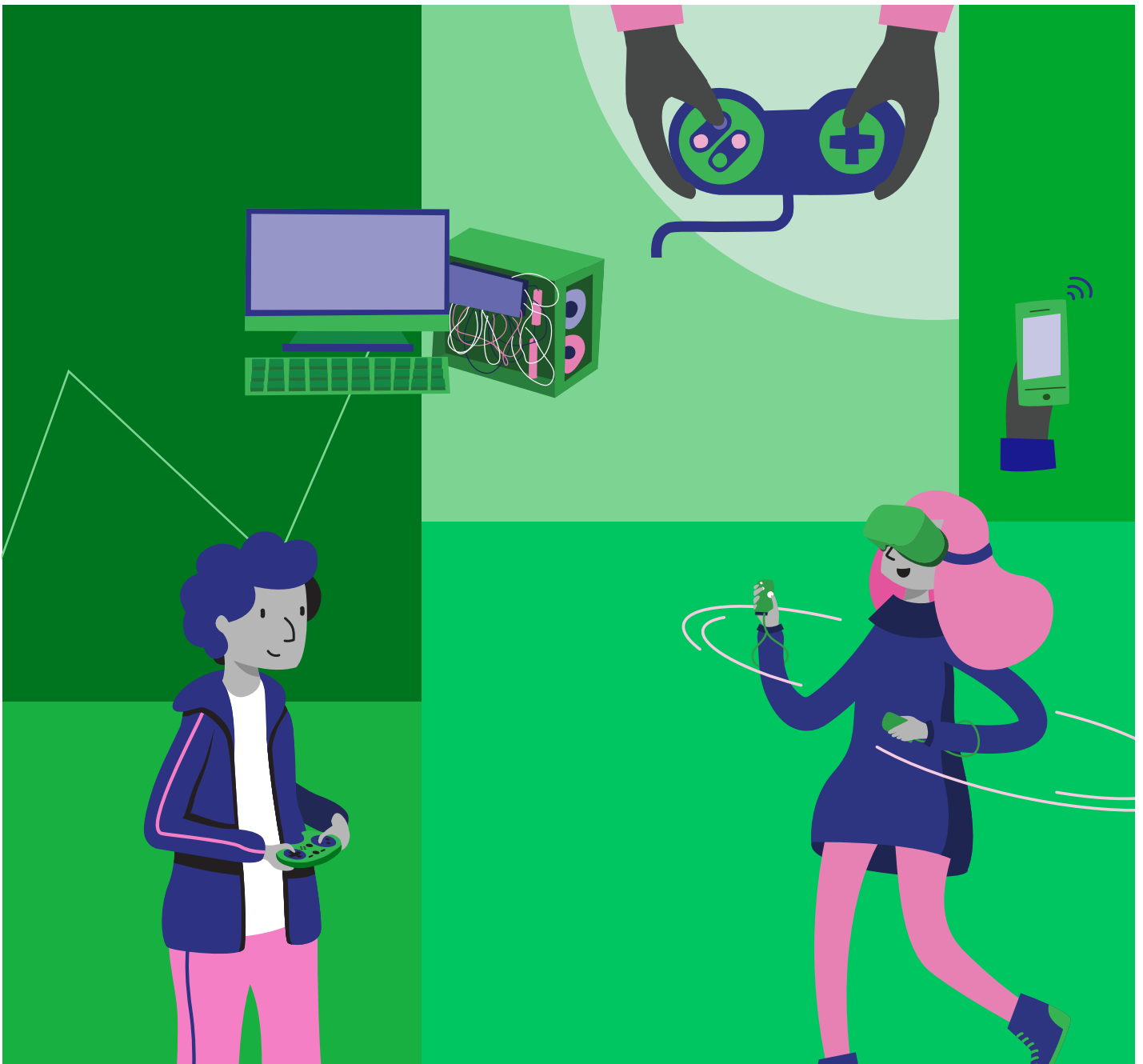


Global Games Market Report

The VR & Metaverse Edition

Key Trends | Market Sizing & Forecasts
Special Focus: VR & the Metaverse | Rankings



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Table of Contents

	Foreword	04
01.	Methodology & Terminology	06
02.	The Global Games Market	15
03.	Key Global Trends	24
04.	Rankings	29
05.	Special Focus Topics	31
06.	About Newzoo	37

Foreword

Newzoo's 2021 Global Games Market Report

It is with great pride that we present you the 2021 Global Games Market Report. The COVID-19 pandemic is not over yet, and although lockdowns and restrictions are beginning to ease up in some countries, life is far from a return to normality. The year 2020 was an unprecedented time for the games market, shattering revenues, user, and growth records. Every quarter in 2020 broke its respective revenue record (based on game revenues generated by publicly listed companies), bucking the typical trend of slow second and third quarters.

While gaming's long-term trajectory remains overwhelmingly positive, 2020's impressive growth rates simply cannot be sustained for another year. The lockdowns in the first half of 2020 impacted almost everyone's way of living and working, and gaming studios were no exception, leading to several high-profile delays. Furthermore, global supply chains continue to be disrupted by the pandemic and chip shortages. And as other social activities return to everyday life, gaming's hold on people's attention and leisure time will begin to loosen. We also expect the disruptions in global digital advertising market, catalyzed by Apple's removal of IDFA, to negatively impact some stakeholders within the mobile games market, though not enough to stop consumers' strong mobile spending. Many mobile game companies are eyeing new markets, monetization strategies, genres, and even platforms to offset these challenges. At the same time, console- and PC-first publishers are continuing to bring their IP to mobile in hopes of increasing their reach and total addressable markets to maintain strong growth.

Together, the abovementioned market influences mean 2021's games market will likely exhibit a slight slowdown, but only because the previous year was unprecedentedly strong. Now, as we slowly recover from the global pandemic, we are beginning to truly understand the extent to which our world, and the role of gaming within it, has been irreversibly changed. While everyone was confined indoors, the role of games rapidly became much more meaningful than just another form of entertainment. The outdated stigma around playing games was already dissolving, and the pandemic has accelerated the end of that process.

Instead, games became an extension of our world: a key destination for social gatherings and a means to celebrate life events. Boasting digital avatars to represent us, game worlds empower communities to host a wealth of social, human experiences that are unattainable via other media. This growth of online virtual worlds—and the activities that take place in them—have led to a flurry of attention and activity around what is commonly referred to as the metaverse. The metaverse movement, rapidly accelerated by COVID-19,

is powerful enough to persist beyond the pandemic's end. We believe the trend has a vital part to play in gaming's future, so we included a complementary companion trend report on the exciting topic.

The desire for simulation also gave virtual reality a long-awaited boost, with headsets selling faster than ever before. In recognition of this growth, we are proud to launch our estimates for VR hardware install base and VR game software revenues, which we have also included as a complementary add-on. The future is bright for the games market, and we're ecstatic to be a part of it all.

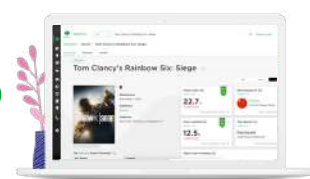


Tom Wijman
Market Lead - Games



Free 38-page
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01. Methodology & Terminology



Methodology

Sizing the Market With a Variety of Data

Newzoo aims to provide its community with the best possible assessment of the size of the overall games market, broken down into segments and regions. By developing many data points, we ensure that our numbers make sense on a segment, regional, and individual country/market level. Below, we describe our approach in more detail to help you understand what underpins our forecasts, facilitating comparisons with other data sources.

At the highest level, Newzoo focuses on three key metrics for every market: players, payers, and revenues. We define a market as a country or geographic region in combination with one or more game segment(s).

The data on players and payers is mainly based on our own primary consumer research, Consumer Insights – Games & Esports, which continues to form the basis of our detailed understanding of consumers and games. In this research, conducted from late January to early April 2021, more than 72,000 invite-only respondents across 33 key countries/markets were interviewed. The respondents are between the ages of 10 and 65 for all markets except for Turkey, South Africa, the United Arab Emirates, Saudi Arabia, Indonesia, India, Thailand, Singapore, Vietnam, Philippines, Malaysia, Taiwan, and China, for which the focus is 10 to 50. Together, these 33 countries/markets represent more than 90% of global game revenues. Results are nationally representative of the online population aged 10-65 (or 10-50 for Taiwan and Singapore) for developed countries with a high internet penetration. Meanwhile, in LATAM (Brazil, Mexico, Argentina), the results are representative of active internet users aged 10-65 living in residential developed areas, and in the Middle Eastern markets (UAE, Saudi Arabia, and Turkey), the results are representative of active internet users aged 10-50 living in residential developed areas. Furthermore, in China, the data is representative of active internet users aged 10-50 living in developed residential areas of cities defined as Tiers 1-4. In India, South Africa, and emerging SEA markets (Indonesia, Malaysia, Philippines, Thailand, Vietnam), the results are representative of active internet users aged 10-50 in selected major cities.

The player and payer ratios from Consumer Insights – Games & Esports are projected against the online population, using UN population and ITU internet penetration metrics. The logic behind the model is that the online population is an important driver of the number of potential gamers and an indicator of how much more structural growth a country/market can expect in its potential gamer population.

The differences between the player and payer numbers in the Global Games Market Report and Consumer Insights – Games & Esports stem from the use of age boundaries and the use of the Major City (i.e., focusing on selected major cities) and Residential Developed (i.e., focusing on the residential developed areas) approaches for certain markets. In the Global Games Market Report, the total population is considered, while in Consumer Insights – Games & Esports, we focus on those between the ages of 10 and 50 or 65, depending on the market.

The revenue data comes from our predictive games market model, which uses a top-down approach to market sizing. We incorporate macroeconomic and census data from the IMF and UN, such as household income and GDP per capita, transactional and app store revenue data from our data partners Airnow Data and Apptopia, our primary consumer research, partner data, detailed financial information reported by more than 100 public companies, and third-party research. We also receive valuable input from clients, often leading international game companies.

Market size estimates and growth forecasts for individual segments, countries, and in aggregate for the total industry are validated against our analysis of various contextual metrics. For instance, our market model calculates the average annual spend per paying gamer, which is then compared with historic numbers, other regions, household income, and GDP per capita.

Our historical revenues and growth rates reflect the year-end US dollar exchange rate. Our projected growth rates assume steady exchange rates going forward, but we take into consideration historical growth rates in the local currency rather than US dollar, as this gives a better picture of underlying growth.

We define revenues as the amount the industry generates in consumer spending on games: physical and digital full-game copies, in-game spending, and subscription services like PlayStation Plus and Xbox Game Pass. Mobile revenues include paid downloads and in-game spending on all stores, including third-party stores, and from direct downloads.

Our revenue numbers exclude taxes, consumer-to-consumer second-hand trade, advertising revenues earned in and around games, (peripheral) hardware, business-to-business services, and the traditionally regulated online gambling and betting industry (e.g., BWIN and William Hill).

In terms of countries and regions, we define the market size as the amount companies generate from consumers in that specific territory, as opposed to the amount companies based in a particular territory generate worldwide.

The broader conceptual framework supporting our forecasts consists of the expected growth of the online population plus the expected development of the Key Market

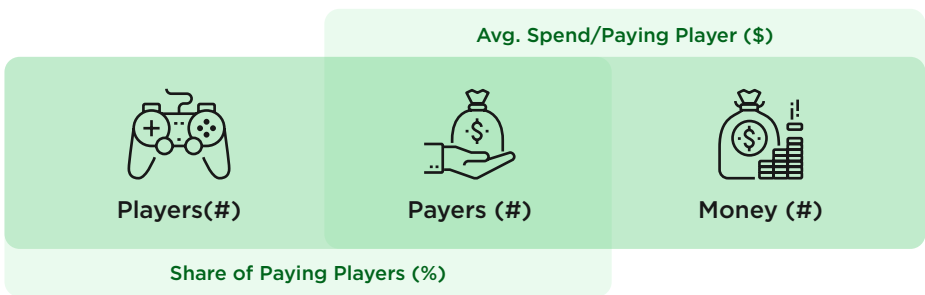
Indicators per region, as illustrated below.

Overall, our forecasts are always the outcome of an iterative process, reviewing the implications of our assumptions on a very granular level. During this process, we rely on quantifiable metrics, such as historical growth rates, and include hard-to-quantify metrics, such as (gaming) culture, spending behavior, and other societal factors.

Global Games Market Report Methodology



Global Games Market Model



Terminology

Definition of Main Terms

Active VR hardware install base. Consumer VR headsets capable of 6DoF positional tracking and being used at least once in the past 12 months. We exclude enterprise headsets that can also be used to play VR games and headsets that use only 3DoF tracking; for example, all smartphone-based VR headsets such as Samsung Gear VR and entry-level standalone headsets such as Oculus Go.

Augmented reality (AR). A technology that supplements real-life views of users with computer-generated sensory input as images or sounds.

Big spenders. Payers that spend an average of \$25 per month on gaming content per platform on PC, mobile, or console.

Boxed full-game revenues. Revenues generated by the sales of games or game-related content delivered on physical storage media (i.e., discs or cartridges). Also includes physical copies ordered in online stores.

Browser PC games. Games played on casual game websites or social networks.

Cloud gaming. Also referred to as gaming on demand, cloud gaming is the ability to play a game on any device without owning the physical hardware required to process it or needing a local copy of the game itself.

Compound annual growth rate (CAGR). The constant growth rate over a period of years. In this report, all CAGRs are based on the years 2019-2024.

Console games. Games played on a TV screen directly or through a console, such as Xbox, PlayStation, and Nintendo, or on handheld devices, such as a Nintendo DS or PS Vita.

Degrees of freedom (DoF). The number of directions of users' positional tracking in VR, which relies on built-in or external sensors to capture movement. While 3DoF tracking only measures three types of directional rotation (rolling, pitching, and yawing), 6DoF adds three further directional movements (elevating, strafing, and surging).

Digital full-game revenues. Revenues generated by the sales of games or game-related content purchased directly from an online store and delivered through a digital download, e.g., the PlayStation Store, Microsoft Store, Nintendo eShop, Steam, and Tencent WeGame.

Downloaded/Boxed PC games. PC games downloaded from websites or services (i.e., Steam or Epic Games Store) or purchased as a boxed product (CD/DVD), including client MMO and MOBA games.

Esports. Competitive gaming at a professional level and in an organized format (a tournament or league) with a specific goal (i.e., winning a champion title or prize money) and a clear distinction between players and teams that are competing against each other.

Free-to-play (F2P) games. Games that are (legally) free to download and play, very often offering in-game spending opportunities.

Games as a service (GaaS). Games as a service provides game content or access to games on a continuous revenue model, e.g., via a game subscription service or a season/battle pass.

Game enthusiasts. All people who engage with gaming content through playing, viewing, and/or owning.

Game revenues. Consumer revenues generated by companies in the global games market, excluding hardware sales, tax, business-to-business services, online gambling and betting revenues, and advertising revenues earned in and around games.

Highly engaged players. Players that indicate they spent a minimum of 15 hours per week playing on a PC, mobile, or console.

In-game revenues. Revenues generated through the sales of in-game items, including expansion or content packs, cosmetics/skins, power-ups, time savers, loot boxes, playable characters, content passes for a one-off fee (battle/season pass), in-game currencies, content passes for a recurring fee, and reward passes.

Metaverse. A virtual social environment where people can create and engage in shared experiences.

Mobile phone games. Games played on tablets or smartphones.

Non-fungible token (NFT). A unit of data stored on a blockchain that certifies the uniqueness and ownership of digital assets.

Online population. All people within a country/market or region who have access to the Internet, via a computer or mobile device.

Payers. All people who have spent money to play games on a PC, console, a mobile device, or cloud gaming service in the past six months.

Pay-to-play (P2P) games. Games that must be paid for upfront or are paid subscription-based games.

Peripherals. Gaming-related hardware products that are used for gaming, such as gaming mice, keyboards, headsets, controllers, or monitors.

Players. All people who play (digital) games on a PC, console, a mobile device, or cloud gaming service in the past six months.

Spend/payer. Annual average revenue generated per payer (Game revenues/Payers).

Subscriptions revenues. Revenues generated by periodical fees paid for subscriptions to gaming content. A service a user can access by paying for a pre-determined time period. In this report, the term is used in the context of a game subscription service, which is a service that offers access to software content without providing the platform/hardware access that a cloud gaming service provides.

Tablet games. Games played on an iPad or any other such tablet.

Virtual reality (VR). The computer-generated simulation of a three-dimensional image or environment that can be interacted with in a seemingly real or physical way by a person using special electronic equipment, such as a headset with a screen inside or gloves fitted with sensors.

VR games revenues. VR games revenues generated through the consumer VR headsets capable of 6DoF positional tracking.

Newzoo's Gamer Personas

Gamer Personas. A new way of segmenting game enthusiasts across their playing, viewing, and owning behavior.

All-Round Enthusiast. Consumers who love playing games, watching gaming video content, and owning gaming-dedicated hardware, but don't quite reach the same levels as Ultimate Gamers in terms of hours or dollars spent.

Backseat Viewer. Consumers who watch plenty of gaming video content/esports on Twitch and YouTube but hardly ever play games.

Bargain Buyer. Consumers who enjoy high-quality game experiences, preferably free-to-play or discounted titles. Their indifference to hardware makes them prime prospects for game subscriptions.

Community Gamer. Consumers whose love of gaming extends beyond just playing to socially engage with the gaming community. To power their game discussions with other players, they watch a lot of game video content, read blogs, and listen to podcasts.

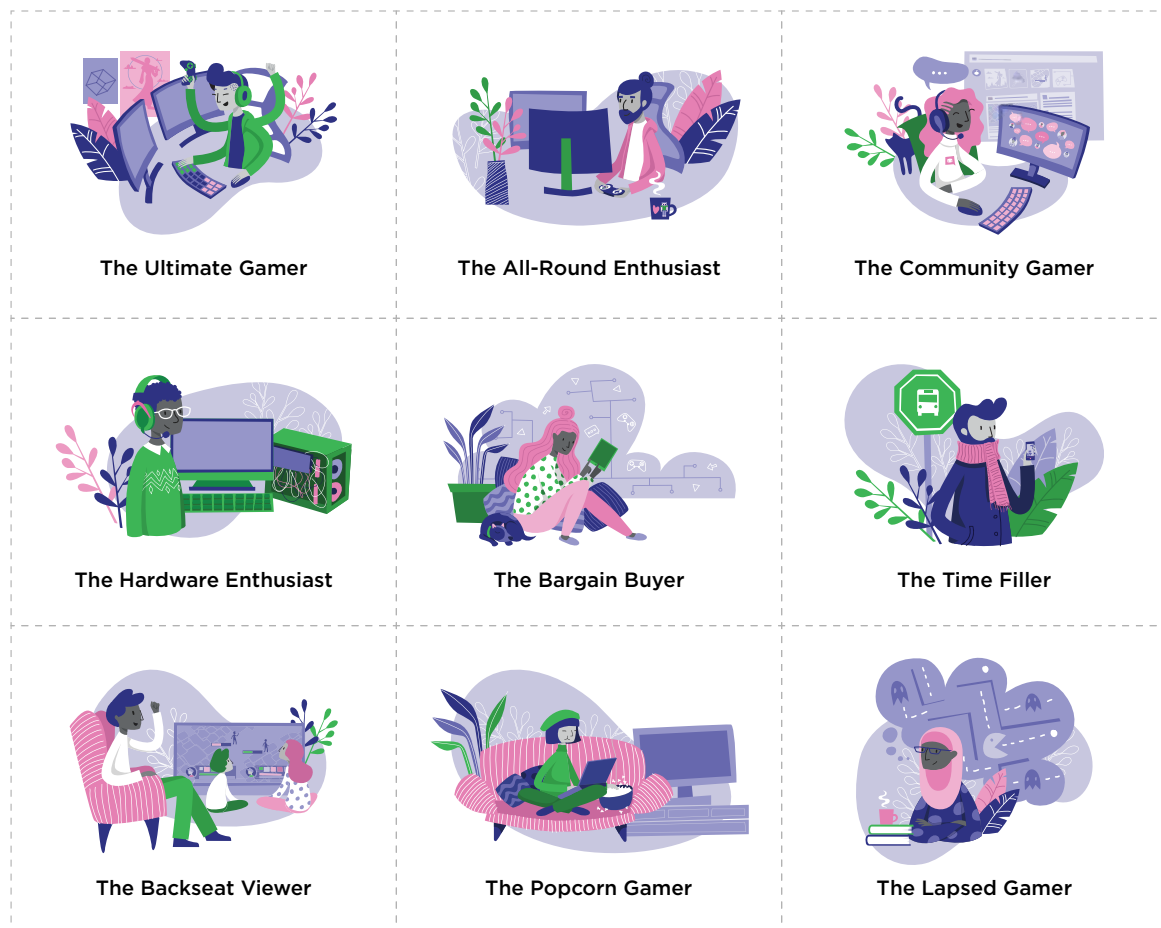
Hardware Enthusiast. Consumers who are archetypal technology aficionados. Frequent first-adopters, they like to either build their own computers or try out new gadgets (e.g., VR headsets or smartwatches).

Lapsed Gamer. Consumers who are currently a non-game enthusiast. They have played in the past but are currently not engaging with gaming whatsoever. They can be reactivated; more than a quarter of them intend to play games in the foreseeable future.

Popcorn Gamer. Consumers who play a little but enjoy watching gaming content far more.

Time Filler. Consumers who play games, typically on mobile, to pass the time but never watch video content of games. Nearly a third of all female game enthusiasts fall within this group.

Ultimate Gamer. Consumers who love all things gaming—playing, owning, and viewing—and dedicate much of their free time and disposable income to the pastime.



newzoo Gamer Segmentation™

02. The Global Games Market



These estimates are from June 2021. We review these quarterly and update them if needed here: [newzoo.com/key-numbers](https://www.newzoo.com/key-numbers).

The Global Games Market 2021

An Overview per Region and Segment

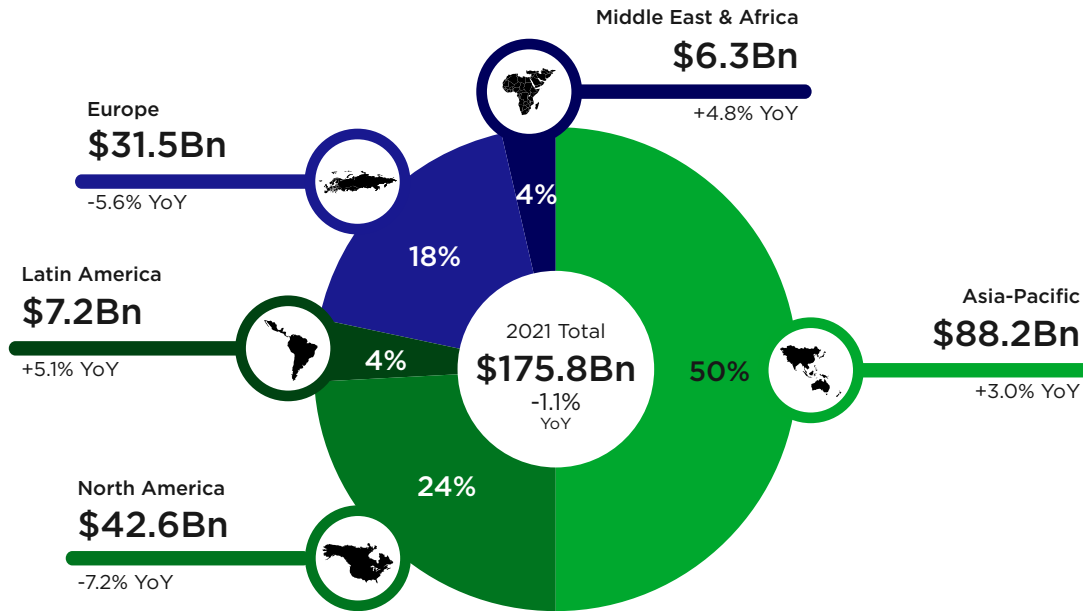
The global games market will generate \$175.8 billion in 2021, representing a slight -1.1% year-on-year decline. The following section highlights how we split these revenues per segment and region, as well as their growth up until 2024.

- While COVID-19 resulted in spiked engagement and spending in 2020, the pandemic's negative second-order effects became more apparent in 2021. More specifically, remote working and disrupted supply lines continued to cause challenges, especially for console and PC.
- We forecast that mobile games will generate \$90.7 billion in 2021, up +4.4% year on year and finally accounting for more than half of the global games market.
- Compared to console and PC, mobile is less impacted by the second-order effects of the pandemic. Echoing prior years, growth regions and markets such as Asia-Pacific and the Middle East and Africa will drive much of mobile's increase.
- Mobile's revenue growth will continue to outperform both console and PC toward 2024, driven by growth regions, continued innovations in mobile monetization, and big console and PC publishers bringing their IP to mobile devices.
- Apple's removal of IDFA is certainly disrupting the mobile marketing space, as well as mobile games monetized through advertisement (advertising revenues are not included in Newzoo's methodology) and titles that rely on precise user targeting, but it won't stop consumer spend.
- The ongoing growth of mobile means PC's market share will decrease slightly in the coming years. However, content from the maturing new console generation will catalyze growth for console's share of global games revenues toward 2024. Many titles originally slated for 2021 will launch in 2022 and beyond.

- We forecast the console market to decline -8.9% to \$49.2 billion in 2021, significantly impacted by COVID-19 and its influence on AAA console development, which features considerable cross-team collaborations and high production values. This impact will also be felt on PC, albeit to a lesser extent.
- PC games will generate \$35.9 billion in 2021, a decline of -2.8% from the previous year. The vast majority of this number (\$33.3 billion) will come from boxed/digital PC games, with browser games accounting for the remaining \$2.6 billion. As browser players continue to shift to mobile, revenues from PC browser games will continue to dwindle toward 2024.
- Asia-Pacific and North America will account for around 50% and 24% of game revenues in 2021, respectively. Both these shares will shrink marginally until 2024, as markets in Latin America and the Middle East and Africa continue along their growth trajectories.

2021 Global Games Market

Per Region

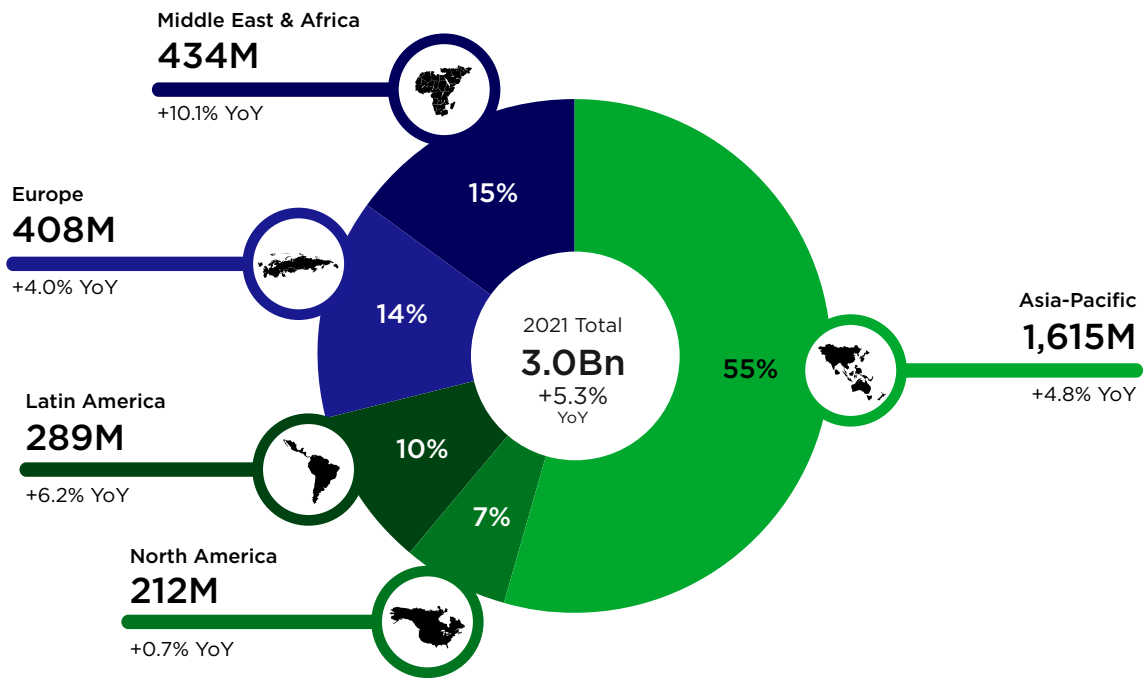


Asia-Pacific is easily the world’s biggest region by games revenues, with \$88.2 billion in 2021 alone, making up 50.2% of all game revenues. With its contribution of \$45.6 billion, China is by far the primary driver here. Owing to the region’s massively mobile-first games market, Asia-Pacific was less impacted by COVID-19. More affected due to its bigger emphasis on console, North America remains 2021’s second-biggest region, boasting game revenues of \$42.6 billion (mainly from the U.S.). Both Asia-Pacific and North America are on track for solid growth with healthy CAGRs of +8.7% and +7.9%, respectively.

Growth rates are, of course, far above the global average in the growth regions of Latin America and the Middle East and Africa, meaning their overall revenue shares will increase toward 2024 (slightly shrinking both North America and China’s shares). Like North America, Europe was also particularly impacted by the pandemic, with revenues declining -5.6% between 2020 and 2021. However, growth will be strong from 2021 to 2024, when the region’s share of global games revenues will steadily increase.

2021 Global Players

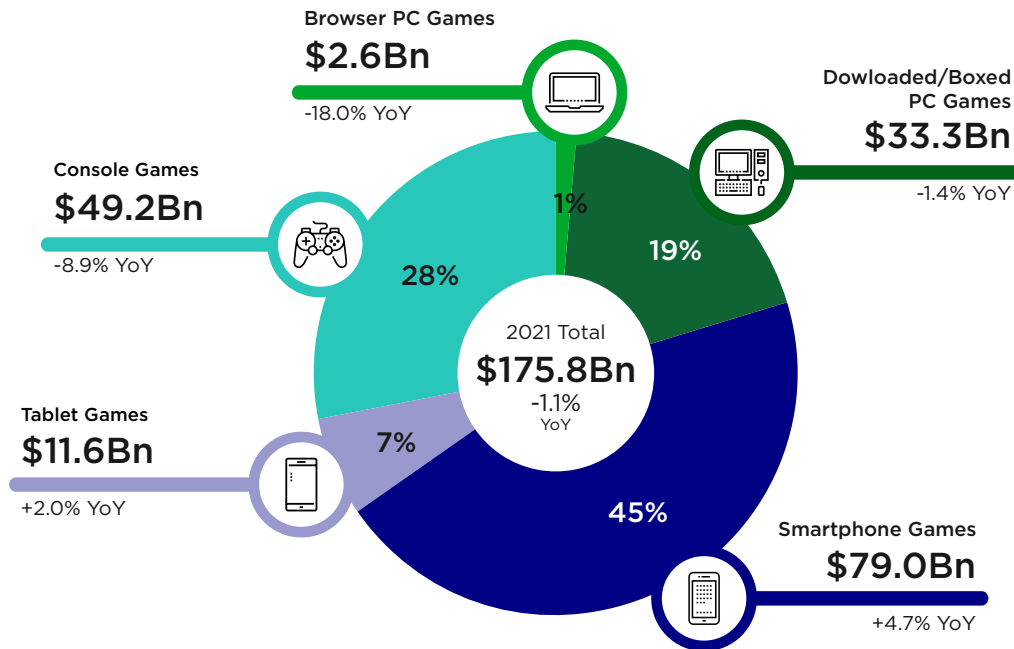
Per Region




There will be close to 3.0 billion players across the globe in 2021. This is up +5.3% year on year from 2020, showcasing that 2020's gaming boom has led to a lasting increase in players, with room for further growth. As is the case every year, primary drivers for player growth are an increase in the online population, better internet infrastructure, and affordable smartphone and mobile internet data plans. These drivers are particularly impactful in growth regions such as the Middle East and Africa and Latin America, which are the fastest-growing regions by number of players. Asia-Pacific, which also contains growth regions such as Central and Southern Asia and Southeast Asia, houses the most players by far: 55% of the world's players live in the region.

2021 Global Games Market

Per Segment



The pandemic has had a profound impact on game development and publishing in terms of delays, which are affecting revenues across the board in 2021—mostly on the console side but also on PC. Compared to mobile, console and PC games tend to have bigger teams, higher production values, and more cross-country collaborations. Delays for new-generation (PlayStation 5 and Xbox Series X|S) games are notably challenging, particularly for PlayStation, whose first-party games are full-price only at launch (as opposed to Xbox’s more services-leaning strategy with Game Pass). This is compounded by a global semiconductor shortage, which is negatively affecting the supply of consumer electronics, including next-generation consoles and high-end PC components. Owing to these challenges, 2021’s console market will decline -8.9% year on year to \$49.2 billion, while PC will decline -2.8% to \$35.9 billion. Growth for both these segments will resume after this year.

 Find this data for six regions and 33 countries/markets in the full report.

The pandemic has had significantly fewer negative impacts on mobile, which relies more heavily on in-app purchases for currently popular and available titles. The segment is even on track to grow +4.4% year on year to \$90.7 billion in 2021. Although core and cross-platform games on mobile are increasing consumer appetite for gaming-ready smartphones, the global semiconductor shortage will have a lesser effect on the segment, as hardware is generally a less vital factor for mobile players.

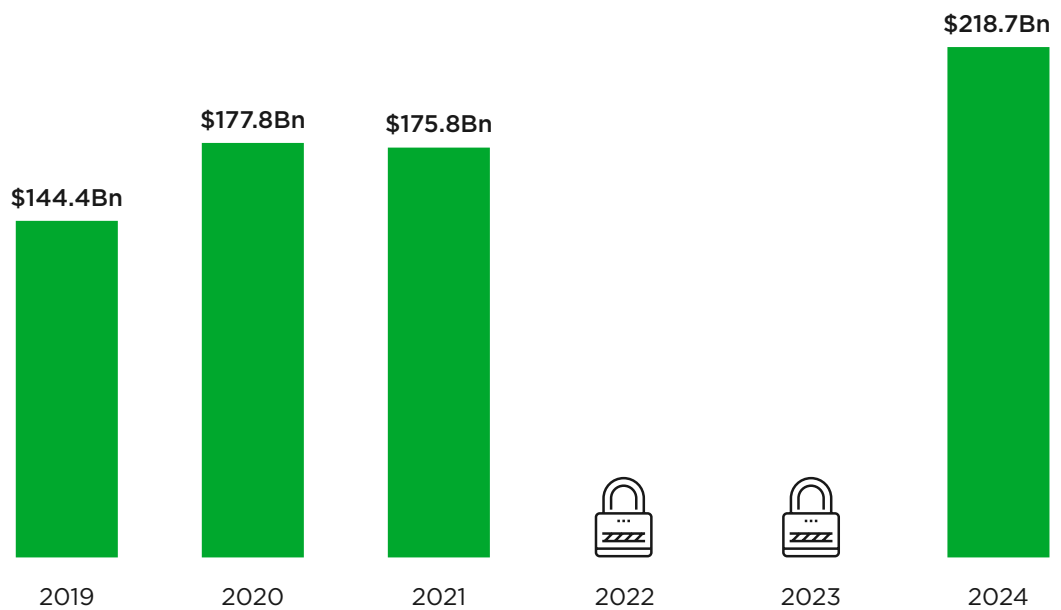
However, Apple's removal of IDFA (Identifier for Advertisers) will impact the mobile segment, disrupting the ways mobile companies measure the effectiveness of their advertising. Naturally, this means that mobile games which monetize primarily through advertising will be more severely impacted (note: Newzoo does not include advertising revenues in its methodology). Game publishers relying on precise user targeting will also be affected. Nevertheless, consumer spend remains strong, especially in China, which may feel the impacts of IDFA removal less than elsewhere. At a global level, the growth drivers are expected to overcome the negative influences, and the mobile industry is expected to quickly innovate around Apple's new standard. While Newzoo's mobile game forecasts thus remain positive, we continue to carefully monitor this space, as usual.

Key Developments Toward 2024

- The games market will swiftly recover from its slight 2021 decline. Globally, the market will grow with a CAGR (2019 to 2024) of +8.7% to reach \$218.7 billion in 2024, passing the coveted \$200-billion threshold in 2023.

Global Game Revenue Forecast

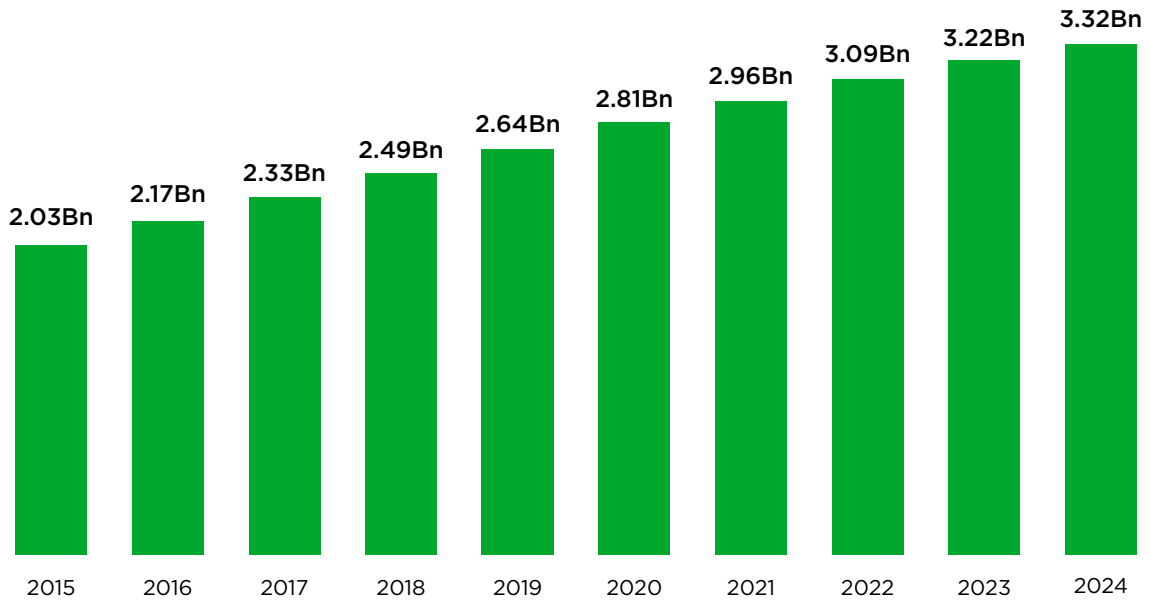
Toward 2024



Find the complete 2019-2024 revenue forecast in the full report.

Global Player Forecast

2015-2024



Looking ahead, the global number of players will pass the 3-billion milestone next year in 2022. This number will continue to grow at a +5.6% CAGR (2015–2024) to 3.3 billion by 2024. Player growth is slowing down as more and more of the world gains access to (mobile) internet. By 2024, the growth rate for players will be reduced to +3.2%. By segment, most players play on mobile. In 2021, 2.8 billion out of nearly 3.0 billion players play on mobile. By 2024, we forecast there will be 3.1 billion mobile players, surpassing the 3-billion milestone the year before. In comparison, there will be 1.4 billion PC players in 2021, which includes browser players that are slowly migrating to mobile. Console will be played by 871 million people in 2021. The number of console players will continue to increase toward 2024, particularly as console gaming gains ground in markets such as China and South Korea, where console gaming traditionally did not thrive.



03. Key Global Trends



Trend 1

A New Era of Mobile: IDFA's Removal Is Disrupting Mobile Game Advertising and User Acquisition

Over the past decade or so, mobile gaming has rapidly grown into the biggest gaming segment by revenues and players. The market's remarkable growth sparked innovation around monetization, user acquisition (UA), and targeting high-value spenders. Mobile developers are unmatched at leveraging behavioral data to design, optimize, and market engaging and appealing games. Growth teams use **Apple's** Identification-for-Advertisers (IDFA) for attribution, analytics, fraud prevention, campaign optimization, and more. Thus, Apple's removal of IDFA fundamentally challenges the foundation of mobile game development and operations, disrupting UA and ad processes across the mobile industry.



Disrupting the Status Quo



Ways for Publishers to Adapt to a Post-IDFA Environment



Find the complete trend on the effects of IDFA's removal in the full report.

Trend 2

Brand Identity Is at the Heart of Gaming's M&A Activity

In games, merger & acquisition (M&A) activity has seen a significant boost as of late, as some of the market's biggest players, including **Tencent**, **Embracer Group**, **Microsoft**, and **Sony**, continue down the paths of consolidation. Concerns around anti-competitiveness aside, acquisitions also benefit the acquired parties, who gain access to capital and funding that simply wasn't attainable prior. Some of the biggest tech companies in the world have struggled to enter the games market alone, and it's often difficult and risky for publishers to venture into new genres with non-established IP. To that end, M&A and investment is a more efficient and less risky way for publishers to bolster their content offerings, enter new genres and markets, and facilitate growth. For many game publishers, brand identity is at the core of their M&A strategy.



Xbox, PlayStation, and Epic Games' Identity-Driven Acquisitions



The Battle for Sports Dominance Resumes Play



Privacy Changes Spurred Consolidation and Integration



Entering New Spaces and Markets with M&A



Find the complete trend on brand identity and M&A activity in the full report.

Trend 3

The Blurring Lines Between Console, PC, and Mobile: Gaming Continues to Accelerate Toward Platform-Agnosticism

Ten years ago, each respective gaming ecosystem—console, PC, and mobile—was essentially siloed from one another. Thanks to continual innovations in cross-platform play, cross-progression, subscriptions, and franchises intersecting all platforms, the lines between these platforms are obscuring.

Crossplay Is Now Prominent and Only Growing

Outliers such as **Square Enix’s** Final Fantasy XI are early examples of crossplay in action, but **Epic Games** has been an advocate for crossplay between modern platforms, resulting in Fortnite becoming the first title to feature crossplay between PC, PlayStation, Xbox, and Switch. Companies such as **Microsoft** (Minecraft) and **Activision Blizzard** (Call of Duty: Modern Warfare) shortly followed. More recently, **Activision Blizzard** enabled crossplay for Overwatch across PC, Xbox, Switch, and PlayStation.

Although less common, some games feature crossplay between mobile and other platforms, including Fortnite, Hearthstone, Minecraft, and—perhaps most notably—**miHoYo’s** Genshin Impact, which is a mobile-first game and the initial title in a new IP.



Console and PC Publishers Eye Mobile to Increase Their Total Addressable Markets



From Mobile to Other Platforms



Find the complete trend on platform-agnosticism in the full report.



Trend 4

From AAA to Silver Screen: The Movie and TV Industries Are Fully and Thoughtfully Embracing Game IP



Trend 5

Shifting the Standard: Challenging the 30% Store Fee for Games



Find all five trends in the full report.



04. Rankings



Top 100 Public Companies

2020

Together, the top 100 public game companies produced revenues of \$166.3 billion in 2020. This marks an impressive +23% year-on-year growth and accounts for 94% of 2020's games market revenues (excluding advertising). The top 100 accounted for roughly 93% of revenues in 2019, signaling that 2020 was a particularly strong year for larger games companies. Chinese tech giant Tencent, which owns Riot Games and boasts stakes in some of the market's biggest companies, is by far the biggest games company. Tencent amassed games revenues of \$27.4 billion last year, +34% year on year and almost \$10 billion more than the #2 company by revenues, Sony.

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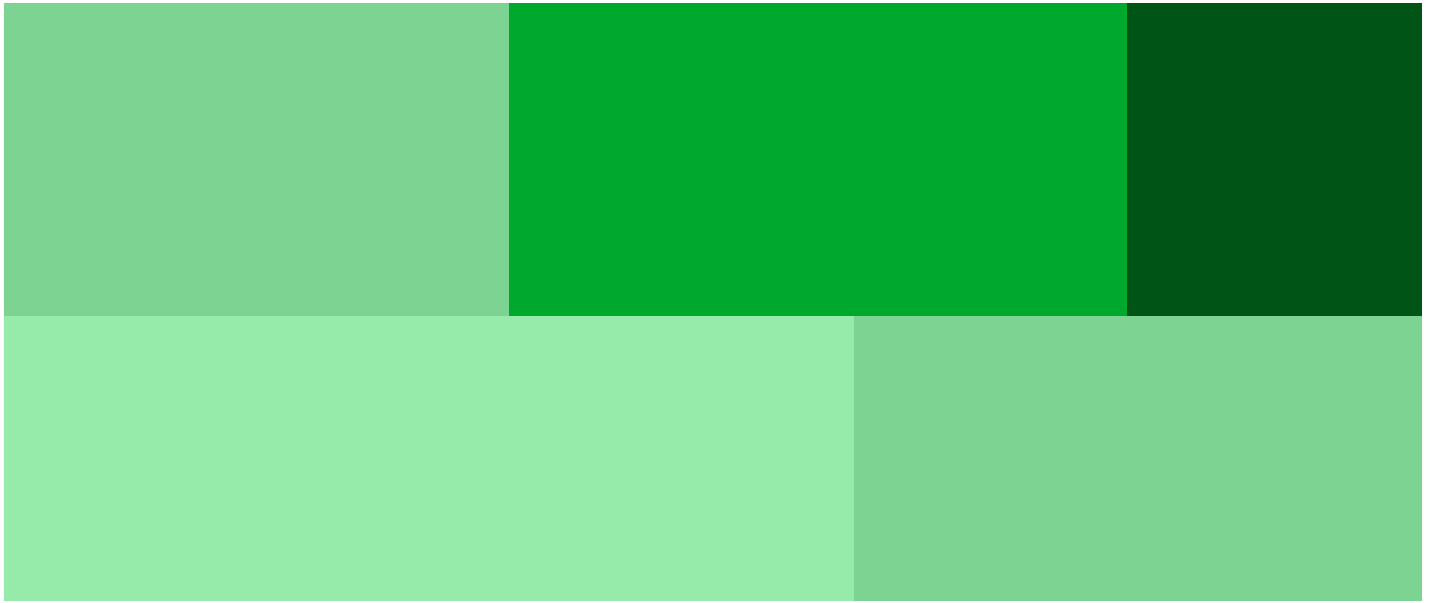
Rank	Company	HQ	Q1 (\$M)	Q2 (\$M)	Q3 (\$M)	Q4(\$M)	2020 (\$M)	YoY Growth
1	Tencent	CN	6,683	6,733	7,293	6,733	27,441	34%
2	Sony	JP	3,373	4,762	4,009	5,353	17,498	27%
3	Apple	US	2,556	3,180	3,526	3,758	13,020	19%
4	Microsoft	US	2,148	3,125	2,950	3,473	11,695	34%
5	Google	US	1,880	2,309	2,525	2,428	9,142	23%
6	NetEase	CN	1,941	1,985	1,990	1,924	7,839	16%
7	Nintendo	JP	1,557	1,716	1,704	2,471	7,449	49%
8	Activision Blizzard	US	1,662	1,759	1,870	2,108	7,399	27%
9	Electronic Arts	US	1,387	1,459	1,151	1,673	5,670	5%
10	Take-Two Interactive	US	761	831	841	861	3,294	15%



Total			37,347	41,361	41,698	45,890	166,297	23%
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Find the complete ranking and insights in the full report.



05. Special Focus Topics



VR Market Sizing

Before 2020, virtual reality (VR) had long struggled to achieve earlier growth expectations, with one obstacle being its high entry barrier. Headsets were unproven, most headsets required a higher-end PC with VR-ready specs to run software, and both headsets and gaming PCs were extremely expensive. Thus, a catch-22 arose where consumers were waiting for a robust VR content offering before buying a headset, and developers were waiting for the VR install base to increase before creating any AAA VR content. However, the tide has turned. The VR market is growing at a quicker pace than ever before.

In March 2020, two events would change the course of VR growth. COVID-19-related lockdown orders led to more time spent at home than ever before, and Valve released *Half-Life: Alyx*. Pandemic-related rising demand for gaming, immersive experiences for escapism, and collaborative working in virtual environments, combined with the much-anticipated title from one of gaming's most famous franchises, stimulated further adoption of PC VR headsets. In October 2020, Facebook released Oculus Quest 2, which is lighter, more powerful, and less expensive than its predecessor. Oculus Quest 2's lower price point and easy setup (no PC/console or cables required) helped to lower VR's entry barrier.

Newzoo is pleased to add VR market sizing to our Global Games Market Report offerings. In the latter part of the section, we also interviewed key industry stakeholders to gain insights into the developments shaping the future of VR.

Scope of VR Market Sizing

First and foremost, we define our scope of VR market sizing as consumer VR headsets capable of Six Degrees of Freedom positional tracking and VR games revenues generated through these headsets. Thus, we exclude enterprise headsets, such as the Vive Focus series, that can also be used to play VR games. Degrees of Freedom (DoF) refers to the number of directions of users' positional tracking in VR, which relies on built-in or external sensors to capture movement. While 3DoF tracking only measures three types of directional rotation (rolling, pitching, and yawing), 6DoF adds three further directional movements (elevating, strafing, and surging), allowing players to physically move around in a virtual space rather than simply standing in one spot. We believe that 6DoF is essential for immersive VR gaming experiences. Thus, we exclude headsets that use only 3DoF tracking; for example, all smartphone-based VR headsets (Samsung Gear VR, Google Daydream, and Cardboard) and entry-level standalone headsets such as Oculus Go.

Furthermore, we currently exclude locally marketed consumer VR headsets, such as the Pico Neo 3 in Asia, due to a lack of reliable data sources. To maintain the accuracy of our market sizing, we will include them in our scope when we secure reliable data sources.

We categorize consumer VR headsets into the following three ecosystems: PlayStation VR, PC VR, and standalone VR. PC VR includes consumer VR headsets that require a VR-ready PC to run software, such as the Valve Index, Oculus Rift, and HTC Vive Cosmos. Standalone VR includes Oculus Quest and Quest 2, which do not necessarily require a PC or tethering the headset to a PC to play games.

Lastly, we only include potential successors of existing brands in our forecasts. Both new entry of game-changing headsets (brands) and introductions of killer-specs and aggressive prices could easily affect the market situation. Hence, Newzoo will continue monitoring the market closely and reflect the latest developments into our forecasts at the best possible time.

Our definition of the active VR hardware install base is headsets being used at least once in the past 12 months.



Active VR Hardware Install Base



VR Games Revenues



Find the complete VR insights and 2019-2024 forecasts in the full report.

From Fiction to Fact: Into the Metaverse

The metaverse trend is here to stay. While there is still some contention around terminology, we recognize the metaverse trend with respect to gaming as the growing importance of virtual worlds and digital persistence in unlocking alternative spaces and identities for shared human experiences. The combination of COVID-19-related stay-at-home orders, which led to increased simulation of real-world activities, and the thought leadership of visionaries such as **Tim Sweeney** and **Matthew Ball**, have shined a spotlight on the virtual concepts most famously depicted in science fiction classics *Ready Player One* and *Snow Crash*. Now, there is a feeling of inevitability about the coming of the metaverse. Though it's far from a unified concept, most would agree we are quickly approaching greater participation in simulated worlds that are even more limitless than our real one.

Though the metaverse can feel like an impossibly “far away” concept in the eyes of many beholders, the truth is that we are already living among proto-metaverses, and the future will be here before we're truly ready for it. We'd like to share our own vision of its evolution, focusing on the implications for gaming in the companion trend report titled **Into the Metaverse** (accessible via the Newzoo platform). In the report, we cover the following topics:

1. History & Themes
2. In-Game Event Possibilities
3. China's Metaverse
4. Consumer Insights
5. NFTs, Play-to-Collect, & Play-to-Earn
6. Stakeholder Spotlights
7. Barriers & Looking Forward

The diagram on the next page visualizes the current metaverse ecosystem:

Metaverse Ecosystem Diagram





Gaming and the Metaverse Are Intertwined



Barriers to Success for the Metaverse



What Is Next for the Metaverse?



The full report includes a 71-page companion trend report "Into the Metaverse".



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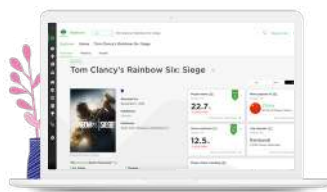


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