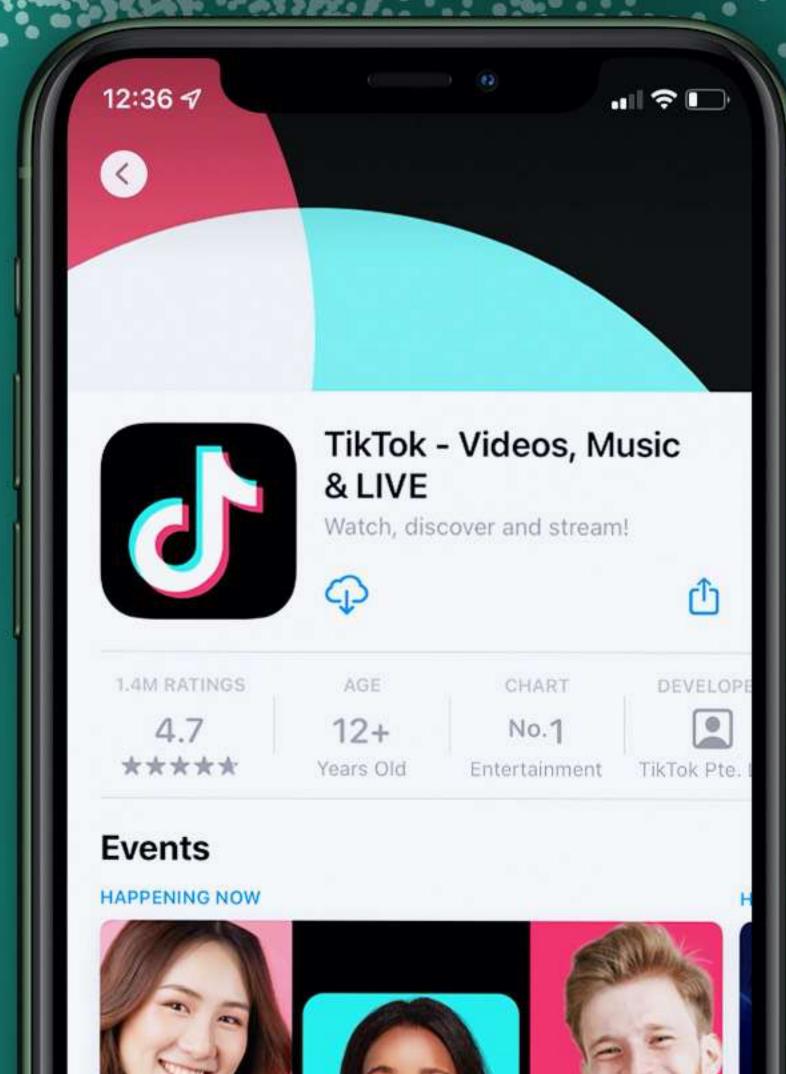


042021:

Store Intelligence Data Digest

Explore the Quarter's Top Apps, Games, Publishers, and More



Executive Summary: Highlights



Worldwide app downloads totaled 36.1 billion in 4Q21, a 2.7 percent year-over-year increase. Full year downloads grew 0.9 percent to 144.2, including 32.8B on the App Store and 111.4B on Google Play.



Garena Free Fire was the top mobile game by downloads in Q4 2021 and in the full year. This was the first year that Free Fire led all games by installs after finishing runner-up in 2019 and 2020.



Instagram had its best quarter for downloads since at least 2014, and Q4 2021 was the first time Meta had the top app since Q4 2019. TikTok retained the top spot overall in 2021.



Non-fungible tokens (NFTs) have started to make their way to mobile. Some top apps such as OpenSea and VeVe gained traction in 2021, while other cryptocurrency apps have added NFT support.



About This Data: Methodology

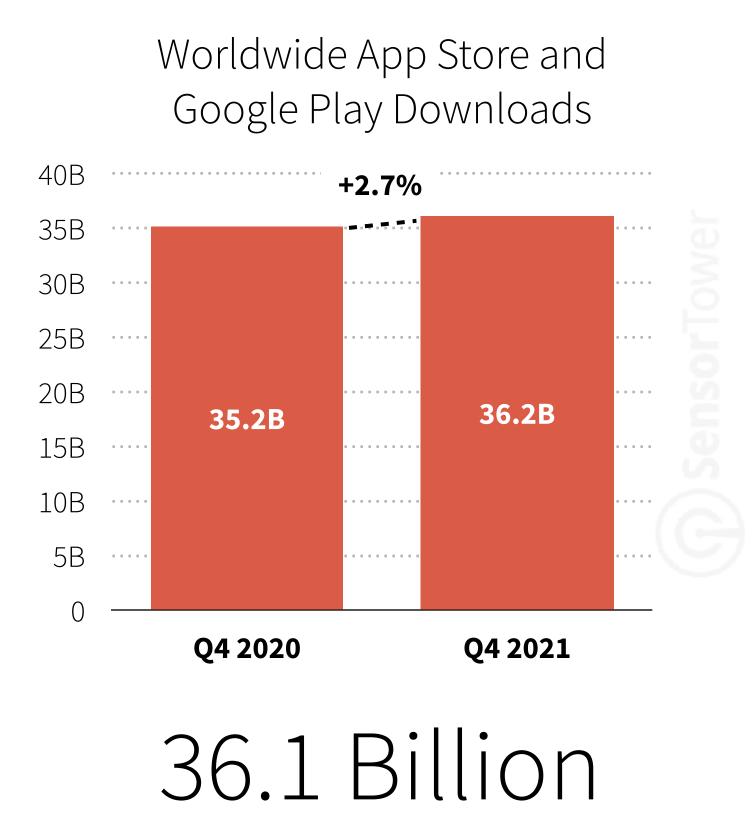
Sensor Tower's Mobile Insights team compiled the download estimates provided in this report using the Sensor Tower Store Intelligence platform.

- Figures cited in this report reflect App Store and Google Play download estimates for January 1, 2014 through December 31, 2021.
- Download estimates presented are on a per-user basis, meaning that only one download per Apple or Google account is counted towards the total.
- Downloads of the same app by the same user to multiple devices, updates, or re-installs of the same app by the same user are not counted towards the total.
- Android app install estimates represent downloads from the Google Play Store only. Sensor Tower does not provide download estimates for third-party Android stores.

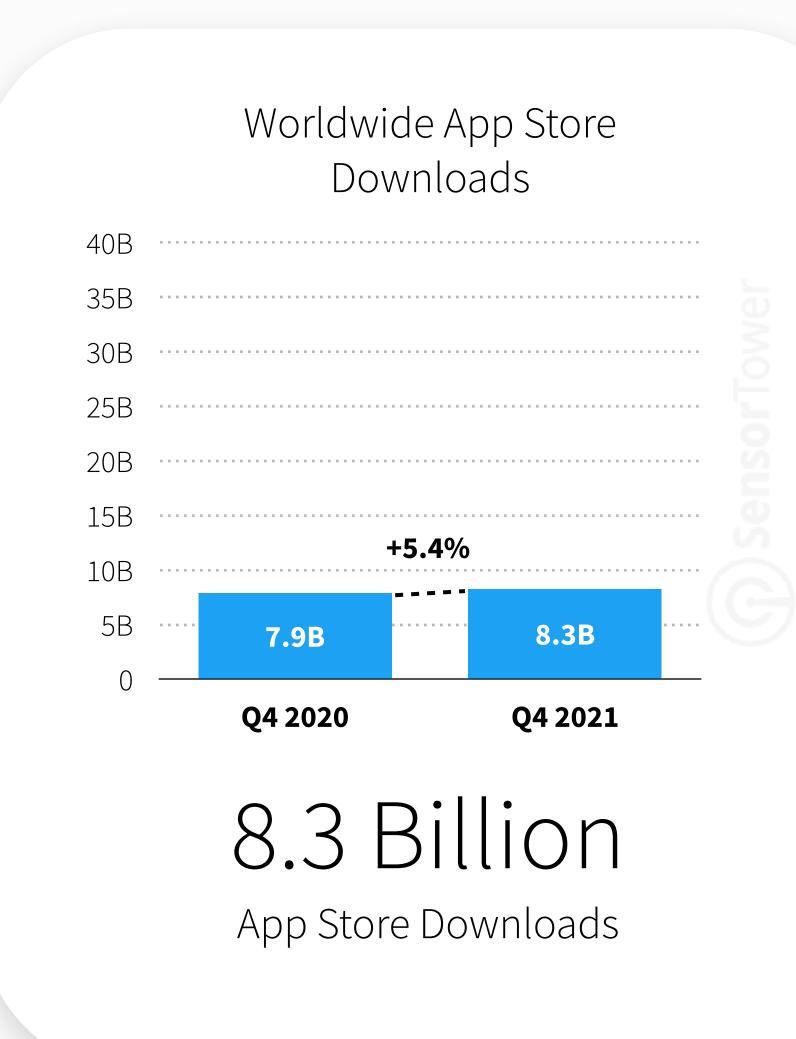
Could your business benefit from access to Store Intelligence insights and the highly accurate data used to build this report? See the fastest growing apps and publishers by downloads or revenue.

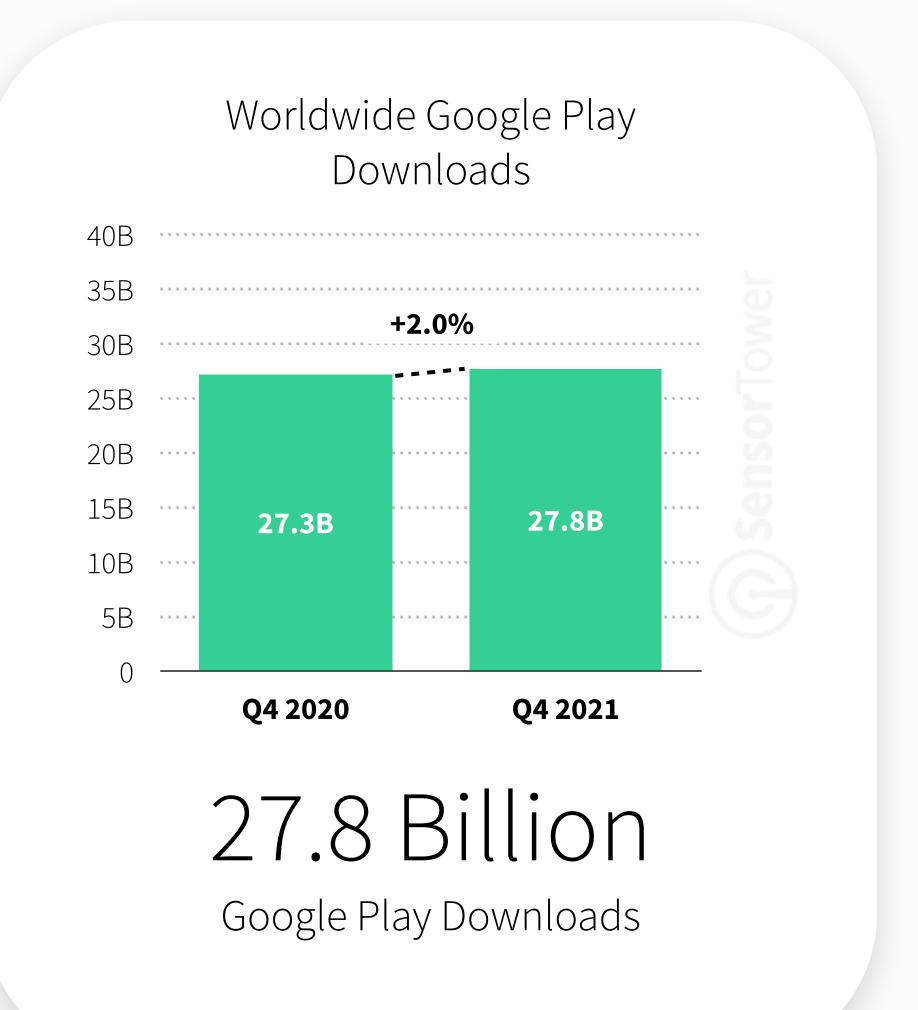
REQUEST DEMO

Market Overview: Q4 2021 Worldwide Download Growth

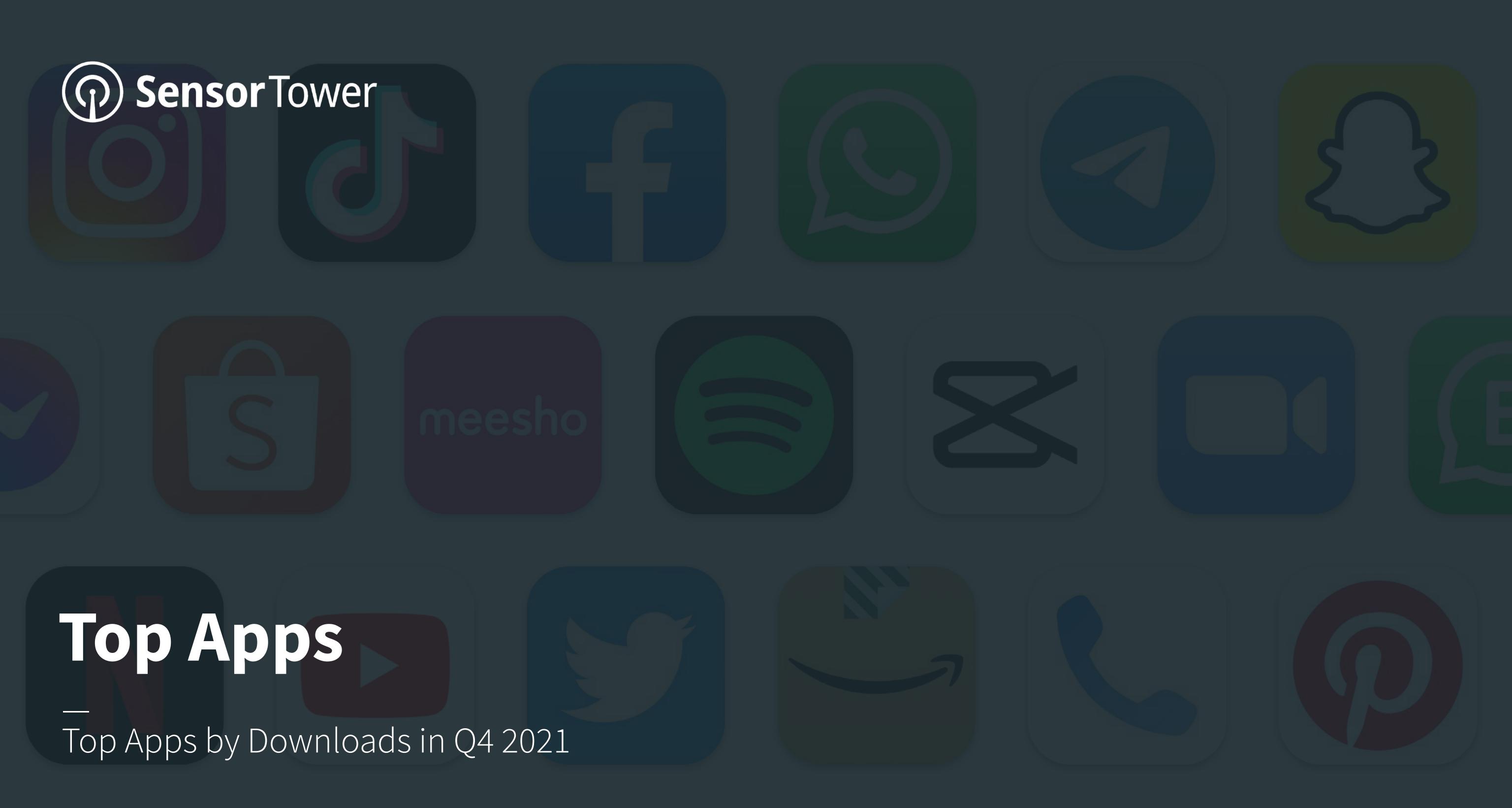


App Store + Google Play Downloads

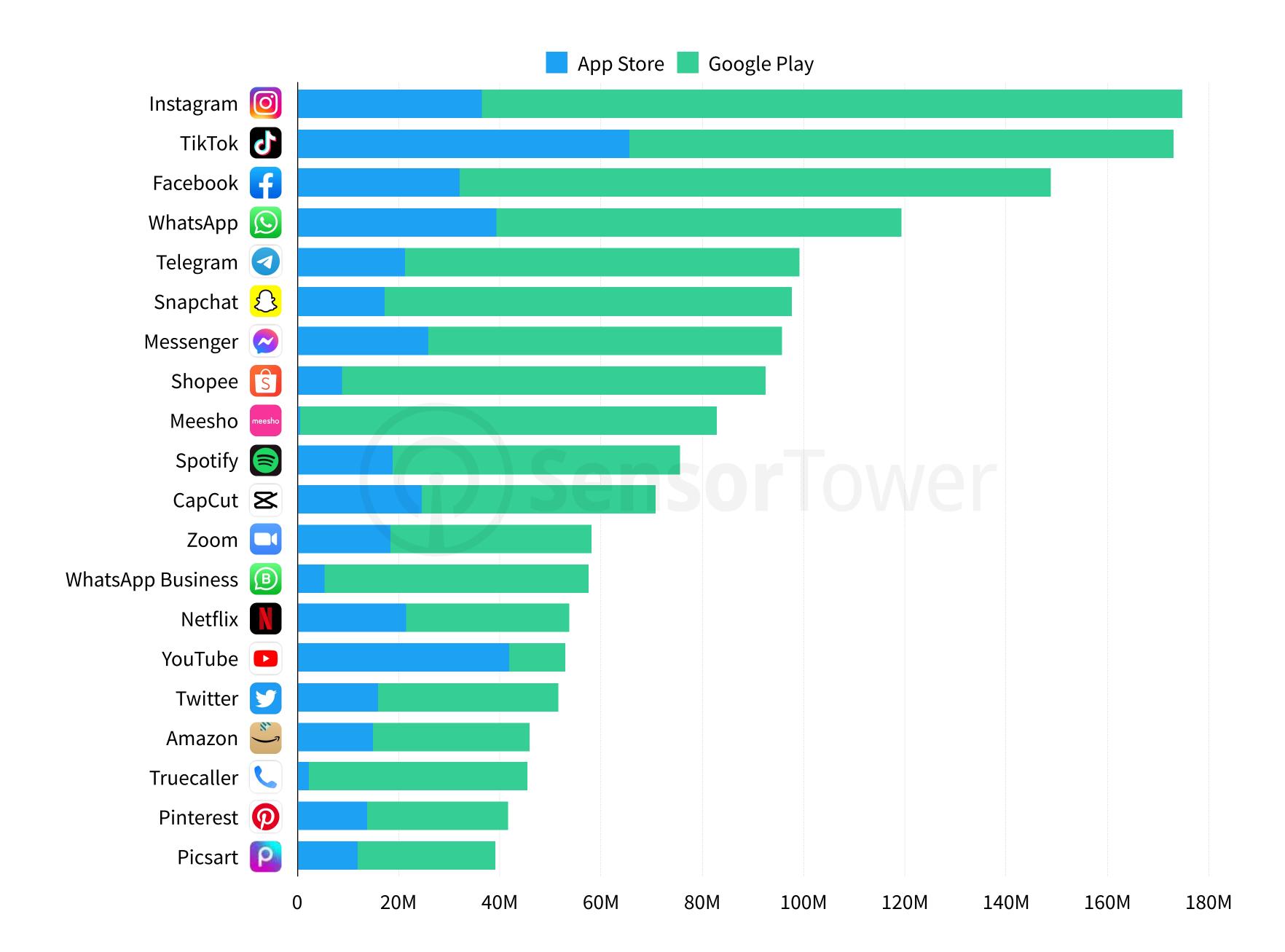








Overall - Worldwide



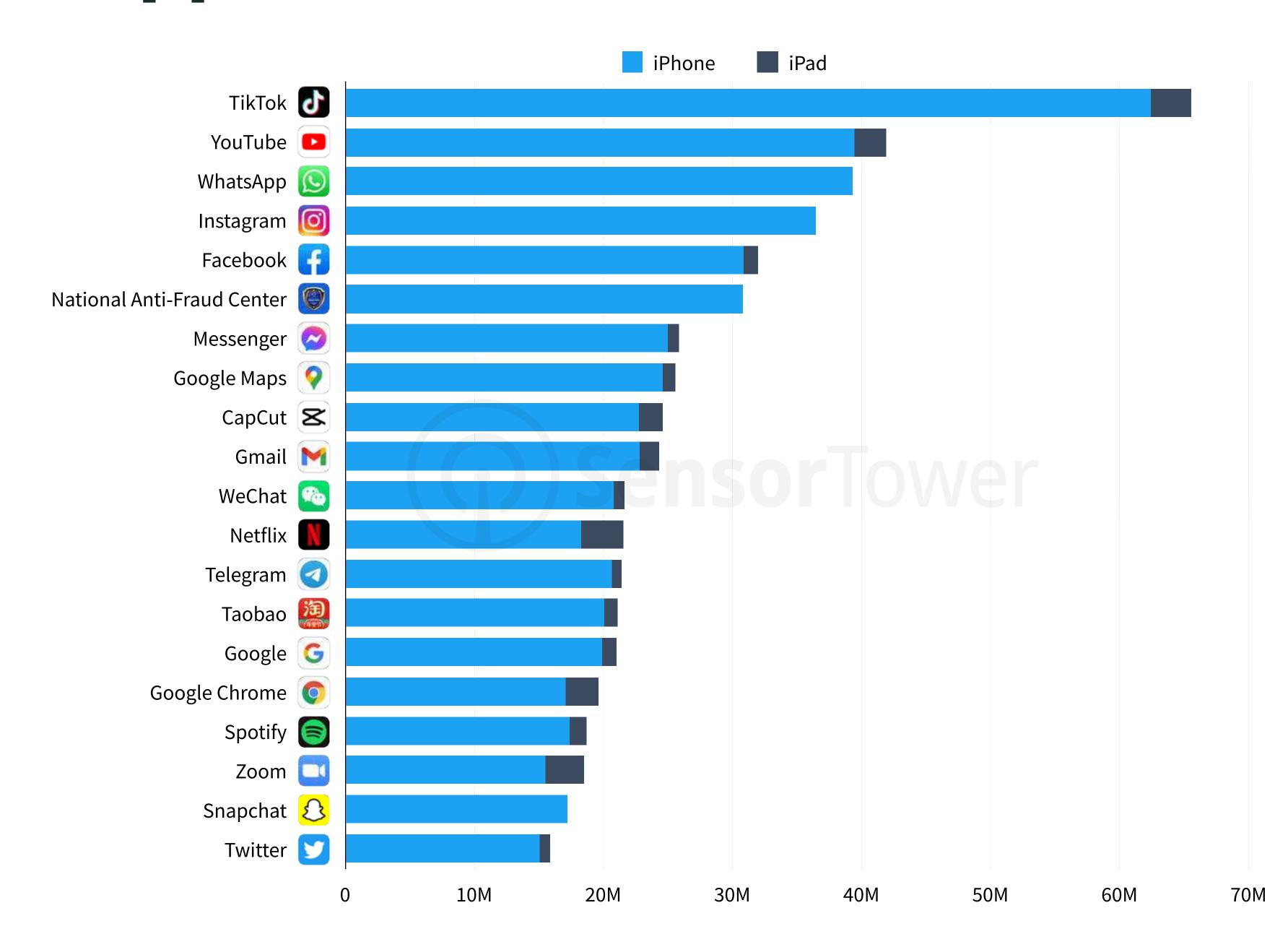
Instagram had its best quarter since at least 2014, with installs up 10 percent from its previous high in 3Q21. Instagram was Meta's first app to take the top spot since WhatsApp in Q4 2019.

Q4 2021 was just the second time in the past two years that TikTok was not the top app by worldwide downloads. The last app to surpass TikTok in a quarter was Zoom in Q2 2020.

Note Regarding Download Estimates



App Store - Worldwide



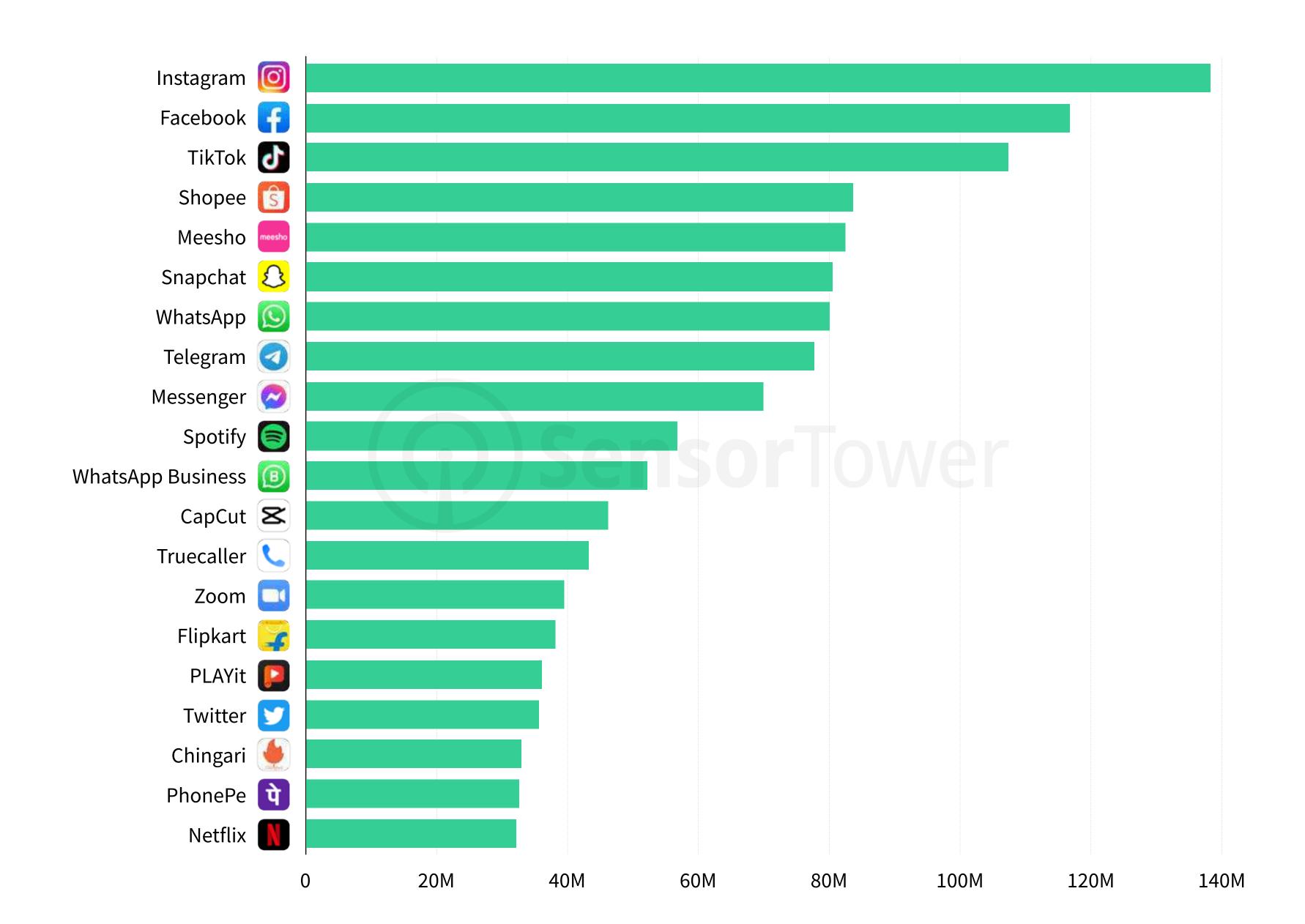
TikTok and YouTube have held the No. 1 and 2 spots, respectively, since Q2 2020. After two down quarters, YouTube bounced back with its third best quarter to date. Meanwhile, TikTok exceeded 50 million App Store installs for the eighth straight quarter.

Twitter reached the top 20 for the first time since Q1 2021, and the fourth time since the start of 2020. Twitter saw adoption jump 34 percent quarter-over-quarter in Q1 2020, and it has maintained most of those gains since.

Note Regarding Download Estimates



Google Play - Worldwide



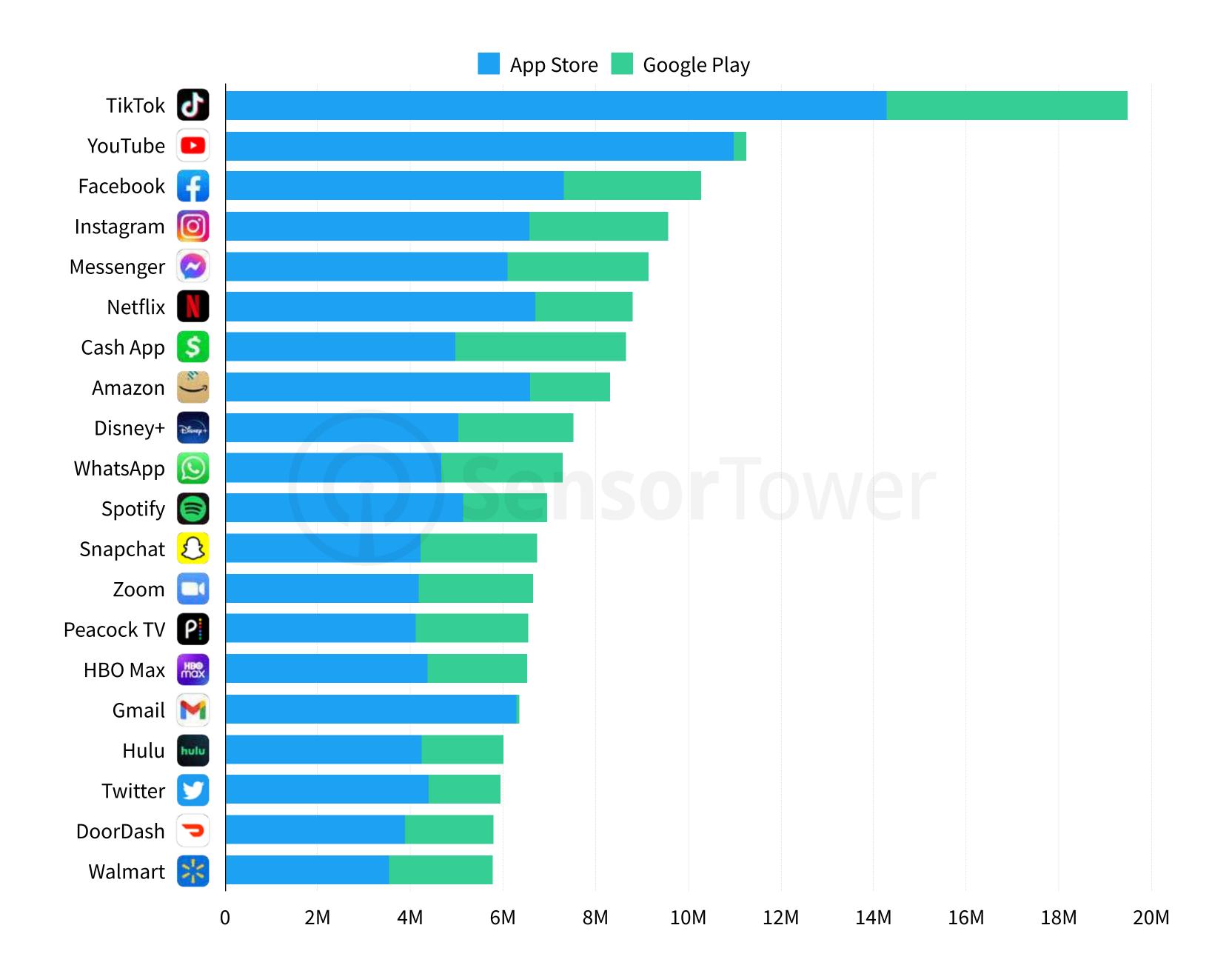
Meta had the top two apps on Google Play for the second straight quarter, with Instagram passing Facebook for the first time since at least 2014 to take the top spot. Meta-published apps WhatsApp, Messenger, and WhatsApp Business were also among the top 20.

Shopee and Meesho saw huge growth to reach the top five for the first time amidst shopping holidays across the globe. The vast majority of the download growth for these apps came from India.

Note Regarding Download Estimates



Overall - United States



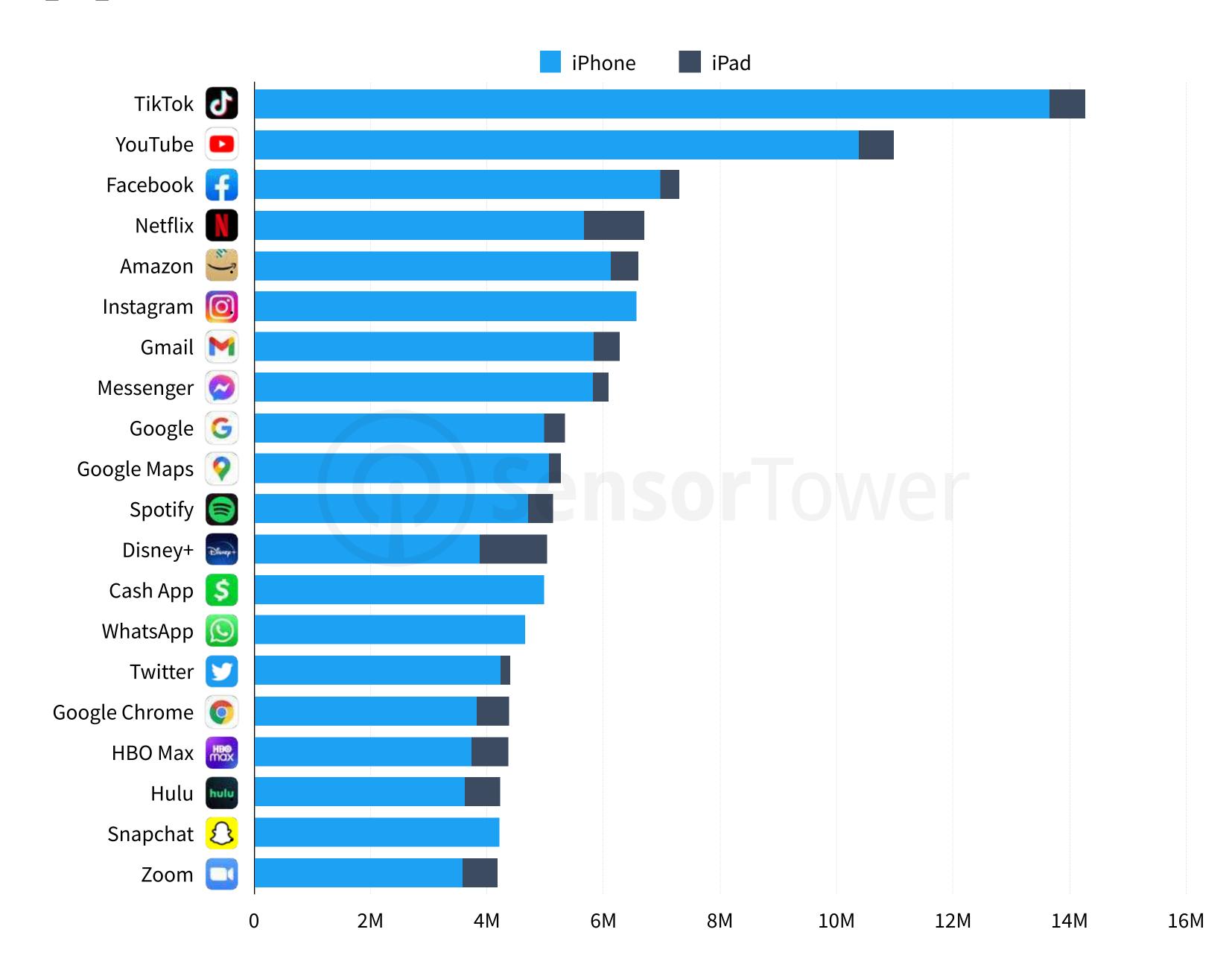
TikTok dominated the U.S. app market in 2021, taking the top spot each quarter this year. TikTok's 74 million U.S. downloads were well ahead the No. 2 app, YouTube, with 47 million downloads in 2021.

Zoom fell out of the top 10 for the first time since the start of the pandemic in Q1 2020, ranking 13th this quarter. Installs were still up nearly 4X compared to before the pandemic in Q4 2019.

Note Regarding Download Estimates



App Store - United States



TikTok and YouTube were the top two apps on the U.S. App Store in 2021, surpassing 11 million downloads each quarter. The only other app to reach 10 million installs in a quarter was Zoom in Q1 2021.

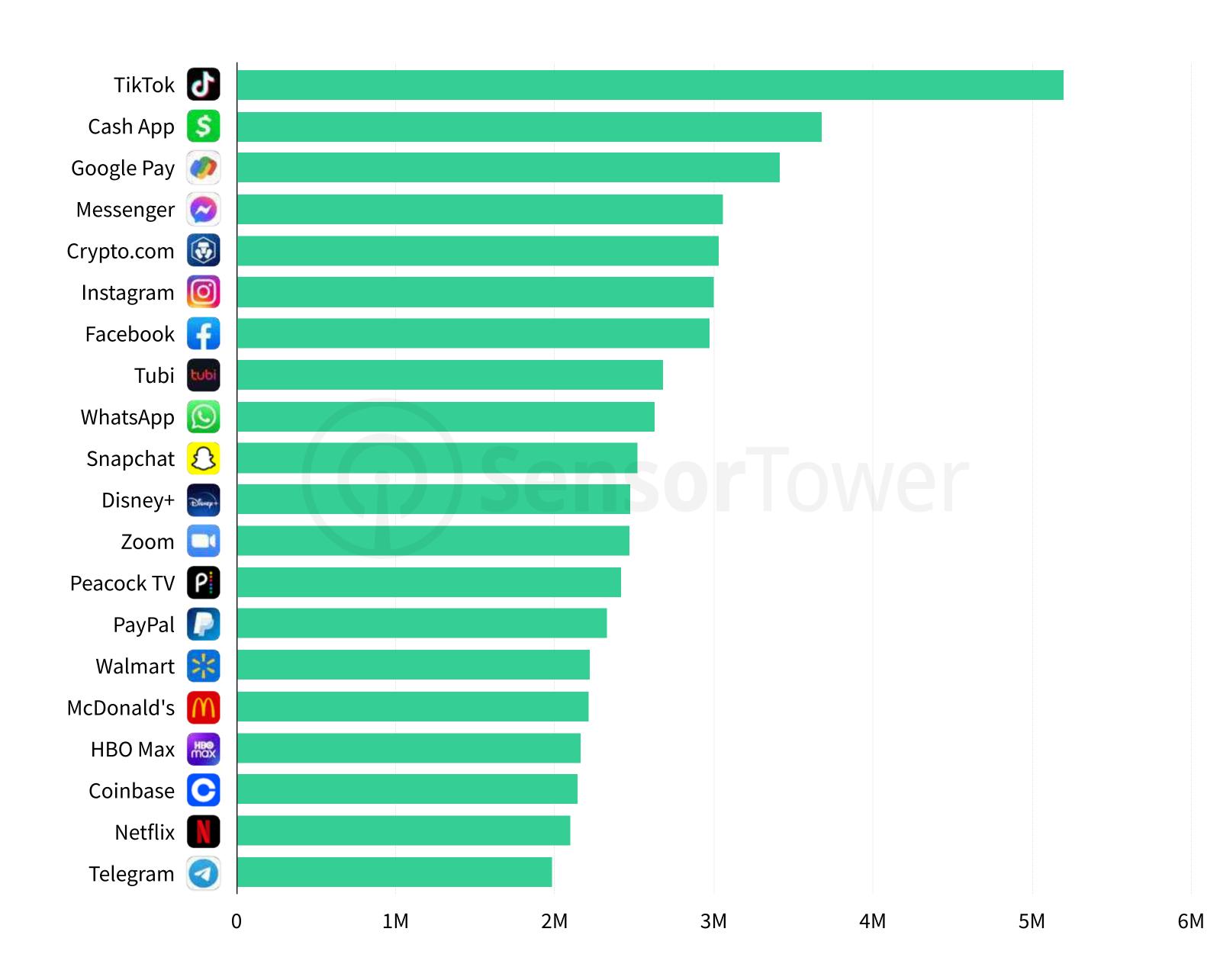
Amazon capitalized on the holiday shopping season with its second best quarter in the U.S. Its 6.6 million App Store downloads nearly reached its record total seen at the start of the

COVID-19 pandemic.

Note Regarding Download Estimates



Google Play - United States



TikTok was also the top U.S. app on Google Play, reaching the No. 1 spot for the second straight quarter. It was joined in the top three by two finance apps, Cash App and Google Pay.

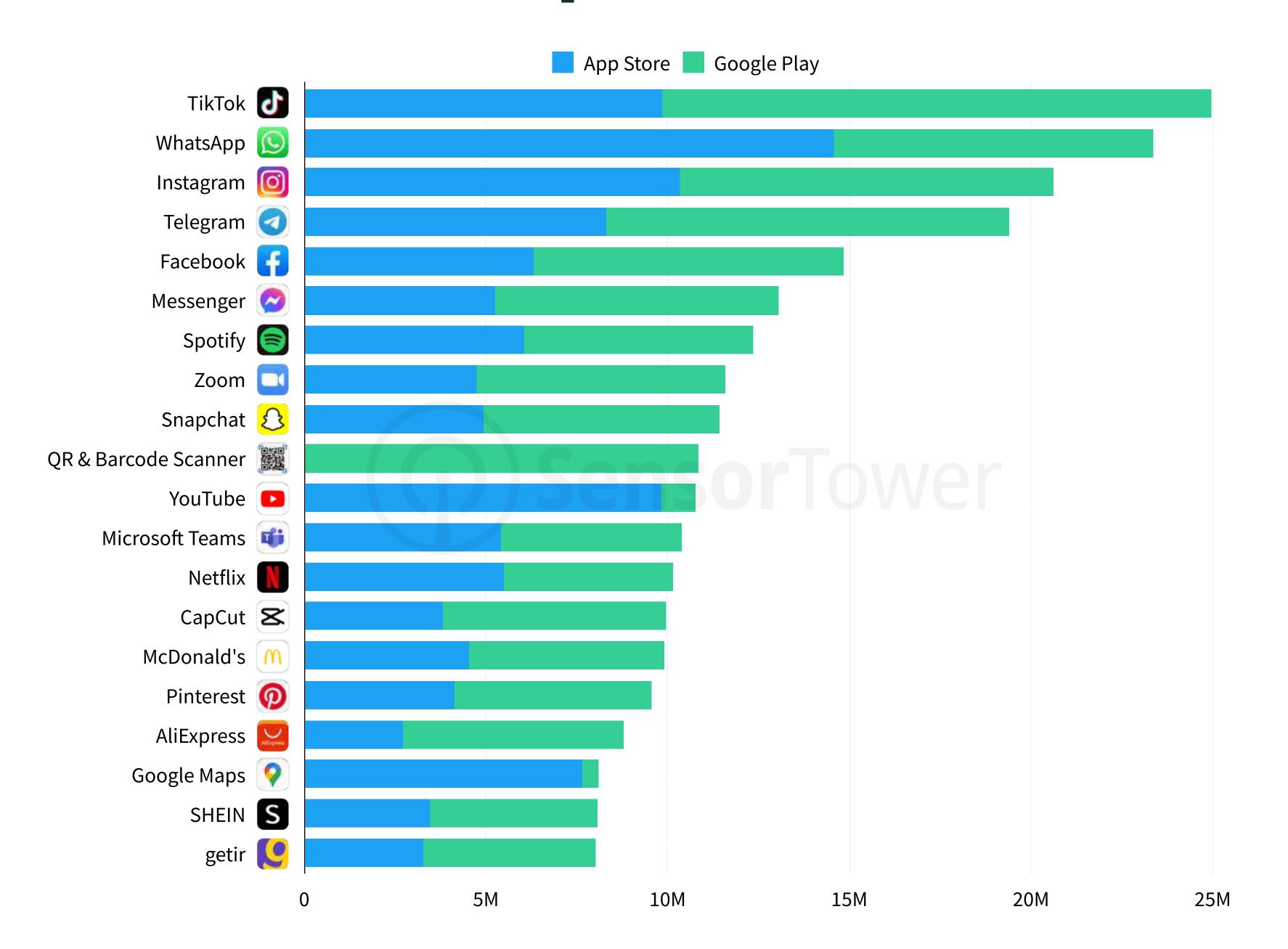
No app saw more download growth on Google Play than Crypto.com, climbing from 1 million downloads in Q3 2021 to 3 million in Q4.

Coinbase also saw its U.S. installs more than double quarter-over-quarter on Google Play and it ranked among the top 20 in Q4 2021.

Note Regarding Download Estimates



Overall - Europe



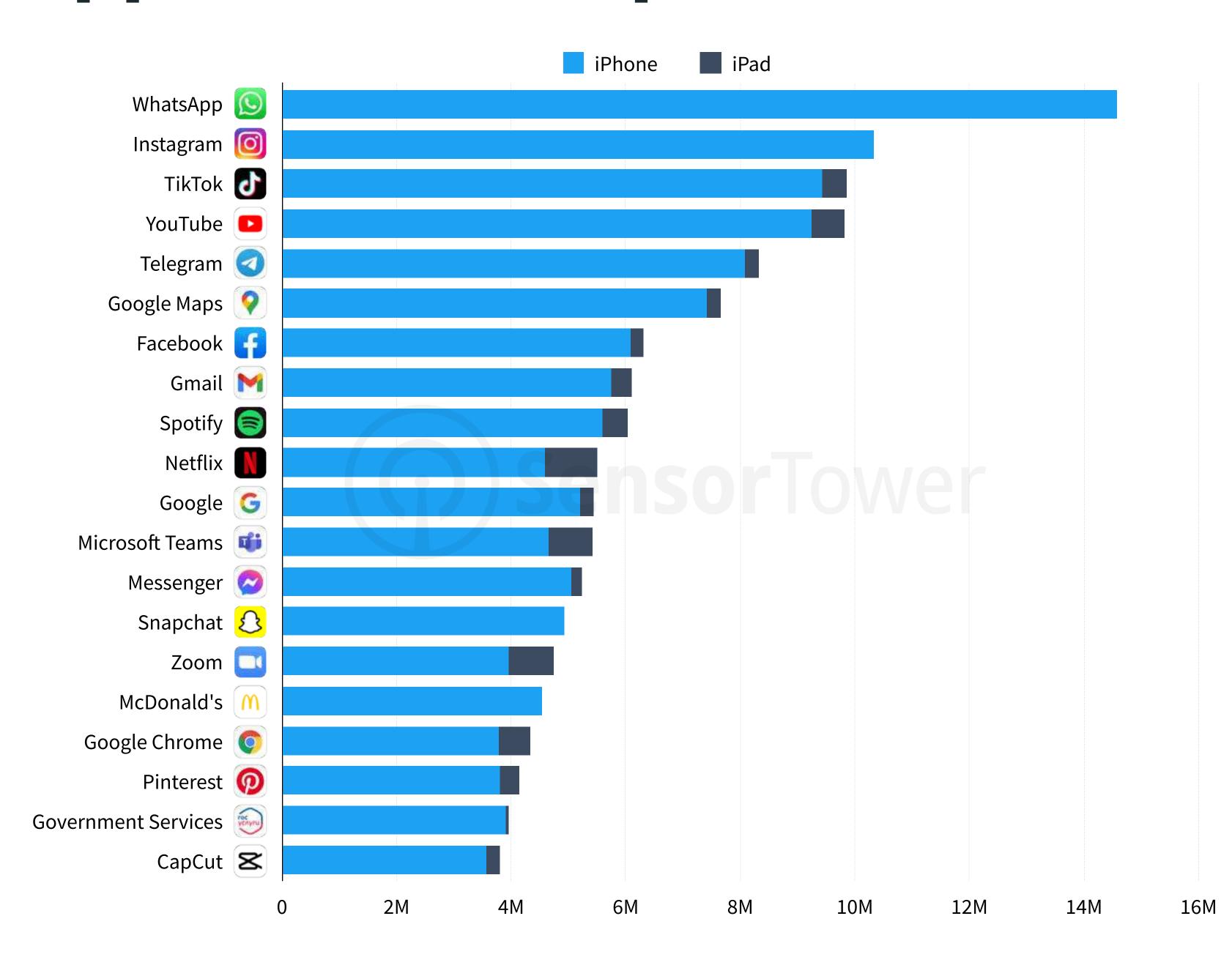
The top five apps in Europe were the same the past three quarters, led by TikTok. Meta had three of these apps with WhatsApp, Instagram, and Facebook.

Zoom's installs in Europe saw a resurgence in Q4 2021. After falling out of the top 20 apps in Q3 2021, Zoom re-entered the top 10 in Q4 with 11.6 million downloads.

Note Regarding Download Estimates



App Store - Europe



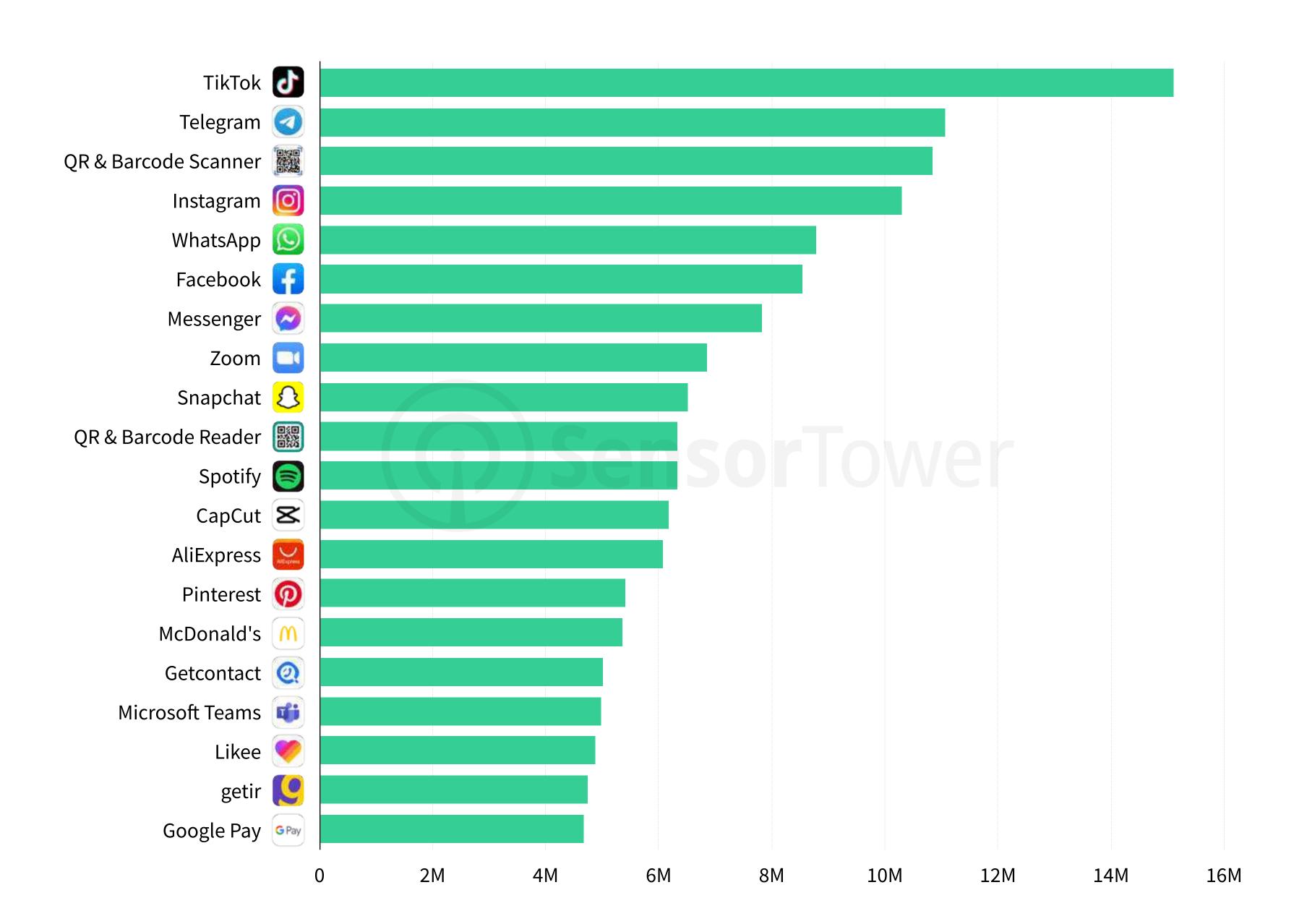
WhatsApp has consistently been the top App Store app in Europe, reaching the top spot for six straight quarters. Q4 2021 was its best quarter since Q3 2018.

Instagram, the No. 2 app in Europe, also had its best quarter since Q3 2018. This was also the case for Meta as a publisher overall in the region, which saw installs climb 4 percent quarter-over-quarter.

Note Regarding Download Estimates



Google Play - Europe



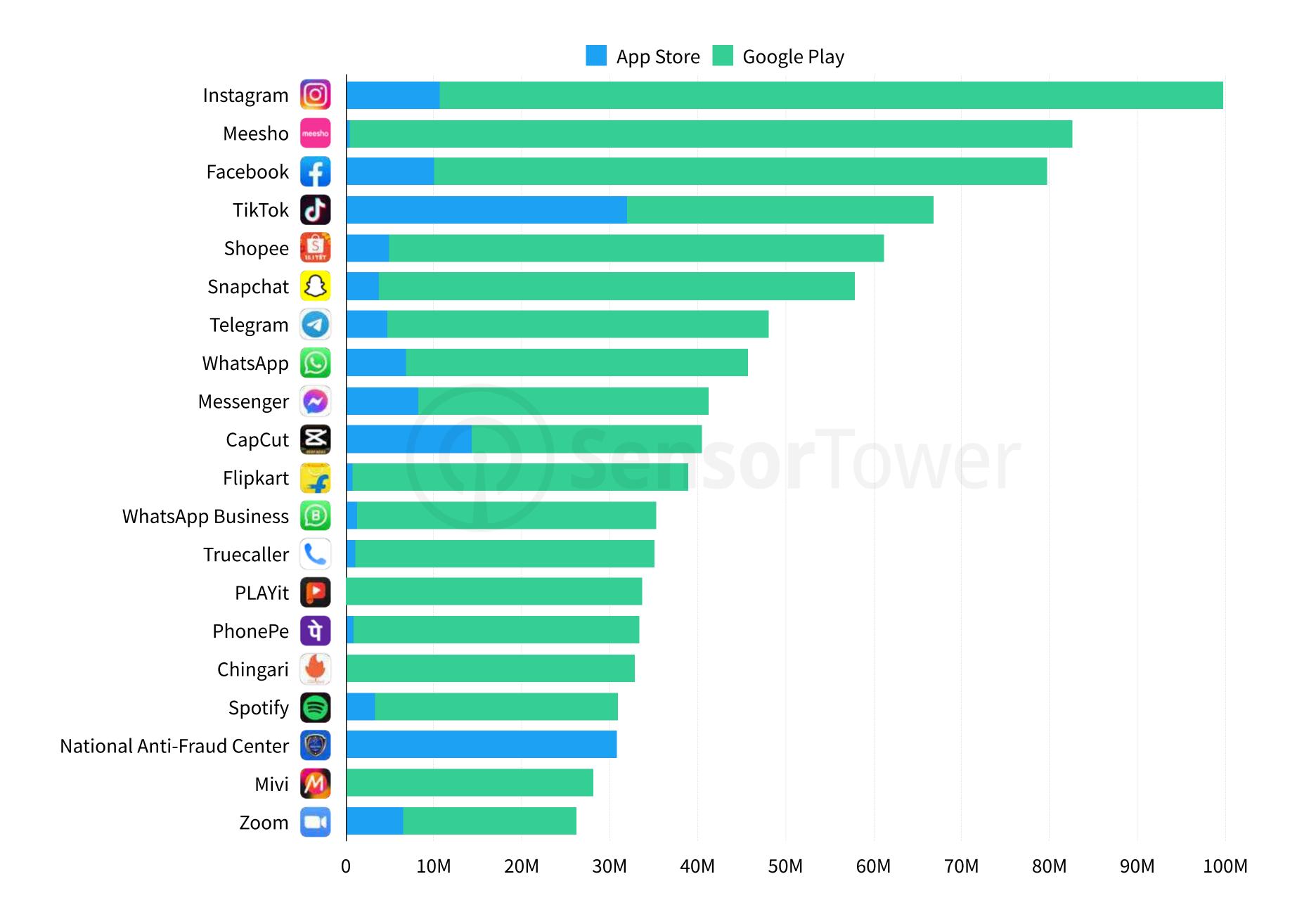
Telegram's installs in Europe climbed by 2 million quarter-over-quarter on Google Play and it ranked second only to TikTok. Russia accounted for 35 percent of its European installs that quarter, followed by Turkey and Ukraine.

The performance of video conferencing apps such as Zoom and Microsoft Teams have reflected the state of the COVID-19 pandemic. While installs declined Q/Q each of the first three quarters in 2021 along with the release of vaccines, both apps saw adoption grow Q/Q in Q4 2021 amid new variants.

Note Regarding Download Estimates



Overall - Asia



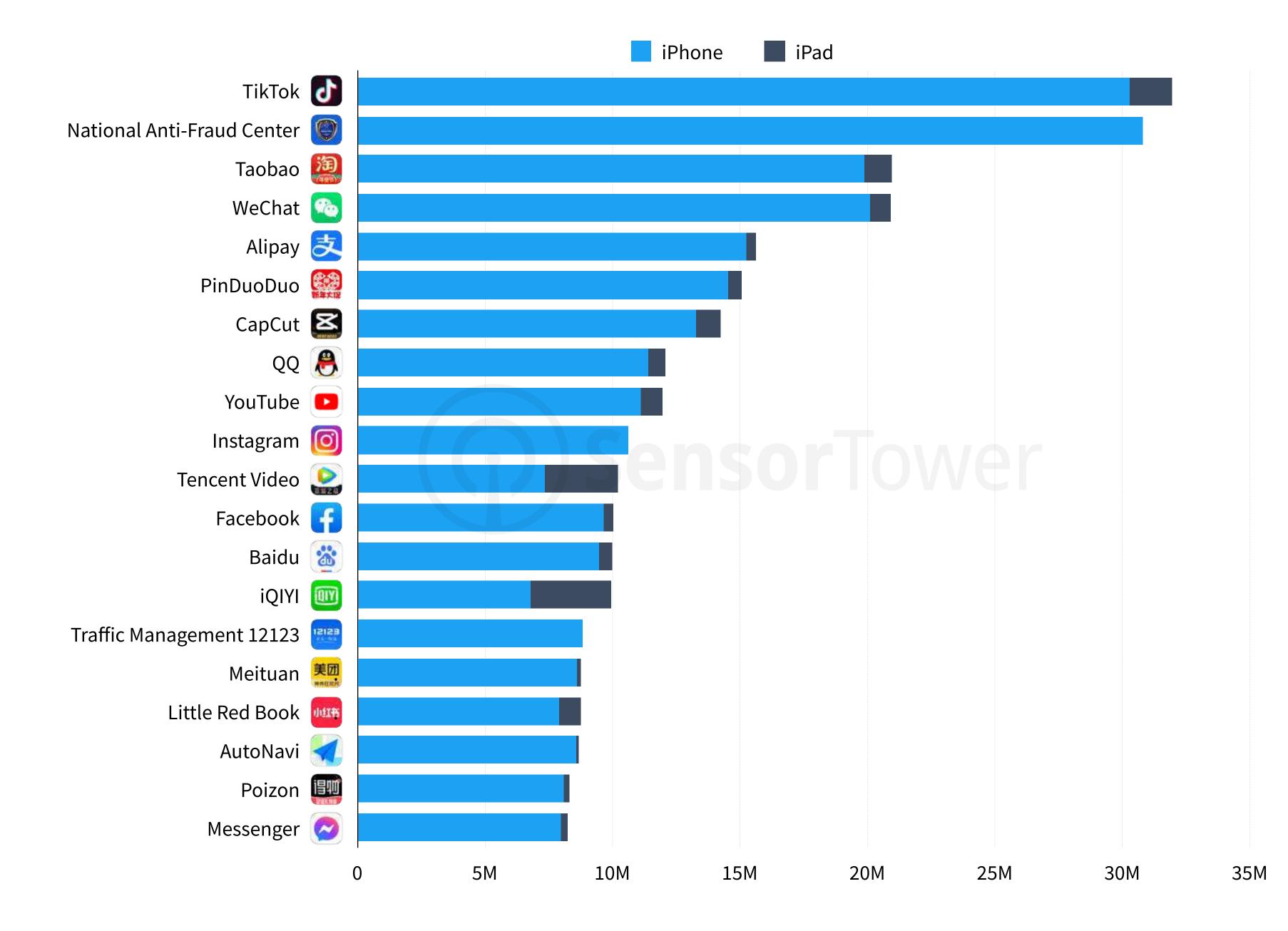
Instagram has seen steady growth in Asia, largely driven by an ascent in India following the removal of TikTok from the country's app stores in Q2 2020. Instagram's installs in India climbed 135 percent from Q2 2020 to Q4 2021.

Meesho and Shopee were two shopping apps that ranked among the top five apps. These apps also led the way in download growth in Q4 2021, with Meesho and Shopee's downloads each climbing by more than 33 million Q/Q.

Note Regarding Download Estimates



App Store - Asia



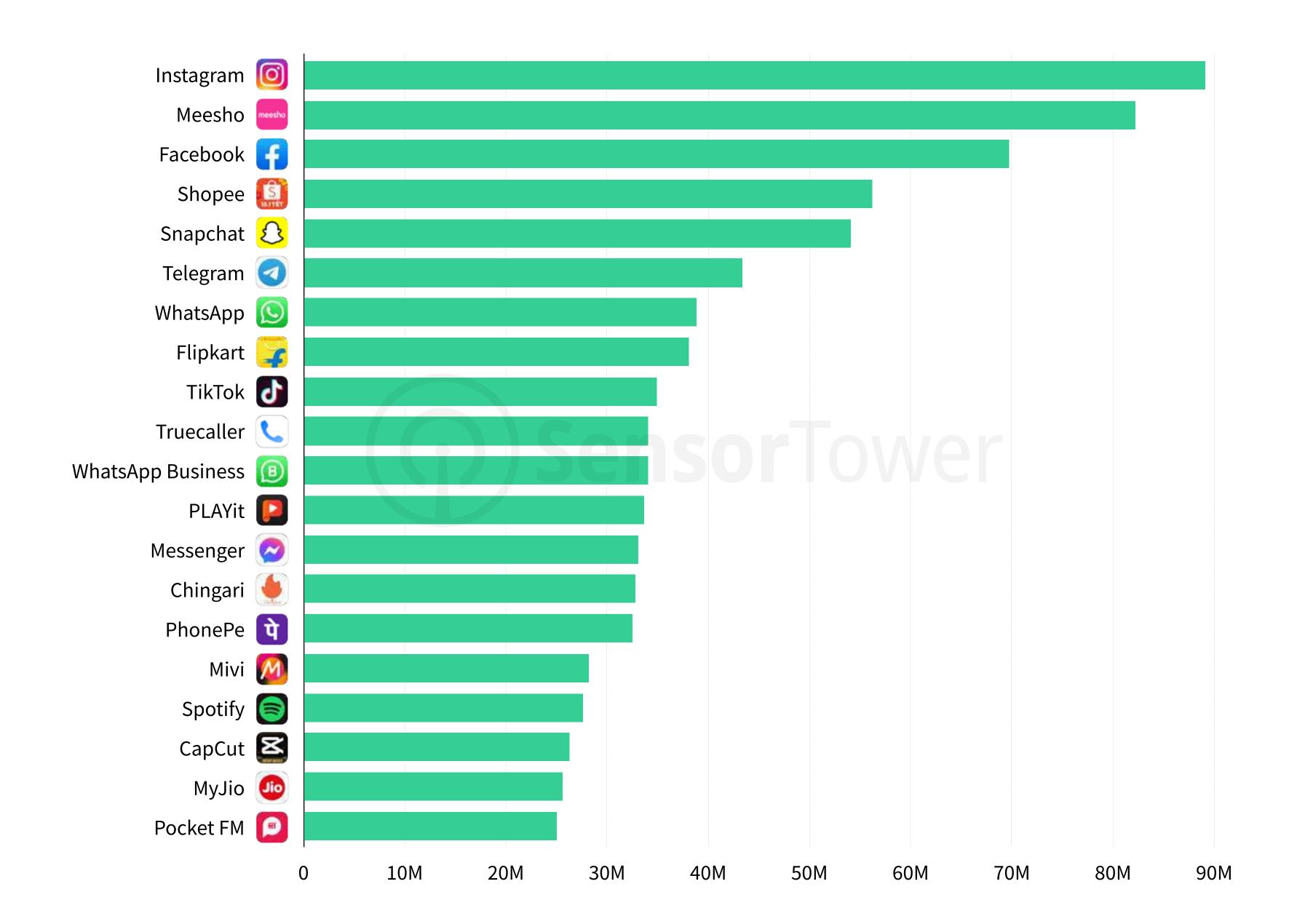
While TikTok's downloads fell 18 percent quarter-over-quarter, it retained the top spot in Q4 2021. This decrease mostly came from the Lite version of Douyin, which had seen huge success in recent quarters, even surpassing the standard version in Q3 2021.

AutoNavi had its best quarter ever, fully recovering from the dip seen at the start of the pandemic. Its downloads in Asia were up 123 percent from their low point in Q1 2020.

Note Regarding Download Estimates



Google Play - Asia

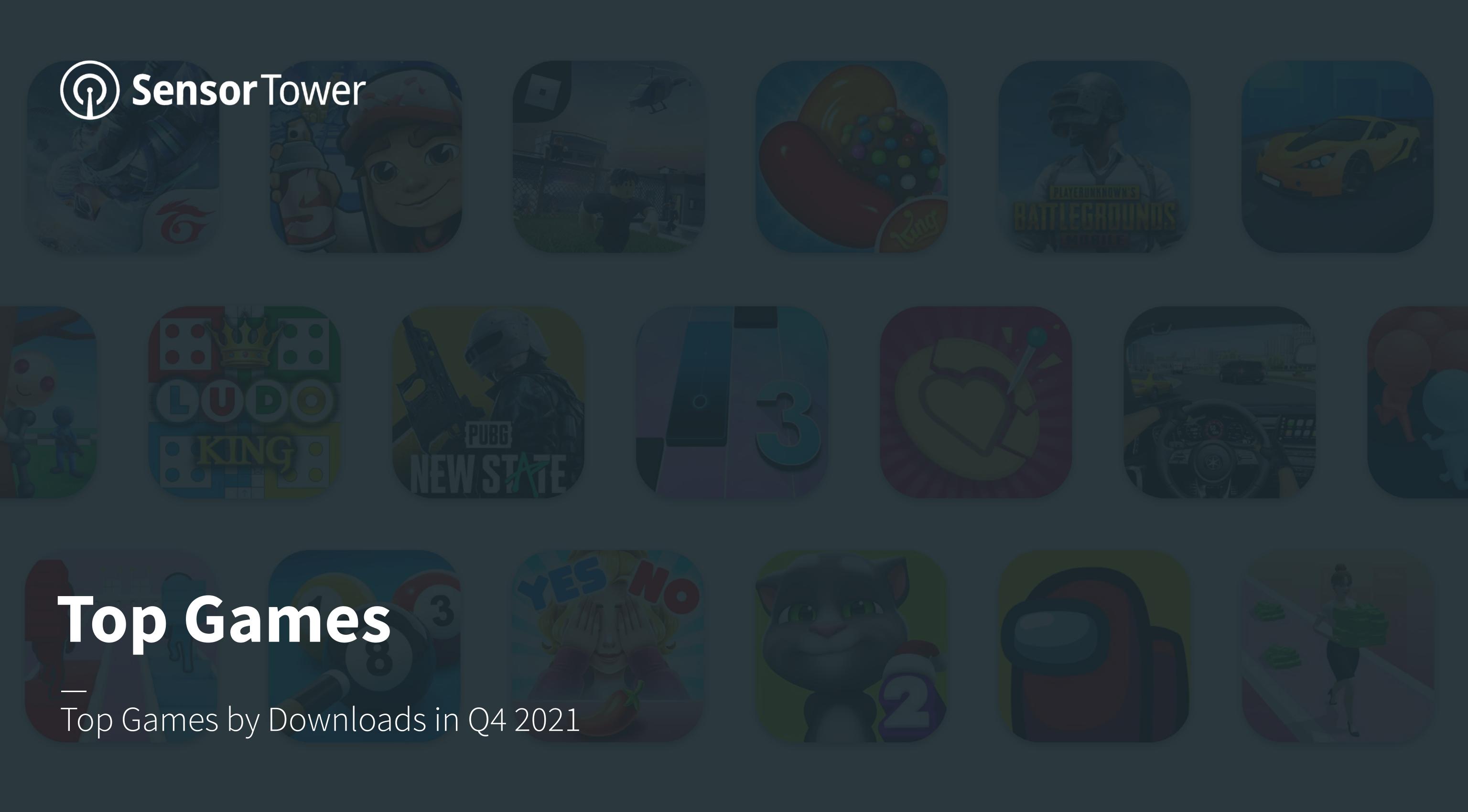


Instagram had the best quarter of any app in Asia in Q4 2021, approaching 90 million downloads on Google Play. Meesho (in Q4) and MX TakaTak (Q1) were the only other apps to surpass 80 million installs in a quarter in 2021.

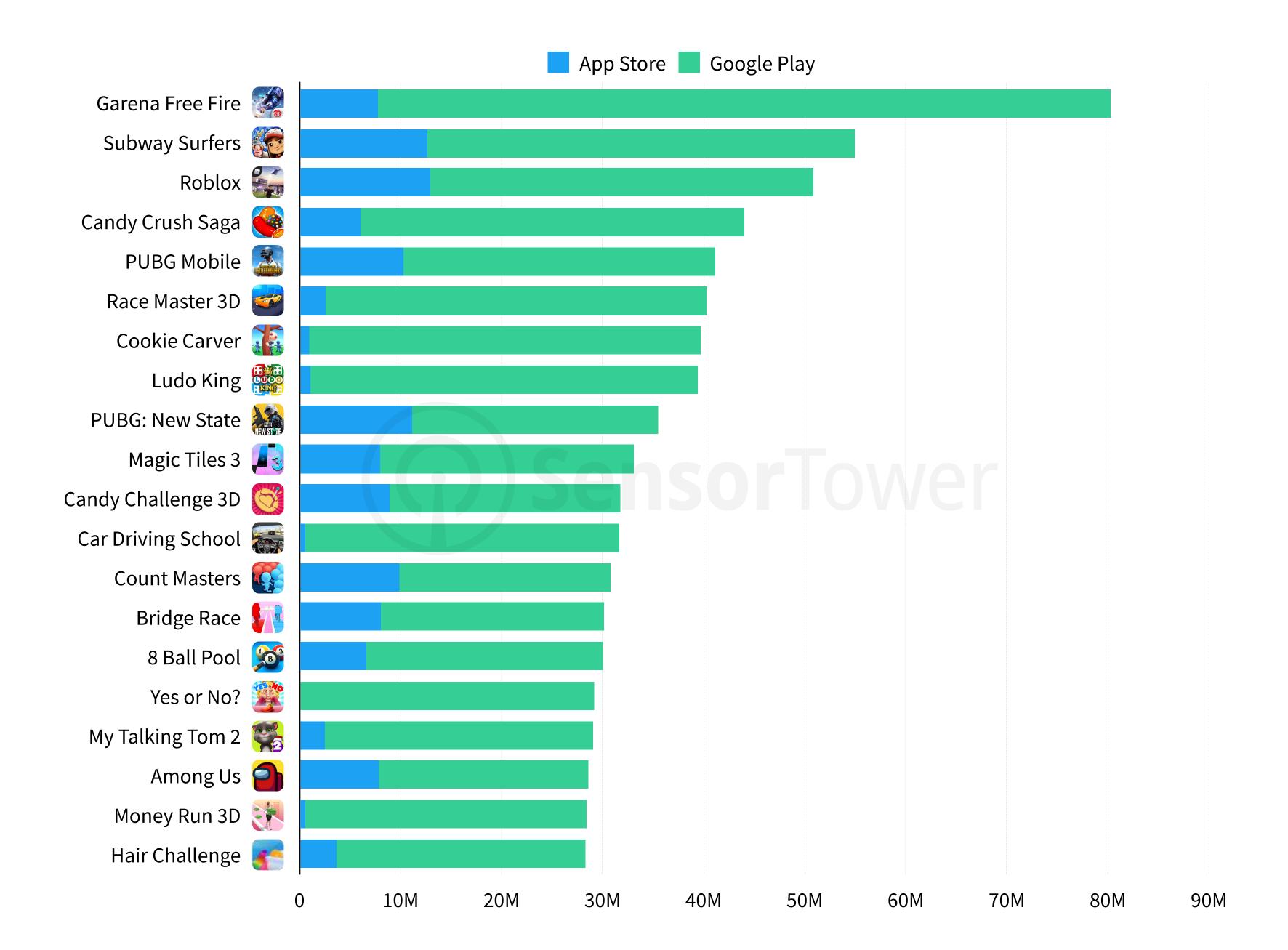
Meesho's rapid ascent continued in Q4 2021, climbing from 23 million downloads in Q2 to 47 million in Q3 before jumping again to 82 million in Q4. Success in India can dwarf all other markets on Google Play, as 99.9 percent of Meesho's downloads were from India.

Note Regarding Download Estimates





Overall - Worldwide



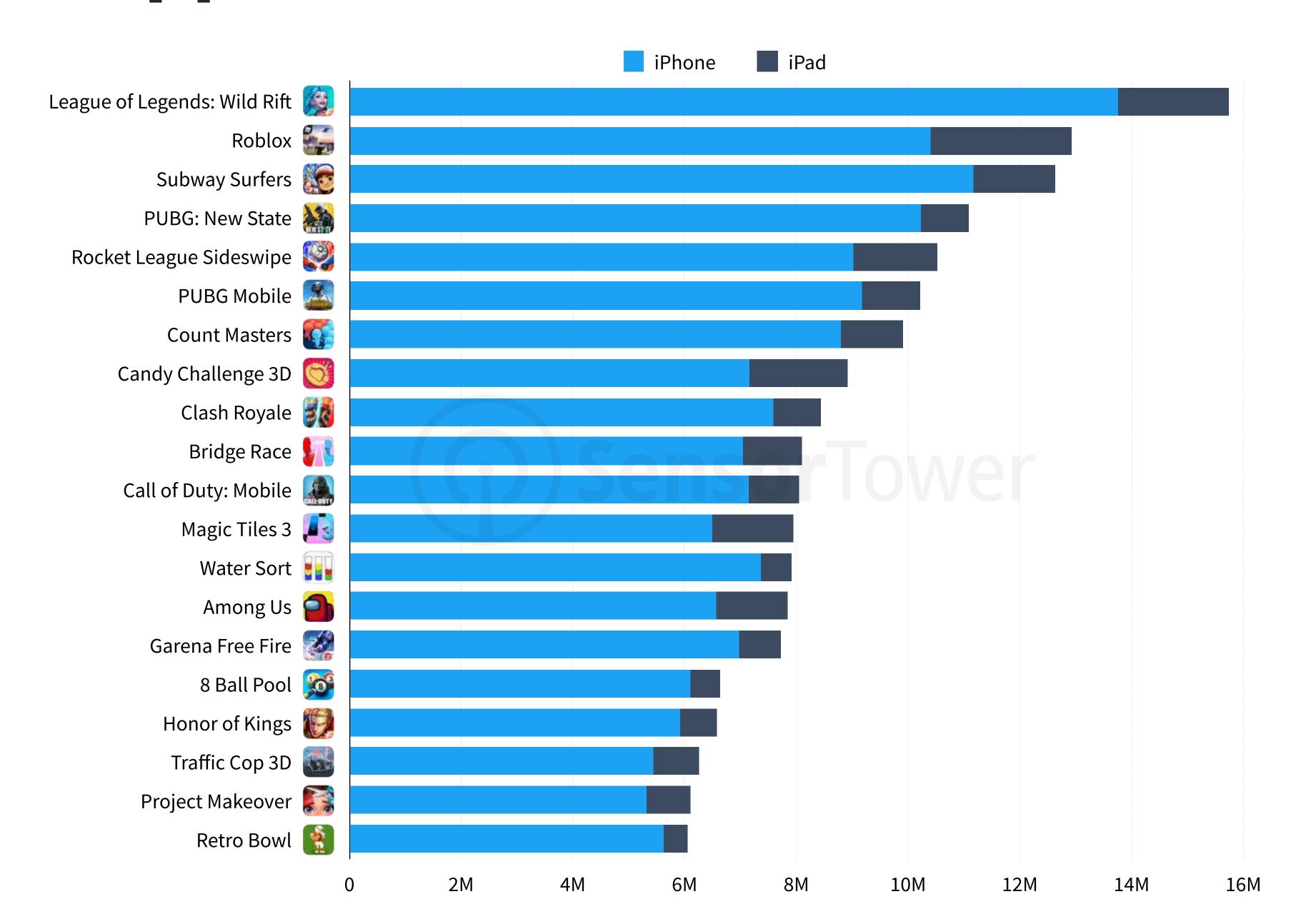
Garena Free Fire capped off another excellent year with its second best quarter by worldwide downloads, behind only Q2 2020 at the start of the pandemic. It was the only game to rank among top five each quarter in 2021, and saw a boost from the release of Garena Free Fire MAX earlier this year.

PUBG: New State from Krafton had a successful launch in November, ranking among the top 10 games in Q4 2021. It was the No. 3 battle royale game, trailing only Garena Free Fire and PUBG Mobile.

Note Regarding Download Estimates



App Store - Worldwide



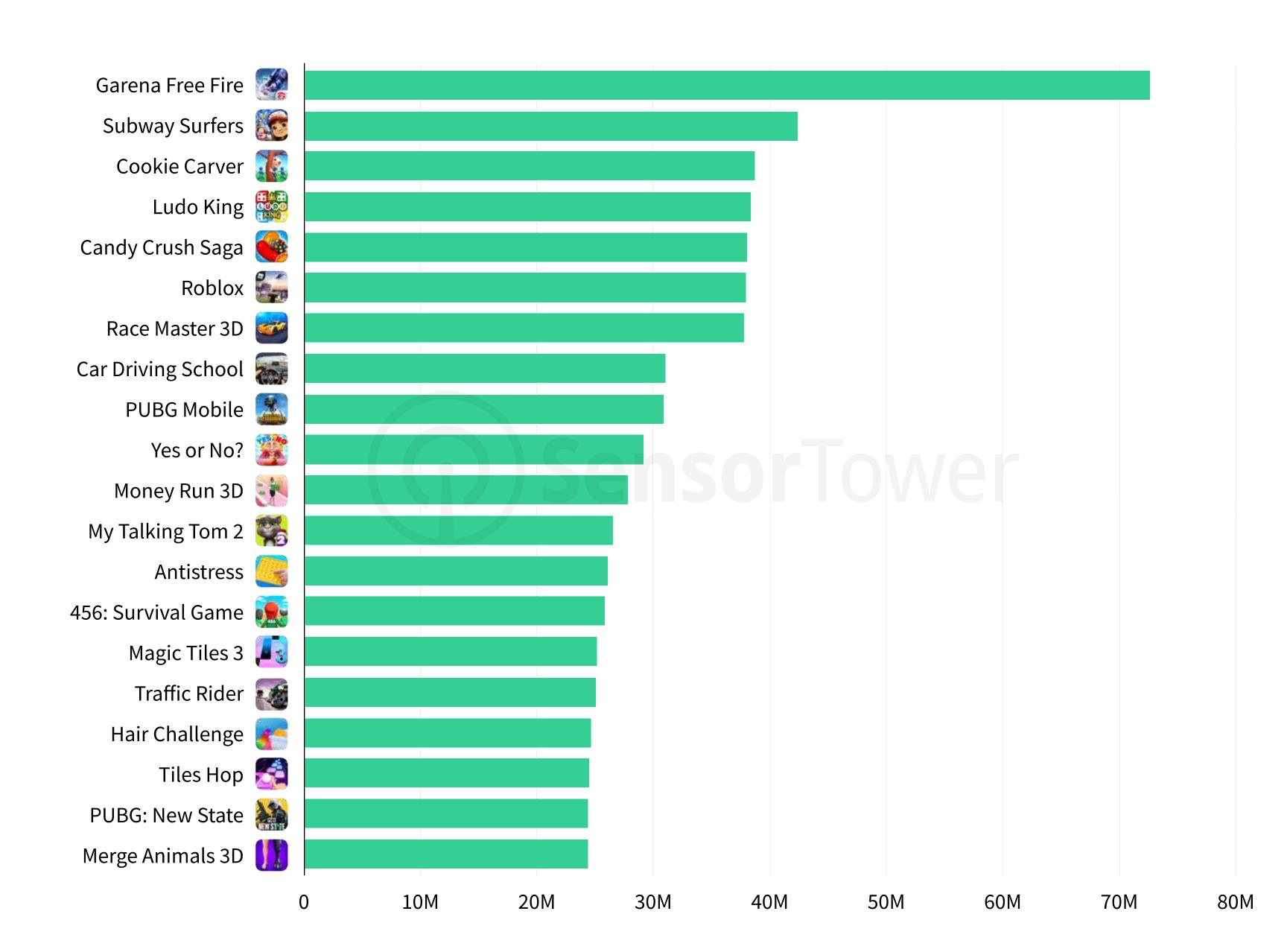
The release of League of Legends: Wild Rift in China propelled it to No. 1 on the App Store in Q4 2021. China accounted for more than 86 percent of its installs on the platform.

Two new releases ranked among the top five, with PUBG: New State from Krafton and Rocket League Sideswipe each surpassing 10 million downloads despite not being released until the middle of the quarter in November.

Note Regarding Download Estimates



Google Play - Worldwide



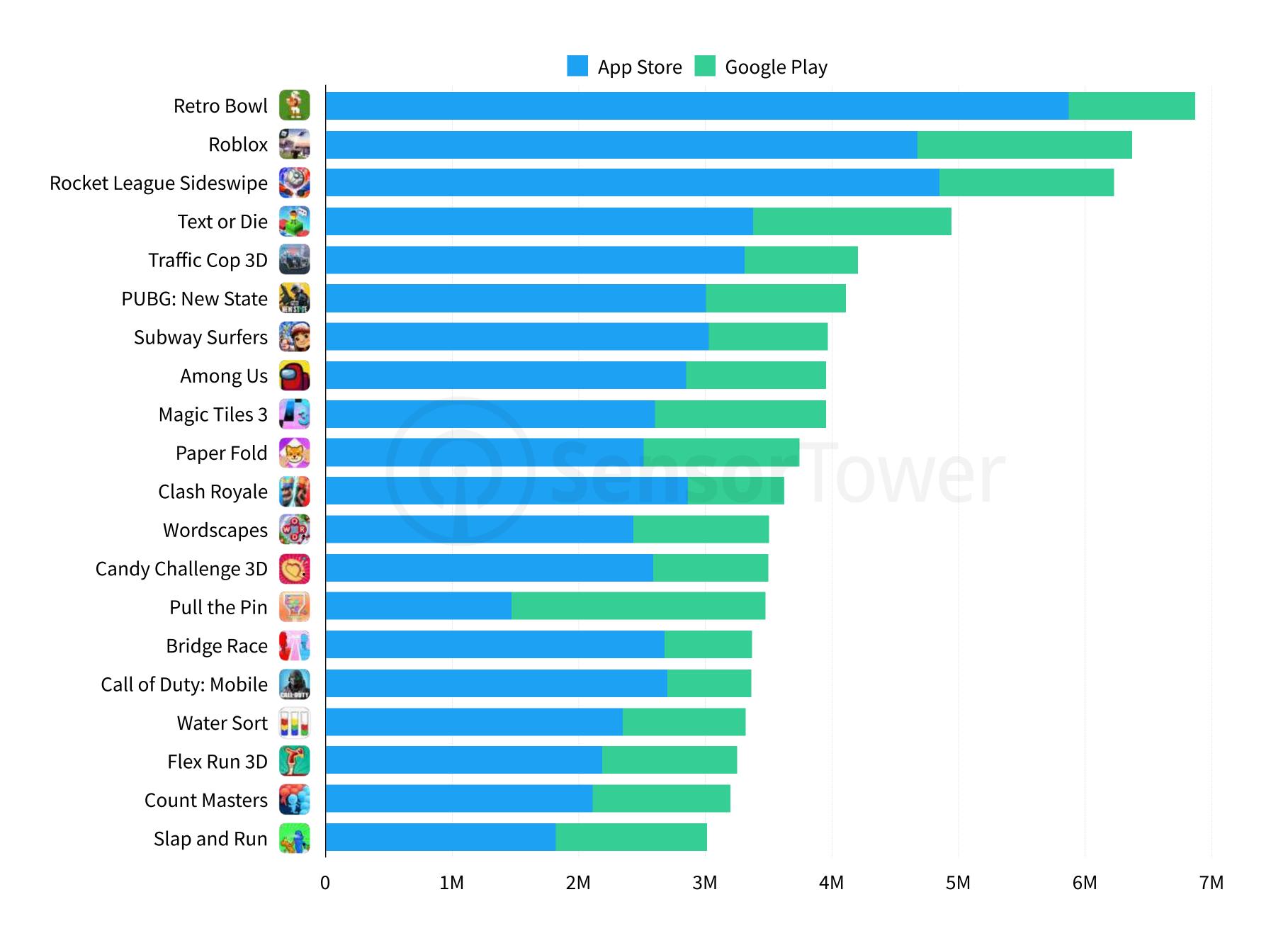
Garena Free Fire's Google Play downloads climbed 35 percent quarter-over-quarter in Q4 2021, surpassing 70 million for the first time since Q2 2020. It had 30 million more installs than the No. 2 game, Subway Surfers.

Candy Crush Saga had its second best quarter since 2015 on Google Play, with installs up 21 percent Q/Q. This was enough to rank among the top five in Q4 2021.

Note Regarding Download Estimates



Overall - United States



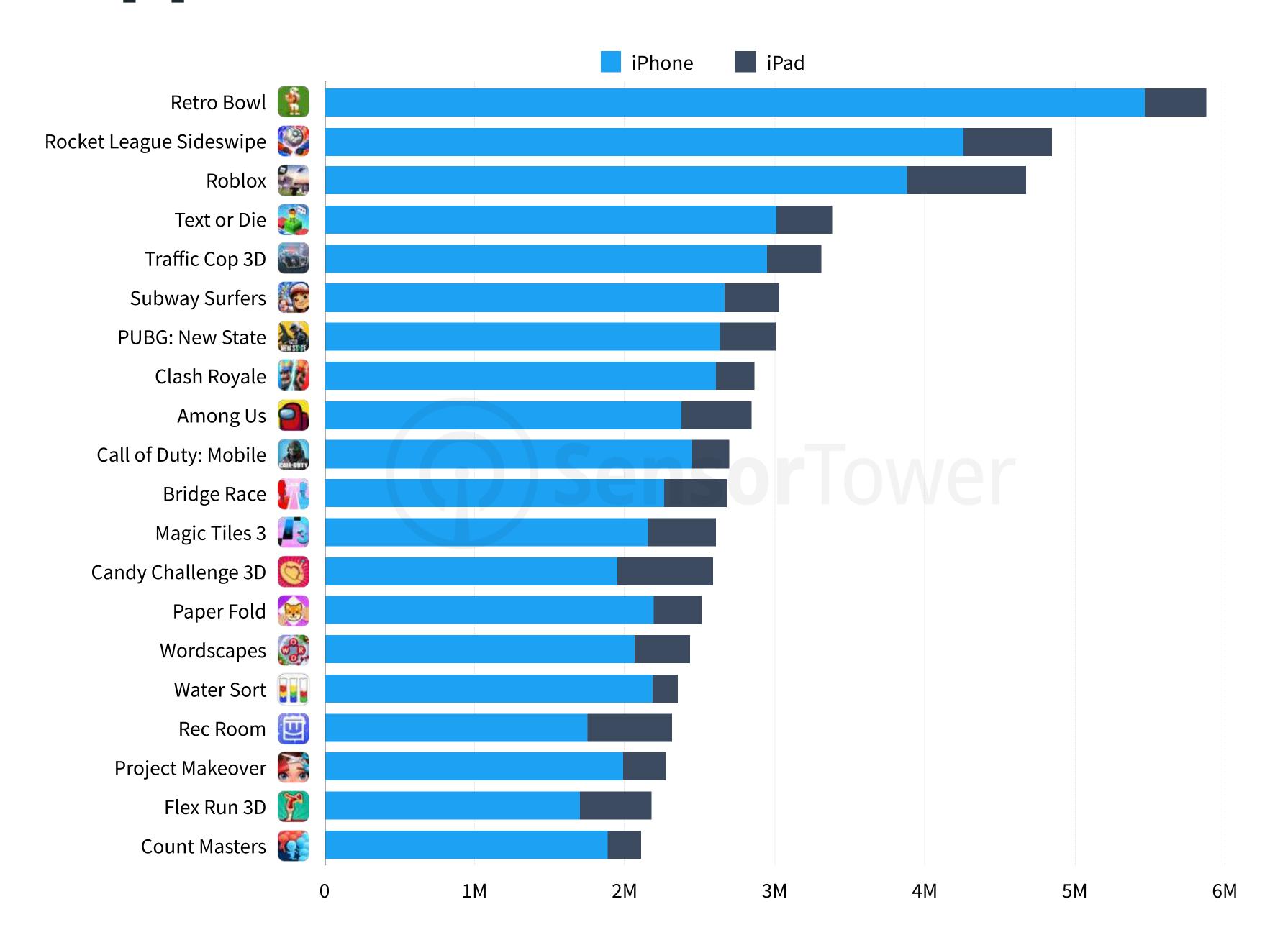
Retro Bowl, an American football game from New Star Games, was the top title by U.S. downloads in Q4 2021. Although it was released back in early 2020, it really took off during the 2021 NFL season, peaking in October at nearly 4 million downloads.

Roblox has been a consistent top performer in the U.S., ranking among the top five games in the U.S. each quarter since Q2 2020. It was the top game in the U.S. by downloads in 2021, followed by Project Makeover and Among Us.

Note Regarding Download Estimates



App Store - United States



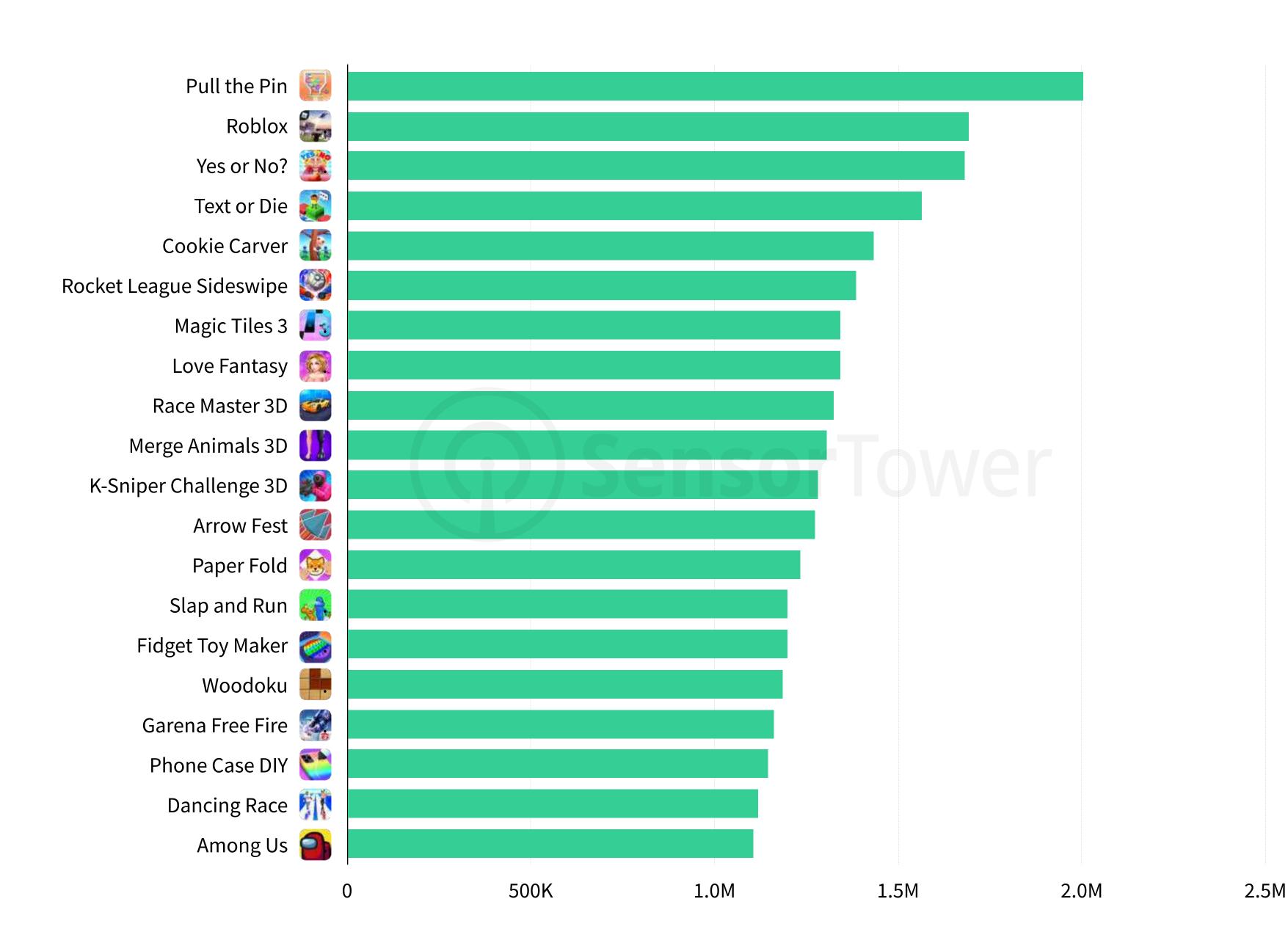
Retro Bowl was also the top game on the U.S. App Store, followed by new release Rocket League Sideswipe and stalwart Roblox.

Call of Duty: Mobile ranked at No. 10, the fifth straight quarter it was among the top 10. A new shooter game, PUBG: New State, looks to replicate this success, ranking at No. 7 in 4Q21.

Note Regarding Download Estimates



Google Play - United States



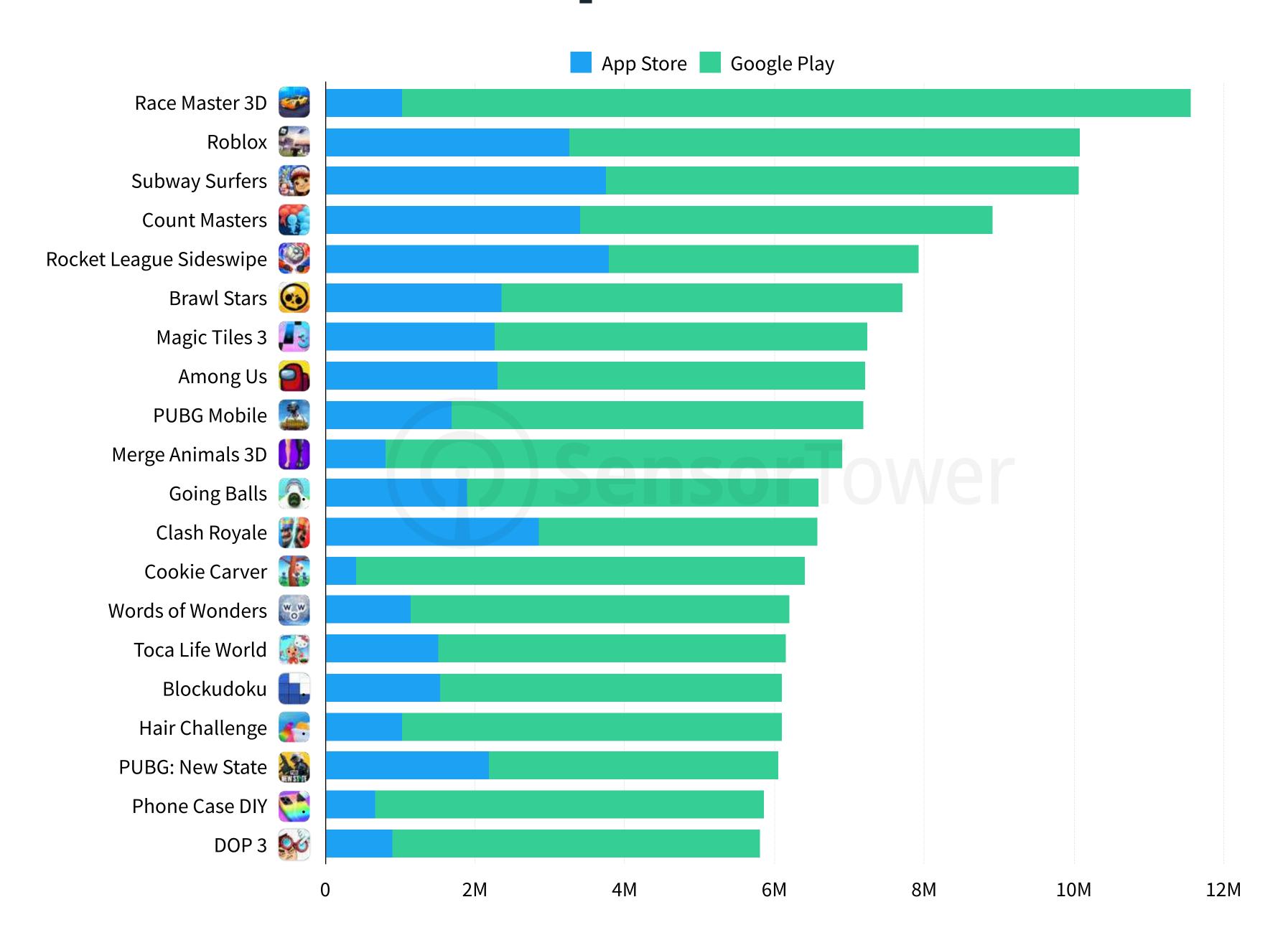
Hypercasual games were relatively more popular on Google Play compared to the App Store, with Pull the Pin from Popcore Games leading the way. Yes or No?, Cookie Carver, and Merge Animals 3D were other hypercasual games among the top 10.

A few new games were able to adapt themes from the hit Netflix show Squid Game, including the No. 5 game Cookie Carver and K-Sniper Challenge 3D at No. 11.

Note Regarding Download Estimates



Overall - Europe



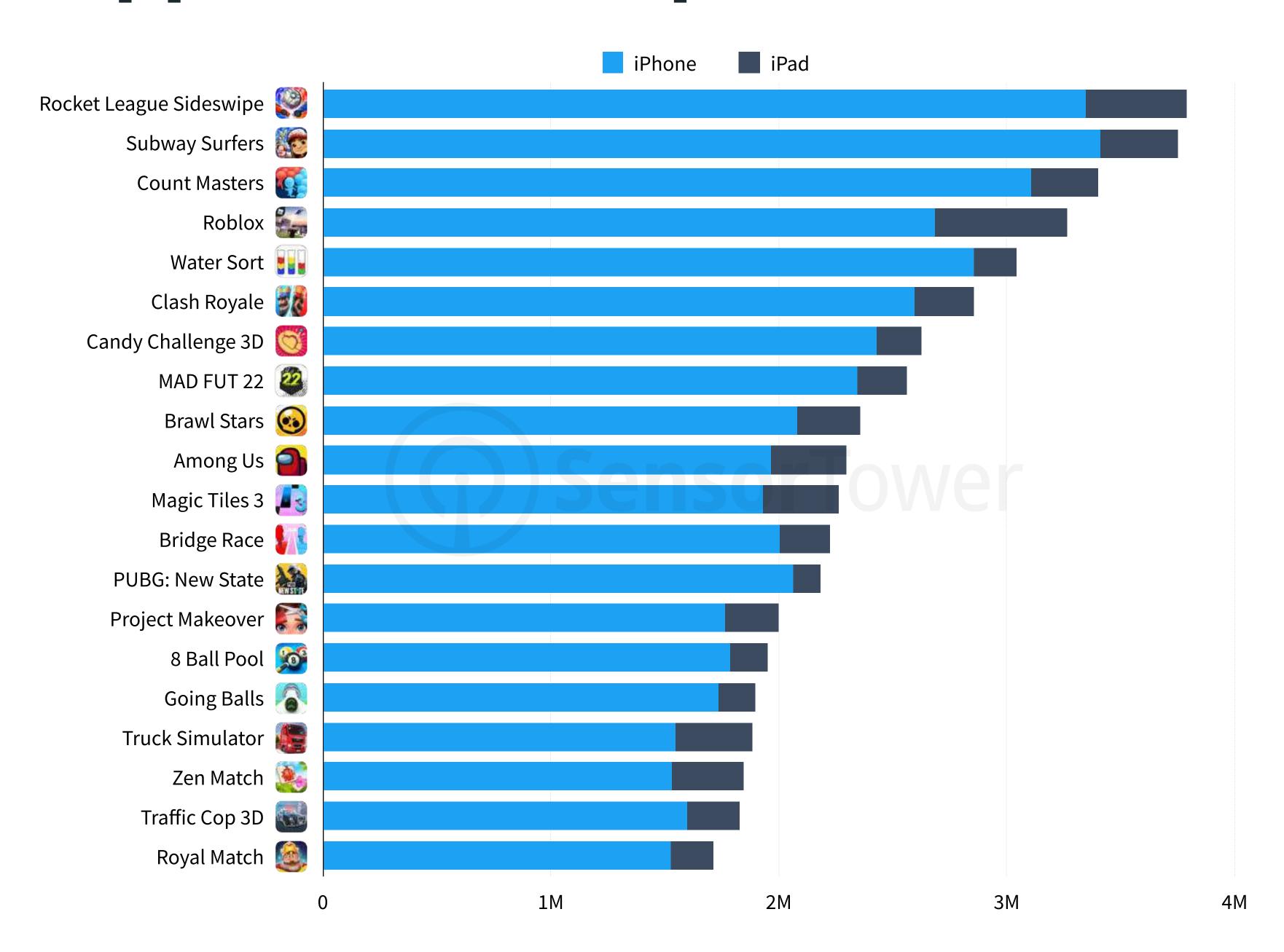
Race Master 3D from Say Games was the top game in Europe with 11.5 million downloads. Say Games also had Merge Animals 3D and DOP 3 among the top 20.

Brawl Stars has been a consistent top performer in Europe, ranking No. 6 this quarter. The game was No. 4 overall in 2021 behind Count Masters, Roblox, and Among Us.

Note Regarding Download Estimates



App Store - Europe



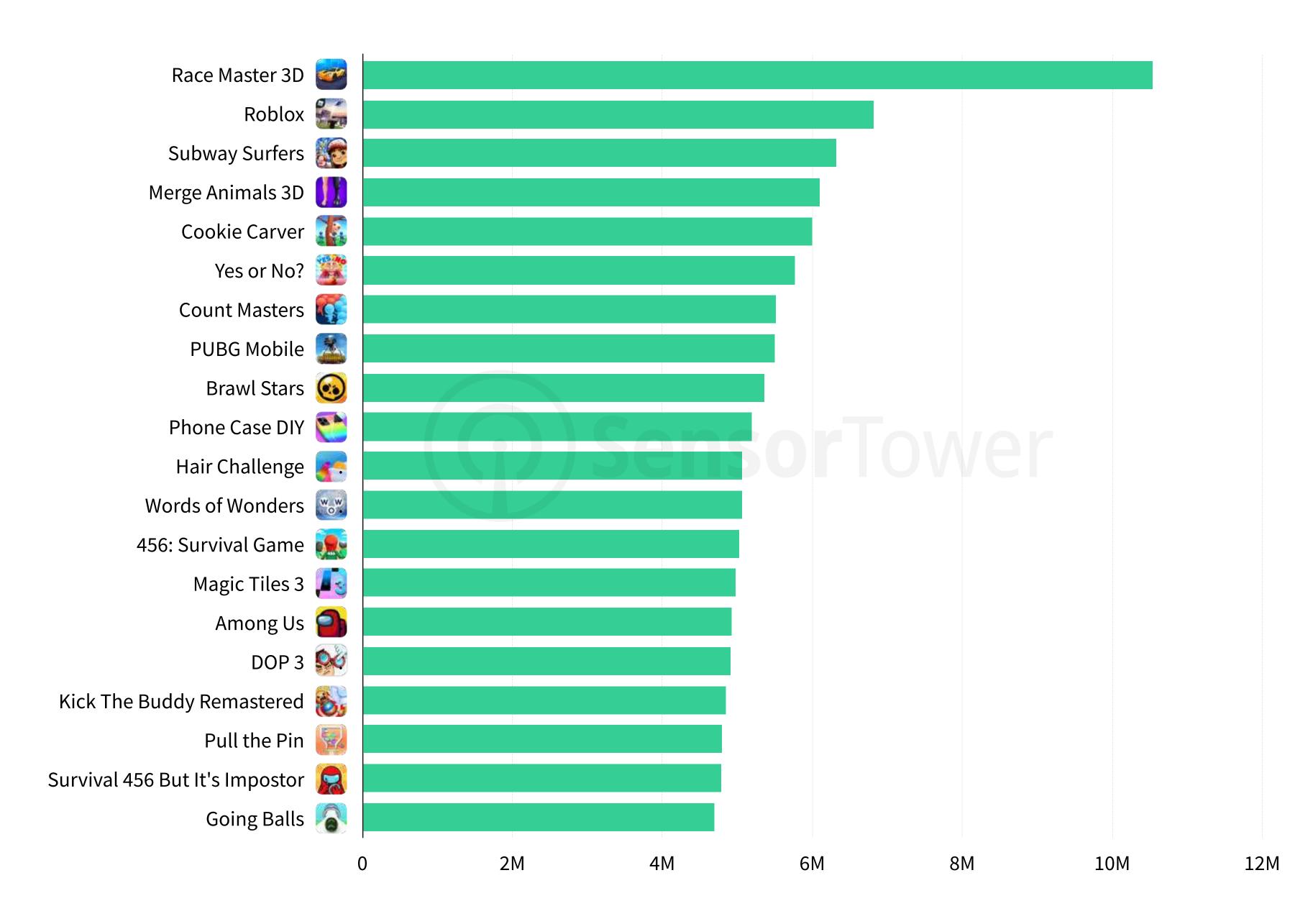
Rocket League Sideswipe found immediate success on the App Store following its release in late November. Despite only being available for about one month in the quarter, it was the top game by European downloads.

Count Masters longevity was unusual for a hypercasual game. After ranking as the No. 1 game in Europe each of the prior two quarters, it ranked third in Q4 2021. Only Project Makeover had more installs in 2021.

Note Regarding Download Estimates



Google Play - Europe



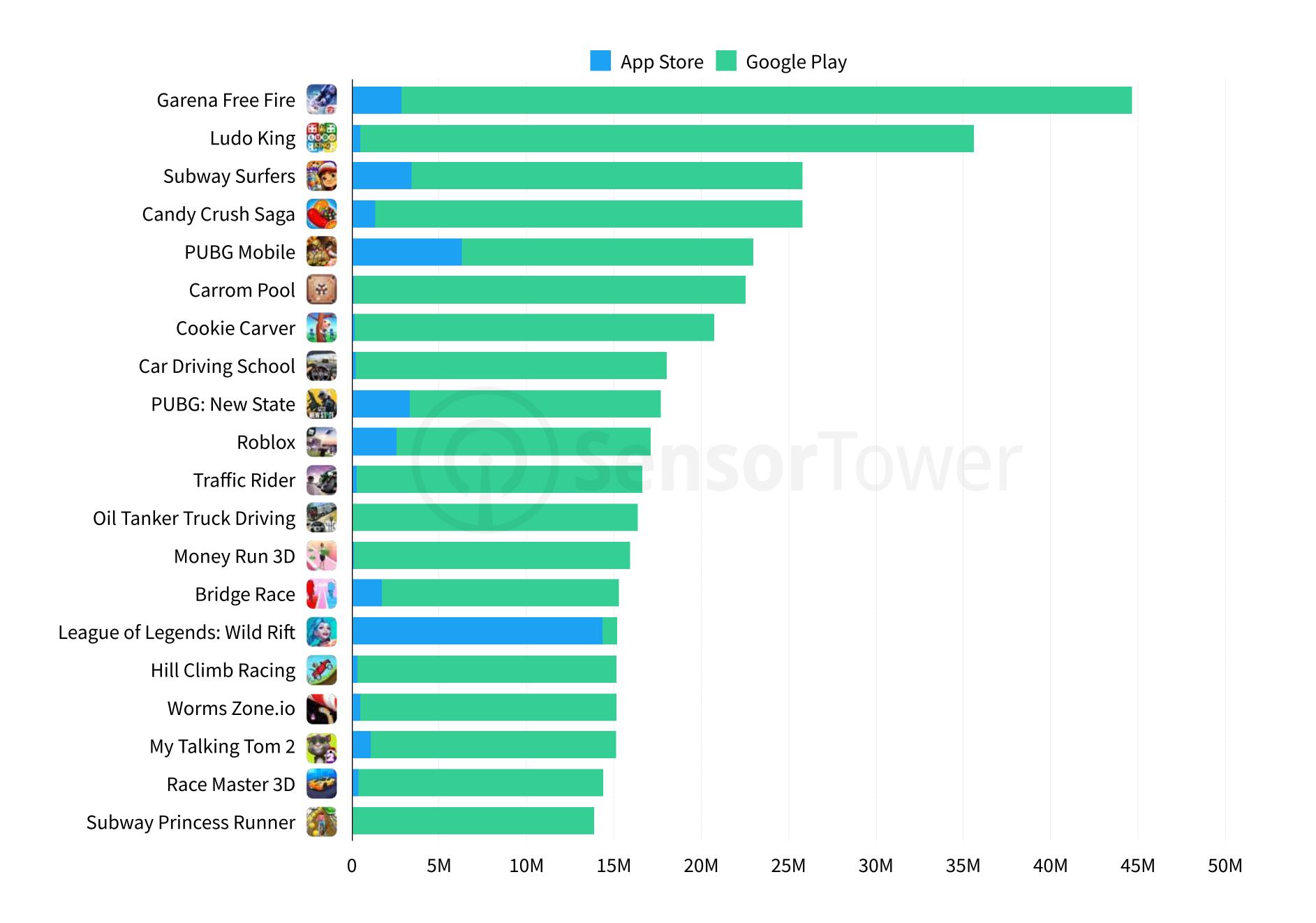
Race Master 3D was the only game to exceed 10 million European downloads on Google Play. No other game had more than 7 million installs this quarter.

Squid Game themed games were quite popular in Europe. Cookie Carver was a top five game on Google Play, and 456: Survival Game was also among the top 20. Survival 456 But It's Impostor combined themes from Squid Game and Among Us.

Note Regarding Download Estimates



Overall - Asia



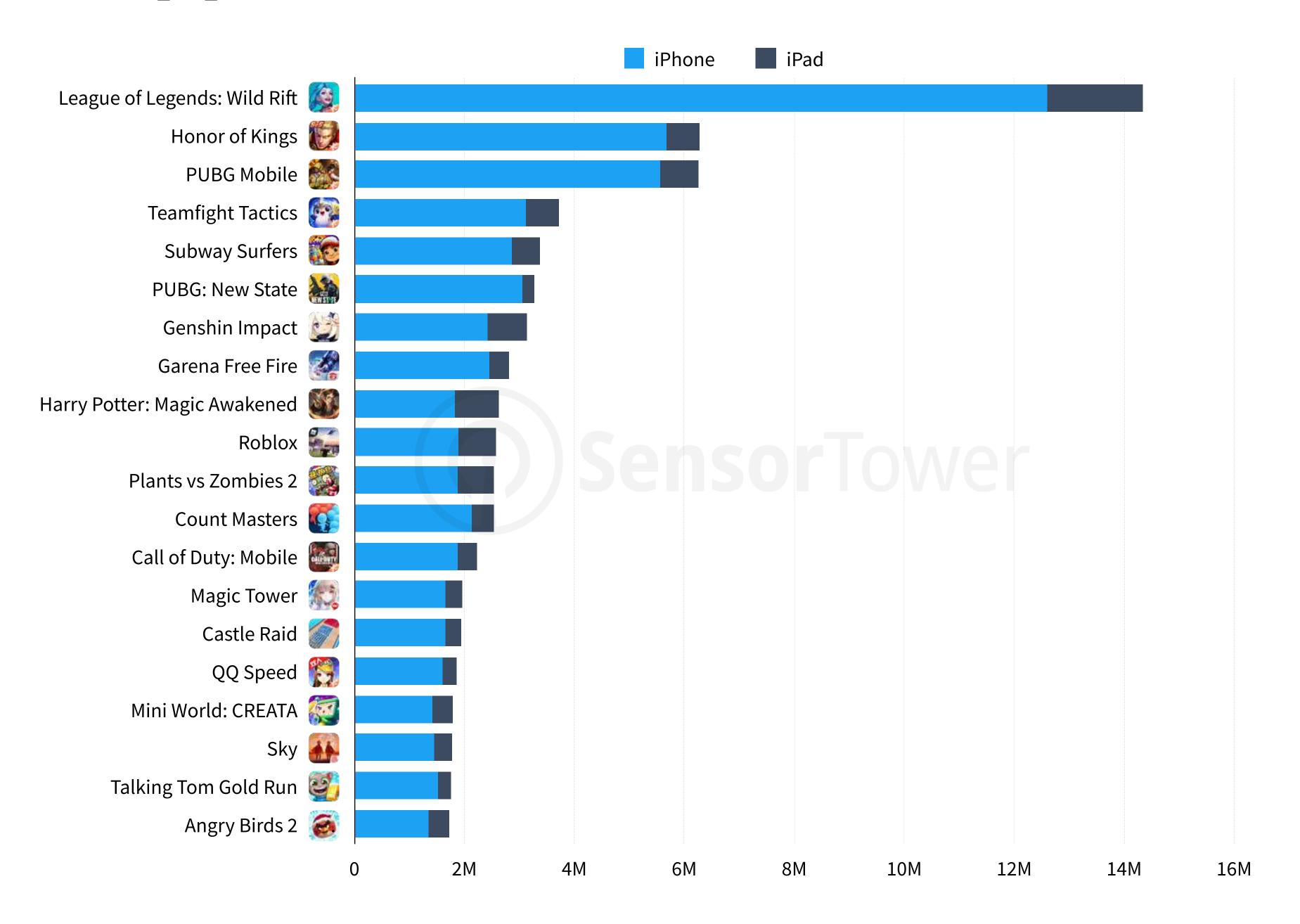
Garena Free Fire had its best quarter in Asia since Q2 2020 with its installs up 38 percent quarter-over-quarter. Nearly 47 percent of its downloads in Q4 2021 came from the recently released Garena Free Fire MAX.

Two other battle royale games joined Garena Free Fire among the top 10 games in Asia, including PUBG Mobile and newly launched PUBG: New State.

Note Regarding Download Estimates



App Store - Asia



League of Legends: Wild Rift was the first game to reach 10 million App Store downloads in Asia for a quarter this year, surpassing 14 million downloads. This was driven by a massively successful launch in China at the start of the quarter.

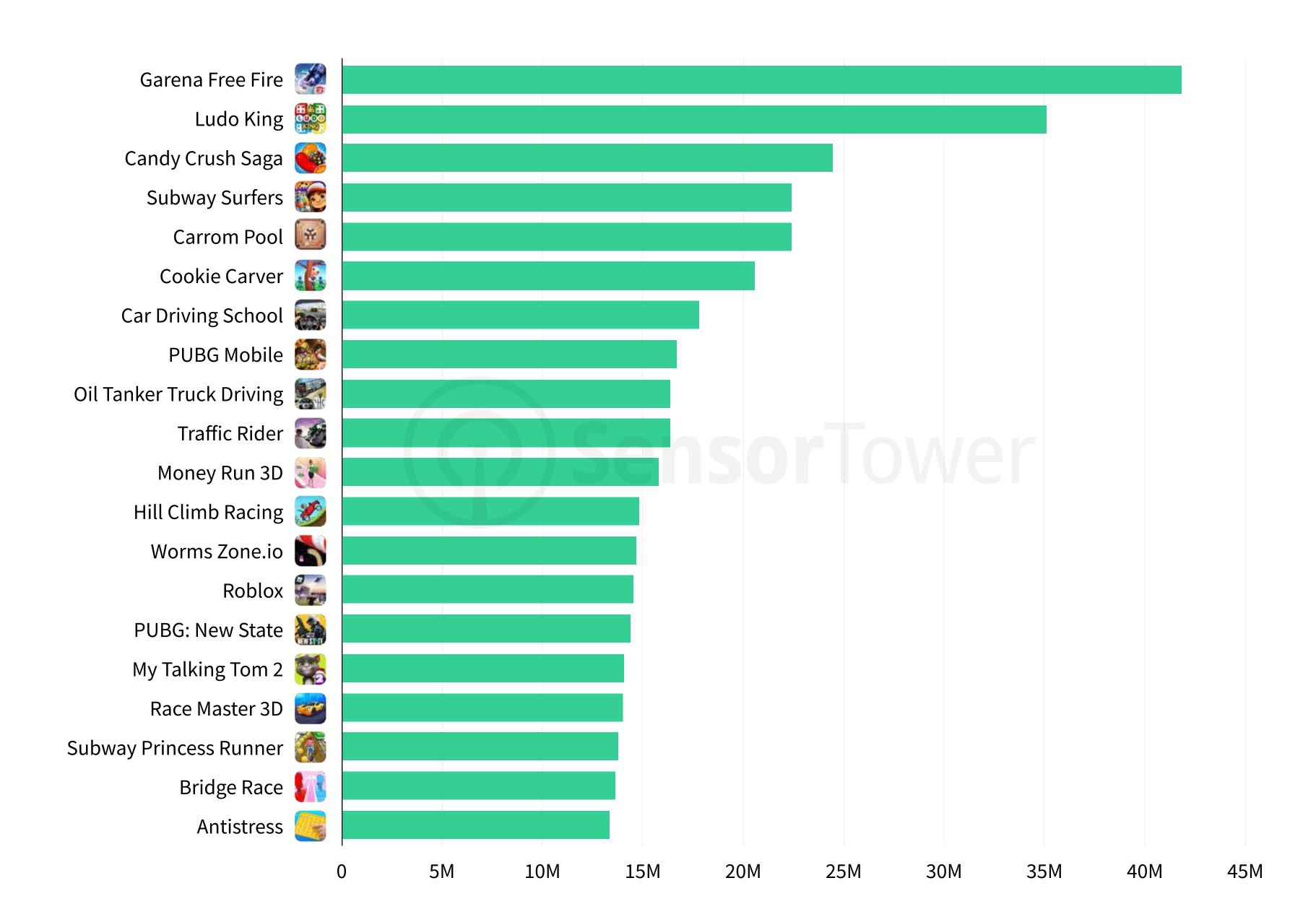
Honor of Kings and PUBG Mobile (known as Game for Peace in China), both published by Tencent, rounded out the top three games.

Both of these titles ranked among the top five each quarter in 2021.

Note Regarding Download Estimates



Google Play - Asia

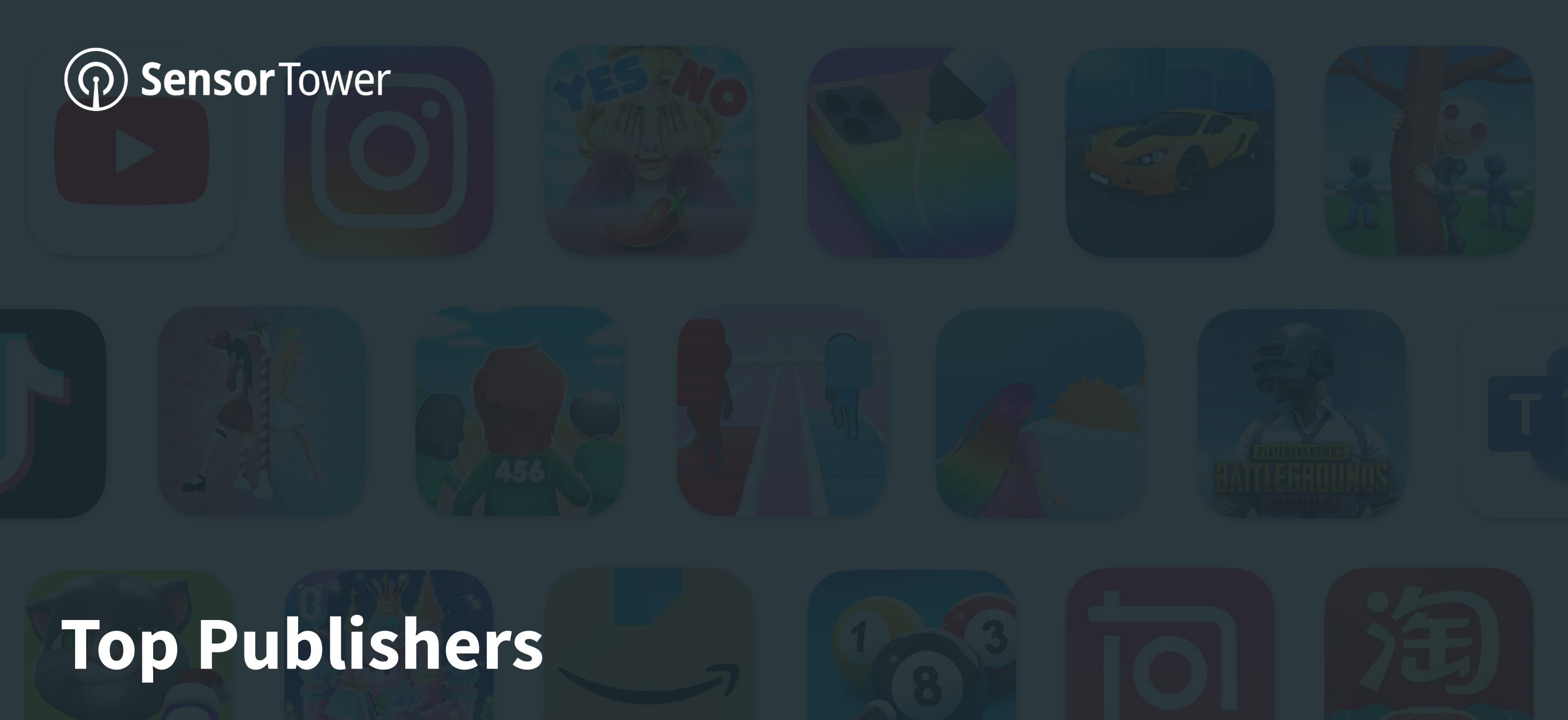


Garena Free Fire exceeded 40 million downloads in Q4 2021, with nearly 20 million from Garena Free Fire MAX. The new version offers better graphics and smoother gameplay than the original.

Ludo King from Gametion ranked either first or second each quarter in 2021 on Google Play. Eighty-eight percent of its downloads in Q4 2021 were from India, followed by Indonesia at 8 percent.

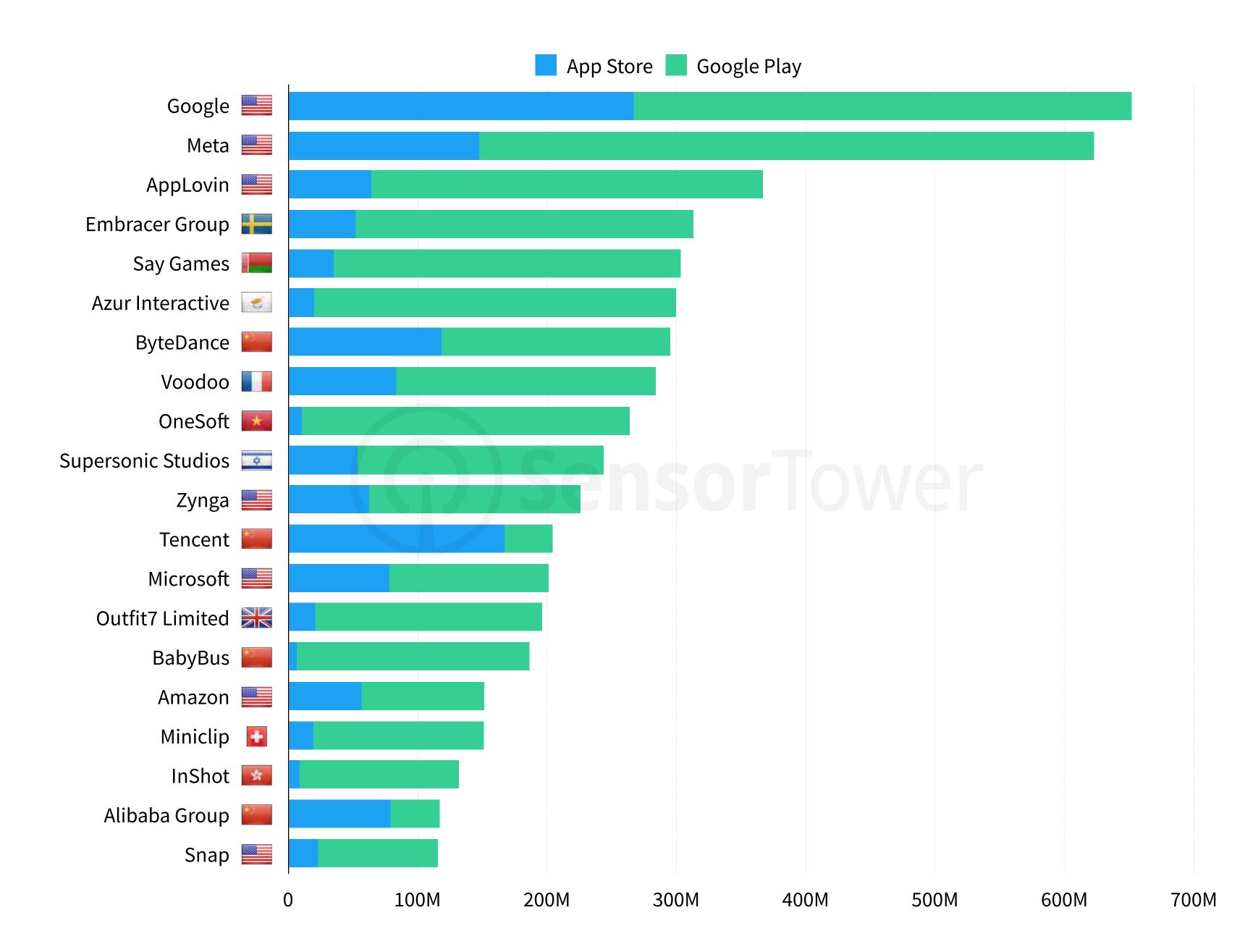
Note Regarding Download Estimates





Top Publishers by Downloads in Q4 2021

Overall - Worldwide



Google and Meta continued their dominance by worldwide downloads in Q4 2021. Both publishers surpassed 600 million downloads each quarter in 2021. No other publisher reached 400 million for a quarter.

Seven of the top 10 publishers focused primarily on mobile games. Google, Meta, and ByteDance were notable exceptions.

Note Regarding Download Estimates

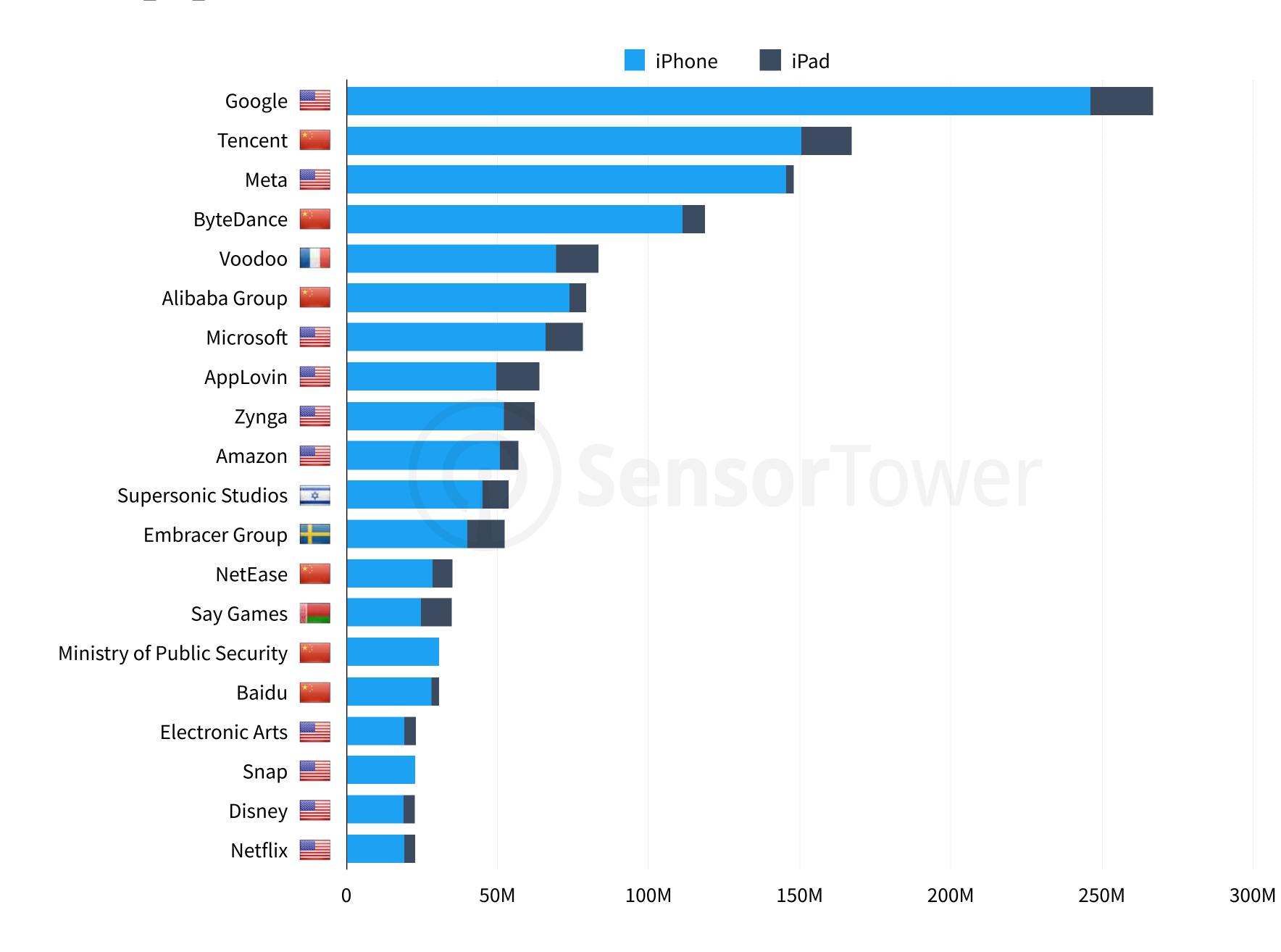
Our estimates include worldwide downloads for iPhone, iPad, and Google Play for Oct. 1 through Dec. 31, 2021.

Apple apps and Google pre-installed apps are excluded.

We report unique installs only. Android estimates do not include third-party stores.



App Store - Worldwide



There was little movement among the top five publishers on the App Store in 2021, with the top four spots remaining unchanged each quarter. Voodoo and Alibaba Group each ranked fifth in two quarters in 2021.

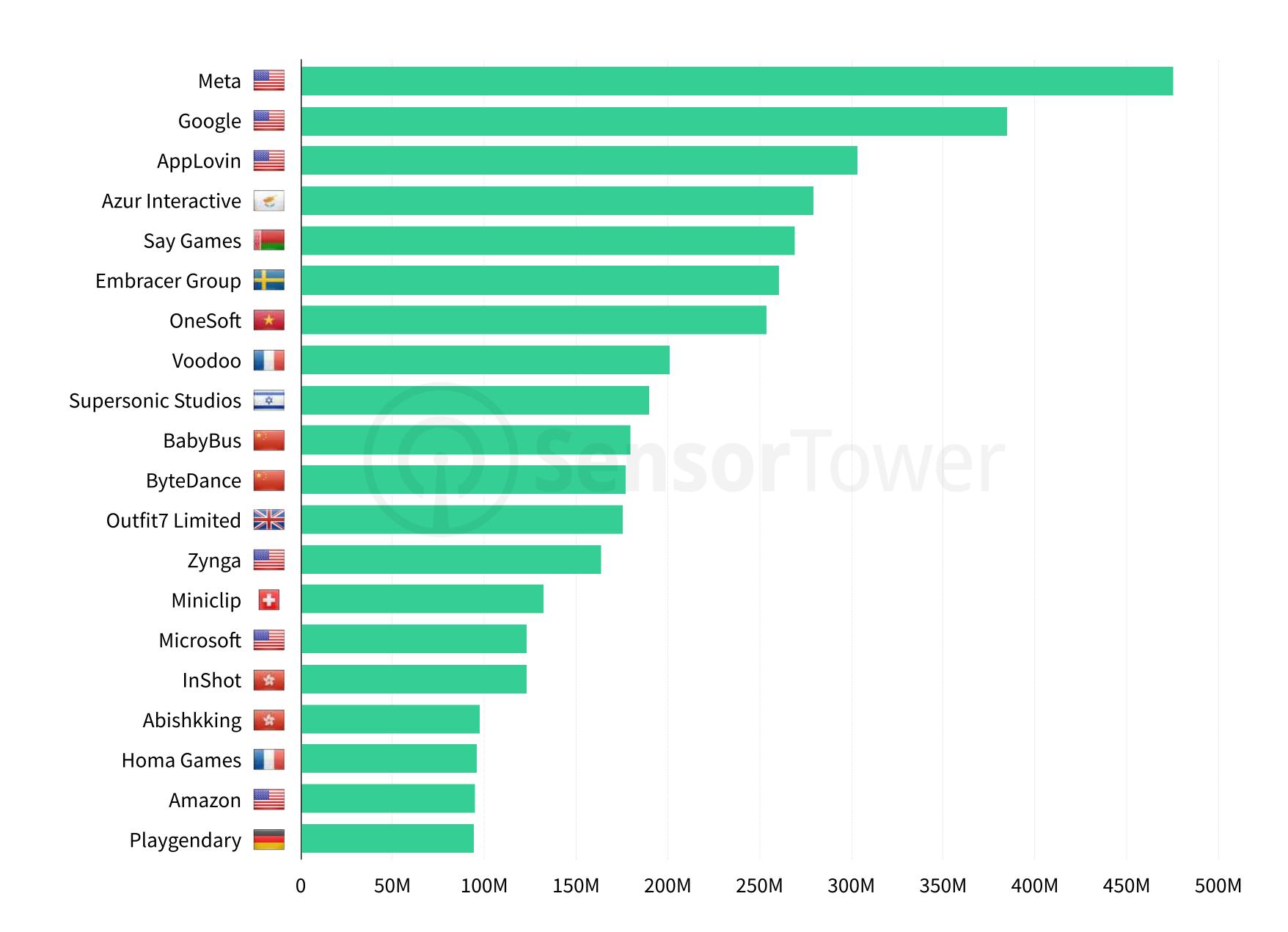
Eighty percent of the top publishers were based in either the U.S. or China, with U.S. leading the way with 10 top publishers. China and the U.S. were also the two largest markets on the App Store, combining for 45 percent of App Store downloads in Q4 2021.

Note Regarding Download Estimates

Our estimates include worldwide daily download totals for iPhone and iPad for Oct. 1 through Dec. 31, 2021. Apple apps are excluded. We report unique installs only (one download per User).



Google Play - Worldwide



Outside of Meta and Google, many game developers ranked among the top publishers in Q4 2021. AppLovin, Azur Interactive, and Say Games were the top game developers by Google Play downloads in Q4 2021.

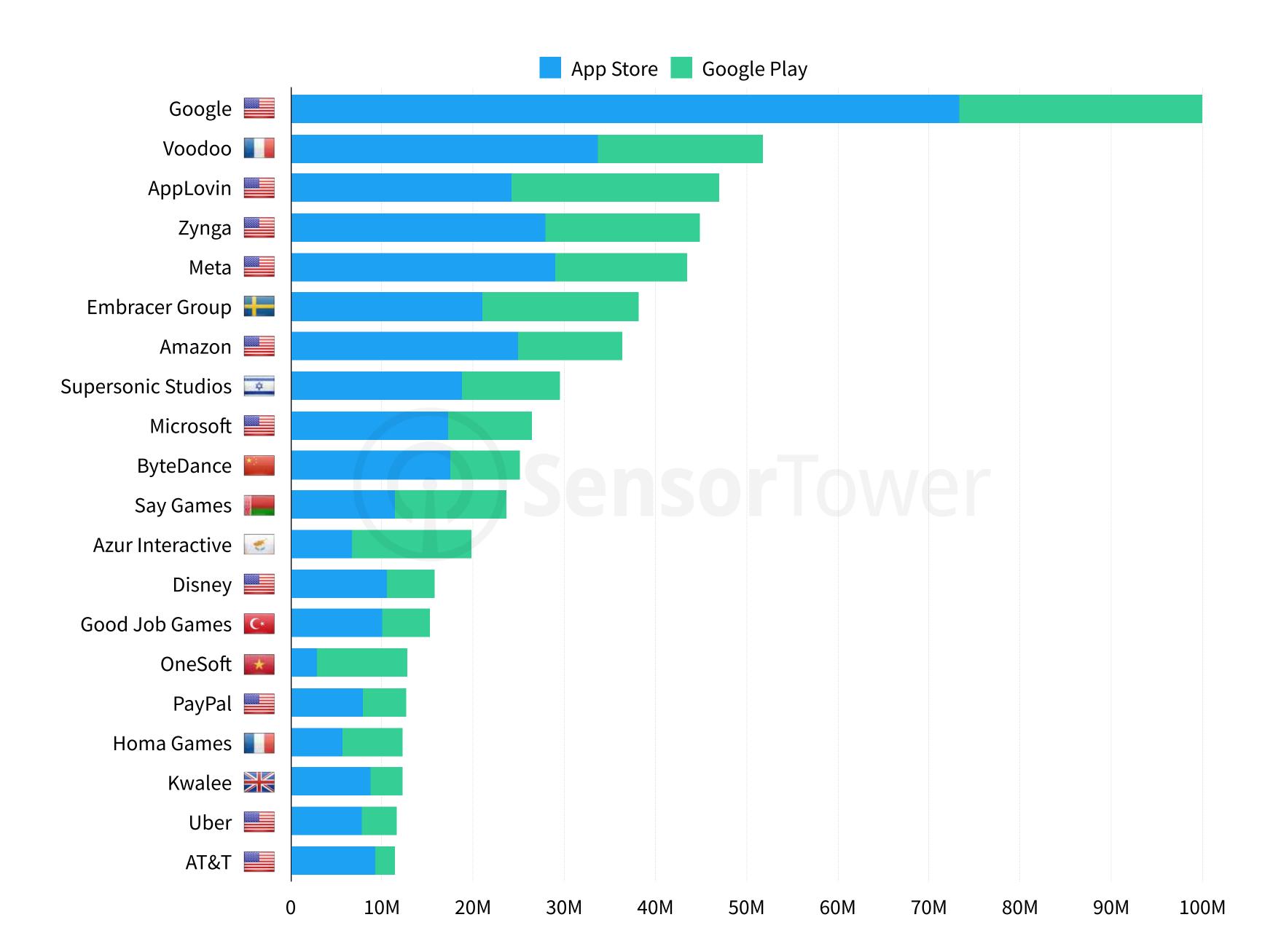
While the App Store market was largely controlled by publishers from the U.S. and China, European publishers found more success on Google Play. Seven of the top 20 publishers were based in Europe, including Say Games (Belarus), Embracer Group (Sweden), and Voodoo (France).

Note Regarding Download Estimates

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Overall - United States



Google approached 100 million U.S. downloads in Q4 2021, nearly double that of the No. 2 publisher, Voodoo. This was just the second time that Google's downloads had dipped under 100 million since Q3 2019.

Half of the top U.S. publishers had their headquarters in the U.S., including four of the top five. The only other country with multiple publishers in the top 20 was France (Voodoo and Homa Games).

Note Regarding Download Estimates

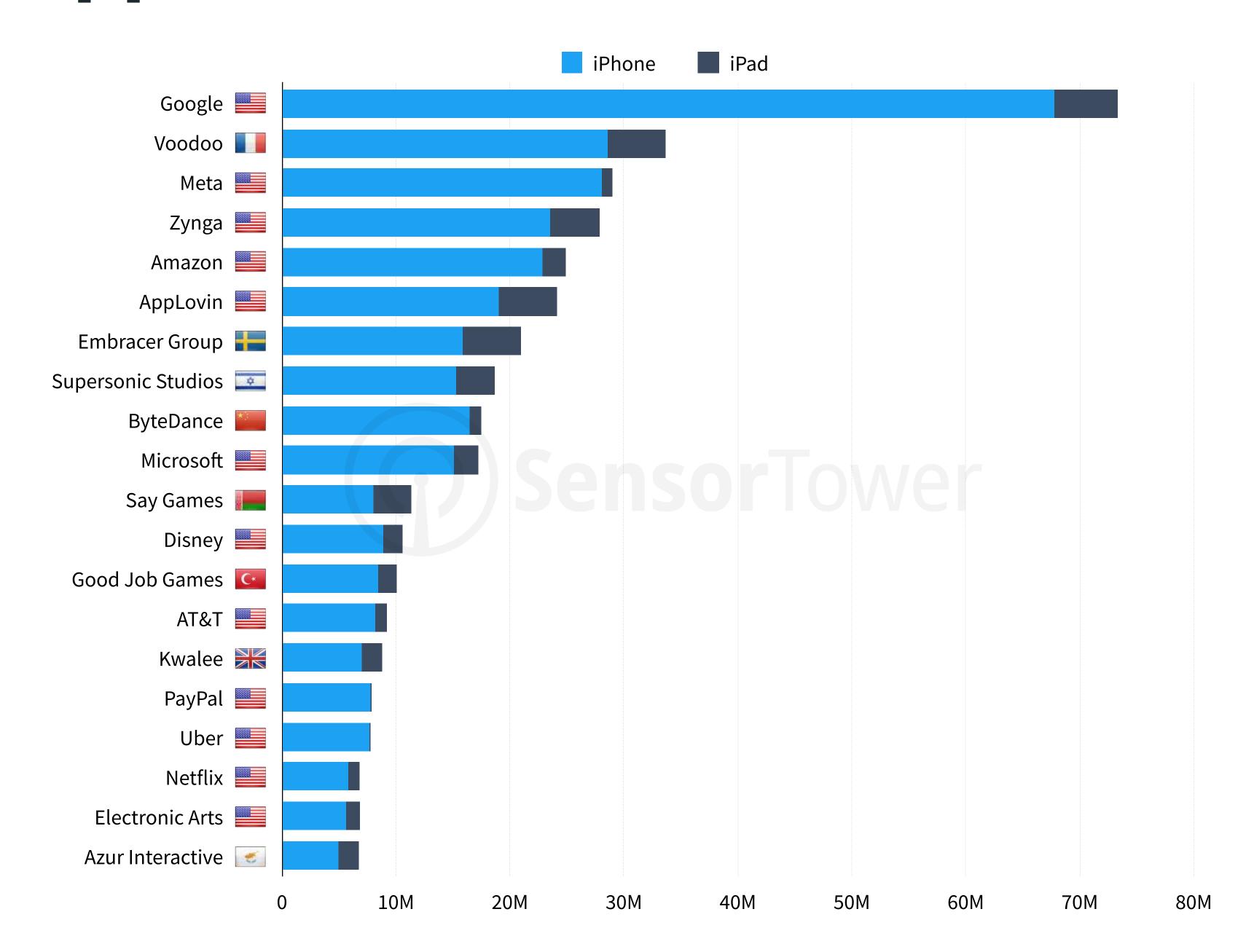
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App Store - United States



Google doubled its next closest competitor for U.S. App Store downloads. Its top apps included YouTube, Gmail, and Google.

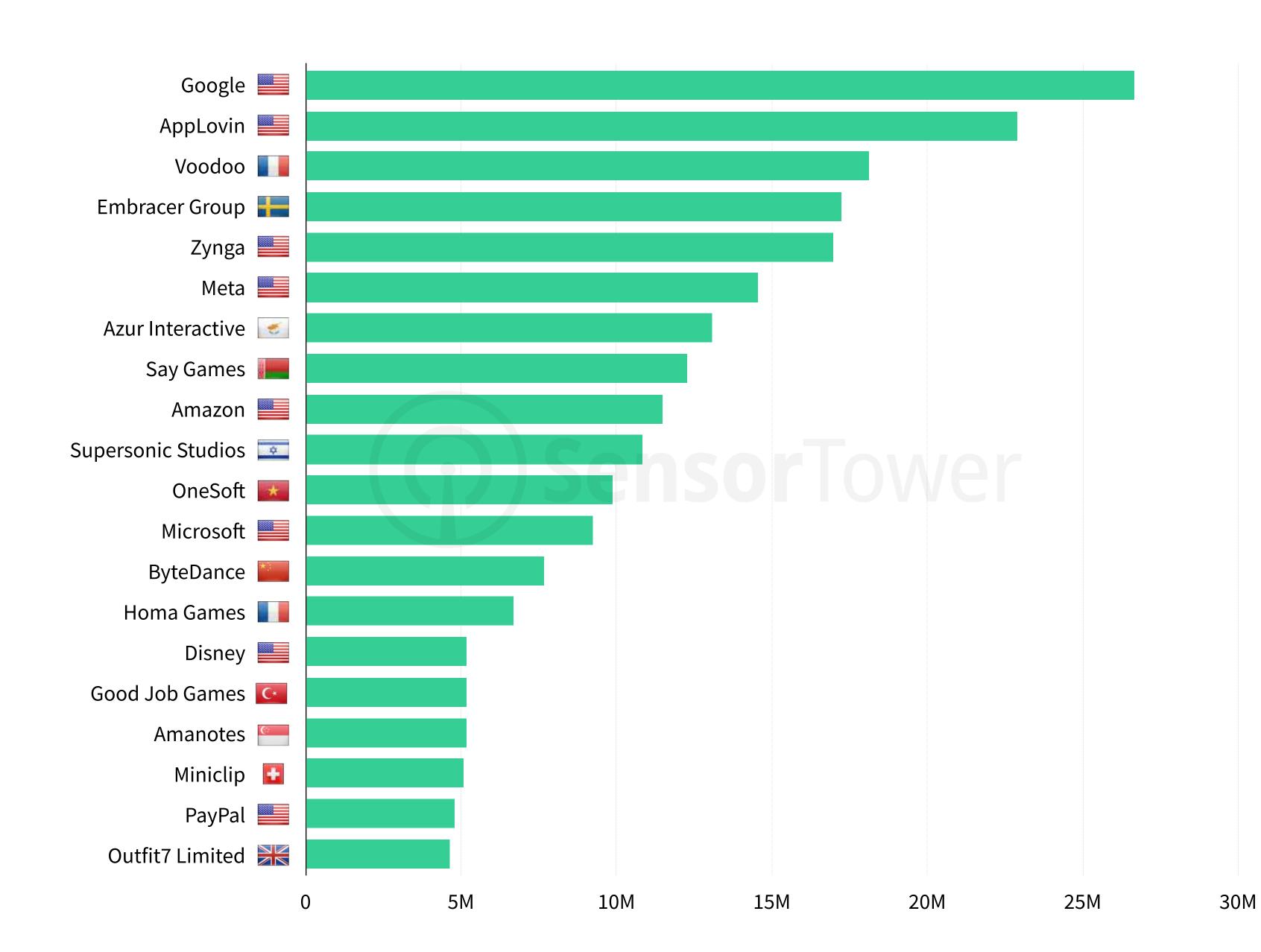
Among the top five publishers, Zynga was the only one with positive year-over-year growth in Q4 2021. Zynga's U.S. installs climbed nearly 60 percent Y/Y, led by the release of several hit hypercasual games.

Note Regarding Download Estimates

Our estimates include worldwide daily download totals for iPhone and iPad for Oct. 1 through Dec. 31, 2021. Apple apps are excluded. We report unique installs only (one download per User).



Google Play - United States



The top three publishers were the same as in Q3 2021. AppLovin, the No. 2 publisher, had more than 22 million downloads across its many game studios, such as Lion Studios, PeopleFun, and Magic Tavern.

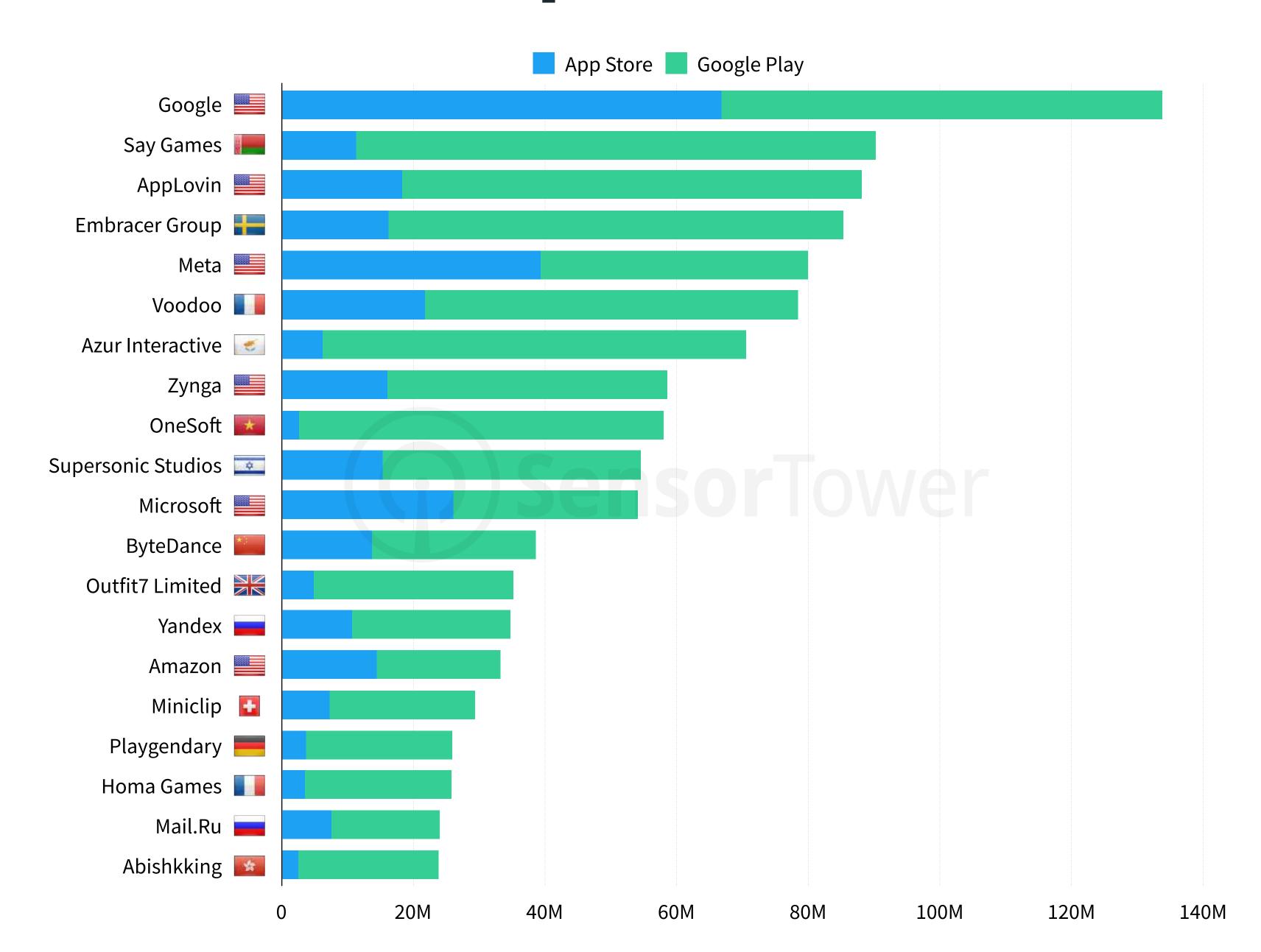
Embracer Group, owner of game publishers including TabTale, moved up two spots to enter the top five in Q4 2021. It saw 28 percent growth quarter-over-quarter.

Note Regarding Download Estimates

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Overall - Europe



While Google's downloads were down compared to early in the pandemic, the publisher saw positive quarter-over-quarter growth in Europe for the second straight quarter. Google has been a consistent top performer in Europe, and the last it had fewer than 120 million installs was in Q2 2019.

Say Games had its best quarter in Europe since Q3 2019, reaching 90 million downloads.
Russia and Turkey contributed a large portion of the growth.

Note Regarding Download Estimates

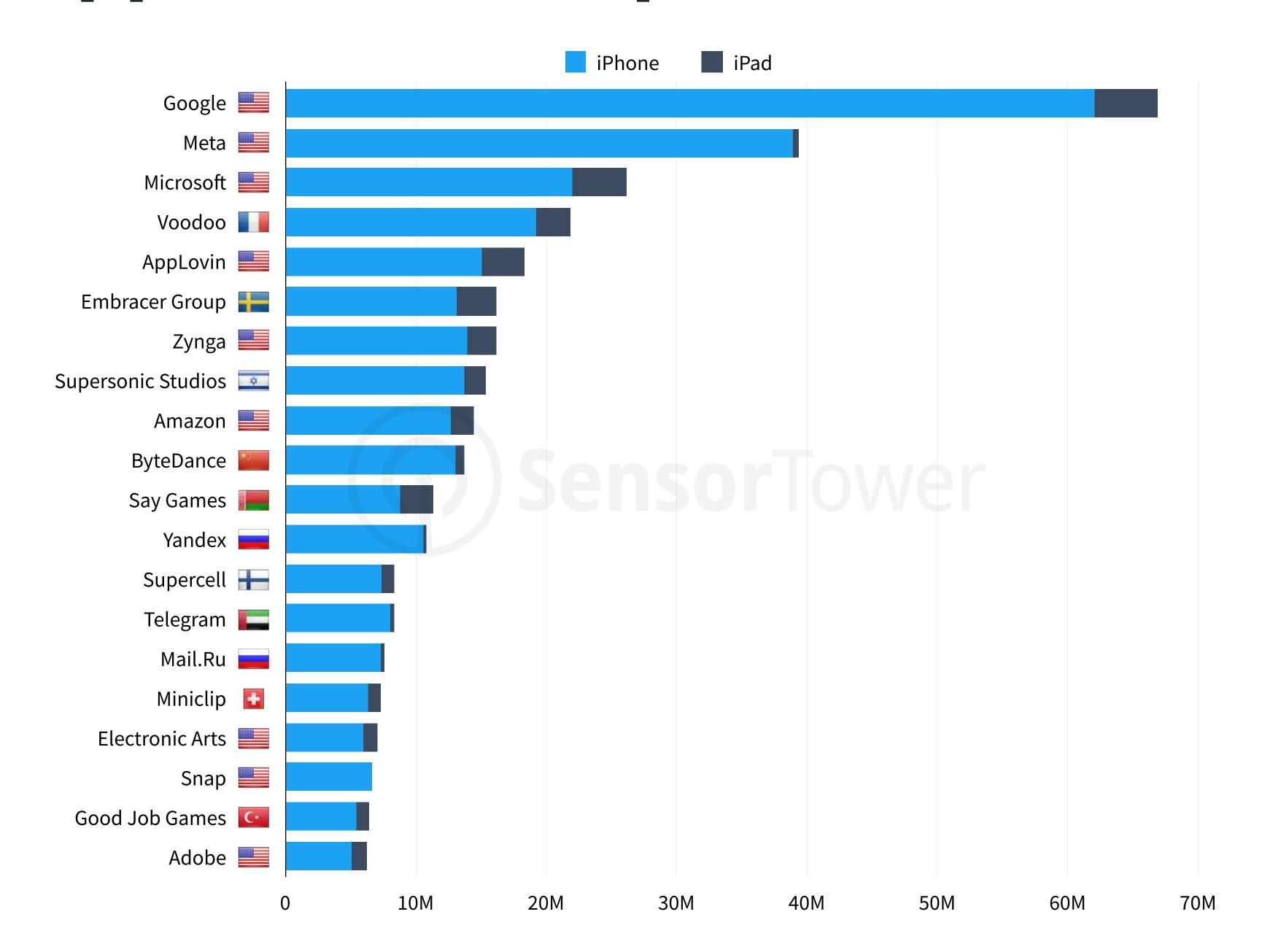
Our estimates include worldwide downloads for iPhone, iPad, and Google Play for Oct. 1 through Dec. 31, 2021.

Apple apps and Google pre-installed apps are excluded.

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App Store - Europe



Five of the top six publishers by App Store downloads in Europe were based in the U.S.

Hypercasual games developer Voodoo was the lone exception.

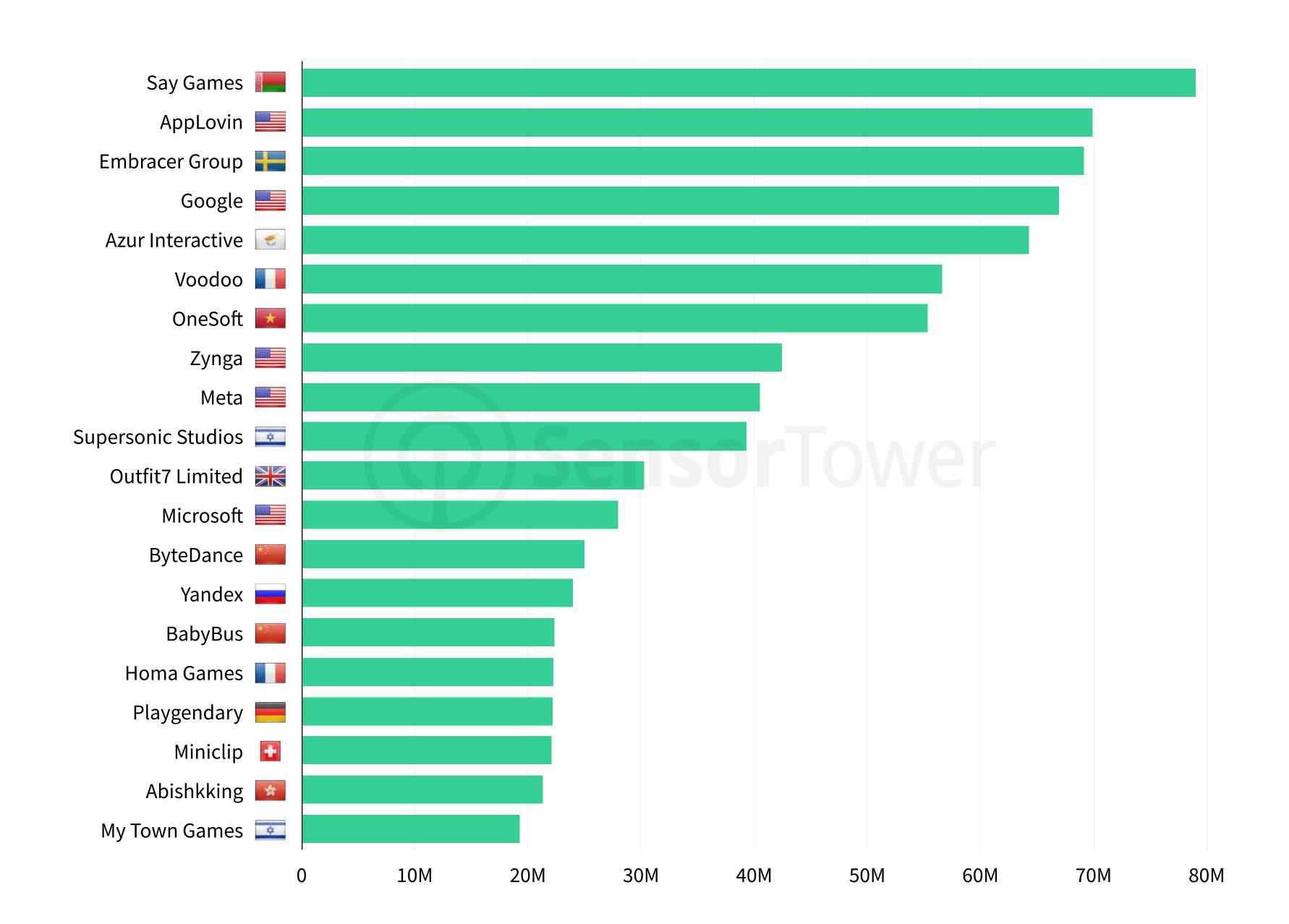
Europe-based publishers were more frequent in the No. 11 to 20 range, including Say Games (Belarus), Yandex (Russia), Supercell (Finland), and Miniclip (Switzerland).

Note Regarding Download Estimates

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Google Play - Europe



Say Games became the top publisher on Google Play for the first time in Q4 2021, reaching nearly 80 million installs. Voodoo and AppLovin most recently held the top spot.

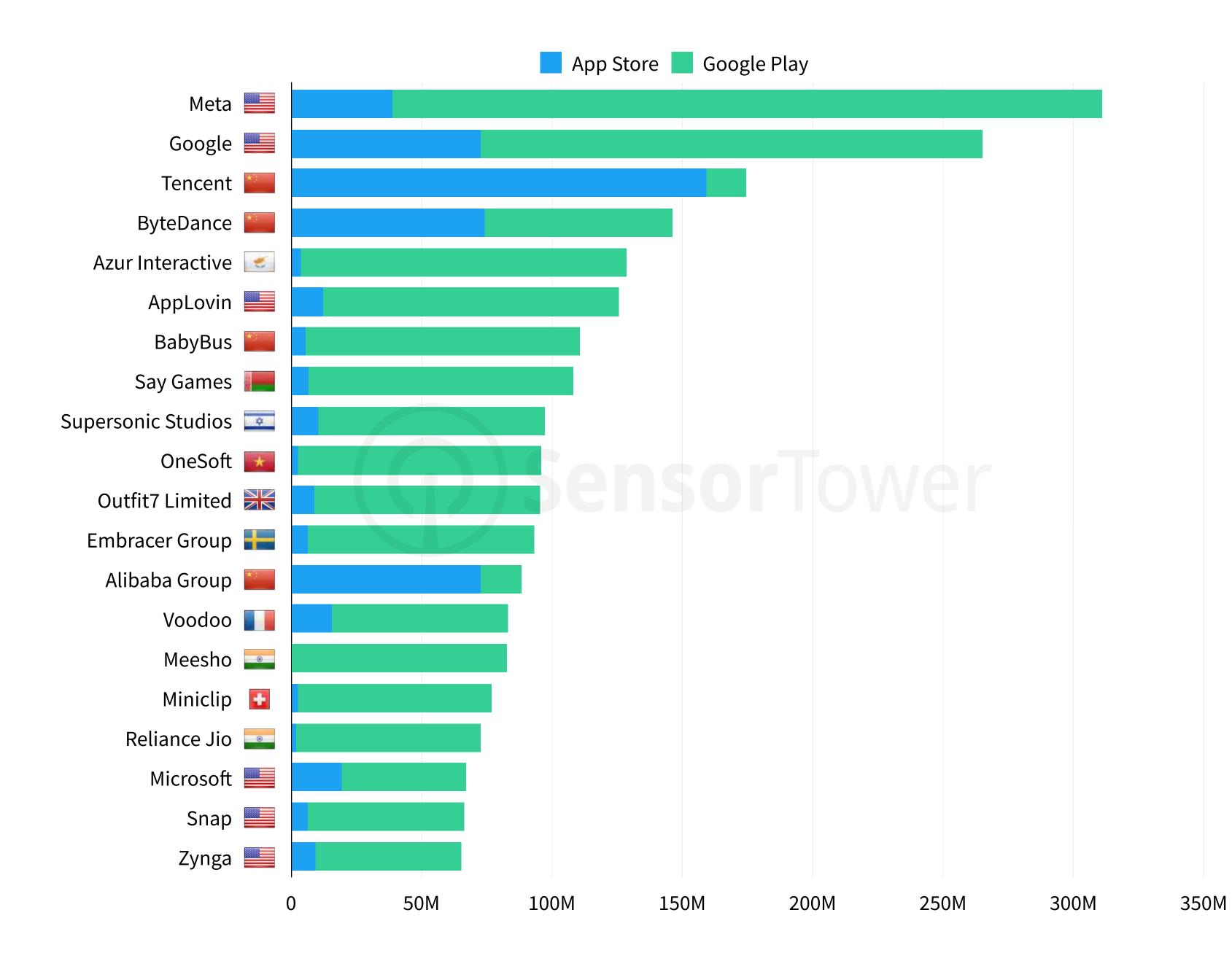
Many game developers joined Say Games among the top publishers, including AppLovin, Embracer Group, Azur Interactive, Voodoo, and OneSoft. In fact, among the top 10 publishers, only Google and Meta had the majority of their installs from non-games.

Note Regarding Download Estimates

Our estimates include worldwide daily download totals for Google Play for Oct. 1 through Dec. 31, 2021. We report unique installs only (one download per User). Google preinstalled apps are excluded. Android download estimates do not include third-party stores.



Overall - Asia



Meta opened up its biggest lead over Google in Asia since Q1 2020. However, the two publishers have remained competitive in the region, with each topping the region six quarters in the past three years.

Tencent and ByteDance once again ranked at No. 3 and 4, respectively, with Azur Interactive moving up five spots to round out the top five in Q4 2021.

Note Regarding Download Estimates

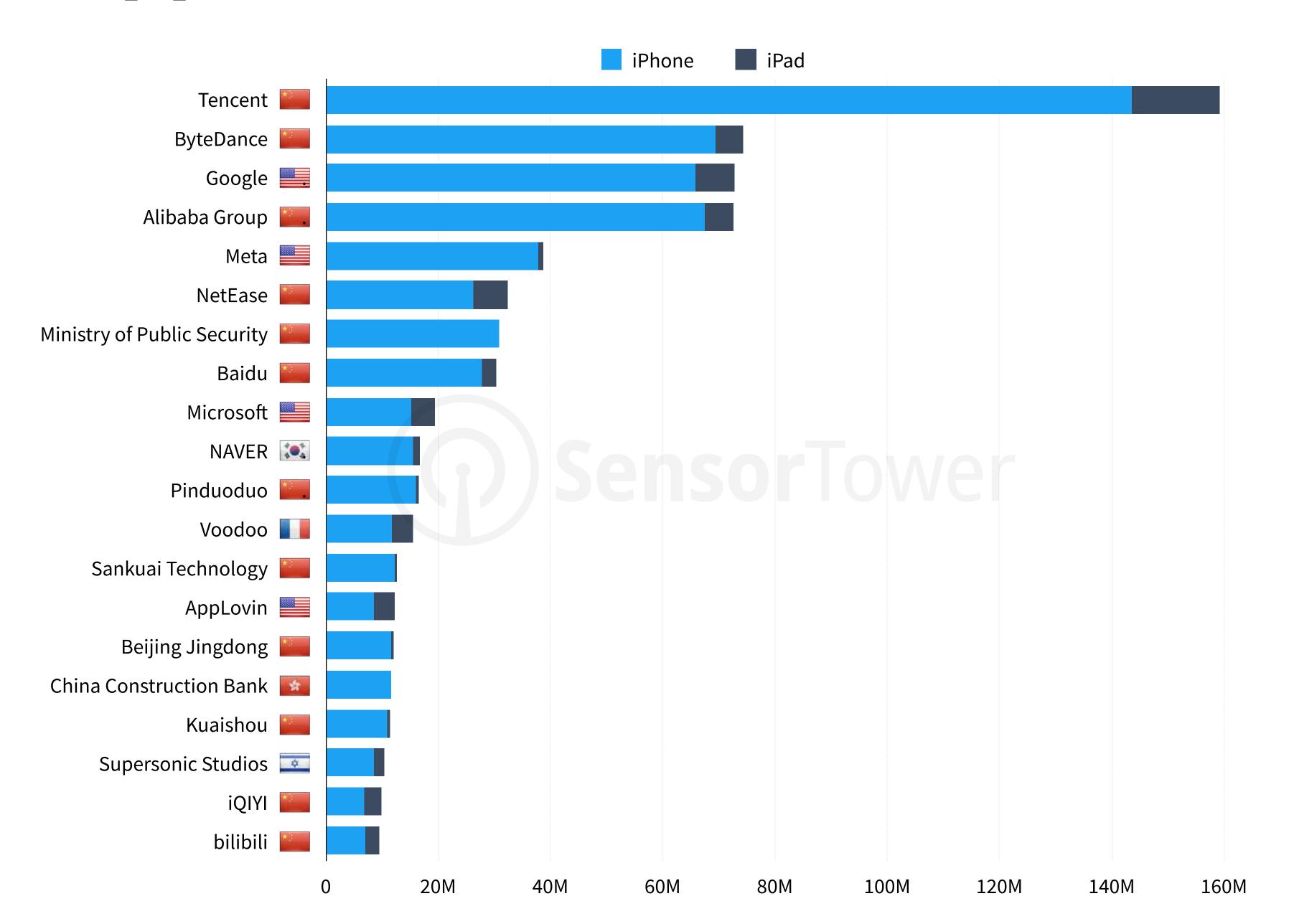
Our estimates include worldwide downloads for iPhone, iPad, and Google Play for Oct. 1 through Dec. 31, 2021.

Apple apps and Google pre-installed apps are excluded.

We report unique installs only. Android estimates do not include third-party stores.



App Store - Asia



Tencent had a huge lead in Asia on the App
Store, with more than twice as many
downloads as ByteDance, Google, and Alibaba
Group. Meta replaced NetEase among the top
five this quarter.

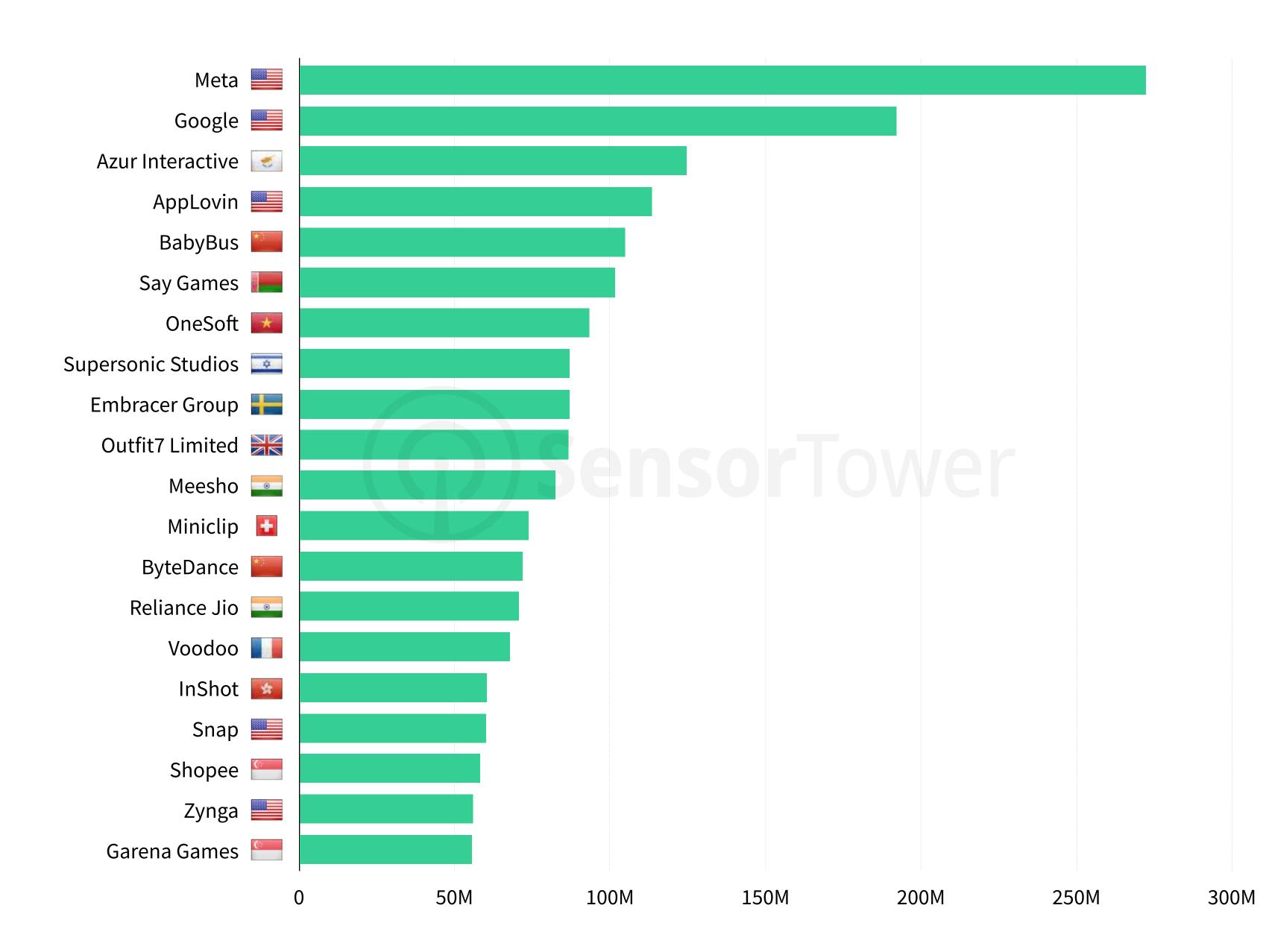
More than half of the top publishers were based in China. China is by far the largest market in Asia, accounting for 56 percent of App Store downloads in the region in Q4 2021.

Note Regarding Download Estimates

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Google Play - Asia



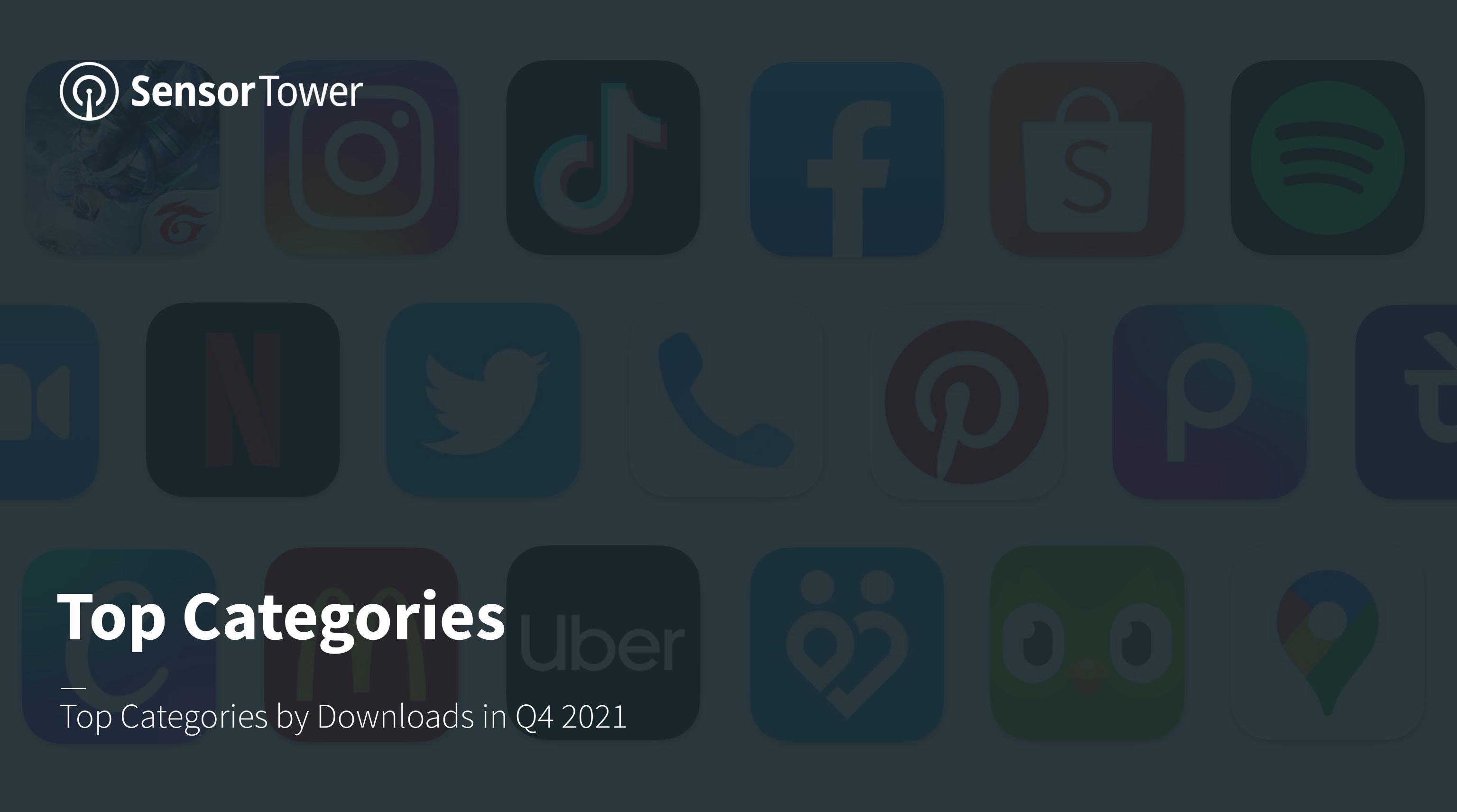
Meta has surpassed 250 million installs every quarter since Q2 2016. While its downloads have generally declined since Q3 2018, Q4 2021's total was up 2 percent quarter-over-quarter.

The rise of some popular shopping apps in India and Indonesia was enough to propel Meesho and Shopee into the top 20 publishers in Q4 2021. Meesho ranked as the No. 2 app in Asia on Google Play, and Shopee was close behind at No. 4.

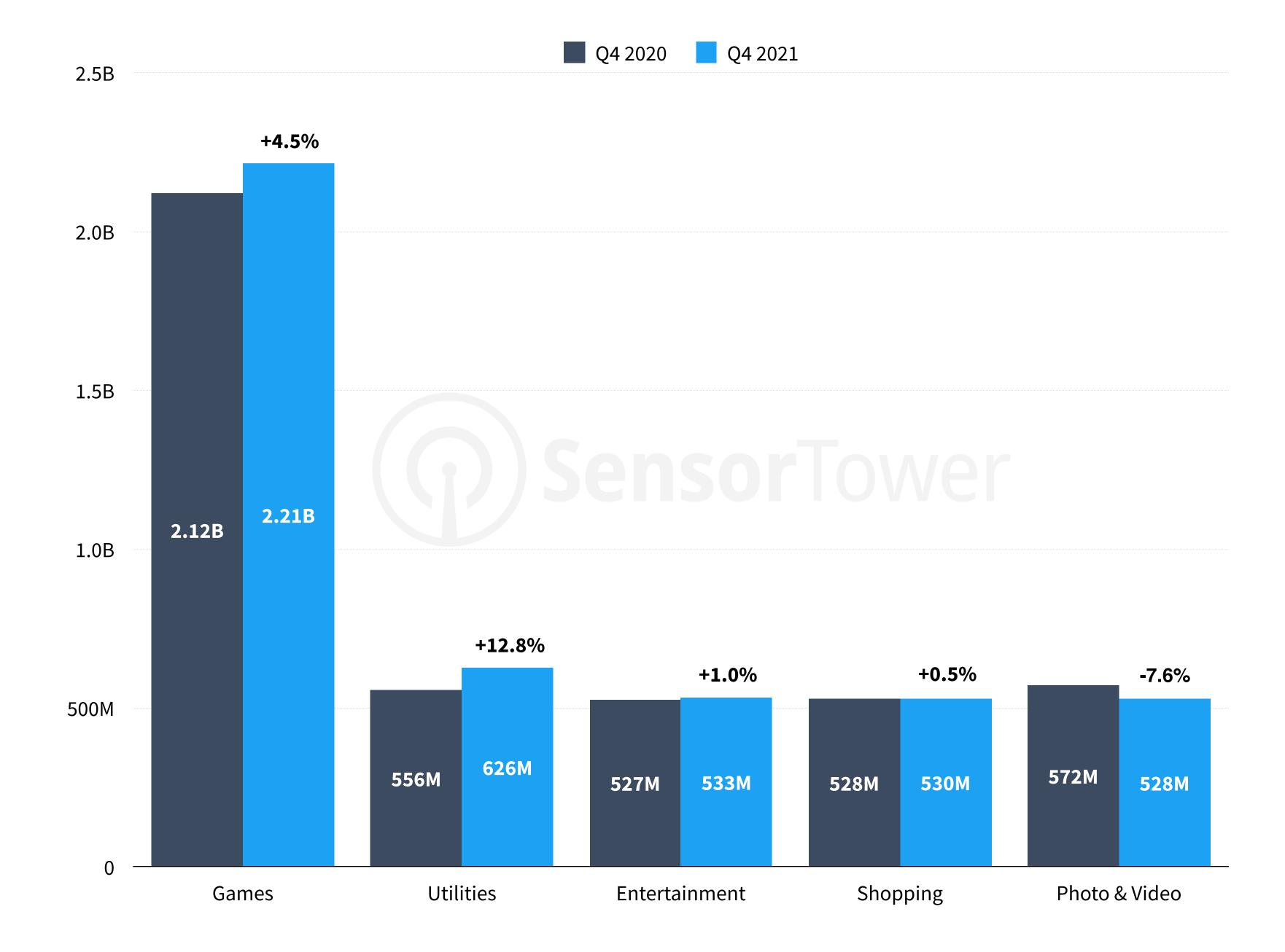
Note Regarding Download Estimates

Our estimates include worldwide daily download totals for Google Play for Oct. 1 through Dec. 31, 2021. We report unique installs only (one download per User). Google preinstalled apps are excluded. Android download estimates do not include third-party stores.





App Store



While still well below the peak of nearly 3 billion seen at the start of the pandemic, Games saw positive growth year-over-year at 4.5 percent. This was slightly below the 5.7 percent Y/Y growth seen by non-games.

Photo & Video fell three spots between Q4 2020 and Q4 2021, with the category's downloads down nearly 8 percent Y/Y.

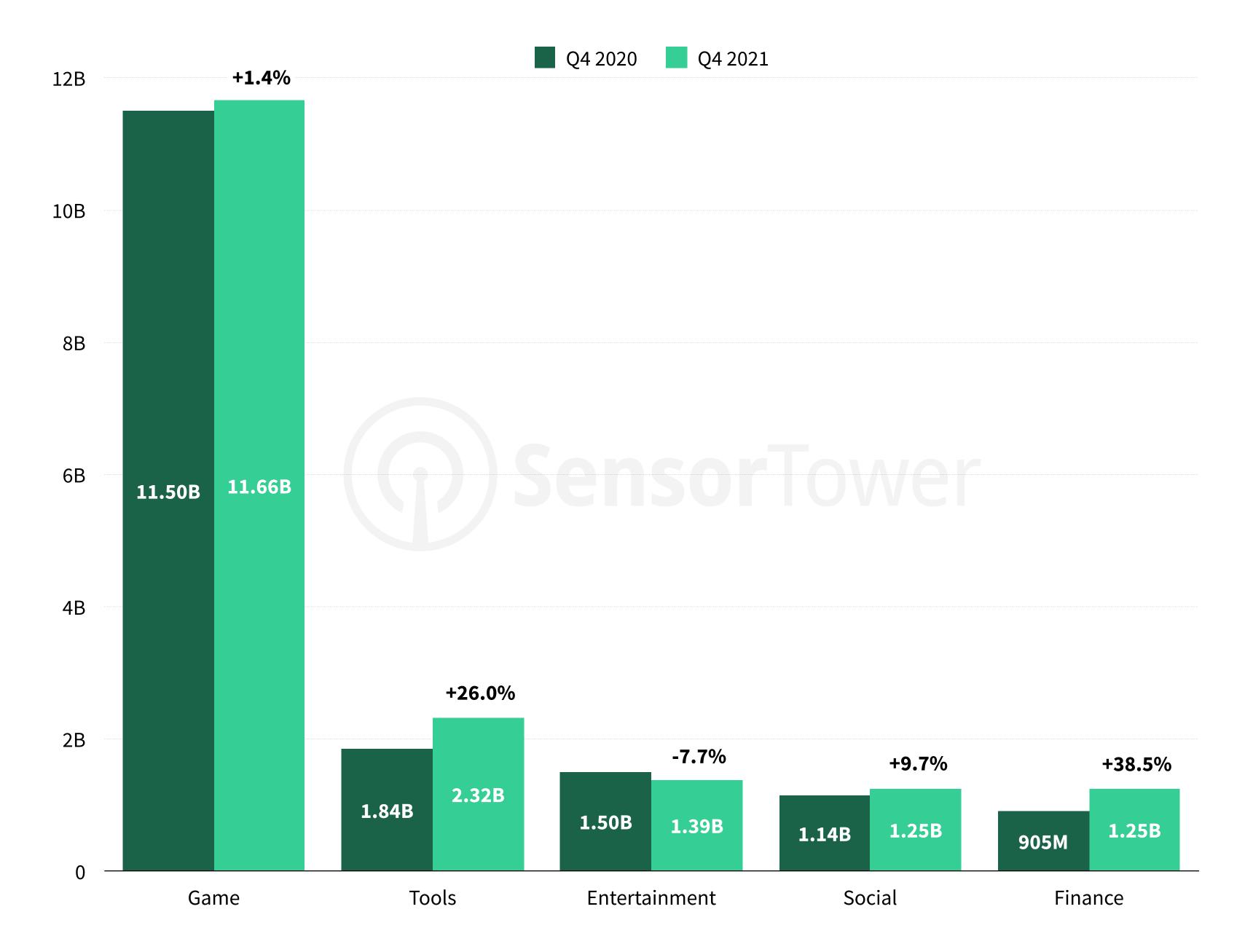
Meanwhile, Utilities had strong growth at 12.8 percent Y/Y.

Note Regarding Download Estimates

Our estimates include worldwide daily download totals for iPhone and iPad for Oct. 1 through Dec. 31, 2021. Apple apps are excluded. We report unique installs only (one download per User).



Google Play



Although Google Play downloads only grew 2 percent year-over-year in Q4 2021, growth varied dramatically between categories.

Finance and Tools were among the top performers with Y/Y growth of 39 percent and 26 percent, respectively. Meanwhile, Entertainment downloads fell 8 percent Y/Y.

Games saw only modest growth on Google Play, with downloads up 1.4 percent Y/Y. The category's installs have been between 11.5 billion and 12 billion for the past six quarters.

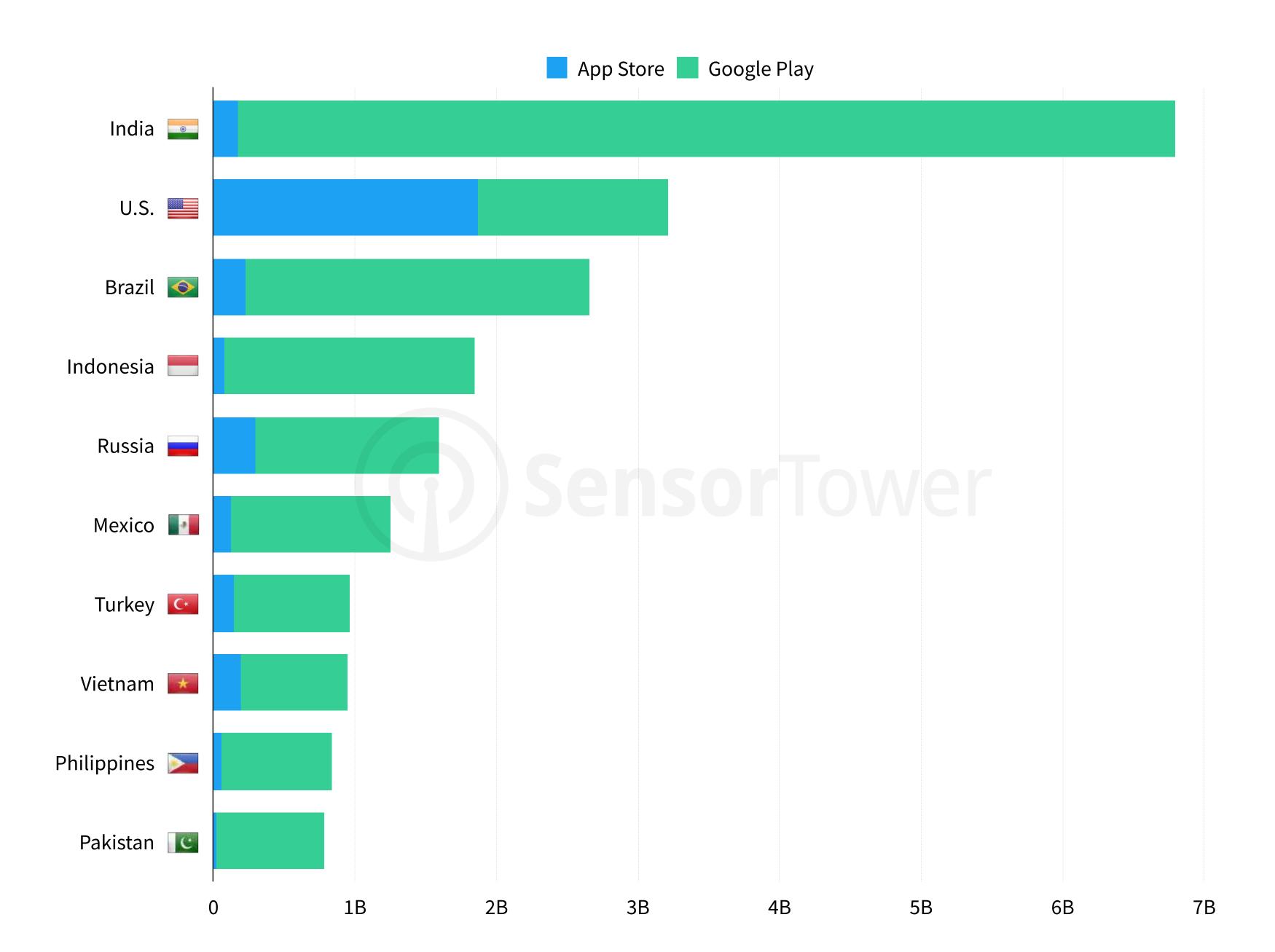
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Overall



The top five countries remained the same as in Q3 2021. Russia was the only one to witness positive year-over-year growth, however.

The only movement among the top 10 countries compared to a year ago was
Vietnam and Philippines flipping spots as the
No. 8 and 9 countries. Vietnam's downloads
grew 38 percent Y/Y.

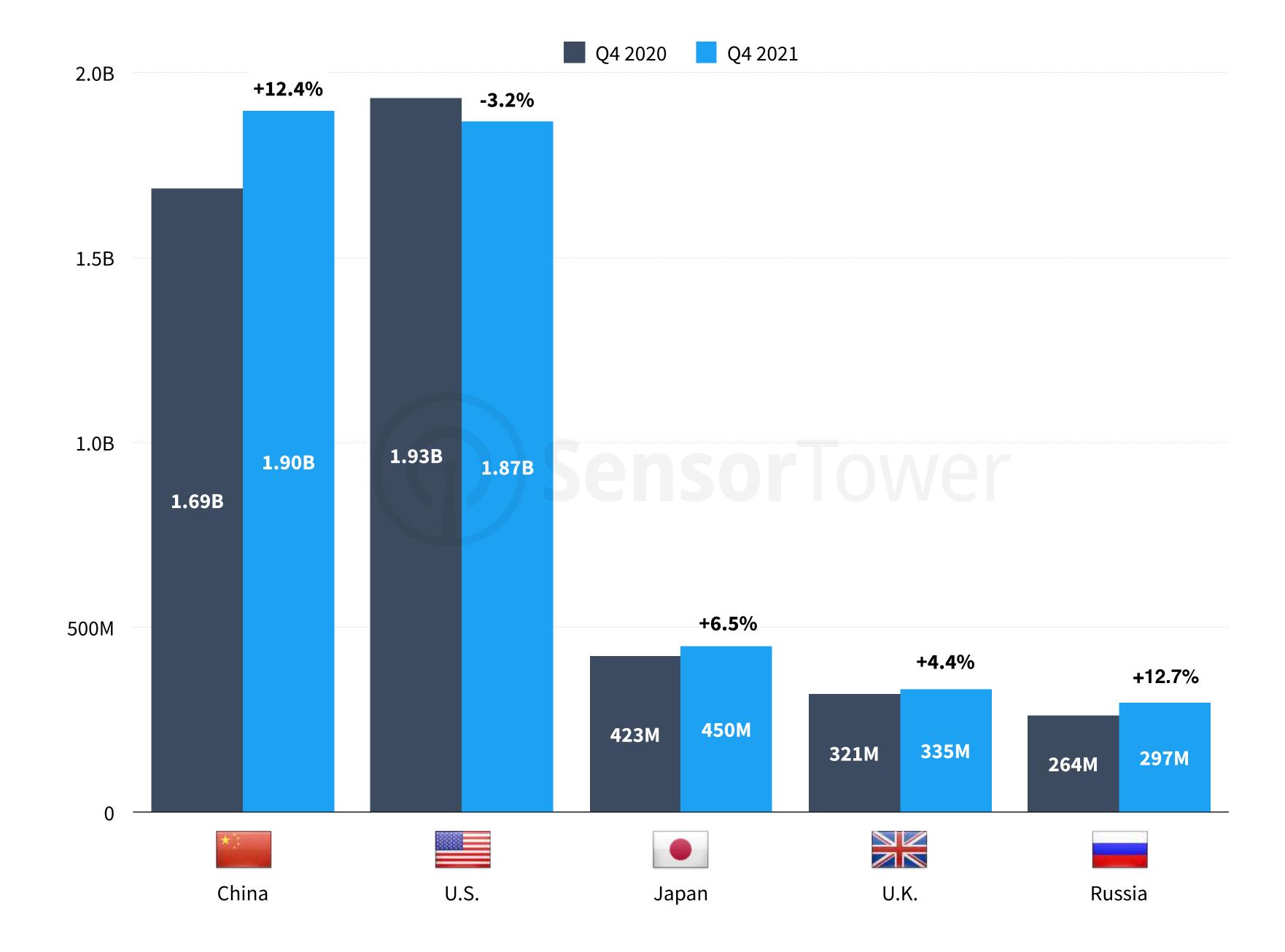
Note Regarding Download Estimates

Our estimates include worldwide daily download totals for iPhone and iPad for Oct. 1 through Dec. 31, 2021. Apple apps are excluded. We report unique installs only (one download per User).

As Google Play is not available in China, we have excluded the country from this chart.



App Store



After the U.S. overtook China for five straight quarters between Q2 2020 and Q2 2021, China regained the top spot in Q3 2021. China held the lead again in Q4 2021 with 12 percent year-over-year growth, while U.S. installs fell 3 percent Y/Y.

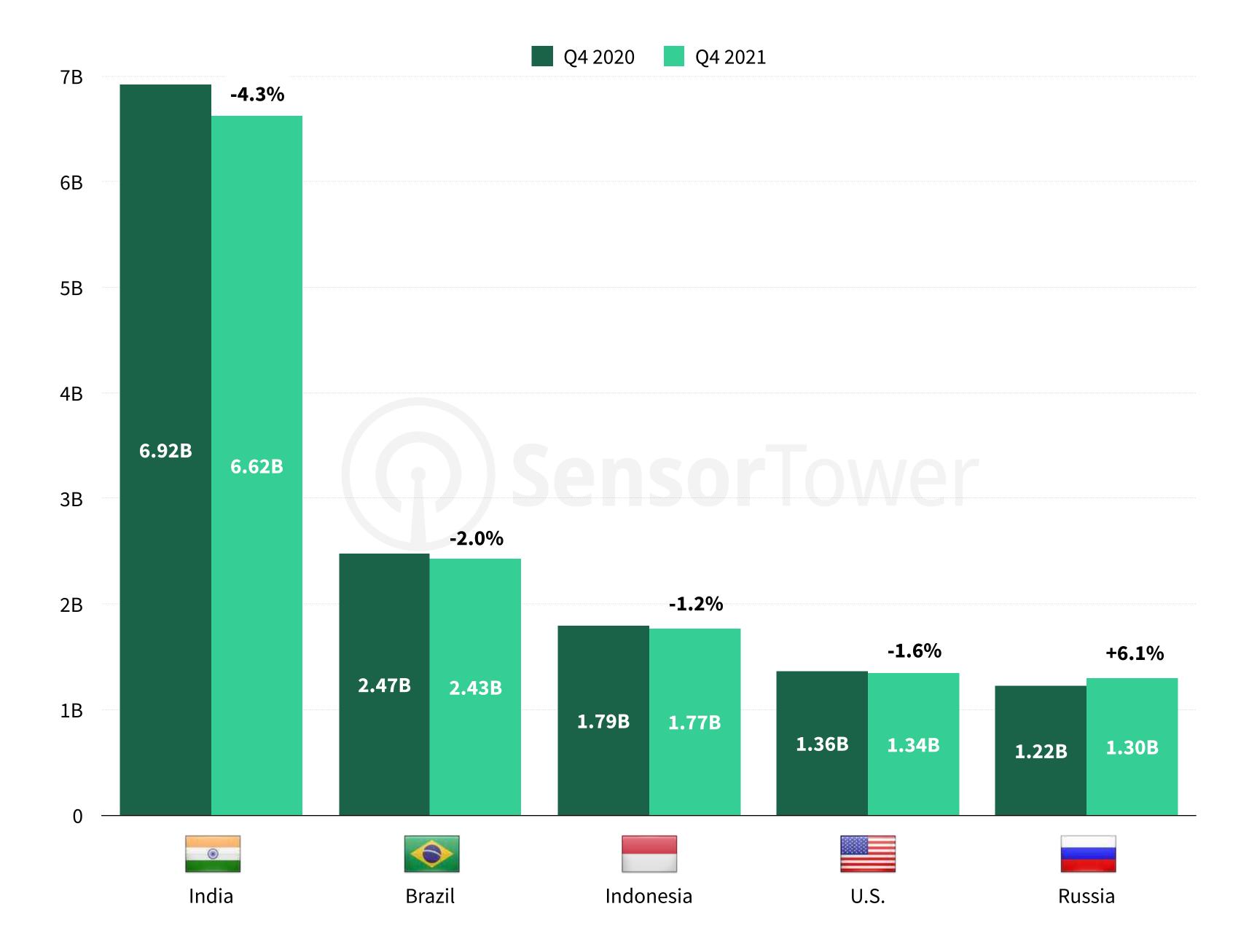
The rest of the top five markets all had positive year-over-year growth. Russia's downloads climbed 12.7 percent to nearly 300 million, an all-time high for the country.

Note Regarding Download Estimates

Our estimates include worldwide daily download totals for iPhone and iPad for Oct. 1 through Dec. 31, 2021. Apple apps are excluded. We report unique installs only (one download per User).



Google Play



While the top four markets all saw downloads decline year-over-year, installs remained well above pre-pandemic levels as each country saw a huge boost at the start of the pandemic. The one exception was the U.S., which saw roughly the same number in Q4 2021 as it did

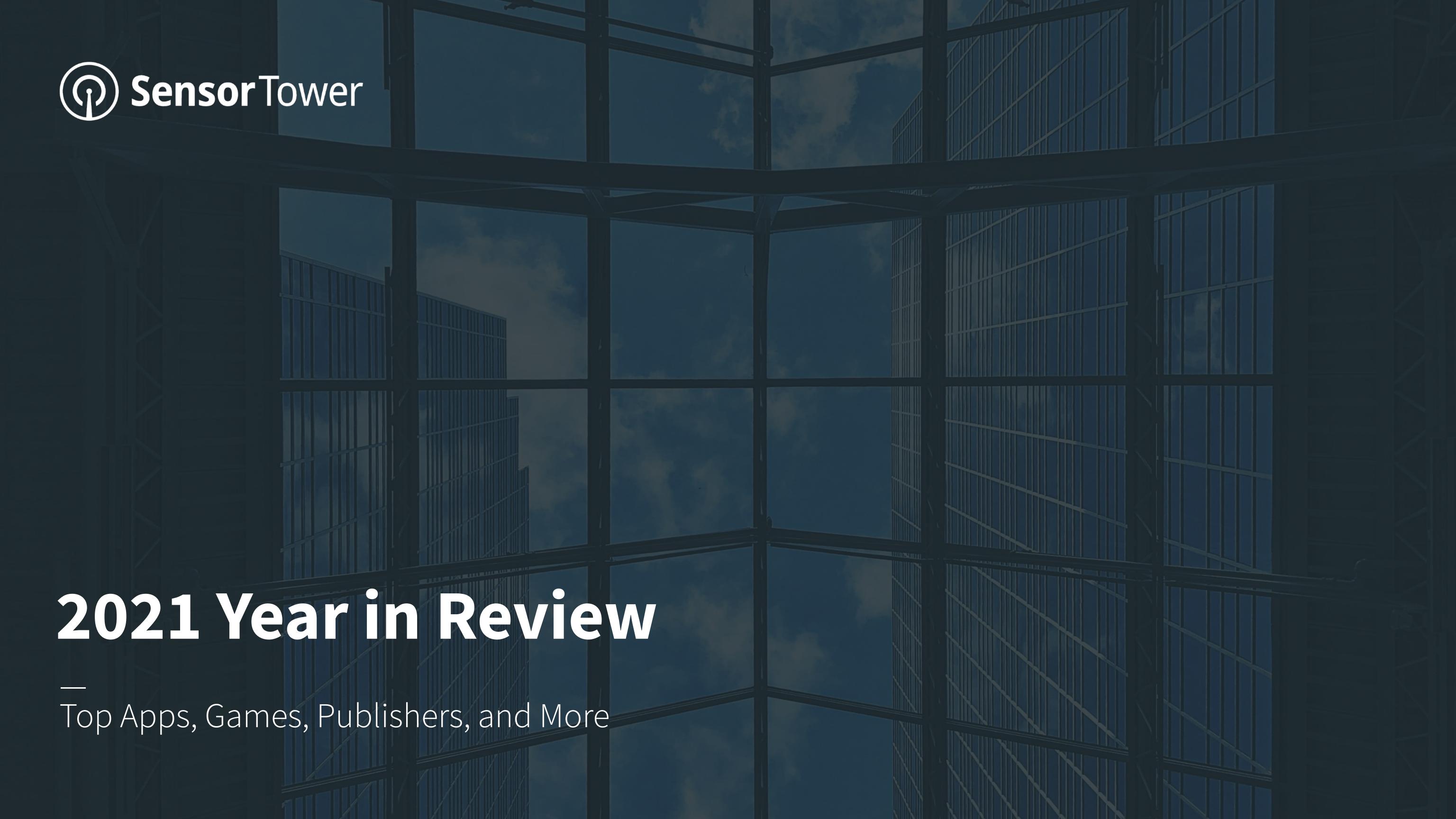
Russia also reached an all-time high for downloads on Google Play with 6.1 percent growth year-over-year. Its previous high was in Q2 2020 at the start of the COVID-19 pandemic.

Note Regarding Download Estimates

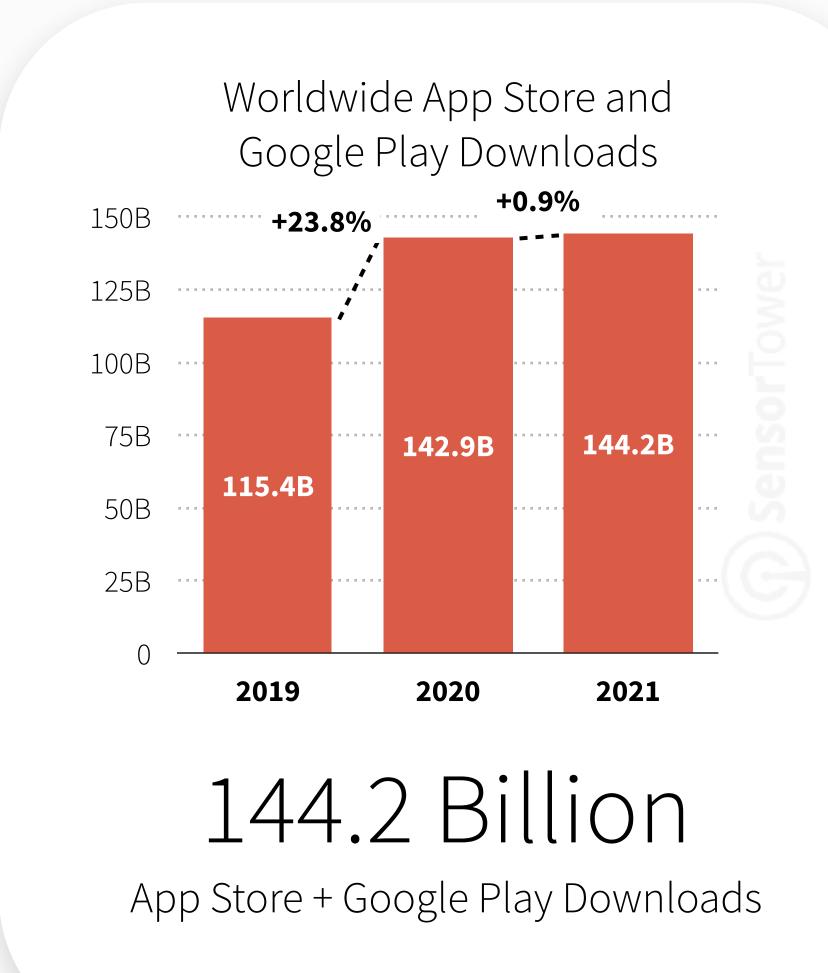
leading into the pandemic.

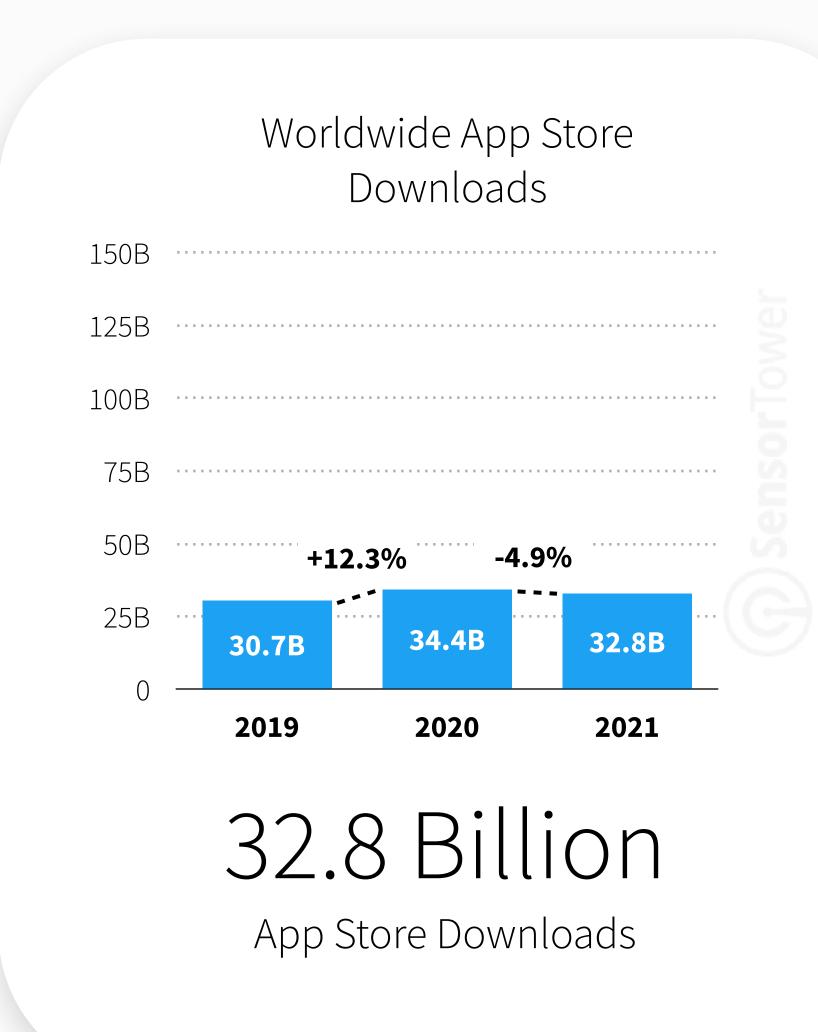
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Market Overview: 2021 Worldwide Download Growth

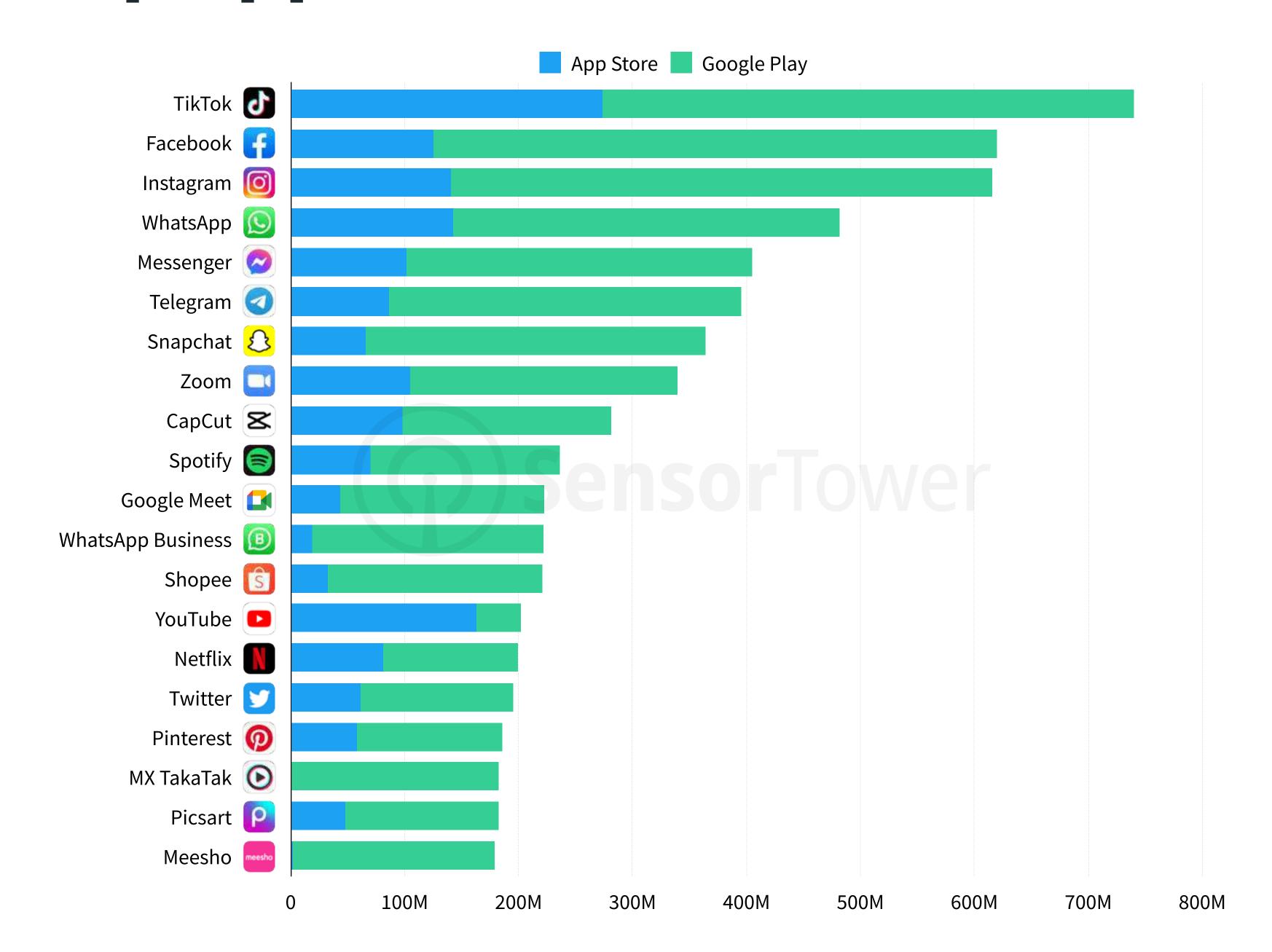








Top Apps



TikTok from ByteDance was the top app globally for the second straight year. It managed this despite being removed from the app stores in India in Q2 2020. Meanwhile, India was the biggest market for other top apps like Facebook and Instagram.

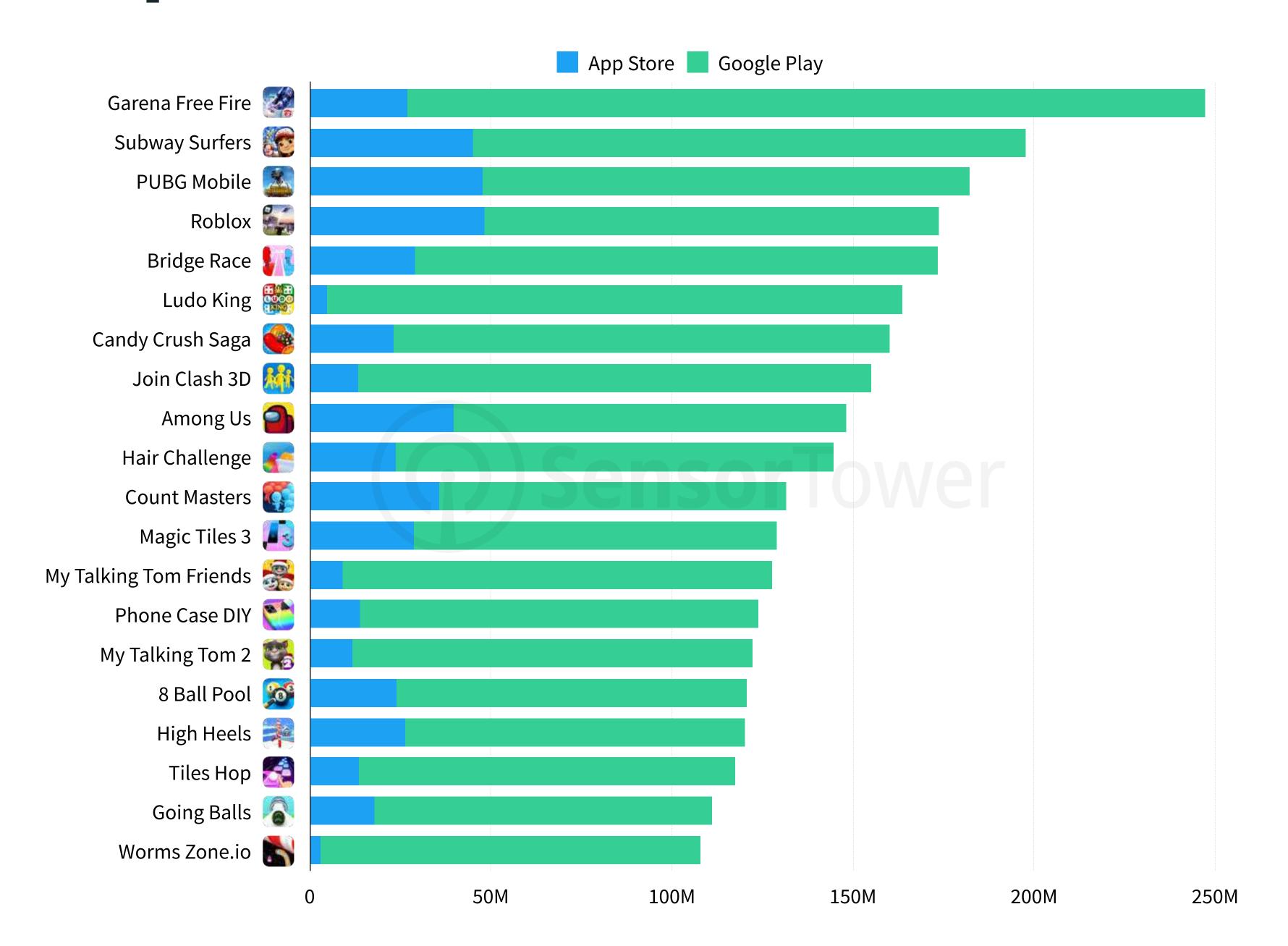
Meta had the next four apps, including Facebook, Instagram, WhatsApp, and Messenger. Zoom, the No. 4 app in 2020, fell four spots to No. 8 in 2021.

Note Regarding Download Estimates

Our estimates include worldwide downloads for iPhone, iPad, and Google Play for Jan. 1 through Dec. 31, 2021. Apple apps and Google pre-installed apps are excluded. We report unique installs only. Android estimates do not include third-party stores. Figures represent aggregate installs of all app versions, ex: Facebook and Facebook Lite.



Top Games



Garena Free Fire was the top game by downloads for the first time in 2021. It ranked runner-up to PUBG Mobile in 2019 and Among Us in 2020.

Subway Surfers and PUBG Mobile were also frequently among the top games since 2019.

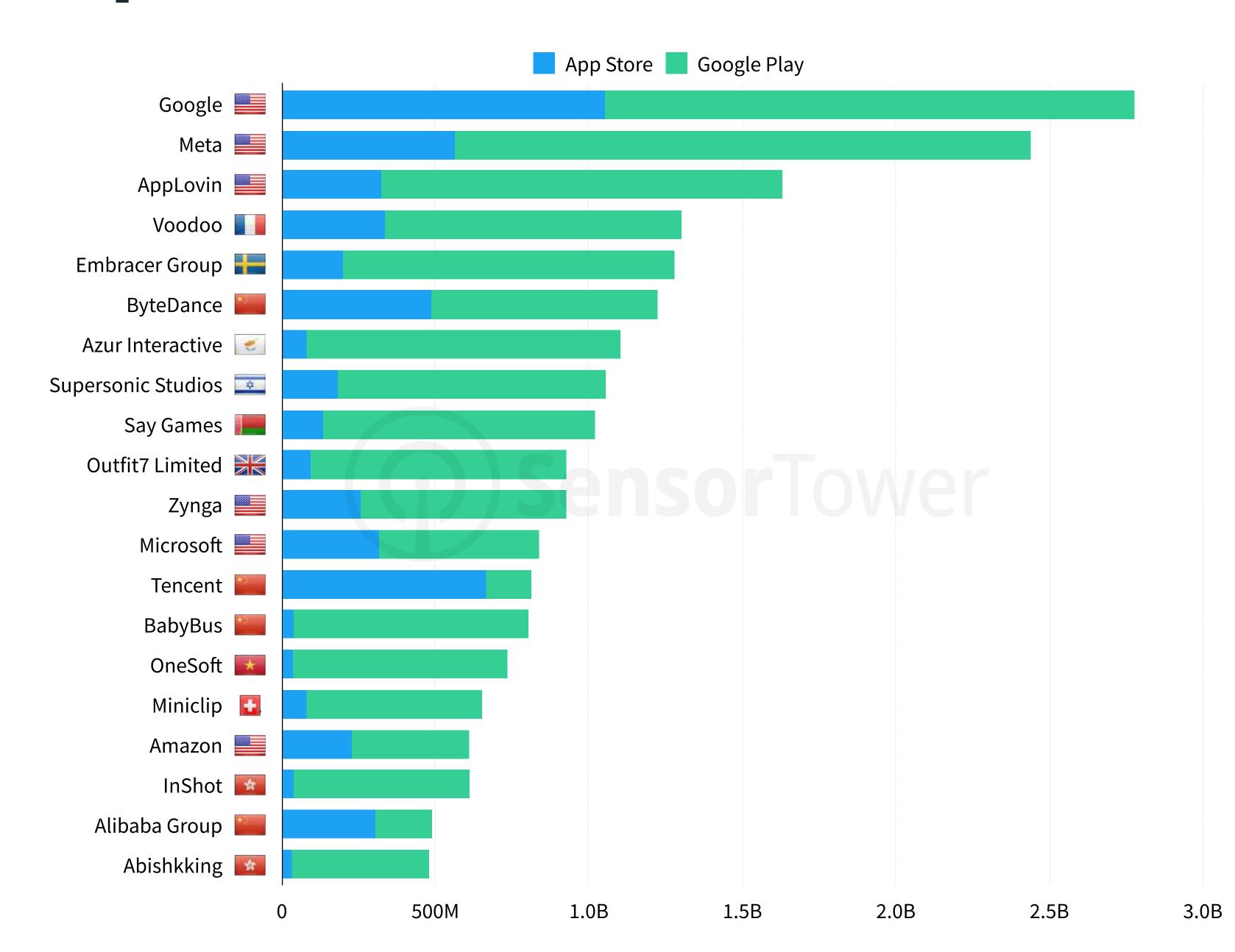
The only other game to rank among the top three in a year between 2019 and 2021 was Among Us in 2020, which saw its popularity soar as a way to socialize during the pandemic.

Note Regarding Download Estimates

Our estimates include worldwide downloads for iPhone, iPad, and Google Play for Jan. 1 through Dec. 31, 2021. Apple apps and Google pre-installed apps are excluded. We report unique installs only. Android estimates do not include third-party stores. Figures represent aggregate installs of all app versions, ex: Facebook and Facebook Lite.



Top Publishers



Google repeated as the top publisher in 2021 with nearly 2.8 billion downloads. Runner-up Meta had been the top publisher every year between 2014 and 2019.

AppLovin climbed from the No. 5 position in 2020 to No. 3 in 2021 with six percent year-over-year growth. Voodoo and Embracer Group rounded out the top five.

Note Regarding Download Estimates

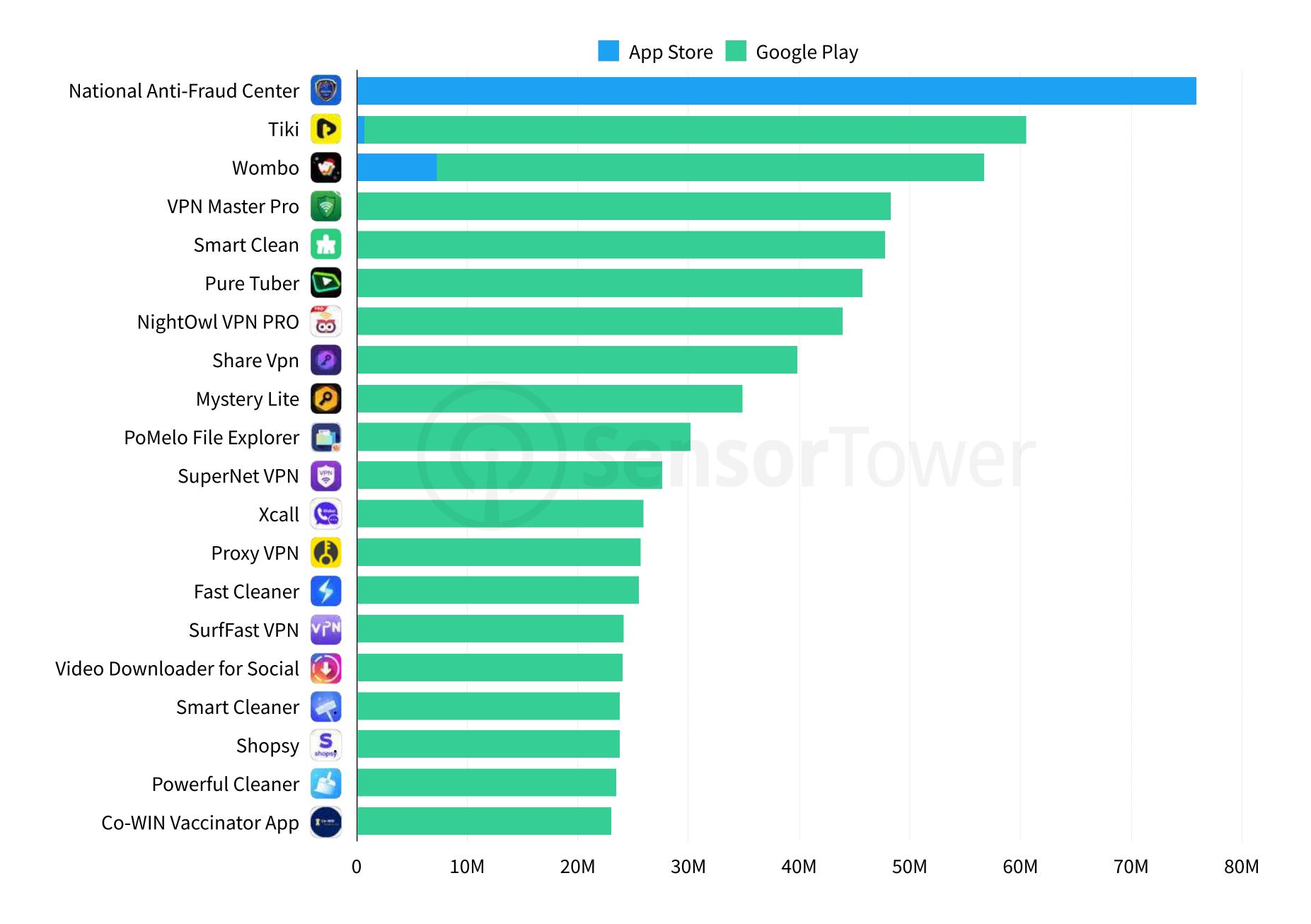
Our estimates include worldwide downloads for iPhone, iPad, and Google Play for Jan. 1 through Dec. 31, 2021.

Apple apps and Google pre-installed apps are excluded.

We report unique installs only. Android estimates do not include third-party stores.



Top New Apps



China's National Anti-Fraud Center apps was the top new app in 2021 with more than 75 million downloads. The rest of the top apps all received the vast majority of their downloads from Google Play, as Google Play's download totals were more than three times as high as the App Store's in 2021.

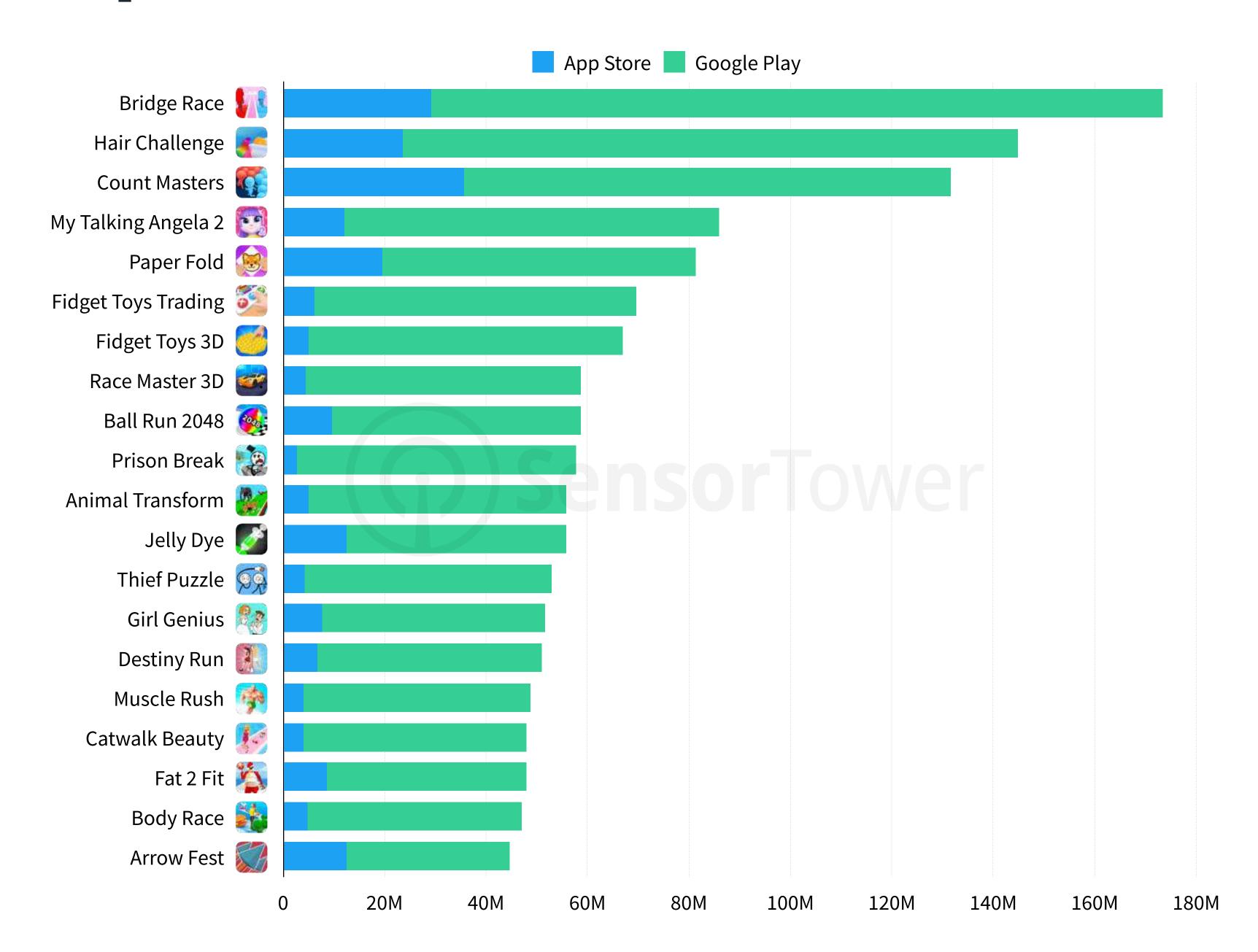
With increased attention on privacy in 2021, many VPN apps were among the top new apps this year. Examples included VPN Master Pro, NightOwl VPN PRO, and Share Vpn.

Note Regarding Download Estimates

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Top New Games



Given the huge popularity and short lifecycle for hypercasual games, it is not surprising to see many hypercasual titles among the top new entrants in 2021. Top new games in the genre included Bridge Race, Hair Challenge, and Count Masters.

The only other genres represented among the top new games was Lifestyle (My Talking Angela 2) and Racing (Race Master 3D).

Pokémon Unite, released in July 2021, just missed the top 20 with 40 million downloads.

Note Regarding Download Estimates

Our estimates include worldwide downloads for iPhone, iPad, and Google Play for Jan. 1 through Dec. 31, 2021. Apple apps and Google pre-installed apps are excluded. We report unique installs only. Android estimates do not include third-party stores. Figures represent aggregate installs of all app versions, ex: Facebook and Facebook Lite.







Key Trends in Mobile

Stories of the Year:

Introduction



1. Categories Return Amid COVID-19

As the second year of the pandemic comes to a close, key categories such as Business and Travel have continued to adapt.



2. Garena Free Fire's Ascent

No game had more downloads in 2021 than Garena Free Fire, and it has fully emerged as the top shooter game in Western markets.



3. The Year of NFTs

The popularity of non-fungible tokens (NFTs) soared in 2021, and apps specializing in NFT trading and discovery soon followed.

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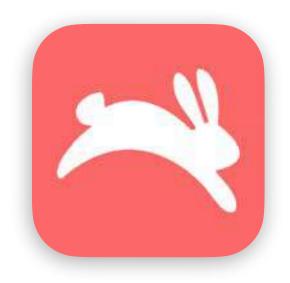
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Stories of the Year:

1. Categories Return Amid COVID-19

The mobile space is still adapting to a world with COVID-19. The categories hit hardest by the pandemic including Travel and Navigation continued to bounce back in 2021.

- Travel app installs nearly reached the 2019 average in July 2021 at the peak of summer travel. Downloads have fallen off some since, settling at 14 percent below the 2019 average in December 2021.
- Meanwhile, Business and Medical apps have continued to flourish even as the world adjusts to life during COVID-19. Worldwide Business app installs remained at more than double their pre-pandemic levels throughout 2021.
- The extent to which these categories have returned towards their pre-COVID trends has varied substantially by region. Asia has retained much of the impact seen early in the pandemic, while North American installs have largely returned near 2019 levels.







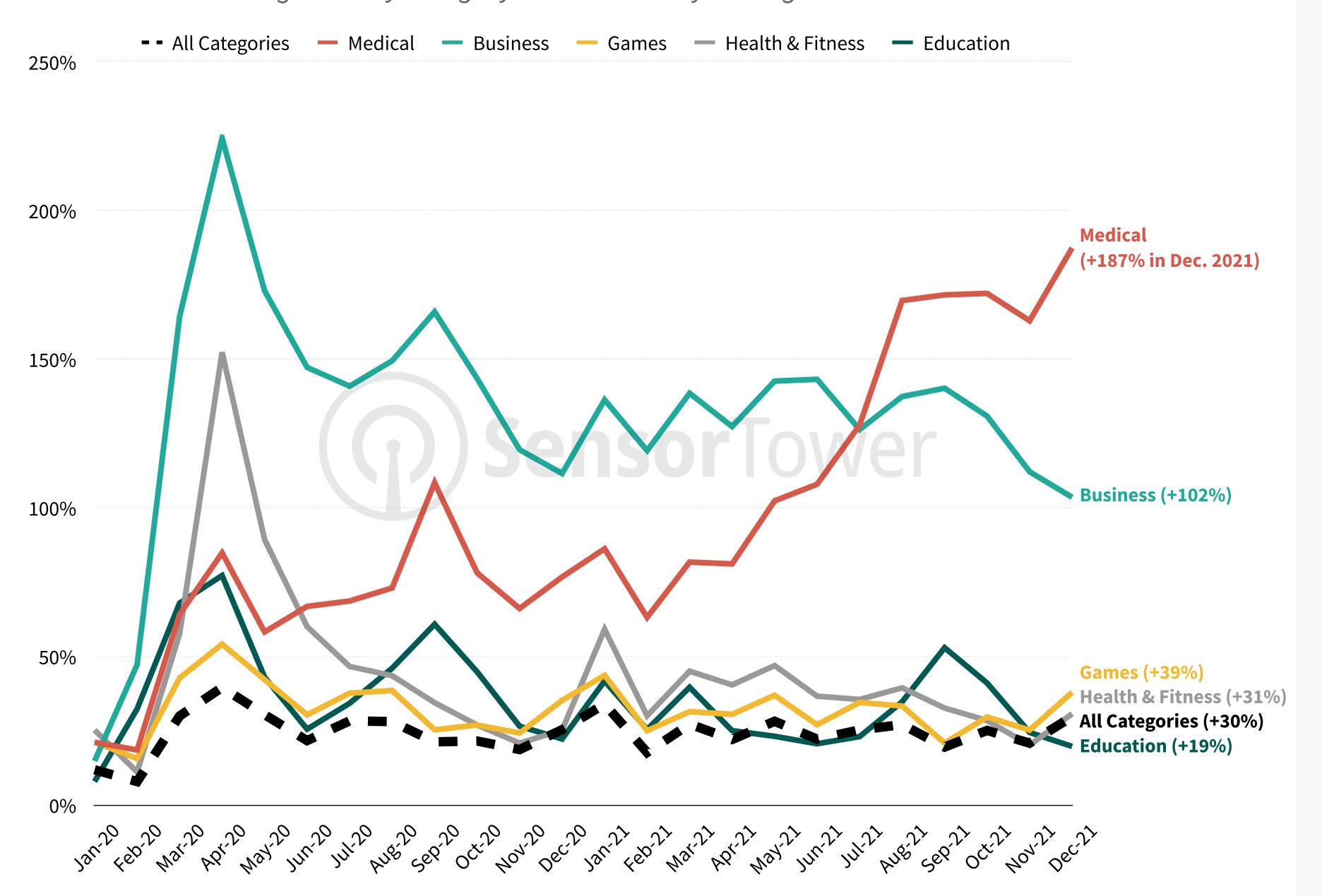
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Business and Medical App Popularity Remains High

Worldwide download growth by category vs. the monthly average from 2019



While many app categories saw a boost in the first few months of the pandemic, most of the these categories had installs dip back towards pre-pandemic levels in 2021. The Business category was a notable exception, with downloads still more than double 2019 levels throughout 2021.

Meanwhile, Games, Health & Fitness, and Education were still able to retain some of the growth spurred by the pandemic. Overall, app installs were up about 30 percent in December 2021 compared to before the pandemic.

Note Regarding Download Estimates

Our estimates include worldwide downloads for iPhone, iPad, and Google Play for Jan. 1, 2019 through Dec. 31, 2021.

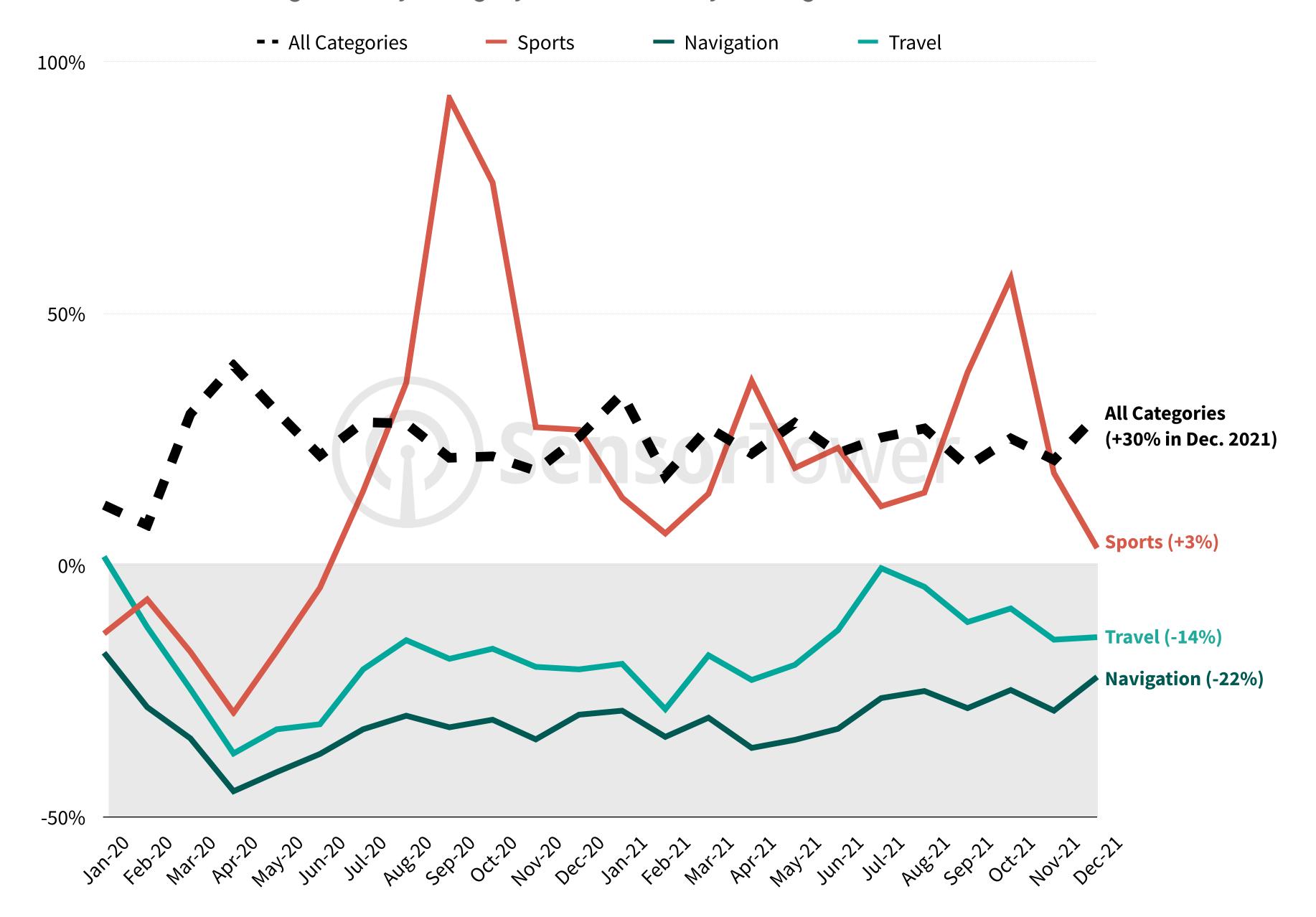
Apple apps and Google pre-installed apps are excluded.

We report unique installs only. Android estimates do not include third-party stores. Download growth is calculated vs. the monthly average in 2019.



Travel Apps Continue to Bounce Back

Worldwide download growth by category vs. the monthly average from 2019



Travel and Navigation were the categories hit hardest by the pandemic, falling around 40 percent in April 2020 compared to 2019 totals.

While new variants of COVID-19 have muted the recovery somewhat, Travel app installs were only down 14 percent in December 2021 and the the summer peak nearly reached 2019 levels.

The Sports category was much quicker to bounce back as leagues reopened in the second half of 2020. Installs in 2021 were consistently higher than the 2019 average.

Note Regarding Download Estimates

Our estimates include worldwide downloads for iPhone, iPad, and Google Play for Jan. 1, 2019 through Dec. 31, 2021.

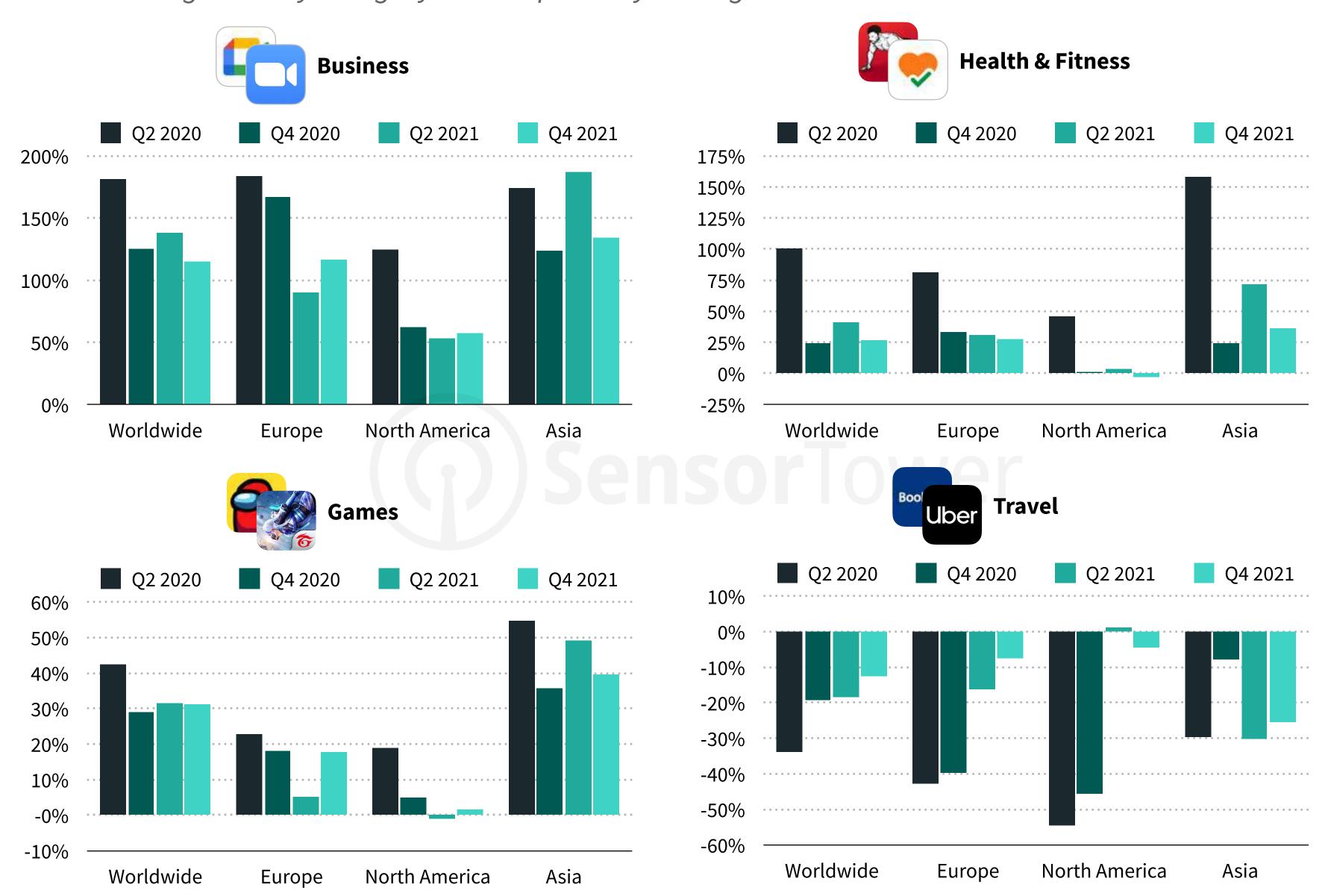
Apple apps and Google pre-installed apps are excluded.

We report unique installs only. Android estimates do not include third-party stores. Download growth is calculated vs. the monthly average in 2019.



A Return to Normal Was Quickest in North America

Download growth by category vs. the quarterly average from 2019



The normalization of downloads during the pandemic varied significantly between regions, with the North America seeing the quickest return towards 2019 totals. By 2021, Travel downloads in North America had nearly reached pre-pandemic levels.

The impact of COVID-19 has had more of a lasting impact in Asia. Game downloads in Asia were still nearly 40 percent higher than prepandemic levels in Q4 2021, while Travel downloads were still down 25 percent.

Note Regarding Download Estimates

Our estimates include worldwide downloads for iPhone, iPad, and Google Play for Jan. 1, 2019 through Dec. 31, 2021.

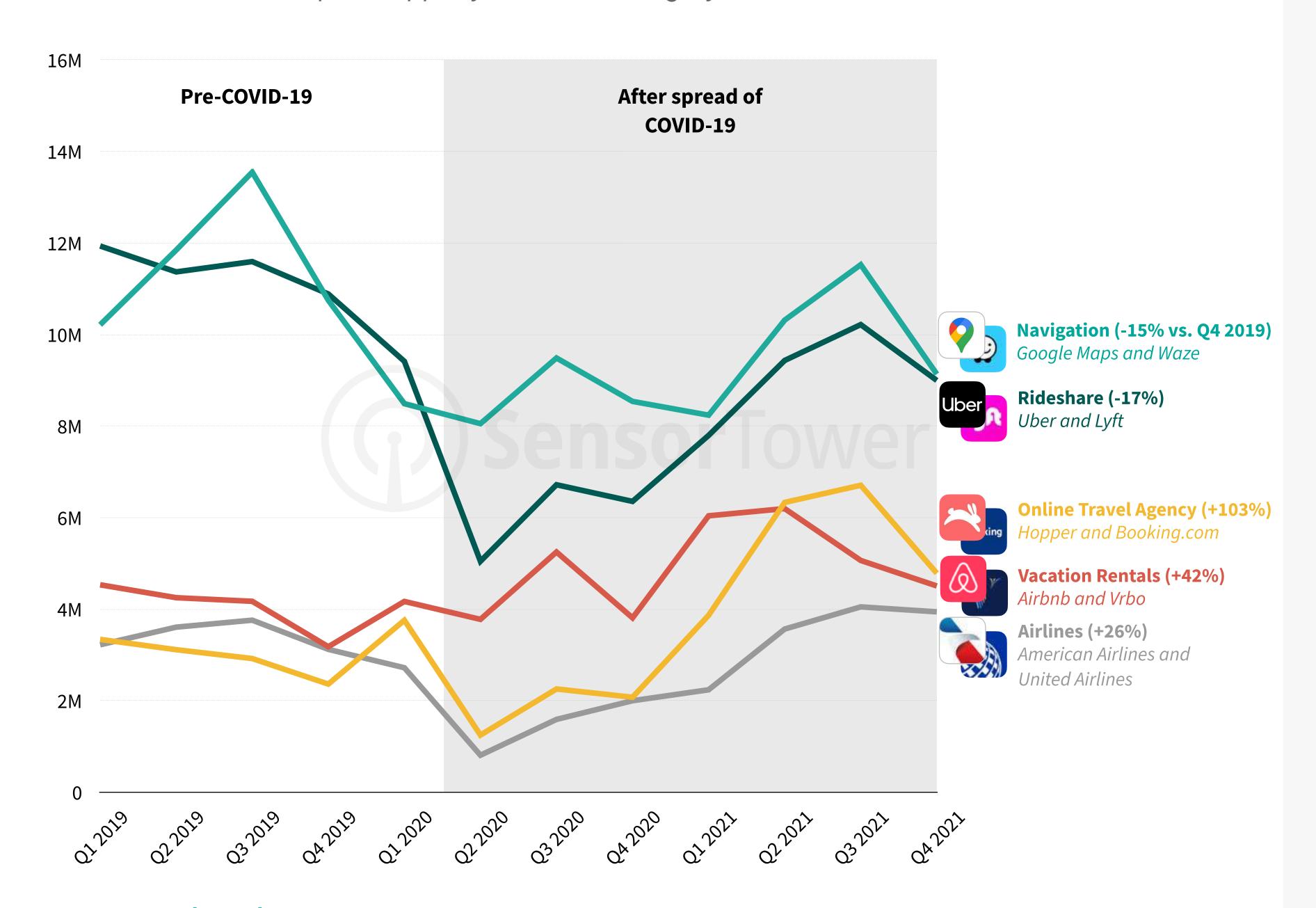
Apple apps and Google pre-installed apps are excluded.

We report unique installs only. Android estimates do not include third-party stores. Download growth is calculated vs. the quarterly average in 2019.



Some Travel Sectors Have Already Returned in the U.S.

U.S. downloads for the top two apps by Travel subcategory



U.S. downloads for the top online travel agency, vacation rentals, and airlines apps have already surpassed pre-pandemic levels.

While some of this success may be unique to only a handful of these apps, it's still a great sign for the return of the travel industry in the U.S.

Navigation and rideshare downloads were still below Q4 2019 totals at the end of 2021.

Still, both subcategories have made substantial gains in the past year.

Note Regarding Download Estimates

Our estimates include worldwide downloads for iPhone, iPad, and Google Play for Jan. 1, 2019 through Dec. 31, 2021.

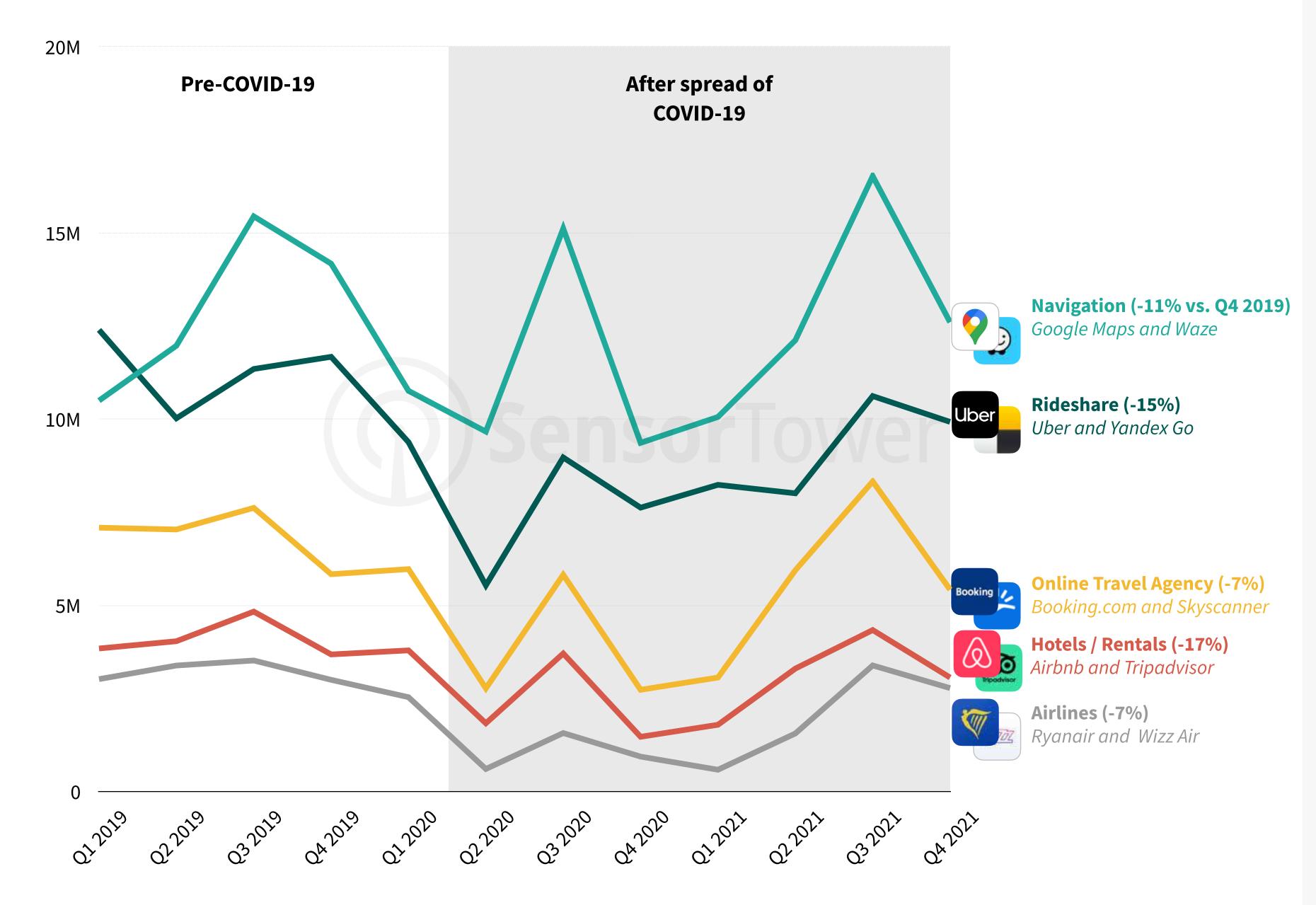
Apple apps and Google pre-installed apps are excluded.

We report unique installs only. Android estimates do not include third-party stores.



European Travel Installs Showed Positive Signs of Recovery

Europe downloads for the top two apps by Travel subcategory



Although installs for top apps in each Travel subcategory remained lower than their totals from two years prior, all saw significant year-over-year growth as travel continues to return.

Downloads for online travel agencies and airlines were down less than 10 percent in Q4 2021 vs. Q4 2019.

Navigation and online travel agencies achieved positive growth in Q3 2021 vs. two years prior amid the peak of summer travel.

Demand for these apps will continue to be impacted by the state of the pandemic in 2022.

Note Regarding Download Estimates

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Apple apps and Google pre-installed apps are excluded.

We report unique installs only. Android estimates do not include third-party stores.



Stories of the Year:

2. Garena Free Fire's Ascent

Garena Free Fire was the top mobile game in 2021 with nearly 250 million downloads. No game has had more installs globally over the past three years.

- Garena Free Fire was the top game by worldwide downloads in 2021 after two straight years in the No. 2 position. Only PUBG Mobile had more downloads in 2019 and Among Us was the top game in 2020.
- Garena Free Fire has also become the top Shooter game by U.S. revenue, ranking fourth among all games in 2021. Its U.S. revenue climbed more than 6X between Q1 2020 and Q4 2021.
- Shooter games have remained regional, with different titles earning the most revenue depending on the market. Garena Free Fire was the top Shooter game by revenue in Thailand, Brazil, and Mexico in addition to the U.S.







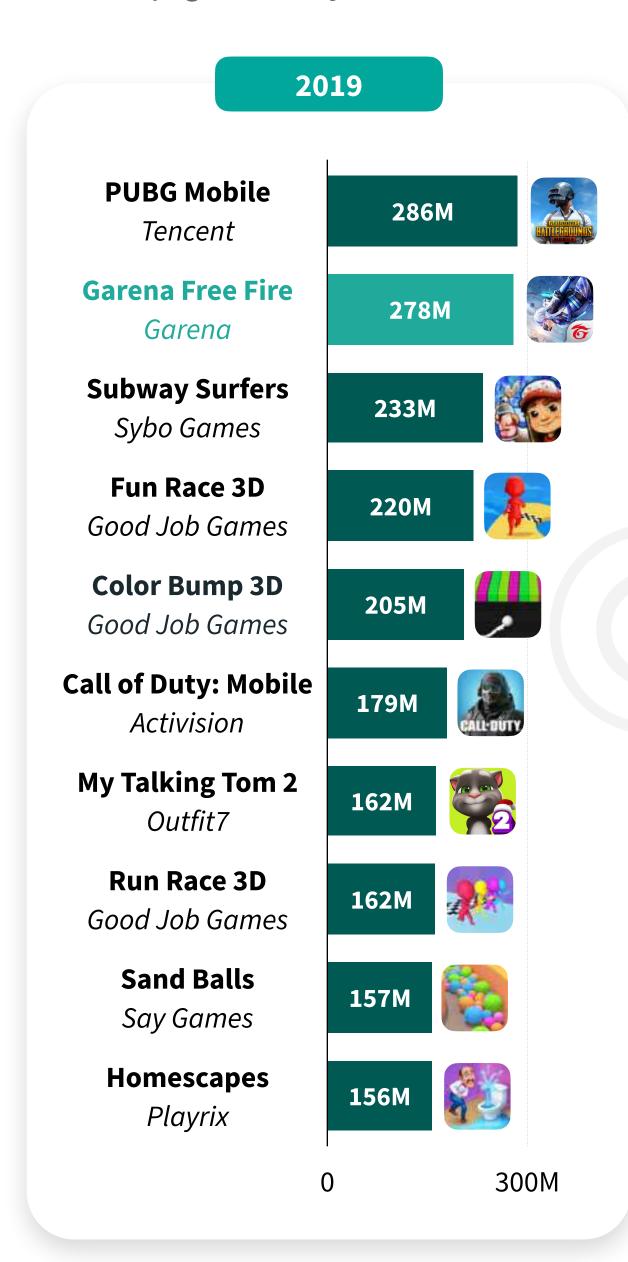
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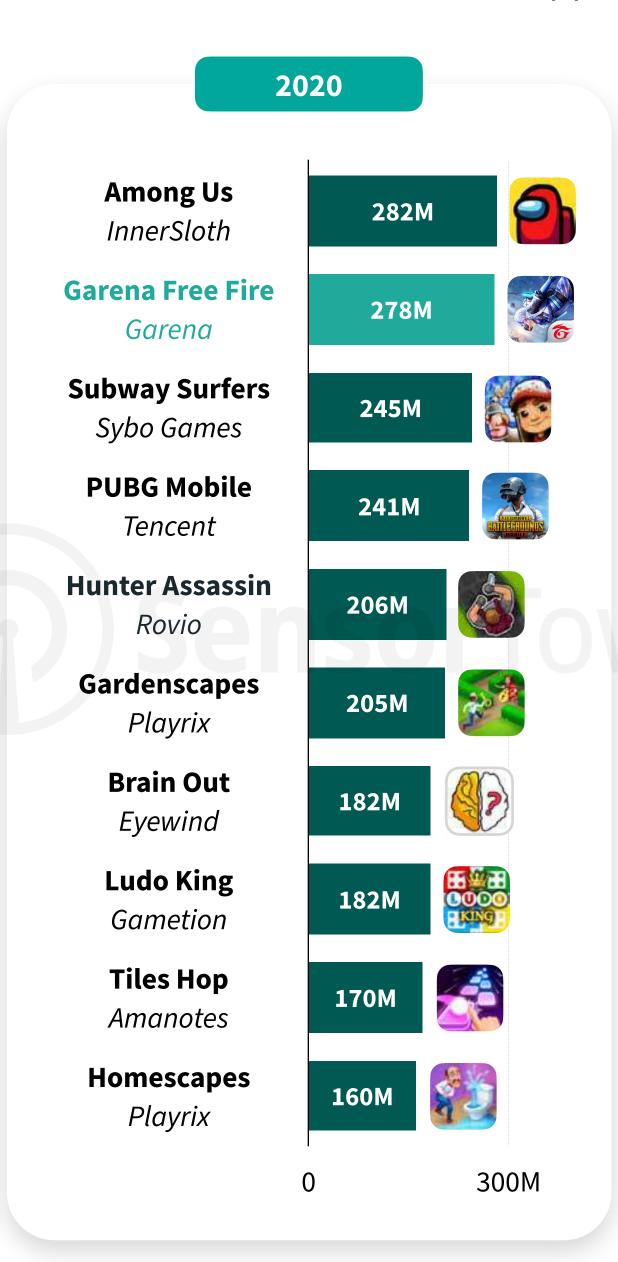
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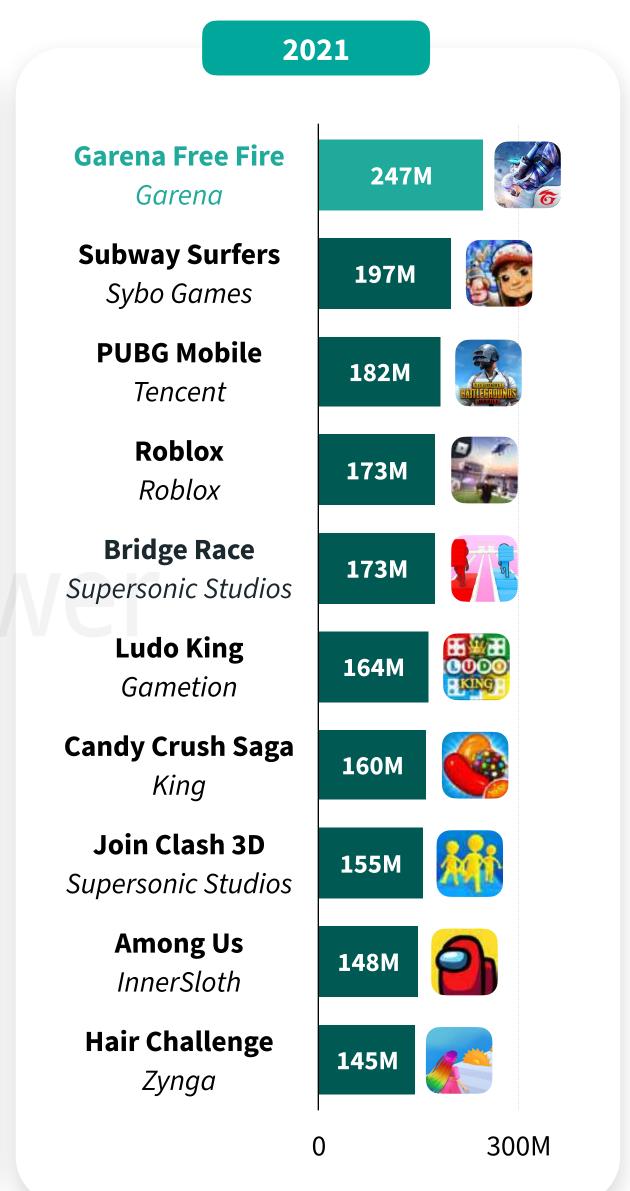


Garena Free Fire Reached the Pinnacle in 2021

Top games by worldwide downloads between 2019 and 2021, App Store and Google Play







Garena Free Fire finally reached the top spot among games by global downloads in 2021 after back-to-back years in the No. 2 position. No game has had more installs since the start of 2019, with Garena Free Fire's 803 million

Garena Free Fire added more than 50 million installs in 2021 with its high resolution version, Garena Free Fire MAX. Its original version accumulated nearly 200 million downloads in 2021.

surpassing PUBG Mobile's 709 million.

Note Regarding Download Estimates

Our estimates include worldwide downloads for iPhone, iPad, and Google Play for Jan. 1, 2019 through Dec. 31, 2021.

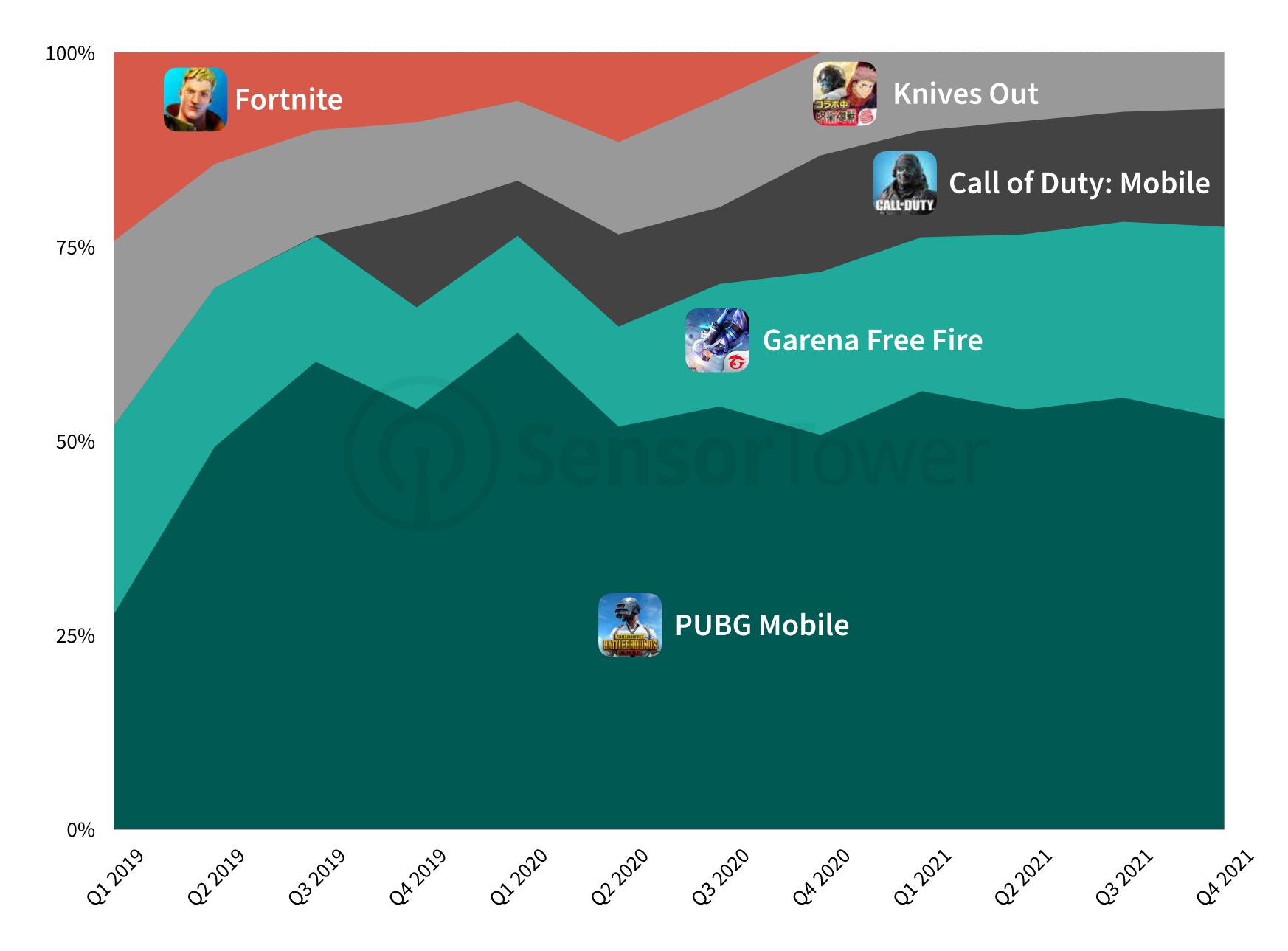
Apple apps and Google pre-installed apps are excluded.

We report unique installs only. Android estimates do not include third-party stores.



Garena Free Fire Gained Shooter Genre Revenue Market Share

Worldwide revenue market share among the top five Shooter games



While PUBG Mobile remained the leader in the Shooter space, Garena Free Fire has steadily gained market share in recent quarters.

Garena Free Fire achieved nearly 25 percent of the revenue among these top games in Q4 2021, up from just 12.5 percent at the start of 2020.

The removal of Fortnite in 2020 left a void in the battle royale market, particularly in the U.S. Since Q3 2020, Garena Free has gained 9 percentage points in market share and Call of Duty: Mobile has gained five points.

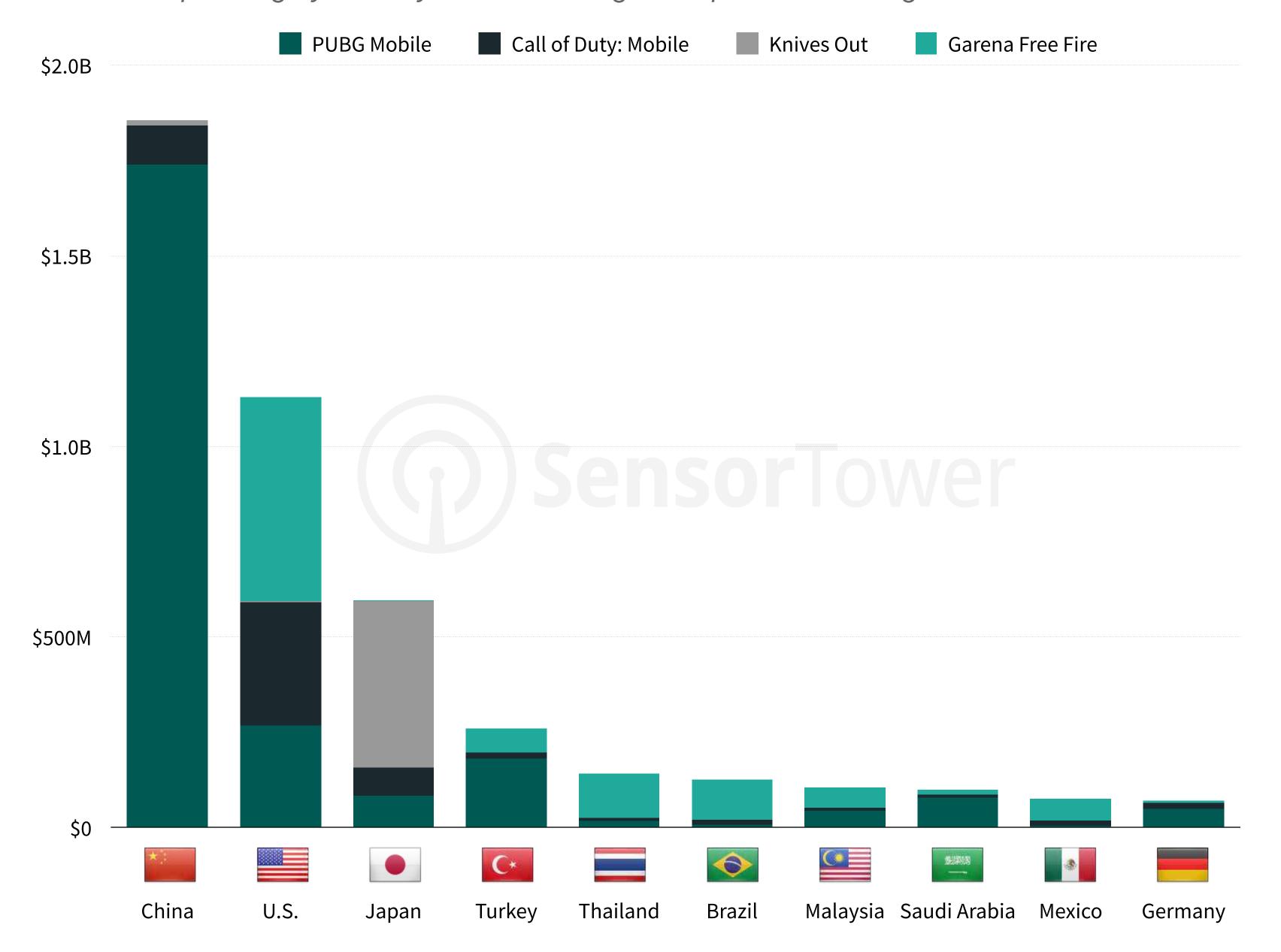
Note Regarding Revenue Estimates

Our estimates include worldwide revenue for iPhone, iPad, and Google Play for Jan. 1, 2019 through Dec. 31, 2021. We report gross revenue (including the cut for Apple or Google). Android estimates do not include third-party stores.



Different Markets Provided Opportunities for Shooter Games

Consumer spending by country in 2021 among the top four Shooter games



PUBG Mobile's success can be largely attributed to China, where the localized version is known as Game for Peace. Garena Free Fire was the top game in the second biggest market, the U.S., while Knives Out was the top Shooter game in Japan.

Garena Free Fire supplemented its U.S. revenue by finding success in markets not typically thought of as high spenders on mobile games. Thailand was its second biggest market, followed by Brazil, Turkey, and Mexico.

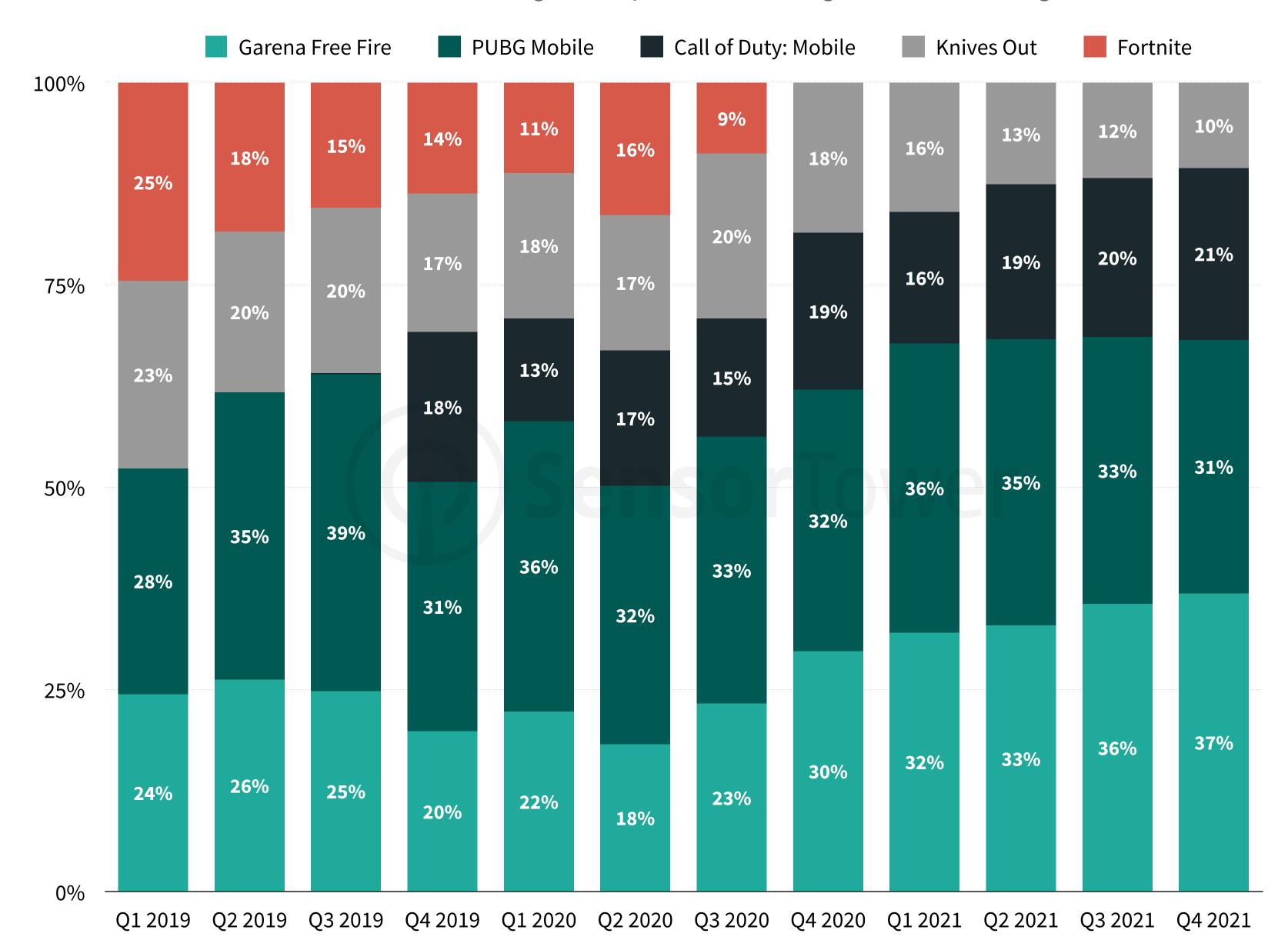
Note Regarding Revenue Estimates

Our estimates include worldwide revenue for iPhone, iPad, and Google Play for Jan. 1, 2021 through Dec. 31, 2021. We report gross revenue (including the cut for Apple or Google). Android estimates do not include third-party stores.



Garena Free Fire Was the Top Shooter Game Outside China

Worldwide revenue market share among the top five Shooter games, excluding China



Garena Free Fire passed PUBG Mobile in global revenue excluding China in Q3 2021. It has become the top game by revenue in western markets, with nearly half of its revenue coming from the U.S. in Q4 2021.

As China continues to hold its spot as the largest market for Shooter games, it is unlikely that Garena Free Fire will surpass PUBG Mobile by worldwide revenue any time soon. Still, its rapid ascent in the U.S. among strong competition is very impressive.

Note Regarding Revenue Estimates

Our estimates include worldwide revenue for iPhone, iPad, and Google Play for Jan. 1, 2019 through Dec. 31, 2021. We report gross revenue (including the cut for Apple or Google). Android estimates do not include third-party stores.



Stories of the Year:

3. The Year of NFTs

In a year where cryptocurrency continued to gain momentum, NFTs emerged as hot new trend. NFTs started to make an impact on the mobile economy by the end of 2021.

- OpenSea, an NFT marketplace app, and VeVe, a digital collectibles trading app, emerged as two of the top new apps in the NFT space. While install totals remained low relative to the overall cryptocurrency space, the rapid growth of these NFT apps in late 2021 is a positive sign for new apps looking to enter the space.
- Top NFT apps were primarily focused on the U.S. in 2021. The U.K. and Canada were also among the top countries by downloads for top NFT apps.
- Some top cryptocurrency apps have also started to add NFT features. Binance began promoting its NFT marketplace in October, and MetaMask benefitted from its position as the crypto wallet app for Mintable.







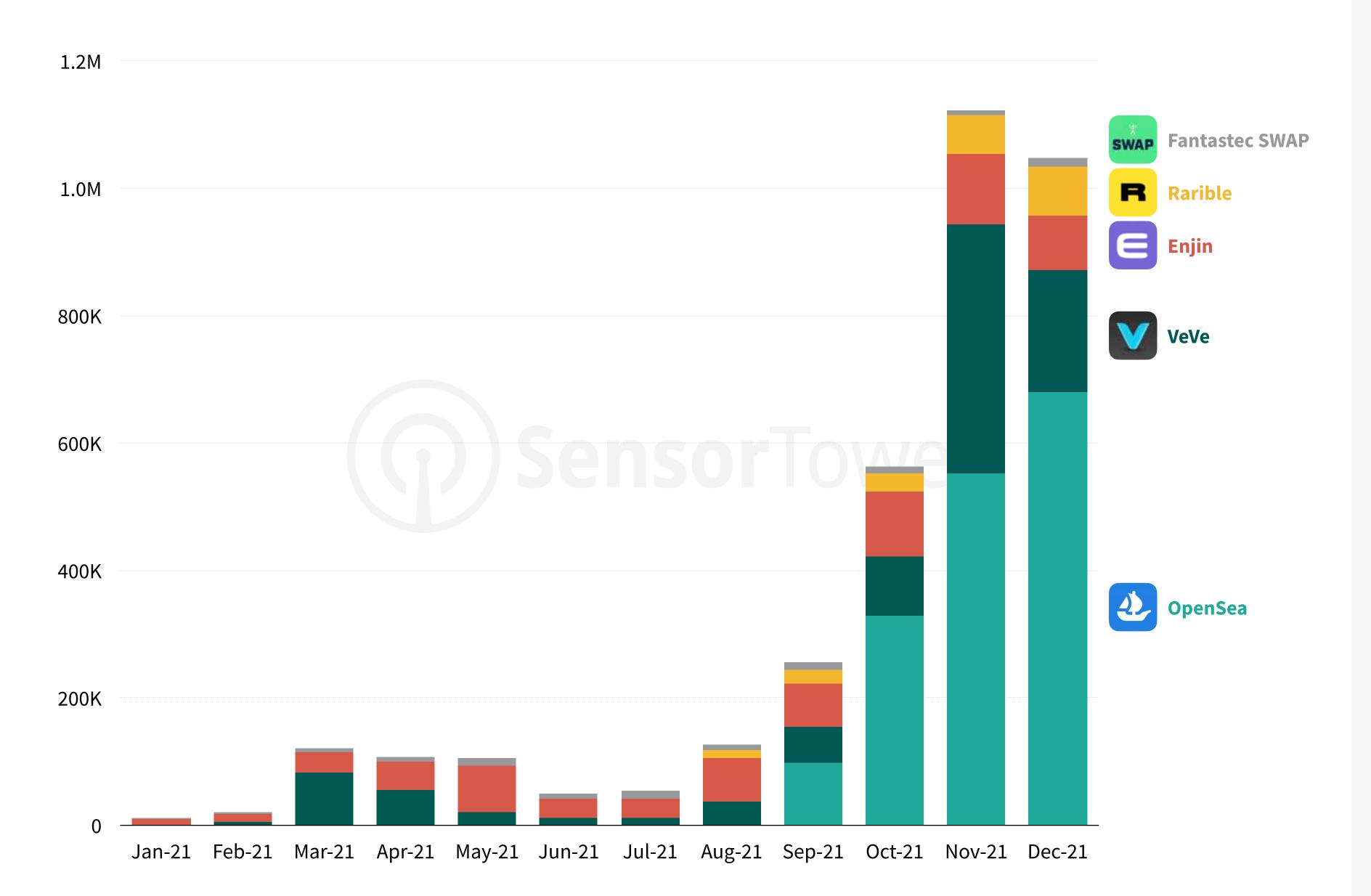
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NFTs Have Begun Their Transition to Mobile

Worldwide downloads for top NFT apps



As NFTs rose to prominence in 2021, some mobile apps focusing on NFTs have started to emerge towards the end of the year. These include NFT discovery apps like OpenSea and Rarible, trading apps like VeVe, and wallet apps like Enjin.

OpenSea has been the top NFT marketplace since it launched in September 2021. While downloads for these apps were still relatively low compared to the overall cryptocurrency space, expect the market to continue to gain popularity in 2021.

Note Regarding Download Estimates

Our estimates include worldwide downloads for iPhone, iPad, and Google Play for Jan. 1, 2021 through Dec. 31, 2021.

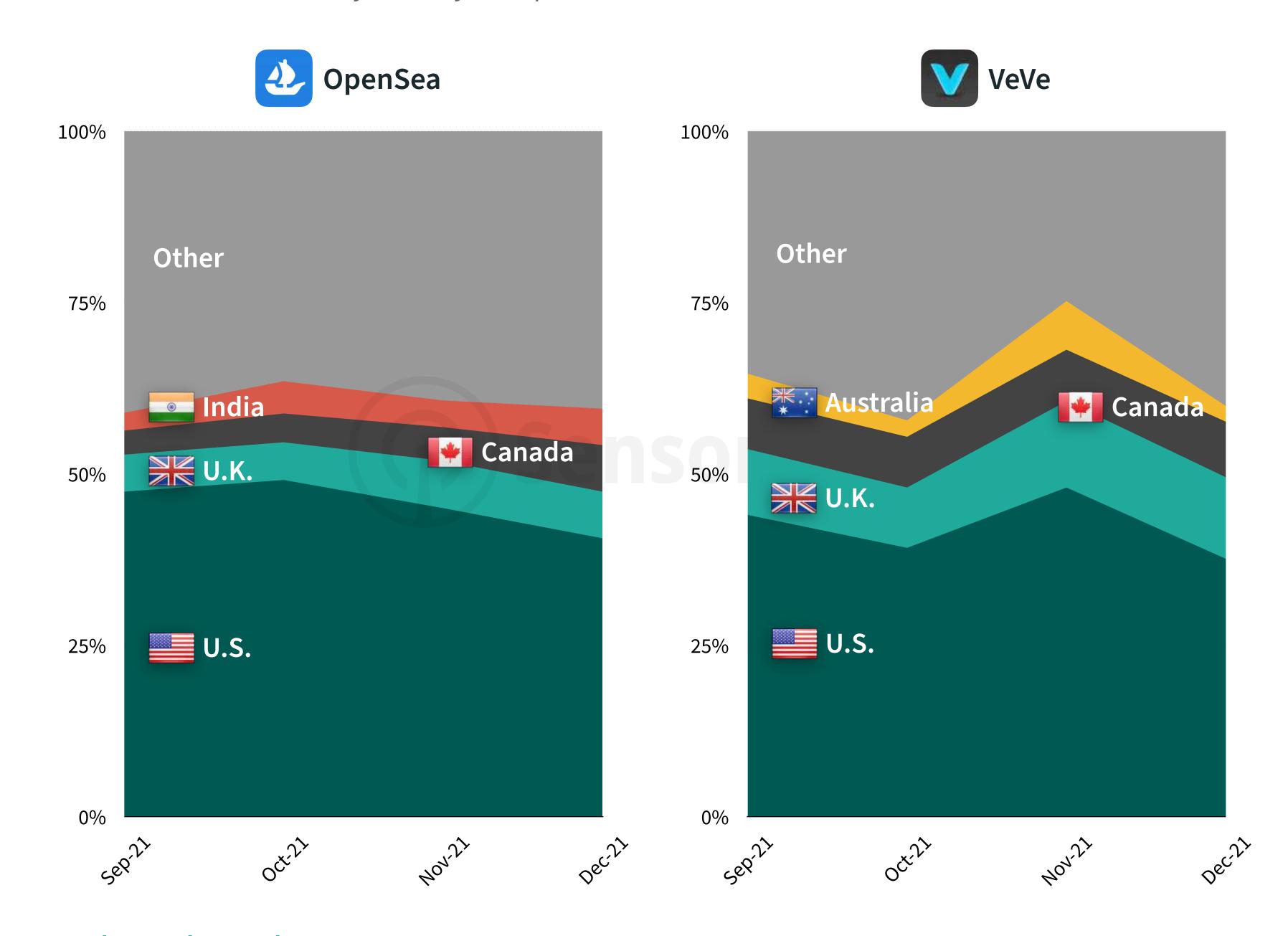
Apple apps and Google pre-installed apps are excluded.

We report unique installs only. Android estimates do not include third-party stores. This analysis includes five apps with features for NFTs.



NFT Apps Focused on the U.S. in 2021

Download market share by country for OpenSea and VeVe



Early downloads trends for OpenSea and VeVe suggest that top NFT apps are still primarily focused on only a few top markets. The U.S. accounted for more than 40 percent of installs for both apps, with the U.K. and Canada as the two next largest markets.

It will be interesting to monitor whether these apps attempt to expand in other markets in 2022. VeVe's in-app revenue was even more concentrated in the U.S., with the country accounting for more than 60 percent.

Note Regarding Download Estimates

Our estimates include worldwide downloads for iPhone, iPad, and Google Play for Sep. 1, 2021 through Dec. 31, 2021.

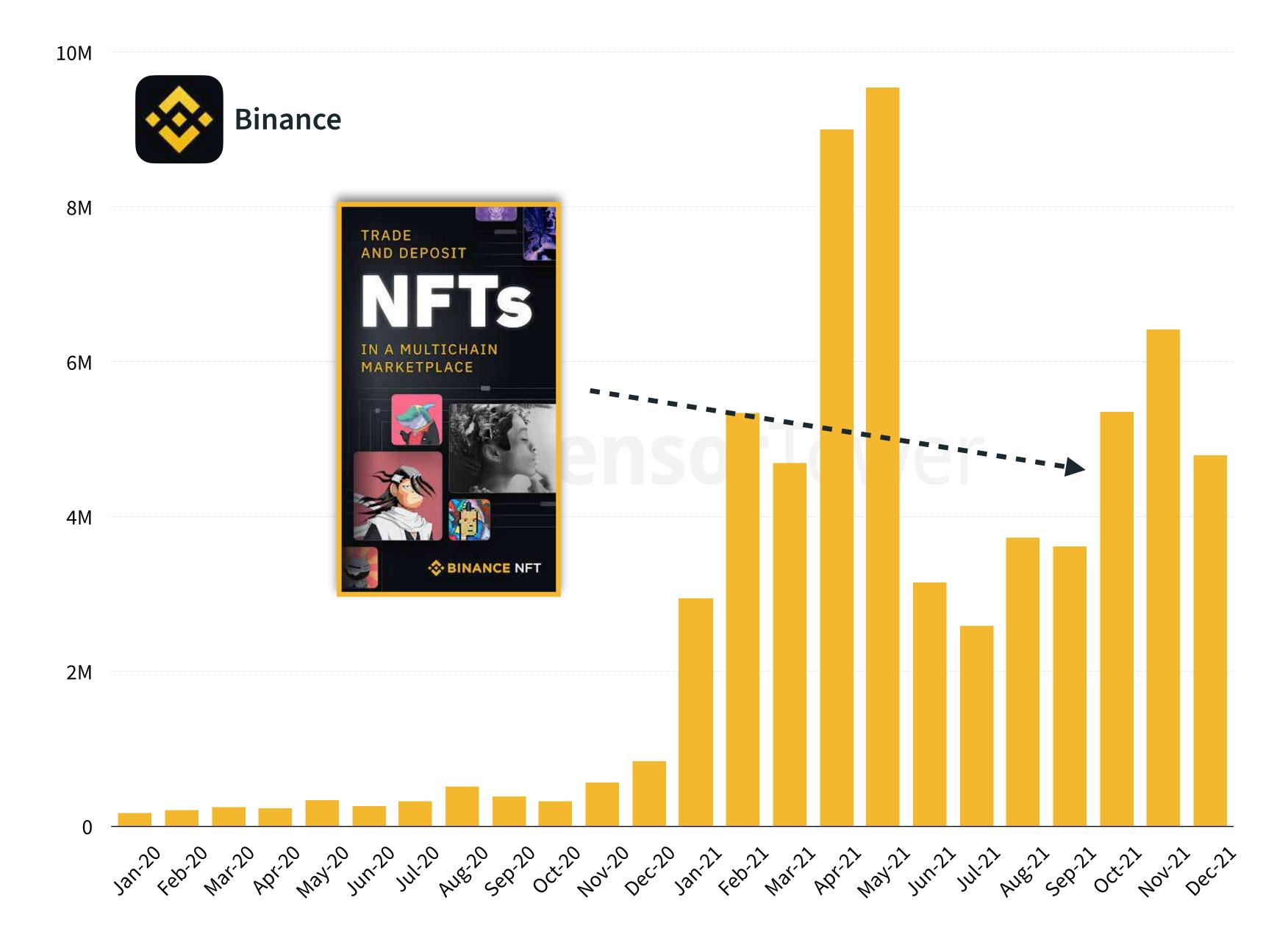
Apple apps and Google pre-installed apps are excluded.

We report unique installs only. Android estimates do not include third-party stores.



Top Cryptocurrency Apps Embraced NFTs

Monthly worldwide downloads for Binance, App Store and Google Play



Binance, the top cryptocurrency app in the world, started to advertise its Binance NFT marketplace in its Android version in October 2021. It also mentioned NFTs in its app name and later added a related screenshot.

Binance has seen higher downloads since the addition of NFTs, though it's worth noting that this trend is similar to other top cryptocurrency apps. NFTs may not be a huge driver of installs yet, but top cryptocurrency companies are still clearly paying attention to it in such a competitive and ever-evolving space.

Note Regarding Download Estimates

Our estimates include worldwide downloads for iPhone, iPad, and Google Play for Jan. 1, 2020 through Dec. 31, 2021.

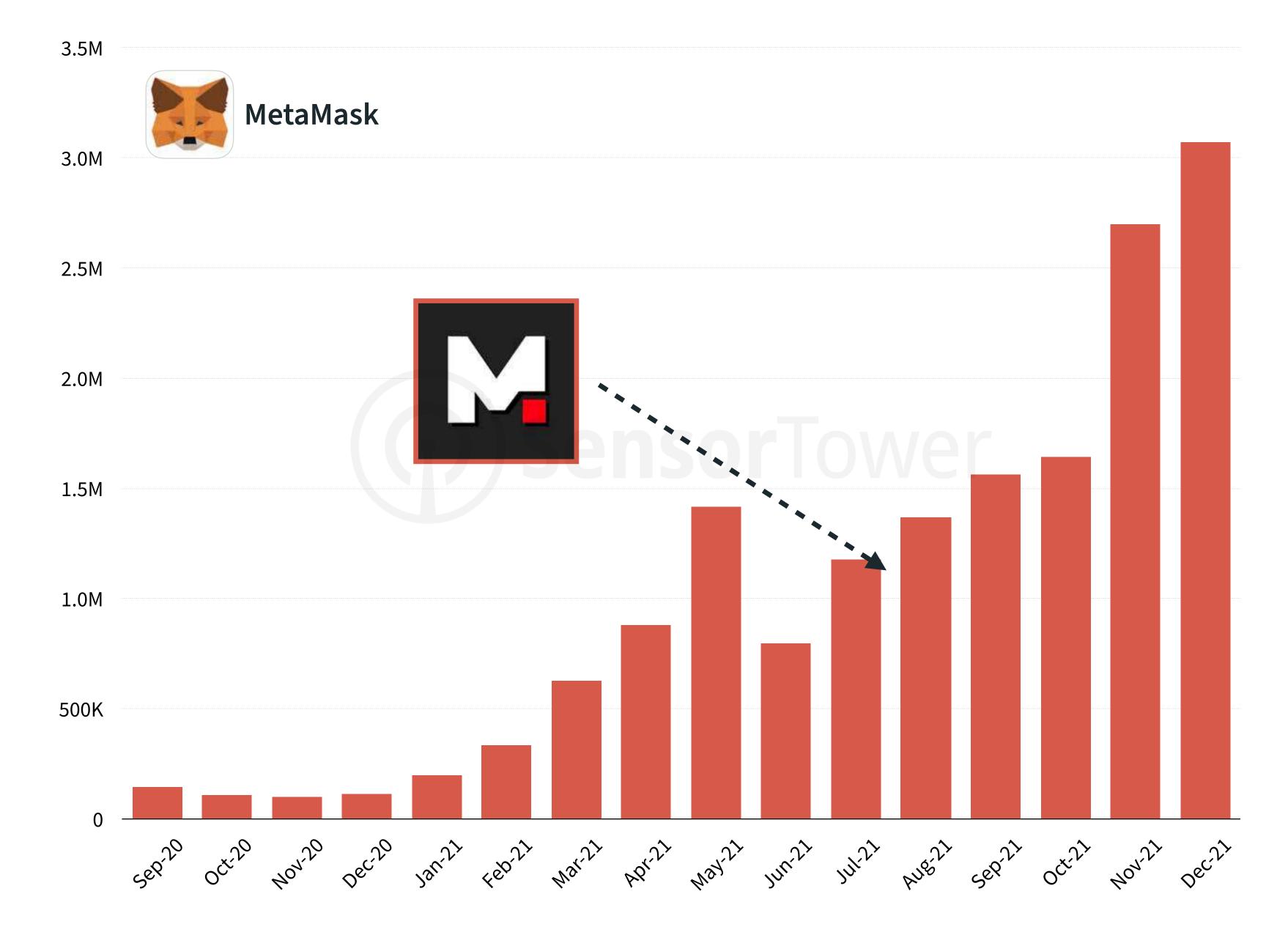
Apple apps and Google pre-installed apps are excluded.

We report unique installs only. Android estimates do not include third-party stores.



MetaMask Has Seen Rapid Growth Alongside Mintable

Monthly worldwide downloads for MetaMask, App Store and Google Play



MetaMask has seen rapid growth in 2021, ranking as a top five cryptocurrency app by downloads in Q4 2021. Some of this success may be attributed to the popularity of the NFT marketplace Mintable, which requires MetaMask as its crypto wallet.

A portion of MetaMask's growth is likely caused by cryptocurrency trends unrelated to NFTs. However, partnerships with NFT marketplaces are still good opportunities for cryptocurrency apps to differentiate themselves in a competitive market.

Note Regarding Download Estimates

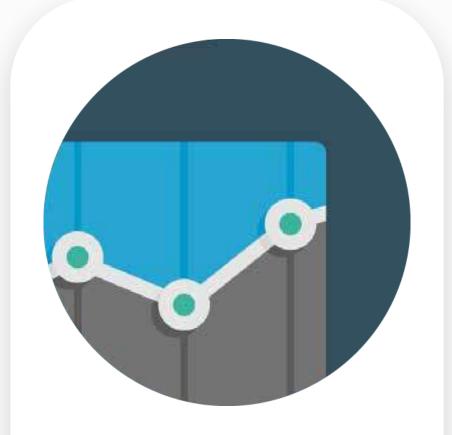
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Apple apps and Google pre-installed apps are excluded.

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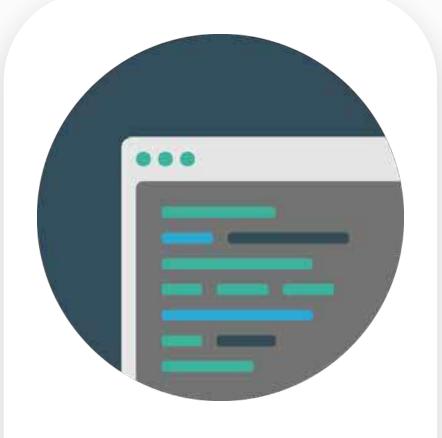


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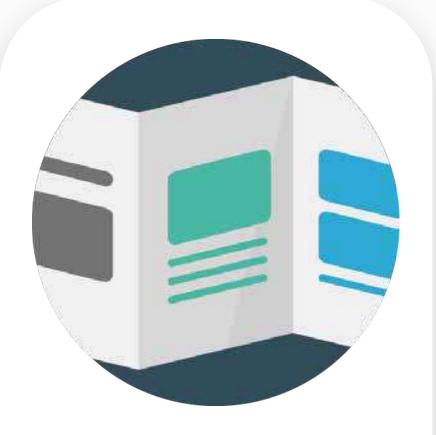
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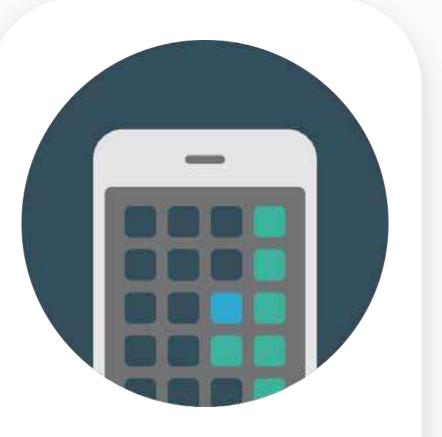
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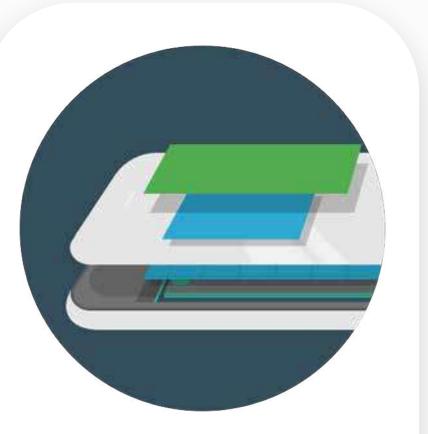
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crucial mobile
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apps are using and
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Sensor Tower is the leading solution for mobile marketers, app developers, and industry analysts who demand competitive insights on the mobile economy. Sensor Tower's product suite includes: Top Charts, App Intelligence, Store Intelligence, Ad Intelligence, Usage Intelligence, and Consumer Intelligence.

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