

2016 YEAR IN REVIEW

DIGITAL GAMES AND INTERACTIVE MEDIA



The **SuperData Arcade and Audience Tracker** are the world's most robust and only cross-platform business intelligence tools on the worldwide games market. Housing all of SuperData's gold-standard quantitative and consumer research on video games, the Arcade allows for insights ranging from high-level trends to granular data on over **500 games and 100 publishers**. The metrics contained here represent the largest and comprehensive view of the vast and growing digital games market.

The Arcade and Audience Tracker allow users to:

- **Gain a comprehensive overview** of the digital games market, across platforms, titles and markets.
- **Learn beyond the numbers**, seeing what players like and why.
- **Create custom queries and segmentation** across all data and export to .csv or PDF format for full analytical control and presentations.
- **Spot opportunities early** and find out when key competitors struggle to maintain conversion rates and average spending.
- **Automatically receive custom data pulls** by email as soon as updates are available.

To arrange a demo of the SuperData Arcade, contact Sam Barberie at sam@superdataresearch.com.



The VR Data Network is the first industry collaboration to quantify and validate the global VR market

- Partners like headset makers, developers, platforms
- Partners get ongoing insights and data to improve strategy
- Reviewing applications now

To learn more, visit www.superdataresearch.com/superdata-vr-data-network or contact sam@superdataresearch.com.

EXECUTIVE SUMMARY

Interactive entertainment generated \$91 billion in revenues in 2016

 **\$40.6**
Mobile

 **\$35.8**
PC*

 **\$6.6B**
Console

 **\$0.9B**
eSports

 **\$4.4B**
Gaming Video

 **\$2.7B**
VR

Consumers spent \$41 billion on mobile gaming in 2016, driven by blockbuster hits like *Pokémon GO* and *Clash Royale*. The mobile games market has started to mature and now more closely resembles traditional games publishing, requiring ever higher production values and marketing spend.

The first year for virtual reality was sobering, especially for manufacturers of dedicated hardware. A high price point, the absence of a strong content line-up, and difficulties with properly delivering through retail cooled consumers' expectations of the Oculus. We expect firms with more experience in hardware manufacturing like Sony and HTC to take the lead in 2017.

Despite its relatively small size (\$892 million), eSports has become the focal point for publishers, TV executives, and advertisers. A string of investments in pursuit of connecting to a new generation of media consumers has built the segment's momentum, as major publishers like Activision, Riot Games, and Electronic Arts are exploring new revenue streams like selling media rights in 2017.

Consumers increasingly download games directly to their consoles, spending \$6.6 billion in 2016. The move improves margins across the board, and allows publishers to generate revenue through the sales of add-on content, expansion packs, and micro-transactions.

PC gaming continues to do well, earning \$34 billion and driven largely by free-to-play online titles and downloadable games. Incumbents like *League of Legends* together with newcomers like *Overwatch* drive enthusiasm. PC gamers also saw a big improvement with the release of a new generation of graphics cards, offering a 40% increase in graphics power and a 20% reduction of power consumption.

*Includes Social, PC free-to-play, PC subscription and Premium PC games

A CLOSER LOOK AT DIGITAL GAMES IN 2016

2016 MOBILE GAMES BY THE NUMBERS

REVENUE..... \$40.6B

MAU..... 2.6B

TOP 5 TITLES: (\$YTD)

MONSTER STRIKE \$1.3B

CLASH OF CLANS \$1.2B

CLASH ROYALE \$1.1B

GAME OF WAR: FIRE AGE \$0.91B

MOBILE STRIKE \$0.90B

Pokémon GO (launched in July) was the gaming phenomenon of the year, with earnings peaking in August at \$203M with 290 MAU.

- *Pokémon GO* earned \$788M, just under the top 5 titles despite launching mid-year. Its success showed the persistent potential of mobile games as promotional tools: sales of older Pokémon titles and 3DS hardware picked up, and new 3DS titles *Pokémon Sun and Moon* enjoyed record-breaking sales at launch in November. Additionally, the mobile game helped Nintendo see the potential for mobile, and the company's first true mobile game, *Super Mario Run*, features its flagship character.

Clash Royale's earned \$197M in its March launch month and set the stage for Tencent to purchase Supercell in June in a deal that valued the company at \$10.2B.

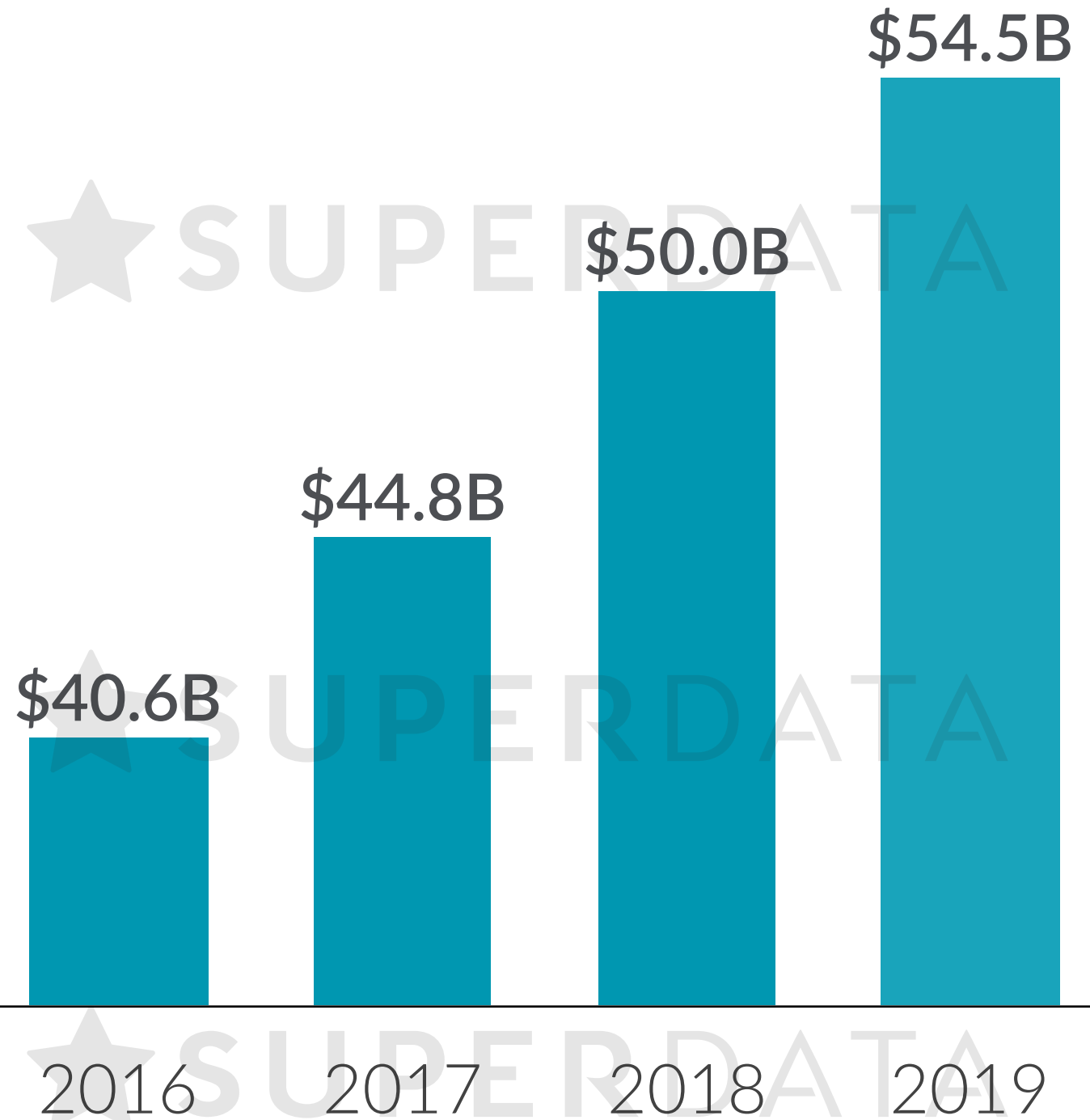
- *Clash Royale's* addictive gameplay borrows from both MOBAs and collectible card games and cementing Supercell's reputation as the premiere mobile hitmaker. Shortly after the game's launch, Tencent purchased a controlling stake in Supercell from former owner SoftBank. The deal gave Supercell greater access to the Chinese mobile market, where it is virtually impossible for even the largest Western publishers to succeed without a local partner. The investment helped it become the second title in 2016 to earn over \$1B for Supercell.

MOBAs help mobile games penetrate eSports and live streams.

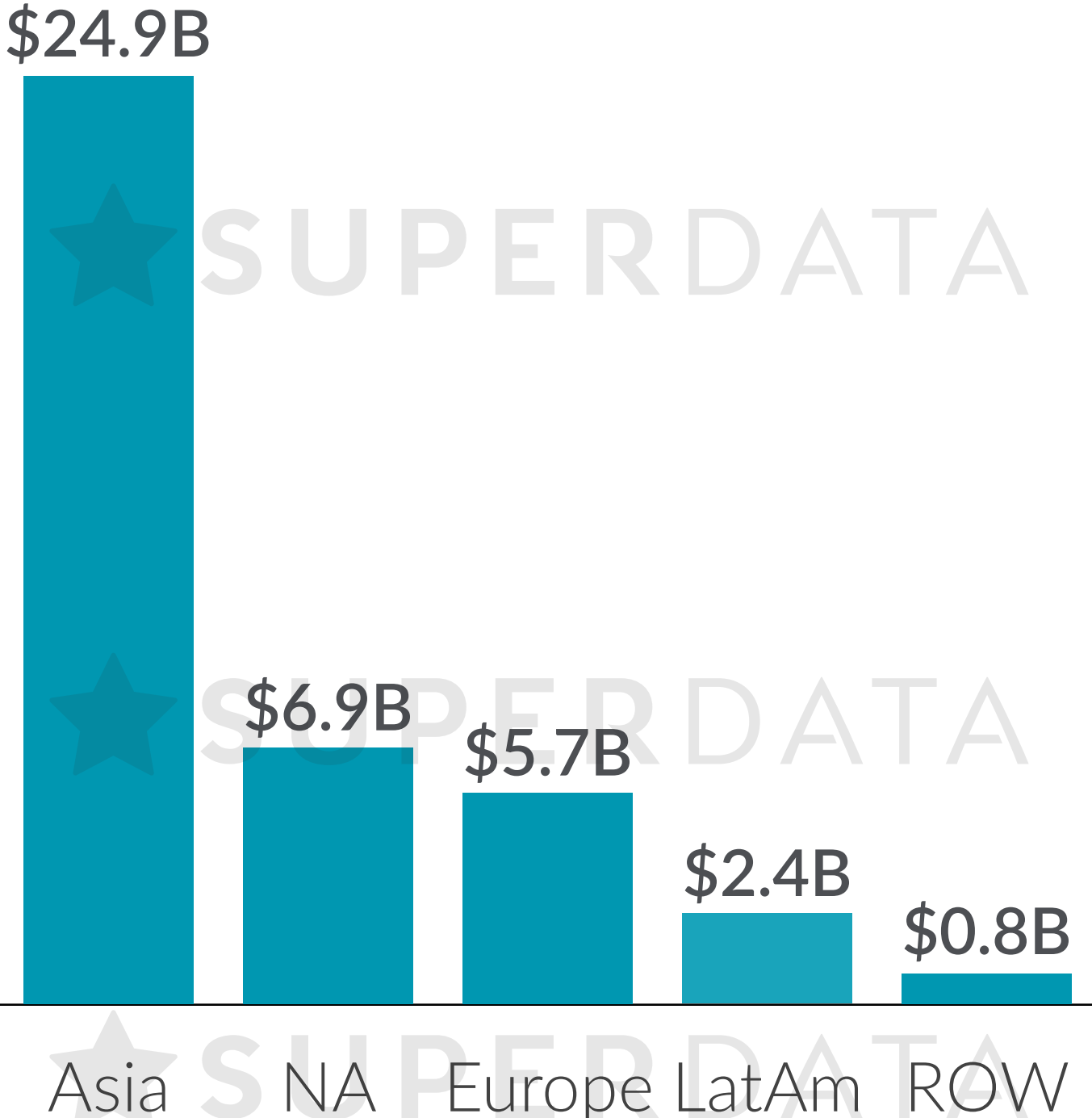
- *Vainglory* is the first mobile MOBA to make a splash with its eSports coverage on Twitch. Phoenix Armada closed out the season with their first World Championship in Hollywood, California, beating Team Solomid 4-2. The game's developer Super Evil Megacorp also inked a multimillion dollar partnership deal in March with Twitch to help keep mobile MOBAs on the map.

Mobile games market, 2016

Mobile Games Revenue
2016-2019



Mobile Games Revenue by
Region, 2016



2016 TOP MOBILE TITLES:	\$YTD: JAN-NOV
MONSTER STRIKE	\$1.3B
CLASH OF CLANS	\$1.2B
CLASH ROYALE	\$1.1B
GAME OF WAR: FIRE AGE	\$0.91B
MOBILE STRIKE	\$0.90B

2016 F2P PC GAMES BY THE NUMBERS

REVENUE..... \$18.6B

MAU..... 755M

TOP 5 TITLES: (\$YTD)

LEAGUE OF LEGENDS \$1.7B

DUNGEON FIGHTER CHALLENGE \$1.1B

CROSSFIRE \$1.1B

WORLD OF TANKS \$0.40B

DOTA 2 \$0.26B

Free-to-play MMOs have 92% of the MMO market players and generate 87% of the revenue.

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The top 5 MOBAs hold steady, proving how difficult it will be for newcomers to penetrate.

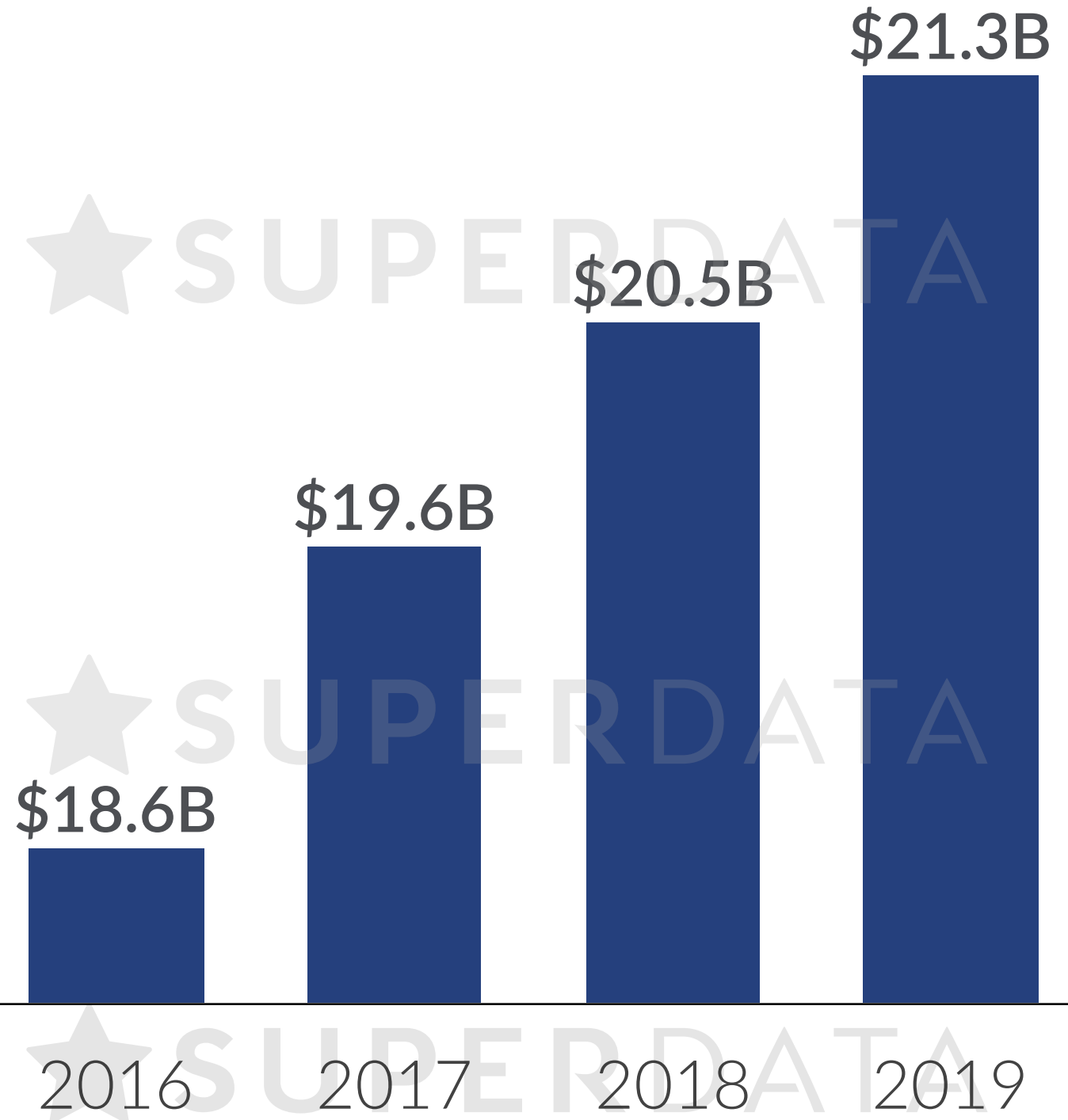
- After launching more than seven years ago, *League of Legends* is still on the top earning Riot \$150M per month. *Dota 2* comes in second at \$23.4M per month this year, showing fans' hesitance to switch to another MOBA. The modest success of mid-tier titles like *Heroes of the Storm*, *SMITE*, *Heroes of Newerth*, and *Paragon* is still dwarfed by the top two, a persistent trend over the past several years.

F2P MMOs continue to dominate the eSports world while earning themselves increasing exposure.

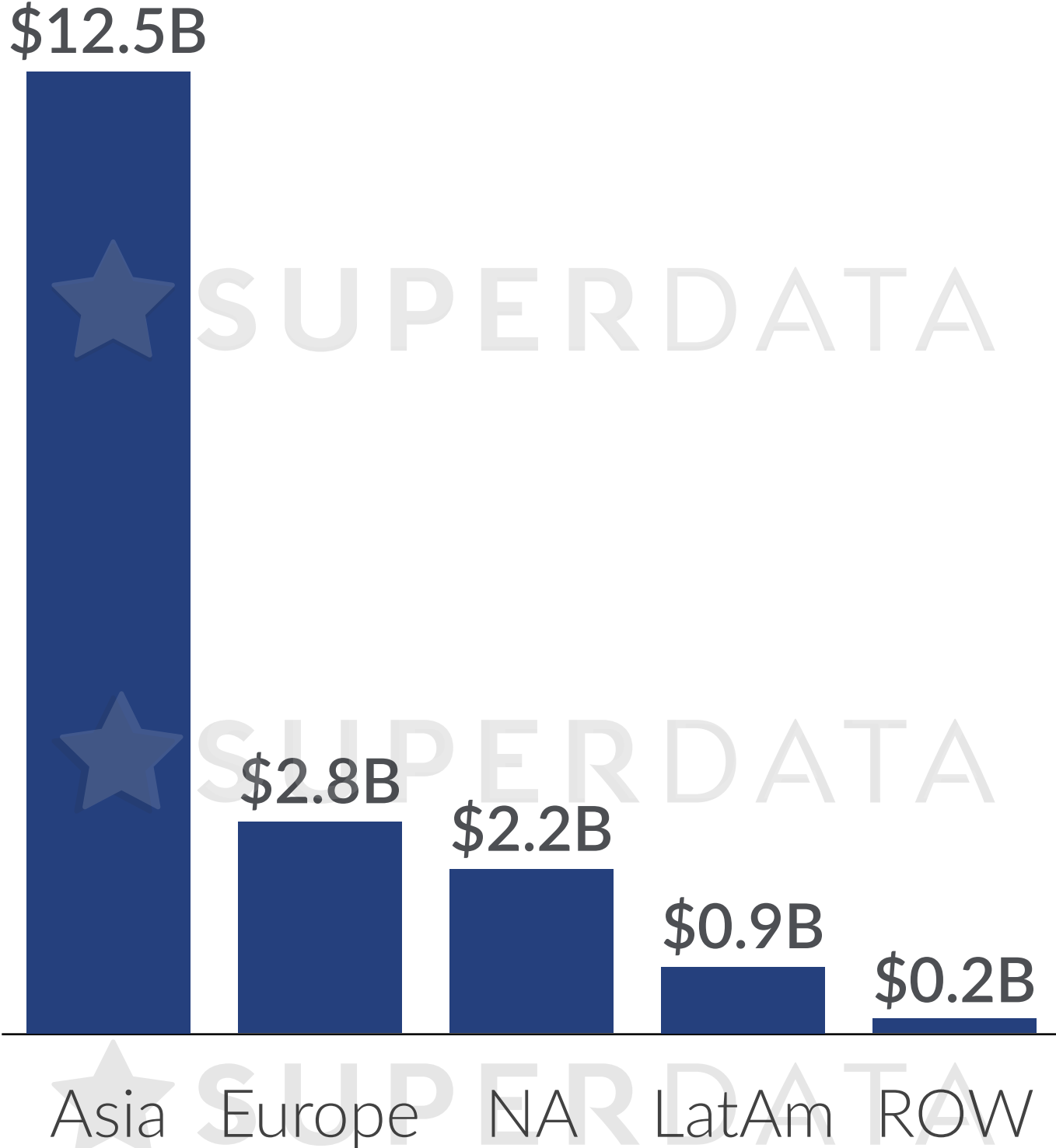
- *Dota 2* and *League of Legends* are notable in eSports because of the big tournaments they host, but *Smite* and *Heroes of the Storm* both hosted tournaments in 2016 to the tune of \$1M each. Companies hope their tournaments will have the same effect on their games as they follow Valve's model for building engagement.

Free-To-Play PC games market, 2016

F2P PC Games Revenue
2016-2019



F2P PC Games Revenue by
Region, 2016



2016 TOP F2P PC TITLES:	\$YTD: JAN-NOV
LEAGUE OF LEGENDS	\$1.7B
DUNGEON FIGHTER CHALLENGE	\$1.1B
CROSSFIRE	\$1.1B
WORLD OF TANKS	\$0.40B
DOTA 2	\$0.26B

2016 PREMIUM CONSOLE & PC GAMES BY THE NUMBERS

CONSOLE REVENUE.....	\$6.6B	PC REVENUE.....	\$5.4B
CONSOLE MAU.....	196M	PC MAU.....	154M
TOP 5 TITLES: (\$YTD)		TOP 5 TITLES: (\$YTD)	
CALL OF DUTY: BLACK OPS III	\$591.1M	OVERWATCH	\$585.6M
FIFA 16	\$387.4M	CS: GO	\$257.2M
GRAND THEFT AUTO V	\$378.9M	GUILD WARS 2	\$91.0M
TOM CLANCY'S THE DIVISION	\$261.8M	MINECRAFT	\$88.7M
DESTINY	\$214.1M	FALLOUT 4	\$74.9M

Console and PC makers set their sites on accommodating Virtual Reality, 4K and HDR.

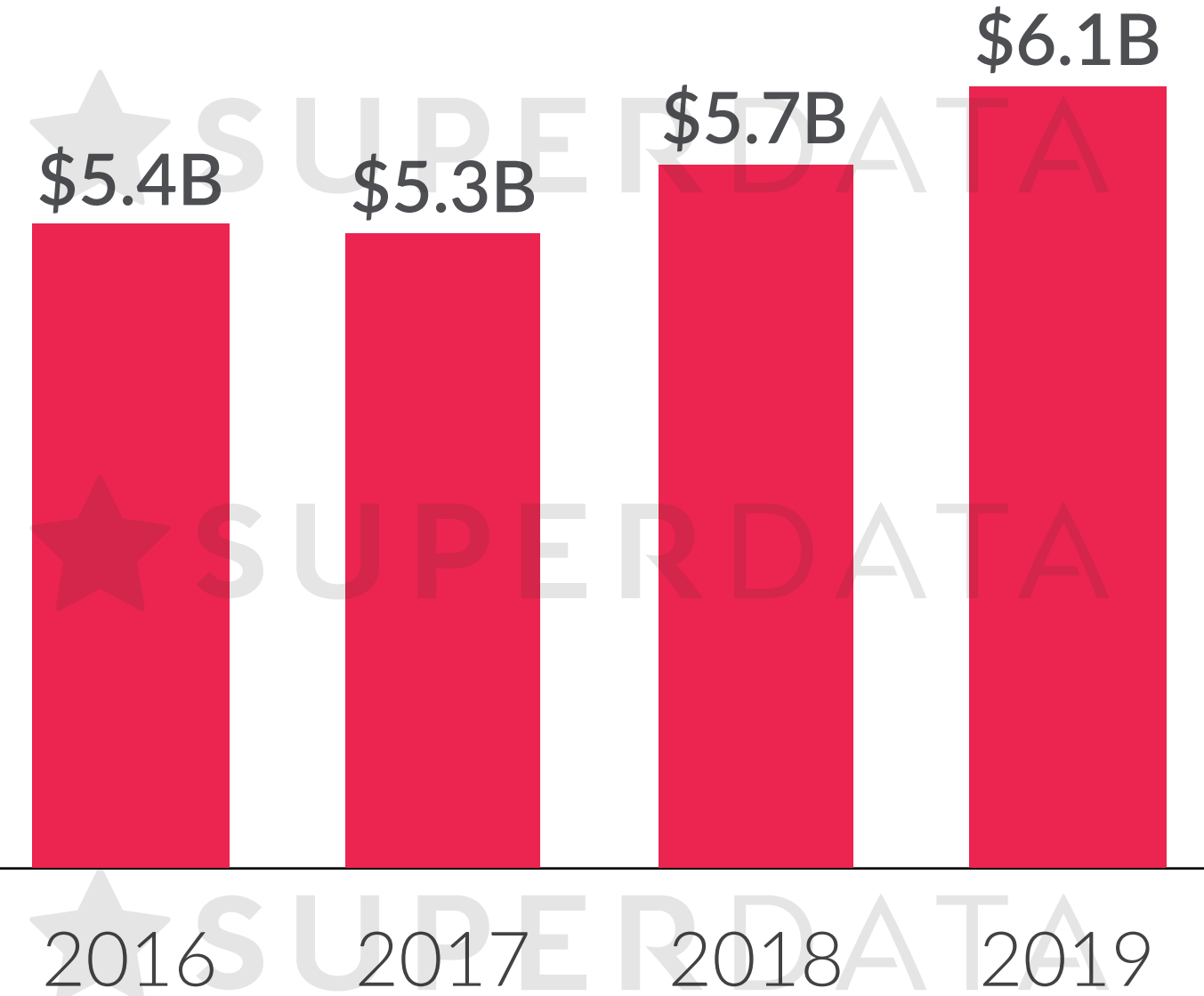
- Sony released the PSVR (Oct. 13, 2016), the first ever mass market console VR headset, and most recently the PS4 Pro (Nov. 10, 2016), a console upgrade that contains better hardware specs that can operate all existing PS4 products and VR content at a higher performance level.
- Microsoft's planned Project Scorpio aims to outperform the PS4 Pro and focus on high performance gaming and run all available VR content.
- The emergence of the Oculus Rift and HTC Vive have set the foundation for VR in the premium PC market. These gen 1 headsets have set the stage for computer part developers like Nvidia and AMD to release affordable high performance graphics cards at affordable prices, like Nvidia's GTX 1060 and AMD's RX 480, for users to build "VR ready" PC setups.

Developers tread with caution as Valve's "skin-betting" controversy spurs new legal regulations.

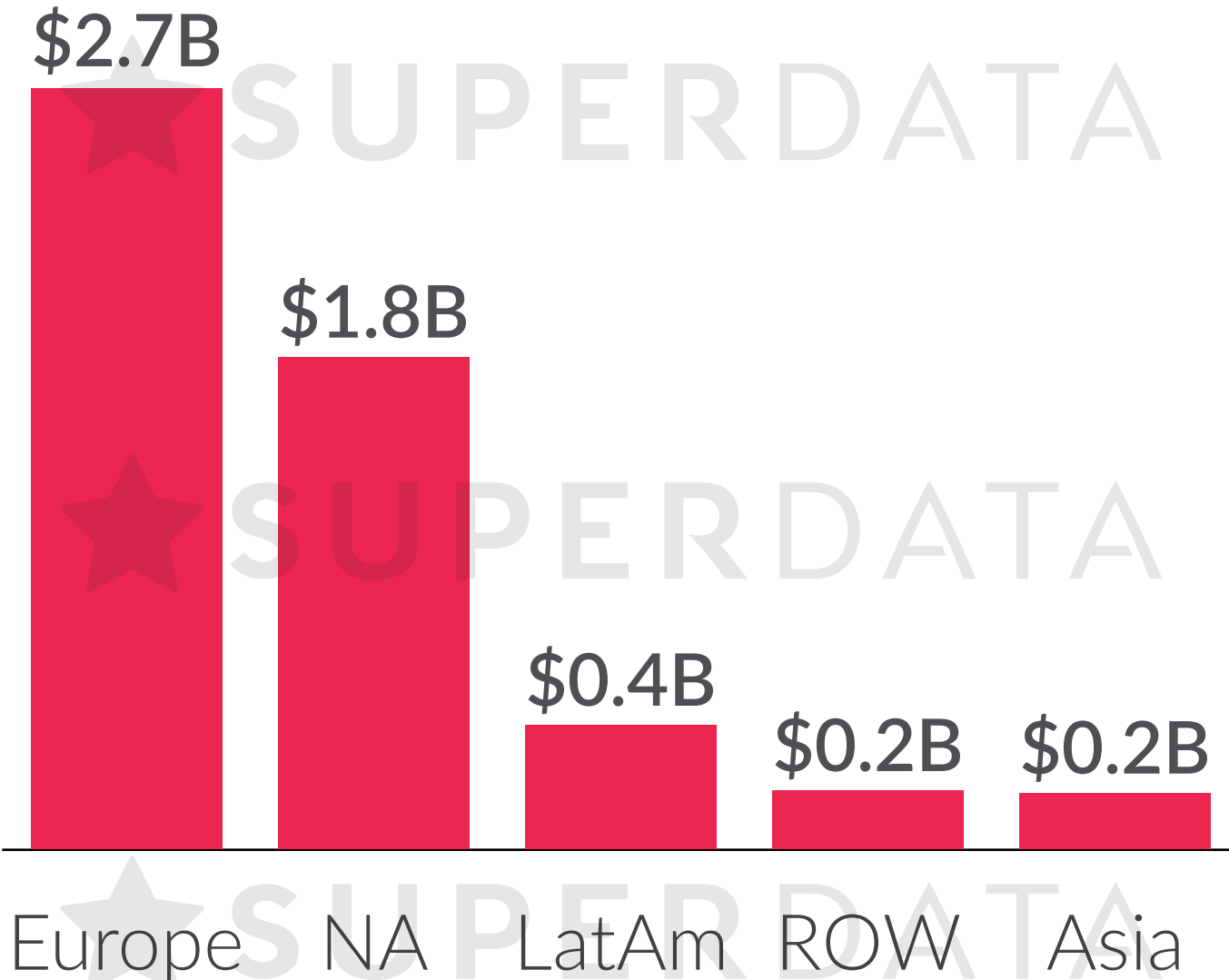
- Valve's underwent heavy scrutiny after CS:GO "skin-betting" exploded in 2016. Valve initially did not regulate the market, but was later forced to take action after several issues of underage gambling and in-game currency betting were reported on several wagering sites like CS Lounge and CS Go Fast.
- Developers for *Rocket League*, *EVE Online*, and *Overwatch* have been careful with how they implement virtual items by either not making them tradeable, or editing the terms and services to prohibit gambling of in-game currency.

Premium PC games market, 2016

Premium PC Games Revenue 2016-2019



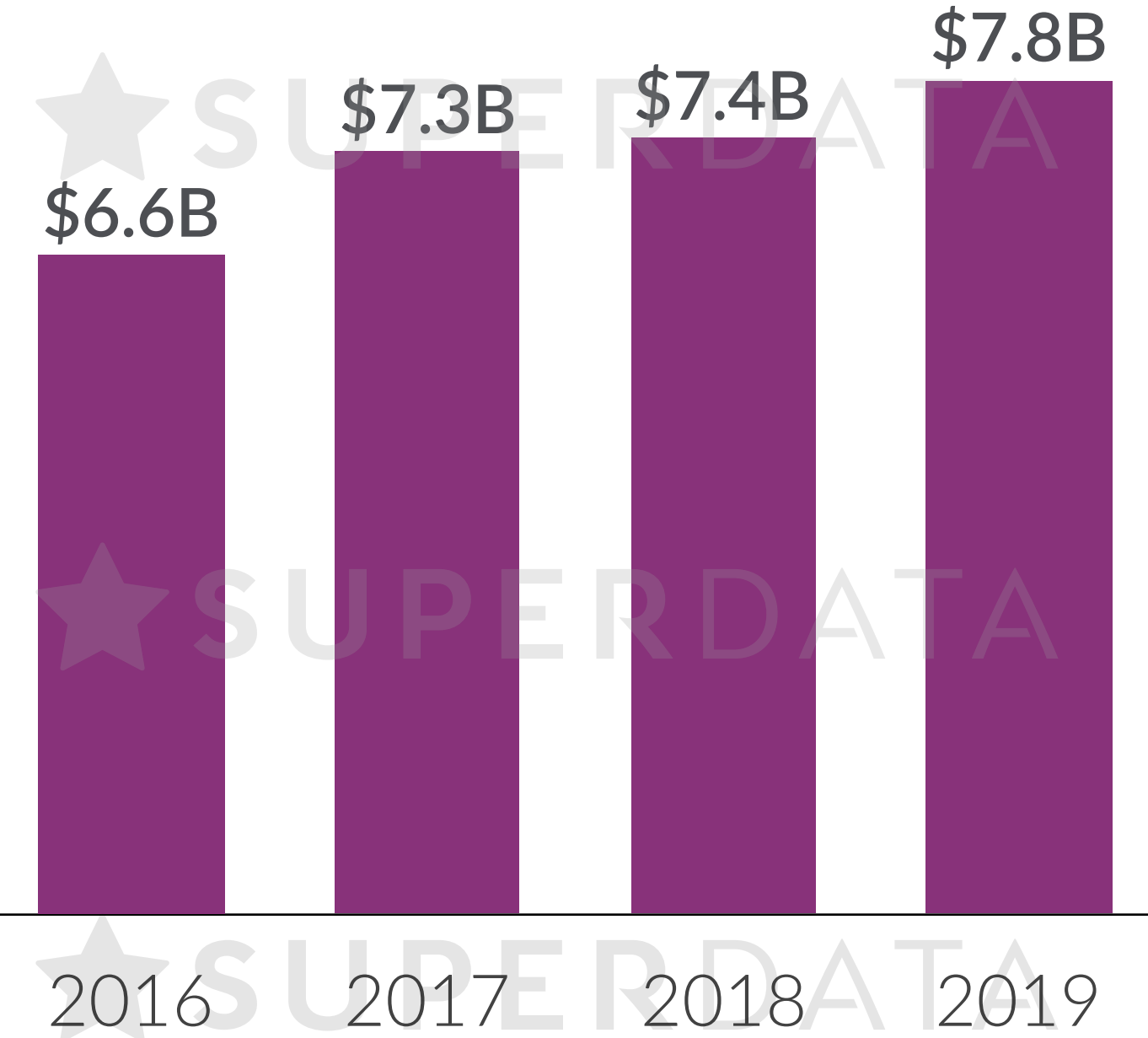
Premium PC Games Revenue by Region, 2016



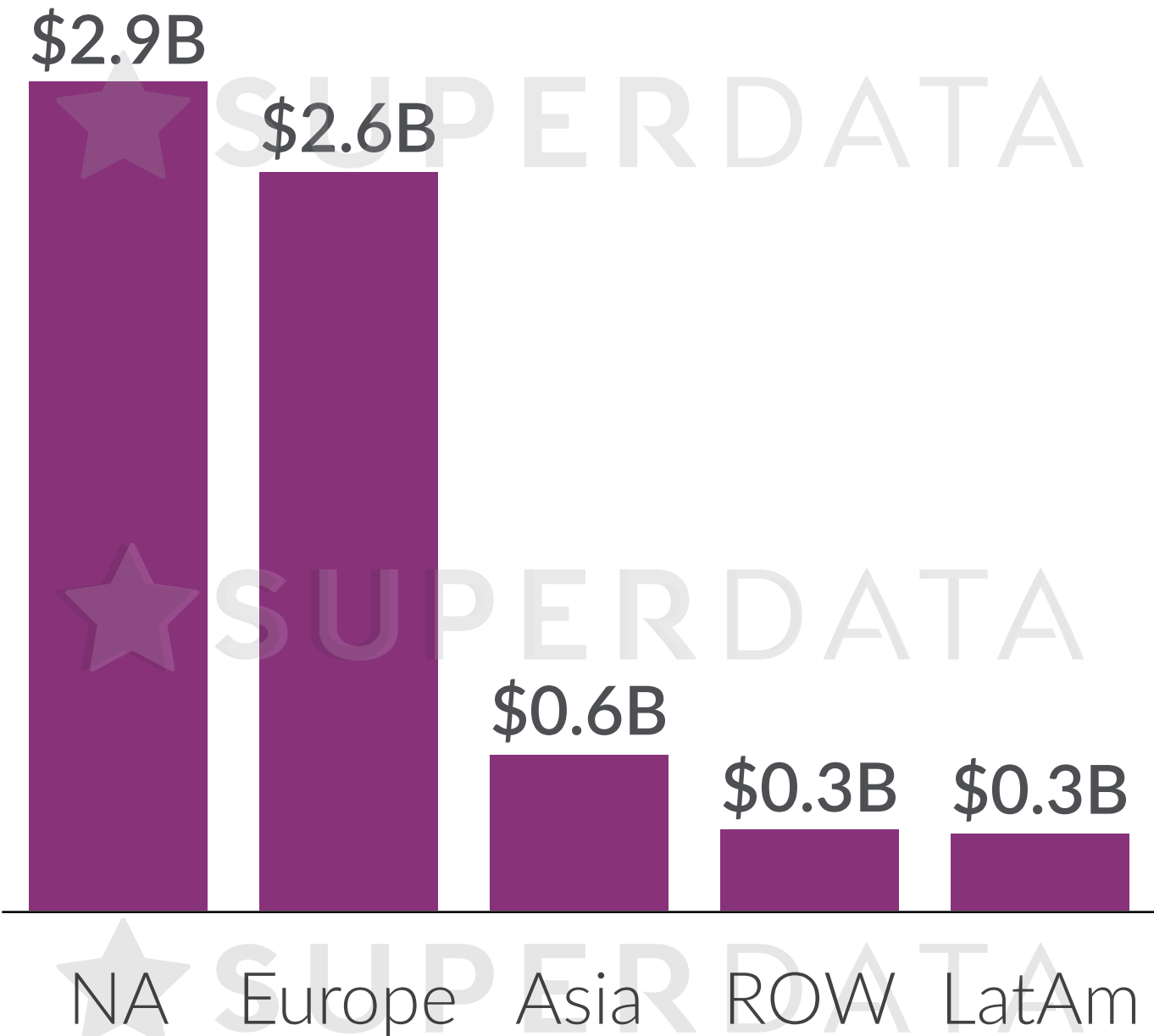
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OVERWATCH	\$585.6M
CS: GO	\$257.2M
GUILD WARS 2	\$91.0M
MINECRAFT	\$88.7M
FALLOUT 4	\$74.9M

Premium Console games market, 2016

Premium Console Games Revenue 2016-2019



Premium Console Games Revenue by Region, 2016



2016 TOP PREMIUM CONSOLE TITLES:	\$YTD: JAN-NOV
CALL OF DUTY: BLACK OPS III	\$591.1M
FIFA 16	\$387.4M
GRAND THEFT AUTO V	\$378.9M
TOM CLANCY'S THE DIVISION	\$261.8M
DESTINY	\$214.1M

A CLOSER LOOK AT INTERACTIVE MEDIA IN 2016

2016 ESPORTS BY THE NUMBERS

VIEWERS..... 213.8M

REVENUE..... \$892.4M

BETTING..... \$58.9M

PRIZE POOL.... \$78.3M

BRANDS..... \$662.0M

LARGEST
PAYOUTS:

THE INT'L -
DOTA 2..... \$20.8M

LEAGUE OF
LEGENDS
WORLDS..... \$5.1M

Mainstream sports teams are investing in eSports.

- Philadelphia 76ers purchased Team Dignitas and Team Apex, marking the first major traditional sports/eSport acquisition.
- Axiomatic, which owns teams like the the L.A. Dodgers and Washington Wizards purchased a majority share of Team Liquid.
- Soccer teams Paris Saint-Germain, Manchester City, Ajax, and Schalke FC are creating their own eSports division.

eSports betting comes to sunny Las Vegas.

- William Hill got the go-ahead to operate an eSports book in Las Vegas and took the first legal official U.S. bet on an eSports match in November at the *League of Legends* tournament in Oakland, California.

eSports attracts brands both online and on screen.

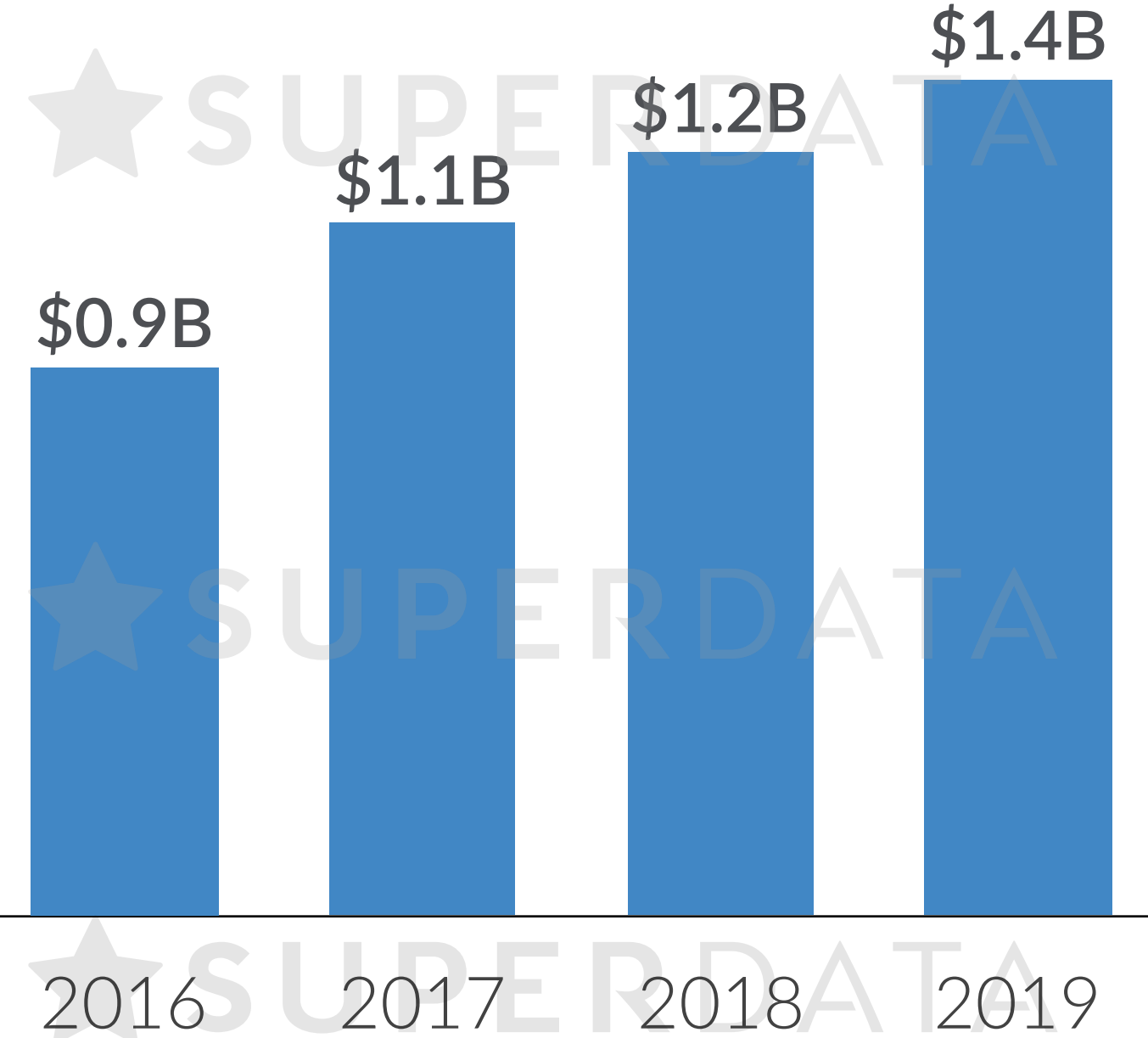
- TBS premiered the first major television eSports programming in the west, with ELEAGUE attracting an average of 200,000 viewers.
- *League of Legends* publisher Riot partnered with MLBAM in a deal worth \$300M in November, which expands Riot's access to advertisers.

Overwatch and Rocket League become the newest major global eSport.

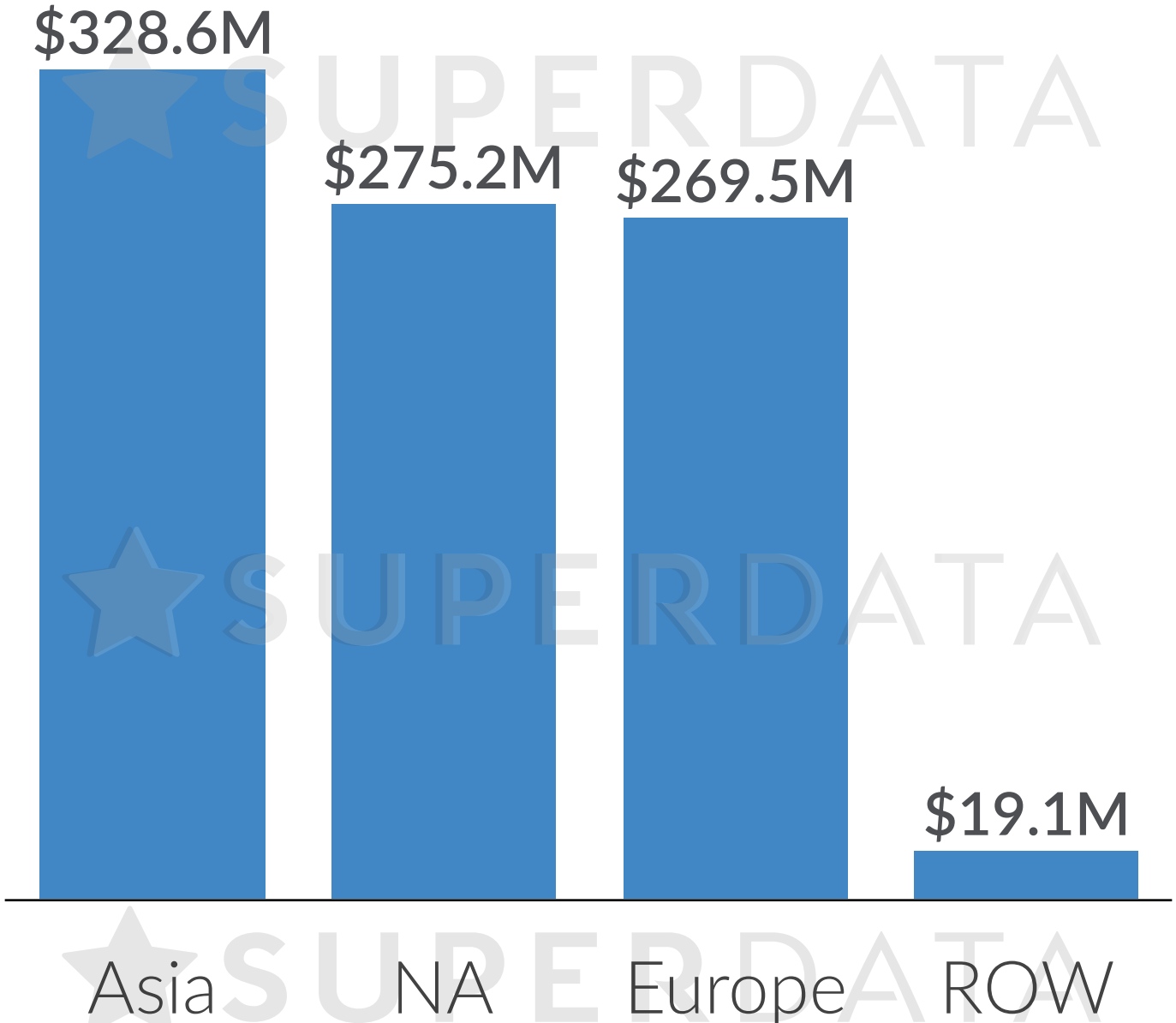
- Activision Blizzard had a landmark year with its successful eSports titles *Call of Duty* and *Hearthstone*, and the acquisition of Major League Gaming. The publisher then did what almost no other has been able to do -- create a new eSports -- with the launch of an official *Overwatch* league.
- Fans of indie favorite *Rocket League* created a grassroots eSport out of the title, spawning two championship seasons in 2016 with a combined prize pool of \$180,000.

eSports market, 2016

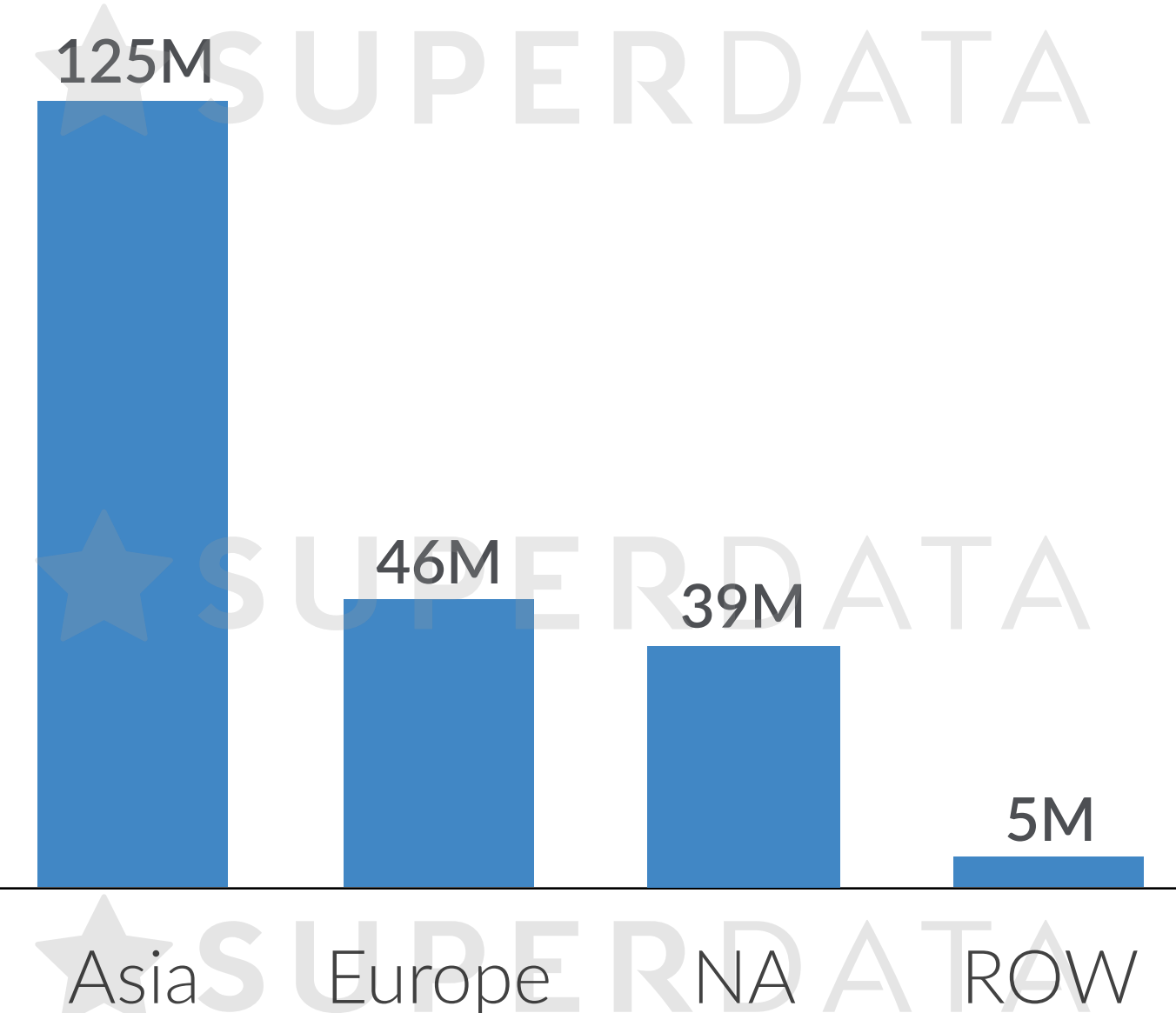
eSports Revenue 2016-2019



eSports Revenue by Region, 2016



eSports Viewers by Region, 2016



2016 GAMING VIDEO CONTENT BY THE NUMBERS

VIEWERS..... 258M

REVENUE..... \$4.4B

YOUTUBE..... \$1.6B

TWITCH..... \$1.9B

AD REVENUE.. \$2.4B

SUBSCRIPTIONS..... \$0.66B

DONATIONS... \$1.1B

The gaming video content market size is set to rise to \$4.4B in 2016, a 35% increase from 2015.

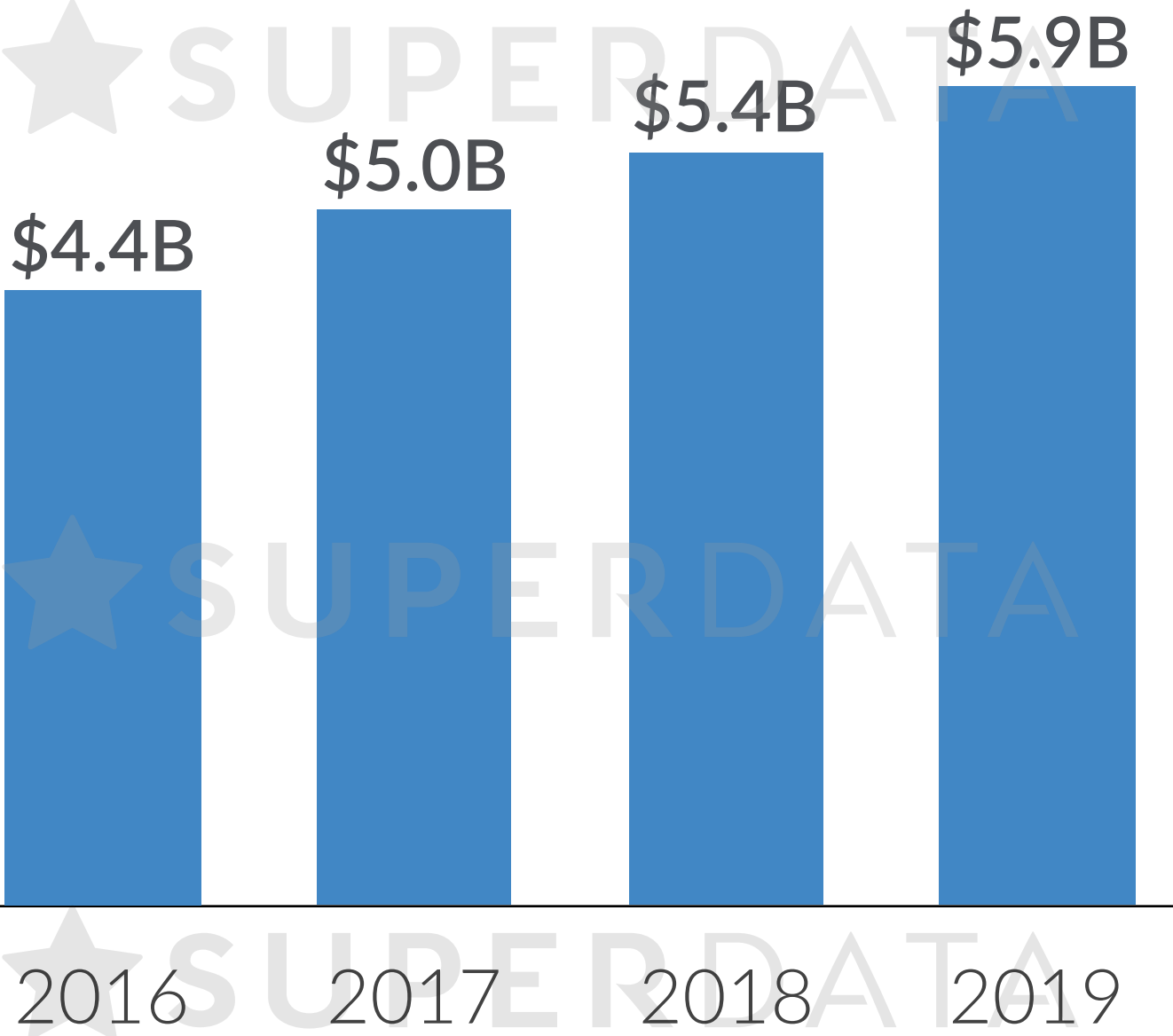
- YouTube Gaming continued to grow in 2016 as the flagship YouTube site launched paid subscription service YouTube RED. The service expands on gaming video content with original content from influencers like PewDiePie and Machinima.
- After losing a significant portion of revenue to donations and ad blockers, Twitch introduced Twitch Cheering. The service mirrors donations and allows fans to support their favorite streamers.

Content sites like YouTube and Twitch draw on partnerships to expand their gaming content offerings.

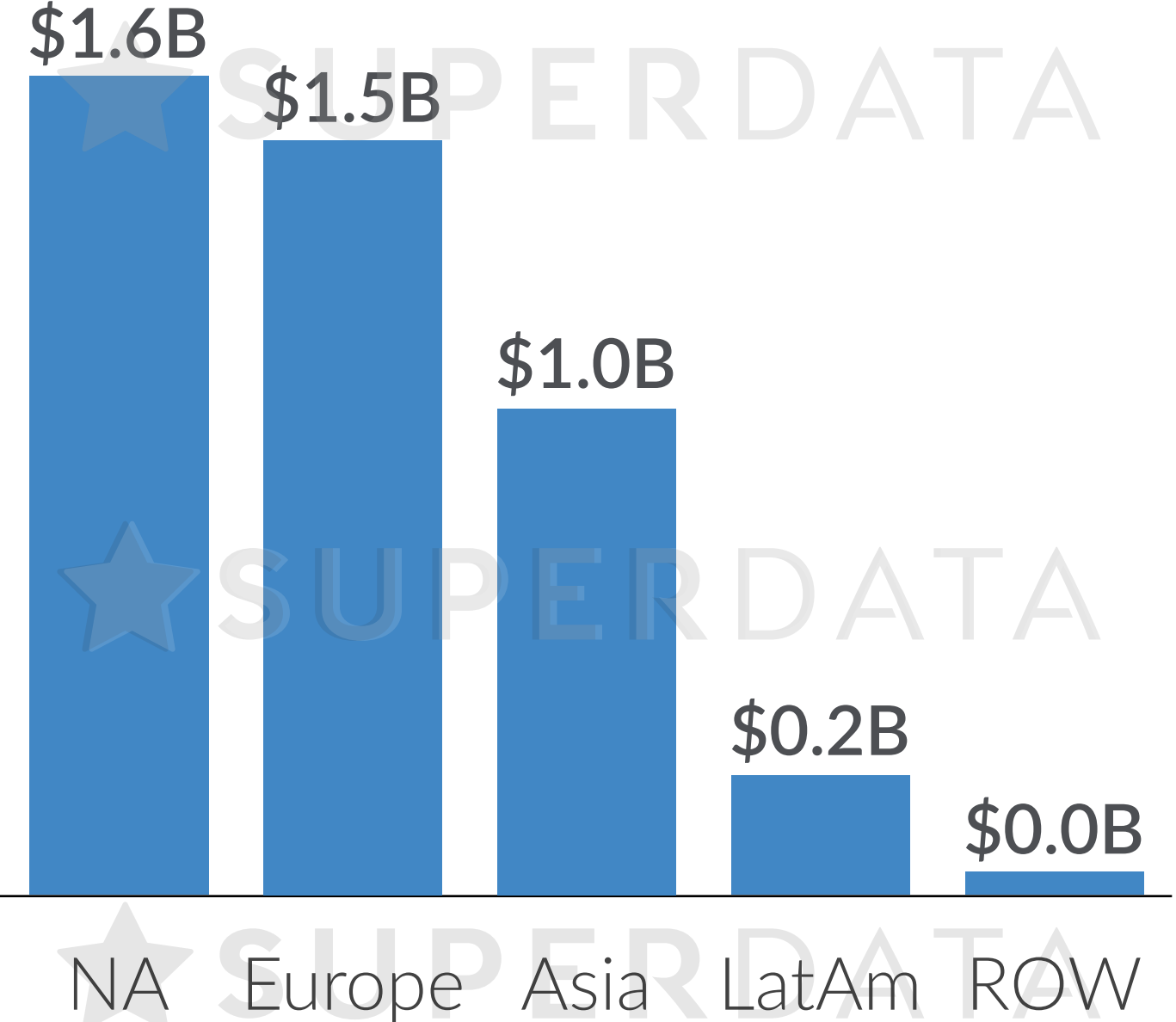
- Twitch renewed its contract for a multi-year partnership for eSports content with ESL. Logitech also formed an official partnership with ESL, providing gear for professional gamers and ESL staff, and selling products at events.
- Twitch announced the launch of Twitch Prime at this year's Twitchcon. The service is an expansion of Amazon Prime and grants users a free subscription each month along with promotional in-game content for select games.
- Activision partnered with Facebook to feature tournament streams via Facebook Live. The service is still in its early days, but has the visibility to reach millions of users as Facebook pushes content over newsfeeds.

Gaming video content market, 2016

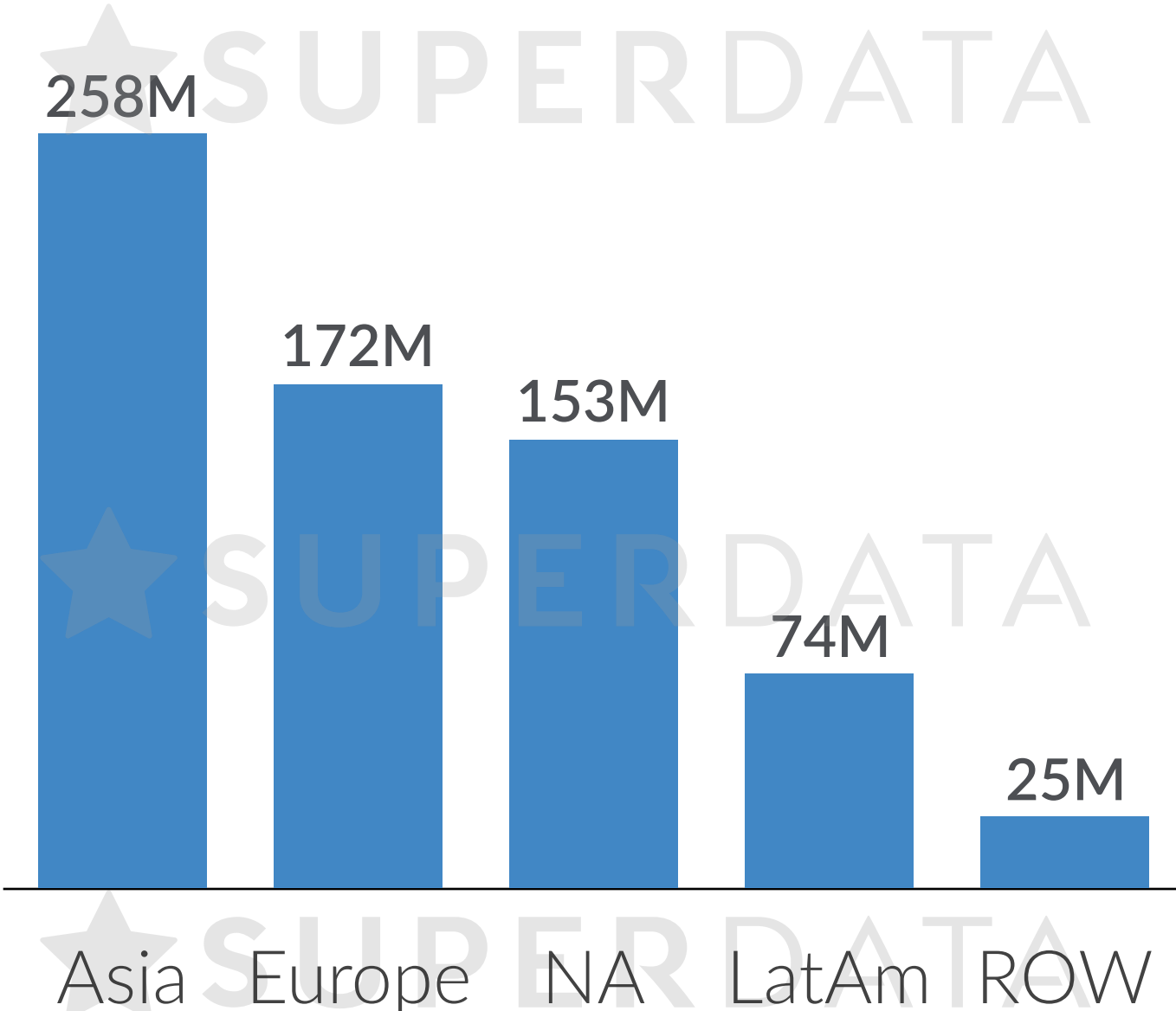
GVC Revenue 2016-2019



GVC Revenue by Region, 2016



GVC Viewers by Region, 2016



2016 VIRTUAL REALITY BY THE NUMBERS

VIEWERS..... 16M*

REVENUE..... \$2.7B

HEADSET SHIPMENTS:

GOOGLE
DAYDREAM..... 261K

OCULUS RIFT.. 355K

HTC VIVE..... 420K

PLAYSTATION
VR..... 745K

SAMSUNG
GEAR VR..... 2.3M

GOOGLE
CARDBOARD.. 88.4M

*Monthly unique users

Pre-orders for Oculus Rift and HTC Vive face some tumbles before the companies find their stride with manufacturing.

- At launch in March, Oculus unexpectedly delayed many preorders by roughly a month due to an unspecified component shortage. This gave the HTC Vive a virtual monopoly on the market despite a hiccup with processing payments when early adopters were most hungry for a VR device.
- Since the Rift's Touch controllers did not launch until December 6, many games also ended up being temporary Vive exclusives. Oculus' subpar first year benefited rival HTC, but also resulted in short-term pain for game makers who need more potential customers to turn a profit making VR games.

PlayStation VR outsells its high-end rivals with no competition in the console space.

- This year's shipment of 745M PSVRs puts the device above the Oculus Rift and HTC Vive combined. Sony's cautious start did not live up to consumer demand, causing headsets and bundles to sell out quickly and keep the device from breaching 1M shipments in its first year.

Despite the exploding Note 7, Samsung still ships more than 2M Gear VRs this year; but a new Google device threatens competition in 2017.

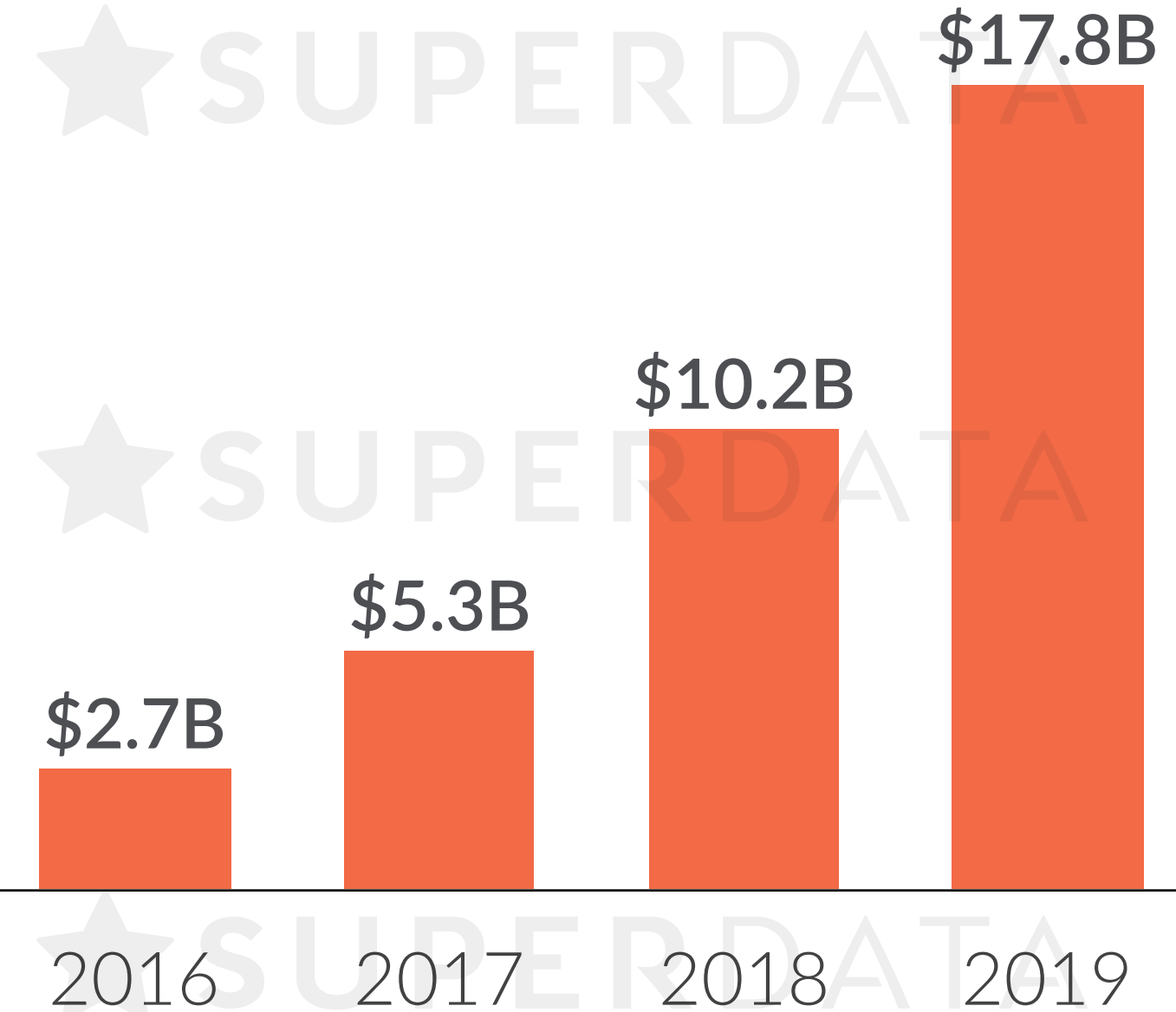
- After a blockbuster year for the Samsung Gear VR, Google put its horse in the race with the Daydream View. The headset is device agnostic, functional with any smartphone capable of running Android Nougat. For now only the Google Pixel phone is Daydream-capable, but with a slew of new releases set for 2017, Daydream will become accessible to millions more Android users than the Samsung Gear VR.

VR hype slows down, making room for enterprise applications and mixed reality.

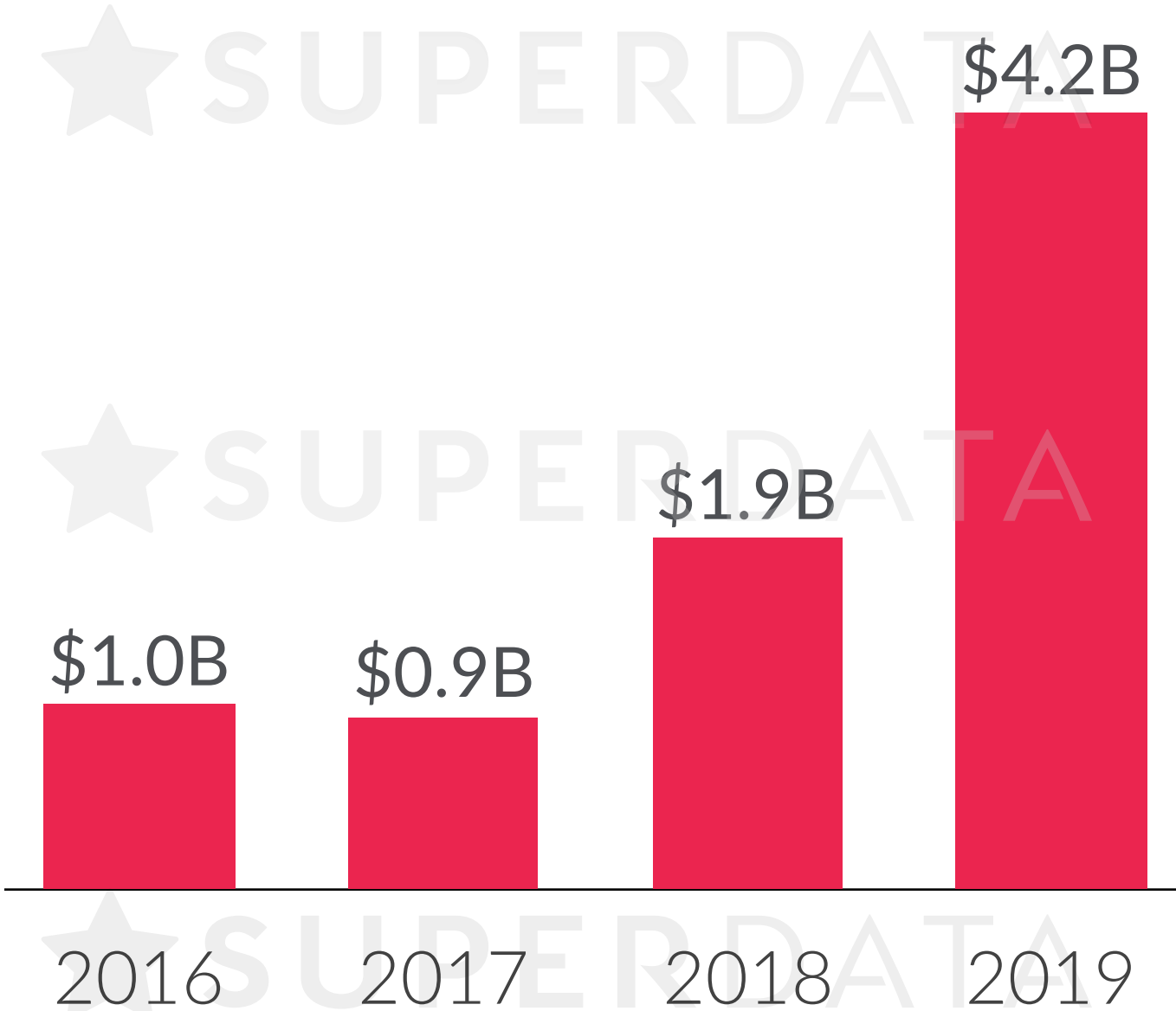
- Now that the numbers are out and the industry realizes it's still a long way from mass adoption, investors are looking toward the promise of enterprise applications, with HTC Vive being a lead evangelist for design, educational and medical applications. The hope for more HoloLens and Magic Leap demos in 2017 has gotten investors excited about what's next on the horizon for virtuality.

Virtuality market, 2016

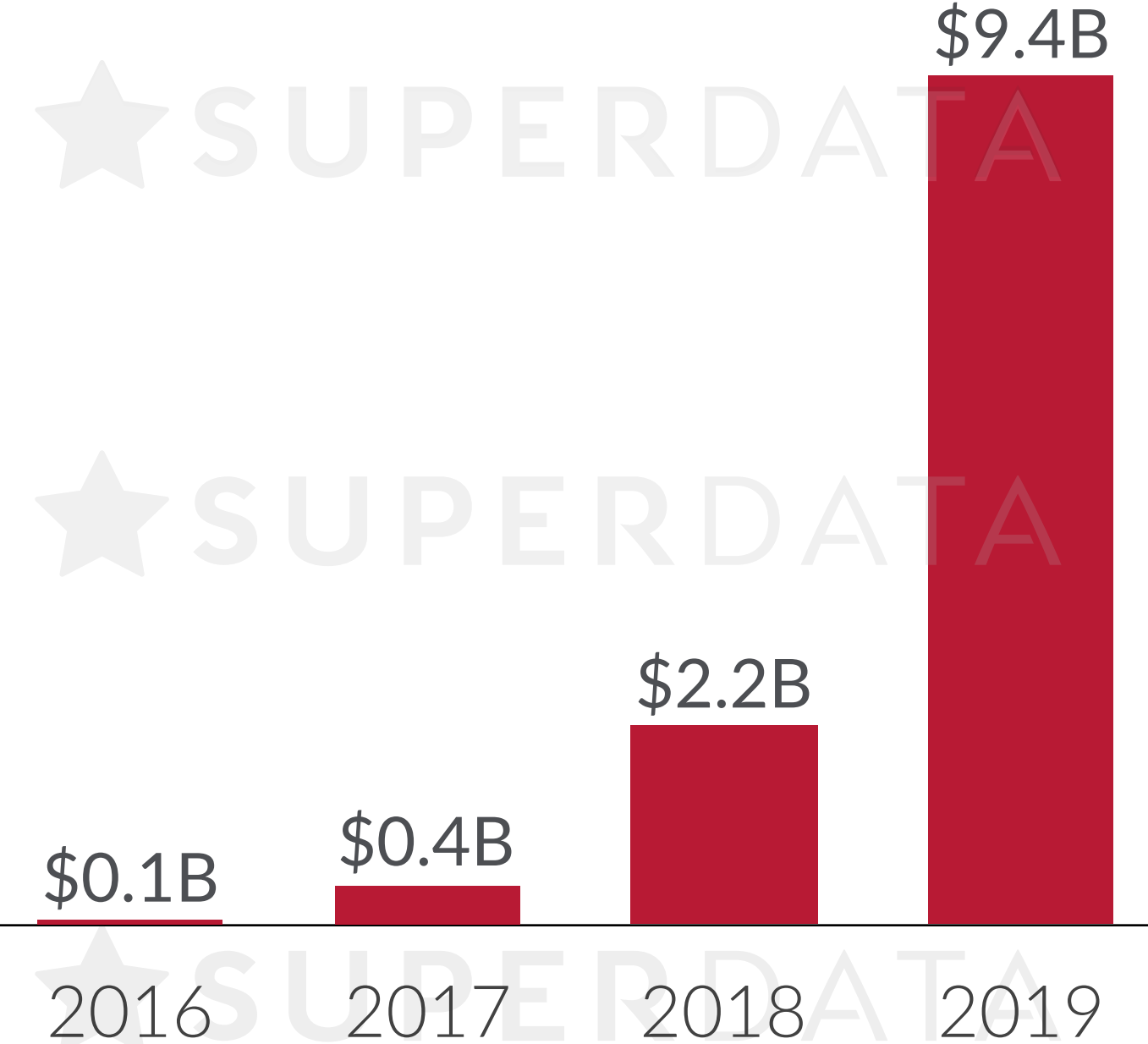
Virtual Reality Revenue 2016-2019



Augmented Reality Revenue 2016-2019

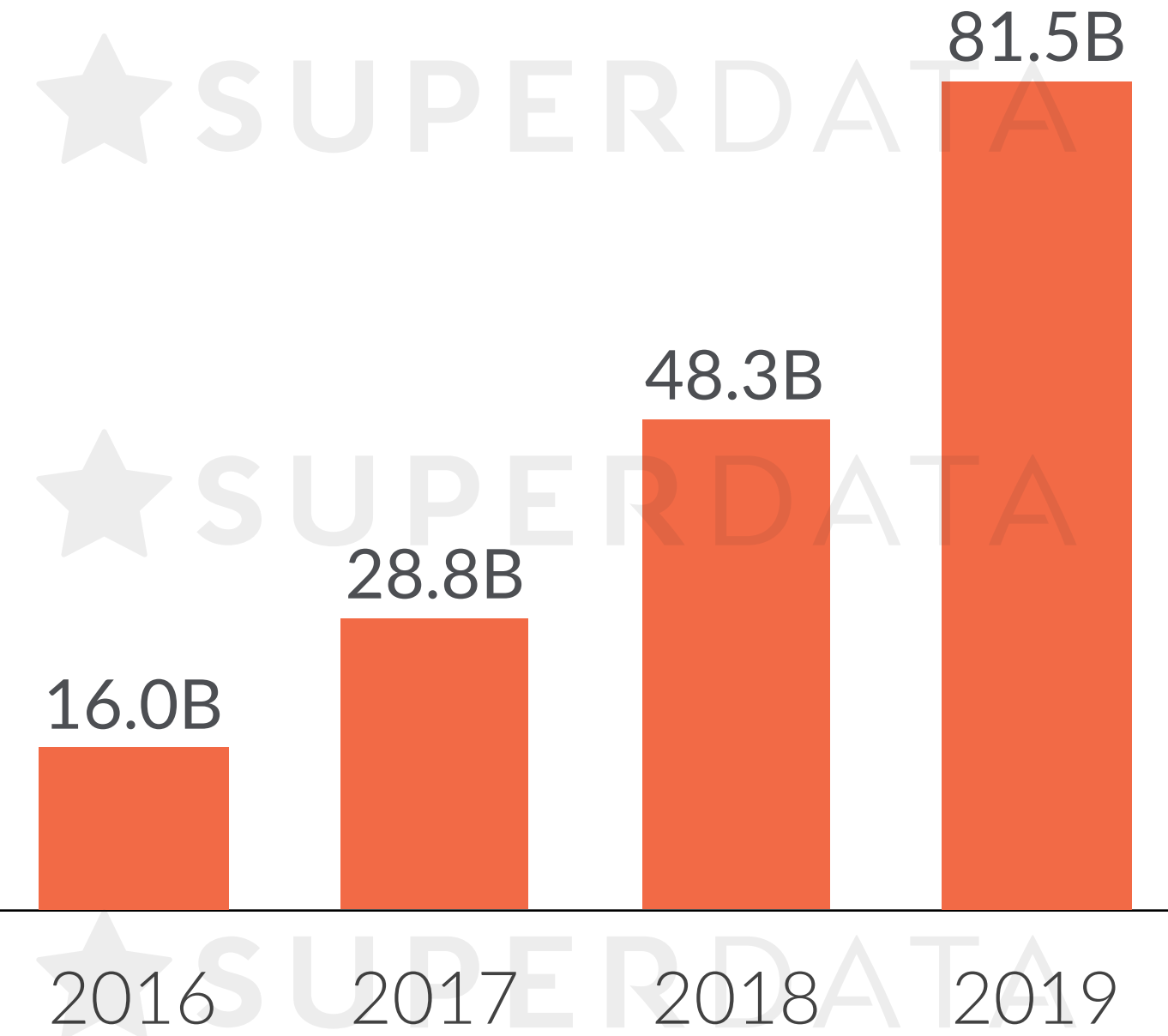


Mixed Reality Revenue 2016-2019

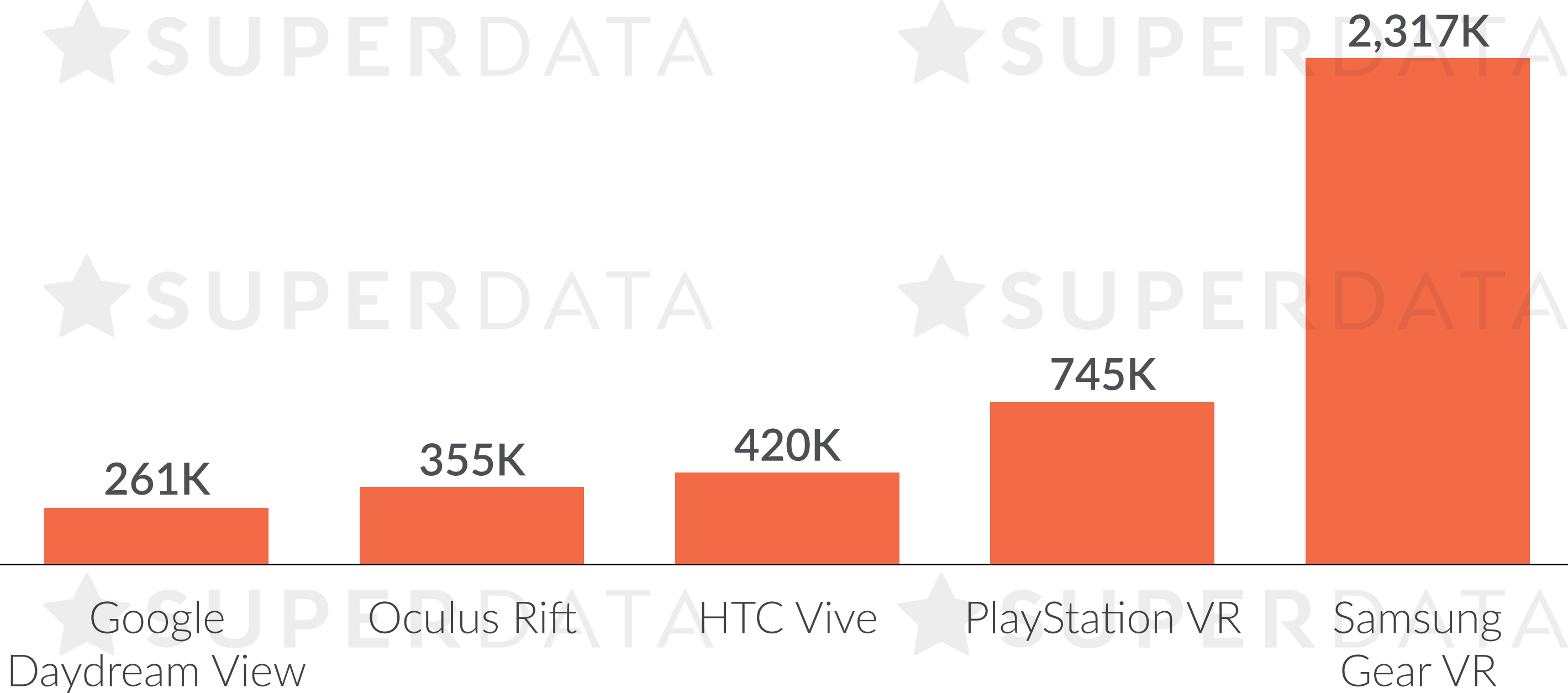


Virtuality market, 2016

Virtual Reality MUU 2016-2019



Virtual Reality Headset Shipments, 2016





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