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2019 YEAR IN REVIEW

DIGITAL GAMES AND INTERACTIVE MEDIA

To access the webinar, please visit youtu.be/w-Bf9TfelPY

SuperData, A Nielsen Company

SuperData, a Nielsen company, was acquired by Nielsen in September 2018. With this acquisition, SuperData's clients will now have greater access to global market intelligence around digital video gaming use, sales and audiences, in addition to existing areas of expertise such as consumer research, video game tracking, esports sponsorship valuation and consulting services.

SuperData provides relevant market data and insight on digital games and playable media. Founded by veteran games industry researchers, SuperData covers the market for free-to-play gaming, digital console, mobile, PC downloadable, gaming video content and esports.

Monthly analyses and industry reports using digital point-of-sale data. Using digital point-of-sale data received from publishers, developers and payment service providers, we base our analyses on the monthly spending of 185 million paying digital gamers worldwide.

Understand what people play, connect to and spend on. Our research combines transaction-level data with qualitative consumer insight. Our leadership team has experience spanning across major research firms, including NPD, Nielsen, DFC Intelligence, Comscore, Experian, Jupiter and Forrester.

A next gen approach for next gen entertainment. Our customer base includes legacy publishers (e.g., Activision Blizzard, Ubisoft), digital-only publishers (e.g., Nexon, Tencent, Wargaming), media companies (e.g., Google, Coca-Cola) and industry service providers (e.g., PayPal, Visa, GameStop).

ARCADE

SuperData Arcade is the gold-standard business intelligence platform providing high-level trends and granular insights across the global digital games market.

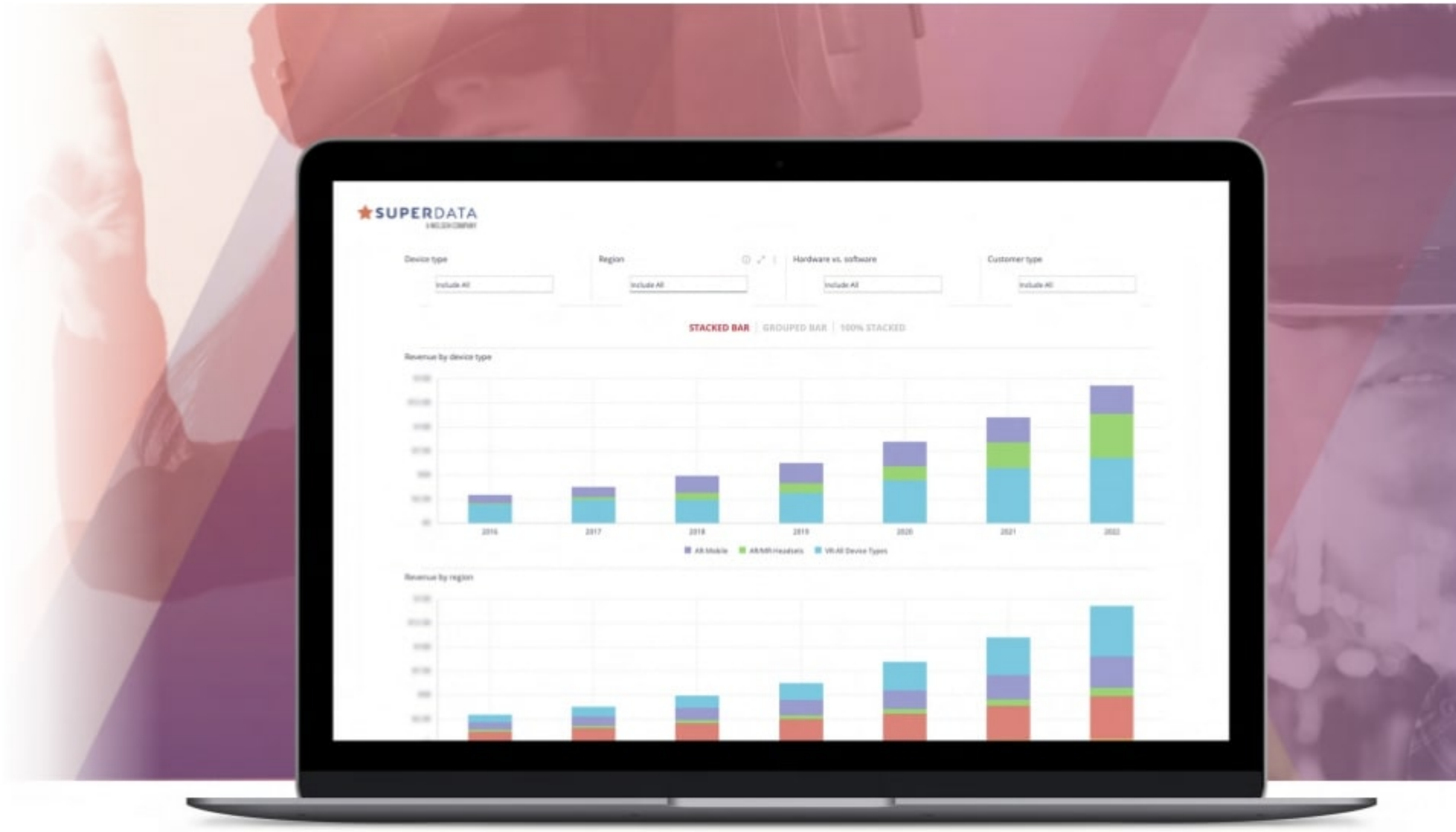
- **Get a comprehensive overview** of the digital games market, across platforms, titles (800+ games, 100+ publishers) & markets.
- **Spot opportunities early,** and find out when key competitors struggle to maintain conversion rates and average spending.
- **Create custom queries and segmentation** across all data, and export analysis to .csv or PDF format.
- **Automatically receive custom data pulls** by email as soon as updates are available.

To arrange a demo of the SuperData Arcade, contact sd.contact@nielsen.com.

XR Dimensions

SuperData's XR Dimensions provides a comprehensive understanding of global XR trends to inform XR-related business and product strategies.

- **Intuitive, interactive dashboard** offering the ability to customize, drill-down and export data
- **Intelligence into global VR/MR/AR markets** with regional granularity
- **Comprehensive VR headset shipments and quarterly breakdowns** for key devices like Oculus Quest and PlayStation VR
- **Audience numbers such as total users** of iOS AR apps and the VR install base by region
- **Consumer software revenue for segments** ranging from mobile AR games to VR location-based entertainment
- **Historical estimates and forward-looking projections through 2022**



To arrange a demo of XR Dimensions or for custom requests,

contact sd.contact@nielsen.com.

Nielsen Esports

Nielsen Esports combines cutting-edge research with a rich history of media measurement to deliver industry-standard data. Whether you want to know the social engagement value Ninja delivers, deep dive into the average minute audience of a League of Legends tournament or determine the fair market value of a jersey sponsorship in Overwatch League, Nielsen provides unbiased data and insights to maximize esports investments.

DELIVERING POWERFUL ESPORTS DATA & INSIGHTS SOLUTIONS

At Nielsen, we have the depth, breadth and world class esports research needed to drive growth, increase the value of partnerships and develop fan bases - from sponsorship valuation and benchmarking media performance to deep international fan insights.

- **Media Valuation Suite:** Full media valuation capabilities across streaming, social and linear TV - with advanced AI-powered logo detection.
- **Social Analytics:** Comprehensive social and digital media analytics including brand exposure, fan & media engagement and conversation sentiment
- **Nielsen Esports Fan Insights:** With global and local syndicated fan data, we provide a comprehensive view into fans' gaming and media behavior, engagement and purchasing decisions.
- **Research & Consulting:** Custom solutions mapped to a client's unique business challenges from sponsorship selection and activation impact to market intelligence.

To learn more, contact Nicole Pike at nicole.pike@nielsen.com.

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EXECUTIVE SUMMARY

Games and interactive media earned a record $120.1B[1] in 2019

Digital games

$64.4B Mobile

$29.6B PC

$15.4B Console

Interactive media

$6.5B GVC

$6.3B XR

The games and interactive media industry grew 4% in a year with few market movers. Gaming did not need new titles on the level of *Fortnite* or *Red Dead Redemption 2* to continue expanding in 2019.

Free-to-play games accounted for 4 out of every 5 dollars spent on digital games in 2019 thanks to strong performances from mobile games. Perennial chart-toppers like *Candy Crush Saga* and *Honour of Kings* pushed mobile's share of free-to-play revenue to 74%, a trend that is expected to persist in 2020.

In an impressive feat, *Fortnite* clinched the top spot for a second year in a row, generating $1.8B in 2019. The enduring popularity of *Fortnite* is partially attributable to crossover promotions with pop culture blockbusters like *Avengers*, *Stranger Things* and *Star Wars*.

The premium games market dipped 5% in 2019 due to a gap year in AAA game launches. There were fewer mega hits than in 2018, which saw multiple big releases like *Red Dead Redemption 2*, *Marvel's Spider-Man* and *Monster Hunter: World*.

Platform exclusivity deals distributed top gaming video content (GVC) creators across livestreaming platforms. Mixer, YouTube and Facebook have all signed contracts with former Twitch streamers to attract a larger share of the GVC audience, which totals 944M viewers worldwide.

XR[2] revenue climbed 26% to $6.3B in 2019 thanks to new headsets like the Oculus Quest. Standalone headsets accounted for 49%[3] of VR shipments and brought VR gaming to a more mainstream audience than existing PC and console devices.

[1] Total interactive media revenue is less than the sum of all segments due to overlapping earnings in games and XR segments (e.g., *Pokémon GO* revenue is included in both the mobile games and XR segments).
[2] XR includes virtual, augmented and mixed reality.
[3] Not including Google Cardboard and similar headsets.

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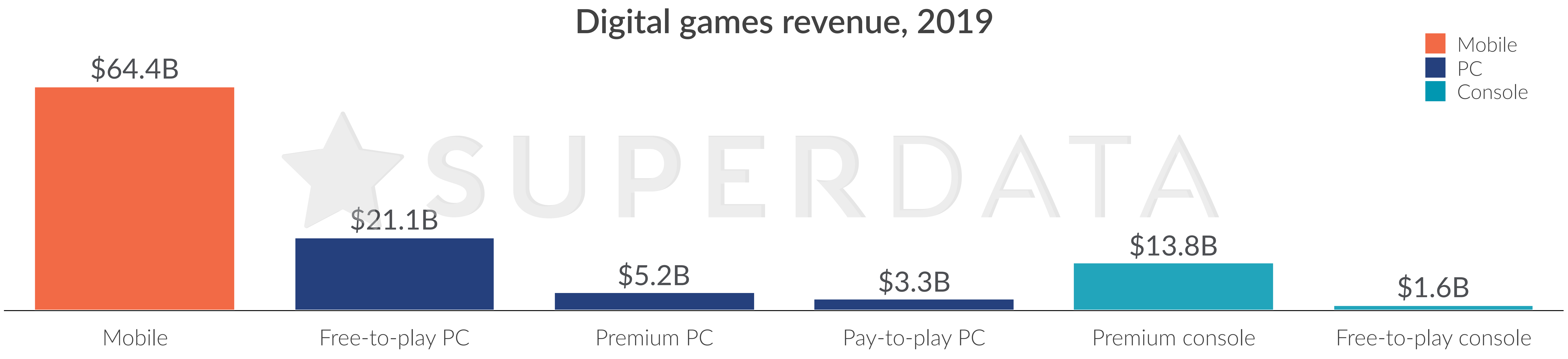
DIGITAL GAMES

Digital games revenue reached $109.4B in 2019, up 3% year-over-year

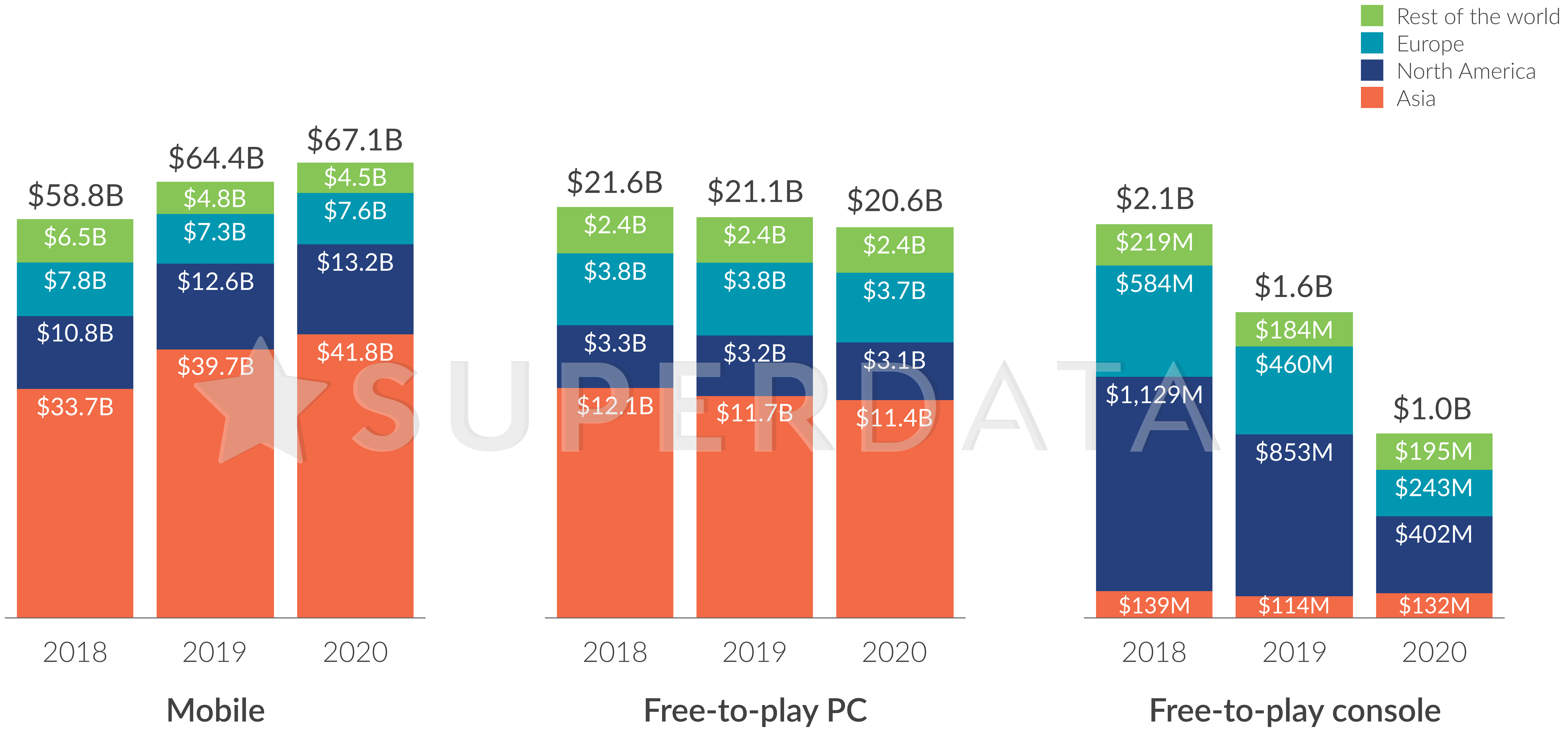


Mobile titles earned almost 3 out of every 5 dollars spent on digital games in 2019 as multiple publishers brought PC and console franchises to smartphones. Publishers of games like *Call of Duty* and *Mario Kart* are reaching new audiences through the accessibility of mobile devices. Increasingly powerful phones now allow for mobile experiences that are true to the console versions of a game.

Free-to-play spending accounted for 80% of all digital games revenue in 2019. The business model's low barrier to entry is often ideal for multiplayer games that depend on maintaining a large player base. The free-to-play *Apex Legends* became an overnight hit after a surprise launch in February. *Destiny 2* also went free-to-play during the year, which followed a move to free-to-play by popular shooter *Counter-Strike: Global Offensive* in December 2018.

Total premium game revenue declined 5% year-over-year to $18.9B as 2019 saw fewer blockbuster titles than 2018. Aside from *Grand Theft Auto V* and *Sims 4*, the top 10 premium games were all sports games or shooters. Major new releases in 2019 did not earn as much as the biggest premium games of 2018 like *Red Dead Redemption 2* and *Monster Hunter: World*.

Free-to-play market and forecast by region[4]



[4] Graphs not to the same scale.

Free-to-play games revenue increased by 6% to $87.1B in 2019

Top free-to-play games by revenue, 2019

Rank	Title	Publisher	Genre	Revenue
1	*Fortnite*	Epic Games	Shooter	$1.8B
2	*Dungeon Fighter Online*	Nexon	RPG	$1.6B
3	*Honour of Kings*[5]	Tencent	MOBA	$1.6B
4	*League of Legends*	Riot Games, Tencent	MOBA	$1.5B
5	*Candy Crush Saga*	KING Digital Entertainment	Puzzle	$1.5B
6	*Pokémon GO*	Niantic, Inc.	Adventure	$1.4B
7	*Crossfire*	SmileGate	Shooter	$1.4B
8	*Fate/Grand Order*	Aniplex Inc.	RPG	$1.2B
9	*Game for Peace*	Tencent	Shooter	$1.2B
10	*Last Shelter: Survival*	Long Tech/im30.net	Strategy	$1.1B

Mobile games accounted for 6 of the top 10 free-to-play titles in 2019.[6] Thanks to strong performances from mainstay titles like *Honour of Kings*, *Candy Crush Saga* and *Pokémon GO*, mobile games earned $64.4B in 2019. Role-playing and puzzle games continued to have the greatest market shares in the mobile segment and generated 23% and 15% of mobile revenue, respectively.

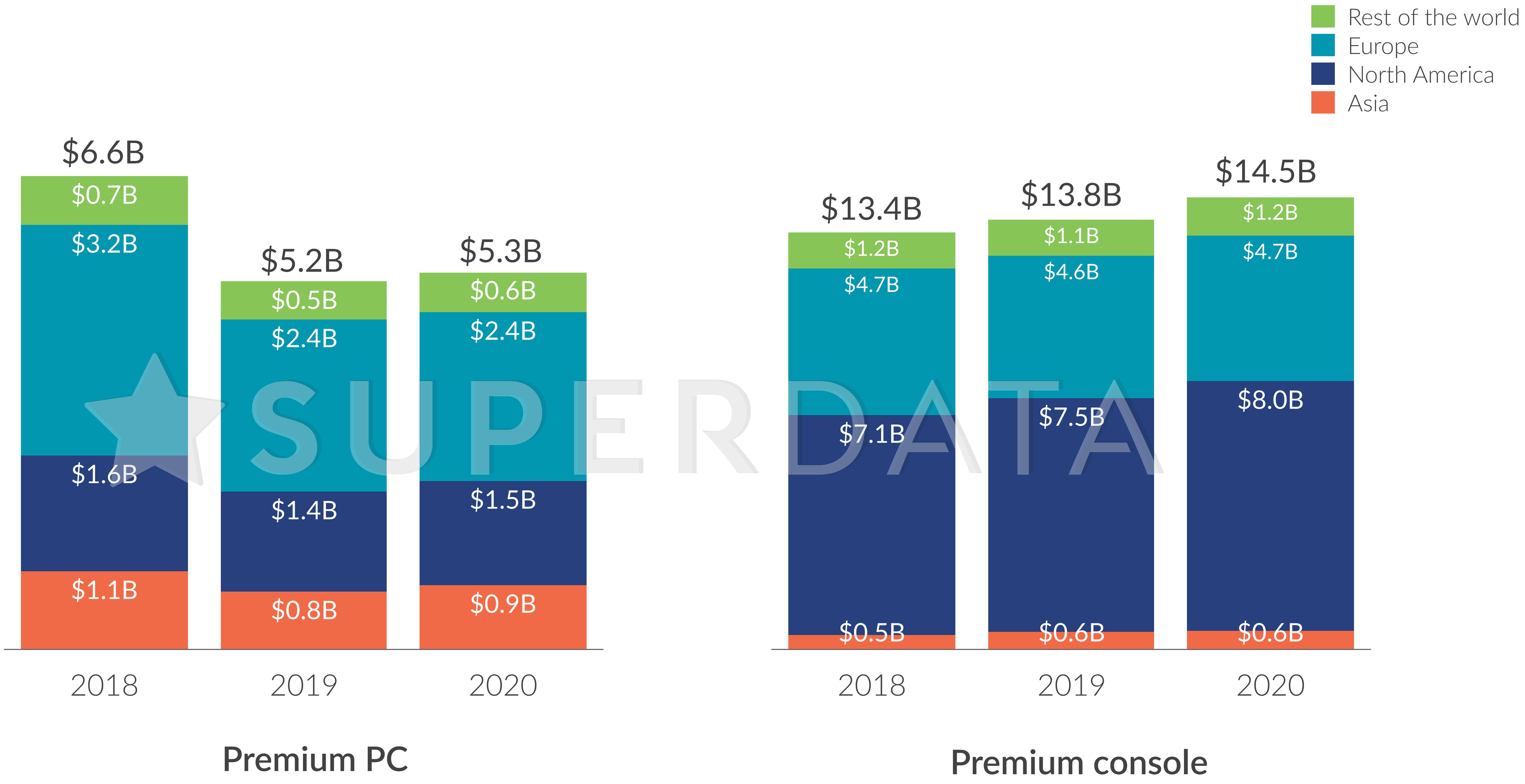
Bringing AAA game franchises to mobile proved to be a successful strategy for publishers. *Call of Duty Mobile* earned $116.8M in 2019 after its October release, and *Mario Kart: World Tour* also launched on mobile. Instead of simply applying a franchise brand to a mobile game, these games truly mirror the feel of their console counterparts. Their success also shows that gamers are willing to play a wide range of genres on a touchscreen.

After a record-setting first year, *Fortnite's* annual revenue stabilized at $1.8B. The game still surpassed other free-to-play titles as a result of consistent content updates and monetization through battle passes. The game has been extremely successful at converting players to spenders. While *Fortnite* has fewer players than *League of Legends*, *Fortnite* players on PC are more than twice as likely to spend on in-game content as the *League of Legends* audience.

***Apex Legends* disrupted the free-to-play market with a groundbreaking marketing strategy.** The game was both revealed and released on February 4, and promotion centered around sponsoring top gaming video content (GVC) creators like shroud, Ninja, and DrDisrespect to stream the game. The game lept to the top of the Twitch charts with 116M hours watched in February, surpassing top titles like *Fortnite* and *League of Legends*. Viewers quickly became players, and the game achieved 50M downloads faster than any PC or console game in history. It also generated an immense $91.6M in revenue in its first month.

[5]Also includes revenue from *Arena of Valor*.
[6]*Fortnite* and *Crossfire* are not counted as mobile games in this statement since they earn the majority of their revenue on other platforms.

Premium games market and forecast by region[7]



[7]Graphs not to the same scale.

Premium games revenue declined 5% to $18.9B in 2019

Top premium PC and console games by revenue, 2019

Rank	Title	Publisher	Genre	Revenue
1	*FIFA 19*	Electronic Arts, Inc.	Sports	$786M
2	*Call of Duty: Modern Warfare*	Activision Blizzard, Inc.	Shooter	$645M
3	*Grand Theft Auto V*	Take Two Interactive Software, Inc.	Action-adventure	$595M
4	*FIFA 20*	Electronic Arts, Inc.	Sports	$504M
5	*Call of Duty: Black Ops IIII*	Activision Blizzard, Inc.	Shooter	$487M
6	*NBA 2K19*	Take Two Interactive Software, Inc.	Sports	$370M
7	*Tom Clancy's The Division 2*	Ubisoft	Shooter	$370M
8	*Tom Clancy's Rainbow Six: Siege*	Ubisoft	Shooter	$358M
9	*Borderlands 3*	Take Two Interactive Software, Inc.	Shooter	$329M
10	*Sims 4*	Electronic Arts, Inc.	Simulation	$311M

Lower premium game earnings in 2019 were the result of fewer blockbuster game releases than in 2018. Titles like *Tom Clancy's The Division 2* and *Borderlands 3* had lower earnings than top games of 2018 like *Red Dead Redemption 2* ($460M earned in 2018) and *Monster Hunter: World* ($453M earned in 2018). *PlayerUnknown's Battlegrounds* also experienced a steep earnings decline across PC and console ($979M in 2018 to $288M in 2019). After a down year, premium games revenue is poised to rebound in early 2020 as major new titles are released.

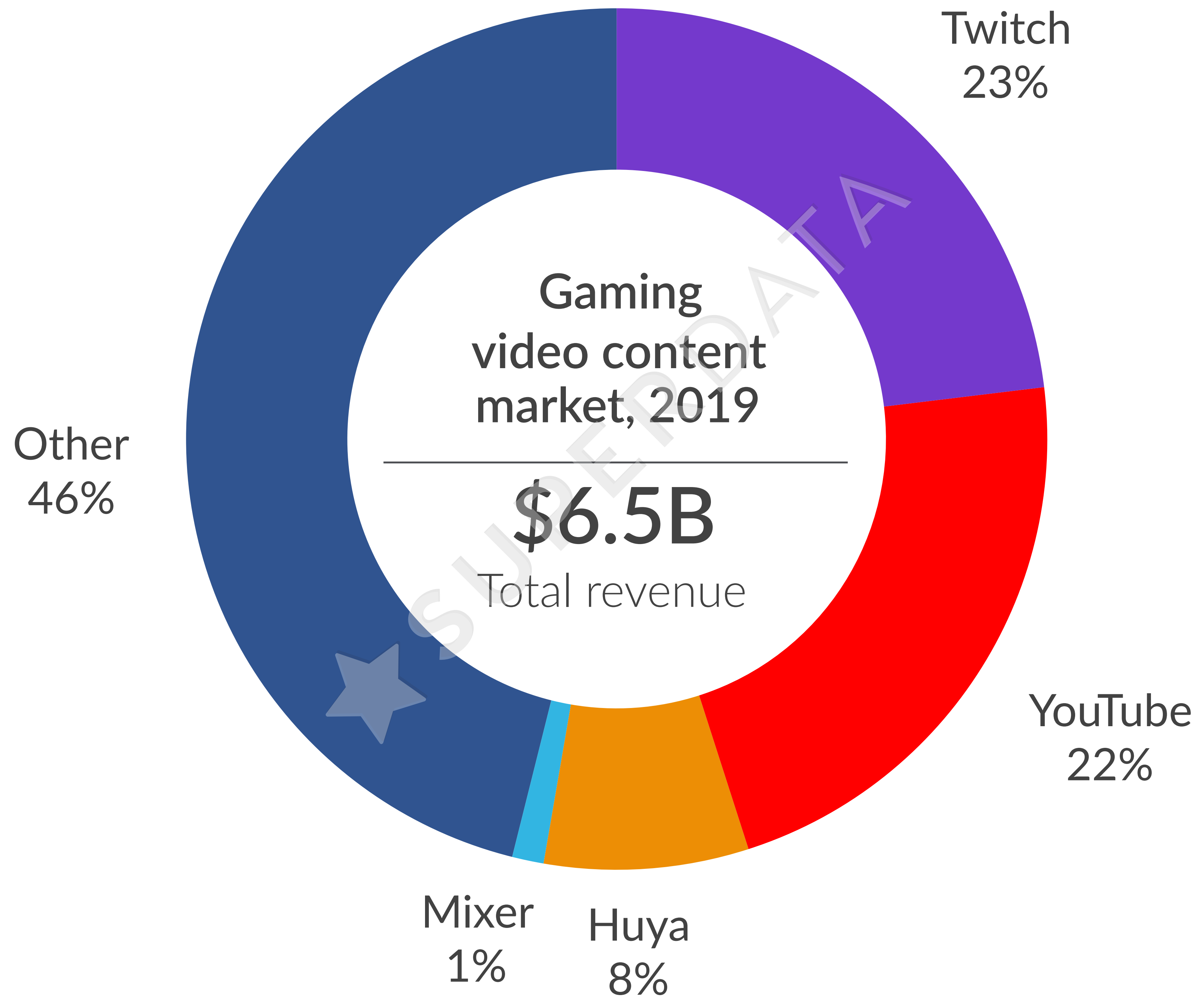
An array of remakes and re-releases appealed to nostalgic gamers. Over half of US gamers (56%) are adults age 35 and up, and those who grew up in the 1990s and early 2000s now have the disposable income to spend on games they remember fondly. *Resident Evil 2*, a remake of the 1998 original, generated $176M in digital revenue during the year. Other classic games that returned in 2019 included *World of Warcraft Classic*, *The Legend of Zelda: Link's Awakening* and *Halo: Reach*.

On PC, new storefronts and subscription services challenged the hegemony of Steam. The Epic Games Store used tactics like signing exclusivity deals for anticipated games to gain market share. These moves were controversial, but those who would actually skip a major game instead of using a new storefront are a vocal minority of the gaming population. *Borderlands 3*, an Epic exclusive on PC during 2019, generated $329M across PC and console during the year. By late 2019, 17% of US PC gamers used the Epic Games Store to purchase full games compared to 37% who used Steam. In 2019, Microsoft also launched Xbox Game Pass for PC, a subscription service that allows subscribers access to a library of games including Microsoft-published games like *Gears 5*.

GAMING VIDEO CONTENT

The audience for gaming video content (GVC) grew by 5% to reach 944M people in 2019

Revenue generated by platform, 2019

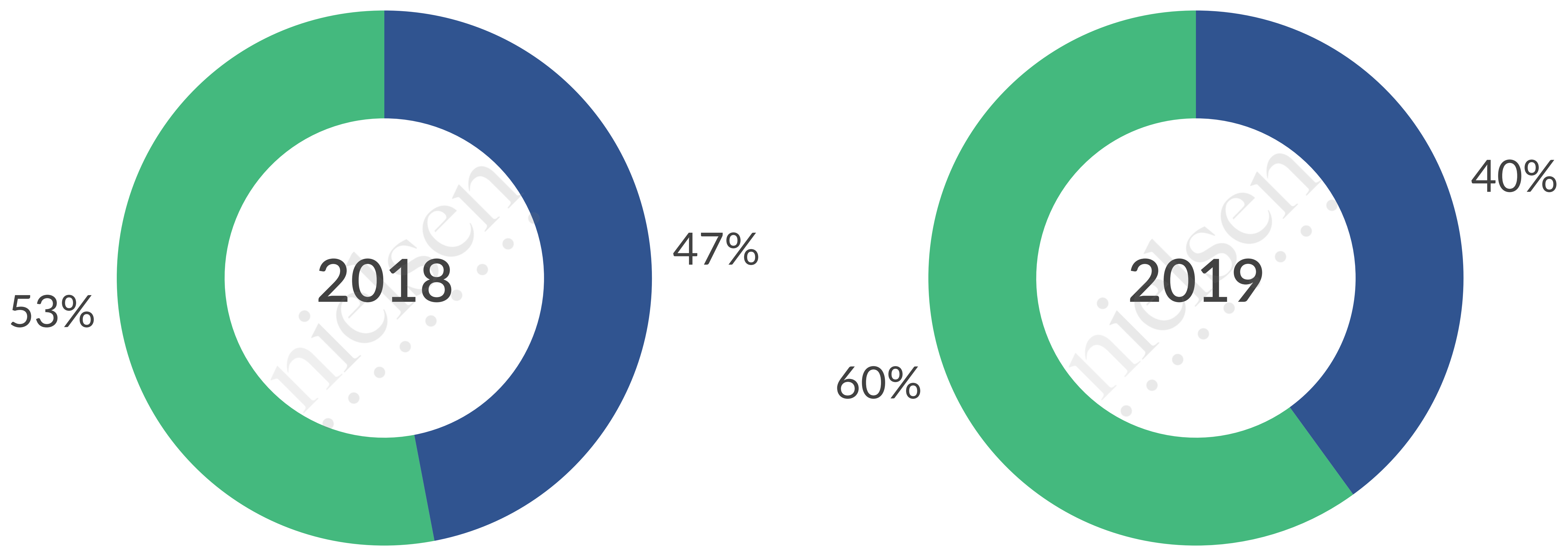


Thanks to more robust monetization offerings, Twitch generated more revenue in 2019 than YouTube ($1.54B vs $1.46B) despite a much smaller audience. YouTube is attempting to be more attractive to creators by expanding its monetization options. While ad revenue was the largest category for both platforms, subscriptions made up 8% of revenue on Twitch while they only accounted for 2% of GVC revenue on YouTube.

Exclusivity deals for top talent have transformed the GVC industry. In 2019, top streamers on Twitch signed exclusivity deals for their content on competing platforms. Ninja and shroud both made the move to Mixer, while CouRageJD and Disguised Toast went to YouTube and Facebook, respectively. Not only are exclusivity deals another source of income for streamers, but they will flatten the livestreaming landscape. Bringing in established talent will increase viewership on these platforms.

Non-endemic brands further expanded their share of esports sponsorships in 2019

Esport24 share of brand partners[8]



Source: Nielsen Esports

Across Esport24 events measured, non-endemic brands accounted for 60% of esports partnerships, up 7 percentage points year-over-year. This growth has been spurred by the localized franchise models of esports leagues. While rights holders are pursuing partnerships with national brands, teams are focusing on local partners such as quick service restaurants and healthcare providers to craft messages that reach the elusive, ad-blocking, 18-34 demographic of engaged esports fans.

[8]Source: Nielsen Esport24, 2018-2019 – Aggregated across playoff rounds of 19 major global esports events and 3 separate esports leagues' full seasons.

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VIRTUAL, AUGMENTED AND MIXED REALITY

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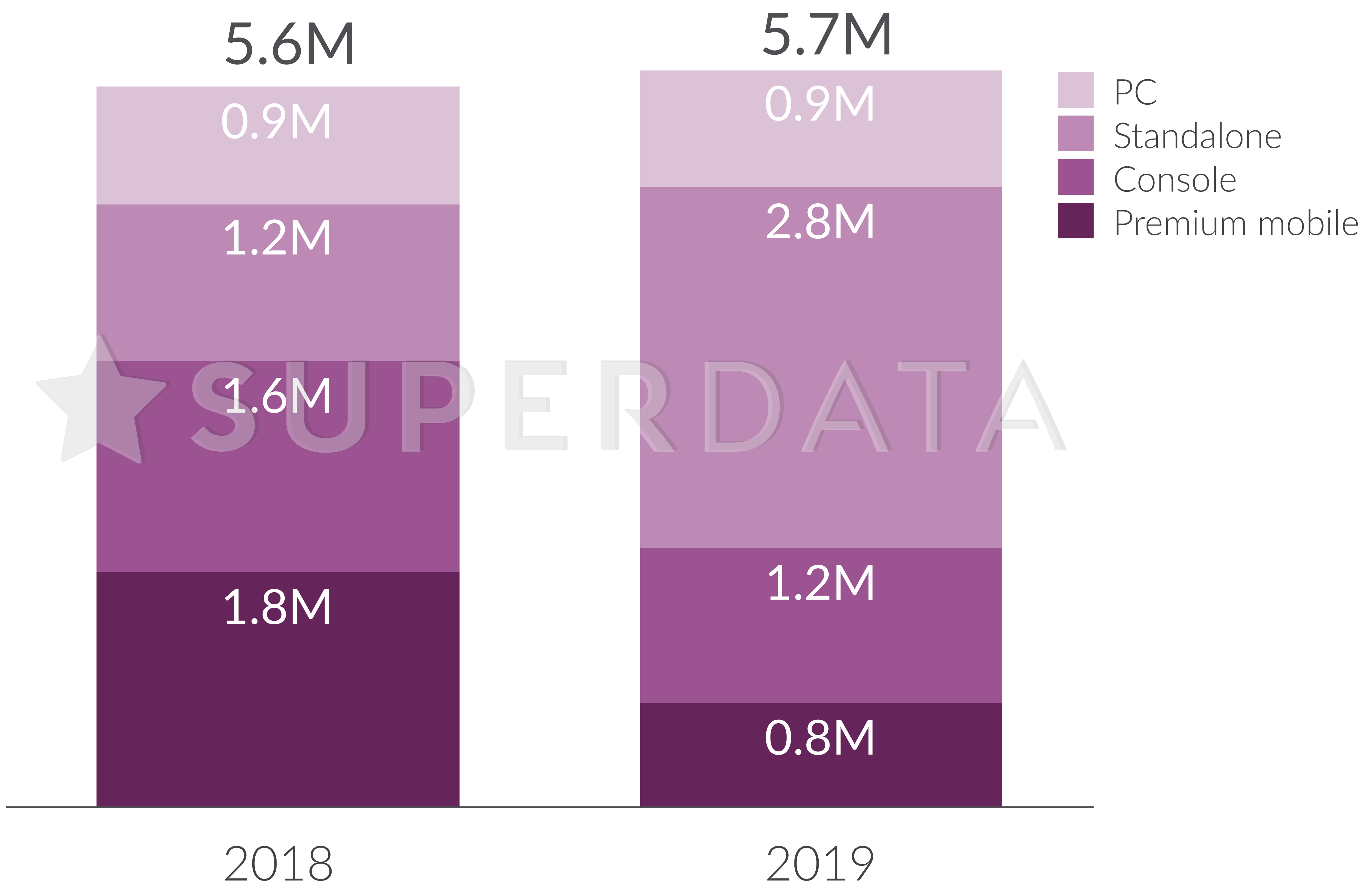
The launch of the standalone Oculus Quest led to a major shift in the virtual reality (VR) market

Virtual reality headset shipments[9]



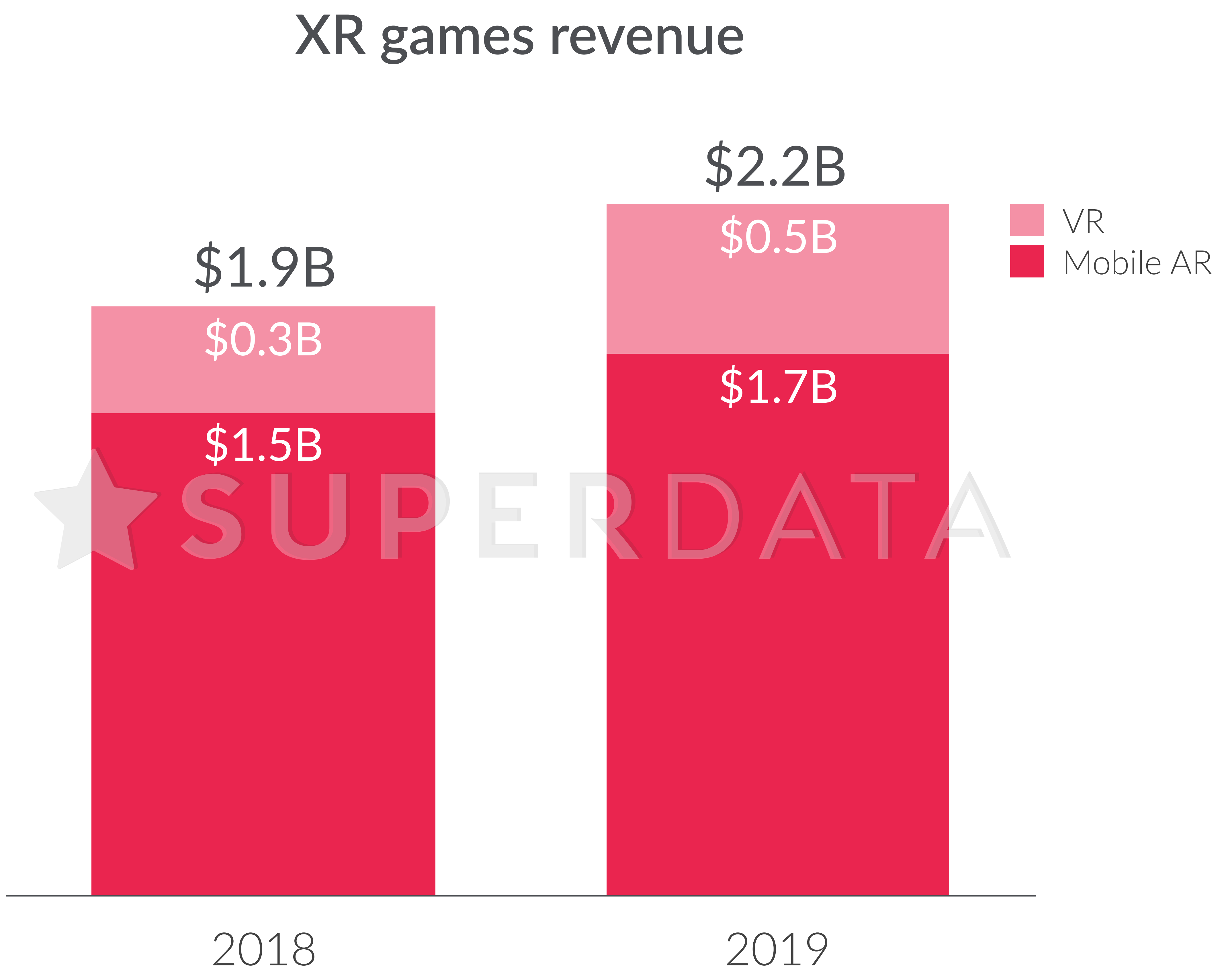
Sales of standalone VR headsets more than doubled in 2019, offsetting declining sales from older types of hardware. The standalone Oculus Quest launched in May and sold 208K units in Q2 2019. Standalone headsets are especially appealing to mainstream consumers thanks to an intuitive press-and-play setup that does not require a console or a high-end gaming PC. These devices accounted for roughly half (49%) of VR shipments during 2019 and their market share is set to grow further next year.

Sales of PC VR headsets were relatively stable, dipping 8% despite the availability of cheaper, simpler alternatives.[10] New versions of the Oculus Rift and HTC Vive intended for hardcore gamers and enterprise users helped buoy the tethered hardware category. The Valve Index also arrived and was sold out during the holiday season despite a price of up to $1000.

Premium mobile headset sales fell by 54% as consumers opted for more robust alternatives. These devices offered a low-cost way to get into VR, but sales have fallen steadily since a 2016 peak of 5.1M units. Both Google and Samsung effectively discontinued their mobile VR products during 2019.

[9]Figures in this slide do not include sales of Google cardboard or similar mobile VR headsets.
[10]0.94M to 0.87M.

XR games earned a total of $2.2B in 2019 largely thanks to the success of *Pokémon GO*



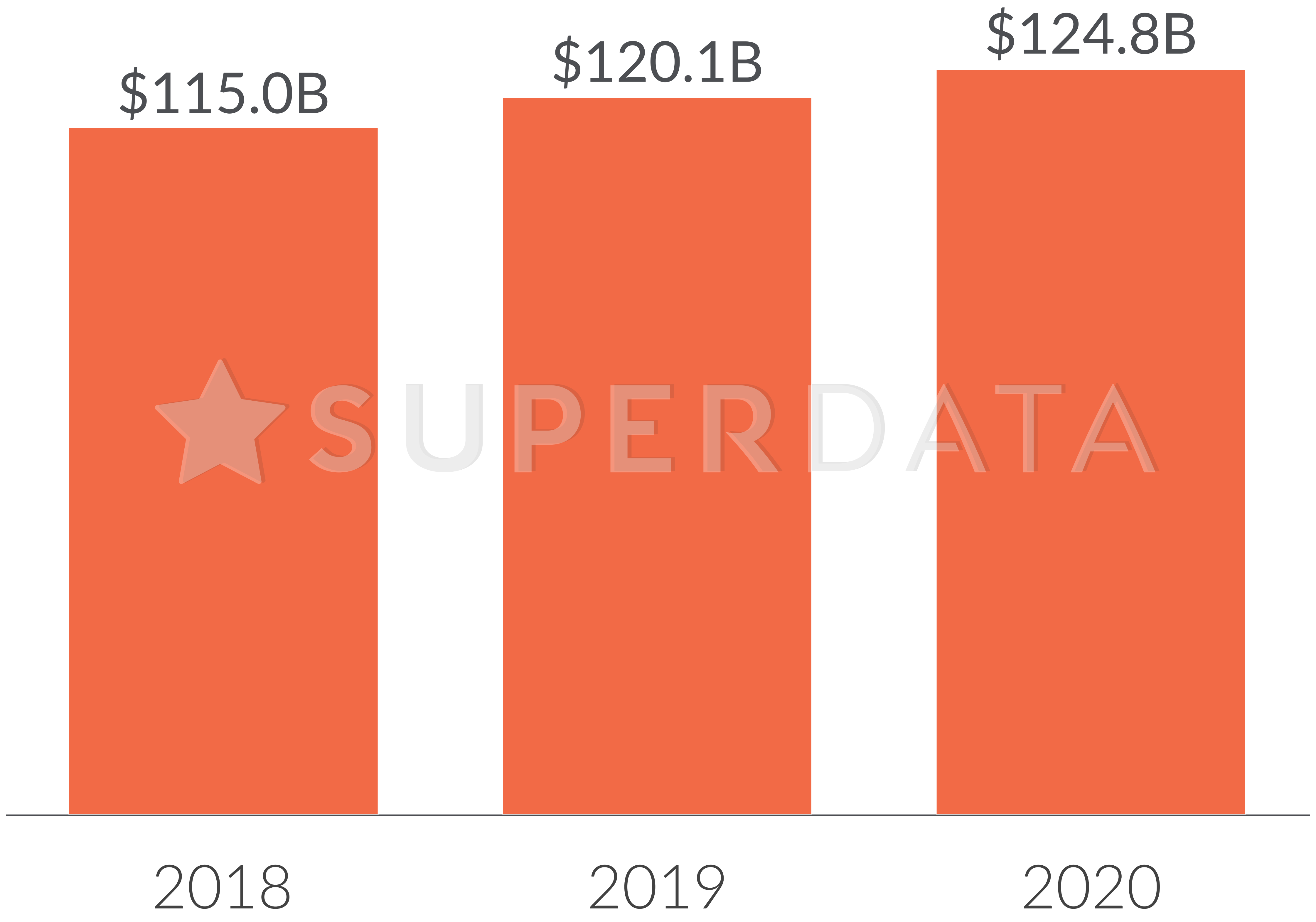
Mobile AR game earnings rose 12% in 2019 with *Pokémon GO* dominating the segment. The 2016 title from Niantic earned $1.4B during the year, 81% of all AR game revenue. Several similar games arrived during the year including *Harry Potter: Wizards Unite*, also from Niantic. However, this game was not a major success, and in its first month on the market, it only earned 1% of what *Pokémon GO* did during its launch month. *Minecraft Earth*, one of the biggest *Pokémon GO* competitors yet, also began rolling out worldwide in November and December.

VR game revenue rose by 41% during 2019, mainly due to the arrival of the Oculus Quest. The device launched with an appealing lineup of titles including *Beat Saber* and *Superhot VR*, and consumers spent a total of $171M on standalone VR games during the year. In comparison, PC VR games only earned $86M during the same time period. However, this number is set to grow significantly in 2020 once the highly-anticipated *Half-Life: Alyx* arrives on PC in March.

TRENDS TO WATCH IN 2020

Digital games and interactive media revenue is on track to grow 4% to $124.8B in 2020

Worldwide digital games and interactive media revenue



Premium games will have their biggest year ever with $19.8B in revenue thanks to major releases in the first half of the year. Highly anticipated games like *Cyberpunk 2077*, *The Last of Us Part II* and *Animal Crossing: New Horizons* will launch before focus shifts to next-generation consoles from Microsoft and Sony.

As the GVC audience surpasses 1B unique viewers, the war for streamers' exclusivity will intensify. In the past year, the top *Fortnite* streamer, Ninja, made history as he left Twitch to sign an exclusive deal with Mixer. When watching GVC, viewers often pay just as much attention to the streamer as the game itself. For example, 72% feel the entertainment value of the content creator is important when watching GVC, while 62% of viewers find it important to watch games they personally play. As the competition among GVC platforms increases, smaller ones will continue to seek out top streamers to increase their own popularity. Meanwhile, Twitch will look to lock in its talent by signing its own exclusivity deals.

Upcoming consoles from Microsoft and Sony will open up new avenues for digital gaming growth in 2020. The console market has experienced stagnation with flat revenue of $15.4B in 2019. However, a shift to next-generation systems represents a large expansion opportunity for digital games as powerful hardware enables new, more immersive experiences. Steady improvements in internet speeds (85% of US gamers now have speeds of at least 25 Mbps[9]) mean players will continue moving away from purchasing games on disc in favor of downloads on these new systems.

[11]Among those who are aware of their internet speed.

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