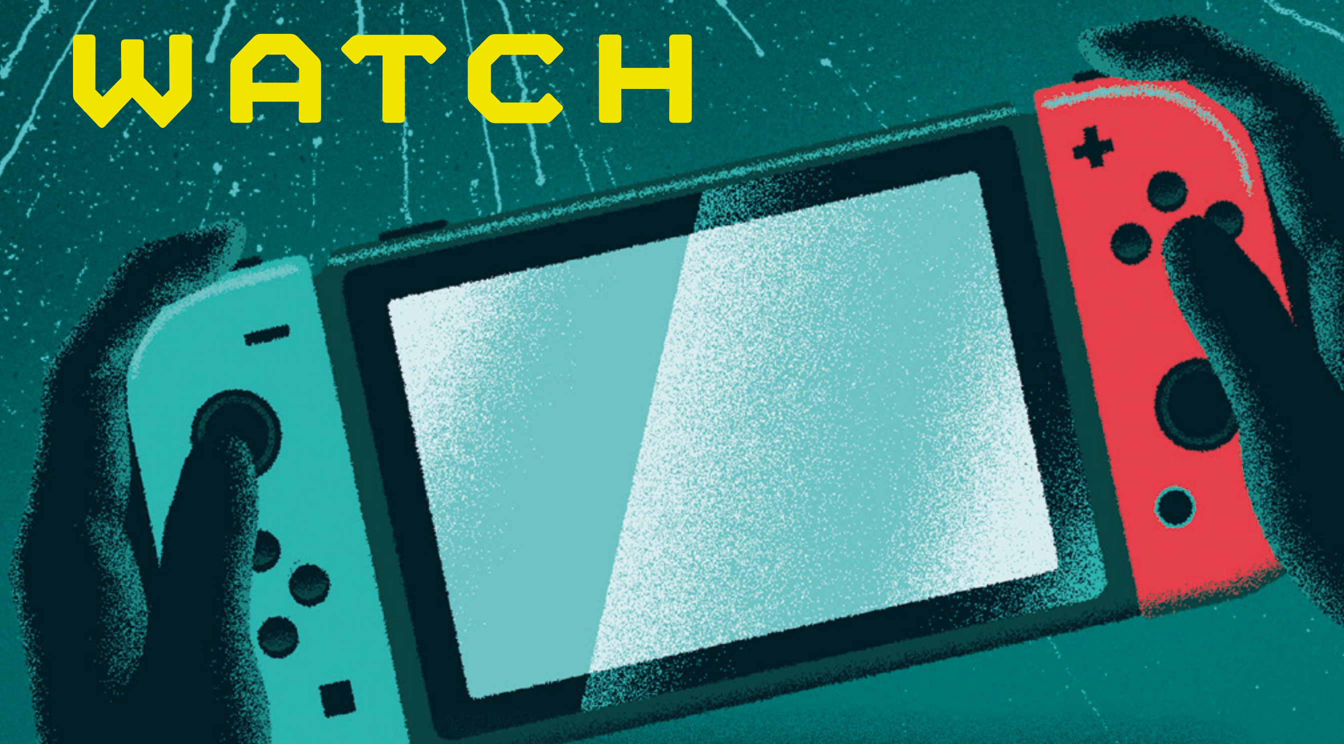
OPTO

TRADING INTELLIGENCE

REPORT NO:
06

CMCMARKETS.COM

10 STOCKS TO WATCH



THE GAMING INDUSTRY is now worth more than both the global music and film industries. But for trading success, the challenges these companies face through high levels of competition and market fragmentation must also be understood.

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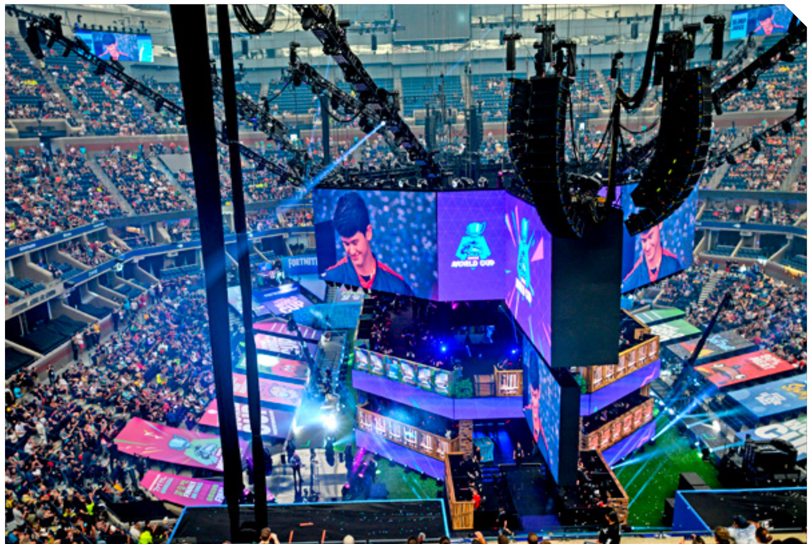
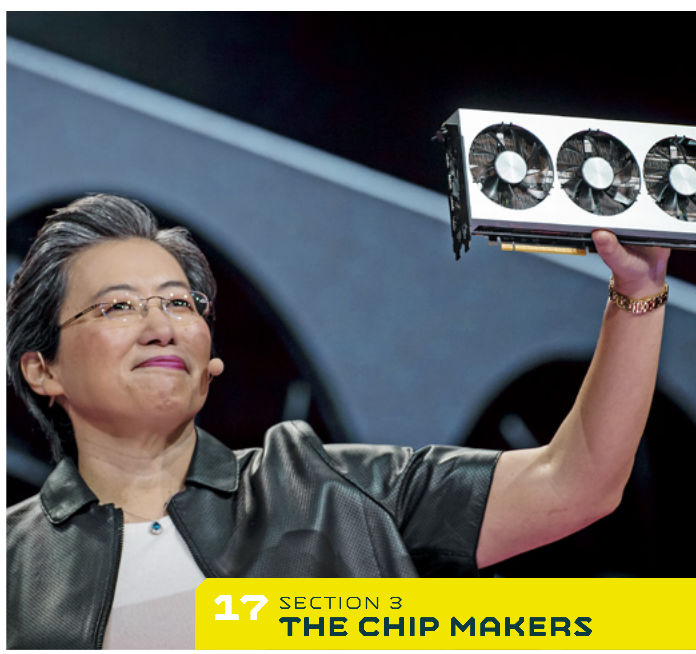
The gaming industry is bigger than ever and as it enters a new phase of growth, it is only going to get more powerful. We take a look at the opportunities within the $138bn industry – a tour de force that is now worth more than the global music and film industries combined. In this report, we breakdown the ecosystem of companies involved into three main parts: the game makers, the console makers and the chip makers powering the graphics in games. With video games poised to be this century's dominant form of entertainment, what will be the future of gaming?





THE GAMING STOCKS TO PLAY

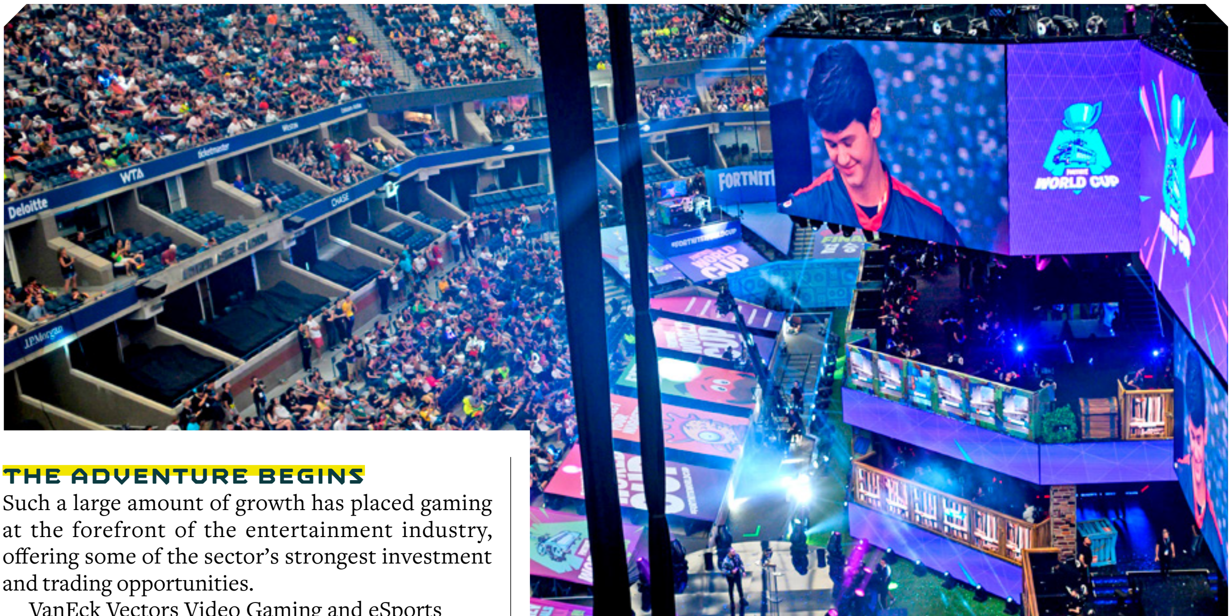
DURING A HOT July weekend in New York, Epic Games – who backs Tencent [TCEHY] – took over the city's Arthur Ashe Stadium (often used for the US Open) to host the first ever 'World Cup' for the world's biggest video game, *Fortnite*. Alongside the near 25,000 people in attendance, over two million people tuned in to watch a group of mostly teenagers play video games for a $30m prize pool – a total higher than the amount allocated for both the men's US Open singles and doubles titles combined.

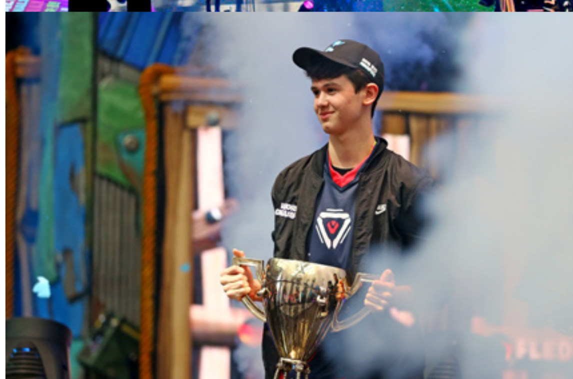
$138BN
VALUE OF THE GAMING INDUSTRY

The competition not only made a group of 15- and 16-year-olds millionaires – the winner won $3m, the winning duo split $3m and the pair in second place took home $2.2m – it was the biggest visual display of the power of gaming to date.

Worth $138bn globally in 2018 – compared to music's $130bn and film's $136bn – there's little surprise that everyone from Netflix [NFLX] to the NFL see the gaming industry as its number one competitor.

It's a trend that Netflix CEO Reed Hastings knows all too well, telling shareholders in January: "We compete with (and lose to) *Fortnite* more than HBO". The streaming giant had more than 150 million subscribers as of 17 July, whereas the battle royale-style game had more than 250 million accounts as of March. ▶





Johannes Eisele/AFP/Getty Images

THE ADVENTURE BEGINS

Such a large amount of growth has placed gaming at the forefront of the entertainment industry, offering some of the sector's strongest investment and trading opportunities.

VanEck Vectors Video Gaming and eSports ETF [ESPO] has holdings in companies including Nintendo [7974] and Electronic Arts [EA]. The fund's year-to-date returns of 33% (through 2 December), solidly outpaces Invesco's media fund's [PBS] 15%.

But while gaming's big breakout has made the industry expansive, it's also highly competitive, with the sheer size of the market the biggest barrier to a single equity breakout – whether it's the console battle between Nintendo, Sony [6758] and Microsoft [MSFT], the huge number of games being released by the likes of Electronic Arts and Ubisoft [UBI], or the running contest between the chipmakers that make the graphics in games possible.

Both EA and Take-Two Interactive [TTWO] reported revenue and earnings misses this year, citing "intense competition" in the space as a key reason. Chipmakers have also been on a downtrend as the graphics card war between PC and console gamers pulls the stock of Nvidia [NVDA] and Advanced Micro Devices [AMD] in different directions.

POWER UP

There's little argument that, while competition is growing, so is opportunity. It's not teenage boys who are the largest demographic of gamers in the US today, but adult women playing on mobile phones. That is just one of the growing areas that is doing well alongside esports and cloud-powered subscription services.

While streaming and subscription models aren't new – PlayStation Now was launched in 2014 – the enthusiasm for cloud gaming from major companies like Google [GOOGL] demonstrates just how big its long-term success could be.

"How game streaming evolves will be a tug of war between the publishers and the streamers," investment managers Jonathan Parsons and Neil Goddin at Kames Capital tell *Opto*.

ABOVE: Kyle Giersdorf took the $3m top prize after winning the 2019 'Fortnite' World Cup in July.

250M
NUMBER OF PEOPLE PLAYING FORTNITE

"HOW **GAME STREAMING EVOLVES** WILL BE A TUG OF WAR BETWEEN THE **PUBLISHERS** AND THE **STREAMERS**"

—Jonathan Parsons and Neil Goddin, Kames Capital

Indeed, gaming companies may prove to be more volatile during the move to subscription, but the increase in earnings streams, breakthroughs in the technology that develops augmented and virtual reality, and the continued growth of esports will give traders a lot of scope and opportunity.

Here, *Opto* looks at the key companies within three areas of gaming: the game makers, the console makers and the chipmakers.

THE GAME MAKERS

Gaming design firms are those best placed to profit from the esports entertainment boom, but competition is dividing the spoils and squeezing margins. Could the evolution of cloud gaming disrupt the companies at the top?

ABOVE: 'Grand Theft Auto V' is one of Take-Two Interactive's best-performing titles, grossing $6bn in revenue for its publisher Rockstar Games.

TAKE-TWO INTERACTIVE PLAYS THE WAITING GAME

$13BN
VALUE OF **TAKE-TWO INTERACTIVE**

With a market cap of $13bn, Take-Two Interactive is the third-largest publicly traded games firm in Europe and North America. And despite its stock falling more than 12% in the 14 months since reaching an all-time high of $137.99 on 28 September 2018, shares remain some of the most expensive in the industry.

The New York City-based game developer's success is down to the popularity of its best-performing game to date: *Grand Theft Auto V*, which was one of its largest contributors to raising its net bookings by 47% to $2.92bn in 2019. The franchise has sold more than 95 million units and grossed a massive $6bn in revenue for the firm's publisher Rockstar Games, making it the "most financially successful media title of all time", according to MarketWatch.

Its other flagship title, *Red Dead Redemption*, is also one of its largest contributors to growing its earnings year-over-year by 87.8% to $2.95 per share in 2019, and together both games attracted a combined 90 million unique players, making them the best-selling titles in the US last year.

FIZZLING OUT?

However, for BMO Capital Markets analyst Gerrick Johnson, the "buzz" around *Red Dead Redemption* could be fizzling out. He notes that the amount of views on broadcasting platforms such as Twitch and YouTube for these games are falling. The fact that analysts are using broadcasting platforms' viewing metrics to judge gamers' interest shows just how important these streamers are.

Grand Theft Auto V was the company's most-watched game on Twitch in Q1 2019. However, despite viewership rising 178% year-on-year to 86,431,232, it ranks seventh behind *Fortnite* and *League of Legends*.

While Take-Two Interactive makes up the majority of its revenues from consoles at $422m, representing 78% (PC accounts for the remaining 22%), the gaming giant is diversifying, investing in areas such as mobile games and esports, with investments totalling $1.5bn in 2019.

Like its industry peers, the company has been caught up in a 'battle royale' with Epic Games's *Fortnite*. This has left it to report disappointing sales forecasts of between $485m and $525m in net revenues for 2020.

However, a flurry of new products could offset this. The company announced a partnership for its NBA video game simulation series, which has sold more than 90 million units to date. It has also spoken of a new mobile game, the next instalment in its 'shooter-looter' series *Borderlands*, as well as hinting at an exciting new project which fuelled rumours about the potential release of a new *Grand Theft Auto* instalment.

NO CLOUD, NO PROBLEM

A PE ratio of 70.72% at the time of publication compared to the industry's average of 25.45% implies that analysts are optimistic the company has nailed long-term growth drivers in its popular franchises. With its return on investment of 15.31% outperforming the industry, Take-Two Interactive is unsurprisingly a 'strong buy' among analysts.

Interestingly, when it comes to cloud gaming, CEO Strauss Zelnick doesn't believe it's a "game changer." He explains: "Based on what we know, however, subscription-based gaming means fewer unit sales on release".

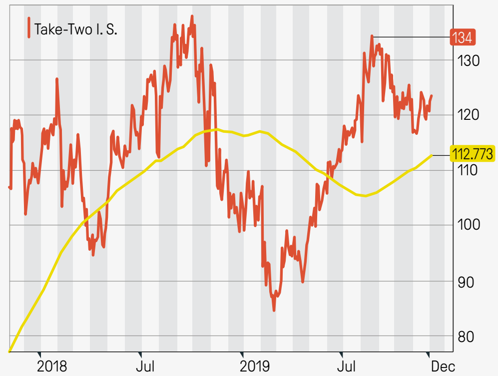
Indeed, the push towards a subscription model completely changes the value proposition of a game, as players begin to choose access over ownership. But with Take-Two Interactive's games set to become a part of various streaming services, starting with Google's Stadia, the company is making significant strides in the space. ▶

86,431,232
NUMBER OF PEOPLE WHO WATCHED **GRAND THEFT AUTO V** PLAYERS ON TWITCH IN Q1 2019

Newzoo's senior games market analyst Tom Wijman tells *Opto* that even without yet knowing how royalties or revenues will be split for streaming and subscription services, "we can say that a company such as Take-Two Interactive, whose biggest releases happen once every few years [*GTA*, *Red Dead Redemption*] or annualised [*NBA 2K*] will benefit less from this trend".

However, Lisa Hanson, founder of gaming research firm Niko Partners, believes that when it comes to streaming, it will ultimately come down to the content. "Just as with Hollywood movies, there are hit games and flop games," Hanson tells *Opto*. "Only the gamers can decide that fate."

Take-Two stock performance since 2018



Take-Two Interactive has been pushing higher throughout 2019 and it might target the 134.00 zone. A move lower might find support at the 200-day moving average at 112.73.

Source: CMC Markets 01.12.19 - David Madden, market analyst at CMC Markets

ACTIVISION BLIZZARD ENTERS THE ESPORTS ARENA

For Robert Kotick, CEO of Activision Blizzard, the world's most valuable video game publisher with a market cap of $41bn, "there's probably never been a better time to be in the games business". The California-based company is among the industry's best for developing blockbuster franchises across budding market trends, with 69% of its total net revenues stemming from its four biggest franchises – *Call of Duty*, *World of Warcraft*, *Overwatch* and *Candy Crush*.

While Activision Blizzard has consistent year-over-year annual revenue growth – net revenues rose more than 70% to $7.5bn in the five years to 2018 – recent trends in the gaming sector has seen it lose significant value in the last eight months due to weak player engagement across some of its titles, suggesting that sales may have peaked.

That didn't stop the company from delivering a record year in revenue and profits in fiscal year 2018. Despite beating market expectations, its stock has been on a downward trend since reaching an all-time high of $83.39 on 2 October 2018, falling nearly 35% to $54.23 by the beginning of December.

VALUE BUY?

Activision Blizzard's stock is certainly one of the cheapest among its peers, while its return on investment and dividend yield sits broadly in line with the gaming industry's averages of 0.47% and 9.48% respectively.

As a result, some analysts are predicting a breakout. The stock has an average overweight rating, according to *The Wall Street Journal*.

When comparing share price performance to key peers, the game developer has been accused by some of lacking resilience. While gaming stocks are typically cyclical due to their reliance on producing hit titles, Activision Blizzard's stock was caught in a crossfire from its peers following disappointing Q1 results, while simultaneously feeling a backlash from fan disapproval over plans to turn its RPG *Diablo* franchise into a mobile game.

Indeed, the company's mobile segment – King, which was acquired in 2016 for $5.9bn and is best known for the mobile game *Candy Crush* – brought in the least revenue relative to the company's other business units. King generated $2.09bn in 2018, while operating profit stood at $750m.

Meanwhile, the company's Activision segment – which is responsible for its key product franchise, the popular shooter game *Call of Duty* – turned in $2.46bn in revenue and $1.01bn in operating income, raising its total net bookings by 1.48% to $7.26bn in 2018.

$41BN
VALUE OF ACTIVISION BLIZZARD

ESPORTS BOOST

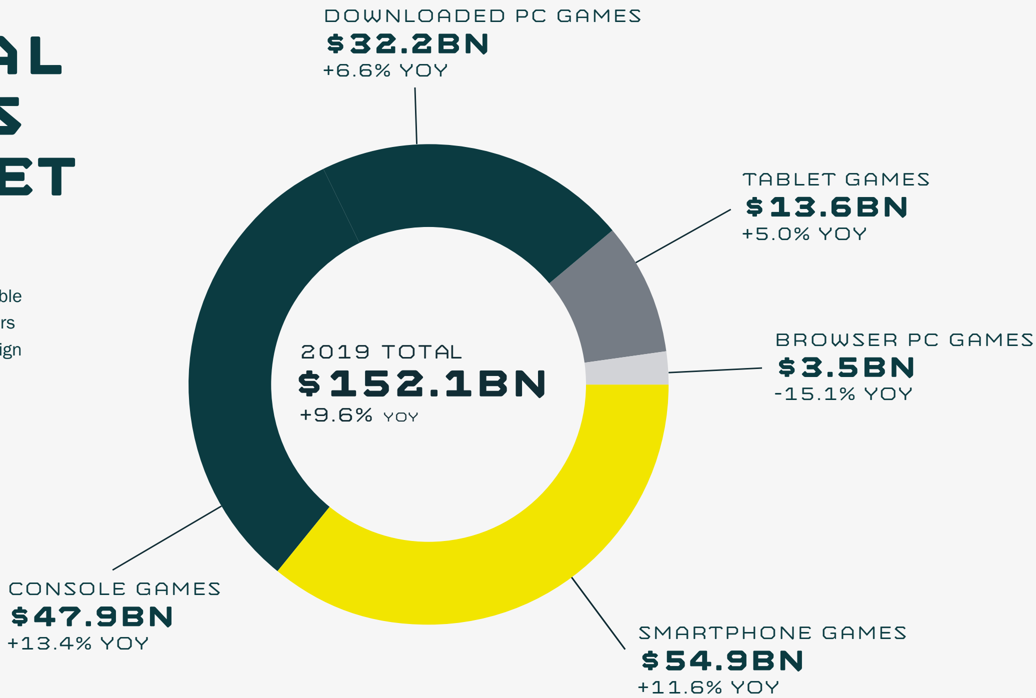
Finally, the company's Blizzard business – which consists of *World of Warcraft*, *Diablo* and *Overwatch* – also generated $2.46bn in revenue, primarily due to its strategic entry into the cultural phenomenon that is esports.

The first-person shooter game, *Overwatch*, had its debut tournament in 2018 – The Overwatch World Cup – and attracted 10.8 million viewers over the two days, while the opening week of season two brought in a 30% year-over-year rise to 13 million in viewership. The company's ad-based business is expected to record more than $100m in bookings by the end of 2019.

As for gaming's pivot from hardware to cloud gaming, Tom Wijman notes that Activision Blizzard is one of the companies that stands to benefit the most. "A company such as Activision Blizzard, whose games in most cases already include many in-game monetisation options, depends less on initial unit sales," he tells *Opto*. Given that the game developer owns 30 years' worth of intellectual property, the potential revenue from expanding its subscription services into streaming is huge. With in-game purchases reaching $800m in Q1 of 2019, Activision Blizzard is in a prime position to create a lasting multimedia empire. How long this will take to show in its share performance is, however, another matter.

2019 GLOBAL GAMES MARKET

The games market has taken the world by storm, and with more games becoming available wherever and whenever players want, the industry shows no sign of slowing down.



Source: Newzoo 14.08.19

ELECTRONIC ARTS FACES OFF WITH FORTNITE

Electronic Arts [EA] CEO Andrew Wilson has led the way when it comes to creating a compelling mix of game franchises. And with streaming along with subscription models set to be the greatest disruption to the entertainment industry, he's not taking any chances.

Indeed, the game developer's Access service has been in operation since 2014 and had a 33% market share of the $273m in total subscription revenue as of Q3 2018. PlayStation Now and Xbox Game Pass had 52% and 15% respectively.

Electronic Arts's plans to be at the forefront of cloud gaming started to come to fruition in May 2018 when it acquired GameFly's cloud streaming subsidiary, which operates a game rental service.

By the time this year's E3 event came around in June, the company was ready to show off a prototype of its cloud gaming platform, Project Atlas. This will integrate a slew of features from artificial intelligence to development tools.

"It's not unreasonable for us to believe that, for what is essentially the same investment in the creation of the content, we might entertain an additional 100 million players through subscription than we would in the traditional model," EA's Wilson said during the E3 conference.

$30BN VALUE OF **ELECTRONIC ARTS**

"WE MIGHT ENTERTAIN AN ADDITIONAL 100 MILLION PLAYERS THROUGH SUBSCRIPTION THAN WE WOULD IN THE TRADITIONAL MODEL"

—Andrew Wilson

The California-based company has been quick to jump on to the industry's changing trends, with digital net bookings accounting for 75% of its total $3.72bn in 2019. The early success of *Apex Legends* – a free-to-play 'battle royale'-style game with in-game purchases – was down to it being designed solely to compete with *Fortnite*.

UNSUSTAINABLE RUN

Within the first 72 hours after *Apex Legends* launched it had more than 10 million players (*Fortnite* had the same amount over two weeks), but the euphoria quickly faded. Analysts soon realised that its success was not sustainable, as some of its other big releases such as *Anthem* began to struggle.

However, despite an annual year-over year revenue growth decline of nearly 4% in 2019 to below $4.95bn, EA still beat analysts'

Patrick T Fallon/Bloomberg via Getty Images

ABOVE: Andrew Wilson, CEO of Electronic Arts.

expectations. The decline was primarily due to its mobile segment, which delivered net bookings of $135m, down 23% year-over-year.

The drop in revenue is also being reflected in its share price, which has fallen more than 34% in the 16 months since reaching an all-time high of $148.93 on 18 July 2018. This wiped off $16.98bn from its market value. According to Fintel, as of July 2018 around 12% of the stock was held by short sellers – higher than both Activision and Take-Two Interactive.

BRIGHT SIDE

According to Baird analyst Colin Sebastian, *Apex Legends* could generate as much as $500m in revenue by 2020 for EA. If it proves successful, the company could roll out the free-to-play model across other titles.

The potential new revenue stream from competitive gaming could be a solid growth driver for EA, particularly because its games are well suited for esports.

Annual series games such as *FIFA* and *Madden NFL* have a large following on broadcasting channels such as Twitch and YouTube, and *FIFA* has specifically seen an 80% surge in total minutes watched in 2018.

EA has signed several new esports sponsorships and partnerships off the back of the rising interest in its sports titles. These have also boosted demand for the company's subscription services.

However, Investment advisor Stone Fox Capital notes that, while there are several growth catalysts from the introduction of more mobile games and esports competitions, the stock has potential to retest lows in the short term.

"While the stock is down nearly $60 from the 52-week high and EA offers a reasonable value in comparison to historical valuation multiples, the stock has a clear risk to retest the $74 lows," analysts at the firm wrote on Seeking Alpha in mid-July.

"Investors building a position in the low $90s definitely want to hold some capital in reserve to take advantage of any further selloff in EA, based on potentially disappointing *Apex Legends* revenue until a mobile version is released."

UBISOFT LEADS THE TRANSFORMATION

Founded in 1986 by the Guillemot family, Ubisoft is one of the oldest game developers in the industry. The French video game company is mostly known for hit titles such as *Assassin's Creed* and *Tom Clancy's Rainbow Six Siege*, which have seen record levels of engagement in the past year.

Indeed, *Tom Clancy's Rainbow Six Siege* topped €1bn in lifetime net bookings and continues to grow its player base, rising 40% year-over-year to more than 40 million as of 2019, despite being released in December 2015. Meanwhile, *Assassin's Creed: Odyssey* set franchise records for player recurring investment – which includes digital sales, season passes, subscriptions and advertising – raising overall net bookings by 33% to €644m in 2019.

Patrick T Fallon/Bloomberg via Getty Images

The success of these titles is key to the company's strong top and bottom lines, and the record user engagement it has recently seen. Total revenues rose 6.5% year-over-year to €1.84bn in 2019, with active unique players reaching 100 million.

The release of several new titles in 2020 is expected to drive net bookings up a further 8% to €2.19bn as the company begins to focus more on long-term support for its major blockbusters. As it stands, it has a PE ratio of 49.88%, which is considerably higher than the industry's 25.45%. However, not all investors are pleased about this. Ubisoft's decision to delay the release of its highly anticipated title *Skull & Bones* in May sent its shares tumbling, dragging Europe's Stoxx 600 index down.

Since reaching an all-time high of €103.60 on 18 July 2018, the stock has tumbled more than 51% in 16 months to trade around €50, dragging its annual return on investment to just 5.13% compared to the industry's average of 10.67%.

The downward trend of the stock could be about to reverse, however, as the company announced plans to expand its Uplay service called Uplay Plus into a subscription service later this year, which will be compatible with Google's Stadia from 2020.

$7BN
VALUE OF UBISOFT

Ubisoft CEO Yves Guillemot believes that streaming will become a significant part of the company's earnings in the next five years. However, instead of a Netflix-like business model, he prefers a "publishing channel" model that allows game publishers to maintain a direct relationship with its players.

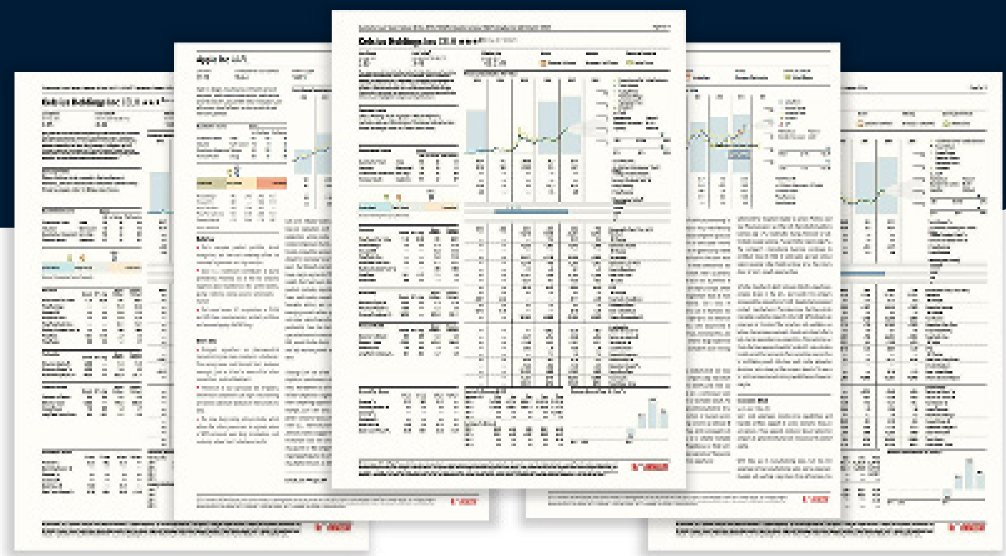
"I believe there will be lots of services with lots of different types of games," Guillemot told *Fortune*. But with a growing amount of gaming subscriptions there could be a rise in collaborations between publishers and platform holders in the long term.

The company isn't shy about partnerships with an increasing involvement in film and TV productions, and its history of pairing up with other gaming incumbents like Nintendo for the *Rayman Raving Rabbids* series and Tencent has allowed it to tap into the untouched spoils of the Chinese gaming market.

For Guillemot, Ubisoft's relationship with these communities is important to fostering growth and value creation. He sees the video game industry "at the dawn of a deep-seated transformation" and, given its trajectory, Ubisoft will be a core player.

ABOVE: The popularity of video games including Ubisoft's 'Assassin's Creed: Odyssey' means single games can now stage their own events.

Chesnot/Getty Images



THE CONSOLE MAKERS

In a move that shocked the gaming industry, rival companies behind the world's best-known consoles – Xbox, PlayStation and Switch – are joining forces to battle the onslaught from tech companies entering the cloud gaming space. Is this gaming's biggest fight yet?

NINTENDO

TAKES SUPER MARIO TO MOBILE

Nintendo has become synonymous with gaming, having bought the distribution rights to the world's first-ever video game device in 1975, triggering the company to create iconic games from *Donkey Kong* and *Super Mario Bros* to *The Legend of Zelda* and *Pokémon*.

The success led to the Japanese firm releasing a number of its own innovative devices: the Game Boy in 1989, the Nintendo 64 in 1996 and the Wii in 2006 – the latter of which has gone on to sell 100 million units worldwide to date, catapulting the company to a record revenue of $18.76bn in 2009.

However, since then revenues have been on a downward trend – falling to less than $5bn by 2015. The share price also struggled, losing 70% between 2007 and 2016. By 2013, the stock had dropped to a low of near 90% off its 2007 all-time high of ¥72,100.

But with a new CEO in place and new growth plans focused around IP, mobile and its latest console Switch, Nintendo was able to turn things around in 2018 – growing its revenue by more than 128% to $9.95bn.

The somewhat surprisingly aggressive turnaround has gone down well with traders and investors. After much of its share price gains made in 2017 – off the back of the 2016 release of *Pokémon Go* – were wiped out in 2018, the company is once again storming forward, gaining 47% in the 11 months ending 2 December 2019.

1975
YEAR NINTENDO BOUGHT THE RIGHTS TO MAKE THE WORLD'S FIRST-EVER VIDEO GAME DEVICE

$10.9BN
NINTENDO'S SALES IN FISCAL 2019

NINTENDO'S BIG COMEBACK: THE SWITCH

The reinvigoration of Nintendo's sales came from the release of a hybrid home/portable console named Switch. Trumping the success of the Wii, the Switch sold 15.05 million units in its first fiscal year in 2017, making it the fastest-selling console in the US. Sales have only increased, with 16.95 million units sold in 2018 – a 13.29% rise year-over-year – with lifetime sales now at 36.87 million units.

As a result of the Switch's success, Nintendo announced a new budget version in July. Analysts now believe the Switch Lite could be key to prolonging the lifecycle of its consoles in the face of cloud gaming, which for Serkan Toto, an independent video games analyst in Tokyo, could be a challenge for the firm: "Nintendo's identity as an integrated hardware and software developer makes it harder for [the company] to fathom a future where [its] games are in the cloud".

He describes Nintendo as one of the more conservative companies in the gaming world, and expects it will follow a wait-and-see approach when it comes to the cloud, based on how the company's executives have reacted to recent announcements from competitors. For the moment, Nintendo's future is tied to that of the Switch, which is due to hit another wave of momentum as the company's partnership with Tencent will allow it to access previously untapped revenue streams in the Chinese market. The deal could also be "a strategic tie-up for [Nintendo] to fend off newcomers to the industry," Toto tells *Opto*. Because if cloud gaming becomes as revolutionary as mobile games were 10 years ago, Nintendo won't want to miss out again. The news of the partnership sent shares in Nintendo up by more than 13% on 18 April – its biggest single day percentage gain since July 2016.

AT A CROSSROADS

Nintendo's business strategy focuses on platform growth and its mobile business, as well as a concerted effort to expand its arsenal of intellectual property through partnerships, to ultimately access areas ▶

> "**SONY** IS MAKING THE **SAFE BET** BY DOING WHAT IT'S KNOWN BEST FOR: RELEASING A **TOP-OF-THE-LINE** GAMES CONSOLE"
>
> —Tom Wijman, Newzoo

ECONOMICS OF GAMING CONSOLES

Despite all the hype in the build up to the release of new games consoles, share prices don't always rocket. Here's what happened when **Microsoft**, **Sony** and **Nintendo** released new machines.

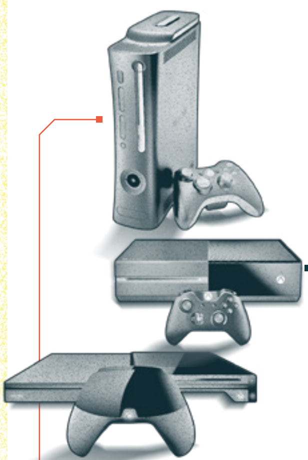
beyond video games. Increasing the profitability of the company's mobile business – which brought in $348m in revenue in 2018 – is an integral part of its growth strategy into other mediums. Since releasing its first mobile game (*Super Mario Run*) in 2016, Nintendo has improved its implementation of the popular free-to-play monetisation model, with its *Fire Emblem Heroes* game accounting for 66% of its 2018 $230m revenue.

The popularity of the Japanese company's mobile titles, such as its high-grossing *Animal Crossing* and upcoming release of *Mario Kart Tour*, are strong examples of how leveraging mobile to increase franchise popularity on consoles could potentially ensure a base level of recurring revenue for the foreseeable future.

As a gaming icon, Nintendo has been banking its future on nostalgia and game IP, which has made it a cultural phenomenon, but the question remains – how long can this be maintained in the face of esports and cloud gaming?

SONY BETS ON NEXT-GEN PLAYSTATION TO REVIVE SALES

Despite being a media behemoth, when it comes to the success of Sony, its president and CEO Kenichiro Yoshida points to one thing: gaming. He describes the games



MICROSOFT

XBOX 360
LAUNCH
↓ -0.80%
22 November 2005

XBOX ONE
LAUNCH
↑ 0.04%
22 November 2013

PROJECT SCARLETT & XCLOUD*
↑ 0.90%
10 June 2019

SONY

PLAYSTATION 1
LAUNCH
↑ 0.48%
3 December 1994

PLAYSTATION 2
LAUNCH
↓ -4.67%
4 March 2000

PLAYSTATION 5*
↑ 0.4%
15 April 2019

NINTENDO

WII
LAUNCH
↓ -0.74%
19 November 2006

SWITCH
LAUNCH
↑ 3.86%
3 March 2017

SWITCH LITE*
↑ 3.42%
10 July 2019

*Announcement

division, which includes sales of PlayStation, as the engine fuelling the $80bn multinational entertainment company.

In 2018, the growth of the PlayStation Network drove the gaming segment to achieve the highest sales and profit ever recorded in the company. The game and network services segment of the business – which makes up a quarter of the company's total revenues of $78bn – increased 19% year-over-year to $20.7bn thanks to an increase in game software sales, as well as the number of subscribers to its PlayStation Plus service, which now has a total that is well over 36 million.

However, PlayStation 4 hardware sales – which had been virtually printing money for Sony since its release in 2013 – began to decline from 19 million units in 2017 to 17.8 million units in 2018. Sony expects this downward trend in hardware sales to continue, and projects a drop to 15 million units in fiscal year 2019 due to it being the tail end of the product's lifecycle.

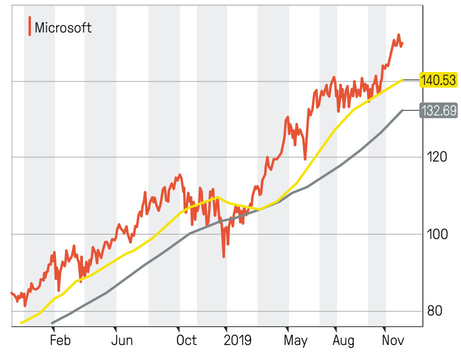
As a result, the Japanese conglomerate forecasts relatively flat sales revenue of $20.59bn for the next financial year. Despite the flat forecast, some analysts still appear bullish with the PlayStation 5 on the horizon. It's worth noting that, with an April 2020 rumoured release date, the new console will not impact sales until the end of next year.

SONY GOES TO WAR OVER THE FUTURE OF GAMING

While the PlayStation has always had the lead over long-time rival Microsoft's Xbox in the current generation of consoles, the next generation of consoles (PlayStation 5), services and content could see anything happen, Lisa Hanson of Niko Partners tells *Opto*.

Indeed, the 73-year-old company shocked the industry when it announced on 16 May that it would partner with

Microsoft stock performance since 2018



Source: CMC Markets 01.12.19 - David Madden, market analyst at CMC Markets.

The stock is in a strong bullish trend and should it clear the recent record-high, it could target 160.00. A break below the 100-day moving average at 140.53, might bring the 200-day moving average at 132.69 into play.

Microsoft to explore "future cloud solutions", as well as collaborate on game and content streaming. The move boosted the company's shares by more than 9% on the Tokyo Stock Exchange to levels not seen since December 2018.

The stock has never quite recovered from its all-time high of ¥16,300 on 1 March 2000, with its most recent high being ¥7,098 on 4 December 2019. Its share price has risen more than 57% in the 11 months ending in December this year, raising its (TTM) return on investment of 6.41% to outperform the industry's 4.33%.

While Hanson notes that cloud gaming is an area of cooperation, she does not believe it would "impact the demand for consoles of either brand nor the interest in certain titles that may be available on one platform or another".

Instead, the partnership is about putting the two console maker's rivalry aside to defend their biggest advantage over the world's largest technology companies: their relationship with developers. It also signifies how seriously console players take disruption, as Sony and Microsoft plan to be at the forefront of building the infrastructure to support cloud gaming.

PlayStation Now – Sony's streaming platform launched five years ago – could raise its one million subscribers off the back of renewed enthusiasm for cloud gaming, but for Newzoo's Tom Wijman, "it is still unknown how much interest from the public there is for [it]". He believes "Sony is making the safe bet by doing what [it's] known best for: releasing a top-of-the-line games console".

As Sony continues to pursue its mission to make PlayStation the "best place to play", it will need to leverage everything it's got, including the latest technology in computing and consoles, streaming, cloud and of course, games content, as competition in the gaming world heats up.

MICROSOFT SWITCHES OUT THE BOX FOR THE CLOUD

Microsoft wouldn't be the world's biggest publicly traded company if it weren't for its gaming business. While the Washington-based conglomerate had its beginnings in creating computer operating systems in the 1980s and is recognised for products such as the Office suite, its gaming revenue has been a constantly strong financial driver.

Out of the $1tn company's three main businesses, the multinational's best-performing segment is its 'More Personal Computing' unit – which includes revenues from Windows (the main platform used by the PC gaming market which dominated esports), search advertising, sales of devices and gaming (which is made up of revenues from Xbox hardware, software and services as well as in-house game

$20.7BN
THE REVENUE SONY'S GAME AND NETWORK SERVICES SEGMENT MADE IN SALES IN 2018

BEYOND THE BOX: GAMING ENTERS THE CLOUD

Streaming and subscription services are nothing new in the gaming world. Microsoft's Xbox Live launched in 2002, followed by Sony's PlayStation Now in 2014 and Nintendo Switch Online in 2018.

But a recent push to develop PC-based cloud gaming services – which threaten to make the next generation of consoles obsolete – has caused a stir in the industry, as tech companies including Google and Apple [AAPL] begin to muscle their way in with the aim of capturing a slice of the projected $2.5bn market by 2024.

As long-standing gaming companies start to band together to stave off the intruders, a tug of war will emerge. While game developers like Electronic Arts and Ubisoft own the rights to a significant library of content, they don't have the resources to build the infrastructure that would support cloud gaming, which has put cloud providers in the driving seat.

Here's who's making a play at the gaming industry today:

APPLE

The continued rise of mobile games and the strategic operations of Apple's App Store has the iPhone maker firmly seated among the top gaming firms, with 300,000 games available from its platform that have been downloaded more than one billion times. It now plans to launch a new Apple Arcade game subscription service for iOS, Mac and Apple TV towards the end of the year, with 100 new games.

TENCENT

Chinese tech giant Tencent is following its Silicon Valley peers into cloud gaming with a new service called Start that already has a library of over 2,000 games. Unlike other big tech companies, Tencent already has a significant content offering with stakes in various game studios including *Fortnite* developer Epic Games, and makes one-third of its overall revenues from gaming.

AMAZON

Amid the flurry of gaming announcements, rumours began to circulate about Amazon [AMZN] potentially developing its own cloud gaming platform. While nothing has been confirmed, the ecommerce giant does have a considerable presence in the industry with its own cloud business (Amazon Web Services), its in-house games studio, and game streaming platform Twitch. AWS takes up a third (34% share) of the cloud market with $8.38bn in revenue in Q2 2019.

GOOGLE

Stadia, Google's cloud gaming venture is set to debut in November with 32 games titles developed by 18 different studios. The search advertising business first announced its plans at the annual Game Developer Conference in March, where the company confirmed it would tap into the already massive online gaming audience using its YouTube service.

development studios) – that "surpassed $10bn in 2018 for the first time", according to CEO Satya Nadella. However, in fiscal year 2019 gaming revenue declined 10% year-on-year to an estimated $9bn – representing just over 26% of its total revenue of $33.7bn – as Xbox hardware sales fell by nearly 50%.

Microsoft forecast flat revenue growth for its More Personal Computing unit in fiscal year 2020, expecting revenue between $10.7bn and $11bn. Microsoft has a (TTM) PE ratio of 30%, significantly lower than the industry's average of 283.27%. Could this damage the wider company's future growth prospects?

XCLOUD: MICROSOFT'S BIG PLAY

Despite the gaming division's recent rocky performance, Microsoft expects a stronger H2 from its ever-expanding ventures in the gaming world. From the launch of its new unlimited subscription service (Game Pass) and next-generation console Project Scarlett, to the acquisition of PlayFab to the addition of five new gaming studios, CEO Nadella is constantly searching for the next big thing.

> "IT SEEMS LIKE [MICROSOFT HAS] A HEAD START OVER SONY WHEN IT COMES TO CLOUD GAMING ... [WHICH] SHOULD GIVE IT THE ADVANTAGE OVER SONY..."
>
> - Tom Wijman, Newzoo

For the gaming industry, that's in the cloud. While Microsoft has partnered with Sony to work on its cloud streaming platforms, the collaboration is limited to the backend and would see the former assist in building the infrastructure needed to support the latter's cloud service.

Toto points out that the tie-up highlights to analysts the sophistication of its cloud computing service – Azure. "They [Sony] could have used any other providers but the fact that it chose Microsoft shows that Microsoft has something that the others don't," Toto says.

For Newzoo's Tom Wijman, Microsoft's Azure will be key for it to take the lead in cloud gaming. "It seems like [Microsoft has] a head start over Sony when it comes to cloud gaming," he tells *Opto*. "This should give it the advantage over Sony for the coming years."

"IF YOU LOOK AT THE CURRENT CONSOLE GENERATION WE'RE IN, PLAYSTATION 4 AND XBOX ONE, SONY HAS BEEN DESTROYING MICROSOFT"

– Serkan Toto, independent videogame analyst

BELOW: In 2019 Microsoft announced its cloud gaming platform Project xCloud.

Toto agrees that Microsoft is best prepared for the future of cloud gaming, especially considering its established social network in Xbox Live surpassed 65 million active users in 2019 – the highest number of mobile and PC users to date.

However, based on the two rival competing consoles, Microsoft loses out to its competitor. "If you look at the current console generation we're in, PlayStation 4 and Xbox One, Sony has been destroying Microsoft," Toto says.

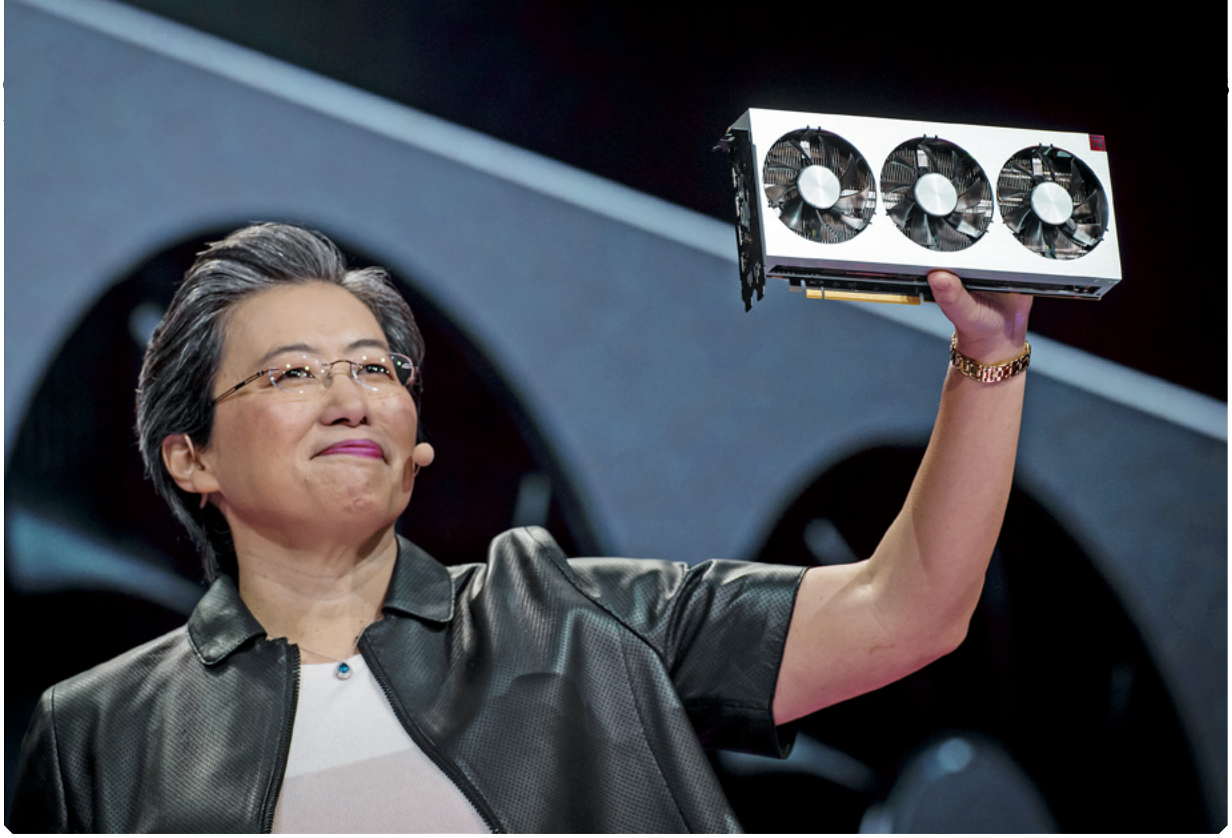
PlayStation is on track to sell 100 million units of its current console, whereas Microsoft sold so few units of its competing console that it stopped disclosing the sales number for the Xbox One several years ago, leading analysts to assume the worst.

Sony's history of beating Microsoft at least two-to-one in console sales may be the key to its undoing though, as Microsoft's world-class cloud infrastructure coupled with an established gaming platform gives it a head start on its competitor.

Despite the losing streak in console sales, Microsoft's stock looks to be on an uninterrupted upwards journey, as it continues to consecutively break one record all-time high after another. Shareholders are cashing in too, with (TTM) return on investment at 18.31% and earnings at $1.71 per share, as of its fourth quarter 2019 results.

The highly anticipated new release of the vaunted *Halo* franchise as well as its next-generation console and xCloud streaming service are all expected to further strengthen Microsoft's position at the forefront of the gaming industry. For investors looking for their next greatest adventure yet, Microsoft appears to continue to be a strong gaming-exposed growth stock.

Mark Ralston/AFP/Getty Images



Lisa Su, president and CEO of Advanced Micro Devices

THE CHIPMAKERS

After the bottom fell out of bitcoin mining last year, Advanced Micro Devices and Nvidia are looking to their gaming units for growth. But locked in a price war with each other in a wider plunging semiconductor industry, an their stock prices match the growth of gaming?

AMD:
SENSING BLOOD

Since plunging from its all-time high of $47.50 in 2000, Advanced Micro Devices's [AMD] stock had only threatened to retest that level once, in 2006 – when the stock hit $42.10 before proceeding to sit between $1.75 and $15 for the next 12 years.

That all changed in 2018 when the stock carried out an almighty rally across the first nine months of the year, gaining 218% to reach $32.72 – before promptly falling 43.5% during the October selloff. But 2019 has once again been characterised by a second wind for Advanced Micro Devices, in which the stock gained 116% through the year to reach a 13-year high of $39.88 on 18 November.

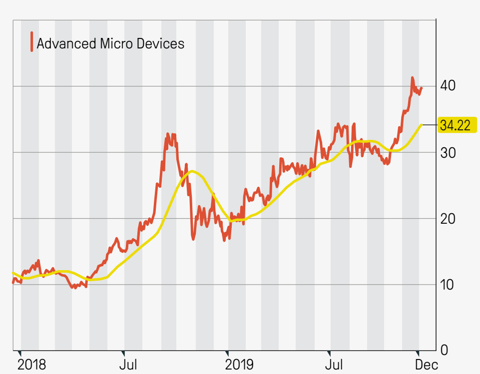
THE UNDERDOG BITES BACK

The renewed surge was largely prompted by the release of a new line up of Ryzen 3000 processors, triggering a whopping 39% year-over-year increase in its computing and graphics business, enabling it (for the first time) to reportedly outsell Intel [ITNL] in Asia, according to the South Korean retailer Danawa.

A 20% drop towards the end of July was quickly recovered when Google and Twitter [TWTR] announced in August they would be using a new round of server processors, which are 100% more powerful than Intel's comparable chips.

And it's not just Intel that Advanced Micro Devices seems to be outperforming. With the launch of its affordable Radeon gaming chip series – which, following a tactical price cut, massively outperforms Nvidia [NVDA] on value, and now, popularity – is expected to see continued strong demand that could, according to some analysts, push 2019 earnings up by as much as 50% year-over-year. ▶

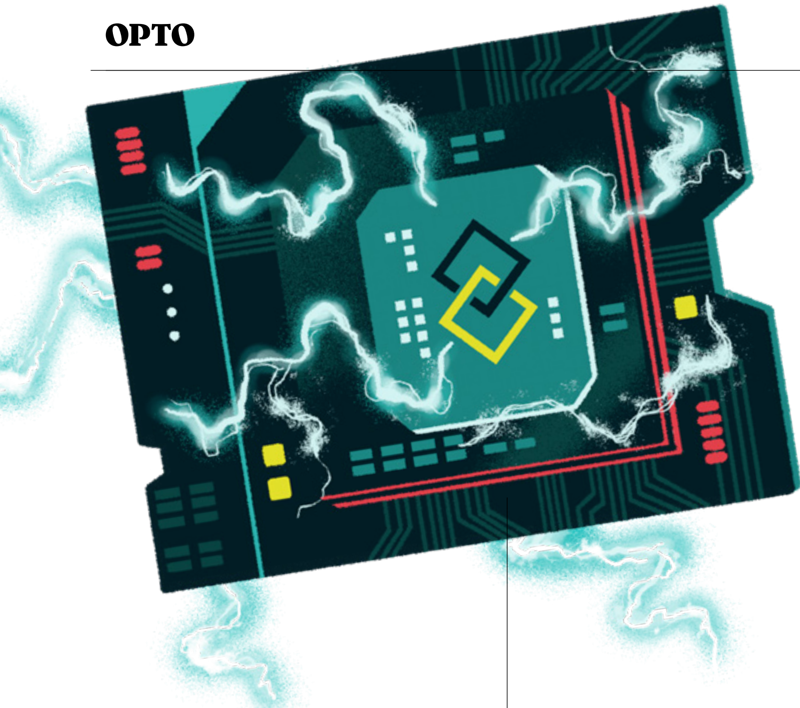
AMD stock performance since 2018



Source: CMC Markets 01.12.19 - David Madden, market analyst at CMC Markets.

AMD has retreated a little from the 13 year high posted last month. If the positive trend continues it might target 41.55. The 50-day moving average at 34.22 might provide support to a move lower.

Getty Images



The launch of a new Zen 2 desktop processor also looks set to drive further gains in market share – and reverse a downtrend experienced between 2017 and 2018.

"We think that the new CPUs... will help Advanced Micro Devices sustain its desktop processor market share momentum, driving unit market share," Nomura Instinet analyst David Wong said in a note following the launch of the Zen 2 in early July. "Advanced Micro Devices's high revenue growth and rapidly improving profitability justify what we consider to be an elevated [valuation] multiple."

Wong added that he expects Advanced Micro Devices's desktop processor market share to rise to 20% by December, up from 17% in March.

RALLY OVER?

However, some have cautioned Advanced Micro Devices's rally could be coming to an end. The stock began to stutter at the end of July and Mizuho analyst Vijay Rakesh downgraded the stock to 'neutral', citing concerns that shipments for the quarter ending September 2019 could be down on the previous quarter. He also argued that, following the strong rally this year, the stock has little room to run.

Others argue that Advanced Micro Devices's volatile price will be temporary and present a buying opportunity: "Advanced Micro Devices is still in a strong uptrend. As sales pick up for its CPU, GPU, and semi-custom chips in consoles next year, the stock will reward its loyal investors", argues Chris Lau at baystreet.ca.

NVIDIA: RISING AGAIN?

Nvidia changed the gaming industry with the invention of the graphics processing unit (GPU) in 1999, making it a leader in the space and allowing it to command a higher price for its products.

The launch of the GPU coincided with Nvidia's flotation on the Nasdaq at $12 per share. Its share price sat under the $30 mark until the end of 2015, when it began to break out on the back of the use of its chips in bitcoin mining. A relentless rise ensued with it reaching an all-time high of $281.02 on 28 September 2018, giving the company a valuation of $161.9bn.

TURING ARCHITECTURE REINVENTS GAMING

But, as cypto mining levels rapidly fell, so too has Nvidia's stock. Despite making some volatile gains in 2019 which far outpaced the majority of semiconductor stocks, it spent the first seven months of the year trading 50-55% off its September 2018 high.

The problem for Nvidia is that its gaming revenue has been declining since the middle of 2018. By the first quarter of 2019 it was down 40% year-over-year. Despite releasing a reinvention of GPU architecture known as 'Turing' in 2018 – which was specifically designed for PC gamers and was seen as a potential saviour from the crypto hangover last year – a slew of technical glitches and issues made it a flop – including the fact that it held hyper-realistic functionality known as RTX or 'ray tracing' that no games on the market used at the time.

As a result, Nvidia had to scale its revenue forecast back for the year, sending its stock tumbling more than 13% on 28 January. The company said at the time that "some customers may have delayed their purchase while waiting for lower price points and further demonstrations of RTX technology in actual games" as reasons for the setback.

But, it doesn't mean the chips are redundant: with glitches fixed and more games adopting the technology, Nvidia could receive a bounce from the new tech yet. After all, Nvidia has a history of leading the development of PC gaming tech.

Bernstein analyst Stacy Rasgon wrote: "We suspect that as more games become available supporting ray tracing, demand should get better, but currently there is a chicken-and-egg phenomenon going on."

MAINTAINING THE LEAD

Despite gains from Advanced Micro Devices in market share, for the moment, Nvidia continues to hold a commanding lead in the shipment of global graphics cards, with an 81% share of a market that's set to grow by 30% CAGR to $80bn by 2024. Gaming is set to hold a 34% slice of the GPU market by then, driven by the demand for high-resolution gaming, simulation and 3D modelling, according to a Global Market Insights report.

The proliferation of tablets and gaming PCs looks set to drive the demand for Nvidia's processors, which is forecast to exceed 150,000 thousand units by 2024 – meaning in the mid-term, Nvidia shares could rally once again.

"Nvidia took a big punch in the face during the crypto bust, and its stock price suffered meaningfully," hedge fund DX2 Capital Management recently noted in analysis of the stock's potential.

"Post its share price correction, fundamentally speaking, Nvidia is just as solid as it was before. Although potential risks still exist, the growing prospect for Nvidia is bright, driven by the projected demand increase in AI, gaming, and autonomous vehicles."

Others see Nvidia's troubles as just beginning. Writing in this issue of *Opto*, Upside Trader's Joe Donohue picks the stock as a potential short, particularly if the trade war rumbles on. It's also worth noting that, before a recession or crash, semiconductor stocks are often one of the first to fall.