze the consumer's choice and behavior to target future trends. I chose this topic, not only for my passion for the virtual gaming world, but to also see where and how this industry's future going to be; will it be a trend that only some will take advantage of, or is it an industry that will revolutionize and create a new part in our economy? The main objective of my research is to interpret the benefits of E-sports from an economic and financial standpoint, it will be explained globally, but more specifically in Europe. This research will also have a qualitative and quantitative approach to help pinpoint the numbers and statistics of the industry.

A lot of studies and articles are being done on behalf of this subject, to study the growth of this business in the world. For this paper, I decided to research the economical aspect of the subject, I will analyze the impact of E-sports and online gaming on a macro economical level in different regions around the world. My background, my passion for online gaming, and the fact that I know many gamers, will allow me to extract more critical/in-depth information and assesses any needed comparison and analysis.

I've been a big fan of gaming and E-sports since a very young age. A recent boom in the industry and its growing impact on mainstream media like; culture, investors, sponsors, brands,



and consumer participation, are the reason why I would like to invest my time in more detailed research. Thus, I will be able to understand and share its ecosystem, and its whole impact on the economy.

The main purpose of this research will be to discuss different dimensions associated with E-sports; How the blooming helped the national economy, how recent events (COVID-19 pandemic, rise of new games, virtual reality improvements) accelerated the growth and popularized gaming, how E-sports and gaming are turning into real-life careers, and how does the future of the virtual gaming world look like.

## **The Research Questions**

1. What is the gaming industry and how much are people aware of it?
2. How have Covid19 and technological advances affected the virtual gaming world?
3. How is the gaming industry affecting economic growth?
4. Did the gaming industry help create new careers?
5. The impact of stakeholders in the industry's ecosystem?
6. Why do people spend hours watching other gamers play?
7. How are blockchain and cryptocurrencies transforming the gaming industry?
8. Why should companies invest more in the gaming industry?

## **Conclusion**

After reading the research paper, the reader will be able to understand the ecosystem of the virtual gaming industry and follow the blooming that is spreading on the whole world. It will mainly allow them to have an overview of the impact that this industry is making on the economy and how new technological aspects are being the main factor in changing the growth pace, making this industry one of the fastest and most beneficial ones in the world. It will also provide a detailed explanation of how each factor in the virtual gaming world works and how their effect is allowing the economy to grow. This paper will be a summary of every single aspect of the gaming industry that affects the popularity, growth, and success of the gaming world.

## **Chapter I: The blooming of the Virtual Gaming world**

The activity that had the reputation of attracting young teenagers or lazy adults is becoming a giant, successful industry worldwide. People's dreams of playing a video game for money was coming true, not only, but they were also able to pursue a professional, reputable career that would reflect positively on society. The fast evolution of this industry is participating in the creation of innovations, inventions, and opportunities both for large public entertainment, and for individuals seeking a meaningful career. E-sports and online gaming are leading the world as part of an official sports.

Chapter one will discuss the history and progression of online gaming and E-sports and explain the difference between them. It will also provide valid statistics and numbers to evaluate the growth rate of this industry and its overall dimensions within different regions. It will include a detailed explanation of how certain new events affected the popularity of this industry like Covid-19, technological advances, and the rise of streaming services.

### **1. Industry Overview**

This part aims to explain different aspects of the industry; online gaming, and E-sports. You hear the words online gaming and E-sports a lot, and basically, most people do not recognize the difference between these terms, however, there are fundamental differences that everyone should know. The main things to differentiate E-sports and gaming are the audience, practices, market value, and investment. Many more factors make a big difference between the two terms that will be discussed further in the paper.

#### ***Online gaming background***

Way before online gaming, there was just gaming with the absence of the internet, which played a big role in transforming this activity. Gaming has always been present in society, whether it was playing outside with your friends, going to the arcade at the cinema, or just pretending that a stick of wood was a firearm to "go to war" with your friends. The gradual technological advancements only added a variety of possibilities to play... or game. The first video game created dates back to 1958 when physicist William Higginbotham created the famous "Tennis" game. The simple act of playing with a dot going from one side of the screen to the other, while you controlled a virtual line as a racquet, was just evolutionary in its time. Thus, video gaming started.

A race started in 1972 when Ralph Baer created the first gaming console: Magnavox Odyssey. It was now possible to market and sell gaming equipment to the masses since a basic computer was 8000 times the cost of a PC today.

For 15 years, all following consoles only had options of self-contained games; meaning games that are already embedded in the console itself. Until the Atari VCS 2600 came to the market. This unique piece of technology, at the time, was the first and only console capable of accepting game cassettes, giving different choices of games for players to choose from and change whenever they wanted. It also came with a joystick and a paddle controller, which enhanced player immersion. This gaming console paved the way for new-generation machines. Then, the internet came to life, a tool that allows computers to “talk” and connect. Hence, the first online commercial game came to life: the Island of Kesmai, a pioneer of role-playing games. This paved the way for a multitude of new games, and gaming consoles, as well as the development of a new breed of PC; the gaming PC, which is now used both for the entertainment of the mass, as well as a more toned and refined machine for the professionals.

Reverting to the difference between online gaming and E-sports, online gaming refers to all games or social activities that you play alone or with your friends with the use of the internet, and it does not have to be competitive, it is mainly just for fun. In general, the word gaming is now a reference to online or video games, it can be defined by any game you play, starting from angry birds or candy crush on your phone, to more advanced and competitive games like CS-GO, Valorant, Call of Duty, PUBG, DOTA II, and many more. The variety of levels and objectives of online gaming is what makes it special, it's up to the user to decide whether they just want it to be another distraction/form of entertainment, or an opportunity to do it for a living and be the best at it, and sometimes the most diverting, when talking about professional streamers.

### ***E-sports background***

To define E-sports, you can look at it in the form of a combination of two words. The E, which stands for electronic, is added as a prefix to sports. Sports, traditionally speaking, is an explanation of playing games, where two different parties/teams are competing against each other for the sake of winning. Means, E-sports, is the concept that evolved with the technological and digital era that we are currently living in. It is a new set of industries that combines the same notion as sports, only to be experienced in a virtual world. Instead of playing in a playground or courts with balls and equipment, you are now using electronic devices. Physical effort is now the only difference that separates E-sports from traditional sports. But even that is distinction is narrowing with the evolution of interactive Virtual Reality games a point that will evolve alongside technology.

The history of E-sports started a few decades ago, about 50 years since October 1972' where the first E-sports event was inaugurated at Stamford University. The students there competed in the video game « Spacewar ». Even though this event was not an official E-sports event, it was certainly a milestone of something new in the world of gaming.

Walter day, an American businessman with a certain passion for video games was inspired by their advancements and decided to create the first-ever organization that keeps track of all video game results, records, and rankings. It encouraged gamers from all over the world to try to beat each other and hold the title of the top 5 scorers at Twin Galaxies.

The 80's started to compete with this new phenomenon, following Island of Kasmai, another successful multiplayer computer game, Netrek, appeared in 1988, which could host up to 16 players competing against each other through the Internet. It was played all over the world, but it was mainly for scientists, especially computer scientists who had access to the early internet. When the 1990s came around, they got more aware of the necessity of the internet and the importance of sharing this tool with the world. Messaging, gaming, and online communities started to find success just as fast as the internet.

This inspired companies, such as Nintendo, to penetrate a whole new market, which participated in the commercialization of pc gaming. It was a great marketing advertisement for their products, as they were offering the newest golden Nintendo gaming modules to the winners of their "Nintendo World Championships" in the USA. And from there, E-sports started to grow bigger and faster, giving the gamers in the world a wide range of competitive games, such as; Quake game, StarCraft, wings of liberty, and the most famous of them all "counter strike".

In almost 50 years of gaming history, E-sports had established itself in many countries of the world. The main incentives, mainly cash prizes and sponsorships, we're able to increase significantly over time. From a small niche, a multi-media billion market has emerged, which is now attracting many investors. It was obvious that E-sports has been a big deal for quite a while. Similar to professional sports, E-sports also evolved to have players, teams, sponsors, prizes, managers, coaches, etc.

At the end of the day, E-sports and online gaming are related to playing games yet the words must not be used interchangeably. The difference is not complicated: E-sports is nothing but normal competitive sports using all mental focus and capabilities, as well as mind to body synchronization, minus the physical effort.

## **2. The Growth of the Industry and its Possible Future Directions**

The gaming industry is on an exponential incline path, it is one of the fastest-growing industries of this decade. All of the statistics, numbers, and figures are extracted from official websites and verified sources. The gaming industry news and updates are now all over the internet, the market is booming which means a lot of people are having an interest in joining this industry to benefit from its inclination. The gaming industry is known for its innovation; new technologies, new systems, and new ways to control games are moving around the world and shaping the future generation of gaming. This plays a big part for large tech companies that can

now invest in a variety of departments, to be able to be more involved within this industry. As everything becomes digitalized, new demographics start to use these innovations more often, expanding the gamers in society. Different age groups, cultures, and genders, mean more innovation is needed to attend to those different demographics.

Not to forget to mention how the social media trends and impact are helping the industry grow even faster. Gaming companies understand the effect of the social media sites, and that's where they have been using it for sharing details about new promotions, games releases, and some interesting facts that helped them keep their audience in the loop and attract new players to their zones.

The mobile gaming is the main factor in the growth of the industry, if we go back in time, the mobile games were available a long time ago, although Nokia was able to clutch the attention for the games back in 1997 when they launched the game "Snake" which was the first addictive game on mobile phones. When the success of this game was obvious through the years, it became a clear vision for mobile games to start expanding big and fast. The mobile gaming market is crushing the whole gaming industry, it is leading the market where they are bringing in revenues more than that of the PCs and consoles (Allen, 2022).

It all started with smartphones, helping mobile gaming to make over 52 percent of the market with a high revenue of 90 billion dollars in 2021.<sup>1</sup> Mobile gaming is considered to be the platform with the fastest-growing gaming among all other devices. According to the report that was done by gaming industry analyst Newzoo, mobile gaming is the main factor in leading the success and growth of the industry. They forecasted the revenue inclination to reach 116.1 billion dollars within 2024, which is why the mobile is becoming a great opportunity for many companies that are involved with gaming.

The technology came to the world and helped the mobiles to be able to become powerful and use enough processors and RAM to give the most paced games and provide the 4K imaging which is the latest feature in the whole gaming industry. During the year 2021, 46.7 million gamers within the UK were using mobile phones as the most popular and preferred devices for gaming, then Germany had second place with approximately 39.1 million gamers using the mobile phones.<sup>2</sup>

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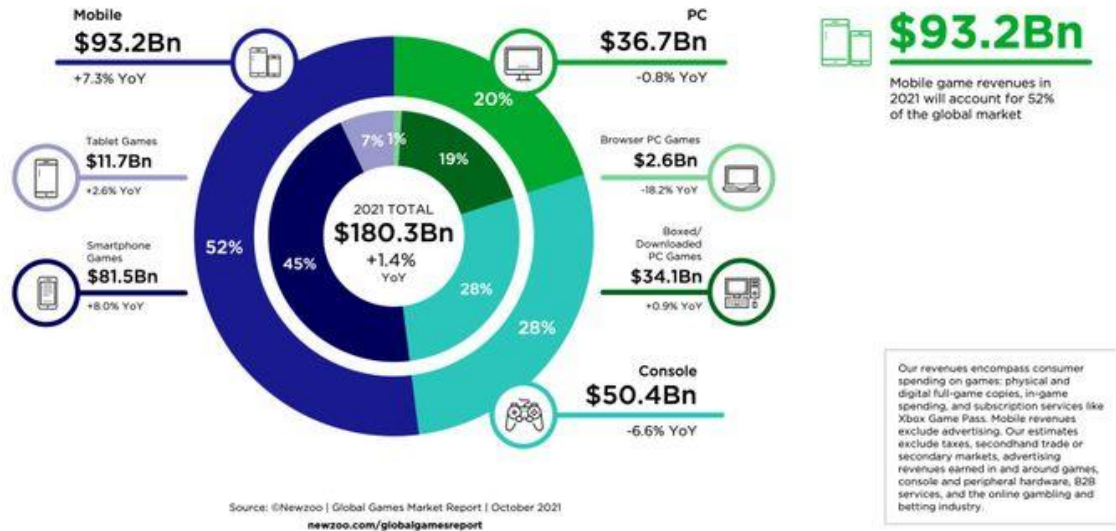
<sup>1</sup><https://resources.newzoo.com/hubfs/Reports/Newzoo%20and%20TikTok%20for%20Business%20Global%20Mobile%20Gamers%20Whitepaper.pdf>

<sup>2</sup> <https://www.statista.com/statistics/448421/gamers-in-european-countries/>



## 2021 Global Games Market

Per Device & Segment With Year-on-Year Growth Rates



Source: Newzoo, global games market report – October 2021

**Figure 1:** Gaming market growth rate per device and segment in 2021

Figure 1 illustrates the growth rate per year on year of the different gaming devices in the market. China is the country that sat on top of the mobile gaming market where they have the biggest share of the 90 billion dollars market revenue with 35 percent of revenues worldwide, while the United States is going on the second rate with a 20 percent share (Silver, 2022).

The mobile gaming industry in China is a dominant market with more than 682 million mobile gamers. The competition within the industry is getting higher and more companies are seeking to invest in the most played games among the Chinese population. A recent data that came from App Annie illustrates that the hyper-casual games placed the first-place genre for downloads in the third quarter of 2021 with more than 3.5 billion downloads globally (Silver, 2022).<sup>3</sup>

While the number of mobile game titles is regularly increasing, some continue to stay the most popular games among players, like multiplayer, card games, and gunfight games. There is 70 percent of mobile gamers do not mind spending their money on games to boost their experience, purchase items, upgrade their characters, and much more. In China, most gamers are willing to pay up to 500 yuan per month, especially for multiplayer online battle arena games.

<sup>3</sup> <https://www.is.com/community/blog/mobile-gaming-trends/>

Many factors helped mobile gaming to be by far the biggest video gaming section. The new games like Pokémon Go and Harry Potter: Wizards Unite, the support of Nintendo for mobile gaming, and the mobile versions of the popular online games such as Fortnite and PUBG, had a huge impact on the growth of the market of the mobile gaming.

Overall Revenue	App Store revenue	Google play revenue
PUBG mobile	Honor of kings	Coin master
Honor of kings	PUBG mobile	Candy crush saga
Genshin impact	Genshin Impact	Lineage W
Candy crush saga	Roblox	Genshin impact
Roblox	Three kingdom tactics	Roblox
Coin master	Fantasy westward journey	Garena free fire
Three kingdom tactics	Candy crush saga	PUBG mobile
Lineage W	League of legends: wild rift	Pokémon Go
Garena Free fire	Monster strike	Evony
Umamusume: Pretty Derby	Umamusume: Pretty Derby	Clash of clans

Source: Craig Chapple, Mobile Insights Strategist, EMEA - 2022

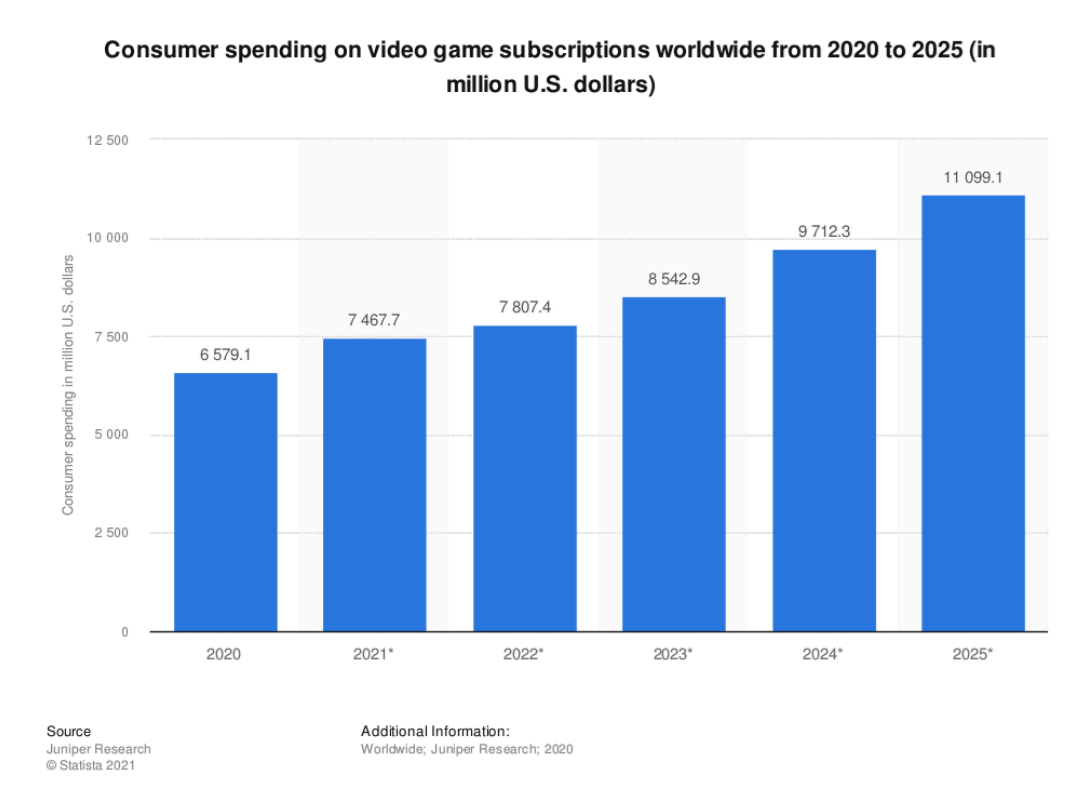
**Figure 2:** Mobile games with the highest revenues worldwide in 2022.

In the table above, is a list of the top mobile game's revenue worldwide for the beginning of 2022 that was created by Craig Chapple, 'Mobile Insights Strategist, EMEA'. It was stated that PUBG was the top-grossing game across the world with almost 237 million dollars in player spending. The revenues from this game had around 64 percent only from China. The second highest revenue-earning game is the Honor of kings which had gross revenue of 233.2 million

dollars, where a huge percent that counted to 96 of the revenue comes from China alone, followed by only 2 percent from Taiwan (*Chappel, 2022*).

Throughout the last few years, the video game industry understood the importance of creating and embracing gaming subscription services. There are a big number of different ways that allow you to spend your money when you are a gamer in this era.

From PlayStation plus, Nintendo switch online, prime gaming, EA play, Xbox live gold, steam, too many more services that are fighting to attract the more gamers for upholding their markets. In the end, the winner is the same, the gaming industry can give many choices to their consumers to attract as many gamers as possible to pay through their services.



*Source: Statista, Juniper research, 2021*

**Figure 3:** Gamers' spending on video games subscriptions in million dollars

Consumers are the main factors in the gaming industry, what they spend on video game subscriptions is what defines the growth within the market. Worldwide, the spending of the consumers is predicted to keep on inclining where they spent more than 7467,7 million US



dollars in the last two years, and it is estimated to reach a higher amount of 11099,1 million US dollars within the 3 upcoming years (*Clement, 2021*).<sup>4</sup>

Going more into the depth of E-sports market growth worldwide, you can see that the blooming in this market was not only influencing competitors and players but also allowed the viewers to be able to watch their favorite gamers around the world playing one of the most excited and competitive games. The tournaments are being held more than ever, and players now have the opportunity to play in teams or individually, competing against each other across the world. The gaming industry is not only taking shape around consoles, and PCs, but it is also inspiring the most unexpected sectors to take part in this growth. For example, we can already witness a new gaming bar opening all around the world, where the concept is to break the social ice between gamers while meeting other players, watching, their play, and even sharing a drink. The most popular bar in Europe is “Meltdown”, a franchise that is present in more than 13 different locations in France, Germany, the UK, Spain, Belgium, Hungary, and Canada.<sup>5</sup>

The market size of E-sports is witnessing spectacular growth within the whole aspects of the market, from the audience to consumers, to competitors in the tournaments, the size of the gaming industry is expected to become one of the biggest industries worldwide. In the last year in 2021, the market size was 1.2 billion US dollars, meaning that within four years, the market will testify to an increase of 0.84 billion US dollars. During the year 2020, the market was anticipated to a growth rate of 1.28 billion dollars during the year 2021 and 2.89 billion dollars in 2025 (*Gough, 2022*).<sup>6</sup>

### **3. Economical Overview of the Industry within Regions**

According to many studies, and articles that were done on the subject, China is on the top of all the countries in the world having the biggest gaming market with a revenue of 40.85 billion US dollars as of 2020. Every part of the world that is involved in this industry, demonstrates different factors in the success of this market. Each region is somehow contributing to the industry’s overall expansion worldwide. The number of gamers per region is highly increasing over the years. A Statista report shows that in 2021 Asia was able to make it to the top list of the largest market for video gaming worldwide with almost 1.48 billion gamers. On the second rate, Europe follows Asia with an audience of 715 million (*Clement, 2021*).<sup>7</sup>

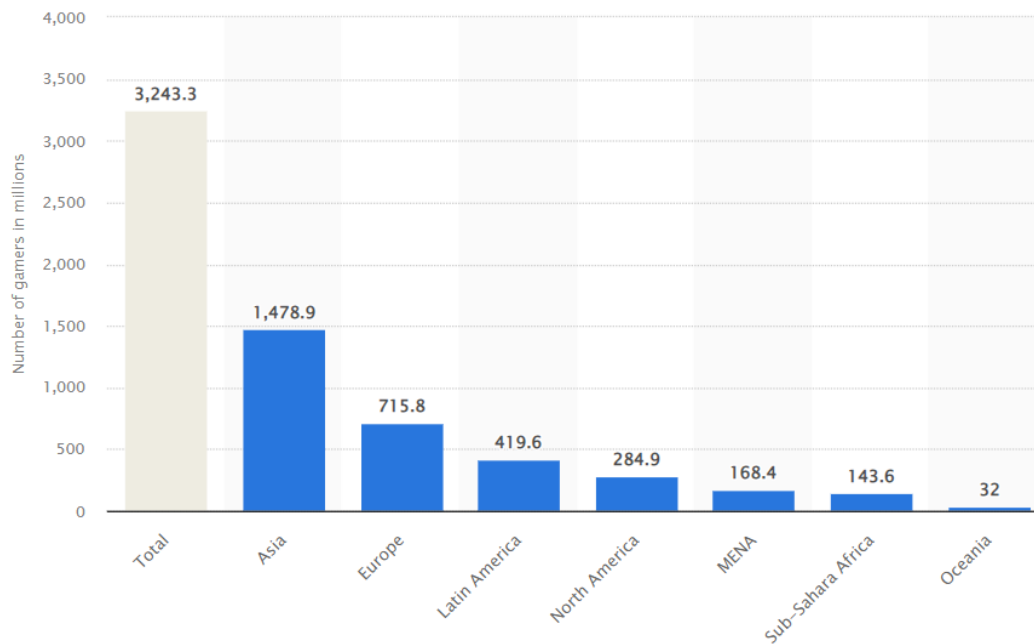
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<sup>4</sup> <https://www.statista.com/statistics/1240333/consumer-spending-video-game-subscriptions/#:~:text=Global%20video%20game%20subscription%20market%20value%202020%2D2025&text=In%202025%2C%20video%20game%20subscriptions,billion%20U.S.%20dollars%20in%202020.>

<sup>5</sup> <https://www.meltdown.bar/>

<sup>6</sup> <https://www.statista.com/statistics/1256162/global-esports-market-size/>

<sup>7</sup> <https://www.statista.com/statistics/293304/number-video-gamers/>



Source: Statista report, August 2021

**Figure 4:** *Number of gamers in the world by region in 2021*

### ***The gaming industry in Europe***

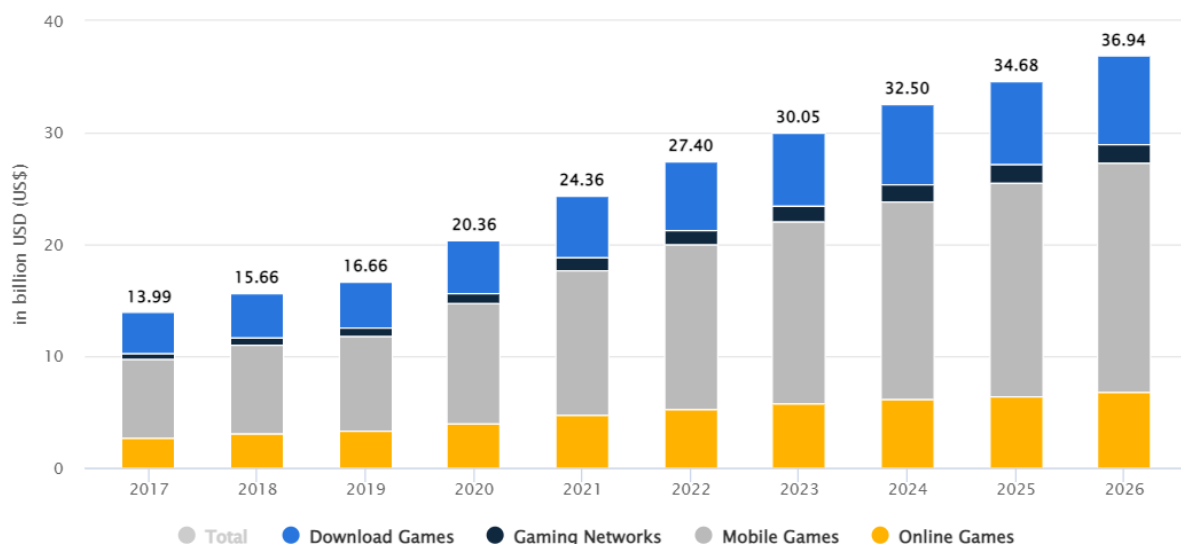
The gaming world plays a significant role in the European market in both the economic sector and people's daily lives. With the decrease in revenue in the publishing and newspaper industries and the music sector due to their struggle with the digital era, the gaming industry is in an inclination to succeed with its adaptation and innovation. Europe is valued at around one-third of the total market value in the gaming industry and is growing faster than any other economic sector. The European Union has many of the largest and most popular game publishers and game studios which allows them to produce distinguished video games that is an inspiration to the cultural scene around the world. Video games are delivering new experiences that enrich the culture of more than half of the people in Europe, inspiring new habits of interacting and communicating with the whole world.

Several countries in Europe like the likes of France, Germany, and Italy, to name a few; were subjected to a growth in popularity in the years 2019 and 2020. Some of these nations noticed an approximate twenty-two percent increase in their markets.<sup>8</sup>

The gaming industry indicates Europe's most powerful economic accomplishments through its fast-growing creativity. Generations of technological and innovative talent have been

<sup>8</sup> <https://www.isfe.eu/data-key-facts/key-facts-about-europe-s-video-games-sector/>

created by the European gaming ecosystem, which remains to set new standards in digitalization and innovation. This industry is on an inclination path of pushing the limits into redefining the entertainment market and creating new business models, it is delivering an experience that allows Europeans to get inspired and enrich their cultural lives.



Source: Statista, November 2021

**Figure 5:** Europe's Revenue by segment in billion dollars

Figure 5 shows the revenue of each downloaded game, gaming network, mobile game, and online game in Europe as a projection for the upcoming 4 years. This illustration is showing the future of the economic sector of the gaming industry. Steady growth will be achieved during the upcoming years, to have a total of 36.94 billion euros in 2026 from the gaming alone.<sup>9</sup>

Europe's Video Game Industry has released a detailed report to show the key facts in 2021 about the European video games sector, in their report it was stated that the average age for the people who are playing video games in Europe is 31 years old, with an average of 9.5 hours playtime per week during 2020. Not to mention that the report demonstrate that women represent 47 percent of the European video game players with 56 million women playing across the markets of Germany, Italy, France, Spain, and the U.K with an average age of 32 years old.

Different reliable sources related to official gaming federations announced in several articles that the market for video games has shown significant growth from 2018 to 2019.<sup>10</sup>

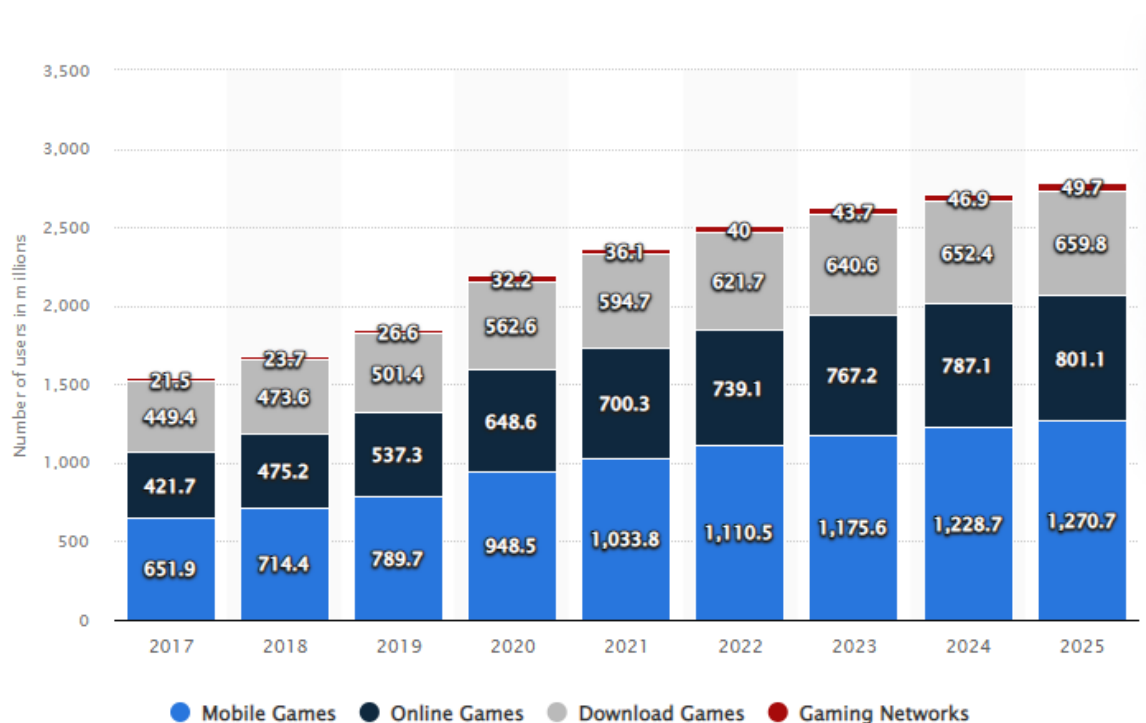
<sup>9</sup> <https://www.statista.com/outlook/dmo/digital-media/video-games/europe#revenue>

<sup>10</sup> <https://www.strafe.com/esports-betting/news/the-european-gaming-market-was-valued-at-32-billion-in-2020/#:~:text=The%20European%20Market&text=From%202019%20to%202020%2C%20the,in%20Europe%20gr ew%20by%2022%25.>

In addition, this industry will have an impressive result this year, with a revenue foreseen to exceed the twenty-five million US dollars mark. This increase will play a substantial part in Europe's economy, as it will participate in its growth by approximately 8% by 2026. These numbers are supported by the high number of users and players in this specific market, also expected to surpass the two hundred million players on mobile.<sup>11</sup>

### *The gaming industry in Asia*

Eastern Asian countries, around the Asia Pacific to be specific, seem to hold the most important part of the market. This region contains some of the world leaders in technology, innovation, and gaming companies, the likes of China, Japan, and South Korea, are some of the great contenders to keep hold of the largest market share of the industry. The region is filled with competition as a number of other Asia Pacific countries are following those 3 giants.<sup>12</sup>



Source: Statista Research Department, 2021

**Figure 6:** *Number of players in Asia by segment*

Around 82 percent of South Asia's population are gamers, mostly they are mobile gamers due to the facility of having mobile phones easily these days. As E-sports is rising around the world, Southeast Asia is becoming the main hotspot for the gaming sector.

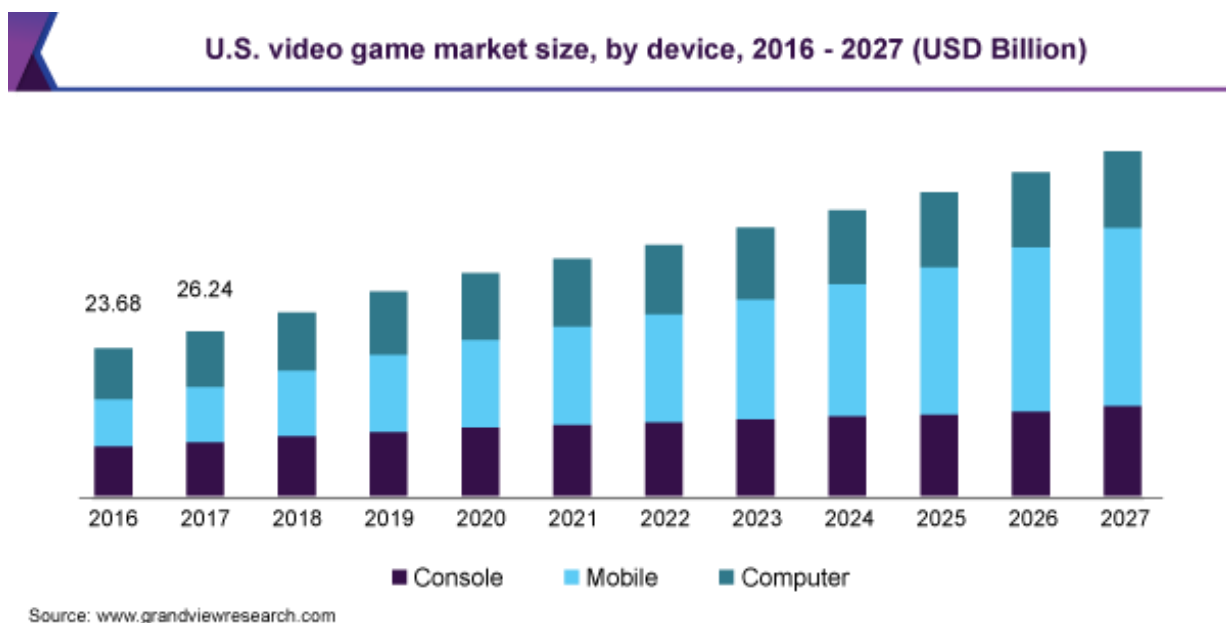
<sup>11</sup> <https://www.statista.com/outlook/dmo/digital-media/video-games/europe>

<sup>12</sup> <https://www.statista.com/statistics/1018659/china-esports-game-market-value/>

A research has been conducted to be able to forecast the number of gamers in Asia. This study has been ongoing since 2011 and will continue gathering data until 2025. So far, the number of video games created, played, shared, and reviewed, increased significantly. The market of games is insignificant growth rates across all different segments of mobile games, online games, download games, and gaming networks. The industry in Asia is predicted to reach a high number of users within 2025 to reach around 3000 million users.<sup>13</sup>

### ***The gaming industry in America***

The gaming industry is part of the bigger operations related to video games in the United States. Many different elements are included in this industry such as development, publishing, and sale, and the manufacture and sale of video game hardware and software. Indeed, the industry has benefited from different sides of great strong revenue growth in the last 5 years. One good fact is that the market size of the gaming industry in the United States increased faster than the sector of information overall, which can be considered a huge success for the ecosystem of the industry (Clement, 2021).



Source: Report by Grand View Research, May 2020

**Figure 7:** The market growth size of video games by devices

In a report that was used to cover the market size of video games, using different variables like regions, consoles used to play on, and such, it was proven that in all those segments, the U.S gaming industry by device, has been increasing by 10% every year since 2017, and will probably

<sup>13</sup> <https://www.statista.com/forecasts/1243637/number-user-video-games-segment-asia>

continue this growth up until 2027. It has been taken into account all devices that support games, like mobile gaming, console gaming, and pc gaming.<sup>14</sup>

The use of the different devices like consoles, mobile phones, computers, or any device with a screen was the main aspect of the market growth where the expected bloom is to reach higher market shares in USD billions in the upcoming years. According to studies, there is a prediction that the globalized market of gaming will increase from 178 billion US dollars in the year 2021 to 268.8 billion U.S dollars annually in the year 2025 (*Clement, 2021*).<sup>15</sup>

In 2021, the entire profit made by the industry reached 60.4 billion dollars in the United States, which increased from 56.06 billion the year before. The market is expected to reach a higher revenue at the end of the year 2022, and an annual growth rate to increase to 7.73 percent by the year 2026 (*Clement, 2022*).<sup>16</sup>

The gaming industry in the U.S has a huge impact on the economy as well, it provides stable jobs for more than 2 million citizens which generates billions of dollars of revenues from taxes. The industry can employ around 727,000 people in the U.S., with a salary of 33.3 billion.<sup>17</sup>

#### **4. The effect of recent events on popularizing the industry**

Every once in a while, there is an event that changes our society, it can sometimes break industries, help them, or in rare cases create them. Recent events and aspects had a huge impact on the popularization of streaming services in the gaming industry. In combination with the exponential growth of technological advances; the COVID-19 pandemic was a major player in the growth we witnessed over the past 2 years.

##### ***Covid – 19***

As we know, the Covid-19 pandemic hit hard many industries around the world; airlines, leisure facilities, and the automotive industry to name a few. On the other hand, one of the positively affected businesses was everything related to streaming. Lockdowns played a part in the new way of working and entertaining oneself. A lot of changes happened to our day-to-day lives. These changes made us wonder about how to cope and adapt to these uncertain circumstances we are facing. And there was the gaming industry, taking all means of advantage from the pandemic and was able to boom at its highest rate within these hard circumstances.

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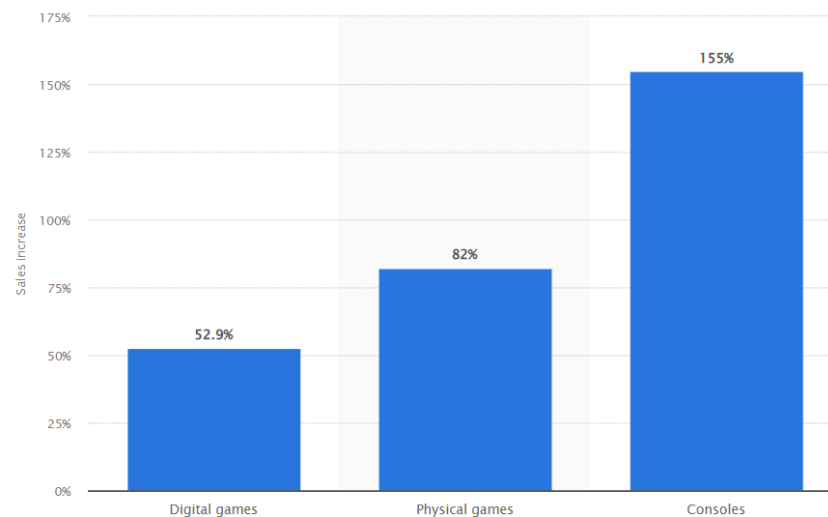
<sup>14</sup> <https://www.grandviewresearch.com/industry-analysis/video-game-market>

<sup>15</sup> <https://www.statista.com/statistics/292056/video-game-market-value-worldwide/>

<sup>16</sup> <https://www.statista.com/statistics/249996/annual-revenue-of-the-us-video-game-industry-by-segment/>

<sup>17</sup> <https://www.americangaming.org/resources/economic-impact-of-the-u-s-gaming-industry-2/>

With the increased time at home, people started to turn to play online games to be able to socialize and escape the stressful reality they are living. And due to this high demand, the gaming industry was on fire, and new games and new shares were increasing daily.



Source: Statista, Games Sales Data; March 2020

**Figure 8:** *The global video game industry sales during the pandemic worldwide*

Figure 8 shows what was expected during a lockdown crisis at home, this situation did indeed have an enormous impact on the gaming industry; sales increased at least by 50% in all aspects, including digital games, physical games, and console sales. (Clement, 2021).<sup>18</sup>

Not only was that, but the hours being spent on video game live streams highly increasing as well. People started filling their time with watching live streams of gamers on different platforms like Twitch, YouTube streaming, Periscope IRIS, and many others. These platforms had the chance to explore during the times of the pandemic where any player, professional, amateur, or entertainer can be seen giving their insights on popular games.

All these games were witnessed live by players that enjoy watching professional players or entertainers playing the game. Twitch and YouTube are the two biggest names in the streaming services, and they perceived an increase in viewership by 10% at the beginning of the pandemic. Whereas YouTube streaming videos got a 15 percent of increase within the last week's statistics. There was an increase from January 2020 till April 2020 in the hours spent on watching video games live streams. An increase from 1.2 million hours of live video game

<sup>18</sup> <https://www.statista.com/statistics/1109979/video-game-console-sales-covid/>

streams that were watched from all around the world, became 6.8 million hours only in 4 months (*Clement, 2021*).<sup>19</sup>

Deloitte Belgium released an article on 20 October 2021 – Brussels, shedding the light on how the Covid 19 pandemic helped create an interest in E-sports in Belgium. During the pandemic, E-sports gained a lot of reach and awareness. Many people started watching E-sports for the first time in the years 2020 and 2021. The increase was reached by 57 percent of the new Belgian audience. The article explains the blooming of E-sports within Belgium. Even though Belgium witnessed a very high rise in numbers; it is still a small fish compared to its European neighbors like Switzerland, Germany, and Sweden. It was stated by Vincent Fosty, TMT Industry Leader at Deloitte, that the E-sports industry in Belgium has a lot of potential to boom and grow.<sup>20</sup>

### ***Technological Advances***

Nowadays, technology is shaping our lives. Everything is becoming digitalized, and there is a new way of doing it every year. Technology has brought a lot of positive effects on many industries, one of the most popular industries that were highly affected by the technological advances in the gaming industry. It is a fast-growing market that contributes its success to technological advances.

There are different kinds of technology that had an impact on the gaming industry, one of these features is 3D graphics. If we go back in time to the early days of the internet, the most fascinating games that we would play online or even on the Atari and PlayStation were mainly made of two-dimensional graphics. But nowadays, the graphics had changed, we have 3D graphics and special effects that changed the gaming experience and created a more immersive experience between the players and the game.

Another thing that participated in those advancements was online games. It has served as a very special means of communication and connection between gamers from all around the world. It became a new way of making friends and meeting people that have the same interests as you. Technology made it possible for people to enjoy their time together even if they are in the other part of the world, they still can talk, play, share their gaming experiences and even compete with each other.

Mobile gaming, as discussed earlier, is the most popular form of gaming, the main factor being its accessibility to everyone. It changed the way we view gamers, being behind their PC screens or TVs, in this case, you don't even need to be at home. Smartphone technology replaced

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<sup>19</sup> <https://www.statista.com/statistics/1108307/covid-twitch-youtube-viewers/>

<sup>20</sup> [https://www2.deloitte.com/be/en/pages/technology-media-and-telecommunications/articles/belgian-esports-market-2021\\_press-release.html](https://www2.deloitte.com/be/en/pages/technology-media-and-telecommunications/articles/belgian-esports-market-2021_press-release.html)



the need of having your laptops and computers next to you it brought the gaming world to your hands wherever you are and this is one of the main technological advances that are making a huge impact on the industry. Mobile gaming is also the most profitable, it has created different methods of revenue, with premium, platinum, and different kind of subscriptions.

Netflix for example was also presented with the same kind of growth, but it was for movies and series. They couldn't resist the blooming of the gaming industry and how important it is becoming for everyone, so they had to add a new feature to the Netflix accounts where you can not only enjoy watching movies but play many interesting games within your account.

One of the main features that also had an impact on the gaming industry is the accessibility of cloud-based technology. It allowed people to free up space and provide them with more digital storage and made online gaming accessible. Players now can easily play any game of their choice without the need of setting up some expensive equipment or even investing in their computers or consoles. They can choose and play any game they want remotely. Some of the examples of cloud gaming are Xbox cloud gaming, amazon Luna, PlayStation now, etc. Technology has added a complete original width to the gaming industry. And as it is growing, the effect on the industry will only keep on advancing.

### ***Rise of Streaming Services***

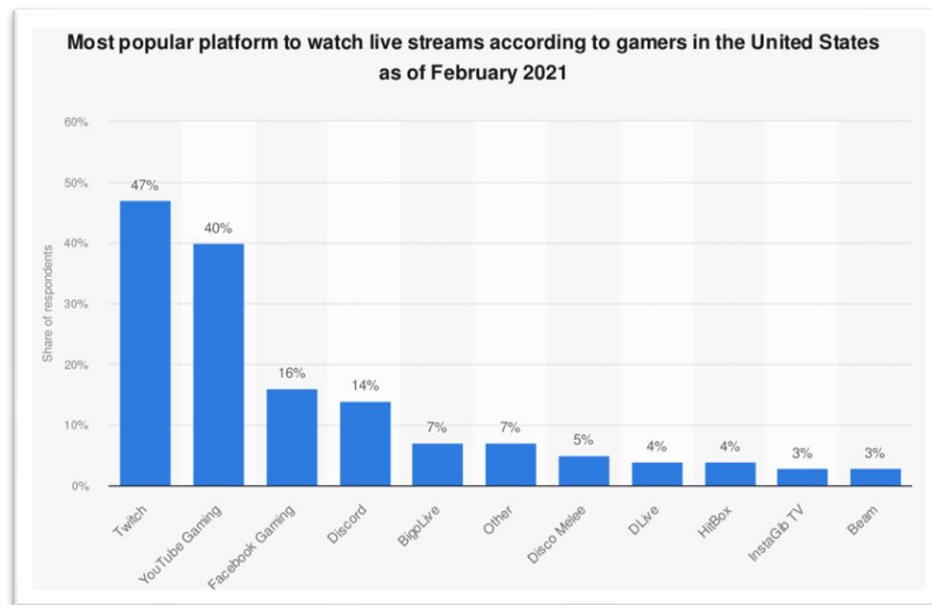
Video games are classically classified by their type, genre, and how many players can be included. Five different types are the most popular in which the gaming industry is shaping itself accordingly. There are action games that include fighting, first-person shooters like counterstrike, or survival like DayZ. Second, comes the role-playing games, this type allows players to create and customize the characters that will present them in a fictional world. The world of Warcraft is one example of this type. The third is the simulation games, it is played in a simulated real-world or fictional experience. It includes life, city building, vehicles, or war inside the game. Last is the sports game, it simulates real-world sports like football, basketball, boxing, or even racing. The most known games for this type are Need for Speed, Fifa, NBA, etc.

All these different titles for video games have their supporters and fans. Play-along videos were created a while back on YouTube, but streaming was a whole different experience, the audience was able to directly interact with the creator, donate, and discuss. Streaming was an important tool for brands, studios, producers, and many other investors wanting to enter the industry, by placing and marketing their products to a live audience. Streaming services were able to expand their market beyond gamers. They were hosts to life coaches, sports instructors, brand ambassadors, and many more. Different sectors started to see the importance and value of

those streaming platforms. This new service was able to revolutionize the gaming experience. At the beginning of 2021. (Clement, 2021).<sup>21</sup>

To start with, the live streaming of online video games is when gamers broadcast themselves playing games, or live broadcast some events to an audience online while being able to chat with the viewers and interact with them. This kind of activity became more visible in the last few years. Any professional or amateur player can open their game and start their live sessions and share it with strangers from around the world. One of the mainstreaming channels is Twitch; it succeeded in shedding the light and attention as one of the most popular live-streaming platforms to broadcast and view video gaming content. During the last five years, Twitch has rapidly grown, helping the development and rise of the gaming industry, taking part as a primary player in the ecosystem of the global media.

A touch of nostalgia was triggered by twitch as well, some users brought back old games to new audiences, sharing the history and development of games live with everyone, giving those games a second life.



Source: Statista, YouGov report, February 2021

**Figure 9:** Most visited streaming platforms in the United States

Many live streaming platforms started to enter the market as soon as they became a popular source of revenue for both the platforms and the streamers. In 2021, Twitch was one of

<sup>21</sup> <https://www.statista.com/statistics/1125469/video-game-stream-hours-watched/#:~:text=Video%20game%20live%20streaming%20hours%20watched%202019%2D2021&text=In%20the%20first%20quarter%20of,billion%20hours%20two%20years%20previously.>

the most popular platforms in the United States for watching live streams with a total of 47 percent of gamers using Twitch. YouTube gaming is also a very competitive platform for Twitch, it has 40 percent of gamers using it to stream their game.<sup>22</sup> In the second quarter of 2021, the YouTube gaming platform was able to reach an average of 599 thousand viewers around the world, overtaking twitch as one of the most used platforms for live streaming for a while.<sup>23</sup>

These videos were such a great help in popularizing the games and giving exposure to a huge number of audiences allowing them to build a link not only between the audience and players but also by giving feedback on the games to the developers. Because of these live streaming services and their influence on the audience, games are being developed with the streaming platforms in mind by building them in a way that can be reflected positively through the videos where streamers can provide a good promotion of the game online.

Streamers are considered to be a big part of the gaming industry, some of them are professionals and others are just amateur players. Most fans just watch their favorite streamers for the sake of entertainment and to understand how and what's going on in the game. The majority of streamers use Twitch, YouTube, or other streaming platforms. They will offer live broadcasts and play for hours. Some of the most entertaining streamers on Twitch are *Tommey* plays Call of Duty, *Trump* plays Hearthstone. *SingSing* plays Dota 2, and *Adam Friberg* plays CSGO and PUBG.

According to Statista the most popular game in March 2022 was Elden Ring, which is the anticipated new game by "From Software". The audience on Twitch watched around 74.7 million weekly hours of this game. Only watching and not playing. In the second place, they had Grand Theft Auto V with 29.7 million hours.<sup>24</sup>

Live streaming is growing very fast, and not only in the gaming industry benefiting from that. They were able to expand their market to other famous social media platforms like Facebook, and Instagram.

Other sectors, like the traditional sports industry, were inspired by those streaming platforms and started to offer live streaming workouts on platforms such as Ifit and Peloton. Music has also found a new market, where streaming on platforms like Spotify for all virtual concerts and live streaming, is bringing people together from anywhere across the world. Live streaming offered the world a new way of communicating without the need of traveling and made the cost of watching your favorite band, gamer, and instructors more easy, affordable, and safe.

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<sup>22</sup> <https://www.statista.com/statistics/1221858/most-popular-livestream-platform-watch-us/>

<sup>23</sup> <https://www.statista.com/statistics/761100/average-number-streamers-on-youtube-gaming-live-and-twitch/#:~:text=In%20the%20second%20quarter%20of,platforms%20for%20live%20streaming%20games.>

<sup>24</sup> <https://www.statista.com/statistics/509814/leading-games-twitch-by-number-hours-viewed/>

## **Chapter II: The ecosystem of the gaming industry**

The gaming industry in general and E-sports, in particular, should be viewed in the bigger picture they are involved in and not just focus on playing online. Many aspects influenced this industry and allowed it to grow. If you look into the gaming industry from a higher perspective, you can figure out many aspects that take part in the whole ecosystem of the E-sports industry.

Chapter two will be talking about the different kinds of stakeholders that evolve around E-sports and how each of them has a specific role in shaping the ecosystem of the industry and play an important part in the whole structure altogether. Starting with an overview of the E-sports ecosystem, to explain each stakeholder's availability and popularity in the world of gaming. It will also visualize the business view of E-sports by using the business model canvas. The chapter will also address porter's five forces. Last, it will include an explanation of the wide range of careers and professions that this industry was able to open through the years.

### **1. An overview of the gaming ecosystem**

The E-sports industry represents a unique chance for collaboration with diverse business sectors as it grows exponentially. It has come a long way from being viewed as a home entertainment part to advancing into a widely anticipated sporting event that seems to be very similar to traditional games in some ways. It is no longer just an online trend but a legitimate, growing sporting industry with a huge number of investors, sponsors, and advertisers. This industry's ecosystem is continuously growing and changing, which makes it a unique and special phenomenon that was able to beat the challenge of shifting from global to local and from being online to being offline. This industry is a mix of sports, media, culture, and entertainment that is developed in a digital environment. The ecosystem that E-sports is part of, is closely similar to the ecosystem of traditional sports, they have the media rights, advertisement, sponsors of the events, organizers, teams, and fans, but instead of using the TV for live sports, there are Twitch and YouTube that are the desired media channels for the desired targeted audience.

The E-sports ecosystem and many other industries that are related to it such as publishers, streaming platforms, and developers are expected to keep on growing rapidly in the upcoming years. There is a prediction of a high inclination in the partnerships between E-sports and the entertainment industry where companies mainly for media will be observing the increase in the viewership in E-sports and grow more interest in the industry.

To simplify the E-sports ecosystem, the Figure below gives an overview of the industry's ecosystem. It represents the main factor of the ecosystem, which is the Team, or players involved in E-sports, what games they play different, on what level, organized in Leagues or Tournaments, and distributed by different platforms like Twitch and YouTube to the different fans around the world.



Source: The Esports Observer, 2020

**Figure 10:** Simplified overview of the E-sports Ecosystem

Figure 10 is a simple illustration to show how the participants in the industry connect. These different parts need to work together to make the industry succeed and propagate. Through all of the research, it was obvious at the end that even though the industry is in a continuous evolving phase, knowing that it's ultimately a network for monetizing the players or audience, is still the main driving force behind its business model.

## 2. The stakeholders involved in E-sports and their Economic Impact

Many stakeholders are directly involved with the ecosystem of the E-sports industry. Some game developers and publishers use E-sports as a part of their marketing for extended monetization. Other brands and advertisers as well use the industry as a way of a communication channel to reach their targeted young audience from the people watching and playing in E-sports events. Nonetheless, some investors want the ecosystem to grow rapidly to increase their return on investment in the market. Most of these stakeholders come from within, and mainly many of the E-sports organizations grew from people who were merely interested in playing competitive video games. There will be a need for each of the stakeholders shown in figure 1 to share some resources and profits to generate a business model network where it can be thriving and sustainable for everyone.

The key actors in the virtual reality gaming sports arena and the core stakeholder of the entire ecosystem of the industry are the players, who are the customers and the target audience for the industry. Several other stakeholders can be found in an E-sports event arena, the organizers of the tournaments, the competing teams, and support developers. Each one of them is an important part to build up the necessary structure of the ecosystem and title of the E-sports. These stakeholders are being affected by different factors, ecological, social, and economic, creating another part of stakeholders that are quite important as well.

## *Players/teams*

The success of the industry in E-sports comes from the talent of the players. Players are the main dynamic of the whole structure of E-sports. A while before, they were reliant on their winnings of the tournament to make a profit. But lately, there are far more opportunities for larger prizes and profits where many teams and sponsors can get paid even if they don't make it to the top of the tournaments. In each team the number of players varies according to the game type, the standard number for competitive games is usually five players within each team. For example League of Legends. Although, the team can have as many substitutes and bench players as they want.

Just like the traditional games, they have the same component in the games, there is positioning, objectives, and goals. For an instant, in Call of Duty, the objective they have is to plant bombs, capture flags and stay in their zones. On the other hand, E-sports has a smaller scale than that traditional sports, so they have to delegate different responsibilities to different players, and roles have to be shared among everyone. Mainly you can have 5 notable positions: Tank, Support, Scout, Defender, and Specialist.

Usually, some companies invest in E-sports, so they create a team name in which they look to recruit professional players for a different game. For example, FaZe Clan is a professional E-sports and entertainment organization, they are well known for their disruptive original content and their loyal fanbase. They are a leading team in the E-sports industry with 11 diverse teams for different games; team CSGO, team Call of Duty, team Fortnite, team PUBG, team Rainbow Six Siege, team Valorant, team Fifa, team PUBG mobile, team Rocket League, team Halo, and team Legacy.<sup>25</sup>

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<sup>25</sup> <https://fazeclan.com/teams/>

Characteristic	Actions (in millions)	Content	Actions per content	Audience (in millions)
FaZe Clan	11.3	240	47,203	17.7
Bigetron Esports	6.8	343	19,962	1.8
EVOS Esports	6.5	423	15,462	7.1
Rex Regum Qeon	3.9	211	18,621	3.8
Team Secret	2.5	454	5,502	2
G2 Esport	2.1	555	3,718	3.1
NRG	2	124	15,967	2.8
100Thieves	1.5	86	17,734	2.3
PaiN Gaming	1.4	373	3,687	3.4
T1 League of Legends	1	248	4,021	1.5

Showing entries 1 to 10 (10 entries in total)

Source: Statista, Shareable, September 2021

**Figure 11:** *Top ten E-sports teams on social media by user engagement*

The figure above shows the top 10 leading teams on social media in E-sports worldwide in 2021. Number #1 teams can even have up to 18 million users that follow them on different platforms, which is great visibility for any kind of social media branding.<sup>26</sup>

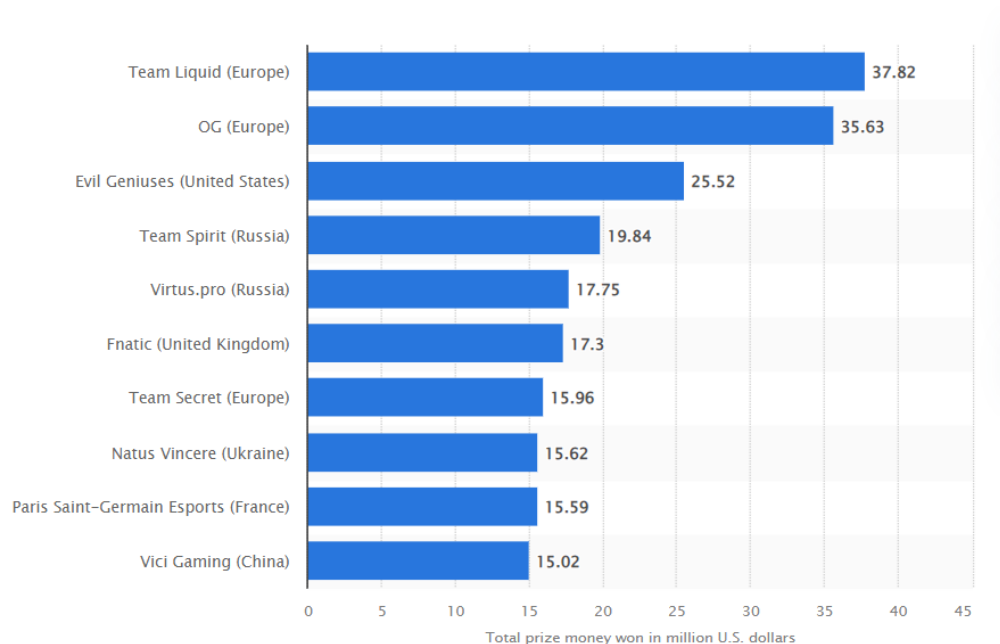
Many sectors have been revolutionized by the E-sports industry growth, one of these sectors is social media; players and teams are now socializing through different platforms like Discord, Facebook, Instagram, live streams, etc. This made it easier for all professional players to build a reputation and huge fan base. For example, using Discord help players communicate and follow their streamer, it's the gamer version of Zoom and Google meets.

You can also have the chance to connect with other athletes on the E-sports platforms mole Gamerji, Ewars, Gamingmok, and others. For instance, Wings gaming is a professional team in E-sports, they earned 9,459,182 dollars in only 10 tournaments where they played DOTA 2 (Earnings, 2012) and they have more than 40 thousand fans on Facebook and 8 thousand followers on Twitter. Another team called Evil Geniuses has more than 300 thousand likes on Facebook and 367 thousand followers on Twitter.

<sup>26</sup> <https://www.statista.com/statistics/1227387/global-esports-teams-social-media-engagement/>

Most rising stars come from Europe, which shows how these countries are paying attention to the importance of the industry in their markets. As it was explained before, Europe is one of the top countries that have many players in their fields.

The popularity of streaming allowed professional players to utilize more profit from sharing their content, and fans can donate and subscribe to their favorite players and help them earn a huge number of money. The players provide different advertisements on their streams for the teams or brands as part of their careers. They try to improve their content creation to become kind of commentators or analysts for the publishers and the organizers of the tournaments. Big teams are now able to franchise by their right and hold game rosters for many available games, these teams come from organizations that work for their employees, which are the players. They provide them with different incentives like training, housing, equipment, and healthcare. These teams have also the right to negotiate different sponsorship deals on behalf of their players. Although teams have different revenue sources, they have an obligation of paying salaries and the benefits for their players.



Source: Statista, e-Sports earning, November 2021

**Figure 12:** Total prizes won by the top E-Sports teams in 2021

The figure for leading professional E-sports teams shows the total prize won by the top teams in 2021. Leading the list is Team Liquid in Europe which was founded in the Netherlands in 2000. They play Dota 2 in E-sports tournaments, where the total prize money they won over the years equals almost 37 million dollars. This team has over 60 championship-caliber athletes



with 14 different games that are considered the world's top games<sup>27</sup>. Their European Dota 2 team has a great reputation as one of the greatest teams of all time. They won the International 2017 and supermajor 2018 in their journey and gained second place at the International in 2019 (*Gough, 2021*).<sup>28</sup>

The International is an annual E-sports competition, where players compete in Dota 2 games all over the world to win the title<sup>29</sup>. According to Statista, the prize pool of this competition in millions of dollars has increased through the years where it was shown that it had a prize of 1.6 million dollars in 2011 and reached a huge increase in 2021 to reach over the 40.02-million-dollar prize (*Gough, 2022*).<sup>30</sup>

### ***Competition Organizers***

Tournaments, competitions, leagues, and events are the main source of income and visibility in the industry. Just like game development companies, other companies are interested in organizing E-sports tournaments and events for the fans of the game. One of the most popular companies in Turtle Entertainment – ESL, which is known as the world's largest E-sports company founded in Cologne, Germany, where they lead the entertainment industry with online and onsite competitions among the famous games.<sup>31</sup>

Successful digital entertainment companies have seen a glorious year, one special company located in Sweden, which is also a leader in the market, had almost 1 event per month in 2021.

Competition organizers are very important for the continuation of the gaming industry. The prize pools that are awarded in their tournaments are huge and in constant inclination. For instance, in September 2016 an event starring the famous strategy game Dota 2 was able to reward more than 100.000 dollars for each tournament organized, with the team could go on to win over 1.000.000 dollars. Currently, E-sports events are not exclusive to a subscription fee, they can be watched both live and on-demand. League organizers can still benefit financially from the fans of E-sports by selling tickets and from the rising number of deals on TV and partnerships with small tournament organizers in the market. Any sponsor who wishes to be shown in the competitions needs to pass by the event organizers and venue owners.

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<sup>27</sup> <https://www.teamliquid.com/esports/archive>

<sup>28</sup> <https://www.statista.com/statistics/954410/highest-winning-esports-team/#professional>

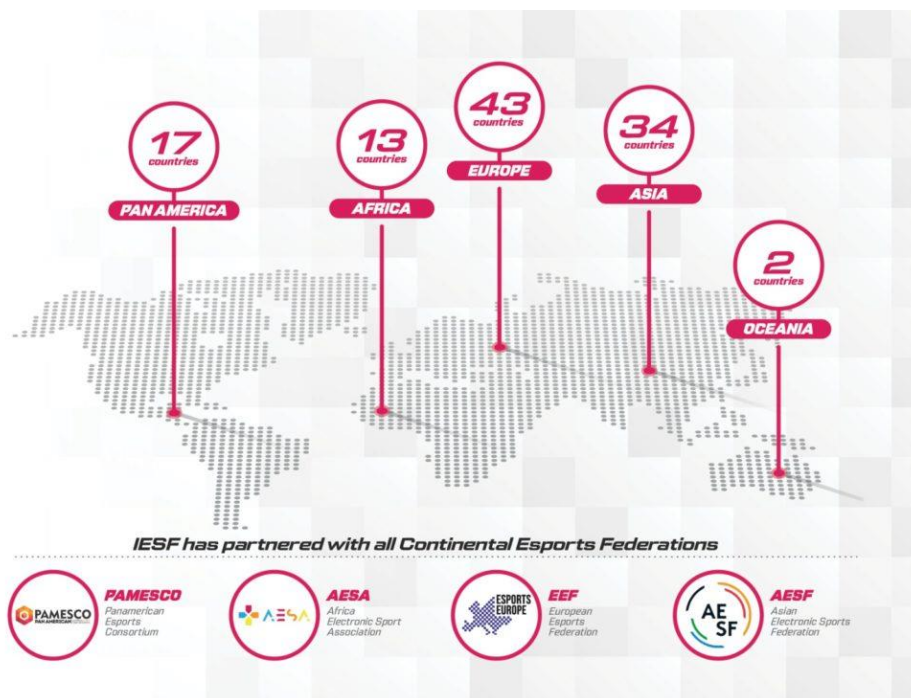
<sup>29</sup> <https://www.dota2.com/home>

<sup>30</sup> <https://www.statista.com/statistics/807889/dota-2-tournament-prize-pool/#:~:text=Annual%20DOTA%202%20global%20tournaments%20prize%20pool%202016%2D2021&text=The%20timeline%20presents%20the%20annual,figure%20in%20the%20previous%20year.>

<sup>31</sup> <https://about.eslgaming.com/>

## *E-sports associations*

There are several associations that take different parts in the industry, and each has identified itself with a specific role for specific markets. The main international E-sports association is based in South Korea, the International Esports Federation, or 'IESF' is a global organization founded in 2008. Its mission is to acknowledge E-sports as a legitimate candidate to be treated as a national sport. They support gamers by continuously working on the equal treatment of online athletes versus normal sports athletes. They have different responsibilities within the federation, they aim to provide and support all guidelines and services to the members to establish national E-sports associations around the world. They also help create regulations with their stakeholders to have fair competitions and create train and educate their teams to have qualified referees and other professionals through their international E-sports Academy.<sup>32</sup>



Source: International Esports Federation, 2021

**Figure 13:** *The International E-sports Federation partnerships*

The International E-sports Federation is always working on being the best in the industry. They have been uniting with different continents to unite the world of E-sports with the acceptance of all countries. One of the big associations is founded in Belgium as well, it is the BESF or Belgian E-sports Federation, and they started their federation on a national level in 2020 when E-sports started growing rapidly. Their main goal is to be able to create a platform for all E-

<sup>32</sup> <https://iesf.org/about/what-we-do>

sports within Belgium and help in providing a national plan for players, promoters, and publishers to be able to grow the local E-sports ecosystem in a sustainable environment.<sup>33</sup>

Another big association in Europe is the British E-sports Association which is the national association for both E-sports and competitive video gaming in the United Kingdom.

## ***Publishers***

There is a great opportunity for publishers to make money from E-sports as it attracts a very niche and engaged audience. One of the most important actors in E-sports is the publishers who are responsible for developing the game which eventually allows players to compete. They either have a choice to publish story games or competitive online games, which then engage them in the development of E-sports and have a bigger role in the ecosystem of the industry.

Nevertheless, in E-sports, publishers release periodic patches to add new elements to the games to make the playing experience more realistic and more proactive with the community constantly. One example of these game publishers is Riot games and Epic games. The publishers that have their intellectual property rights are extremely powerful in the E-sports whole ecosystem since they have the control over advancing or cutting down the development of the games in the industry.

In the tournaments and events, publishers license their E-sports titles to third parties, which helps them share the risks of the business with them and increase their profits through the license fees while at the same time expanding their intellectual property and promoting their business relationships. For example, operators (ESL, Dream hack, Star ladder), streaming platforms (Twitch, YouTube), E-sports teams (Cloud9, Team SoloMid, G2 Esports), and brands (Red Bull, MasterCard, Mercedes-Benz, etc.).

It is obvious by now, that the industry cannot exist without publishers and developers of the games. Game developing companies are numerous all over the world, but they have different ways of working. Some companies do not include online gaming features within their products, and others do.<sup>34</sup>

Riot Games is an example of an important E-sports tournament organizer, game developer, and Publisher, it is known for the League of Legends games which are very popular among the players.

With the high growth of the E-sports industry, publishers have the advantage of turning their competitive titles into video games where they are receiving great benefits from the exposure and the revenue that is being generated from playing the games both online and offline.

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<sup>33</sup> <https://www.besf.be/who-we-are/>

<sup>34</sup> <https://www.activisionblizzard.com/>

As high as the industry is growing, the speed and strength of the professions that publishers are retaining are getting higher.

## *Sponsors*

Similar to how professional players in the sports industry have their sponsorship from external companies, E-sports professional athletes do as well. The same process goes for sponsoring an NBA, or football team, every E-sports team needs to wear clothes that feature their organization's name as well as brand logos or equipment when they are competing with the public. Currently, becoming a sponsor for a team within E-sports is one of the most familiar ways of partnerships. Having a sponsor nowadays is becoming a very common element within the structure of the industry. Different companies can sponsor a team, individual player, tournament, event, or even all of them. They may cover traveling fees, gaming hardware, gaming equipment, salaries, and social media of the players or teams. One of the very popular companies and one of the biggest sponsors that had entered the gaming industry is Coca-Cola. It sponsored many leagues back in the day, and during the year 2016, it sponsored viewing parties that were hosted in more than 200 cinemas in 16 different countries across the world. For instance, Team Liquid is being sponsored by HTC, Razor, and Alienware.

A gamer market data collector estimated back in 2018 that the industry is closing in on being a billion-dollar industry, all thanks to enlarged brand participation, as well as countless new sponsors, that followed up with all media rights and content licenses through investments that are made by endemic and non-endemic brands.<sup>35</sup>

The endemic brands can be defined by those companies who sell products on which the sport relies, which means in general the gaming hardware. For instance, SteelSeries is one of the endemic brands which is a leading producer of gaming equipment like headsets, keyboards, and mice. On the other hand, non-endemic brands are those with products that do not have a direct connection with the E-sports market, however, they take advantage of using the market in their marketing strategy.

One of the examples is Red Bull and DHL. As a Belgian brand, Proximus is one of the large sponsors in many E-sports tournaments and events. They also host their Epic league through Kayze. They also sponsor the Belgian league with META and ePro League.<sup>36</sup>

Another report from Newzoo was released in 2019 that shows the revenue of the industry reaching 1.1 billion dollars where 456 million dollars of that amount came from sponsorship deals which witnessed an increase of 34 percent from the previous year.<sup>37</sup>

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<sup>35</sup> <https://visua.com/sponsorship-digital-age-rise-esports/>

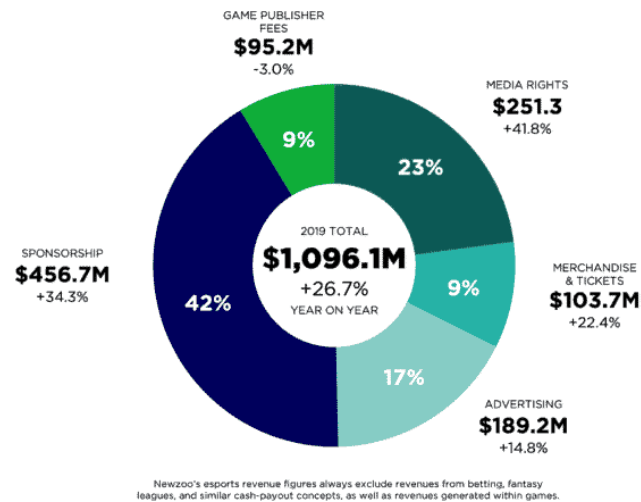
<sup>36</sup> <https://www.proximus.be/pickx/nl/esports>

<sup>37</sup> <https://newzoo.com/insights/trend-reports/newzoo-global-esports-market-report-2019-light-version/>



## 2019 ESPORTS REVENUE STREAMS | GLOBAL

INCLUDING YEAR-ON-YEAR GROWTH



Source: Newzoo report, 2019

**Figure 14:** E-sports revenue streams in 2019

Figure 14 demonstrates that the most important revenue for the gaming industry is sponsorship, and bug brand association, the runner-up being media rights as stated above. These different statistics show how much sponsorship in E-sports is valuable and profitable.

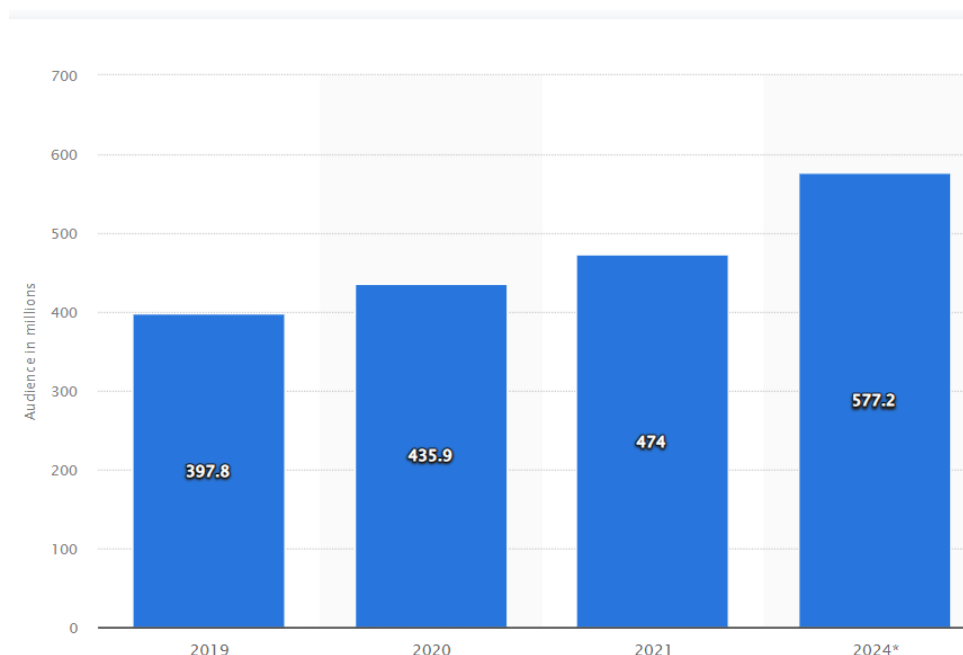
The sponsorship can take different forms, it's up to the brands to choose their sponsorship deals relying on the budget they have and the marketing goals they set. Mainly, brands want to sponsor the tournaments or events to maximize their popularity among the audience of E-sports. For example, one of the most popular games is sponsored by brands as big as Redbull, Honda, and even MasterCard.

As the industry is booming over the years, this will create an interest with more diverse brands to invest in E-sports where more viewers are growing, which means more marketing targets for these companies.

### **Audience**

The audience should not be forgotten when talking about the main actors in the E-sports industry. The audience, including viewers, are very essential to the growth of the industry, they are a community that helps E-sports fill their stadiums or gain some money from the live games online and on streaming platforms, making, or breaking a game. The E-sports fan base and audience represent the end-user demand in the ecosystem of the industry. Their growing numbers and passion for the industry are providing value-creating ecosystem stakeholders with their

market. The numbers have been growing rapidly in the last few years. During the year 2012, the total viewership was around 134 million, which it has grown to 395 million by 2018 to reach a growth level of 195 percent (Gough, 2021).<sup>38</sup>



Source: Statista, Newzoo; VentureBeat, March 2021

**Figure 15:** Audience size of E-sports worldwide from 2019 till 2024 in millions

Figure 15 illustrates a projection of the increased size of the audience from 2019 to 2024. Throughout the years, more people are being interested in watching their favorite games being played by their favorite players in the world. It is expected that by the year 2024 the number of audiences in the E-sports industry will reach 554.2 million worldwide, which is a high increase compared to the audience number in 2019 which was 397.8 million (Gough, 2021).<sup>39</sup>

The industry is going through a very successful stage of its development. Thanks to the high financial investments into teams and players, the ecosystem of the industry is getting extremely well-capitalized. The fans of E-sports are going the extra mile into growing their communities and helping the industry to keep blooming in the right direction. Espo is a fan community platform for E-sports audiences. It was created to connect fans, brands, and professional players all over the world into one platform. Through Espo, the fans can sponsor

<sup>38</sup> <https://www.statista.com/statistics/490480/global-esports-audience-size-viewer-type/>

<sup>39</sup> <https://www.statista.com/statistics/1109956/global-esports-audience/#professional>

their teams or influencers and receive exclusive benefits from world-class E-sports teams and players.<sup>40</sup>

E-sports fans showed a huge desire into attending physical events like FIFA E-World Cup. For instance, for two weeks in a row, the attending fan base could have filled a football stadium (*Alivia, 2021*).<sup>41</sup>

The fan base in E-sports is considered to be young a highly engaged in the digital ecosystem in general. Not only for the industry in general, but the increase in the audience number is also playing a huge role in helping the brands and right holders in investing in the future of the industry.

### ***Betting sites***

The betting sites are just another actor in the E-sports ecosystem. Anyone can freely join and bet upon any game happening in different tournaments and events. Every gamer that has a passion for gambling is aware that E-sports betting can be found on numerous numbers of betting sites online. For example, Betway, Pinnacle, 10bet, bet365m, and William hill.

The betting sites are considered to be a hobby for some people, there are thousands of tournaments and matches being played each day with these sites offering odds on every single aspect of a competitive game. Nowadays, odds on E-sports matches are as common as those for traditional sports. According to Pinnacle, one of the first bookmakers who offered E-sports betting, they said they expected a huge growth after the exponential growth they witnessed between 2010 and 2017 when they reported five million placed bets on different E-sports matches.<sup>42</sup>

Betting on E-sports is becoming more mainstream these days. The first bet was taken by Pinnacle in 2010, however, it was the very start, and it took a lot of time until November 2015 to place the first 2 million. During only 7 months, the industry witnessed a three million wager mark which demonstrates a bug growth curve that did not happen in any other betting markets before.

In 2017, the industry established 5 million bets from a new shape of betting on video games, and now it represents the most popular product among E-sports fans. Recently, it was stated that E-sports betting is so close to reaching 10 percent of the whole sports betting in the market, where one of the main aspects that helped push it into more growth was the Pandemic of Covid-19 (*Mitchell, 2020*).<sup>43</sup>

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<sup>40</sup> <https://www.espo.io/>

<sup>41</sup> <https://blog.infront.sport/esports-business/esports-audience-growth>

<sup>42</sup> <https://www.pinnacle.com/en/corporate/press/press-release/pinnacle-takes-five-millionth-esports-bet>

<sup>43</sup> <https://www.thesportsgeek.com/news/esports-betting-continue-to-showcase-exponential-growth/>

Rank	Betting Site	Bonus
#1	22 Bet Esports	100% up to 300euro
#2	Betway Esports	Up to 30euro free bet
#3	20Bet	100% up to 100euro

Source: The sports geek, 2022

**Figure 16:** *The best-ranked E-sports betting sites*

The betting sites are booming and witnessing a growth in number, viewership, and investment. In the table above the best 3 ranked betting sites are 22Bet Esports, Betway Esports, and 20Bet. Many more sites are growing and started to enter the market for the sake of taking advantage of getting some profits. However, not all of the sites are working well and have a good reputation. Some of these sites are just trying to enter the industry but they are not capable of providing a good customer experience. Many of them are just scams or take a huge cut in odds, or even lack the presence of good customer support, which will be discussed later on in chapter 3.

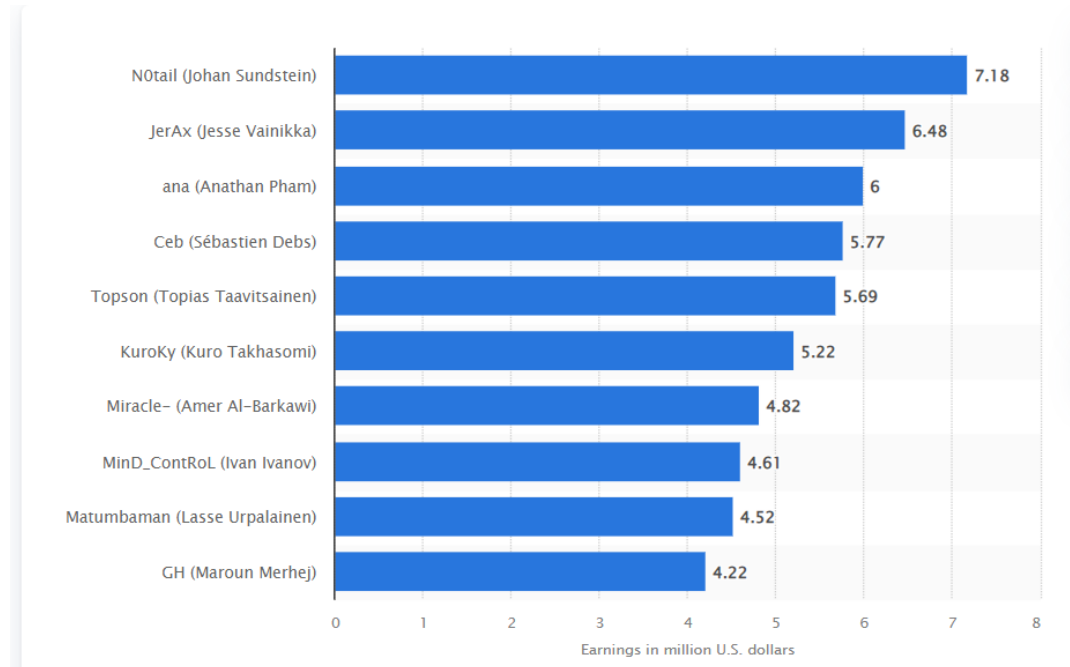
### 3. Professions Within the E-sports Industry

Putting economic growth aside, the industry seems to have a very definite plan for a bright future where games are not only considered a hobby for the players but become a part of their daily lives as mentioned before. The industry is established to become more of a profession for many young and professional gamers. It has become a very strong market in the world, not only its popularity and revenue are growing rapidly, but a new factor came into it by opening a wide range of a new careers for the people who are passionate about video games. The fast-growing popularity of E-sport has created many feasible careers.

Some gamers are trying to become famous and popular E-athlete and create a new career path for themselves. In the year 2020, one of the most popular professional players known to date was Lee Sang Hyeok – aka Faker. He is known for his amazing skills and strategy which allowed him to earn around 1,228,000 million dollars in 2020. For three years in a row, he was the top earner of League of Legends and won three world titles as well. He is 25 years old and was able to win a whole tournament in a competition without losing one game, where he was the only player who could accomplish this achievement. He is involved with a variety of work for his living, his revenue is not only from the tournaments he plays but also, he earns a lot from streaming his games on Twitch TV, sponsors, etc.



There are a huge number of players who are becoming professionals and joining the E-sports industry and earning an enormous amount of money for doing this. The list is big, many athletes are specialized in different genres of games.



Source: Statista, e-Sports earnings, February 2022

**Figure 17:** Leading players in E-sports worldwide 2022, by overall earnings (in million dollars)

Figure 17 illustrates the overall earnings of the best E-sports players in the world. At the top of the list is John Sundstein who is known as N0tail in Dota II, a player from Denmark and has earned so far 7.18 million dollars through his gaming career with E-sports (Gough, 2022).<sup>44</sup>

Becoming professional athletes has now become a choice for many talented gamers to earn millions of money and have a profitable sponsorship deal from big well-known companies. The revenue of this industry is coming from different factors, like betting, sponsorship, prize pools, and tournaments. E-sports is a career that requires very difficult skills. You need to have great strategical skills, teamwork, patience, critical thinking, hand-eye coordination, and mainly know how to be focused.

While there are thousands of online games that could be labeled as competitive E-sports games, there are some that stand at the top in terms of popularity. The best E-sports games have a huge number of players all over the world in different competitions and leagues. In the year 2022,

<sup>44</sup> <https://www.statista.com/statistics/518010/leading-esports-players-worldwide-by-earnings/#professional>

it was classified that the following are the top E-sport games; Call of Duty, CS: GO, Fortnite, PUBG, League of Legends, Dota 2, and many more.<sup>45</sup>

Although being a professional player is one of the main vacancies that was open through E-sports, it's not the only career there. There is a long list of jobs that became available beyond gaming within the growth of the industry. You cannot have a billion-dollar industry without limitless employment opportunities. They even created a variety of websites for recruitment within the E-sports industry, such as Hitmaker, ReKTjobs, and Dot Esports.

Some of the jobs are shout caster, which means a caster or host, they are the ones who usually get involved in interviewing players and experts and engage in discussions before and after the games. They will be the face of the event, introduce, and comment on the games as well. Another one would be the analyst who is an expert in providing the needed stats and information for a team or game developer. They mainly work side by side with coaches, which is considered to be another job, who works along with the gamers and help them through their practices and tournament in dealing with their weaknesses, creating strategies on how to win their games, and following up on their progress.

Then you have team managers who are responsible for creating and arranging the contracts of the players, finding talents, dealing with travel, developing team brands, etc.

Other jobs could be also found, for example, tournament referee, content creator, journalists, PR executives, social media manager, operational manager, partnership manager, salesperson, agent, broadcasting, event manager, legal, finance, software developer, customer service, directors, camera operators, network engineers, and business development. And then many other jobs happen outside E-sports, which involve game developers, audio engineers, publishers, and testers.



Source: Authors' elaboration, 2022

**Figure 18:** *Different kinds of careers within the E-sports industry*

<sup>45</sup> <https://escharts.com/blog/most-popular-esports-games-2020>

The gaming industry is paying quite well compared to the other industries. The top-paying job for gamers is the game designers, they are the highest-paid workers in the industry where they can receive an annual salary of up to 130,000 dollars as was reported by ZipRecruiter. They are in charge of the whole process of creating new games with the whole scenarios and characters, designing visual aspects, and bringing the games to life. It is a successful rich industry and working in this field is something that young people are becoming more and more passionate about. Developing careers in this industry is a good option for people who have an interest in video games and programming and designing.

#### **4. E-sports business view**

The E-sports industry has risen highly which created some confusion and discussions on its business perspective. In the previous part, the stakeholders involved in the industry showed a huge impact on the business development in the market and showed with all statistics that the business of E-sports is here to stay and grow.

From players to the audience, to sponsors, brands, streaming services, betting sites, and advertising, all of these factors work together to develop the industry and create a big business name in the market. This also includes people who enjoy playing games but did not engage in the social aspects of the industry. When this industry started growing at the big rates with everything related to it, it created an attractive business view for everyone across the world where organizations are trying to find different ways to become part of this industry.

#### ***Business Model Canva***

To create a better understanding of the business world of E-sports, a model is better created to visualize and help communicate with the clients or the people involved in the industry by allowing them to understand the importance of this business and why they should be involved with it. The business model canvas is one of the most relied-on strategic management templates used for developing new business models and documenting the existing ones. It gives entrepreneurs all important aspects of their business from, value proposition and customer segments to all operations and financials.

In the case of E-sports, the business model will allow their current and potential future stakeholders, and investors, to have a wide transparent view of how the strategy of the industry is being implemented, and thus assess whether these conditions would create an opportunity or threat for them to join and be part of this ecosystem.

<ul style="list-style-type: none"><li>● KEY PARTNERS<ul style="list-style-type: none"><li>●Advertising sponsors to fill commercial space within the physical arenas as well as breaks in broadcasting</li><li>●Experts in public relations and speaking for professional development of casters, managers, and players</li><li>●Health professionals (sport psychologists and therapists)</li></ul></li></ul>	<ul style="list-style-type: none"><li>● KEY ACTIVITIES<ul style="list-style-type: none"><li>●Coaching</li><li>●Marketing</li><li>●Branding</li><li>●Design</li><li>●Research, Analysis, and Development</li></ul></li></ul>	<ul style="list-style-type: none"><li>● VALUE PROPOSITIONS<p>We create a better eSports experience.</p><ul style="list-style-type: none"><li>●highly curated and up to date information on matches, teams, and players</li><li>●set regulations that create a safer work environment for the players</li><li>●health standards to avoid injury</li><li>●PR training for castors and players to increase professional acumen</li><li>●focused advertising and marketing to promote esports legitimacy as a highly professional, safe, and inclusive industry</li></ul></li></ul>	<ul style="list-style-type: none"><li>● CUSTOMER RELATIONSHIPS<p>Build and maintain communities that allow fans to express their passion for various teams and share them among each other.</p><p>Co-Creation, allowing the customer to be part of the process by engaging with the players personally through specific channels.</p></li></ul>	<ul style="list-style-type: none"><li>● CUSTOMER SEGMENTS<p>All video game players regardless of previous knowledge to eSports as entertainment.</p><ul style="list-style-type: none"><li>●they desire social interaction</li><li>●a safe place to engage in appreciation</li><li>●make lasting memories</li><li>●be entertained</li><li>●create connections to the intangible</li></ul></li></ul>
	<ul style="list-style-type: none"><li>● KEY RESOURCES<ul style="list-style-type: none"><li>●Human</li><li>●Intellectual</li><li>●Financial</li></ul></li></ul>		<ul style="list-style-type: none"><li>● CHANNELS<p>Through digital channels like website, web streaming, social media, apps, print media, direct marketing, and major broadcasting.</p><p>Local events such as expos that can showcase teams or players.</p></li></ul>	
<ul style="list-style-type: none"><li>● COST STRUCTURE<p>Value driven; focusing on creating great value in esports entertainment to our customers.</p><ul style="list-style-type: none"><li>●Marketing</li><li>●Advertising</li><li>●Employees</li><li>●Experts</li></ul></li></ul>		<ul style="list-style-type: none"><li>● REVENUE STREAMS<ul style="list-style-type: none"><li>●Advertising</li><li>●Viewership passes</li><li>●Asset sales</li><li>●Franchise</li><li>●Licensing Revenue</li><li>●Subscription fee</li><li>●Licensing of Intellectual Property</li></ul></li></ul>		

Source: E-sports innovation proposal

**Figure 19:** E-sports Business model Canvas

In figure 19, the business model canvas was created for all participants of E-sports to better understand their environment, their key areas, and the relationship between the different factors involved.<sup>46</sup>

The key partners in this business model are the advertising sponsors who are going to fill in the commercial spaces, experts in public relations, and speaking for the professional development of players, managers, and casters. The key activities will include coaching, marketing, branding, design, research, and analysis with key resources in human, intellectual, and financial.

<sup>46</sup>

[https://static1.squarespace.com/static/509ec8a9e4b039333cb41afc/t/5c68f8ca085229f2876add3c/1550383310948/esports\\_innovation\\_proposal.pdf](https://static1.squarespace.com/static/509ec8a9e4b039333cb41afc/t/5c68f8ca085229f2876add3c/1550383310948/esports_innovation_proposal.pdf)

The value proposition is to create a better E-sports experience for everyone involved and mostly the players and audience, by updating information about the tournaments, teams, players, and events, and setting regulations that can help create a safer work environment for the players by providing them with health standards. They also focus on marketing to promote E-sports as a professional industry. The revenue streams are mainly coming from advertising, viewership passes, tickets and asset sales, franchise, licensing revenue, subscription fees, and licensing of intellectual property.

The customer segments desire social interaction, have a safe place to engage with others, and create good connections while being entertained. Their customer relationship builds and maintains communities for the fans to allow them to express their passion and love to their teams. The relationships are also based on Co-creation, which allows the customers to be part of the process by engaging with the players on different channels like websites, web streaming, social media, apps, print media, direct marketing, and local events.

Having a strategy in the E-sports industry helps create the best practices in marketing the teams and use standardized regulations to prevent the players' from being exploited and increase the promotion services by having good public relations.

### ***Porter's Five Forces***

Porter's five forces framework is used to analyze the industry's competitive environment. It draws from industrial organization economics to derive five forces that will help define the competitive forces and the attractiveness of the industry in terms of its profitability.

The method of this framework is based on Michael Porter's theory which entails five different elements that play a part in either building or breaking an industry. The forces consist of five different elements, the threat of substitutes, threats of new entrants, bargaining power of suppliers, bargaining power of buyers, and rivalry among existing competitors (*Porter, 1980*).

In figure 20, the five forces are being analyzed for general business sectors by different elements that need to be provided while studying the industry's different aspects in the framework. These points should be taken into consideration to have a successful analysis of the competitiveness and profitability of the E-sports industry.



Source: The enterprise world, 2022

**Figure 20:** Porter's five forces of Competitive analysis

- Threat of substitutes: Low

Mainly in industries, there is always the potential for new products or services to enter the market and be considered a threat. However, the substitution ratio differs between different kinds of industries. E-sports is considered a niche market for now since the audience is limited to people who enjoy the gaming world only. But just like any other industry, some threats can be labeled as a threat to this industry, such as the traditional sports, The main threat to E-sports so far is some different forms of entertainment, such as the presence of traditional sports and other media entertainment platforms such as movie streaming markets. Although streaming services are a kind of substitute, it is believed that their threat level toward E-sports is low because of their unique audience and fan base.

- Threat of new entrants: Low

The industry's power in the market is usually impacted by the threats of new entrants. For the gaming industry, the threat of new entrants is indeed quite low since well-known companies have a monopoly over the market. They tend to keep the time long and costs high.

For E-sports, the new entrants to the market are not considered a threat, they see them as future stakeholders who can build more awareness and popularity and promote their industry. Adding to that, their product differentiation is very high, they have a wide range of different video game titles with different genres.

- Bargaining power of suppliers: High

In E-sports, game developers are the one entity who has the most important control over the gaming industry where they rely on the developer's support and thus could be a big threat to E-sports. This is in direct correlation with the threat of new entrants, the more the industry grows, the more costs will increase as well.

- Bargaining power of buyers: High

In E-sports the audience number is huge and thus the size of each order has to be high with the growing communities in the industry. Gaming communities tend to be very particular, always keeping an eye out for any system bug or gaming imbalance. If the producers do not deliver, the audience moves over to another, which creates a high bargaining power for buyers.

- Rivalry among existing competitors: Low

In the case of E-sports, the competitive rivalry exists between the different professional teams and the titles in E-sports events, so all companies or stakeholders focus more on value integration that they consider as a collaboration instead of a threat. They all focus on one aspect which is the growth of the audience and the success of the industry.

In conclusion, based on porter's five forces, the E-sports industry is in an inclination toward success that is providing a huge opportunity for new investors and sponsors to enter the market. This analysis provided a clear view of this niche industry where competition is very hard, and the new industries trying to enter the market are just several new potential stakeholders for E-sports. The industry was able to differentiate itself with a competitive advantage of being the leader in the market where it is very difficult to compete with such a huge and old industry that was built through many years of adapting to the new world's innovations. However, if a company wants to invest in this industry, they have to take into consideration the high bargaining power of both buyers and suppliers.

### **Chapter III: The Future of the Virtual Gaming world**

The gaming industry has evolved in numerous aspects, and one of the aspects that have been the most noticeable is the obvious development of augmented and virtual reality. From 2D models to 3D and virtual gaming, we can see here that there has been exponential growth in the field of immersive gaming experiences. This fast growth has been driven by different aspects of innovation and technological advances with constant content improvement. Given the speed of technological advancements at the time, and the foreseeable developments of the future, gaming experiences are expected to continue to improve and reach extraordinary heights.

Chapter three will mainly be focused on the new technologies that are drawing the path for the gaming industry, it will first discuss the growth of the industry within the appearance of new disruptive technologies like augmented reality, virtual reality, and 5G, showing their effect on the gaming world. Then it will discuss the transformation of blockchain and cryptocurrencies in the gaming industry, how they benefit the gaming industry and what are the challenges they face. And lastly, it will draw a conclusion based on an analysis of the macro-environmental factors using PESTEL analysis and highlighting the key challenges and success factors of the industry.

#### **1. The growth of the gaming industry in the context of disruptive technologies**

We have entered a new era, we recently transitioned from the age of industrialization to the age of information, an age where great knowledge can show how revolutionized the world can become. This shifting is defined by the selection and implementation of technologies that match the demands of the industry and the target markets.

Thanks to all the technological advances we are witnessing, the gaming industry is on an inclination path toward growth and success, as it is in all new high-tech innovations that are compatible with the industry. This advancement is not just shaping the way we are playing video games but has become an essential part of the whole gaming experience and the business practices of the gaming companies. So much so that all sectors are using those same technologies to set new expectations for rapid growth.

#### ***Augmented Reality and Virtual Reality Impact on the Gaming World***

The appearance of augmented reality and virtual reality has truly changed the world we live in. Indeed, virtual, and augmented reality are mainly known for gaming, entertainment, or “team-building” activities, however, they are also the pioneers of a promising future full of new technological innovations.



- *The difference between augmented reality and Virtual reality*

Virtual reality (VR) and augmented reality (AR) seem to be two sides of the same coin. Those “reality” technologies have two roles, one of which enhances reality, and the other role is to replace reality with a virtual, simulated world. Both of these reality technologies were made to deliver a simulated experience to the consumers, each one of these terms has a unique case and different way of working.

Virtual reality is a new kind of technology that is being used to allow users to experience the artificial world in its best form. It is primarily used in 3D movies and video games. Virtual reality has different parts to it; it comes with an expensive headset, meant to take over the focal and peripheral vision, and gives the user the visual and sound effects of being in another world.

Many companies are investing in this technology and coming up with different designs of headsets: the HTC Vive Cosmos, the Oculus Quest, the Valve index, and the PlayStation VR are different examples of multiple brands that were made to serve this technology. They can block out all the surroundings when in use to give the best immersion effect on the users. In another word, they take you where they want, and replace the world with a virtual one. It is being used to enhance a total fictional reality for the gaming world.

While virtual reality replaces your surroundings, augmented reality uses real-world settings and add-ons to them. AR is the mix of the digital world with the physical elements to create an artificial environment for the users. The physical environment that the user experience is enhanced with digital content from life by a smartphone or special hardware.

Augmented reality devices such as Microsoft HoloLens and other kinds of “smart glasses, allow the user to see everything in front of them as if they are wearing sunglasses. It is designed to project images over what you are looking at with free movement.

Some AR apps and games are used on smartphones such as Pokémon Go, where you use the camera on the phone to track the surroundings with additional information and images on top of the screen. In the gaming industry, augmented reality is used to help the user create a zone for playing within the artificial environment that already exists.

Although each of these concepts is different, they do not operate separately. Mostly they work together to create a better experience and transport the user to a fictional world by allowing them to interact between the real and virtual world in a new dimension.

- *The way AR and VR are transforming the gaming industry*

This technology has made a huge impact on the gaming industry by being introduced as a game-changer in the user experience. The future of gaming is linked to augmented reality and virtual reality.

These two technologies are changing the version of the game by making it possible to play in real-world objects and backgrounds such as a virtual school, forest, river, or even stadiums. They are offering a mix of real and virtual worlds to create a more attractive and alluring one and are considered to offer the most exciting technologies in our life.

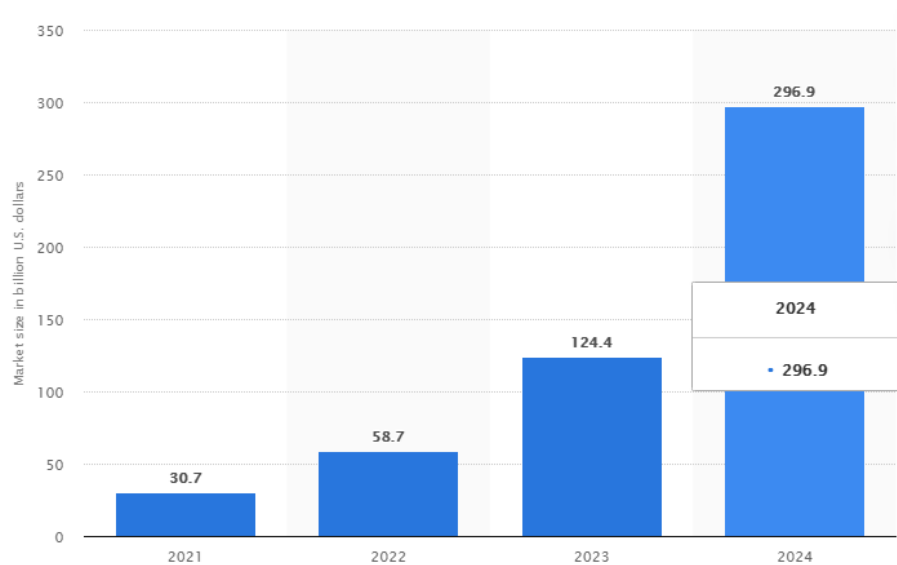
According to a report that was made by International Data Corporation, AR and VR made 12 billion dollars in revenue in 2020 and are predicted to reach 72.8 billion dollars in 2024. The market is being dominated by the gaming industry with 80 percent of the whole revenue being AR and VR generated. AR and VR have gone so far as to engage their gamers in an innovation that can incredibly offer a smooth experience with the right equipment. These technologies can redefine the gaming industry in further steps that will amaze the gamers, and anyone included in this industry (*Framingham, 2020*).<sup>47</sup>

First of all, the revival of the 3D concept where the effects are provided for the players in a 3D vision is creating a fascinating experience where games now are depending on these effects to gain their popularity and profit. As AR is known to bring the real and virtual world together, it created an imaginary path for the gamers by adding digital information and real-time together through the game manufacturers. This will help boost the creation of higher engaging levels from the gamer's perspective.

Virtual reality is impacting the gaming industry in different ways, it is offering an immersive experience, improved gameplay, expanded categories, and luring new players. This technology is taking the players into the game in real-time and provides them with appealing virtual objects and immensely enhances the player's engagement with an immersive experience. The market size of this technology is growing at a fast pace, which is a reason that virtual reality has become the secret weapon in revolutionizing the gaming industry.

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<sup>47</sup> <https://www.idc.com/getdoc.jsp?containerId=prUS47012020>



Source: Statista, April 2022

**Figure 21:** *The market size of augmented reality and virtual reality worldwide*

According to Statista, the global augmented reality and virtual reality market has reached 30.7 billion dollars in 2021 and is projected to keep rising to over 300 billion dollars in 2025 (Alsop, 2022).<sup>48</sup>

It is forecasted that the market in Europe is going to reach 20.9 billion US dollars in 2025 an increase from the 2.8 billion dollars the market was worth in 2021 (Alsop, 2021).<sup>49</sup>

The market of virtual reality gaming in Europe is going through a peek of innovation where many businesses opened to provide a new unique experience in gaming. One of these businesses is Zero Latency, this is a free room zone available in more than 26 countries and most are within Europe. It works by using the VR headsets, strap into a backpack, and pickup controller to transfer you into a virtual world of your choice. During this game, you are free to move and explore the world you are in without any wires or walls to get in the way of the virtual adventure you are experiencing. This technology is bringing an artificial digital environment that is very close to reality with many special effects that help stimulate the gamer's presence in the virtual world.<sup>50</sup>

There are many virtual games available nowadays, and most computer games can also be transformed into VR versions to provide a better engaging experience. These are some examples of the most popular and common virtual reality games that are leading the market; First-Person

<sup>48</sup> [https://www.statista.com/statistics/591181/global-augmented-virtual-reality-market-size/#:~:text=The%20global%20augmented%20reality%20\(AR,billion%20U.S.%20dollars%20by%202028.](https://www.statista.com/statistics/591181/global-augmented-virtual-reality-market-size/#:~:text=The%20global%20augmented%20reality%20(AR,billion%20U.S.%20dollars%20by%202028.)

<sup>49</sup> <https://www.statista.com/statistics/1121370/european-augmented-virtual-reality-market-size/>

<sup>50</sup> <https://zerolatencyvr.com/locations/>

VR Shooter Games where players experience themselves on a battlefield, VR Racing games where it includes advanced graphics, and Horror gamers: they have a very realistic graphics with the use of VR headsets, VR Casinos: it provides social interaction with different players in virtual reality casinos, and last, City Building games which are strategy games where players can build their empires and manage resources in a specific environment.

A number of big tech companies are considered to be major players in the VR/AR experience, those players, to name a few, are Facebook Technologies LLC, Google, Nintendo Co, Electronic Arts Inc, etc.<sup>51</sup>

Twenty years ago, virtual reality was only a myth and looked far from reality and the future of technology, but today it proved that anything within the technological advances is possible, it impacted the whole world and especially the gaming sector. It is still in the beta phase, and we can expect a lot more innovation and future advancements globally. This technology has provided players around the world a new chance to experience immersive gameplay feel that the screens we used before couldn't offer. It is becoming more human-like to control the characters and the game environment.

### ***The Impact of 5G on the Gaming Industry***

The gaming industry is always having some issues when it comes to mobile games, and that's because the networks have always had a disastrous effect on the players. Latency, network capacity, stutters, and bandwidth coverage are the main obstacles that gamers across platforms are facing daily. That's why 5G is considered to be the big step in strengthening the gaming industry. It will remove all of these issues by creating a better connection with clarity during the communication in the games. This is going to be very helpful for gamers where they will rely no more on 4G connectivity and have a better gaming experience. Although 5G is an evolution of the 4G technology that we have now, the advancement in latency is a transformation that could see the gaming industry create advancements across sectors.

The 5G technology works by using high-frequency signals to provide faster access to the internet and connectivity. It can support around 20 gigabits per second of data speed, which is 60 times more than the 4G connection available now.

There is a significant relationship between 5G and augmented and virtual reality where it is forecasted to account for around 50 percent of the traffic in 5G, and this is with the elimination of the streaming of video games. It can assist the innovative mobile gaming products with real-

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<sup>51</sup> <https://www.thebusinessresearchcompany.com/report/virtual-reality-in-gaming-global-market-report>

time online resources that will transform the gaming experience when combined with AR and VR (*Bicheno, 2019*).<sup>52</sup>

Other than that, 5 G's impact will not be limited to the solutions that it will provide for the latency and the help for the virtual reality technologies. It will be able to make cloud gaming grow higher. The revenues that the gaming industry generates are mostly from developing multiplayer games and in-game purchases, the presence of 5G will help big game developer companies such as Microsoft and Google to develop new cloud services that might be the future for the gaming world. It can also be a benefit for improving the dynamic of in-game advertising, where it will allow the brands to create dynamic in-game events easily and enhance the brand experience.

As E-sports is one of the fastest-growing industries, 5G can facilitate the processes with the user by reducing the network bad connectivity, latency, and lag, and thus give the teams an advantage of an easier playing experience and take the gaming to a new level of advancement and reality. The launch of 5G can be a game-changer in this industry, it will open new opportunities for success for both developers, gamers, and even advertisers. It is playing a huge role in enhancing mobile gaming for now with higher quality and better gaming experience.

## **2. The transformation of blockchain and cryptocurrencies in the gaming industry**

As we discovered the new technologies and innovations that are transforming the world and the gaming industry, this point will dive into virtual currency, how it works, how it is used, and how the gaming industry is benefiting from it. Blockchain technology and cryptocurrency are redefining the system and promoting digital content and use. This old technology, which had the reputation of being used by criminals on the dark web solely, has seen immense success and growth in our everyday market. Today, nations and countries are adopting cryptocurrency as a second accepted the money.

Using blockchain in the gaming world<sup>54</sup>, is considered disruptive as it allows stakeholders to engage in multiple new ways. They will have a huge impact on the whole ecosystem of the industry. The virtual currency models were available in gaming for a long time, which allowed gamers to be among the first adopters of cryptocurrencies and to be able to understand the benefits of this technology within the world of gaming. For instance, in 1996 e-gold was introduced to the gaming world as the first internet money, and it grew to million users until the US government decided to shut it down in 2008 (*Rudd, 2019*).<sup>53</sup> Cryptocurrencies and blockchain gaming are perhaps the fastest growing and most exciting trends in both gaming and blockchain industries.

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<sup>52</sup> <https://telecoms.com/496906/cloud-gaming-could-account-for-half-of-5g-traffic/>

<sup>53</sup> <https://www.nbccomedyplayground.com/why-was-e-gold-shut-down/>

## ***Definition of Blockchain Gaming***

Blockchain can be defined by being an online, digital ledger, that is made up of multiple party-to-party transactions, which does not need the involvement of a third party like banks. It helps facilitate the process of tracking assets in the business network and decentralizing currency.

A cryptocurrency is a new form of money that was recently established. In 2009 Bitcoin was presented as the first digital currency in the world and many other digital coins started to follow the lead. The value of the cryptocurrencies such as Bitcoin is determined by the supply and demand in the market. All of these new currencies use blockchain technology to create a safe means of transactions.

The blockchain is a technology used in gaming when the user is buying digital assets by utilizing true item ownership, this is called blockchain gaming. The system in the blockchain is decentralized, meaning that all of the digital assets are controlled and owned by the players only, and they can trade or transfer them to other players and even bet them on trading platforms. Those trading platforms present different services, they can either trade with the user directly, exchanging their asset for FIAT money or another more valuable virtual asset. The concept has found new success with 'NFTs'-non fungible tokens.

The players can often earn a lot of money from these blockchain games which are also known as play-to-earn-games, they present the players with a platform that rewards gamers by just playing on them, the payment is made with any in-game digital asset which can be then transformed into a real-world valuable resource (*Tack, 2021*).<sup>54</sup>

Blockchain games were available since 2017, but it only came to the attention of the gaming industry in late 2020 when publishers started expressing interest in exploring this technology more deeply. There are many projects in the gaming sector, which are built on the blockchain concept. However, most of the popular games are built on widespread blockchains like Ethereum, Binance Smart Chain, Polygon, and WAX.

In the gaming world, fraud was always a major concern for players, that's why blockchain projects such as Enjin and Wax Coin tried to come up with new ways to solve these issues. For instance, there are companies that are working on creating a virtual space that is secure for all who wish to trade on their platforms. It was one of the most popular projects in the market of the gaming industry. Another project was made by a famous crypto currency coin, which allowed the players to trade, update, and manage their items/assets through a blockchain. This platform has

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<sup>54</sup> <https://www.gameinformer.com/opinion/2021/03/17/what-are-nfts-and-what-is-their-impact-on-the-gaming-industry>



A Statista report shows that part of the growth revenue of the gaming industry will be dependent on the success of new technologies like blockchain. A survey was done in May 2019 to gaming executives to ask them about the effect of blockchain on the gaming world, 23 percent have responded that blockchain is making the games more secure, and 19 percent stated that the technology recognized customer trust (*Clement, 2021*).<sup>57</sup>

According to data from DappRadar, NFTs in gaming was able to generate around 4.8 billion dollars in revenue during 2021, which is 20 percent of the whole NFT sale throughout the year. Another interesting technology created by Dapper Labs in 2017 was Cryptokitties, which is a collectible virtual pet platform that was considered one of the first successful examples in blockchain gaming.

This NFT game allows players to own a cat, where each one has a value depending on how the person breeds it to make it special or rare. These pets are decentralized to secure the owners from having them stolen or deleted. It can be traded off with other NFTs or to cryptocurrencies. There are hundreds of new NFT games gaining a huge number of users in the last few months, like Splinter lands, Crypto Mines, and Alien Worlds. Each month 70 new blockchain games are being added, to have a total of 1000 at the moment.<sup>58</sup>

This technology can control not only currencies but also the entire economic ecosystem. Using smart contracts and smart assets can create a huge impact on the economy. For instance, smart assets in a game can be automatically done by awarding the player with certain rewards after completing a quest. A smart asset is a kind of currency that is deployed to the network and run as programmed without the user controlling it. It is associated with piece of the cake. So, through the blockchain ledger, it might have several assets that can be described as raw materials in real-world life, and these assets are part of the blockchain. This means that the virtual economy could undergo the same restrictions as that of a real economy.

In Figure 23 a survey was done to ask people how this industry benefits from blockchain within it. It was done by Sebastien Borget, president of the BGA in 2021. The survey shows that 86 percent of the respondents assume that the asset ownership for players is the most beneficial part of this technology, 74 percent answered that it is a new revenue model for the industry, while 71 percent of the respondents said that it's for the player reward models. It is clear, after seeing the numbers, that blockchain technology has indeed an obvious impact on the gaming industry.<sup>59</sup>

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<sup>57</sup> <https://www.statista.com/statistics/1133323/blockchain-video-game-industry-impact/>

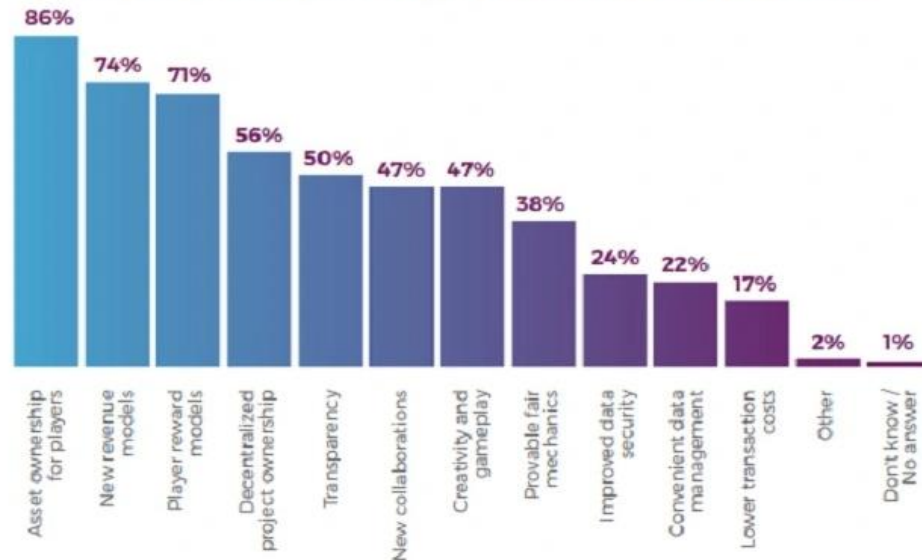
<sup>58</sup> <https://dappradar.com/nft>

<sup>59</sup> <https://macprotricks.com/blockchain-game-alliance-nft-games-generated-2-32b-in-q3/>



## HOW DOES THE GAMING INDUSTRY BENEFIT FROM BLOCKCHAIN TECHNOLOGY?

Respondents were given the option to select more than one answer.



Source: blockchain game alliance, 2021

**Figure 23:** The distribution of the benefits of Blockchain technology in gaming

According to a research paper on “research gate” published by Mohsen Attaran in September 2021, there are many ways in which blockchain technology can transform the gaming industry, first, it allows the full control of virtual assets by the gamers where they didn’t have the opportunity to buy, sell, or trade outside the game, the blockchain technology is allowing the full transparency and ownership over the assets in the game to give the gamers the flexibility of using them. It also improved security and decreased the fraud rates where the expensive games were usually copied, but with blockchain in gaming, it became very hard to hack or steal where it created immutable and encrypted assets for the players (Attaran, Gunasekaran, 2019).<sup>60</sup>

An added benefit is a very safe place for gamers to make their purchases using Nano payments, which do not need credit or debit cards to make any kind of transaction. Blockchain gaming was also able to provide the players with rewards interaction; gamers can earn tokens through playing or sharing games, which created a new way to receive feedback and thus lead to the improvement of video games.

The use of NFTs in the gaming world has shaped a new digital economy that benefits the users, and this is widely available within the online multiplayer games like World of Warcraft where players spend a lot of real money to buy virtual items for the games and game accounts from the third party like eBay. Another example is the game known as Second Life, which is a predecessor of the metaverse world we have today. It popularized the use of digital currency that

<sup>60</sup> [https://www.researchgate.net/publication/336050383\\_Blockchain\\_for\\_Gaming](https://www.researchgate.net/publication/336050383_Blockchain_for_Gaming)

became over the past ten years real-world assets. Nowadays, people can make money by just playing and trading NFTs within the game. It became a similar situation to real life where players rent and trade assets in the game to complete a quest, the renter can split the profits they make with the owner or pay an agreed fee for using their items. Professional gamers can even charge for consultation or assistance to help others complete their tasks and charge them for the time they spent helping them.

A recent report by DappRadar and BGA games shows that blockchain gaming has increased by 2,000 percent since the first quarter of 2021. The NFT games highly contributed to the growth of Polygon's gaming through the different platforms such as Crazy defense heroes, Arc8, and Legacy, with an increase that reached 219 percent since the start of 2022 (*Knight, 2022*).<sup>61</sup>

### ***The Challenges Facing Blockchain Gaming***

Many large companies such as EA Sports, Zynga, and Ubisoft are looking into stepping into the world of NFT after seeing the potential growth and revenue that the industry is facing with the interference of this technology. Although, despite the new opportunities that the technology is providing for the gaming industry, some issues need to be worked on. Some potential setbacks may affect this technology, and thus the industry must look into it and choose the right blockchain to build and use to overcome these challenges (*Brown, 2021*).

To start, one of the obstacles worth talking about is “*slow transactions*”. The blockchain is currently not ready for the growth it is undergoing. The increasing number of transactions that the new gaming economies will create will generate a problem with the existing blockchain since they are not prepared for such volume. This means that the transfers will take a longer time to be done and will be a waste of time for gamers to wait to be able to continue playing and trading. They need a consistent and smooth to simplify the process for the gamers. To face this issue, a blockchain with infrastructure to deal with large transactions should be implemented by providing a high performance for all games and applications.

Another setback is the *environmental impact and the high gas fees* that NFTs are releasing with every transaction. Some blockchains require an extensive amount of electricity to run. Their data-intensive mining protocols are leading to significant premiums in the form of gas fees. The process of transactions where people own digital assets and sell them within the crypto world entails a numerous computing power leading to greenhouse gas emissions in return.

Ethereum, as discussed before, is one of the most popular blockchains in gaming where they were built through a system known as “proof of work”, it works as a security system for cryptocurrencies since there is no third party to supervise the transactions. To keep the

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<sup>61</sup> <https://www.coindesk.com/tech/2022/04/20/blockchain-gaming-usage-explodes-2000-in-a-year-dappradar/>

transactions secure, this system works on extremely difficult math algorithms to be solved by powerful, energy spending mega computers. Every time there is a transactions, a new “block” is added to the “chain”. This whole process is considered to be energy inefficient. Using excessive amounts of electricity and paying a large amount of money makes it less profitable for someone to run the ledger.

## **The Integration of E-sports in the Olympic Virtual Series**

As E-sports is gaining massive success, gaining thousands of viewers every day, a lot of attention is glowing on this field filling industry. This visibility creates a promising future to join the federation and be sponsored by mainstream companies. The players are putting huge efforts to train mentally and physically to perform a high level of playing which is a reason why it became recognized as a sport.

In 2021, a never seen before decision has been laid in the international Olympic committee, when they surprisingly open the gates to virtual sports for their summer program. The Fédération Internationale de l'Automobile (FIA) is going to cooperate with the International Olympic Committee (IOC) by joining the Olympic Virtual Series (OVS), which is the first virtual licensed event for both physical and non-physical virtual sports. The committee's goal is to build a better world through all kinds of sports.

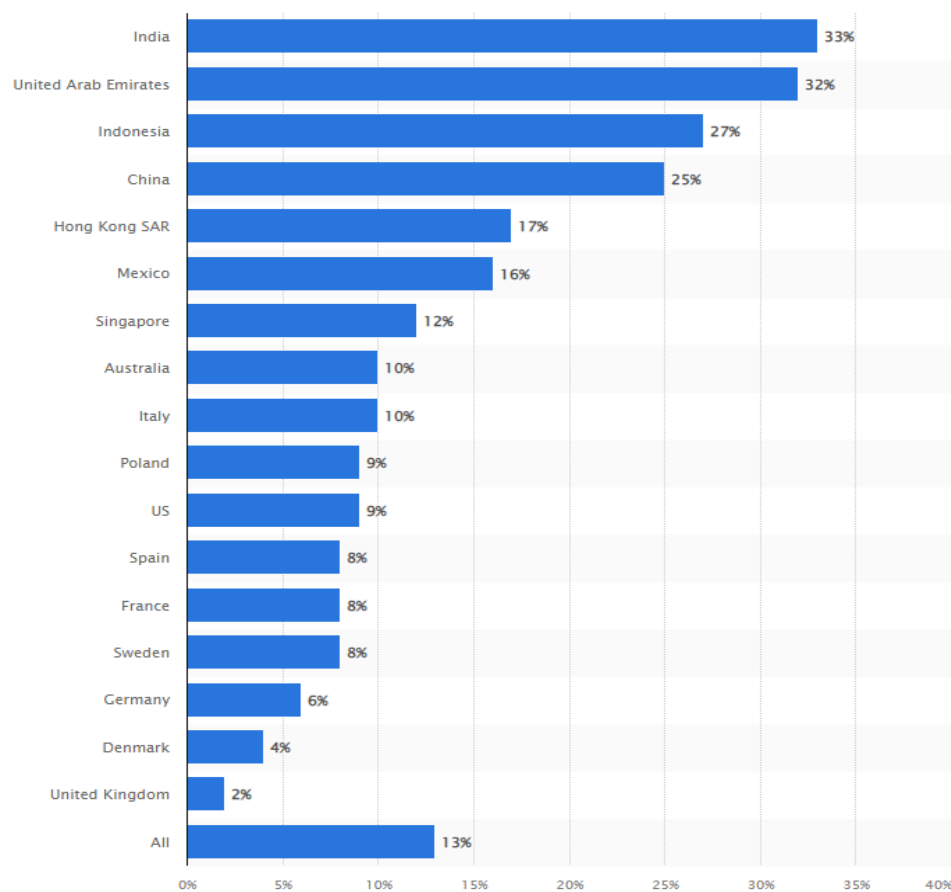
This new series of virtual Olympics will be able to connect the virtual gaming audience with the physical sporting world by engaging them with the Olympics through different competitive games and shed light on the importance of the virtual games as well within the international Olympics (*Palar, 2021*).<sup>62</sup>

The Olympic Virtual series took place from May 13<sup>th</sup> to June 23<sup>rd</sup>, 2021, where it created a stage to connect and provide new opportunities between the physical and virtual communities in engaging with the Olympic movement. These events are intended to increase online participation and give a priority to mobilizing gamers, virtual sports, and E-sports all over the world.

The different Olympic Virtual Series events differ in their form and concept and are operated through the sport's publisher platform where anyone can follow the event on the Olympic channel and engage with them. The competitions were divided a starting five disciplines.

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<sup>62</sup> <https://olympics.com/en/featured-news/olympic-virtual-series-everything-you-need-to-know>



Source: Statista, 2021

**Figure 24:** Olympic Virtual Series viewership in selected countries worldwide in 2021

The figure above demonstrates how the decision by the Olympics federation directly got a response from numerous countries. The report shows a total global consumers who watched the event was around 13 percent. As is shown in figure 24, India had the largest sum the viewership with 33 percent (Gough, 2021).<sup>63</sup>

During the last event, there were around 250,000 participants with more than 2 million entries between them. And thus, the committee decided that the Olympic Virtual Series should continue on an annual basis as well (Iveson, 2022).

<sup>63</sup> <https://www.statista.com/statistics/1270668/olympic-virtual-series-viewership-selected-countries-worldwide/#:~:text=Olympic%20Virtual%20Series%20viewership%20in%20selected%20countries%20worldwide%202021&text=A%20July%202021%20report%20examined,game%2Dbased%20competitions%20in%202021.>



Source: PlayStation. Blog, May 2021

**Figure 25:** The Top 16 global online qualifications in OVS

Seven countries from EMEA: Europe, Middle East, and Africa regions were represented in the finals with the top four from Asia, Oceania, and America. The figure above shows the ranking of the players in the top 16 in the event during 2021 from the different regions.

Olympic E-sports spread among existing and new fans after the debut of this event, it then fashioned an additional market for views, all coming from those specific virtual games. The future of this event will be more exciting with time as there will be a high diversity variation of E-sports with the strategy and shooting games. A lot more prestigious titles will be added in the future as well as new technologies.

Another great initiative is happening at the Asian Games 2022 where the Olympic Council of Asia decided that E-sports will have its professional start by being awarded medals in eight games, those games vary from first person shooter games, traditional sports games, and strategic games. Each of these games will have 3 position; 1<sup>st</sup> place with a gold medal, 2<sup>nd</sup> place with a

silver medal, and third place with a bronze medal. This initiative will allow countries to bring back an additional 24 medals (Venkat, 2021).<sup>64</sup>

### 3. Analysis of the Macro Environmental Factors of the Gaming Industry

To have a more in-depth comprehension of the future of this industry, this point will lead with the PESTEL analysis as well as adding the key success factors, and the key challenges facing the industry.

#### ***PESTEL Analysis***

The PESTEL analysis is a very important framework that allows anyone to verify how different external factors can affect an industry. This analysis is based on political, economic, social, technological, legal, and environmental factors that influence the gaming sector to identify whether they have control over it, or whether new implications need to be understood.

<b>Political</b> <ul style="list-style-type: none"> <li>• Regulation in consumer protection service.</li> <li>• Pricing regulations.</li> <li>• Industrial laws in different countries.</li> <li>• Government regulations</li> </ul>	<b>Economic</b> <ul style="list-style-type: none"> <li>• Level of disposable income for gamers</li> <li>• Economic growth rate</li> <li>• Inflation rate</li> <li>• Stability of developed markets</li> </ul>
<b>Socio-cultural</b> <ul style="list-style-type: none"> <li>• Psychology and attitude of gamers</li> <li>• Demographics of video gamers</li> <li>• Leisure interest.</li> <li>• Increasing adoption of online gaming</li> </ul>	<b>Technological</b> <ul style="list-style-type: none"> <li>• Technological advancements in games</li> <li>• Impact of technology on the industry's products</li> <li>• High dependency on technology</li> </ul>
<b>Legal</b> <ul style="list-style-type: none"> <li>• Data protection and privacy of gamers.</li> <li>• Licensing, lawsuits, and software piracy</li> <li>• Legal environment and regulatory structure in different countries</li> </ul>	<b>Environmental</b> <ul style="list-style-type: none"> <li>• Sustainability of the industry</li> <li>• Environmental analysis</li> <li>• Energy-efficient products.</li> </ul>

Source: Authors' elaboration, 2022

**Figure 26:** *PESTEL analysis of the gaming industry*

<sup>64</sup> <https://olympics.com/en/news/fifa-pubg-dota-2-esports-medal-events-asian-games-2022>

Political – political factors play a very important role in the gaming industry which is influenced by the long-term profitability of the international markets. The industry is available all over the world, which means that they need to maintain their consumer protection and pricing regulations in a very organized with stable strategy. As the political stability of the industry is very important, the stakeholder's trust is based on how they can perform on this factor, to assess whether or not they can invest in their markets. The industry has different laws and government regulations around the world which is related to each country's different laws as there are different industrial laws for each country to respect and follow.

Economic – for the gaming industry to keep its growth rate economically high, the industry must keep an eye on the level of disposable income for gamers, the unemployment rate, and the inflation rate. As discussed before, the industry was able to hire and open hundreds of new career opportunities for people all around the world helping both the economic growth rate and the unemployment rate to be more sustainable. The economic growth rate was in rapid growth, regardless of the pandemic that affect the whole world, the industry was able to take advantage of COVID-19 and bring a new level of interest to people while they are at home, which allowed their growth rates to get higher with the popularity they were able to achieve.

Socio-cultural- As the industry is growing, we see more consideration and understanding for the demographics and the skills of the people involved in the industry. For example, it's no more than gaming is only applied to men or boys, the rates of females joining the industry and playing games are getting higher with time creating a good diversity between the two genders. A report on Statista showed that in 2021, the video gamers aged between 21 and 35 were distributed as 20 percent males and 13 percent females (*Clement, 2021*).<sup>65</sup>

The trends of society are affecting the industry. There is an increased number of adoption for online gaming that is crushing the numbers in different regions and allowing the gaming to become part of the culture of people as was discussed in Chapter 1, the economical overview in Europe.

Technological - the technology in the gaming industry is a priority for stakeholders. There are continuous developments, updates, software, and servers being added, to further popularize the industry. There is also a high dependency and demand for products that embrace technological changes within this industry. Thus, for the technological factor, the industry is under huge pressure to be able to keep up with all the changes and the advances. For example, the integration of blockchain in gaming, the virtual reality and augmented reality appearance in the industry, and how they are maintaining every new tech product in the market to their side.

Legal - Legislation and regulations help determine the framework that the company in this industry operates. Data privacy and protection for gamers is one of the main concerns of the

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<sup>65</sup> <https://www.statista.com/statistics/722259/world-gamers-by-age-and-gender/>

players, when companies provide this type of protection, it increases the demand for their products. On the other hand, when companies sue each other, it will involve a lot of money and thus reduce the demand and profitability of the sued companies.

Environmental – as consumers are becoming more environmentally conscious, the industry needs to take into consideration new ways of being more environmentally friendly, and this can simply start with the process of reducing the pollution from the blockchain gaming that is already under study. Environmental analysis should be done on behalf of all the companies that produce or develop games.

As a conclusion, the gaming industry just like any other industries has many factors that might be of a negative effect on it. However, this Pestel analysis showed that the industry is still doing well regardless of any external factors that can affect it. The only thing that should be taken into account is to focus on the different trends and regulations that are constantly changing, like the environmental and legal factors in order to be able to overcome any challenges. The gaming industry is indeed very adaptive and made a success through the years with the ability to adjust with all of the new technological advances, and the whole changes in the last era.

The gaming industry is a huge one that has an impact on the whole economy of the world, thus, understanding the needs and desires of their customers, and both external and internal factors is a main aspect in the success of the industry.

### ***Key Success Factors of the Industry***

The key success factor is stating the elements that are considered to be very important and required for the industry to keep its competition in the market. Thus, it allows them to articulate what they have to do and achieve their goals. Within the gaming industry, two main factors play a major role in defining the success of the industry. The marketing strategies, and the implementation of technology on different levels.

The gaming industry had a great change during the past years in terms of marketing strategies. The marketing back then was all about the word of mouth, but with the technology and the new advancement that we have, the industry was able to obtain a key success factor which is the clear advertising that they apply in promoting new game releases on TV, YouTube, and other platforms, as well as direct mails that the new generation is all focused on. So, their marketing strategy was able to attract the audience they had in mind through clever and efficient advertising.

The technology itself is one of the main aspects that popularized and made the success of the industry. They were able to prove their ability in improving the production process, where new products, games, genres, titles, and game consoles are being created every week to provide even more competitive and successful products, making the industry famous with their good



relationship with technology. They can improve the production process for the needs and demands of the customer by producing what they ask for with updated features as well. Nonetheless, the presence of the internet is what made things even much easier. Sales, distribution, and production became higher and stronger by having direct sales resources and owned retail outlets.

### ***Key Challenges for the Growth of the Industry***

Although the industry is facing great growth and success worldwide, some challenges stand in the way and require some attention from every stakeholder to avoid having any conflicts.

As the number of gamers is increasing with each passing day, their expectations are getting higher as well. They are seeking constant new challenges and exciting experiences which put some pressure on the industry itself to provide what gamers need. And with this kind of responsibility comes many challenges such as the ability to keep up with legal regulations and compliance, underage gambling, fraud, and cybercriminal activities (*Clement, 2021*).<sup>66</sup>

As the growth keeps shifting and expanding, the regulations in the gaming industry do as well. *Regulations and compliance* differ in every country across the world which makes things more complicated. With so many types of games available nowadays, it is considered to be a big challenge to be able to keep up with all the different rules and regulations for each type. To be able to understand this challenge, it is essential to differentiate first between gambling and gaming. Each of these terms has its explanations, and most often they get mixed up which allows dishonest people to play around with the terms to avoid any connected law. The regulations are also confronting with E-sports market. Any company involved in E-sports should be able to identify and understand any laws involved within the sector such as gambling laws, sponsorship laws on promotions, and sports laws.

Age regulations in gambling are becoming a huge challenge that is facing the gaming industry. Underage kids have been increasingly using their parents' cards for online purchases, online trades, illegal online betting, and online assets. Wagering platforms are where gamers compete and challenge each other to win a prize that was preset by both parties. In recent years, it has been witnessing a huge fan base for gambling including underage kids. This is creating a big issue and responsibility in the gaming industry since it is creating a new habit of gambling for pre-teens and teenagers. There is a lot of fraud that happens on these platforms, where even if kids go try to trade their assets, they will get nothing in return, and thus just create a conflict on the platforms between people trying to gamble and steal kids' assets.

Another main challenge is the fraud and cybercriminal activities within the industry. These activities have different forms, there are numerous ways in which fraud happens in the

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<sup>66</sup> <https://www.alternativepayments.com/blog/alternative-payments-gaming-1/>

gaming world. Hacking into gamer accounts is one of the most common issues lately, it happens in different ways, some of them common to corporate jobs, alike phishing scams. As more gamers enter the industry and played video games during the lockdown, the number of attempts to direct users to malicious websites saw a 54% increase in April 2020 as a report from Gaming and Gambling Cybercrime said (Elia, 2021).<sup>67</sup>

As the data online is getting much higher, fraud is becoming more attractive to fraudsters and technology is helping them become more creative in their attacks, and thus this is an issue that needs a lot of attention in order not to cost the industry a lot later.

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<sup>67</sup> [https://www.linkedin.com/pulse/challenges-facing-gaming-industry-eliapayments/?trk=organization-update-content\\_share-article](https://www.linkedin.com/pulse/challenges-facing-gaming-industry-eliapayments/?trk=organization-update-content_share-article)

## **Research Conclusion and Recommendations**

### **Conclusion**

In conclusion, the virtual gaming world, is it a new era in the world's economy. Or just a generation trend? After debating these points above in this thesis, and going over the blooming of the virtual world, its future, and its ecosystem, how they all work together to bring this industry to its full potential; we can safely say that it is just the beginning for E-sports and online gaming.

As discussed in the paper, the visibility of the industry in mainstream platforms and media and gone through its rapid growth during the past years. Indeed, it has not yet reached its full potential and is still not comparable to traditional sports popularity, however we are witnessing a constant growth in viewers and awareness over the last decade. Certainly, the past two years of in-pandemic lives have strongly affected the virtual gaming world. Showcasing a record number of players and viewers, with new businesses, platforms, professions, and innovations being made. The sanitary crisis facilitated the introduction and approval of new technological advancements. Virtual gaming became viral, and in one point was considered to be the future of socializing.

The impact of the industry did not just influence the social spectrum, it has correspondingly shaped a whole new economic giant. As previously seen, the gaming market is foreseen to reach a whopping \$300 billion by the end of 2022 with an additional \$181 billion in the global game market alone. This has been possible thanks to the development of new streaming services, a stronger global visibility, monthly E-sports events, and the birth of new careers and professions. An industry is defined by its ability to create jobs, and it sure has delivered. The gaming industry had an important effect on the recruitment industry, by creating new jobs, and demands in a period where employment was scarce.

With a record-breaking watch time during the pandemic, all stakeholders realized the true potential of online gaming and E-sports. Undeniably, while a lot of events were canceled or not allowed for the public to watch, a great number of people turned to virtual gaming entertainment. Whether it is playing themselves or viewing online, the world witnessed an average of 5 extra hours per day being devoted on watching live video games and professional live gaming sessions.

The industry added an unforeseen leisure activity to the new generations, while everything is digitalized, the world of tomorrow seems bright for any stakeholder related to this business. The popularity of video games is inspiring young adults to pursue a career as professional E-sports athletes, or online video games entertainers, or to have any other profession related to their passion, very similar to how other teenagers pursue a sports career similar to footballer, boxer, etc.

To move forward and complete the circle, digital currencies are also starting to gain global support, as far as being an accepted currency for a number of companies and a few countries. Blockchain and cryptocurrency have indeed existed for a while, nevertheless, after finishing this research paper, they seem strongly compatible with the gaming industry. Blockchain has been an essential tool in the trade and payments for online games, the use of this technology assisted in recording the value of economic transactions. Digital assets have never been more valuable than nowadays, during the past decade, our world has seen an increase new cryptocurrencies by fifteen thousand and seven hundred and fifty three percent (15,753%), with the most current and popular one being NFTs, where players spend a lot of FIAT money to buy virtual items and assets. (Debest, 2022).

A perfect world does not exist; hence a perfect industry cannot be either. While the obstacles are small compared to the scale of E-sports and online gaming, they still do exist and cause problematics. Recurrent problems involving underage gambling, online identity risks, and major fraud cases, are taken seriously by all stakeholders involved. That is why the industry took on those problems head on, by improving security and tightening their compliance regulations. Another unfortunate obstacle, is the lack of outside investments, meaning companies not directly involved with the ecosystem and environment of the gaming industry. Nonetheless, the E-sports and online gaming narrative has given a lot of arguments for companies to spend a little more on them; the industry is on a high level of growth with no signs of slowing down in the upcoming years. During this thesis and after all the business models, PESTEL analysis, and PORTERS 5 forces analysis, it has been established that the market is big, and can handle significantly more stakeholders.

To end, the journey of E-sports and online gaming has just begun, it is a promising adventure for everyone involved. To answer the question of: “E-sports and online gaming, a new era in the world’s economy. Or just a generation trend?” it can be safely said that it is indeed a new era in the world’s economy, that uses every generational trend to enforce and promote it.

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