

## eSports

### High Impact and Investable

For the past decade, eSports has been growing on the main stage in Asia and in stealth mode in the US. This report addresses questions we get most often from investors about eSports:

- **What is eSports?** Definitions differ. Our definition of eSports is “players competing at a video game in front of a live audience while being live-streamed.” By implication, viewing, attendance, and playing time are linked, and each creates revenue streams for eSports.
- **How big is eSports?** Globally, one out of every three (ie, 33%) 18-25 year olds spent more than an hour a day playing video games, 395mm people watched eSports, and 250mm people played *Fortnite* in 2018. eSports revenue will be \$1.1B in 2019, up 26% y/y.
- **Should investors care about eSports?** We would argue “yes”, owing to: a) global scale; b) time spent playing and viewing; c) compelling demographics; d) eSports vs traditional sports trends; e) revenue growth; and, f) sports betting should supercharge US eSports.
- **Is eSports a fad?** We would argue “no”, owing to: a) many US Universities now offer Varsity eSports scholarships; b) new special purpose eSports stadiums are proliferating; c) billionaires are investing to make eSports successful; d) audience growth; and, e) Olympics potential.
- **Why have you never heard of eSports?** Because zero of the top 30 earning players in the world were from the US in 2018. Also, the top 10 professional players earned \$1-2mm each in 2018, well below other professional US athletes.
- **What Changed?** *Fortnite* and *Overwatch* League unmasked eSports’ US economic power and upside potential in 2018.
- **Can we invest in eSports?** Yes. There are large and small public and private companies in the video game and eSports spaces. We cover ATVI and EA and have Buys ratings on both.



Source: ATVI, Overwatch League Finals, 6/16/18.

Relevant disclosure information begins on page 24.

# eSports

## Key Insights

### Key findings from this report include:

- **What is eSports?** Esports is always internet connected, always competitive, and always organized, often involving professional teams of players but not always, as underscored by the 16-year old that won \$3mm at the *Fortnite* World Cup in July of 2019, which was played in front of a sold-out crowd of 23,000 in Arthur Ashe Stadium in Flushing NY. The total prize pool for this tournament was \$30mm. Our definition of eSports is “players competing at a video game in front of a live audience while being live-streamed.” By implication, playing, attendance, and viewing are linked.
- **eSports Grows TAM.** A global study of 12,000 people by MIDiA Research found that 5% of gamers attended at least one eSports event in 2018, compared to 3% for the average population. Surprisingly, eSports attendance rose to 10% of live music goers in 2018. By implication, an average live concert goer is twice as likely (ie, 10% vs 5%) to attend an eSports live event than an average gamer. By implication, gamers are a subset of e-sports attendees, not vice versa. If the live events aspect of eSports broadens the total addressable market (TAM), this brings in new advertisers who historically thought eSports was a niche subset of “gamers,” and implies new revenue streams for eSports that video games have not historically had access to.
- **Global eSports revenue** is projected to grow 26% y/y in 2019 to \$1.1B in 2019, accelerating to 36% y/y growth in 2020 to \$1.5B in 2020, according to NewZoo.
- **Investment Implications.** Time spent with other media (TV, radio, magazines, etc.) in the US today will increasingly be cannibalized by eSports playing and viewing as the 18-25 year old cohort ages up, unless their media habits change.



Source: EA, FIFA eWorld Cup

### Special Thanks

Special thanks to Wade Maloney, who completed extensive research, gathered the original datasets, and wrote a competent first draft of this report. His knowledge of the video game space generally, and eSports specifically, improved this report in important ways. This report would not have been published without his assistance.

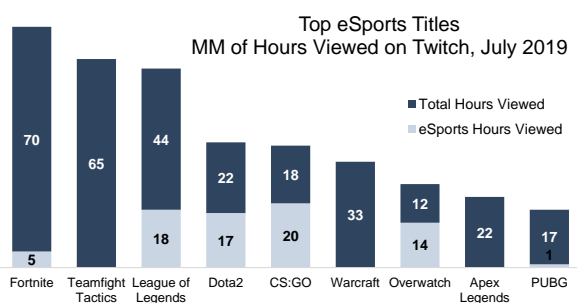
## 1. What is eSports?

Although the word “eSports” always refers to competitive video game play, this label can be confusing because it refers to both: a) amateurs competing at *Fortnite*, *Madden* and *FIFA*; and, b) professional teams like *League of Legends*, and *Overwatch* League competing. Today, the label “eSports” makes no distinction between these formats or competitors.

**eSports players** generally compete in front of fans in sold-out stadiums, many of them built specifically as eSports arenas. eSports competitors typically specialize by game. Competitions have prize pools ranging from a low of \$100,000 to a high of \$35mm for *Dota 2*'s 2019 International tournament.

Money matters most to our core constituency, which is investors, so this report focuses on eSports that are played for a prize pool. Total prize money paid out for 3,915 eSports tournaments globally in 2018 was \$160mm, representing an average of about \$40,000 per tournament, according to eSportsEarnings.com. In 2018, the largest prize pool in eSports was *Dota 2*'s International which paid out \$25mm in prize pool money to 90 players, representing an average of about \$280,000 per person playing in that tournament, according to DOTeSports.com. *Dota 2*'s International tournament broke prize pool records again in 2019, surpassing \$35mm (\$33mm crowd-funded) in prize pool money. Since some of the largest prize pools go to amateurs that compete at popular games such as *Fortnite*, *FIFA*, *Madden*, etc, we include these economics and trends in our analysis and investment thinking.

**Audience.** “eSports” aggregates viewers of tournaments across more than a dozen video games. On Twitch, one of the two largest viewing platforms globally, viewers watched 39mm hours of *Dota 2*, of which 44% (17mm hours) were eSports (ie, tournaments of teams competing at *Dota 2*), compared to 58% of *Counter Strike: Global Offensive (CS:GO)*, 54% of *Overwatch* viewing, 30% of *League of Legends* and 7% of *Fortnite* total hours viewed on Twitch in July of 2019.



Source: Twitch, July 2019, Top eSports Viewing, Global Stats.



Source: EEDAR, Needham & Company, LLC research.

## 2. Should Investors Care about eSports?

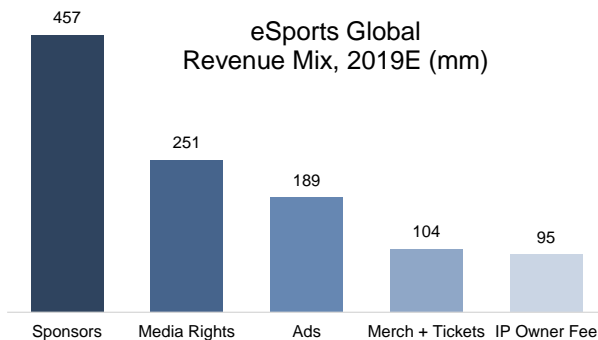
There are several reasons we recommend investors integrate eSports into their investment thinking: a) global reach & economics; b) time spent playing and viewing; c) compelling demographics; and, d) eSports vs traditional sports viewing trends in the US.

## Global Reach

According to a 1Q19 study by NewZoo, APAC (ie, Asia Pacific) will represent 57% of “eSports Enthusiasts” in 2019, followed by the EU at 16%, and North America at 12%. All other countries and regions in the world represent 15% of eSports enthusiasts. By implication, hit eSports games have an option to generate global revenue from three sources: a) ad revenue tied to viewership; b) ticketing revenue from attendees at eSports tournaments; and, c) up-front and in-game spending by people playing the game as they practice to improve. The economic power of global reach is impressive. For example, we estimate that *Fortnite* generated about \$3B of revenue in 2018 (its first full year after launch) through micro-transactions, even though it is a free-to-play game. *Fortnite*’s economic power is enhanced by its global reach, with 250mm registered players globally and an average of 10mm concurrent streams during March of 2019, according to Epic Games’ CEO, Tim Sweeney.

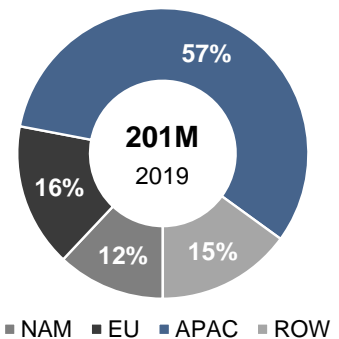
## Global Economics

Globally, eSports revenue is projected to reach \$1.1B in 2019, up 26% y/y, driven by 34% growth in Sponsorship revenue to \$457mm, 42% growth to \$251mm in Media Rights revenue, 15% growth to \$189mm in Ad Revenue, 22% growth to \$104mm in Merchandise sales plus Ticket revenue, and 3% growth to \$95mm in fees paid to Game Publishers. Global eSports revenue growth is projected to accelerate to 36% y/y growth, reaching \$1.5B in 2020, according to NewZoo.



Source: NewZoo, 2018, Global Stats.

Asia-Pacific will account for **57%** of eSports Enthusiasts in 2019



Source: NewZoo, 2018 Global Stats.

## Playing: Time Spent

The highest weekly time spent playing video games is in the United Kingdom at 7.15 hours per week, followed by the US at 6 hours and 44 minutes per week. Both equate to about 1 hour every day of play time. As players improve, they generally become more open to competing for cash.

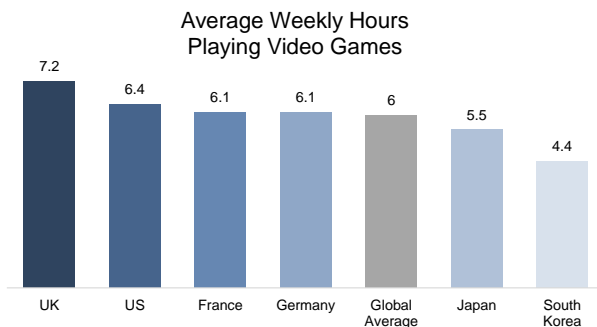
In the US, about 67% of all Americans (over 200mm folks), play video games on at least one type of device, with more than half play video games on multiple devices, according to Electronic Entertainment Design & Research in a whitepaper published in Sept of 2018. This study also found that playing video games represented 16% of U.S. gamers’ weekly time outside of work, which represented the same amount of time as all other forms of entertainment (ie, social media, music, YouTube, etc) combined.

South Korea reports the lowest amount of hours spent gaming weekly at 4 hours and 42 minutes owing to South Korea’s “Cinderella Law” which prohibits anyone under the age of 16 from playing online games on handheld devices, PC’s, or at LAN centers between midnight and 6am. Japan also reports below average hours played at 5 hours 48 minutes owing to a Japanese law preventing eSports cash prizes above \$921 for tournaments.

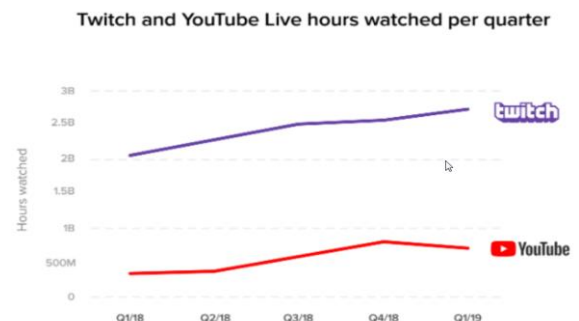
## Viewing: Time Spent

A more important media trend, in our view, is the rapid growth in watching others play. eSports are typically streamed for free on YouTube and Twitch, supported by advertising. In 1Q19, 2.5B hours of eSports competitions were watched live on Twitch, plus another 500mm hours on YouTube, according to TubeFilter. In 1Q19, 313mm hours of *Fortnite*, 302mm hours of *League of Legends*, plus 182mm hours of *Apex Legends* were viewed live during 1Q19, according to TubeFilter. Total live viewing of eSports is rising over time.

In the US, a 2018 study by Limelight concluded that young gamers in the US spent an average of 3 hours and 26 minutes each week watching other people play video games online. This is similar to the worldwide statistic. NewZoo estimates that viewers of eSports in the US will grow 50% between 2019 and 2023, reaching 46mm by 2023. They also project that 16% of U.S. internet users will watch an organized eSports competition at least once a month in 2023.



Source: Limelight Networks, 2018, Global Stats.



Source: TubeFilter, 4/19/19, Global Stats.

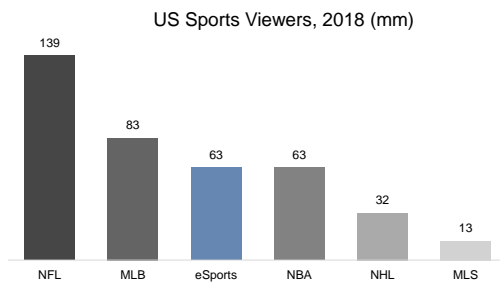
## Compelling Demographics

Another reason to care about eSports is that the demographics of eSports are compelling. The correlation to age is striking. Globally, the youngest people are spending the most time playing video games. For example, approximately one in three 18-25 year olds play video games for more than seven hours a week and, one in ten play video games for more than 20 hours a week. As players improve, they become more open to competing for money at an eSports tournament. Additionally, when a 16-year old takes home a \$3mm prize pool for *Fortnite*, other 14-16 year olds have an easier time seeing themselves in that role. We believe that legalized sports betting in the US will: a) drive upside to prize pools; b) elongate viewing times; and, c) drive ancillary revenue streams for eSports playing, viewing and attendance.

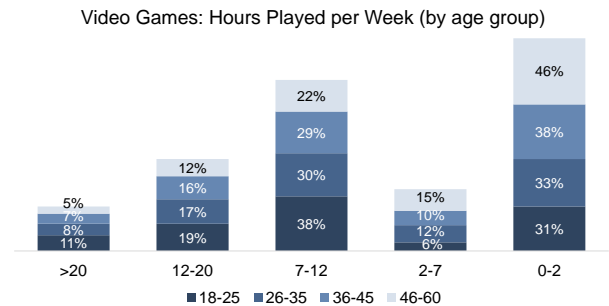
**Investment Implications.** We believe that time spent with other media (TV, radio, magazines, etc.) in the US today will increasingly be cannibalized by eSports playing and viewing as these demographics age up into older cohorts... unless you believe that media habits change with age. We note that newspaper non-readership provides a cautionary tale for the assumption that media behavior changes with age.

## eSports vs Traditional Sports Audiences in the US

**US.** Another reason to care about eSports in the US is that it is already cannibalizing traditional sports viewing, especially among younger audiences. In 2018, audience levels for eSports were about the same size as other major professional sports that much have longer histories. More importantly, eSports attracts far younger and more affluent demographic cohorts, which are more valuable to advertisers because they are harder to reach on TV. In 4Q18, Activate estimated that US eSports viewers would reach 63mm in 2018, in line with the NBA, and above the NHL and MLS. Only the NFL (at 139mm viewers) and MLB (83mm viewers) had more viewers in the US in 2018.



Source: Limelight, 2018, Global Stats.



Source: Activate, 11/13/18, US Stats.

**Global.** Comparing eSports viewing to traditional sports viewing on a global basis is fascinating. On a global basis, viewers watch eSports just a half an hour less than they watch traditional sports online, but preferences differ widely by country. For example, in South Korea, eSports viewership is on par with online traditional sports viewership, with only a five-minute difference in the average hours spent watching on a weekly basis. By contrast, in the US, total eSports viewership has not surpassed linear TV viewing of traditional sports and US consumers watch an hour more of traditional sports on TV than they watch eSports online.

A global IAB/On Device Research study in 2019 found that 29% of live streaming viewers globally reported that eSports is their preferred type of streaming video content, just two percentage points behind traditional sports (31%). This IAB/On Device whitepaper found that in China, 46% of viewers preferred streaming eSports, which was second only to TV episodes at 55%. Outside of China, eSports viewership was generally less preferable than TV content. Regions like Germany (28%), the UK (25%), and the US (21%) were all more heavily dominated by traditional sports, news, and TV series/episodes. In the US specifically, “how-to” videos, music concerts, and clips posted by friends and family also beat out eSports viewing online, but eSports viewing is growing rapidly as younger demo cohorts age up.

## 3. Why Have You Never Heard of eSports?

Of top eSports earners: a) there were zero American's in the top 30 prize winners in 2018, which is typical. For most of the most popular eSports, North American gamers are not competitive, having held only one world title (*Counter Strike-Global Offensive*), and no world titles in *League of Legends*, *Dota 2*, *Overwatch* or *Heroes of the Storm*. Some eSports leagues have no North American players competing at the highest level. Additionally, top professional eSports players made \$1mm-\$2mm in prize pool money in 2018, well below most professional US athletes in the NFL, NBA, MLB, etc. We note that top eSports players also get sponsorships, appearance fees, merchandise rev shares, etc. Finally, the US does not have many "celebrity eSports athletes" compared to the NFL, NBA, MLB, etc. - although this may be changing.

	Country	Player ID	Player Name	Total (Year)
1.		JerAx	Jesse Vainikka	\$2,290,632
2.		N0tail	Johan Sundstein	\$2,282,717
3.		7cckngMad	Sebastien Debs	\$2,280,217
4.		Topson	Topias Taavitsainen	\$2,249,842
5.		ana	Anathan Pham	\$2,249,136
6.		Somnus`M	Lu Yao	\$1,091,936
7.		fy	Xu, Linsen	\$1,091,936
8.		Ame	Wang Chunyu	\$1,091,936
9.		xNova	Yap, Jianwei	\$1,091,936
10.		Chalice	Yang, Shenyi	\$1,091,936
11.		feg	--	\$1,000,000
12.		Solo	Alexei Berezin	\$843,292
13.		RAMZES666	Roman Kushnarev	\$843,292
14.		9pasha	Pavel Khvastunov	\$843,292
15.		RodjER	Vladimir Nikogosyan	\$843,292
16.		dev1ce	Nicolai Reedtz	\$730,650
17.		Xyp9x	Andreas Hojsleth	\$730,550
18.		dupreeh	Peter Rasmussen	\$730,150
19.		gla1ve	Lukas Rossander	\$730,150
20.		Magisk	Emil Reif	\$728,400

Source: eSportsEarnings.com

## 4. Is eSports a Fad?

We think it is risky to conclude that eSports is a fad, based on six key data points: 1) College Scholarships; 2) Special purpose venues are being built for eSports around the world; 3) Billionaires are investing to make eSports successful; 4) Expanding total addressable market (TAM); 5) Audience growth; and, 6) Olympics.

### University Scholarships

Today, many universities in the US offer Varsity eSports scholarships, similar to college football and basketball scholarships. A key distinction from other Varsity sports is that, in addition to tuition abatement, eSports teams generally get to keep their prize pool winnings, which can be significant. During the 2017-2019 admissions seasons, the National Association of Collegiate eSports worked with 98 Varsity programs across the US and Canada to give away \$16mm in university scholarships. Varsity-level eSports players often receive scholarships that cover up to 70% of their tuition and backup players can get up to 35% of their tuition covered. At U.C. Irvine, the 23 scholarship eSports players spend 15 to 20 hours a week practicing and scrimmaging against other teams, in exchange for tuition assistance. In addition, Universities such as UC Berkeley and UCLA are creating collegiate-level eSports programs to train new competitive gamers.

US Universities that offer Varsity level eSports scholarships include:

- Miami University (of Ohio)
- Boise State University (Idaho)
- Georgia Southern University (Georgia)
- Georgia State University (Georgia)
- University of Southern California (California)
- University of California-Irvine (California)
- University of Akron (Ohio)
- University of Utah (Utah)
- Western Kentucky University (Kentucky)
- College of St. Joseph (Vermont)
- Bellevue University (Nebraska)
- Embry Riddle Aeronautical University (Arizona)
- DigiPen Institute of Technology (Washington)
- Harrisburg University (Pennsylvania)
- King University (Tennessee)
- Texas Wesleyan University (Texas)
- St. Ambrose University (Iowa)
- University of South Carolina Sumter (South Carolina)
- Kansas Wesleyan University (Kansas)
- University of Jamestown (North Dakota)
- Morningside College (Iowa)

## Proliferating eSports Stadiums

Another reason that suggests that eSports is not just a fad is the special purpose sports arenas that are opening in the US and around the world. In 2018, Las Vegas opened the 30,000 square foot HyperX eSports arena inside the Luxor which has a 50-foot LED video wall and a state-of-the-art TV-quality production studio. *League of Legend's* Riot Games, owned by Tencent, recently opened an arena with a gift shop and dining area on Olympic Boulevard in downtown Los Angeles. Comcast Sports Ventures' Spectator plans to build a \$50mm eSports arena in Philadelphia for its *Overwatch* League professional eSports team called the Philadelphia Fusion. In 2017, the University of North Texas built a \$200,000 eSports facility specifically designed for competition and eSports training, which is open to all students and faculty members.

Yet another piece of evidence is the growing use of LAN centers. LAN centers provide physical spaces with the latest video game software and hardware plus super-fast internet connection speeds. LAN centers help eSports teams with insufficient funds in need of a space to practice. They also act as gathering places for like-minded gamers and help build a sense of community. Finally, LAN centers frequently host small-scale tournaments and events.



## eSports is being Bankrolled by the Wealthy

Another observation that suggests that eSports is not just a fad is that it has powerful and wealthy backers. A *League of Legends* team franchise cost \$10mm in 2017. Activision's *Overwatch* League teams cost \$20-\$30mm each in 2017 or 2018. Today, Forbes estimates that the top 5 eSports team owners are worth \$130mm to \$310mm each, representing a valuation multiple of 10-14x revenue. Several eSports team owners have impressive long-term track records of building businesses that made them billionaires, including Mark Cuban (Broadcast.com, and owner of the NBA's Dallas Mavericks), Robert Kraft (paper, and owner of the NFL's New England Patriots), and Jerry Jones (oil, and owner of the NFL's Dallas Cowboys). Celebrities and athletes have also been investing in eSports, including NBA Hall of Famer Shaquille O'Neal, former MLB star Alex Rodriguez, and celebrities such as Ashton Kutcher, Tony Robbins, and Jennifer Lopez.

		eSports Teams Owned	Total eSports Players	Value (\$mm)	Revenue (\$mm)	Value / Revs
1	Cloud9	11	92	\$310	\$22	14.1x
2	Team SoloMid	7	39	\$250	\$25	10.0x
3	Team Liquid	14	65	\$200	\$17	11.8x
4	Echo Fox	8	23	\$150	\$11	13.6x
5	OpTic Gaming	6	52	\$130	\$10	13.0x

Source: Forbes, 2019, Global Stats

## Expanding TAM

A global study of 12,000 people by MIDiA Research found that 5% of gamers attended at least one eSports event in 2018, compared to 3% for the average population across the US, UK, Canada, Australia, Germany, Sweden, France, Netherlands, Japan, Mexico, Brazil and India. Surprisingly, eSports attendance rose to 7% among music subscribers, and to 10% of live music goers in 2018. By implication, an average live concert goer is twice as likely (ie, 10% vs 5%) to attend an eSports live event than an average gamer. By implication, gamers are a subset of e-sports attendees, not vice versa. This suggests that there are additional revenue streams for eSports unavailable to video games historically. If the live attendance aspect of eSports broadens the reach of video games, this expands the TAM, and drives incremental revenue upside.

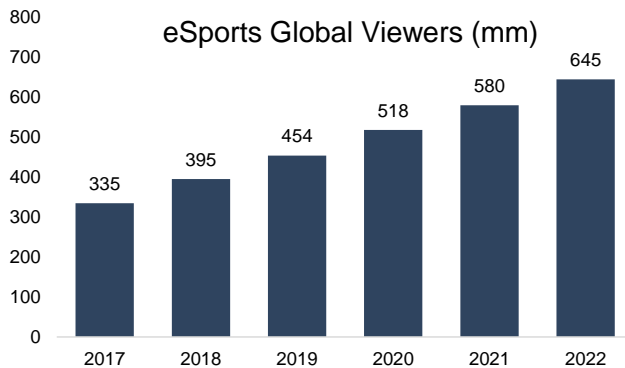
## Global Audience Growth

Another reason to conclude that eSports is not a fad is that eSports viewing already equals or exceeds viewing of traditional sports in many countries, and eSports viewing is growing in every country. Research concludes that video games (including eSports) are the preferred type of online media content that young audiences want to watch.

A 2018 Limelight study found that eSports represented 72% of weekly video game content viewed in the US, much higher than France, South Korea, and the United Kingdom where eSports was 65% of total video game content viewed each week. In Germany, eSports was 60% of total video game viewing, and in Japan it was 50%.

eSports viewership is globally scaled, rapidly growing, and its audience is huge. According to NewZoo, the eSports audience is projected to grow to 645mm people globally by 2022, representing a CAGR of 14% since 2017. This is 310mm viewers above 2017 viewership levels of 335mm, or nearly double.

Many of these viewers self-identify as “eSports enthusiasts.” Out of the 215mm “eSports enthusiasts” in 2018, 53% were in Asia-Pacific, according to NewZoo. eSports viewing destinations like Twitch and YouTube help make eSports more accessible to viewers around the world, which is driving rising viewership outside Asia-Pacific. Ubiquitous availability on these free platforms is being aided by growing prize pool payouts which attract new players, encourage longer game play time, and drive higher viewing levels.



Source: NewZoo, 2018, Global Stats.

## Olympics in 2024

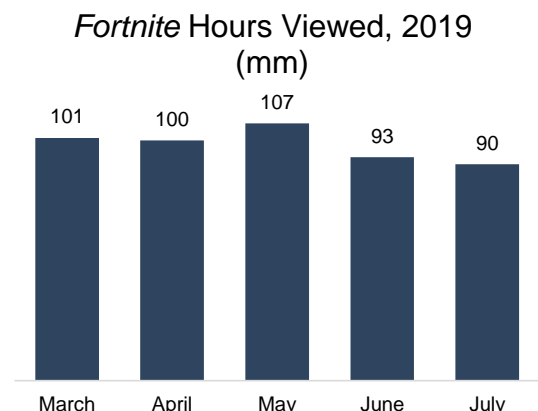
The International Olympic Committee is "deep in talks" about including eSports as a demonstration sport at the Olympic Games in Paris in 2024. In fact, press reports assert that adding eSports was among the reasons that Paris won its bid for the Olympics for 2024.

## 5. Recent Events Drive eSports Value

For the past decade, eSports has been growing on the main stage in Asia and in stealth mode in the US. Two things changed in 2018 that unmasked the importance of eSports as a media past-time in the US: a) Epic Games’ *Fortnite*; and b) ATVI’s *Overwatch League*.

### Fortnite: Background and Overview

During 2017, PlayerUnknownBattleground (PUBG) became a worldwide phenomenon, selling 5mm copies at \$30 each during in the first three months after its March 2017 release. PUBG was based on a “Battle Royale” format in which up to 100 players are dropped on an island and kill each other until there is only one survivor/winner. Players can choose to enter each match solo, duo or as a team of up to four people.



Source: Twitch, 2019, Global Stats.

Based on PUBG's success, Epic Games fast-followed with a Battle Royale format for *Fortnite* and released *Fortnite Battle Royale* as a free to play game on iOS, Android, consoles, PCs, etc. in Sept of 2017. It was immediately a hit, aggregating 10mm players in its first two weeks and growing to 250mm players by March of 2019, according to Epic Games. *Fortnite* is a free to play game and its business model is micro-transactions. Impressively, we estimate that it generated \$3B of revenue in 2018 and is on track to reach \$5B in 2019, 100% through in-game purchases. Players can only buy cosmetic items, meaning nothing can be purchased that makes survival more likely. Therefore, the only way to get better is to play more.

## Fortnite's Implications

The success of *Fortnite Battle Royale* has elevated the profile and urgency of eSports in the US, we believe. Innovations driven by *Fortnite's* success include:

- **Prize Money.** Epic Games (*Fortnite's* owner) is now leading the competitive video game industry in prize pools, spending \$100mm in 2018 on approved *Fortnite* competitive events. On July 29, 2019, a 16-year old gamer won the \$3mm top prize at the *Fortnite* World Cup, out of the \$30mm prize pool for this tournament.
- **Free.** *Fortnite* has proven that a free-to-play (ie, freemium) business model, can drive player adoption, which in turn can drive higher revenue through micro-payments. In 2019, its second full year in existence, we estimate *Fortnite* will generate \$5B of revenue based on its global freemium business model. This compares to our FY19E revenue estimates of \$5B for EA and \$7B for ATVI.
- **Ubiquity.** *Fortnite* is available ubiquitously on all platforms (smartphones, consoles, PCs, etc.) globally and all players can play each other from anywhere on any platform.
- **Social.** *Fortnite* can be played as a single, double or squad. *Fortnite* allows friends to easily connect in the game, turning the game into a social destination. Custom avatars and cosmetic items connect gamers to the game. These social aspects of *Fortnite* elongate time spent and drive a higher number of games played.

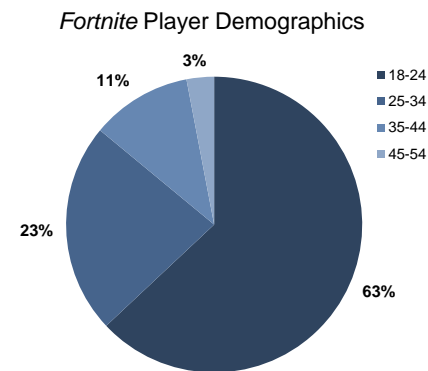
## Fortnite's Impact

In March 2019, Epic Games' CEO Tim Sweeney announced that *Fortnite* had 250mm registered players with nearly 10.8mm average concurrent players that month. Total players had doubled from the 125mm players Epic Games announced 9 months earlier, in June of 2018.

According to the Business of Apps:

- **Money.** 70% of *Fortnite* players say they have spent money while playing the game. This compares to less than 10% for ATVI's Candy Crush (the most popular free mobile game before *Fortnite* with approximately 250mm unique players at 6/30/19).
- **Playing Time.** The average playing time per *Fortnite* player in 2018 was 6-10 hours each week, or about an hour a day for every day of 2018. Total global *Fortnite* playing time was 2.7B hours for the months of May and June of 2018, according to Epic Games.

- **Viewing.** Time played is dwarfed by time spent viewing. In May of 2019, 8.9B hours of *Fortnite* were viewed on Twitch and YouTube. This is enormous for a single month, and compares to Roku's total OTT streaming hours of 9.4B hours viewed during the 90 days ended 6/30/19.
- **Demographics.** *Fortnite's* demographics are younger than the average video gamer. In fact, 63% of total *Fortnite* players are between the ages of 18 and 24, 23% of players are between the ages of 25-34, and 11% are between the ages of 35 and 44. Only 3% of *Fortnite* players are 45-54 years old.
- **Gender.** Males are 72%, and females 28%, of *Fortnite* players. Although females are below industry averages of 46%, it represents 70mm females, which has broadened the female market for shooter games.
- **Pop Culture.** Part of *Fortnite's* appeal to younger players and their parents, is that it has no blood or gore. Also, *Fortnite* integrates pop culture figures, events, and dance moves that find their way into other media through professional athletes and celebrities in the real world, which encourages existing players to play more often and new players to try *Fortnite*.
- **Celebrity** player Ninja earns \$500,000 a *month* through streaming on Twitch and YouTube while he plays *Fortnite* (and other games) and narrates.



Source: Verta Analytics

## Overwatch League

The other major change in the US that underscores the economic power and influence of eSports was the inaugural season of Activision Blizzard's *Overwatch* World League (OWL). OWL is a professional eSports league owned and operated by Blizzard (a 100% subsidiary of ATVI), based on players competing at its hit game called *Overwatch*, which launched in May 2016. OWL sold the first 12 teams (with exclusive rights to specific global cities) for \$20mm each in 2017, and the next 8 teams for \$25mm-\$30mm each in 2018. Each professional player employed by these 20 teams is guaranteed a minimum annual salary plus benefits plus a portion of the team's winnings.

2018 was the inaugural season of OWL, with a total prize pool of \$3.5mm. Each of the 24 teams received \$15,000 for competing plus an additional \$16,000 awarded to each of the eight teams who advanced to the *Overwatch* World Cup 2018 finals. For season #2 (2019), OWL added eight new teams and the total prize pool rose 40% to \$5mm. OWL's innovation is that each team competing gets the same amount of prize money, and professional teams are based on regions (similar to the NFL), giving smaller regions an opportunity to showcase their skills on the global stage.

**Viewing.** OWL aggregated the largest eSports viewing in 2018, owing to the enormous number of hours it broadcasts. OWL has a 28-match schedule spread out over four and five-week long stages. Stage Champions are crowned at the conclusion of each stage in a playoff tournament, but the ultimate objective is to win the Grand Finals.

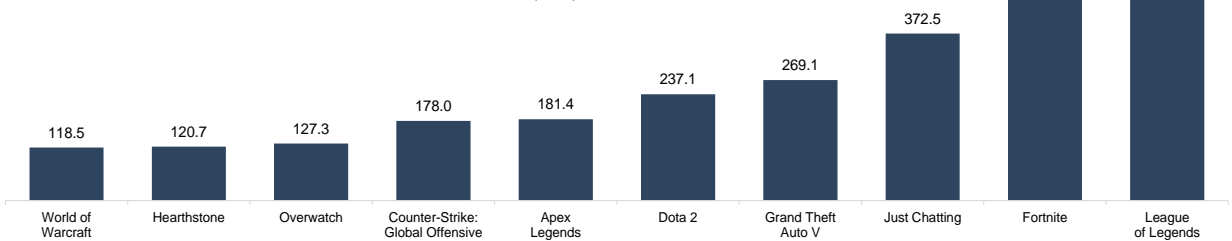
As illustrated in this chart, OWL garnered 555mm hours or 38.8% of total eSports viewing on Twitch and YouTube in 2018, followed by *League of Legends* at 29% for 2 eSports events in 2018.

## Top 10 Twitch Video Games Viewed, 1H19

eSports viewing is a subset of total video game viewing, which is massive. Audiences on Twitch watched 512mm hours of other people playing *League of Legends* in the first half of 2019, followed by 465mm hours watching other people play *Fortnite*, 269mm hours watching *Grand Theft Auto* being played, 237mm hours watching *Dota 2*, etc.

*Overwatch* and *Counter-Strike: Global Offensive* have smaller total viewing hours, at 127-178mm in 1H19, but more than 50% of this viewing time was for eSports tournaments, which makes these titles very important to the eSports ecosystem.

Twitch Top Content  
Hours Watched 1H19 (mm)



Source: Twitch, 1H19, Global Stats.

## 6. How Does the Money Work?

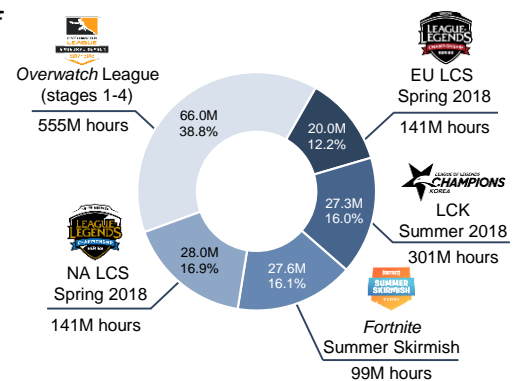
### eSports Revenue Diversification

Almost every expert and researcher agrees that eSports is supported by diverse sources of revenue such as media rights, sponsorships, ad revenue, ticket sales, merchandise sales, and game publisher fees. Diverse sources of revenue lowers risk and adds upside for investors, we believe. Another thing most experts agree on is that eSports revenue will grow at double digit rates for the foreseeable future.

### eSports Revenue in 2018

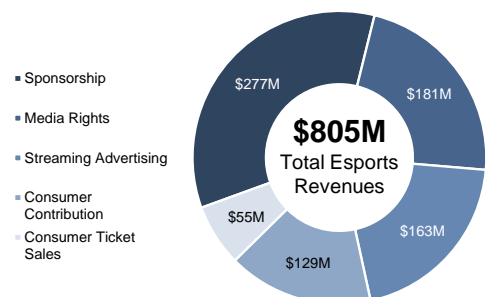
The magnitude of 2018 eSports revenue estimates range from \$800mm to \$900mm, depending on the source. PriceWaterhouseCoopers (PwC) estimates that eSports revenue globally was \$805mm in 2018, which was about 10% below NewZoo's estimate of \$900mm. The primary difference was their estimate of sponsorship revenue, which PwC estimated was \$277mm, \$76mm lower than NewZoo's \$353mm estimate. This category difference represented about 80% of the variance.

Most Popular eSports Leagues of 2018  
based on hours watched and air time on Twitch / Youtube



Source: Twitch plus YouTube eSports Viewing, 2018,

Esports Revenues Worldwide, by Segment, 2018



Source: PwC, "Sports industry: lost in transition?" Sep 25, 2018

NewZoo estimated that global eSports revenue was approximately \$900mm in 2018, made up of five major pieces: a) sponsorships; b) media rights; c) advertising revenue; d) merchandise and ticket sales; and, e) game publisher fees. At \$353mm (39% of total) in 2018, sponsorship revenue (ie, large consumer-facing brands trying to reach men 18-34) was the largest monetization driver of eSports. Media rights is eSports' second largest revenue source at 20% (\$176mm), then advertising at 18% (\$165mm), then game publisher fees at 13% (\$114mm), and then merchandise and ticket sales at 10% (\$92mm).



Source: NewZoo, 2018, Global Stats.

**What's Next?** Legalized sports betting in the US should: a) drive upside to prize pools; b) elongate viewing times; and, c) drive ancillary revenue streams for eSports playing, viewing and attendance.

## Sponsorship Revenue

At 34%-39% of total global revenue in 2018, Sponsorships are the largest contributor to eSports economics, according to PwC and NewZoo. There are many types of sponsorship ad units in the eSports ecosystem. For example, players on stage wear jerseys that display logos, similar to other professional sports. Event stadiums display physical signs and digital screen advertisements that target fans that paid for seats to attend eSports competitions. During an esports broadcast, star gamers or “influencers” can promote Fortune 500 brands via banner ads on screen, or the broadcast itself can be sponsored by a single brand.

Gamers that watch eSports are more likely to buy high-end gaming equipment, according to research, because they believe it helps them improve their outcomes. Therefore, the first sponsors were companies that sold software and computer components. We call this category “endemic’ video game advertisers.

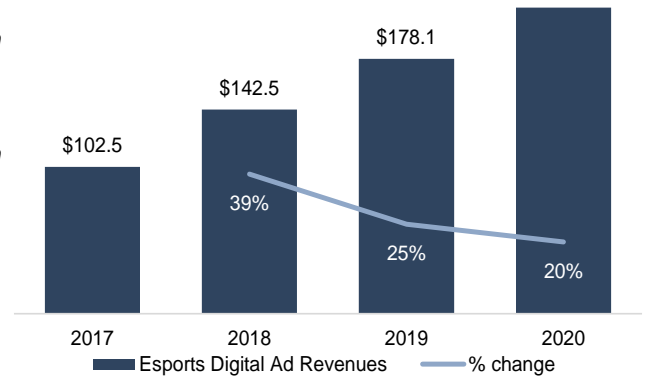
In 2018 and 2019, record breaking audiences and viewership metrics, plus more organized leagues like *Overwatch*, have increasingly attracted sponsorship dollars from Fortune 500 consumer-facing brands including Coca Cola, PepsiCo, Exxon Mobil, and Comcast. There is a growing recognition by large brands that the eSports industry no longer attracts just a niche audience and that this young and affluent audience must be reached to sell their products.

## Media Rights Revenue

At 20%-22% of total global revenue in 2018, Media Rights revenue is the second largest contributor to eSports economics, according to PwC and NewZoo.

44% of all eSports media rights deals globally were signed in North America in 2018. For example, Disney bought the broadcasting rights for the *Overwatch* League for an undisclosed amount and will air competitions on ABC, ESPN, Disney XD, and ESPN+. The *Overwatch* League has additional media rights deals with Twitch, earning ATVI a reported \$45mm per year. In 2018, ESPN also signed a deal with *League of Legends*, which allows them to stream competitions to Disney's ESPN+ subscribers.

US Esports Digital Ad Revenues, 2017-20 (mm)



Source: eMarketer, Feb 2019

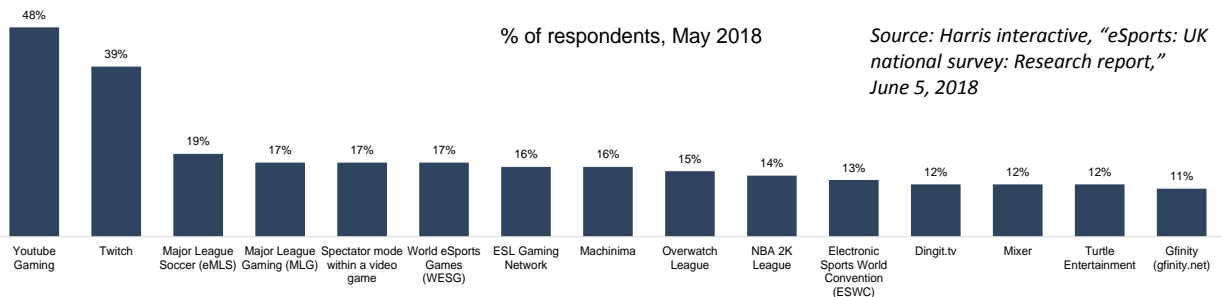
## Advertising Revenue

At 18%-20% of total global revenue in 2018, Advertising revenue is the third largest contributor to eSports economics, according to PwC and NewZoo. eMarketer projects that US eSports digital ad revenue will grow at a CAGR of 25% between 2018 and 2020, to \$224mm in 2020. eSports viewers are a highly sought-after audience for advertisers because: a) they don't watch traditional TV; b) they're moving away from social media platforms such as Facebook; c) long viewing times on Twitch and YouTube makes them easier to talk to; and, d) it's an affluent demographic, in addition to being young.

**US.** eSports is attractive to advertisers in the US as over 30mm people will watch an eSports event at least once a month in 2019 and US viewers will grow 50% to 46mm 2023, according to NewZoo.

**UK.** In the UK, YouTube Gaming and Twitch are the two most popular destinations for watching eSports with viewership shares of 48% and 39% respectively, or 87% of total viewing.

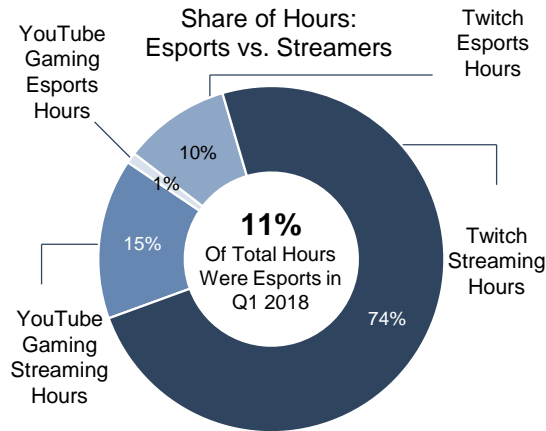
**China & Korea.** In more developed Asian markets like China and Korea, linear TV has become the preferred method of viewing eSports for consumers.



Source: Harris interactive, "eSports: UK national survey: Research report," June 5, 2018

**Ad Revenue Economic Splits.** Most eSports viewing globally is done on Twitch (owned by AMZN) and YouTube (owned by GOOGL), which is similar to the more granular UK data included in the chart above. We estimate that Twitch and YouTube split all eSports ad revenue on their platforms and generally keep about 40-50% of the economics (ie, ad revenue) from their eSports viewing.

In 1Q18, Twitch and YouTube Gaming reported that about 11% of their total streaming hours were of eSports, with Twitch at 11.6% and YouTube Gaming at 8.2%, according to NewZoo. Total hours of eSports steamed across both platforms were nearly 300mm in 1Q18, according to NewZoo.



Source: NewZoo, 1Q18, Global Stats.

## 7. Why Now? What is the Next Catalyst?

### Legalized Sports Betting.

In May of 2018, the US Supreme Court ruled in favor of New Jersey, ruling that the 1992 federal ban on sports betting in most states violated their rights.

Now, each state can set its own rules for online sports betting unless Congress passes a new Federal law, which appears unlikely. States have moved quickly to legalize and regulate betting on all sports, including eSports. There are no federal laws that specifically make it illegal to bet online, and that includes betting on sports and eSports. It's not explicitly legal, but it's not explicitly illegal either.

We expect betting on traditional sports to lead betting on eSports in the US, but given eSports' young and affluent demographics, enormous hours spent playing and viewing, and its global audiences, we expect eSports growth to dwarf traditional sports growth in the US in most aspects, including betting. Also, we think Wall Street is underestimating the magnitude of the potential impact. For example, Narus Advisors estimated that in 2016, \$5.5B in cash and virtual items were placed in eSports bets, mostly through underground betting operations, and they project that approximately \$13B will be wagered on eSports bets in 2020. We believe that betting drives more economics to the eSports ecosystem, and creates a positive feedback loop that will accelerate eSports' market share vs traditional sports in the US.



## 8. Can I Invest in eSports?

Yes. There are many public companies involved in eSports and video games globally. Some of these public companies are pure plays in video gaming or eSports, while others are owned by larger companies. Several leaders in the eSports space are private companies, and we provide summaries of the 16 we think are most interesting in the pages below.

### Public Companies

The 20 most interesting (our view) pure play public companies are included in Figure A. We cover ATVI and EA and have Buy Ratings on both. A brief summary of their eSports exposure and our investment thesis for these two public video game companies follows:

- **Activision Blizzard (ATVI, Buy)**. What we like most about ATVI is that it owns all of its IP and manages large, global, super-fan communities. Additionally, it has diverse revenue streams with big moats based on hit video game franchises, on all platforms including mobile. Finally, ATVI is a leader in eSports, currently selling teams for its *Overwatch* and *Call of Duty* eSports leagues. ATVI also owns other important eSports properties such as *StarCraft*, *Hearthstone*, and *World of Warcraft*.
- **Electronic Arts (EA, Buy)**. What we like most about EA is its focus on subscription revenue, cloud gaming, and its *FIFA*, *Madden*, *Battlefield* and *Apex Legends* eSports games. Key metrics from EA's quarter ended June 30, 2019 included: a) *Apex Legends* eSports competition had 80 teams; b) *FIFA* eSports event had 3mm daily players, an all-time high; c) *Madden* mobile update had 32 NFL team partners plus new sponsors; and, d) 7mm free downloads of *Sims 4* plus 55% y/y growth in expansion pack downloads. In the eSports space, EA's biggest franchises historically have been *FIFA*, *Madden*, and *Battlefield*. For example, over 20mm players competed to become one of the 32 finalists for the 2019 *FIFA* eWorld cup final, which also had more than 30mm viewers, in August 2019. EA launched *Apex Legends* in February 2019 as a free-to-play battle royale game, without any prior announcement or marketing, with a goal of displacing *Fortnite*. EA disclosed that 50mm people had played *Apex Legends* by March of 2019, and that it averaged 8-10mm players a week during July of 2019.

## Public Companies (continued)

Figure A includes the 20 most interesting public eSports and/or video game companies globally, in our view.

Figure A  
Public eSports and Video Game Companies

	Public Company Name	Ticker	Market Cap 8/27/19 (\$mm)	Comments
1	Activision Blizzard	ATVI	\$38,812	Pure play video game company, US
2	Allied eSports Ent	AESE	\$85	Pure play eSports company, US
3	Bandai Namco	NCBDF	\$12,926	Pure play video game company, Japan
4	Capcom	CCOEY	\$2,905	Pure Play Japanese video game company and developer and publisher known for Street Fighter, Mega man, Resident Evil, Devil may Cry, Monster Hunter as well as games based on Disney animated properties
5	Cyber Agent	CYGIY	\$5,430	Pure Play Japanese video game developer known for Princess Connect, Girl Friend, Alternative Girls, Kick-Fight, Linqs Rings, Blade X Lord.
6	DouYu	DOYU	\$2,789	Pure play video game company, China
7	EA	EA	\$28,059	Pure play video game company, US
8	GameStop	GME	\$387.6	Video game retailer, US
9	Giant Network Grp	002558.SZ	\$36,621	Pure play video game company, China
10	Glu Mobile	GLUU	\$631	Pure play video game company, US
11	Huya	HUYA	\$4,783	Pure play video game company, China
12	Ncsoft	036570.KS	\$8,967	Pure play video game company, South Korea
13	Nexon	NEXOF	\$9,680	Pure play video game company, South Korea
14	Nintendo	NTDOY	\$45,240	Consumer electronics and video game company, Japan
15	Sega Holdings	SGAMY	\$3,219	Pure play video game company, Japan
16	Square Enix	SQNXF	\$4,851	Pure play video game developer, publisher and distributor, Japan
17	TakeTwo Interactive	TTWO	\$14,764	Pure play video game company, US
18	Super League Gaming	SLGG	\$44	Pure play eSports Company, US
19	Ubisoft	UBI.PA	\$8,070	Pure play Video Game Company, France
20	Zynga	ZNGA	\$5,396	Pure play Video Game Company, US

Owned by a Larger Public Company			
1	Gameloft/Vivendi	VIV.PA	\$30,630
2	YouTube/Google	GOOGL	\$810,980
3	Twitch/Amazon	AMZN	\$868,210
4	Xbox/Microsoft	MSFT	\$1,035,000
5	PlayStation/Sony	SNE	\$68,989
6	Reforged Studios/NetEase	NTES	\$32,587
7	League of Legends/Tencent	TCEHY	\$398,227

Source: FactSet, Needham & Company, LLC research.

## Private Companies

Some of the leaders in the eSports space are private. We provide summaries of the 16 private companies we think are most interesting in the pages below.



aXiomatic is a broad-based eSports company that powers esports experiences. Through strategic partnerships, investments and acquisitions, Axiomatic connects eSports groups with valuable resources including venues, technologies, media content, distribution partners and investment capital. In September 2016, aXiomatic acquired a controlling interest in one of the world's premier esports brands, Team Liquid. In addition to Team Liquid, aXiomatic has made several strategic investments into esports-related businesses — from analytics and coaching to new gaming experiences.



Bungie, Inc. is an American video game developer based in Bellevue, Washington. Microsoft acquired Bungie in 2000, and its project Halo: Combat Evolved was repurposed as a launch title for Microsoft's Xbox console. Halo became the Xbox's "killer app", selling millions of copies and spawning the *Halo* series. On October 5, 2007, Bungie announced that it had split from Microsoft and become a privately held independent company, Bungie LLC. In April 2010, Bungie signed a ten-year publishing deal with Activision. Their first project was the 2014 first-person shooter, *Destiny*, which was followed by *Destiny 2* in 2017. In January 2019, Bungie announced it was splitting from ATVI.



Cloud9 is an American eSports organization that fields teams in *League of Legends*, *Counter-Strike: Global Offensive*, *Rocket League*, *Hearthstone: Heroes of Warcraft*, *Super Smash Bros. Melee*, *Fortnite Battle Royale*, *Overwatch*, *PlayerUnknown's Battlegrounds*, *World of Warcraft*, *Tom Clancy's Rainbow Six Siege*, and *Apex Legends*.

In 2018, Cloud9's *Counter-Strike: Global Offensive* roster became the first American team to win a major championship, securing a 2–1 victory against FaZe Clan in the ELEAGUE Boston: Major 2018 final. Cloud9 has since grown into one of the largest eSports organizations in the world, gaining thousands of followers across social media daily.



Discord is a proprietary freeware VoIP application and digital distribution platform, designed specifically for the video gaming community. Discord specializes in text, image, video and audio communication between users in a chat channel. Discord runs on Windows, macOS, Android, iOS, Linux, and in web browsers.



Epic Games, Inc. is an American video game and software development company. Epic Games develops the Unreal Engine, a commercially available game engine that also powers Epic's internally developed video games, such as *Fortnite* and the *Unreal*, *Gears of War* and *Infinity Blade* series. The Unreal Engine has a complete feature set of graphical rendering, sound processing, and physics that can be widely adapted to fit the specific needs of a game developer that does not want to code its own engine from scratch. Epic also provides support to the Unreal marketplace, a digital storefront for creators to sell Unreal assets to other developers. Recently, Epic launched the Epic Games Store, which is a digital storefront for games that charges below average revenue sharing splits, in an effort to attract independent game developers.



Gearbox Software, L.L.C. is an American video game development company based in Frisco, Texas. Gearbox initially created expansions for the Valve Corporation game *Half-Life*, then ported that game and others to console platforms. In 2005, Gearbox launched its first independent set of games, *Brothers in Arms*, on console and mobile devices. It became the company's flagship franchise and was spun off as a comic book series, television documentary, books, and action figures. Gearbox's second original game series, *Borderlands* was launched in 2009, and by 2015 had sold over 26mm copies. The company also owns the intellectual property of *Duke Nukem* and *Homeworld*.



Insomniac Games, Inc. is an American video game developer based in Burbank, California. Since 2014, Insomniac has actively expanded its portfolio of games. The company worked with Microsoft Studios on 2014's *Sunset Overdrive*, partnered with GameTrust to release the underwater Metroidvania game called *Song of the Deep*, released several mobile games and virtual reality projects, and introduced a reimagining of the first *Ratchet & Clank*. The company released its first licensed title, Marvel's *Spider-Man* for PlayStation 4, on September 7, 2018.

## JAMCITY

Jam City is a leader in mobile entertainment, providing unique and deeply engaging games that appeal to broad global audiences. Jam City was founded in 2009 by MySpace co-founder and CEO Chris DeWolfe and former 20th Century Fox executive Josh Yguado. Jam City is the creator behind some of the highest grossing and most enduring social gaming franchises for mobile, including *Cookie Jam* (Facebook “Game of the Year” winner) and *Panda Pop*. Jam City is the go-to studio for Hollywood, having developed immersive, narrative-rich mobile games around iconic entertainment brands including *Harry Potter*, *Family Guy* and *Marvel Avengers*. Jam City has eight studios globally, including Los Angeles (HQ), Burbank, San Francisco, San Diego, Toronto, Bogotá, Berlin, and Buenos Aires.

## MOBCRUSH

Mobcrush is a live-streaming app and community for mobile gamers. The company’s platform allows gamers to stream to Twitch, YouTube, Facebook and Mixer simultaneously; chat with all their channels in one feed; get paid with sponsored streams, refer new users; track social growth and engagement of each stream; and access recent streams to download best moments. In addition to providing full service live streaming and influencer marketing, the company offers efficient cross-platform solutions that help brands integrate into live streams and live content of all kinds.



MZ is a privately held technology company, founded in 2008 and based in Palo Alto, California. The company is best known for its widely advertised freemium mobile MMO strategy games *Game of War: Fire Age* and *Mobile Strike*, which have both simultaneously been ranked among the top ten highest-grossing mobile games.



NIANTIC

Niantic, Inc. is an American software development company based in San Francisco, which is best known for developing the augmented reality mobile games *Ingress*, *Pokémon Go*, and *Harry Potter: Wizards Unite*. Originally formed at Google in 2010, it is now an independent company with investors including Nintendo, The Pokémon Company, and Alsop Louie Partners. Niantic is focused on building games that encourage interaction with the physical world. Its game *Ingress* is an immersive real-world mobile game that has been downloaded more than 20 million times and is played in over 200 countries and territories worldwide. *Pokémon GO* broke all records globally by being downloaded over 750mm times by July of 2017, its first year, and 800mm by May of 2018.



Scopely, Inc. is an interactive entertainment company and mobile games developer and publisher. Scopely partners with game developers and global entertainment companies to create and distribute free-to-play mobile games. The company specializes in creating games tailored for license owners, and its award-winning catalog of games have generated more than a dozen No. 1 hits. Popular titles include, *WWE Champions*, *The Walking Dead: Road to Survival*, *Yahtzee with Buddies*, and *Wheel of Fortune: Free Play*.



Skillz is a mobile eSports platform, seeking to connect mobile gamers through competition. Skillz provides game developers with a full-stack competitive gaming engine to transform mobile games into full-fledged mobile eSports. More than 13,000 mobile game developers leverage the power of Skillz to seamlessly integrate competitive tournaments into mobile games. With skill-based player matching across multiple tournament types, players can compete with millions of other players for either bragging rights or real-world prizes. For more than 18 million players, the Skillz experience presents a fun and fair way to compete in gaming titles across all major genres.



Unity Technologies is a video game software development company. Its platform is used to create two-dimensional, three-dimensional, virtual reality, and augmented reality video games and other simulations. The engine originally launched in 2005 to create video games. Currently, it supports more than 25 platforms and has been used to create approximately half of mobile games on the market and 60 percent of augmented reality and virtual reality content, including approximately 90 percent on emerging augmented reality platforms, such as Microsoft HoloLens, and 90 percent of Samsung Gear VR content. Unity technology is the basis for most virtual reality and augmented reality experiences and the company has used its game engine to transition into other industries using the real-time 3D platform, including film and automotive.



Valve is an entertainment software and technology company founded in 1996 by Gabe Newell and Mike Harrington and based in Bellevue, Washington. The company became famous from its first game, *Half-Life*. Valve currently develops and maintains several video games including the *Half-Life 2* series, *Counter Strike Source*, *Day of Defeat Team Fortress 2*, *Portal*, *Left 4 Dead* and *Left 4 Dead 2*. As well as its current projects, Valve has an impressive back catalogue including *Half-Life*, *Counter-Strike*, *Counter-Strike: Condition Zero*, *Counter-Strike: Deleted Scenes*, *Day of Defeat*, *Team Fortress Classic*, *Deathmatch Classic*, *Opposing Force*, and *Ricochet*. In addition, Valve is a developer of leading-edge technologies including the Source game engine and Steam, a leading platform for digital content with over 10 million registered users.



ZeniMax Media is a video game publisher that creates and publishes original interactive entertainment content for consoles, the PC, and mobile devices. Its Bethesda Softworks division, founded in 1986, has a long history of success as a publisher of award-winning video games. In addition, the ZeniMax group includes some of the most acclaimed development studios in the world. The company's growing library of intellectual properties includes such major franchises as *The Elder Scrolls*, *Fallout*, *DOOM*, *RAGE*, *Wolfenstein*, *Prey*, *Dishonored*, *The Evil Within*, and *QUAKE*. ZeniMax is a pioneer in virtual reality technology, being the first company to prove that commercial virtual reality is feasible.



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			8/27/19		
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Alphabet	GOOG		\$1,170.82	Buy	B, G
Apple	AAPL		\$204.16	Buy	B, G
CBS	CBS		\$41.04	Buy	B
Discovery Communications	DISCA		\$26.47	Hold	B, G
Electronic Arts	EA		\$94.06	Buy	B, G
Facebook	FB		\$181.30	Hold	B, G
Fox	FOXA		\$31.93	Hold	B, G
Snap	SNAP		\$15.51	Underperform	B
Viacom	VIAB		\$24.37	Buy	B, G
Walt Disney Co.	DIS		\$134.49	Hold	B

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