ACTIVATE TECHNOLOGY & MEDIA OUTLOOK 2023

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11 Takeaways from the Activate Technology & Media Outlook 2023

Time and Attention: User time spent with technology and media jumped during the pandemic by almost an hour, and that level has largely been sustained. More consumer time will lead to new opportunities to grow revenues and build new businesses.

eCommerce and Marketplaces: By 2026, we forecast that 20% of retail sales in the U.S. will be through eCommerce. The growth will be fueled by large eCommerce players as well as category-focused businesses across all consumer categories. Even high-ticket categories such as automotive, jewelry, and furniture will accelerate their move online. A number of consumer trends including interest and adoption of re-commerce, livestream shopping, BNPL (Buy Now, Pay Later), and shopping memberships will be growth accelerators.

Video: TikTok will be one of the most disruptive forces, not only in video but also in messaging, search, and eCommerce. Consumer time in streaming and social video will surpass that of television. The streaming wars will intensify, leading to bundled offerings of streaming services to lower acquisition costs and churn, increased spend on originals, advertising-supported tiers, and focus on international growth – all to drive subscriber growth and profitability.

Gaming and Esports: Video gaming is a mainstream behavior appealing to a diverse array of users, from habitual gamers who embrace gaming as a lifestyle to occasional gamers. Habitual Gamers will be the earliest adopters of the Metaverse as they already take advantage of opportunities for immersive activities within games today.

NFTs: The consumer use cases for NFTs will move away from speculative investments into more tangible use cases, rooted in community, loyalty, and collecting. We estimate that NFT revenues globally have already exceeded $23B in 2022 and we forecast continued growth in the coming years.

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11 Takeaways from the Activate Technology & Media Outlook 2023

Metaverse: Most of the foundational elements of the Metaverse are already here in video games. Over 300M people are spending a large part of their lives in Metaverse virtual worlds. People and companies cannot stand by and wait for the Metaverse to happen. Now is the time for sustained development and investment in practical applications. There will be vast opportunities for companies who can be part of the “interoperability layer.” Super Users are the “Metaverse Natives” and will lead the way to the Metaverse for gamers and non-gamers alike. To scale, most experiences will be in 2D as we forecast that global sales of VR and AR headsets will grow to 44M units by 2026.

Audio: Digital audio will lead to more time and spend on music and more advertising for podcasts. Most people are using multiple music services. TikTok is reshaping how users discover and engage with music. In-person live event revenue will surpass pre-COVID-19 levels, and virtual live events are here to stay. Podcasts are one of the fastest growing user behaviors and will reach nearly 160M U.S. listeners by 2026.

Sports and Sports Betting: Sports fan consumption and engagement is in a transitional period – a new generation of consumers is emerging, live sports are moving to streaming, and sports betting is becoming an increasingly prevalent consumer behavior.

Digital Fitness: Consumer adoption of digital fitness technologies has significantly increased since the COVID-19 outbreak. We forecast that this growth will continue, reaching a combined $30B in revenue by 2026, up from $23B today. Going forward, virtual reality will enhance digital fitness experiences in the Metaverse.

Super Users: It will be critical for technology and media companies to identify, reach, and super-serve Super Users, who account for 22% of the population and heavily over-index on time and dollar spend. Super Users are “Metaverse Natives,” with over 80% having used a Metaverse platform over the last 12 months.

Technology and Media Revenues: We forecast over $400B in global spend by 2026, as consumers continue to spend on technology and media through economic uncertainty.

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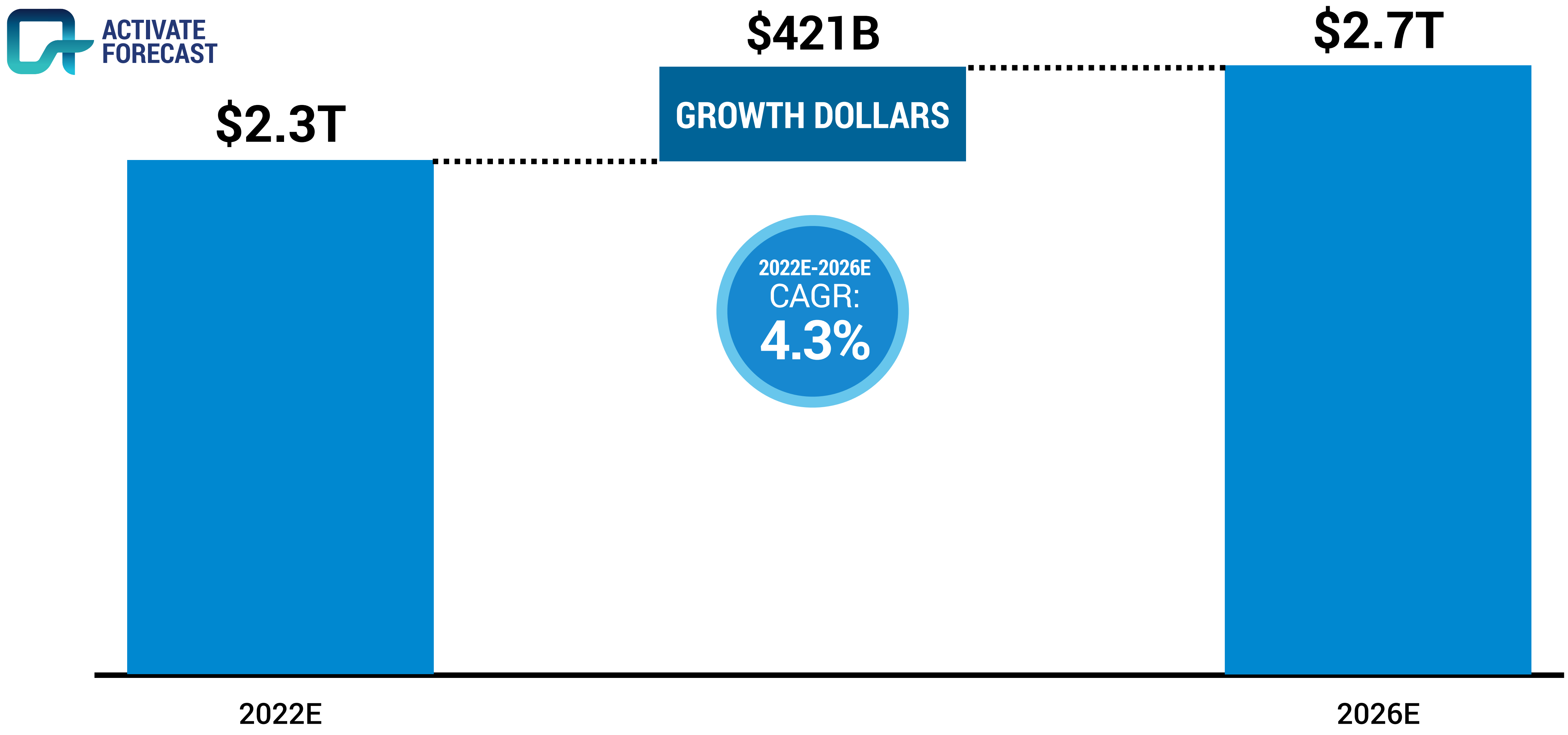
We forecast significant growth ahead for the global internet and media industries, with more than $400B in growth between 2022 and 2026

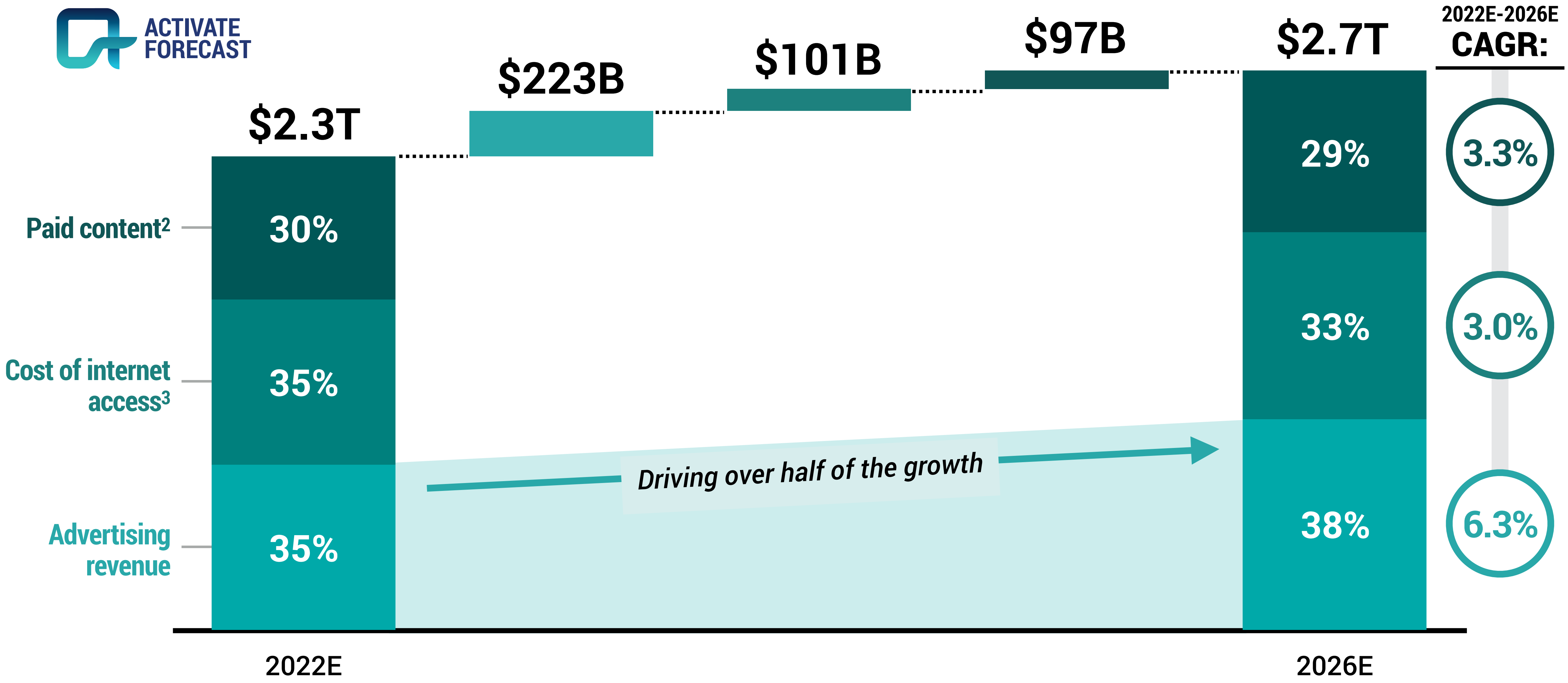
INTERNET AND MEDIA REVENUES[1], GLOBAL, 2022E VS. 2026E, USD



1. "Internet and media revenues" include radio subscription and licensing fees, recorded music, magazine publishing, newspaper publishing, video games, filmed entertainment, book publishing, TV subscription and licensing fees, internet access, digital advertising, and traditional advertising on these platforms.
Sources: Activate analysis, Alliance for Audited Media, Dentsu International, eMarketer, GroupM, IBISWorld, Newzoo, Omdia, Pew Research Center, PricewaterhouseCoopers, Zenith Media

Global advertising spend will drive more than half of the growth

INTERNET AND MEDIA REVENUE[1] GROWTH BY SEGMENT, GLOBAL, 2022E VS. 2026E, USD



1. "Internet and media revenues" include radio subscription and licensing fees, recorded music, magazine publishing, newspaper publishing, video games, filmed entertainment, book publishing, TV subscription and licensing fees, internet access, digital advertising, and traditional advertising on these platforms. 2. "Paid content" includes radio subscription and licensing fees, recorded music, magazine publishing, book publishing, newspaper publishing, video games, TV subscription and licensing fees, and filmed entertainment. 3. "Internet access" includes fixed broadband, wireless, and mobile internet access.
Sources: Activate analysis, Alliance for Audited Media, Dentsu International, eMarketer, GroupM, IBISWorld, Newzoo, Omdia, Pew Research Center, PricewaterhouseCoopers, Zenith Media

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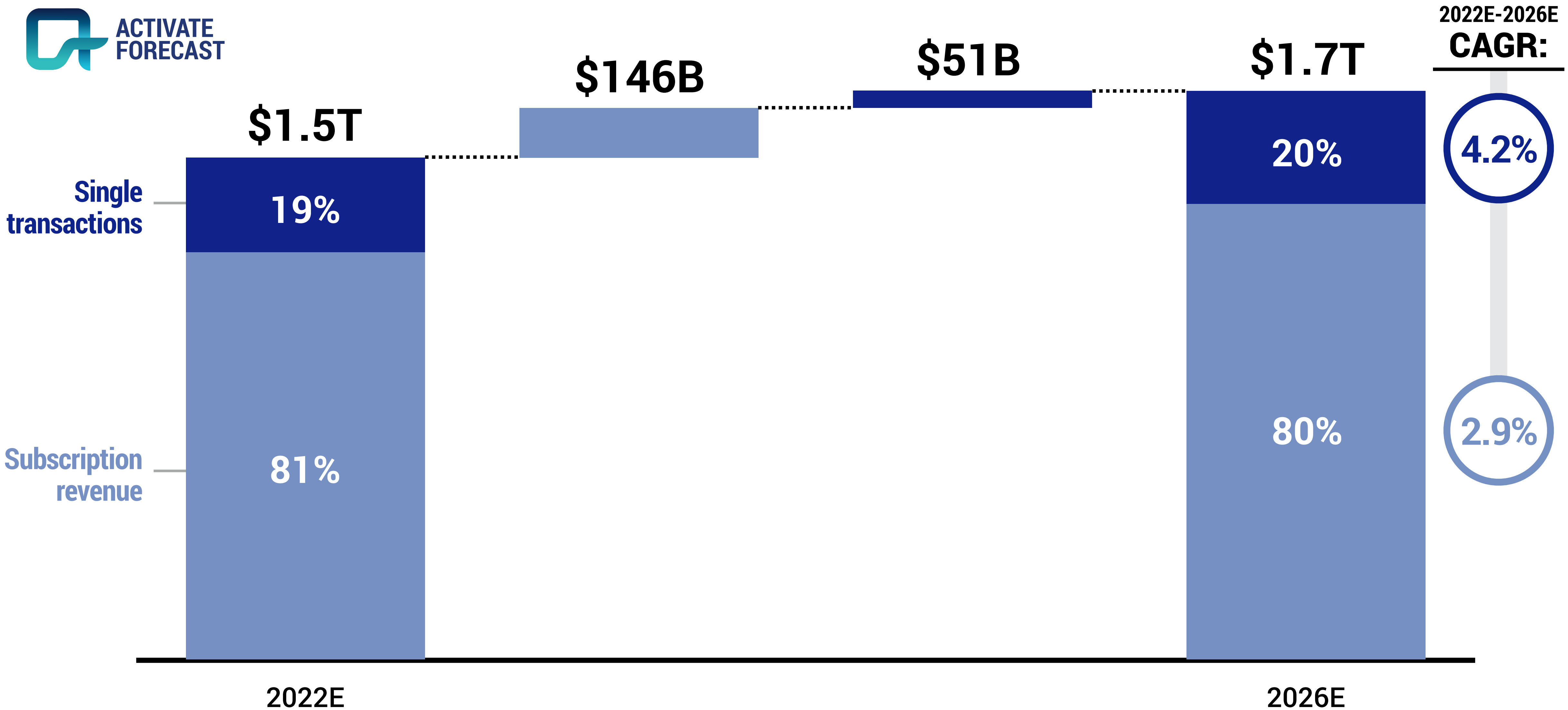
In terms of consumer spending, subscriptions will add $146B in growth dollars and single transactions will add $51B

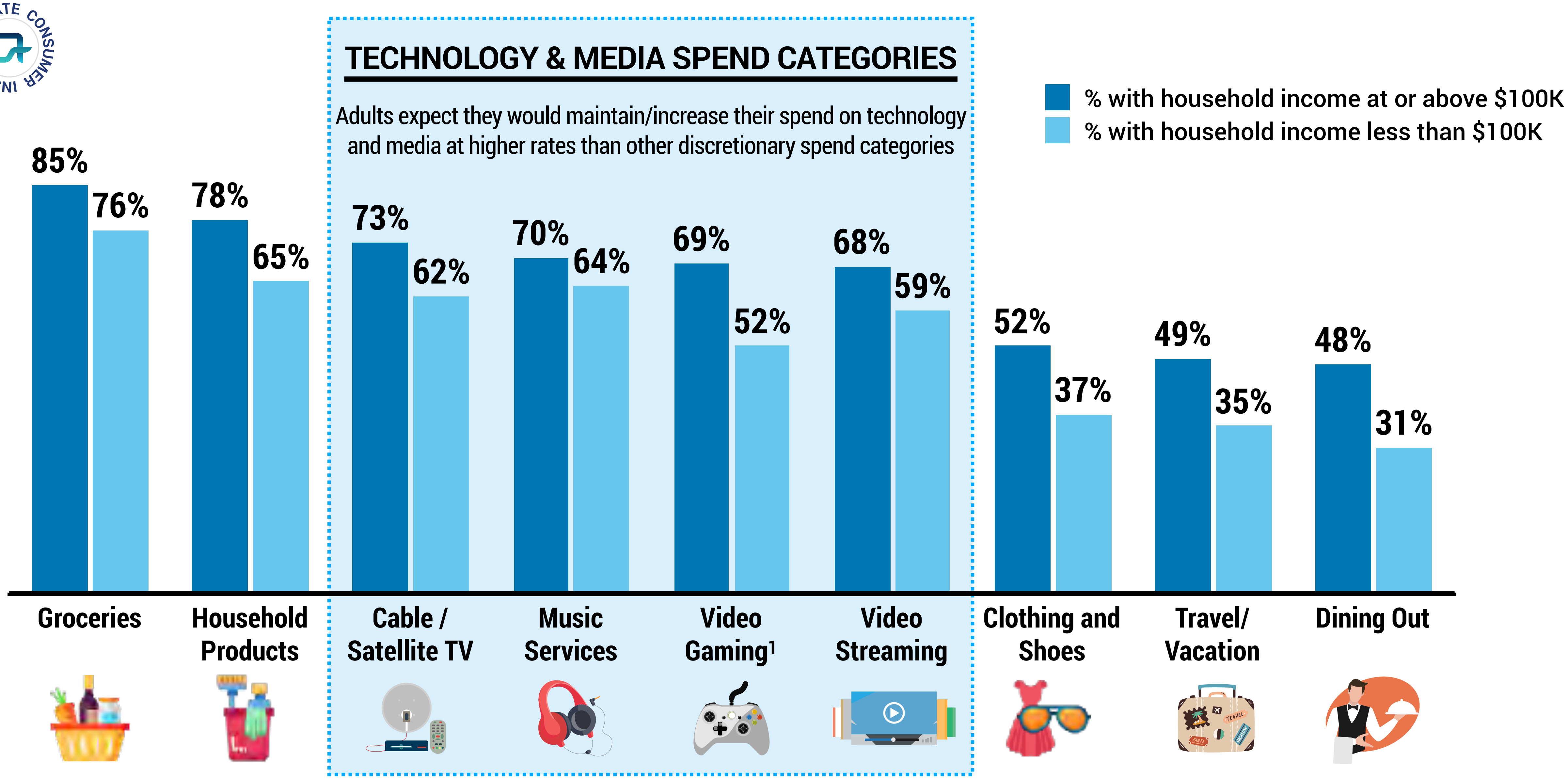
CONSUMER INTERNET AND MEDIA REVENUE[1] GROWTH BY REVENUE MODEL, GLOBAL, 2022E VS. 2026E, USD



1. "Consumer internet and media revenues" include radio subscription and licensing fees, recorded music, magazine publishing, newspaper publishing, video games, filmed entertainment, book publishing, TV subscription and licensing fees, and internet access.
Sources: Activate analysis, Alliance for Audited Media, Dentsu International, eMarketer, GroupM, IBISWorld, Newzoo, Omdia, Pew Research Center, PricewaterhouseCoopers, Zenith Media

In response to economic uncertainty, most consumers anticipate they would maintain their spend on technology and media; adults with household incomes above $100K are more likely to maintain/increase their spend

EXPECTATION TO MAINTAIN OR INCREASE SPEND IN RESPONSE TO ECONOMIC UNCERTAINTY BY CATEGORY,
U.S., 2022, % ADULTS AGED 18+ WHO CURRENTLY SPEND IN EACH CATEGORY



1. "Video gaming" excludes spend on hardware and devices.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

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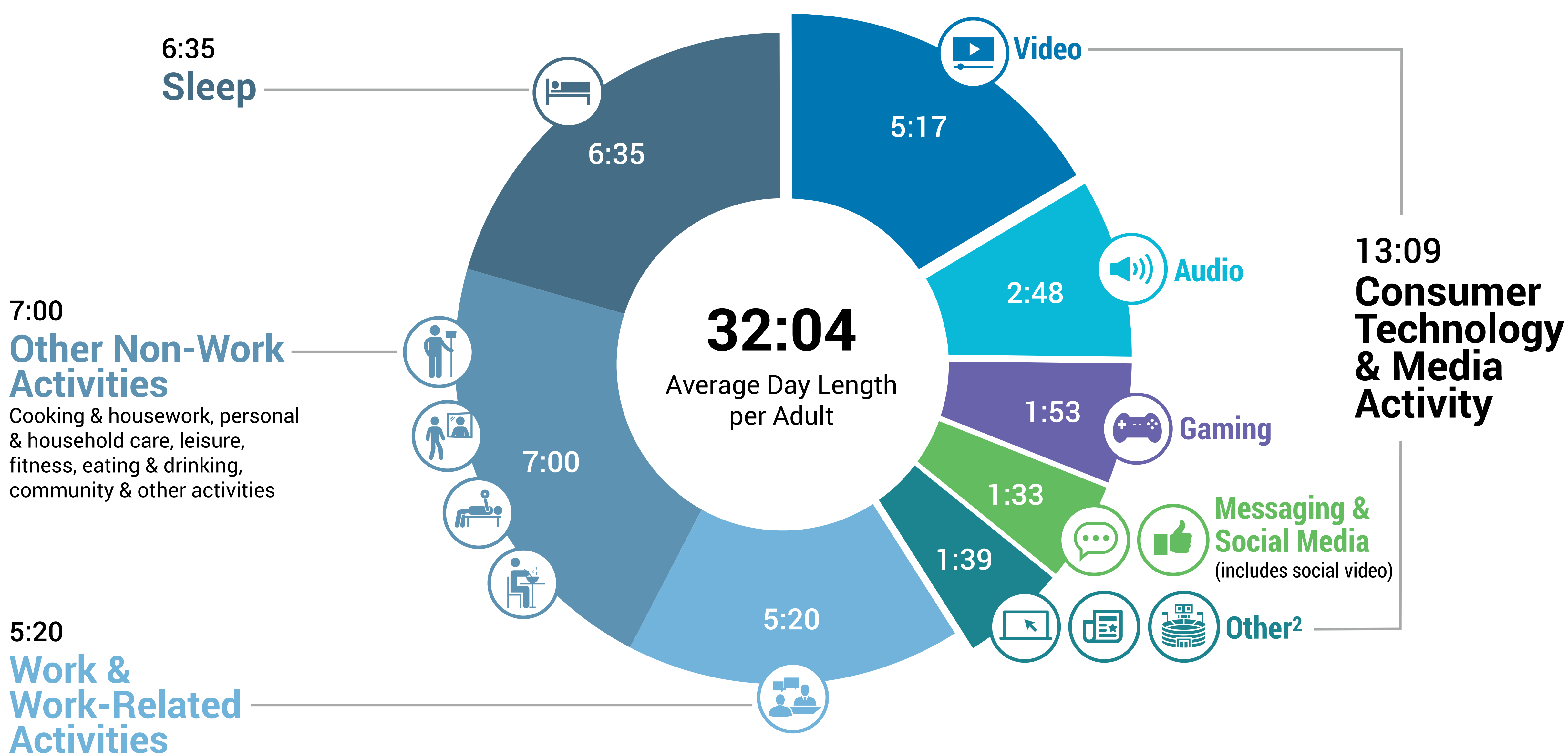
Activate's Attention Clock: Our analysis of consumer technology and media activity shows that multitasking leads to a 32-hour day for the average American, with over 13 hours spent using technology and media

AVERAGE DAY BY ACTIVITY PER ADULT AGED 18+[1], U.S., 2021, HOURS:MINUTES

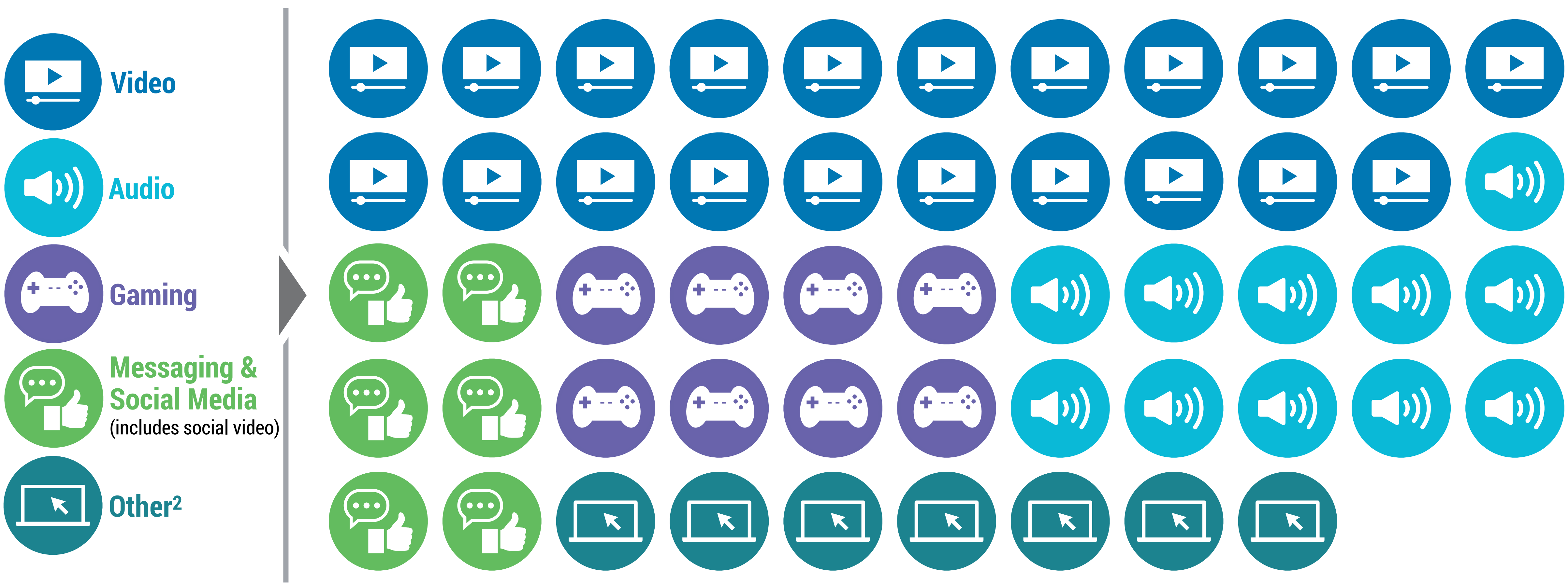


1. Behaviors averaged over 7 days. Figures do not sum due to rounding. 2 "Other" includes media activities outside of the listed categories, such as browsing websites, reading, and attending live events.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Company filings, Comscore, Conviva, Edison Research, eMarketer, Gallup, GWI, Interactive Advertising Bureau, Music Biz, National Sleep Foundation, Newzoo, Nielsen, NPD Group, Pew Research Center, U.S. Bureau of Labor Statistics, YouGov

Video captures the largest share of consumers' daily time spent with technology and media

AVERAGE DAILY TECHNOLOGY AND MEDIA ATTENTION PER ADULT AGED 18+[1], U.S., 2021, 15-MINUTE INTERVALS

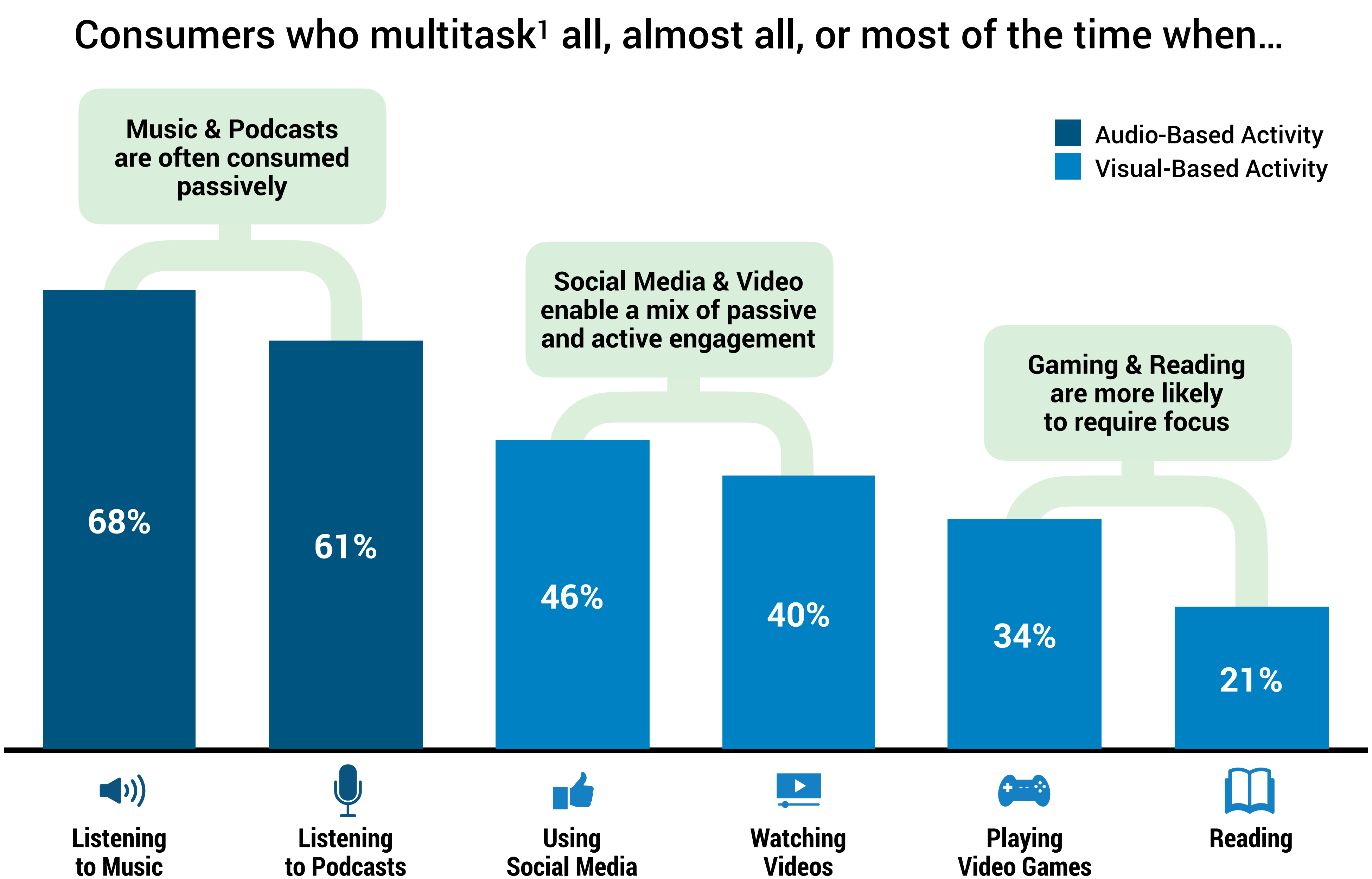
An average 13-hour technology and media day in 15-minute intervals



1. Behaviors averaged over 7 days. Values rounded to the nearest whole 15-minute increment. 2. "Other" includes media activities outside of the listed categories, such as browsing websites, reading, and attending live events.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Company filings, Comscore, Conviva, eMarketer, GWI, Music Biz, Newzoo, Nielsen, NPD Group, Pew Research Center, U.S. Bureau of Labor Statistics

Multitasking is a prevalent behavior among consumers and explains the growth in time spent with technology and media

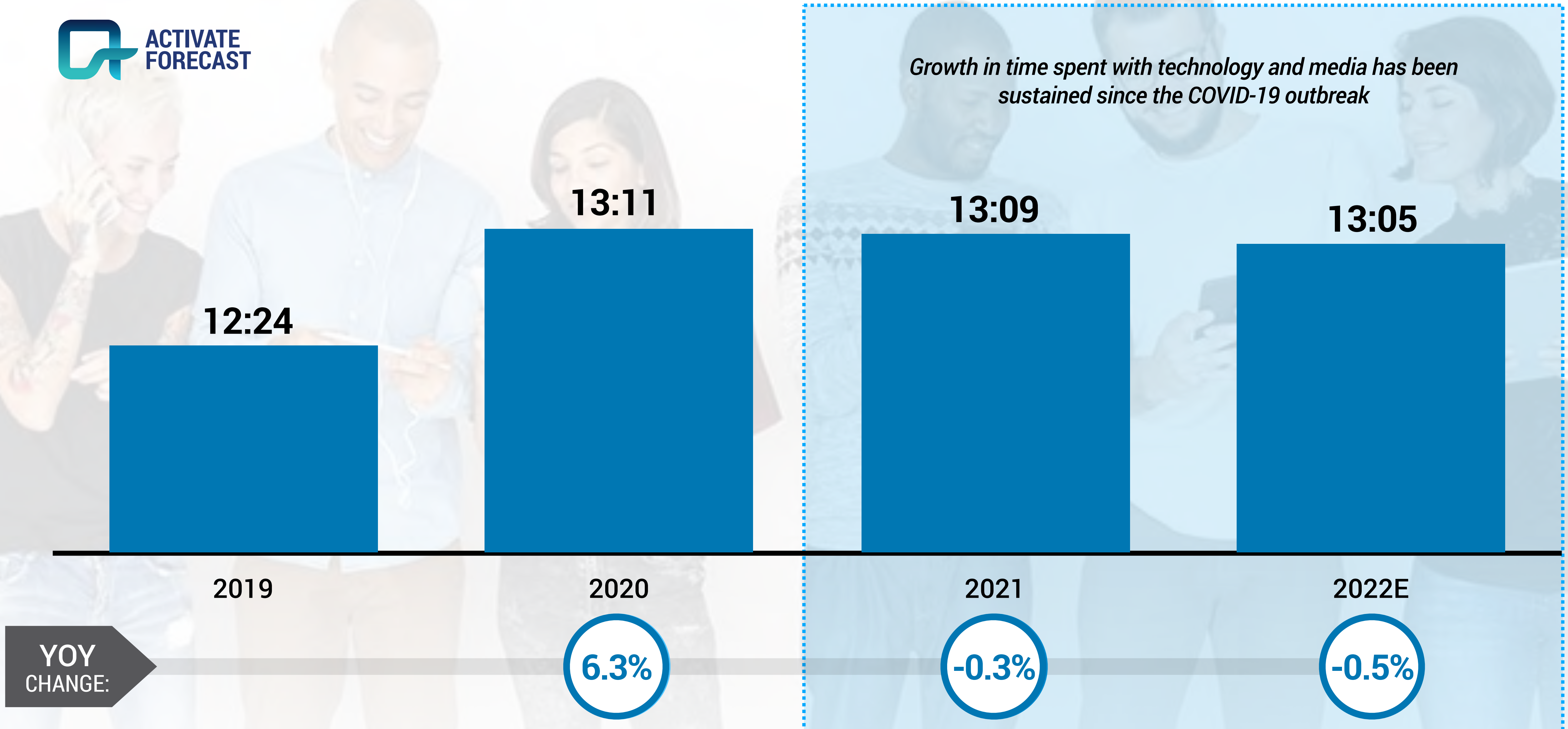
MULTITASKING[1] BEHAVIOR BY ACTIVITY, U.S., 2022, % ADULTS AGED 18+ WHO ENGAGE IN EACH ACTIVITY



1. "Multitasking" is defined as simultaneously doing another activity, such as working, cleaning, cooking, or exercising.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

The growth in daily time spent with technology and media since the COVID-19 spike has largely been sustained

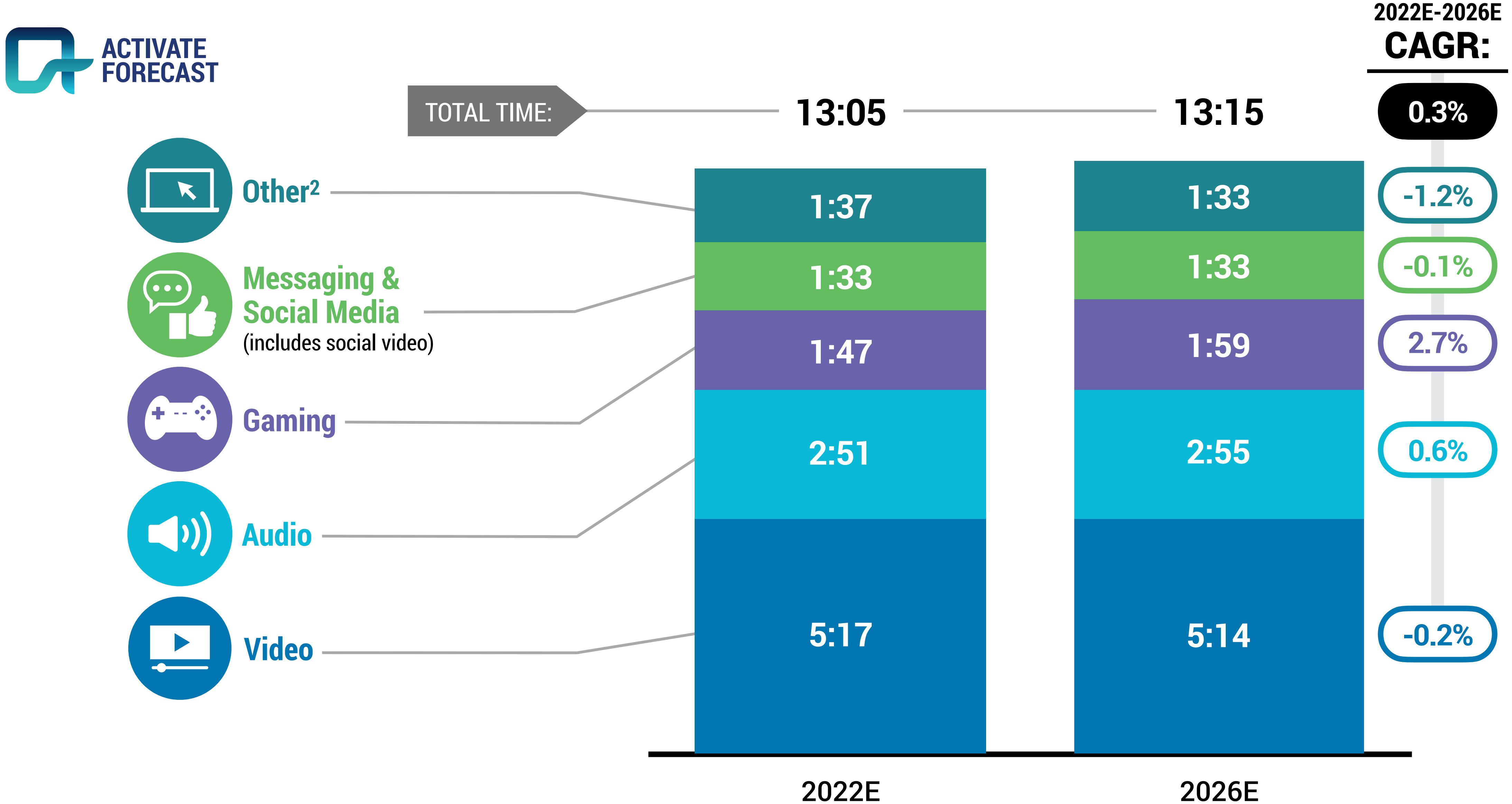
AVERAGE DAILY TECHNOLOGY AND MEDIA ATTENTION PER ADULT AGED 18+[1], U.S., 2019-2022E, HOURS:MINUTES



1. Behaviors averaged over 7 days.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Company filings, Comscore, Conviva, eMarketer, GWI, Music Biz, Newzoo, Nielsen, NPD Group, Pew Research Center, U.S. Bureau of Labor Statistics

We forecast that gaming will lead the growth in consumer daily time spent with technology and media over the next four years

AVERAGE DAILY TECHNOLOGY AND MEDIA ATTENTION PER ADULT AGED 18+[1], U.S., 2022E VS. 2026E, HOURS:MINUTES



1. Behaviors averaged over 7 days. Figures do not sum due to rounding. 2. "Other" includes media activities outside of listed categories, such as browsing websites, reading, and attending live events.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Company filings, Comscore, Conviva, eMarketer, GWI, Music Biz, Newzoo, Nielsen, NPD Group, Pew Research Center, U.S. Bureau of Labor Statistics

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Over the next years, the imperative for technology and media companies will be to identify, reach, and super-serve Super Users – the single group of power users whose time and spend far surpass those of other users

Super Users account for a disproportionately large share of time and spend across all major media and technology verticals, including video, gaming, music, podcasts, messaging and social media, eCommerce, Metaverse, live events, mobile data, and more

The key challenge and opportunity for technology and media companies will be to **successfully target these consumers, and capture their time and spend, through unique and personalized experiences**

Source: Activate analysis

Representing 22% of the U.S. population, Super Users spend more than double the amount of time consuming media as all other users

AVERAGE DAILY TIME SPENT WITH MEDIA PER USER[1], U.S., 2022E, % ADULTS AGED 18+ / HOURS:MINUTES

1. Includes time spent watching video, playing video games, listening to music, listening to podcasts, and using messaging / social media services. Does not account for multitasking.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Company filings, Comscore, Conviva, eMarketer, GWI, Music Biz, Newzoo, Nielsen, NPD Group, Pew Research Center, U.S. Bureau of Labor Statistics

Super Users spend substantially more time engaging in all major media activities than all other users

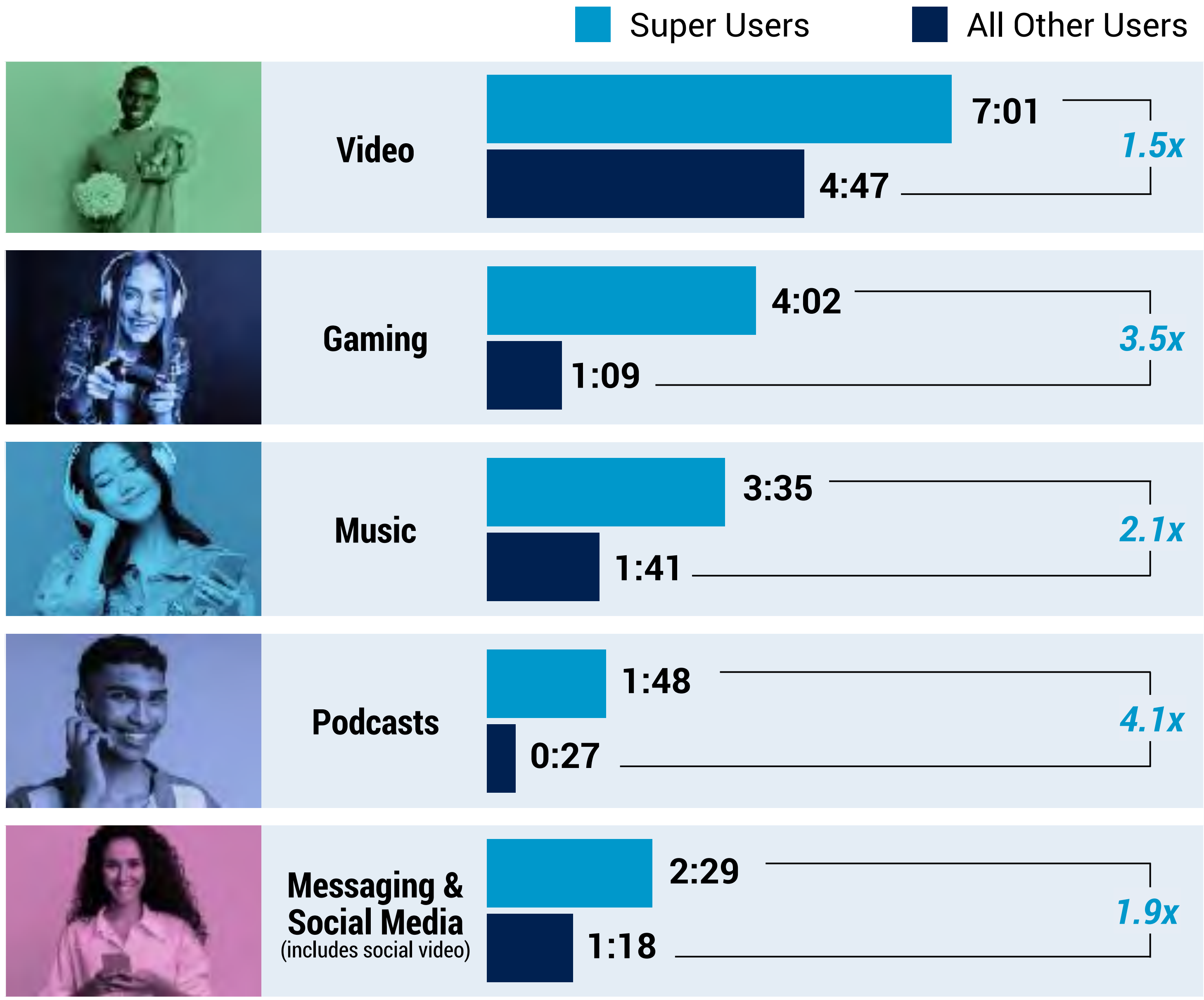
AVERAGE DAILY TIME SPENT PER USER BY MEDIA TYPE, U.S., 2022E, HOURS:MINUTES

SUPER USERS

18:55
Total Hours[1]

ALL OTHER USERS

9:21
Total Hours[1,2]

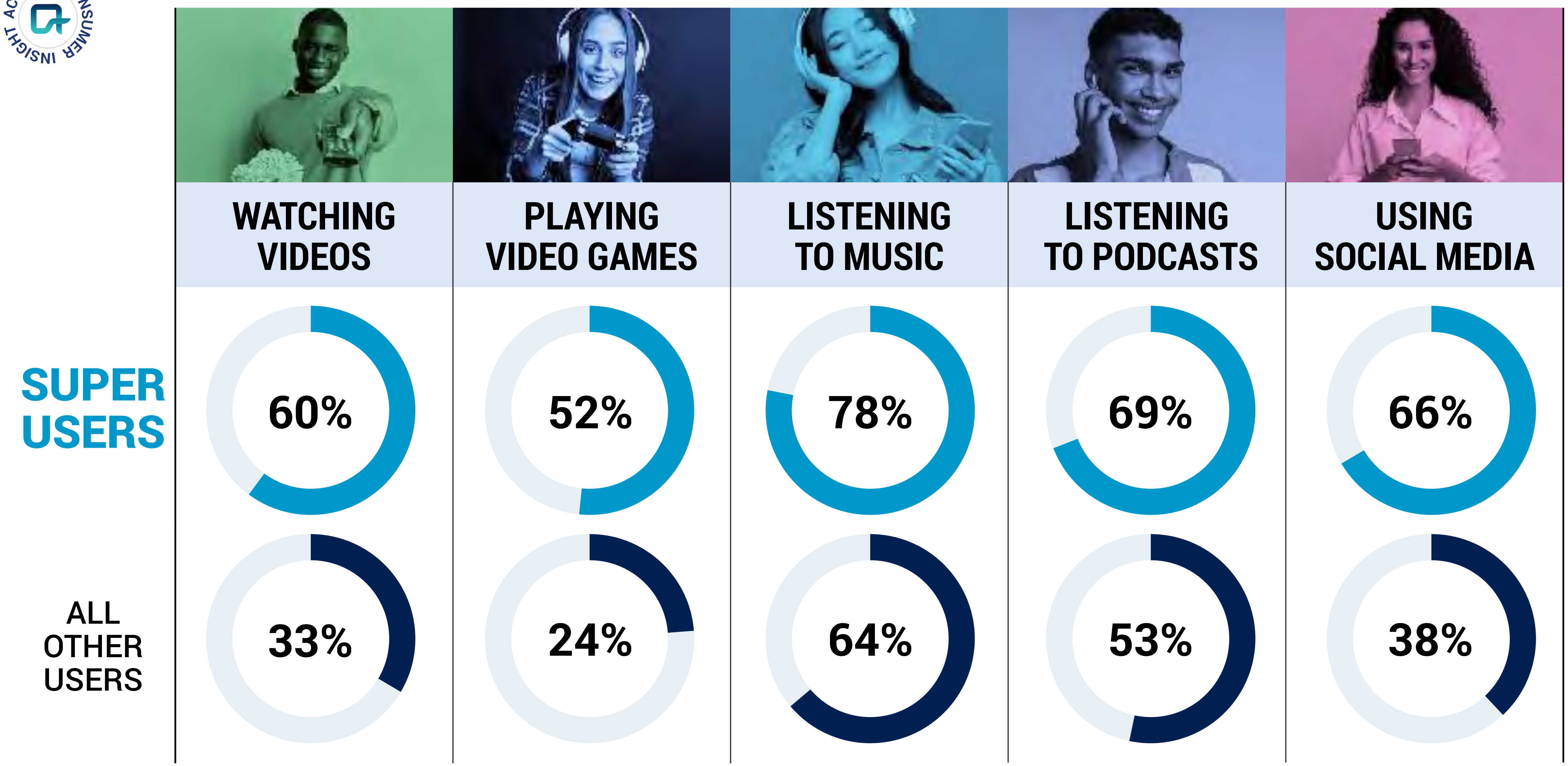


1. "Total hours" do not account for multitasking. 2. Figures do not sum due to rounding.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Company filings, Comscore, Conviva, eMarketer, GWI, Music Biz, Newzoo, Nielsen, NPD Group, Pew Research Center, U.S. Bureau of Labor Statistics

Across all major media activities, Super Users are significantly more likely to multitask, enabling them to spend more overall time with media

MULTITASKING[1] BEHAVIOR BY MEDIA ACTIVITY, U.S., 2022, % ADULTS AGED 18+ WHO ENGAGE IN EACH ACTIVITY

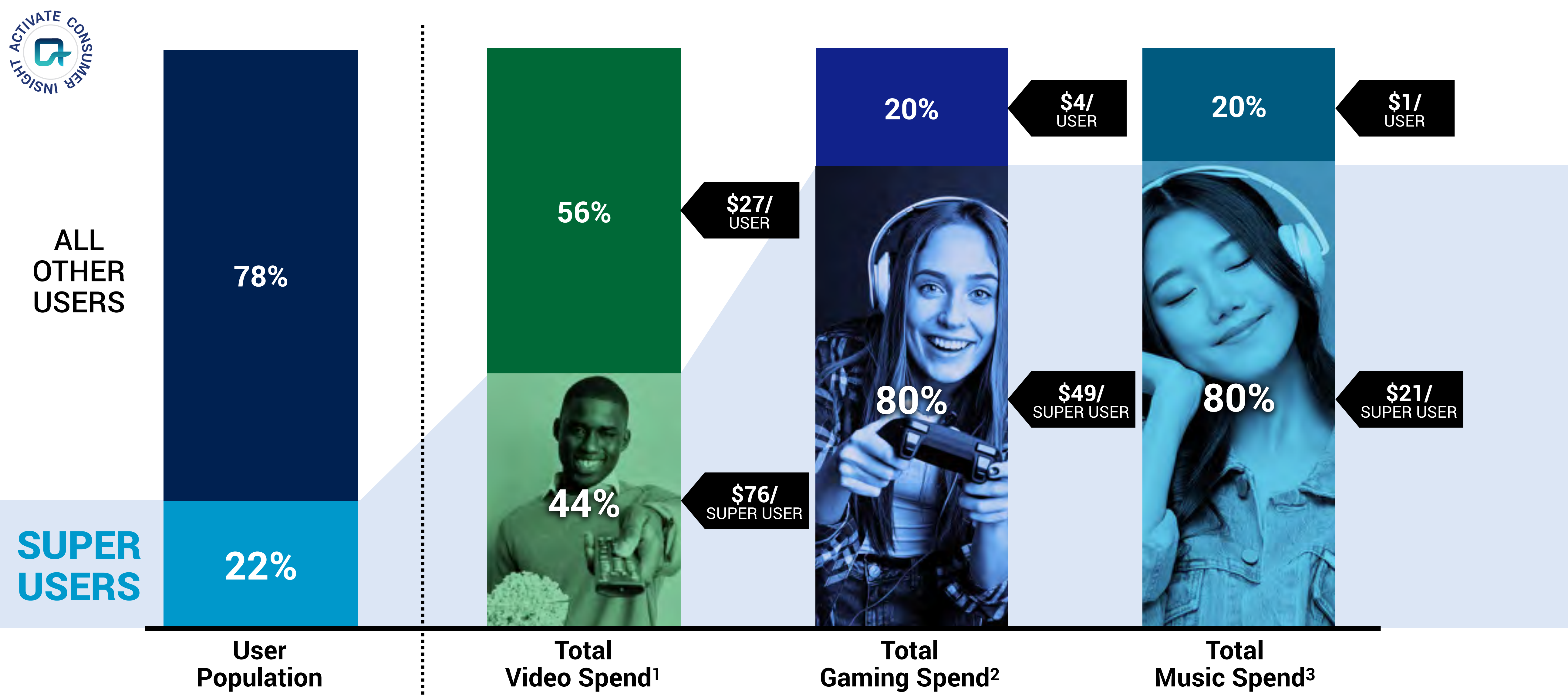
CONSUMERS WHO MULTITASK[1] ALL, ALMOST ALL, OR MOST OF THE TIME WHEN…



1. "Multitasking" is defined as simultaneously doing another activity, such as working, cleaning, cooking, or exercising.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

Commensurate with the amount of time they spend with media, Super Users account for a disproportionately high share of dollar spend across video, gaming, and music

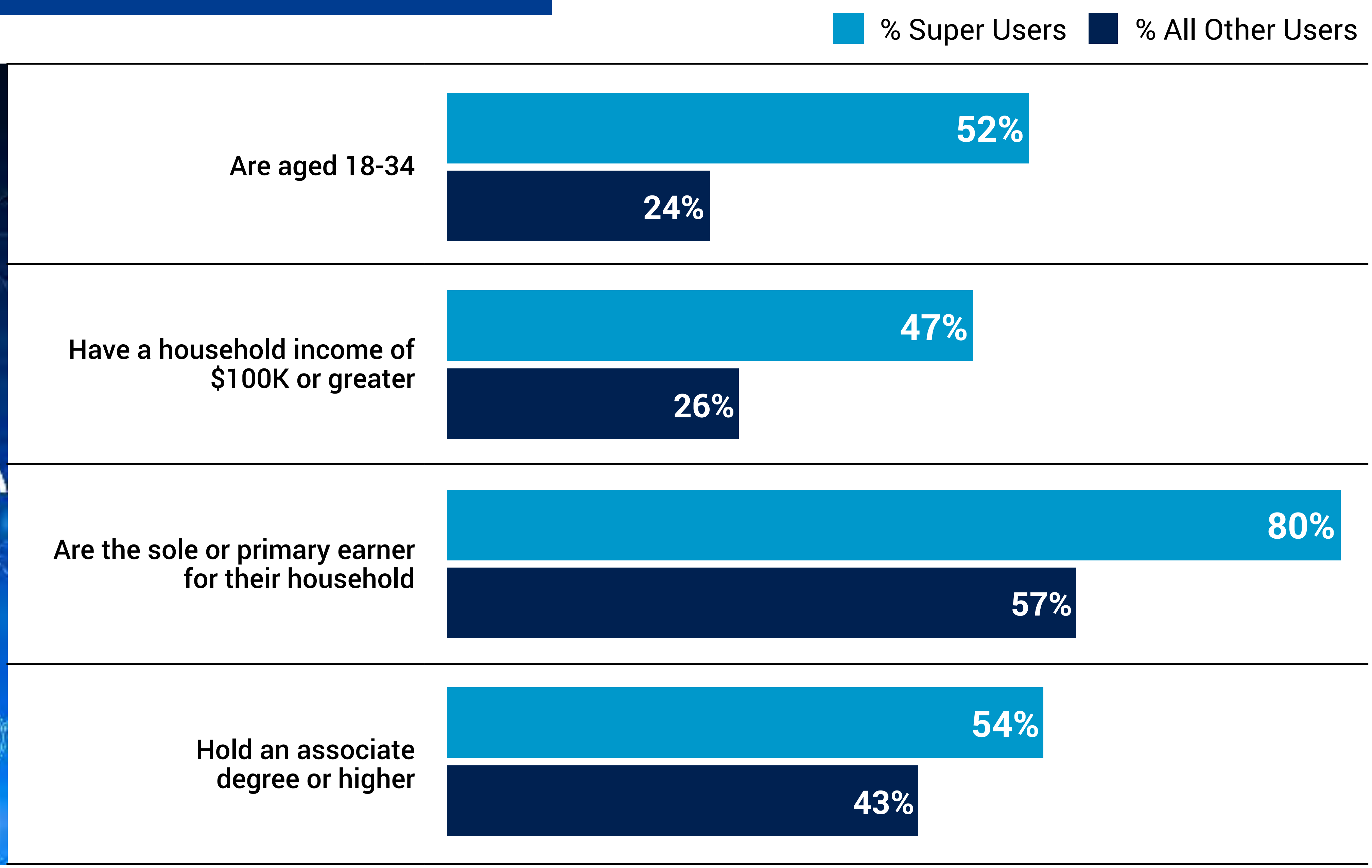
MONTHLY DOLLAR SPEND BY MEDIA TYPE,
U.S., 2022E, % ADULTS AGED 18+ / % TOTAL SPEND BY MEDIA TYPE / USD PER USER



1. Includes money spent on all videos and video services, including traditional/virtual Pay TV, video streaming subscription services, and video purchases/rentals. 2. Includes money spent on video games and other video gaming purchases (e.g. in-app purchases, video gaming subscription services) across all devices. 3. Includes money spent on music and music services.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), eMarketer, Goldman Sachs, Grand View Research, IFPI, Newzoo, Omdia, PricewaterhouseCoopers, Recording Industry Association of America, SiriusXM, Statista

Super Users are younger, more affluent, and have a higher level of education than all other users

USER DEMOGRAPHICS, U.S., 2022, % ADULTS AGED 18+



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Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), U.S. Census Bureau

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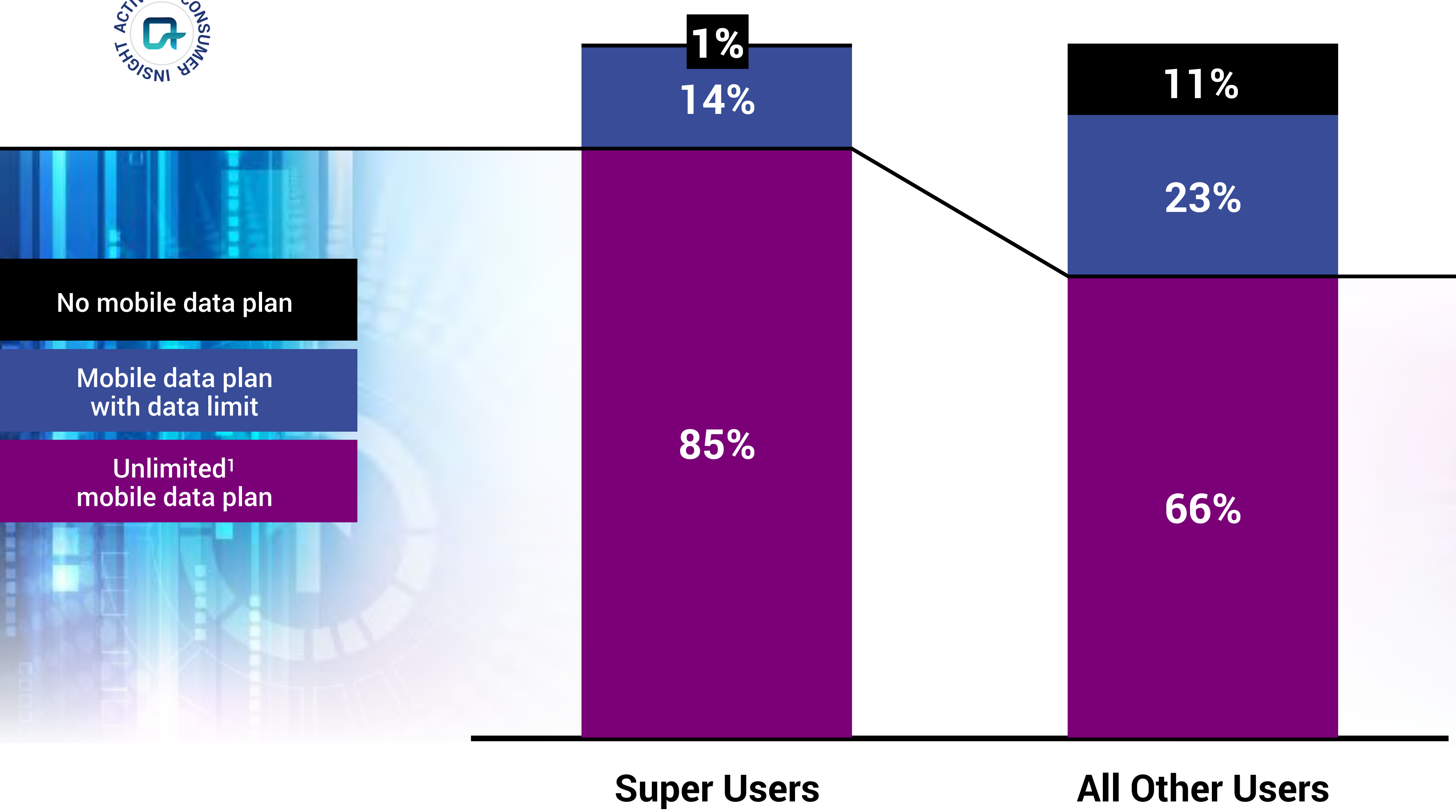
Super Users are highly connected; the vast majority subscribe to unlimited mobile data plans

MOBILE DATA PLAN ACCESS, U.S., 2022, % ADULTS AGED 18+

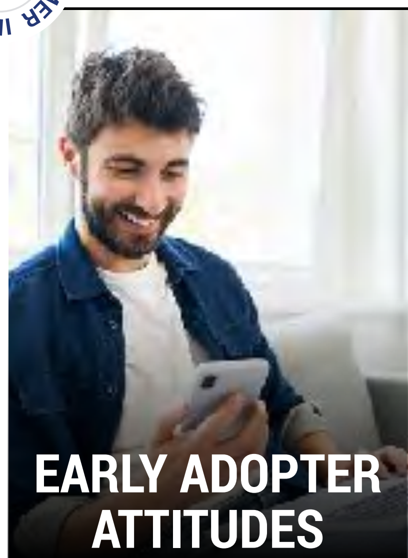


1. "Unlimited" as reported by consumers.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

Super Users are in the vanguard of technology and media adoption; the majority are brand advocates, highly attuned to new products/services, and comfortable expressing themselves and sharing their personal data online

CONSUMER ATTITUDES, U.S., 2022, % ADULTS AGED 18+

ACTIVATE CONSUMER INSIGHT



Early Adopter Attitudes	% Super Users	% All Other Users
Enjoy **keeping informed on trends and news** about the latest technology and media products/services	75%	32%
Enjoy **buying/using** new technology and media products/services **before anyone else they know**	70%	21%
Enjoy **recommending** technology and media products/services to others	71%	26%

Digital-First Attitudes	% Super Users	% All Other Users
Feel that they can **better express themselves when online**	68%	25%
Feel that it is **easier to socialize and make new friends online**	69%	25%
Feel **comfortable sharing data** with technology and media companies **in exchange for more personalized/relevant recommendations and ads**	63%	18%

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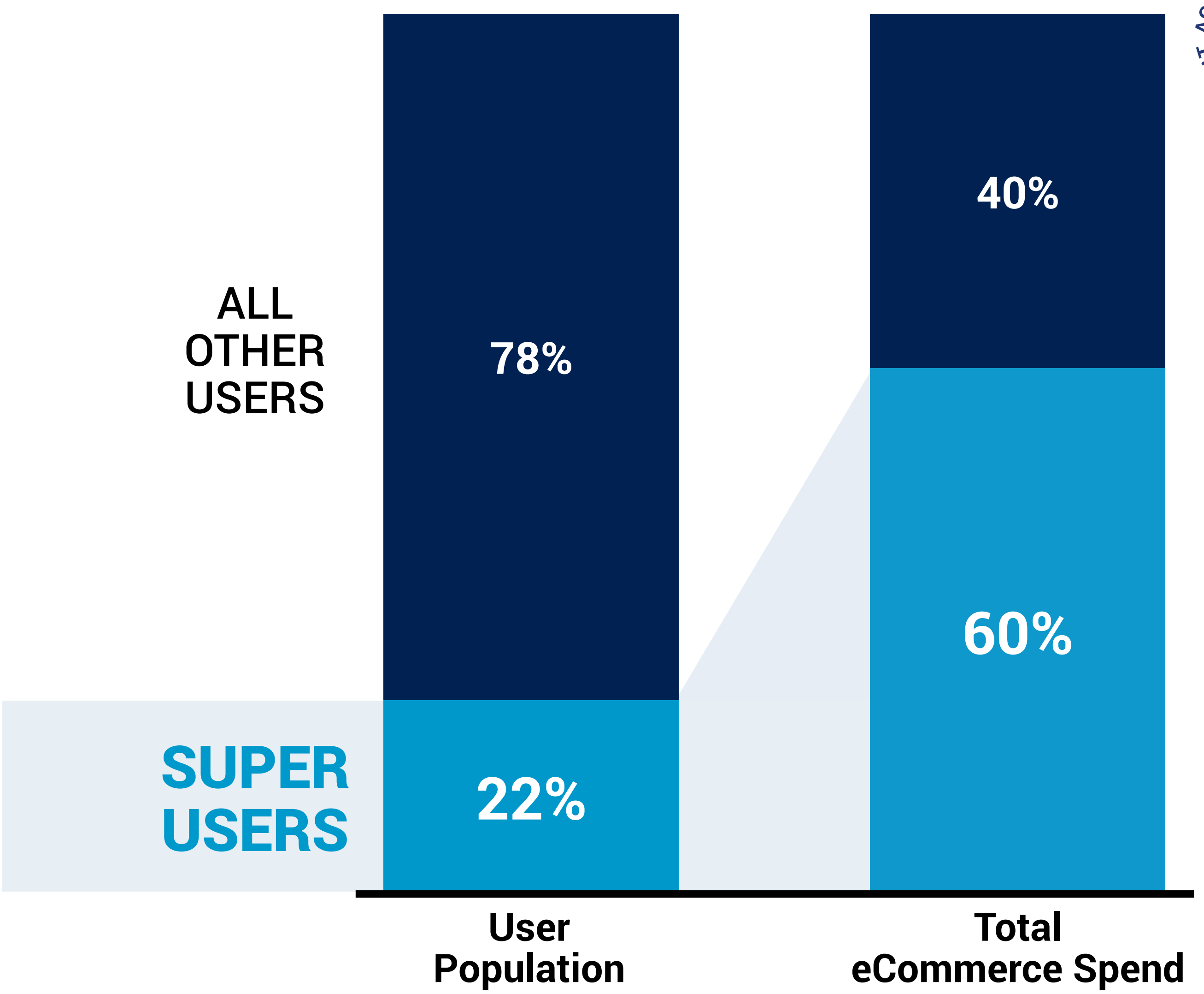
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

Within eCommerce, Super Users account for the bulk of total spend and also over-index on emerging eCommerce behaviors

ECOMMERCE SPEND, U.S., 2022,
% ADULTS AGED 18+ / % TOTAL ECOMMERCE SPEND



EMERGING ECOMMERCE BEHAVIORS IN THE LAST 12 MONTHS, U.S., 2022,
SUPER USERS INDEXED TO ALL OTHER USERS

Super Users over-index on several emerging eCommerce activities

SOCIAL COMMERCE 3.1x — As likely to have bought a product directly through a social media website/app

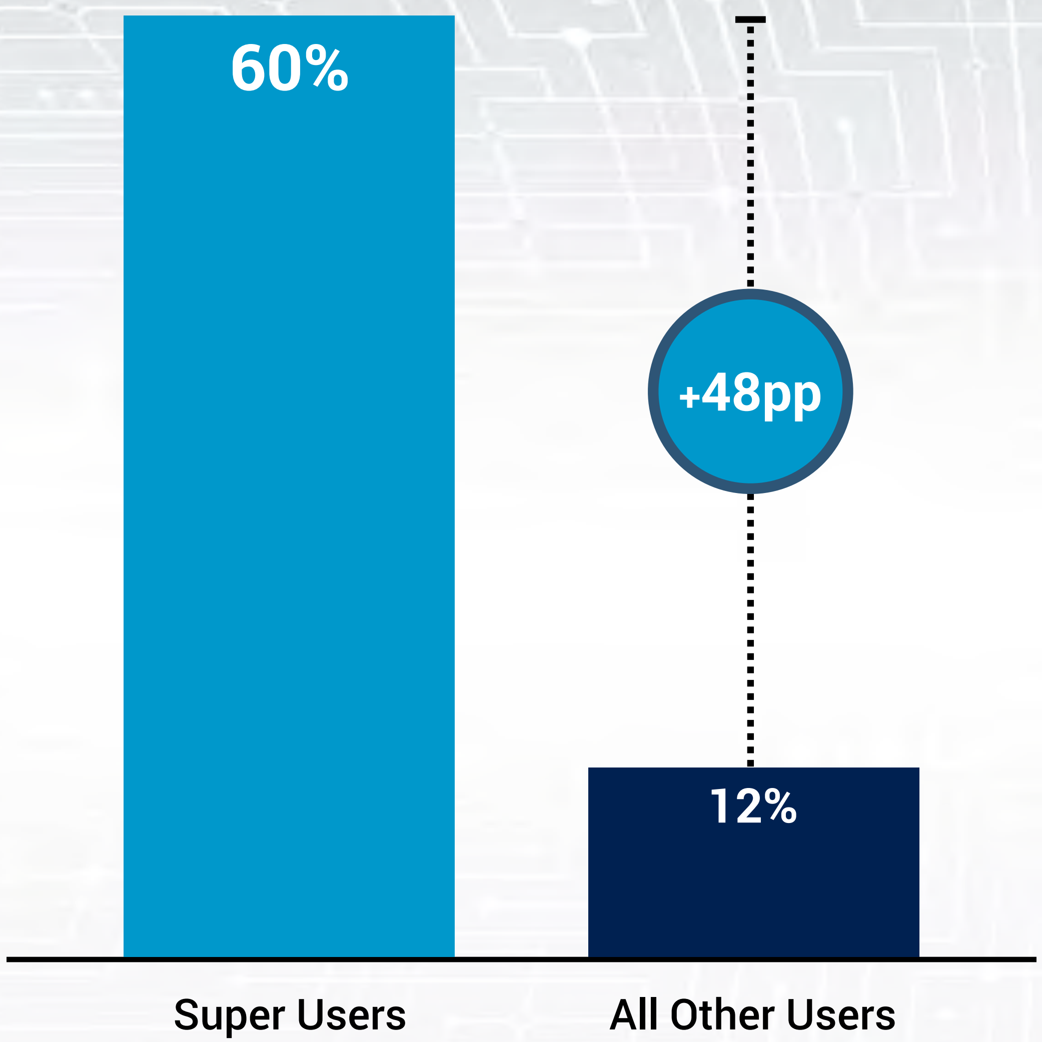
LIVESTREAM SHOPPING 6.5x — As likely to have bought a product through a livestream shopping event

VIRTUAL TRY-ON 5.5x — As likely to have used an AR-powered virtual try-on or visualization feature (e.g. to test clothing, footwear, accessories, beauty products, furniture, home goods, appliances)

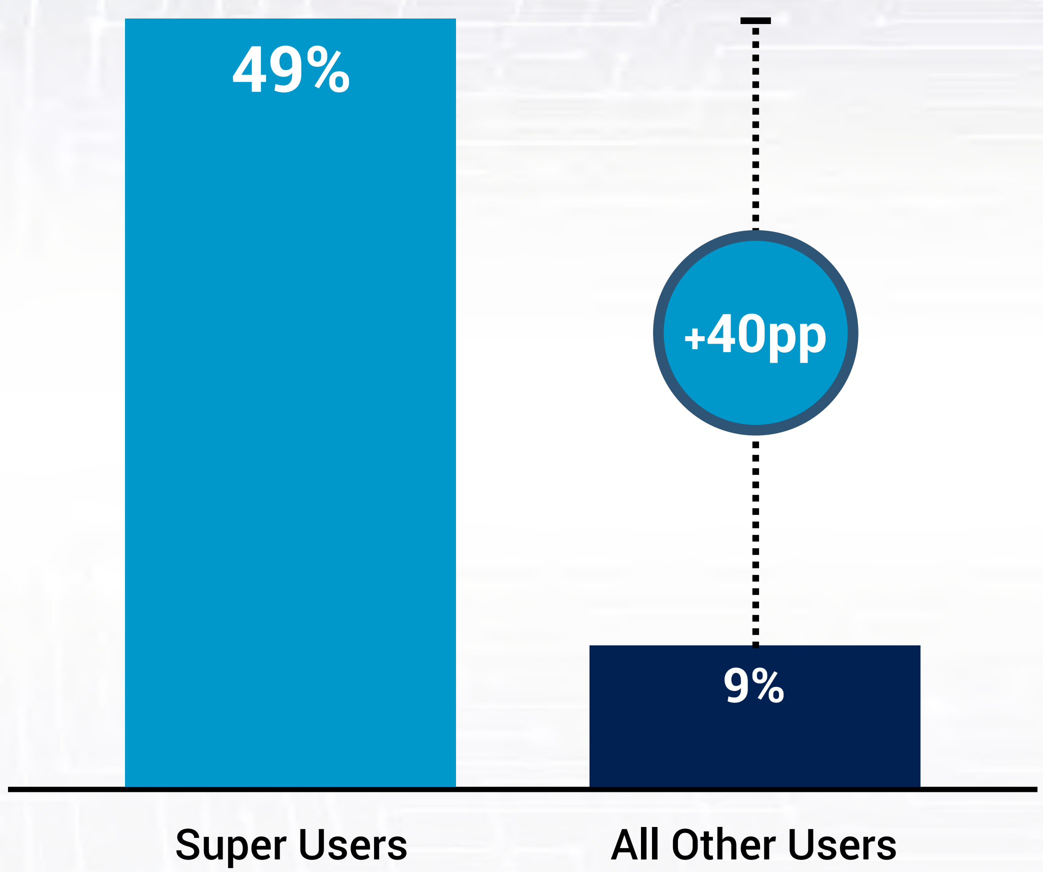
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

Super Users are early adopters of both cryptocurrency and NFTs

CRYPTOCURRENCY PARTICIPATION[1] IN THE LAST 12 MONTHS, U.S., 2022, % ADULTS AGED 18+



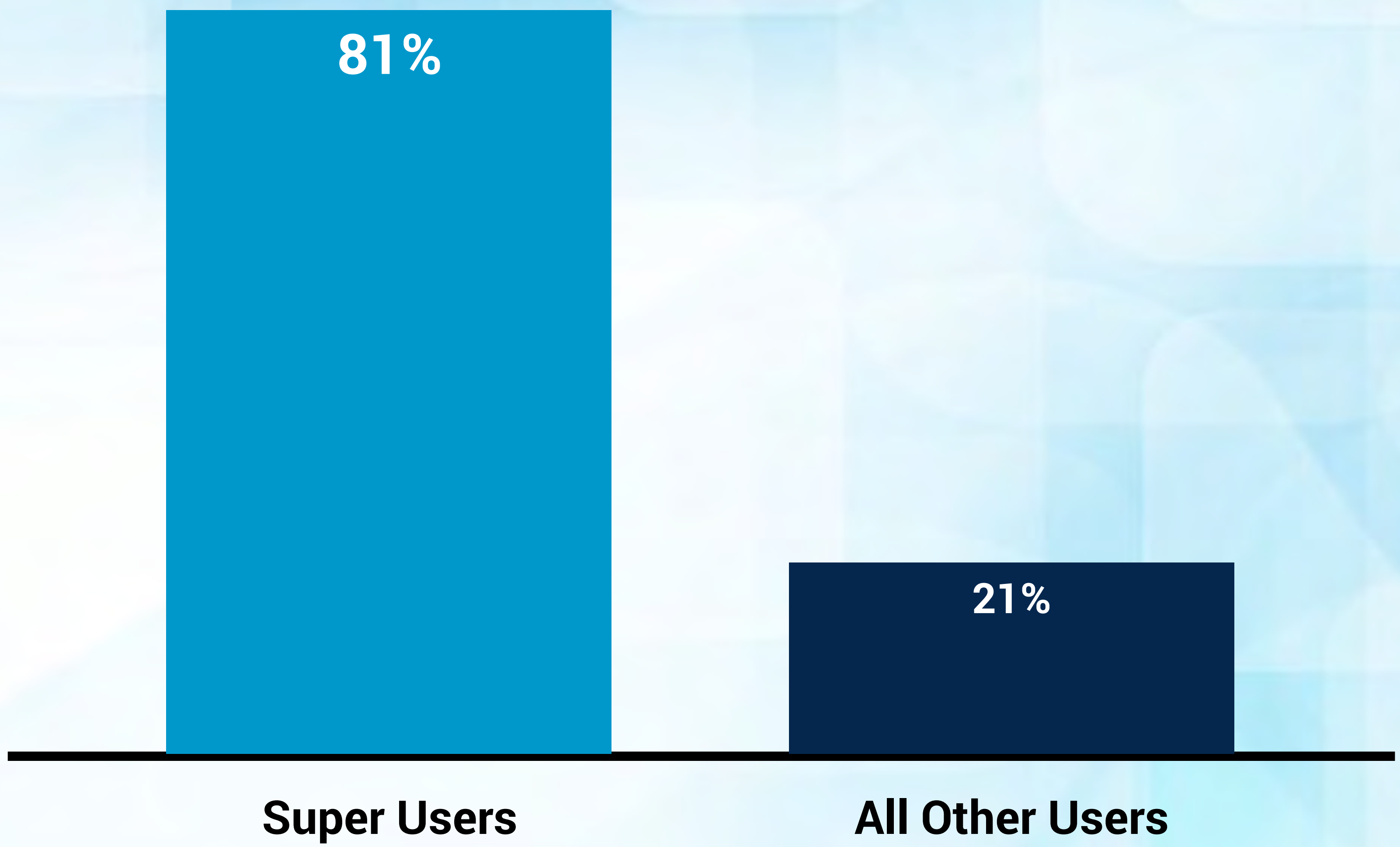
NFT PARTICIPATION[2] IN THE LAST 12 MONTHS, U.S., 2022, % ADULTS AGED 18+



1. "Cryptocurrency participation" is defined as buying, receiving, mining, or selling cryptocurrency. 2. "NFT participation" is defined as researching/discussing, browsing, bidding for, purchasing, displaying, selling, or creating NFTs.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Activate 2022 Metaverse & NFT Consumer Research Study (n = 3,078)

Super Users are the pioneers of the Metaverse, with over 80% having used a Metaverse platform in the last 12 months

USAGE OF METAVERSE PLATFORMS[1] IN THE LAST 12 MONTHS, U.S., 2022, % ADULTS AGED 18+



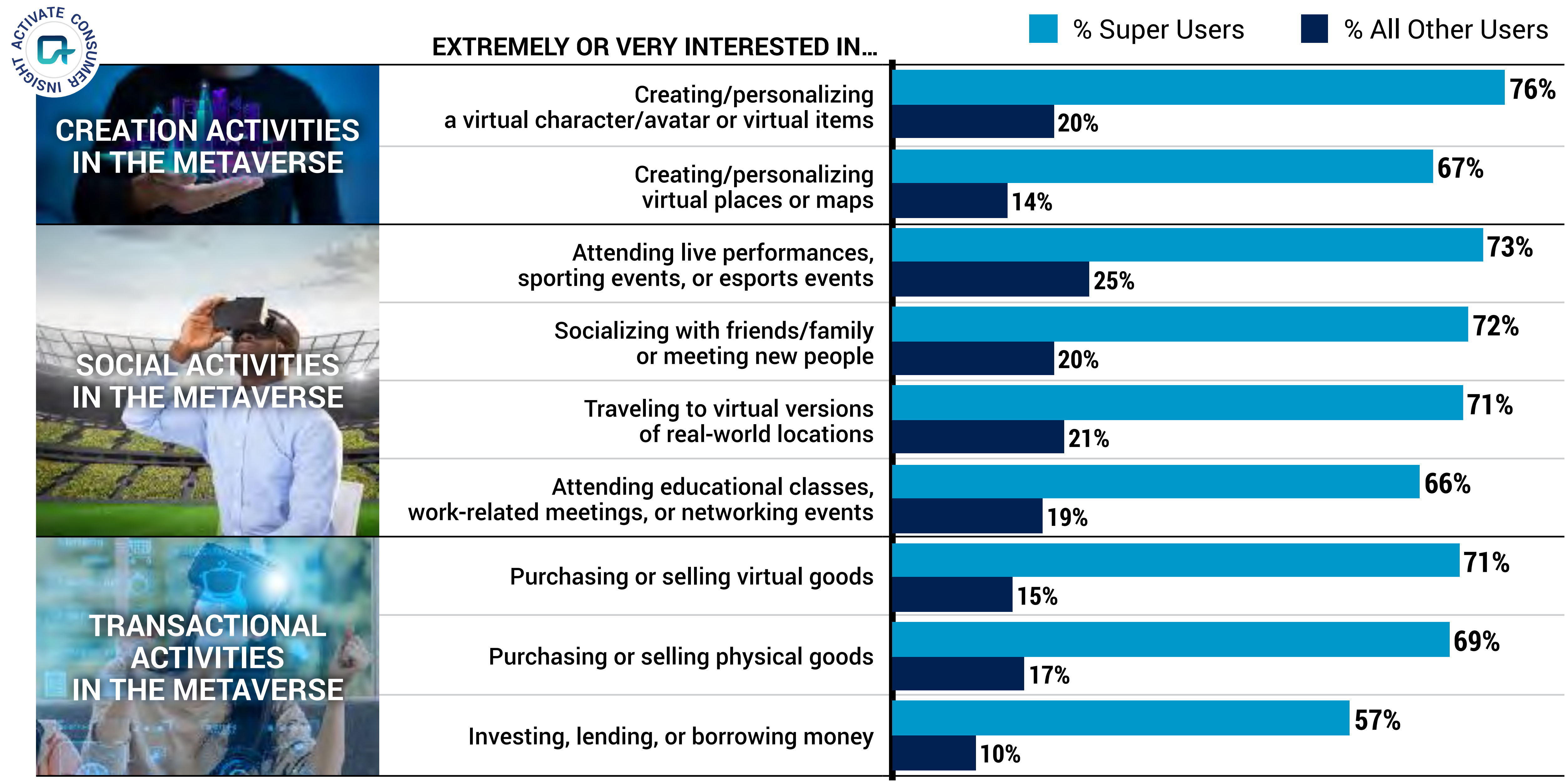
EXAMPLE METAVERSE PLATFORMS[1]

- Fortnite
- Grand Theft Auto Online
- Minecraft
- Roblox
- World of Warcraft
- The Sandbox
- VR Chat

1. "Metaverse platforms" are defined as platforms with immersive virtual worlds, within which consumers can explore with a personalized character/avatar, interact with other users, and participate in a range of activities (e.g. online concerts, online games, online work meetings).
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

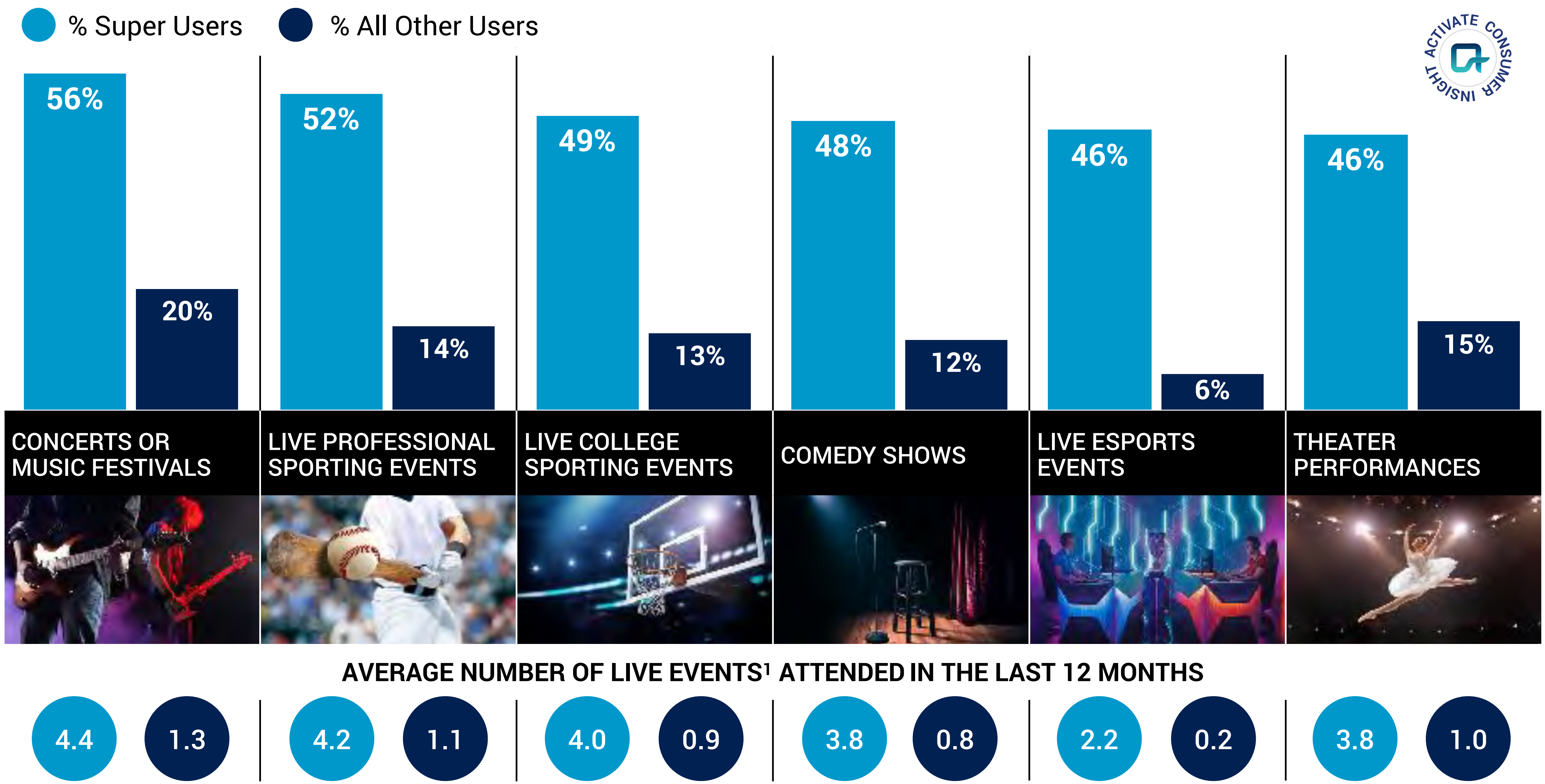
Going forward, Super Users are interested in using the Metaverse for a broad range of activities

INTEREST IN PARTICIPATING IN SELECT METAVERSE ACTIVITIES IN THE NEXT 12 MONTHS, U.S., 2022, % ADULTS AGED 18+



Super Users will also usher in the return of live in-person events

INTENT TO ATTEND MORE LIVE EVENTS[1] IN THE NEXT 12 MONTHS THAN IN THE LAST 12 MONTHS,
U.S., 2022, % ADULTS AGED 18+



1. Includes live events in large venues (e.g. theaters, stadiums, festival grounds).
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

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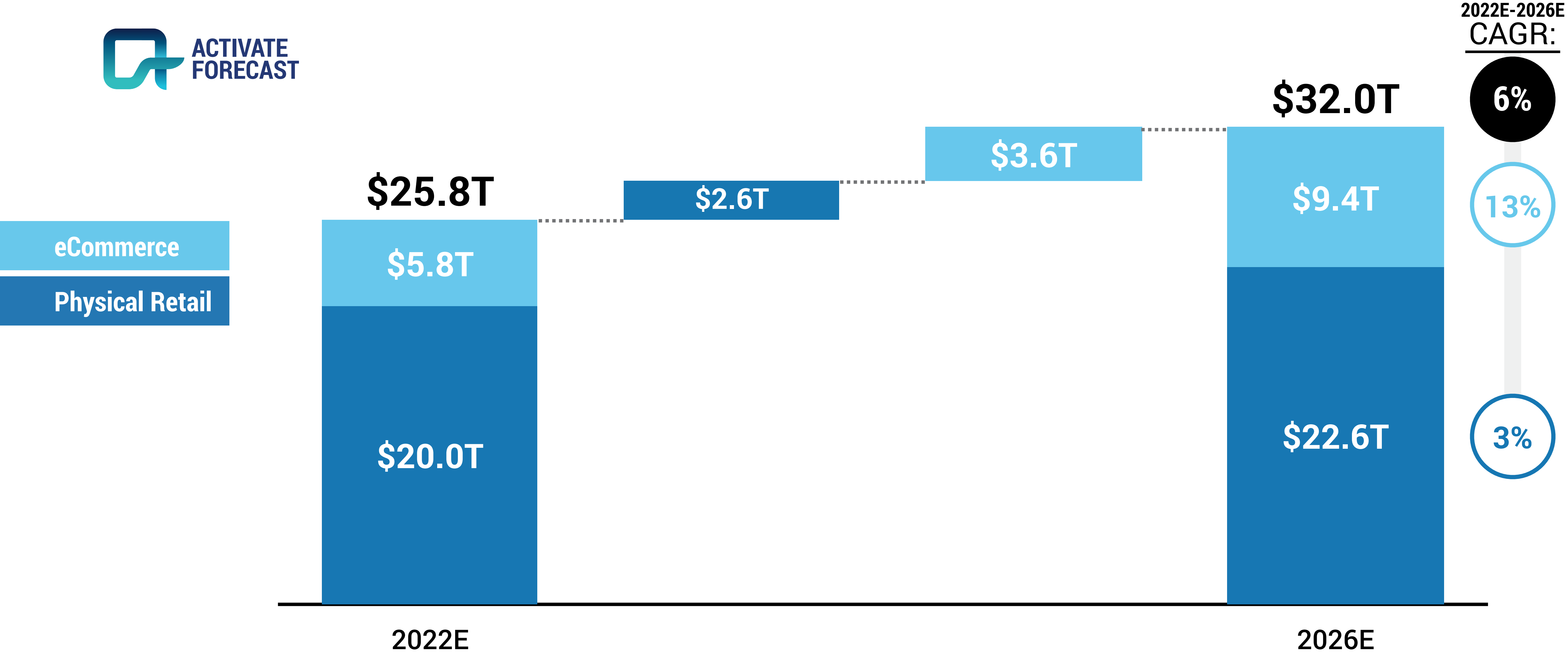
Global eCommerce will reach $9.4T in 2026, continuing to grow faster and add more absolute dollars than physical retail post-pandemic

RETAIL SALES[1] BY CHANNEL, GLOBAL, 2022E VS. 2026E, TRILLIONS USD

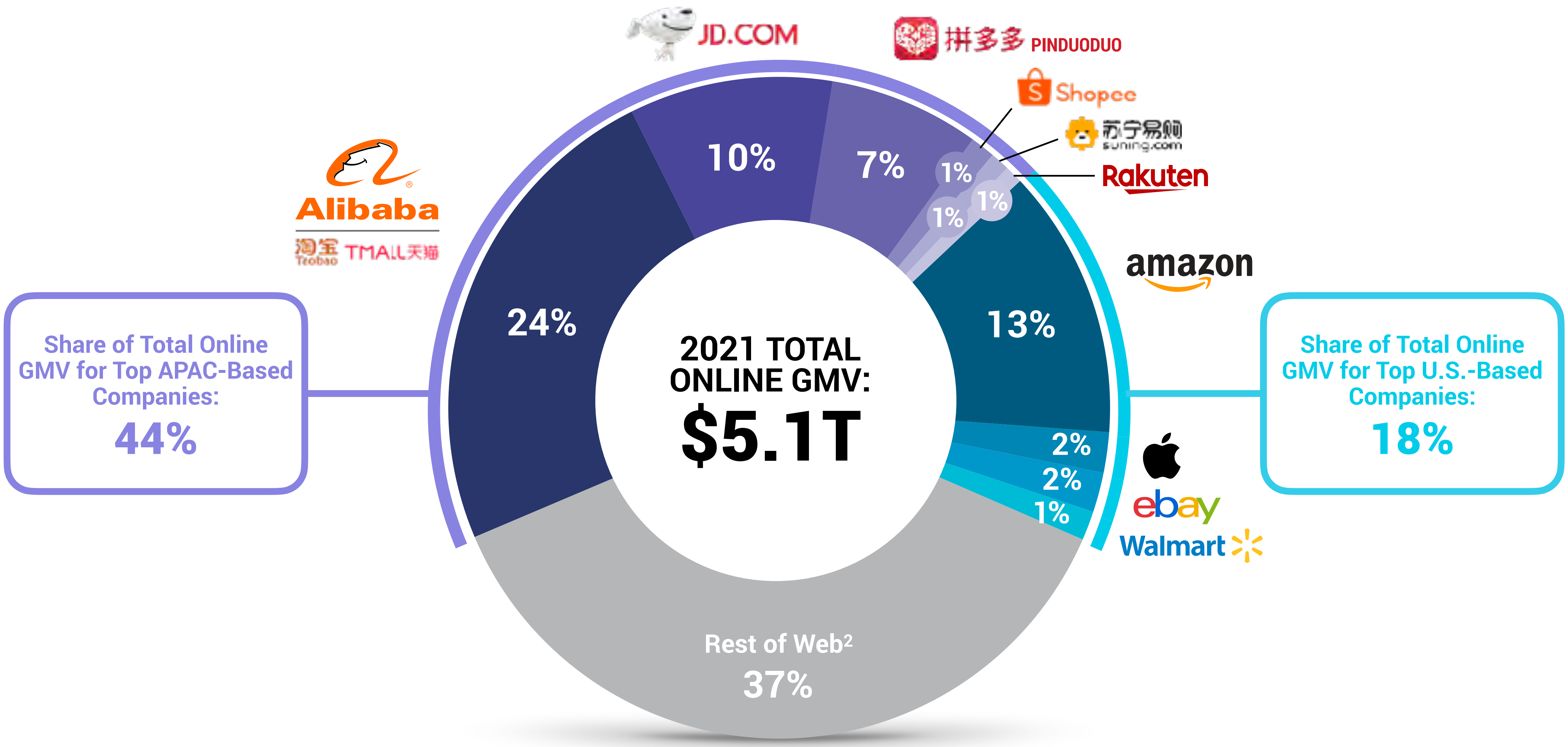


eCommerce Share of Total Retail Sales	2022E	2026E
	23%	29%

1. Excludes travel and event tickets, food and drink services, and vice goods and activities.
Sources: Activate analysis, Digital Commerce 360, eMarketer, Research and Markets

The leaders in eCommerce are companies based in APAC and the U.S.

SHARE OF ONLINE GROSS MERCHANDISE VOLUME (GMV) BY COMPANY[1], GLOBAL, 2021, % TOTAL ONLINE GMV

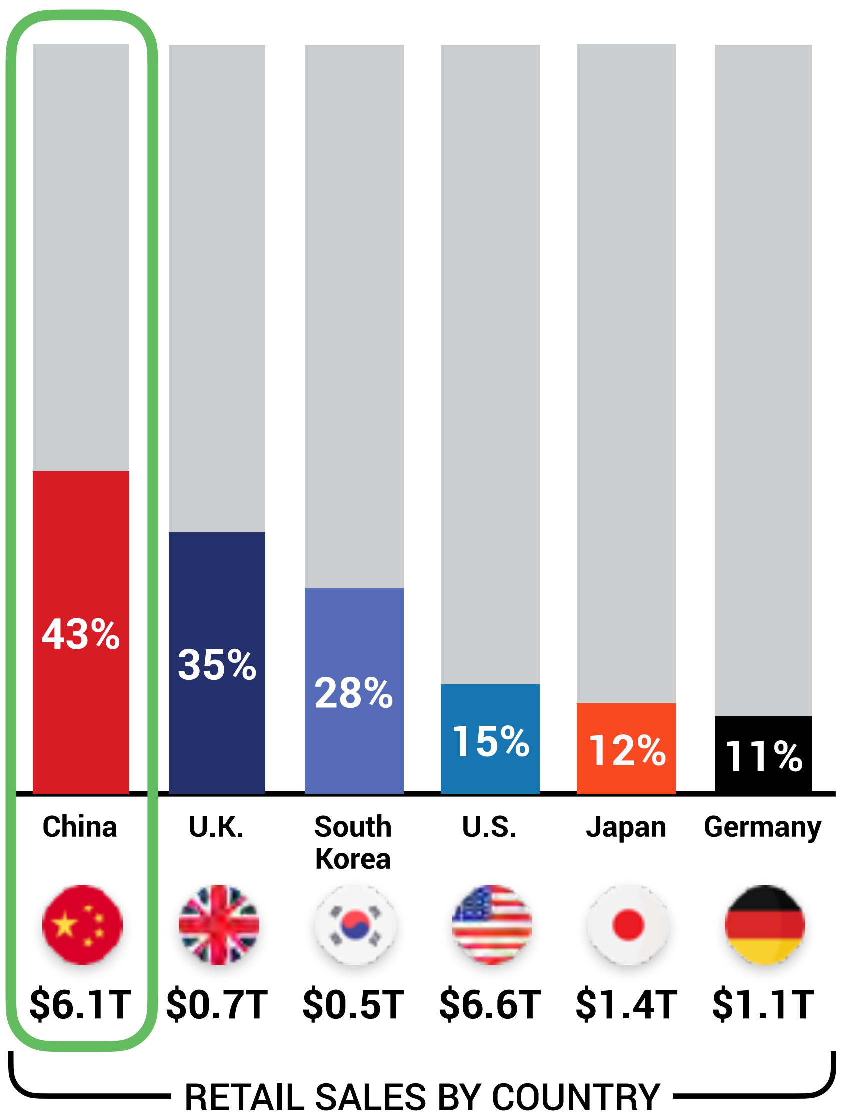


1. Figures do not sum to 100% due to rounding. 2. All of online gross merchandise volume not covered by top 10 companies.
Sources: Activate analysis, Company filings, Company press releases, Company sites, Digital Commerce 360, eMarketer, Internal Revenue Service

China has been at the vanguard of eCommerce, as it represents over 50% of total eCommerce sales worldwide

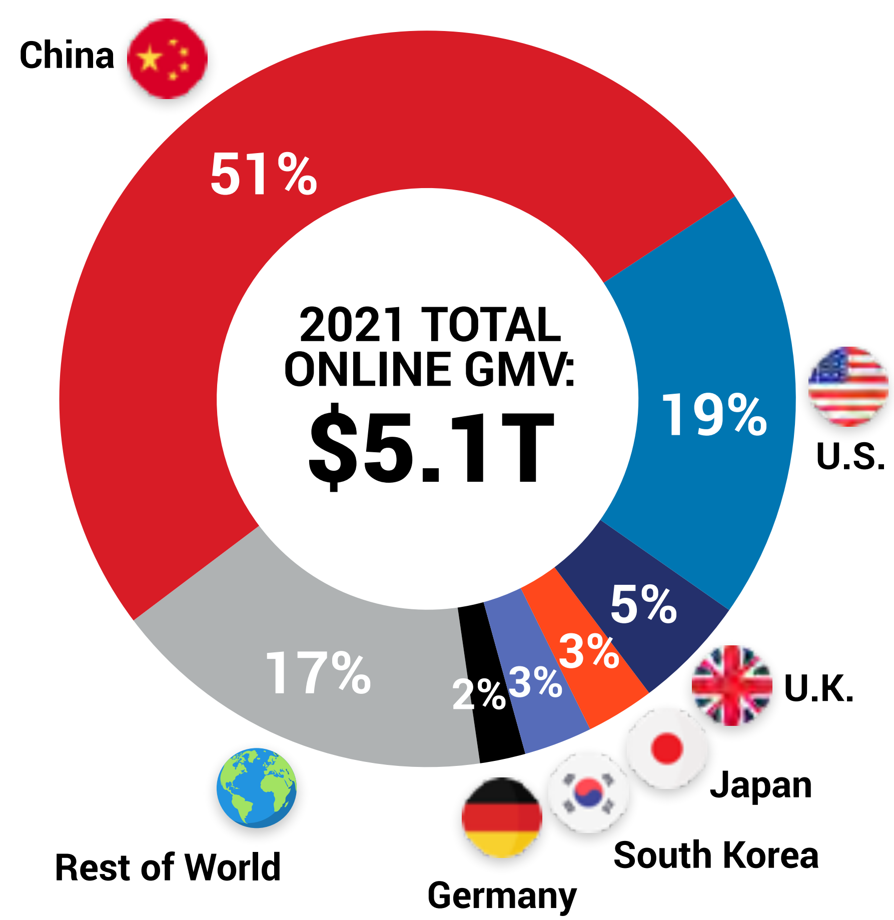
ECOMMERCE SHARE OF RETAIL SALES BY COUNTRY, GLOBAL, 2021, % TOTAL RETAIL SALES IN EACH COUNTRY

China leads in both total retail sales as well as eCommerce share of retail sales



SHARE OF ONLINE GROSS MERCHANDISE VOLUME (GMV) BY COUNTRY, GLOBAL, 2021, % TOTAL ONLINE GMV

As such, China is a dominant force in eCommerce, with over 50% share of worldwide online GMV



Going forward, drivers of China's eCommerce growth could propel growth in other major markets, particularly the U.S.

ECOMMERCE GROWTH DRIVERS

- Consumer **preference for online** vs. in-store shopping
- Adoption of **digital wallets and mobile payments**
- Usage of **platform experiences** (e.g. WeChat)

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Sources: Activate analysis, Business Insider, CBRE Group, Digital Commerce 360, eMarketer, Forbes, Internal Revenue Service, Jefferies, J.P. Morgan, Morning Consult, Quartz, Schroders, Statista, The Wall Street Journal, World Bank

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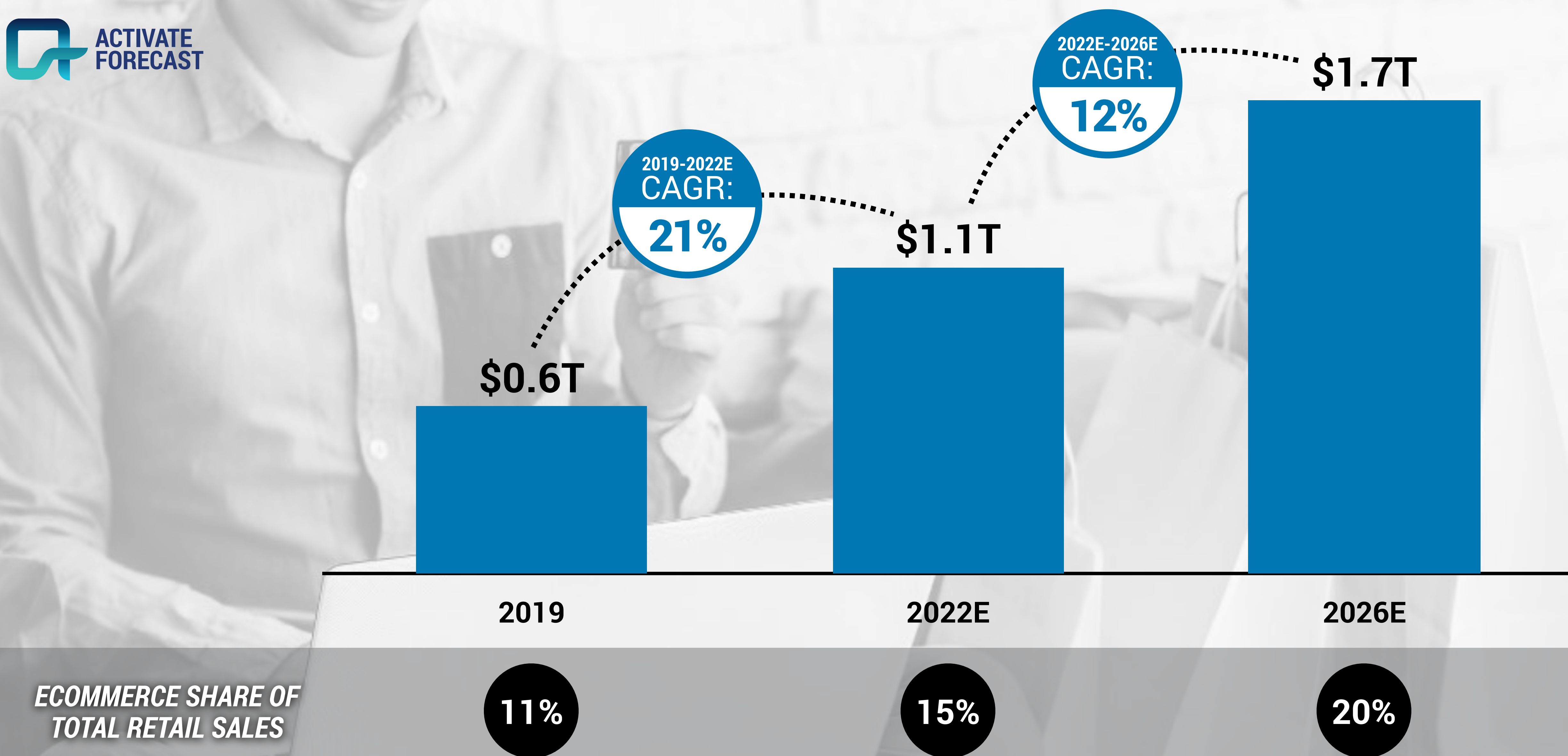
We forecast that eCommerce in the U.S. will reach $1.7T by 2026, accounting for 20% of total retail sales

RETAIL ECOMMERCE SALES, U.S., 2019 VS. 2022E VS. 2026E, TRILLIONS USD



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Sources: Activate analysis, Company filings, Company press releases, Company sites, Digital Commerce 360, eMarketer, Internal Revenue Service, Statista

There will be large category-focused eCommerce businesses selling through their own online stores in addition to mass online retailers

MASS ONLINE RETAILERS

ebay, amazon, Google Shopping, wish, Walmart

CATEGORY-FOCUSED RETAILERS

GROCERIES

GrubMarket, dumpling, Hello Fresh, instacart, Kroger, Thrive Market, freshdirect, mercato, Whole Foods Market

HOUSEHOLD PRODUCTS

Grove Collaborative, Boxed, chewy, Public Goods, The Laundress New York, Brandless

CLOTHING, SHOES, ACCESSORIES

ThredUp, Curtsy, GOAT, kidizen, Kohl's, Tradesy, shopbop, Athleta, adidas, GAP, SHEIN, Poshmark, Nordstrom, Skechers, Bonobos

JEWELRY

gorjana, Catbird, Kay Jewelers, Mejuri, jtv jewelry love, Tiffany & Co., Jennifer Fisher, claire's, Zales The Diamond Store, David Yurman, Sophie Buhai, Blue Nile, Stone and Strand

BEAUTY & PERSONAL CARE

Ulta Beauty, Sephora, hims, Ritual, Glossier., prose, Bath & Body Works, Dermstore, birchbox, Sally Beauty, Mayvenn, mented, IPSY, quip, Curology, HUM

FURNITURE

wayfair, west elm, CB2, overstock, AptDeco, Ashley, Burrow, Serena & Lily, Lulu and Georgia, Crate&Barrel

HOME IMPROVEMENT & DECOR

Menards Dedicated to Service & Quality, Parachute, One Kings Lane, Lowe's, Ace Hardware, The Home Depot, Bed Bath & Beyond

ELECTRONICS

Best Buy, Staples, Dell Technologies, Samsung Electronics, hp, Apple, B&H, CDW

SPORTING GOODS

Modell's Sporting Goods, Fanatics, Dick's Sporting Goods, Academy Sports + Outdoors, Camping World, Bass Pro Shops, Champs Sports, Big 5 Sporting Goods, Cabela's, REI Co-op

TOYS & GAMES

Clixo, trains.com, Pokémon, Toys R Us, American Girl, Mattel, Activate Knights

AUTOMOTIVE

TrueCar, Carvana, vroom, CarGurus, Autotrader, cars.com, CarMax

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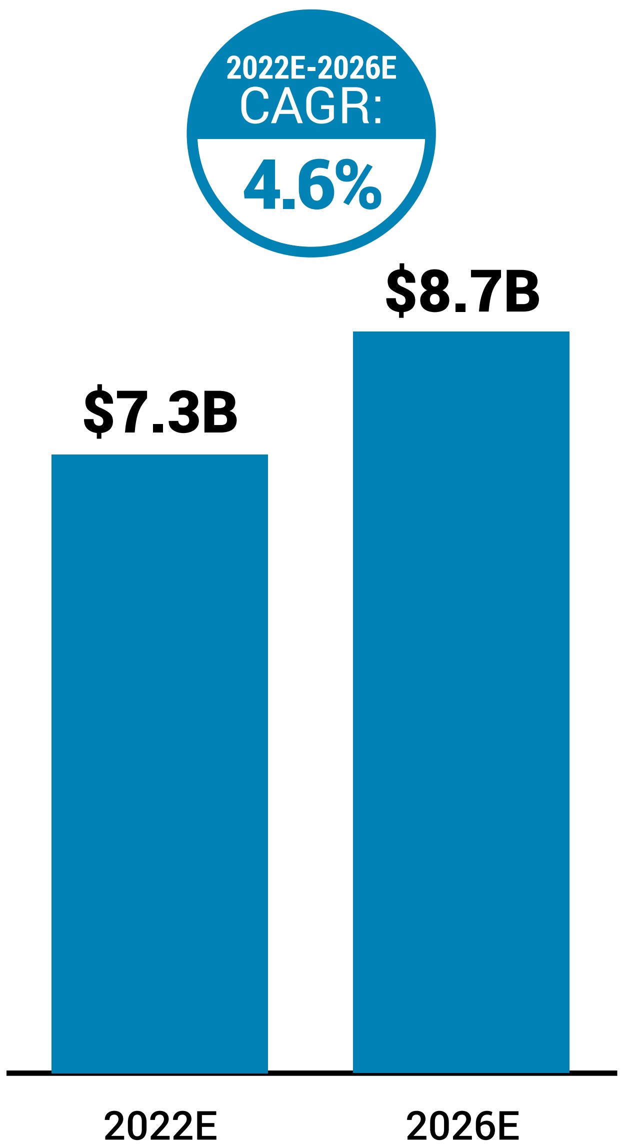
Note: As of Oct. 2022.
Sources: Activate analysis, Andreessen Horowitz, Comscore, eMarketer, Forbes, Business Insider, Statista

WSJ Tech Live

eCommerce enablement solutions, including storefront and site creation tools, will fuel the growth of category-focused players

ECOMMERCE ENABLEMENT REVENUE, GLOBAL, 2022E VS. 2026E, BILLIONS USD



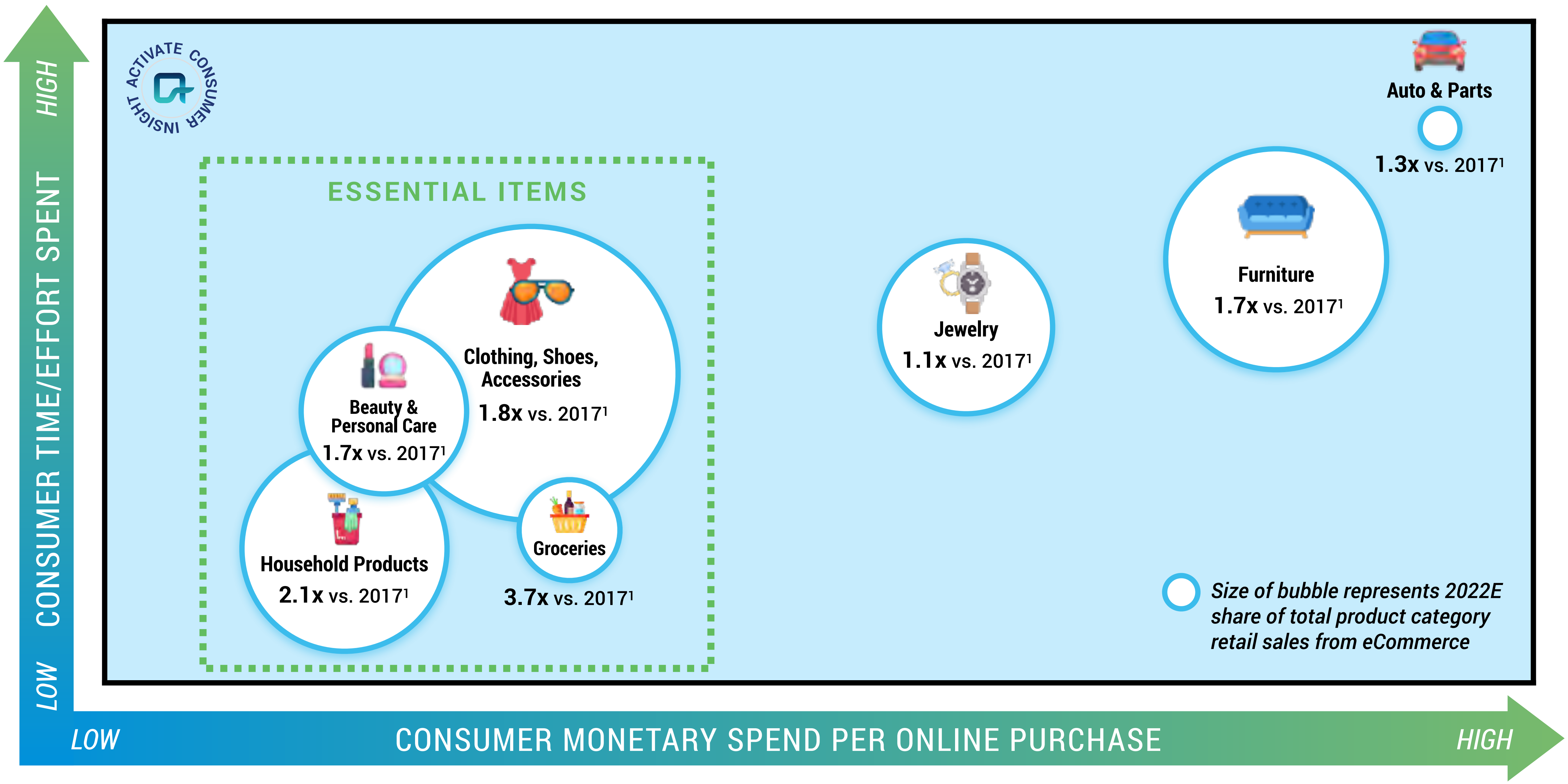
MAJOR CROSS-FUNCTION LEADERS

shopify
WiX
Magento An Adobe Company

FUNCTION	DESCRIPTION	EXAMPLE COMPANIES
Storefront Creation	Providers for eCommerce website creation and hosting capabilities	PrestaShop, Automattic, volusion, BigCommerce, Squarespace
Inventory Management and Fulfillment	**Tools essential to tracking and managing inventory** (e.g. location, amount, current mix) **as well as delivering products** (e.g. carriers, delivery and shipping options)	Squarespace, Geek+, 3PL Central, Fulfillment by amazon, ShipBob, BigCommerce
Payment Services	Providers enabling eCommerce purchasing through first- and third-party gateways, POS app and hardware integration, and payment and financing plans	Squarespace, stripe, lightspeed, BigCommerce, 2checkout is now Verifone, clover, Brex, Square, affirm, Bolt
Customer Service, Relationship Management, and Loyalty	Tools and services dedicated to tracking customer relationships and communicating with customers	salesforce, twilio, FIVESTARS
Marketing and Sales Effectiveness	**Solutions with capabilities that utilize data to effectively reach consumers across channels** (e.g. analytics, sales channels, pricing, merchandising)	salesforce B2C ecommerce, /LiveRamp, mailchimp, BigCommerce, Qubit., Google Analytics, channeladvisor, DATAWEAVE, Squarespace, bloomreach
Back-end Solutions	Solutions enabling eCommerce sales, including cloud storage/hosting, content delivery, and accounting software	Oracle NetSuite, wave, FreshBooks, xero, Akamai, Cloudflare, intuit quickbooks

Essential product categories will continue to lead eCommerce growth as they require less consideration before purchase decisions and continue to exhibit growing online penetration

PRODUCT CATEGORY SEGMENTATION FOR ONLINE PURCHASES

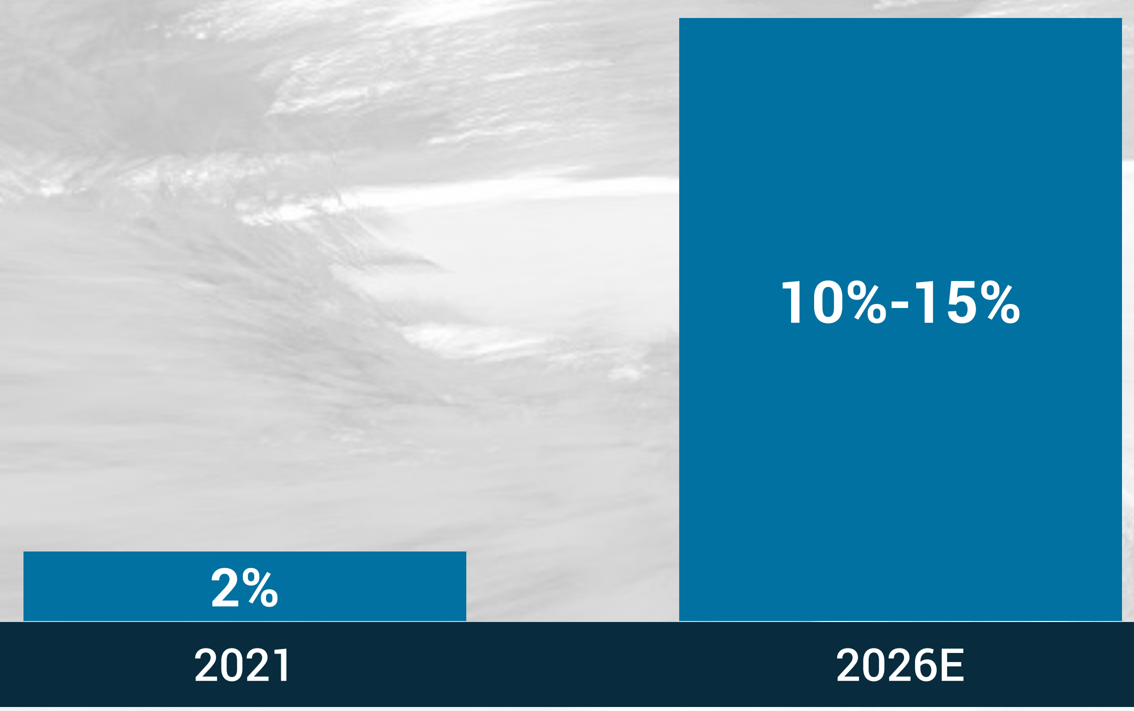


1. Represents the share of total category retail sales from eCommerce in 2022E indexed to 2017.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Company press releases, Company sites, eMarketer, Forrester, Statista

As one of the major retail categories with low eCommerce penetration today, we forecast that by 2026, revenue from cars purchased online and fulfilled via delivery will reach over $200B and represent over 10% of total car purchases

CAR PURCHASES COMPLETED ONLINE[1] AND FULFILLED VIA DELIVERY,
U.S., 2021 VS. 2026E, % TOTAL CAR PURCHASES[2]

ACTIVATE FORECAST



Total Car Purchases Completed Online and Fulfilled via Delivery

	2021	2026E
Total Car Purchases Completed Online and Fulfilled via Delivery	0.9M	6M-9M

Sales from car purchases completed online and fulfilled via delivery will surpass

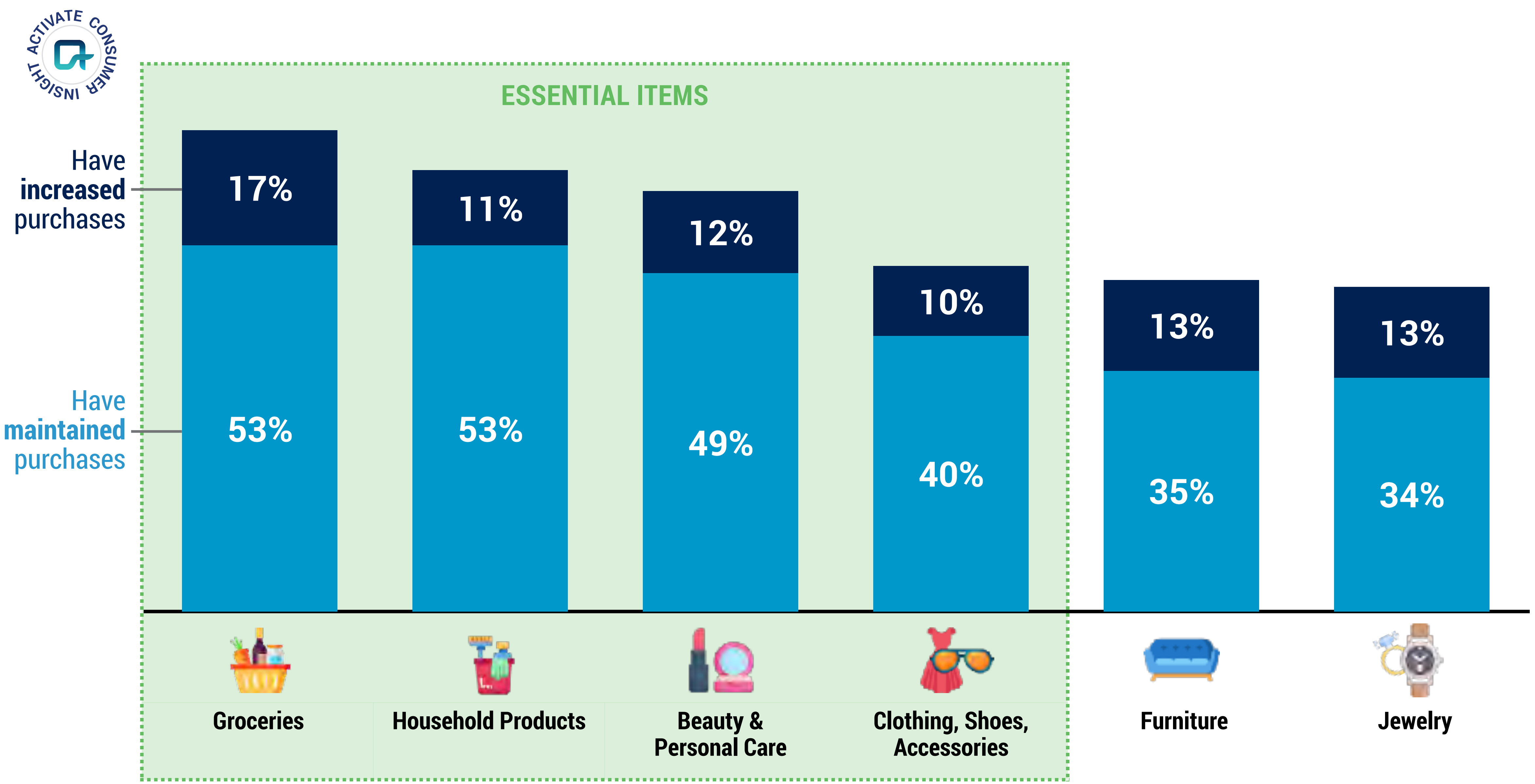
$200B

annually by 2026

1. "Completed online" is defined as having set up the full car deal online, including the down payment, monthly payment, and trade-in. 2. "Total car purchases" include both new and used cars.
Sources: Activate analysis, Company filings, Company press releases, Company sites, Comscore, Cox Automotive, eMarketer, Federal Reserve Bank of St. Louis, IBISWorld, IHS Markit, Khaveen Investments, U.S. Bureau of Economic Analysis, U.S. Census Bureau, Wells Fargo

Despite rising prices due to inflation, over half of online shoppers have increased or maintained online purchases across essential categories

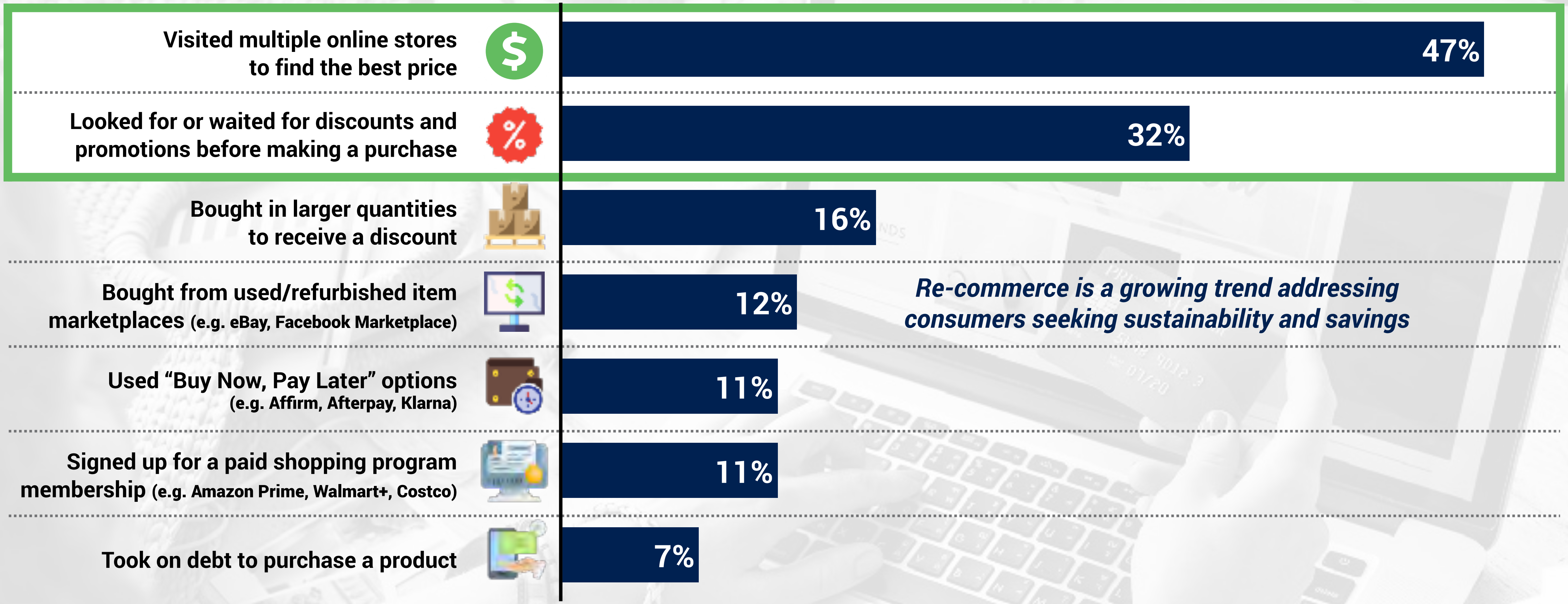
CHANGE IN ONLINE PURCHASING BEHAVIOR IN RESPONSE TO RECENT PRICE INCREASES BY CATEGORY,
U.S., 2022, % ADULTS 18+ WHO HAVE SHOPPED FOR PRODUCTS ONLINE IN EACH CATEGORY IN THE LAST 12 MONTHS



Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

In response to the recent price increases, consumers are choosing to use online channels to compare prices and find deals and promotions

ACTIONS TAKEN WHILE SHOPPING ONLINE IN RESPONSE TO RECENT PRICE INCREASES,
U.S., 2022, % ADULTS AGED 18+ WHO HAVE SHOPPED ONLINE IN THE LAST 12 MONTHS



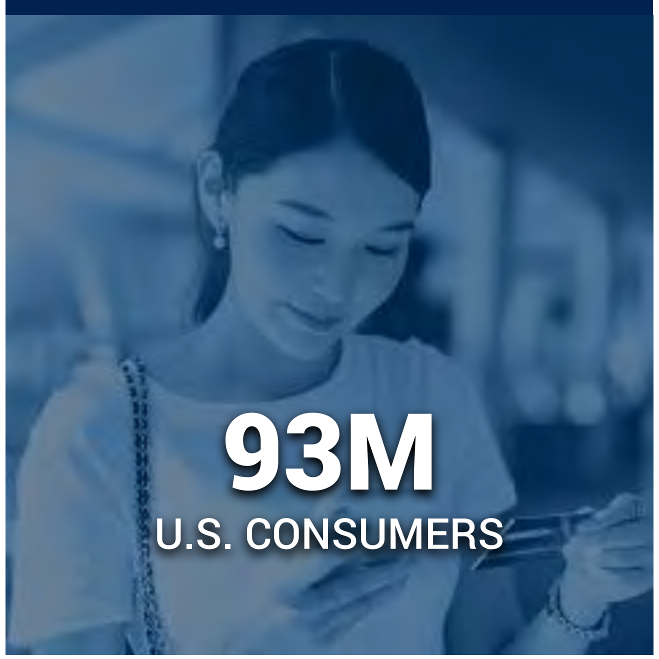
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

Re-commerce is one of the major growth drivers of eCommerce, with high levels of current and expected consumer usage

USAGE OF ONLINE RE-COMMERCE MARKETPLACES[1] FOR BUYING IN THE LAST 12 MONTHS, U.S., 2022,% ADULTS AGED 18+

ACTIVATE CONSUMER INSIGHT

Intend to continue to buy through re-commerce marketplaces in the next 12 months



38% have bought from an online re-commerce marketplace[1]

62% have not bought from an online re-commerce marketplace[1]

Intend to buy through re-commerce marketplaces in the next 12 months

EXAMPLE RE-COMMERCE MARKETPLACES

depop | POSHMARK | The RealReal | THREDUP

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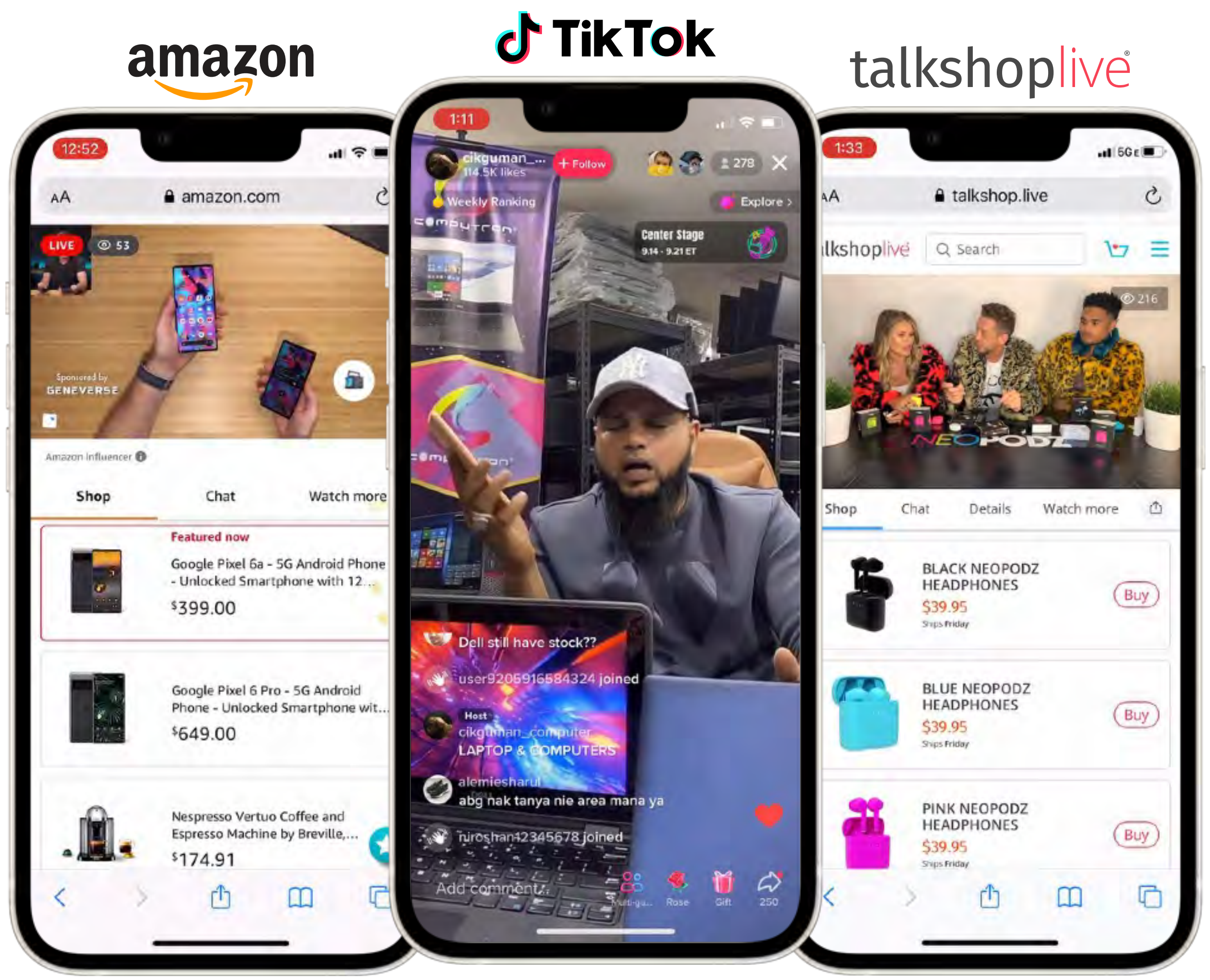
1. "Online re-commerce marketplaces" are defined as online platforms where previously owned items (e.g. clothing, accessories, or other goods) can be purchased and sold.
Sources: Activate analysis, 2022 Activate Re-Commerce Marketplace Consumer Research Study (n = 2,026), U.S. Census Bureau

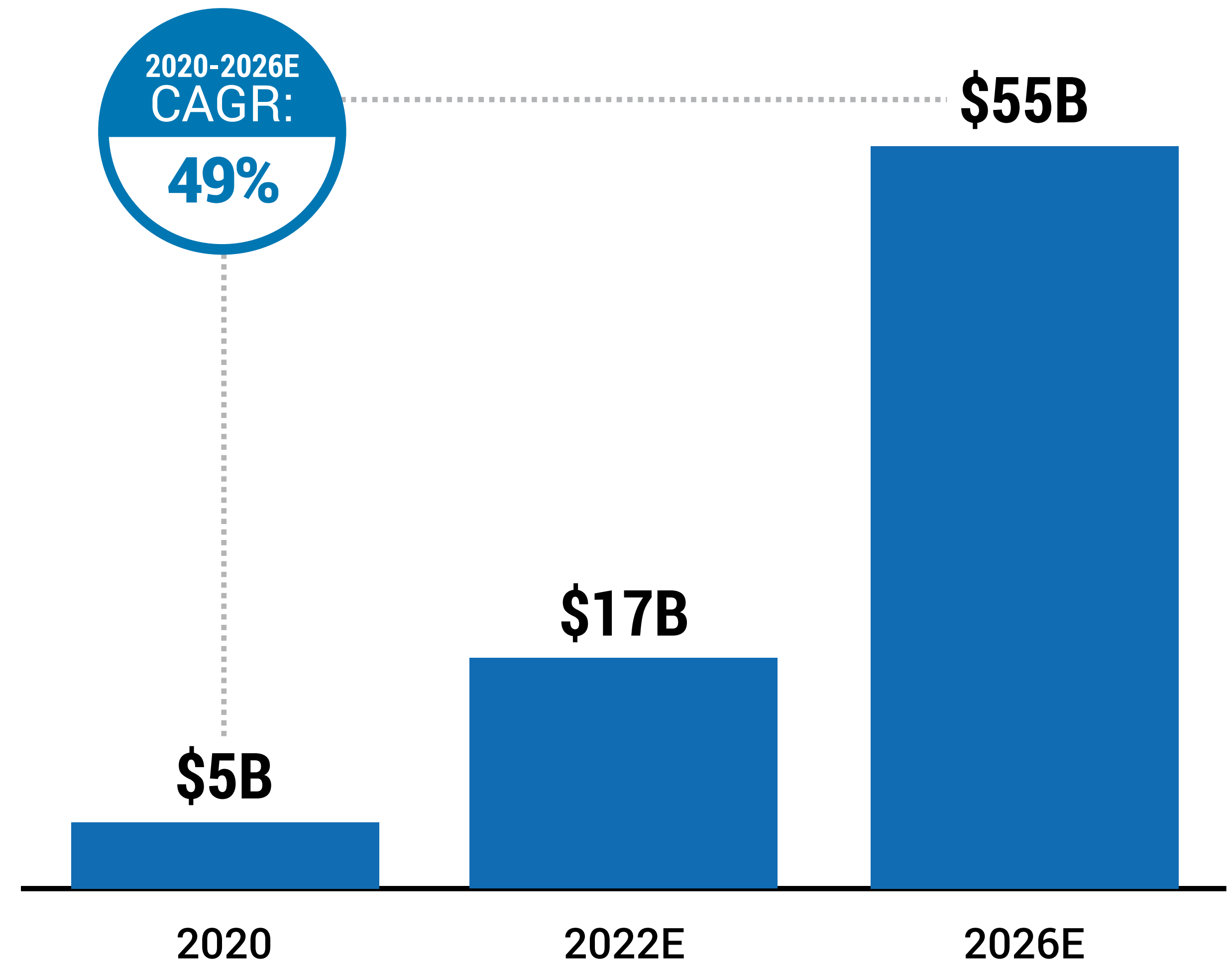
WSJ TECH LIVE

Livestream shopping sales will continue to increase as it becomes a popular way for major retailers to engage consumers through eCommerce

RETAILERS ARE USING THEIR OWN PLATFORMS, SOCIAL MEDIA PLATFORMS, AND THIRD-PARTY PLATFORMS TO ENGAGE CONSUMERS THROUGH LIVESTREAM SHOPPING



LIVESTREAM ECOMMERCE SALES, U.S., 2020 VS. 2022E VS. 2026E, BILLIONS USD

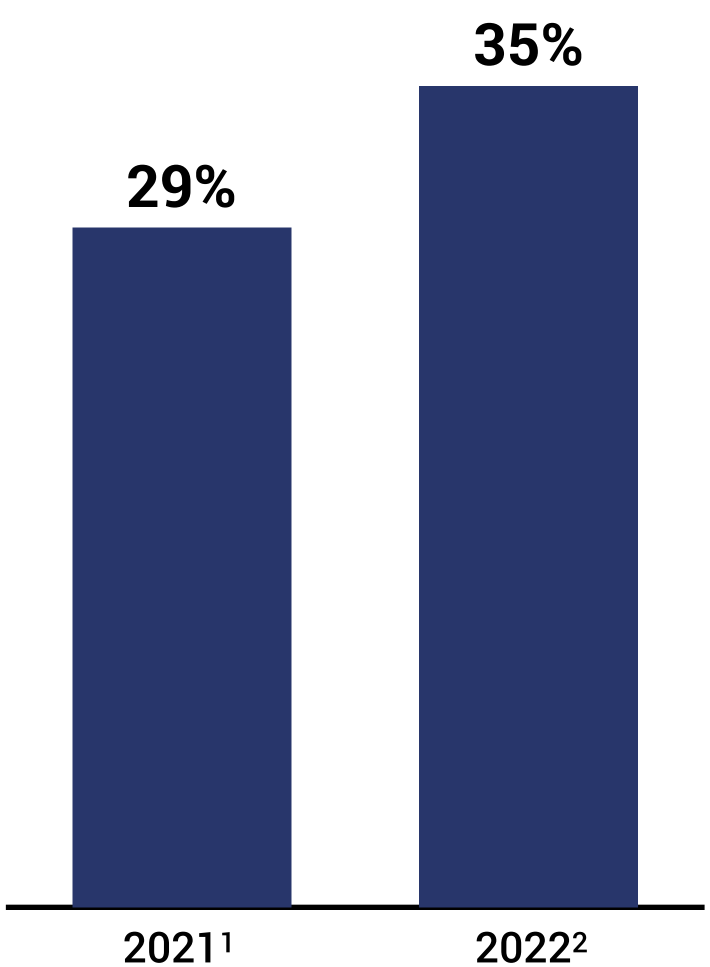


MAJOR RETAILERS USING LIVESTREAM SHOPPING

amazon, ebay, Etsy, THE HOME DEPOT, LOWE'S, macy's, Nike, NORDSTROM, POSHMARK, TARGET, Walmart, wayfair

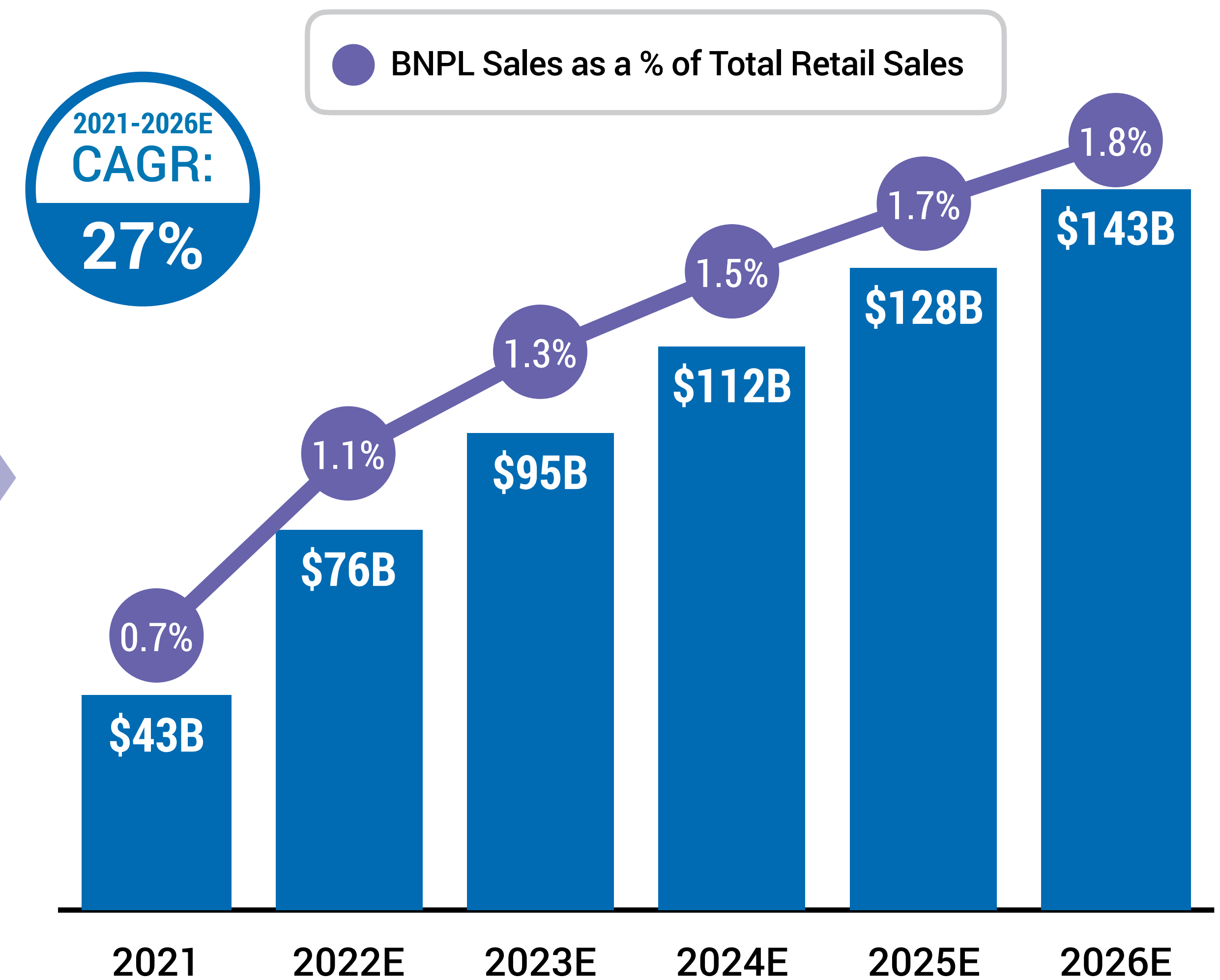
The growth of Buy Now, Pay Later adoption will fuel eCommerce sales

USAGE OF BUY NOW, PAY LATER (BNPL) SERVICES WHEN SHOPPING ONLINE, U.S., 2021[1] VS. 2022[2], % ADULTS 18+



50% of consumers are likely[3] to use BNPL in the next 12 months

BUY NOW, PAY LATER (BNPL) SALES, U.S., 2021-2026E, BILLIONS USD / % TOTAL RETAIL SALES



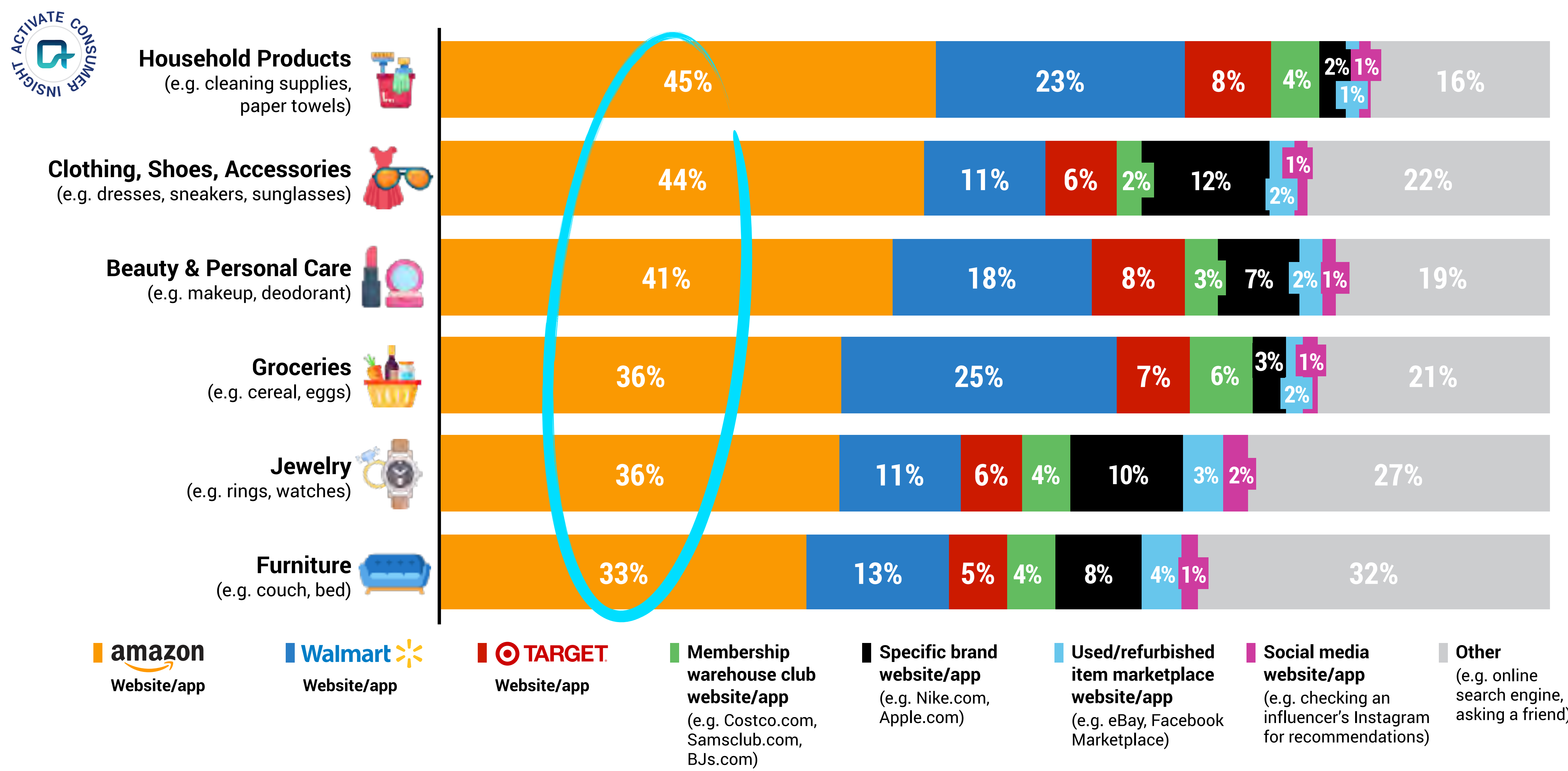
EXAMPLE ***BUY NOW, PAY LATER*** *SERVICES*

afterpay affirm Klarna. PayPal Pay in 4 splitit zip

1. Reflects Sept. 2020-Aug. 2021. 2. Reflects Sept. 2021-Aug. 2022. 3. "Likely" is defined as extremely, very, somewhat, or slightly likely.
Sources: Activate analysis, Activate 2021 Consumer Technology & Media Research Study (n = 4,018), Activate 2022 Metaverse & NFT Consumer Research Study (n = 3,078), eMarketer, Statista

When consumers are looking for specific products to purchase, Amazon is the go-to online channel to begin their search

CHANNELS USED TO START SEARCHES FOR SPECIFIC PRODUCTS ONLINE BY CATEGORY[1], U.S., 2022,
% ADULTS AGED 18+ WHO HAVE SHOPPED FOR PRODUCTS ONLINE IN EACH CATEGORY IN THE LAST 12 MONTHS

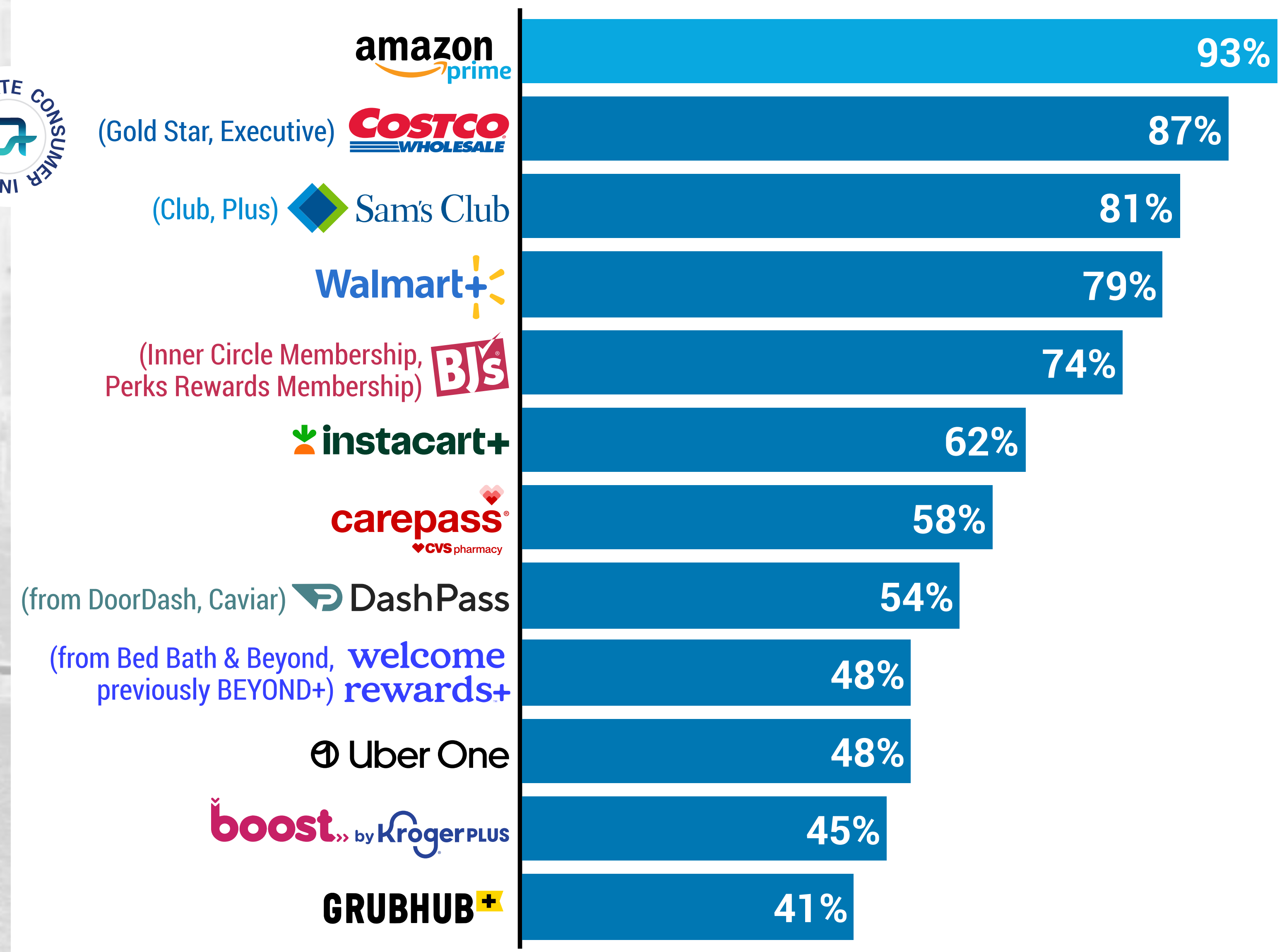


1. Figures do not sum to 100% due to rounding.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

Amazon Prime drives loyalty for Amazon as a platform; consumer demand for shopping program memberships goes well beyond Amazon to a broader set of providers

IMPORTANCE OF AMAZON PRIME BENEFITS, U.S., 2021, % ADULTS AGED 18+ WHOSE HOUSEHOLD PAYS FOR AMAZON PRIME

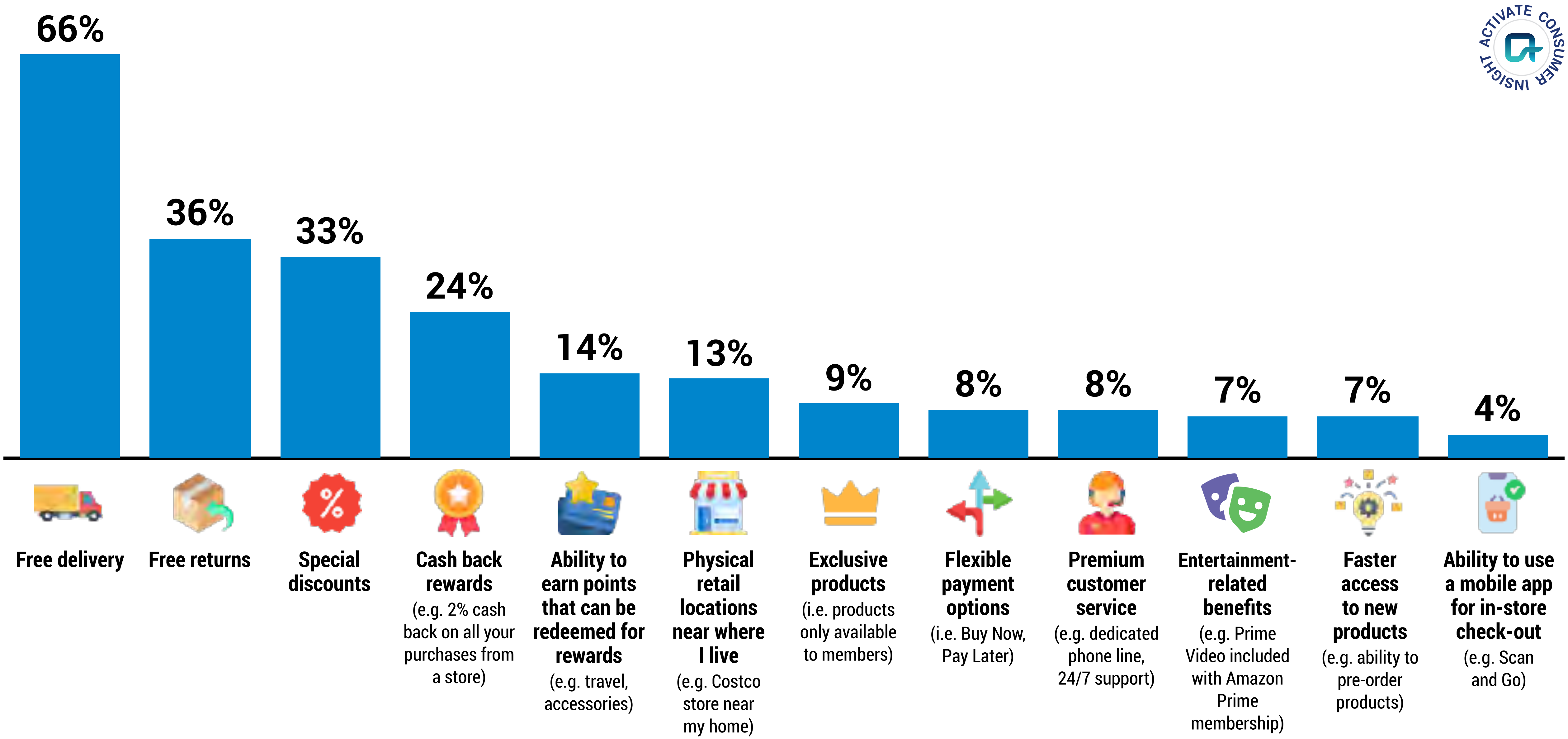
INTENT TO CONTINUE PAYING FOR PAID SHOPPING PROGRAM MEMBERSHIPS[1] IN THE NEXT 12 MONTHS, U.S., 2022, % ADULTS AGED 18+ WHOSE HOUSEHOLD CURRENTLY PAYS FOR EACH PAID SHOPPING PROGRAM MEMBERSHIP[1]



1. "Paid shopping program memberships" are defined as paid loyalty program memberships providing members exclusive access to benefits (e.g. Amazon Prime, Walmart+, Uber One).
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Activate COVID-19 Consumer Technology & Media Study May 2021 (n = 2,913), Company sites

When it comes to paid shopping program membership benefits, free delivery is considered the most important

TOP MEMBERSHIP BENEFITS[1] INFLUENCING SUBSCRIPTION TO A PAID SHOPPING PROGRAM MEMBERSHIP[2], U.S., 2022,
% ADULTS AGED 18+ WHOSE HOUSEHOLD CURRENTLY PAYS FOR AT LEAST ONE PAID SHOPPING PROGRAM MEMBERSHIP[2]



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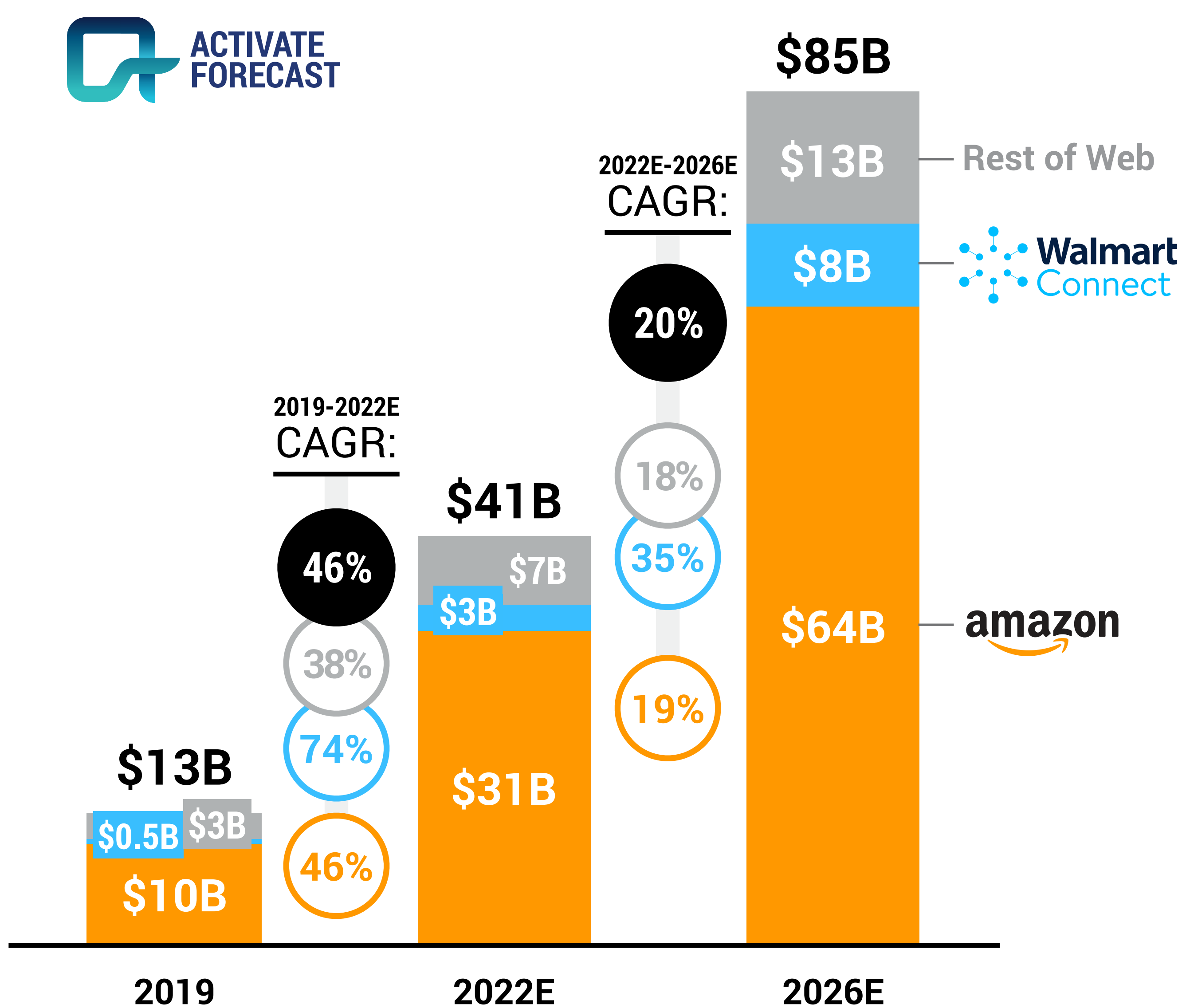
1. Consumers were asked to select up to 3 top reasons. 2. "Paid shopping program memberships" are defined as paid loyalty program memberships providing members exclusive access to benefits (e.g. Amazon Prime, Walmart+, Uber One).
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

WSJ TECH LIVE

Going forward, retail media networks will be increasingly instrumental in leveraging first-party data to provide retailers with greater personalization for customer experience and consumer targeting

RETAIL MEDIA NETWORK ADVERTISING SPEND[1], U.S., 2019 VS. 2022E VS. 2026E, BILLIONS USD



FEATURES DRIVING THE VALUE PROPOSITION OF RETAIL MEDIA NETWORKS

First-Party Customer Loyalty Data	Enables measurement of both offline and online sales, allowing **personalized, targeted advertising for brands** with the ability to activate against **highly customized segments**
Access to Scaled Marketplace Audiences	Provides **large, engaged audiences** who can be targeted with **relevant advertisements through an effective medium** (i.e. able to drive shopper behavior as close as possible to point of sale)
Accurate Sales Attribution Metrics	Measures **impact of advertisements through direct links to customer purchases**, allowing ongoing view of campaign performance and mid-campaign optimization
Partnerships with CTV Publishers	Allows **upper-funnel brand advertising**, facilitated through partnerships providing access to **CTV inventory** (e.g. Kroger & Roku, Target & Disney)

EMERGING RETAIL MEDIA NETWORKS

Kroger PRECISION MARKETING; ALBERTSONS MEDIA COLLECTIVE; Wag Walgreens Advertising Group; Uber JOURNEY ADS; Best Buy. Ads; instacart ads; macy's MEDIA NETWORK; TARGET ROUNDEL; COSTCO WHOLESALE; wayfair; THE HOME DEPOT Retail Media+

1. Includes digital advertising appearing on websites or apps engaged in retail or commerce, bought through a retailer's media network or demand-side platform. Figures do not sum due to rounding.
Sources: Activate analysis, Company filings, Company press releases, Company sites, Dunnhumby, eMarketer, Forrester

CONTENTS

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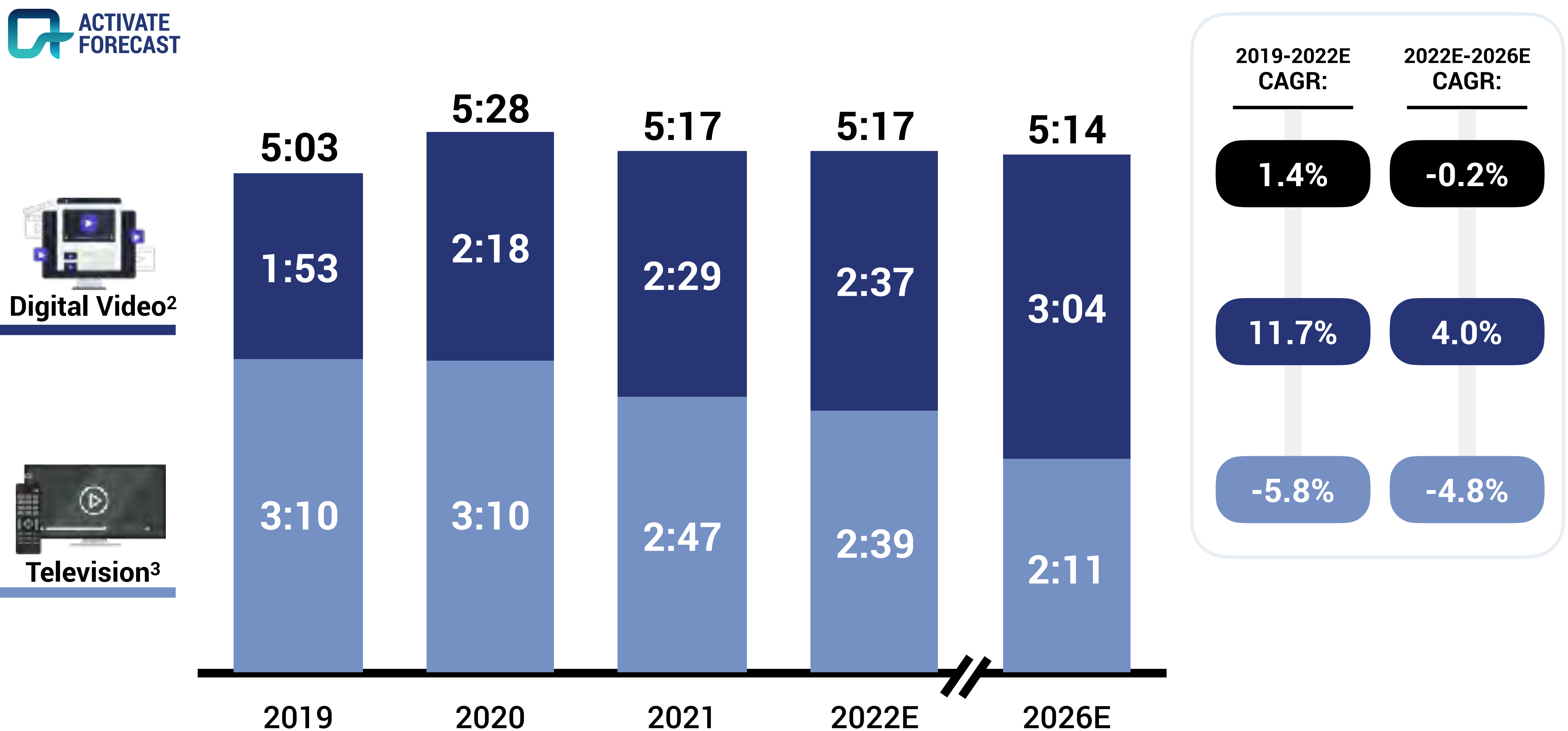
Overall time spent with video will remain flat through 2026, though digital video will continue to grow at the expense of traditional television

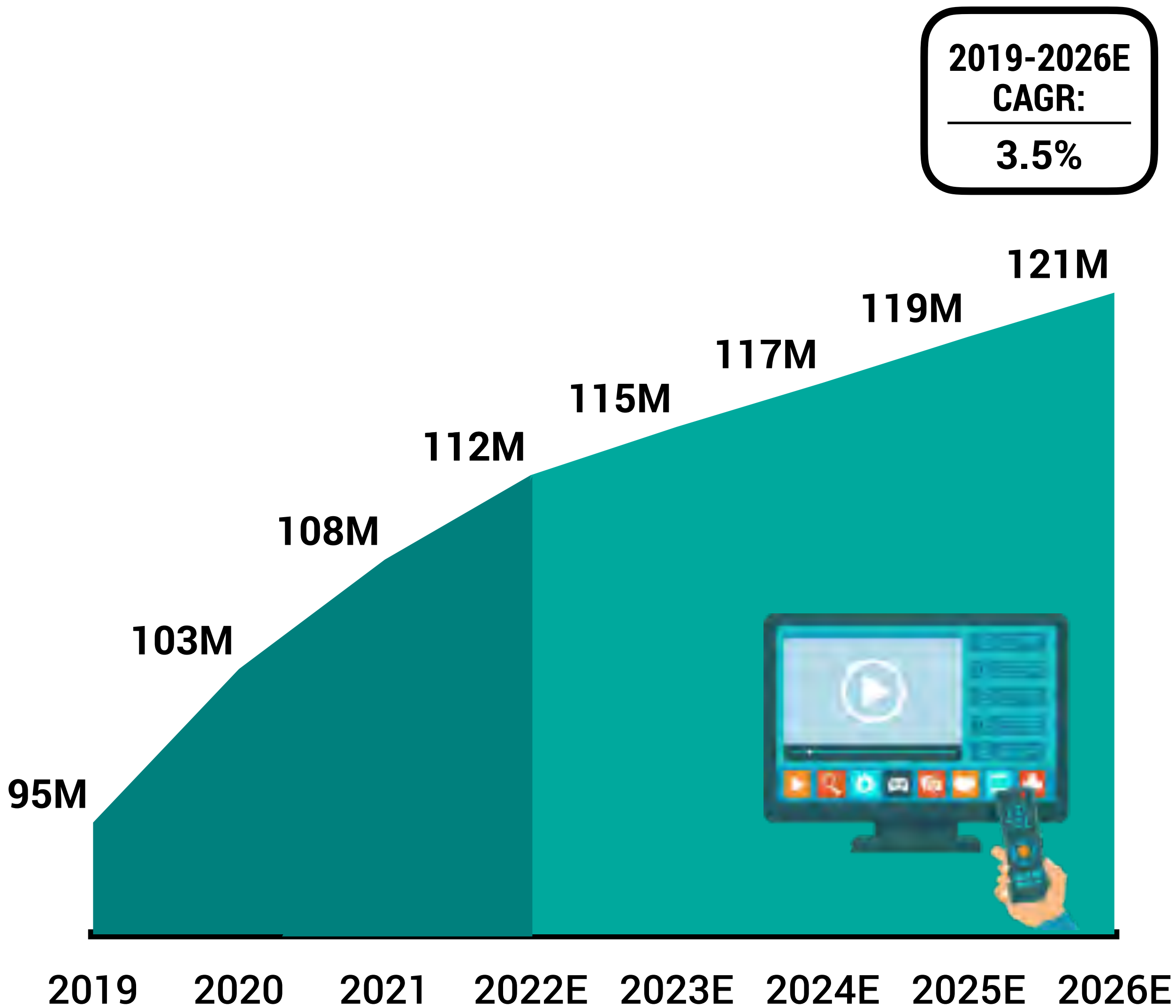
AVERAGE DAILY VIDEO TIME SPENT PER ADULT AGED 18+ BY TYPE[1], U.S., 2019-2022E VS. 2026E, HOURS:MINUTES



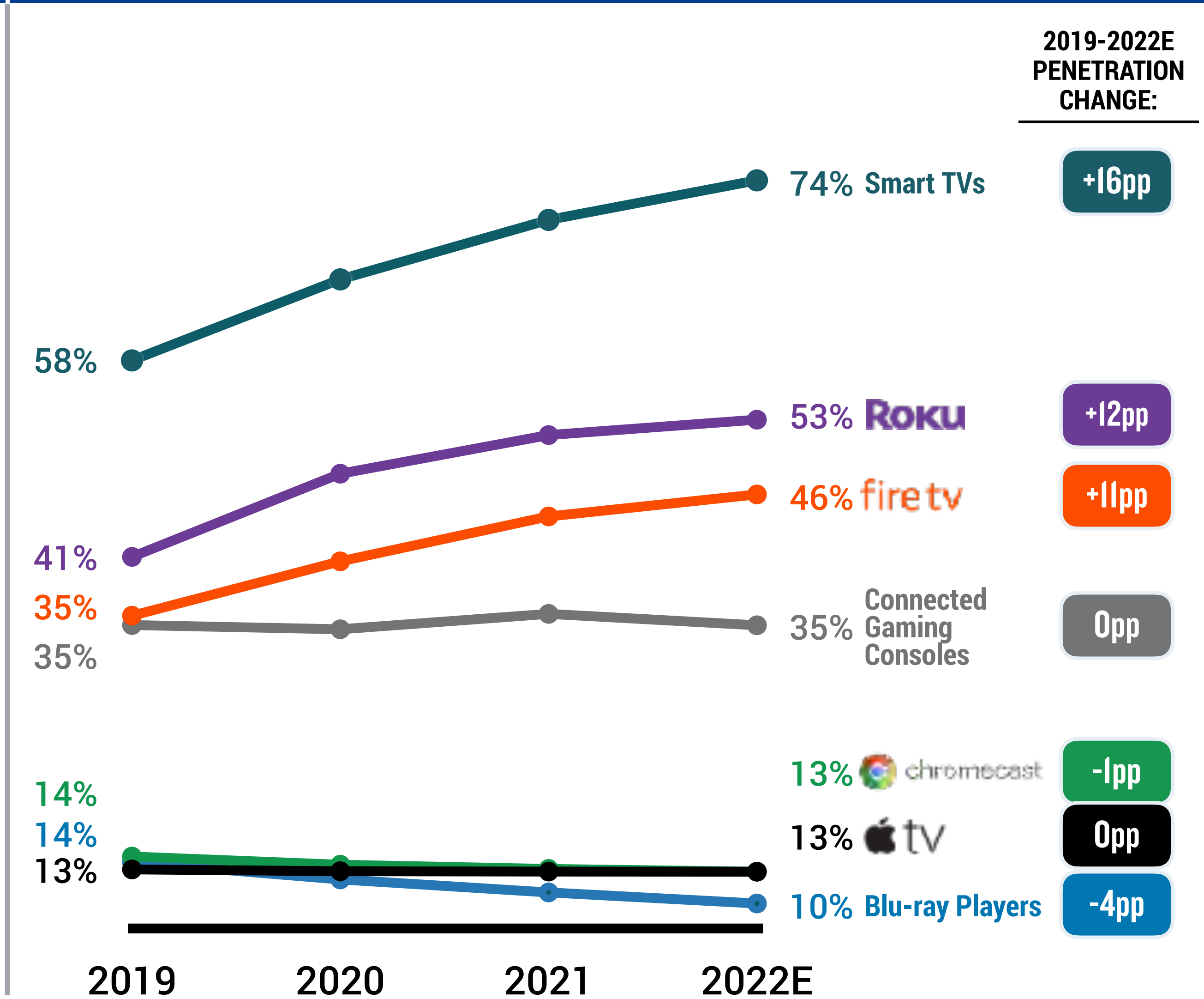
1. Figures do not sum due to rounding. 2. "Digital video" is defined as video watched on a mobile phone, tablet, desktop/ laptop, or Connected TV. Connected TVs are TV sets that can connect to the internet through built-in internet capabilities (i.e. Smart TVs) or through another device such as a streaming device (e.g. Amazon Fire TV, Apple TV, Google Chromecast, Roku), game console, or Blu-ray player. Does not include social video. 3. "Television" is defined as traditional live and time-shifted (e.g. DVR) television viewing.
Sources: Activate analysis, eMarketer, GWI, Nielsen, Pew Research Center, U.S. Bureau of Labor Statistics

Increasingly, Connected TVs will play a larger role in digital video consumption; nearly all U.S. households will have a Connected TV by 2026

CONNECTED TV HOUSEHOLDS[1,2],
U.S., 2019-2026E, MILLIONS HOUSEHOLDS



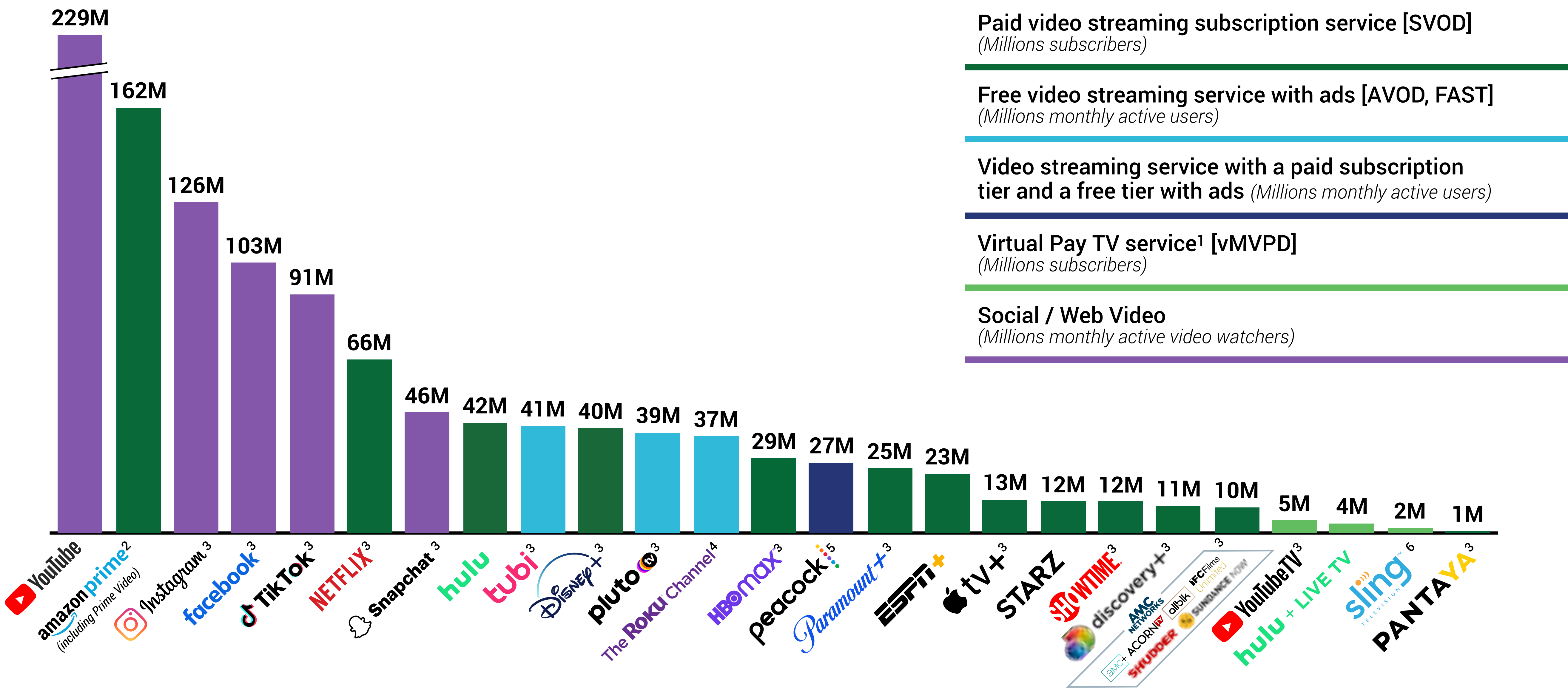
PENETRATION[3] BY SELECT CONNECTED TV DEVICES[1],
U.S., 2019-2022E, % CONNECTED TV MONTHLY USERS[4]



1. "Connected TVs" are defined as TV sets that can connect to the internet through built-in internet capabilities (i.e. Smart TVs) or through another device such as a streaming device (e.g. Amazon Fire TV, Apple TV, Google Chromecast, Roku), gaming console, or Blu-ray player. 2. "Connected TV households" are defined as households for which at least one person of any age uses the internet through a Connected TV at least once per month. 3. "Penetration" is defined as the share of Connected TV monthly users of any age who use the internet through the listed device at least once per month. Listed devices are not mutually exclusive. 4. "Connected TV monthly users" are defined as consumers of any age who use the internet through a Connected TV at least once per month.
Sources: Activate analysis, eMarketer, Leichtman Research Group

Digital video consumption is taking place across a wide range of platforms

ESTIMATED NUMBER OF SUBSCRIBERS/USERS/WATCHERS BY SELECT VIDEO STREAMING SERVICES,
U.S., Q2 2022, MILLIONS SUBSCRIBERS / MONTHLY ACTIVE USERS / MONTHLY ACTIVE VIDEO WATCHERS



Note: Figures reflect latest publicly disclosed statistics as of Oct. 2022, unless noted otherwise. 1. "Virtual Pay TV service" is defined as a service that delivers TV through the internet without a set-top box. 2. Reflects estimate of total Prime users. 3. Reflects estimate. 4. Reflects estimate of Roku monthly active accounts in North America viewing The Roku Channel. 5. Reflects monthly active accounts as of the end of Q3 2022. Includes 15M paid subscribers. 6. Includes Sling Blue and Orange.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), CNBC, Company filings, Company press releases, Company sites, eMarketer, Entertainment Strategy Guy, MoffettNathanson, Morgan Stanley

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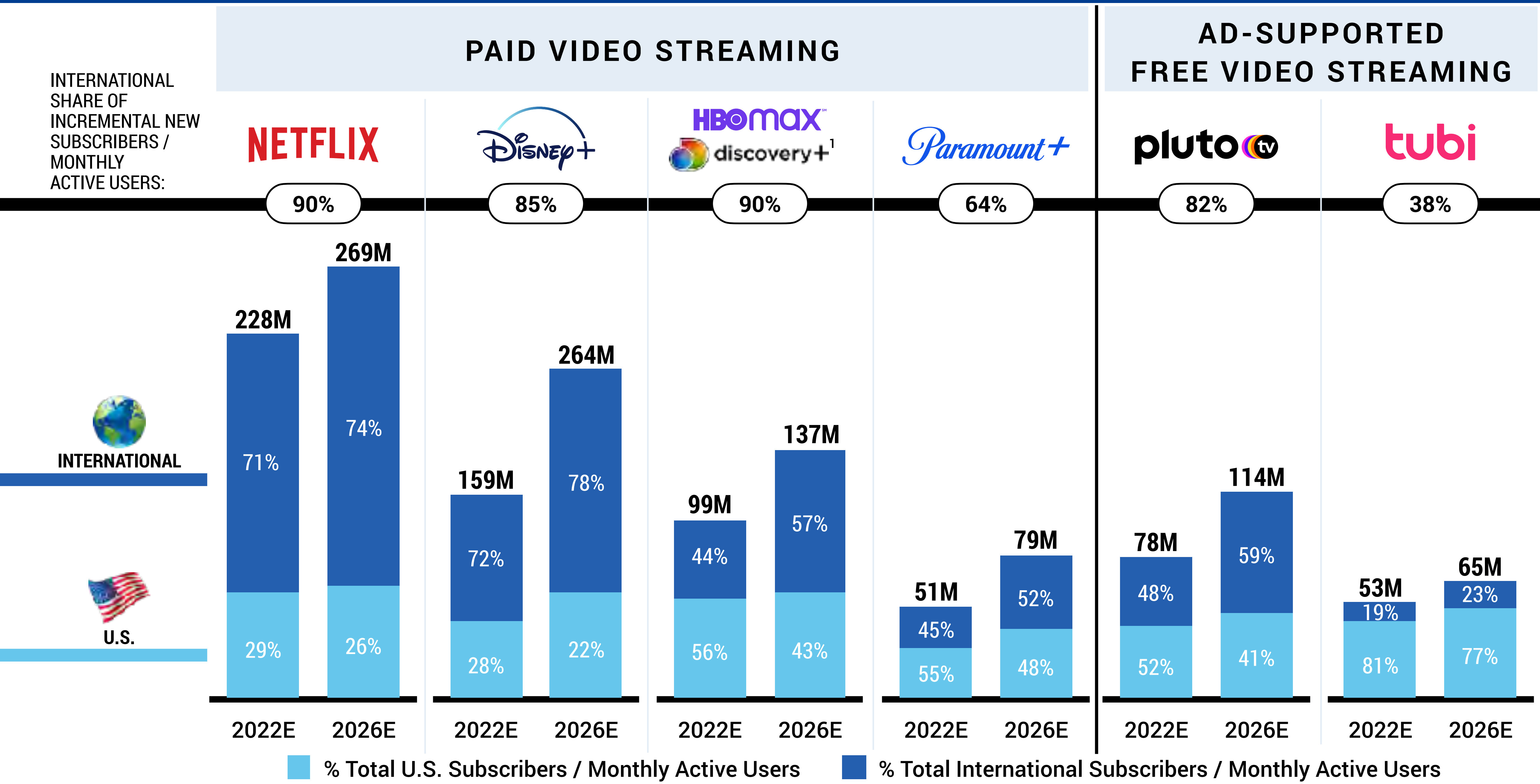
Major streaming platforms will rely on international markets to drive subscriber growth

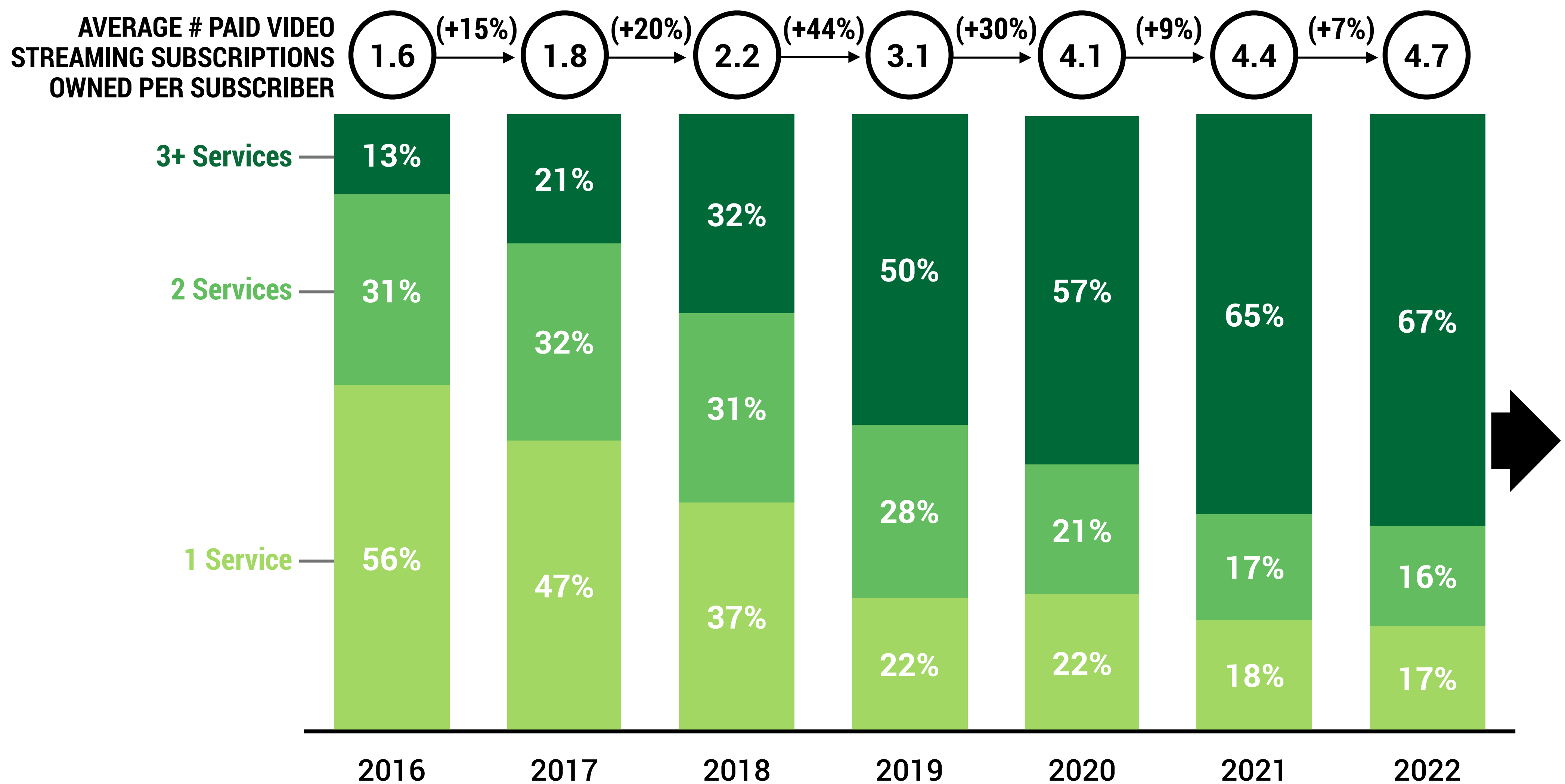
PAID STREAMING AND AD-SUPPORTED FREE STREAMING SUBSCRIBERS / MONTHLY ACTIVE USERS BY REGION,
GLOBAL, 2022E VS. 2026E, MILLIONS SUBSCRIBERS / MONTHLY ACTIVE USERS



1. Includes OTT and linear subscribers.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Bank of America, Company filings, Company press releases, Company sites, Eikon, eMarketer, Entertainment Strategy Guy, JP Morgan, MoffettNathanson, Morgan Stanley, S&P Global, Wells Fargo

By 2026, the average paid video streaming subscriber will have 6.3 subscriptions

NUMBER OF PAID VIDEO STREAMING SUBSCRIPTIONS OWNED PER PAYING SUBSCRIBER[1],
U.S., 2016-2022, % PAID VIDEO STREAMING SUBSCRIPTION OWNERS AGED 18+



ACTIVATE FORECAST

We forecast that the average paid video streaming subscriber will own **6.3 subscriptions by 2026**

1. Figures do not sum to 100% due to rounding. Includes both ad-supported and ad-free paid video streaming subscriptions.
Sources: Activate analysis, Activate 2016 Consumer Technology & Media Research Study (n = 4,000), Activate 2017 Consumer Technology & Media Research Study (n = 4,047), Activate 2018 Consumer Technology & Media Research Study (n = 4,000), Activate 2019 Consumer Technology & Media Research Study (n = 4,006), Activate 2020 Consumer Technology & Media Research Study (n = 4,003), Activate 2021 Consumer Technology & Media Research Study (n = 4,018), Activate 2021 Consumer Video Research Study (n = 2,014), Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Omdia, PricewaterhouseCoopers, U.S. Department of Labor

During the pandemic, direct-to-streaming strategies from HBO Max and Disney+ led to subscriber growth and retention

MOVIE RELEASE STRATEGIES BY HBO MAX AND DISNEY+, U.S., 2021

HBO max

All 2021 Warner Bros. movies were made available to stream through HBO Max for 31 days on the same day as their theatrical releases

Cost: Included with ad-free subscription ($14.99/month)

HBO MAX / WARNER BROS. 2021 PREMIERES:

Disney+ PREMIER ACCESS

Select Disney movies were made available for purchase through Disney+ Premier Access on the same day as their theatrical releases

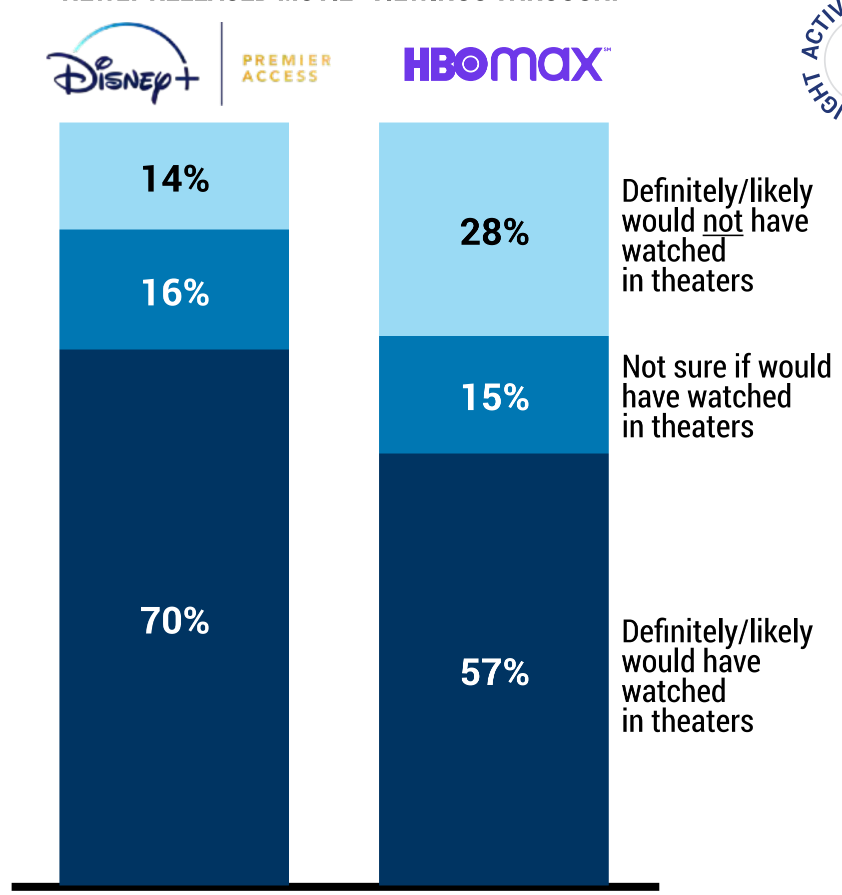
Cost: $29.99/movie plus price of Disney+ ($7.99/month)

DISNEY+ PREMIER ACCESS 2021 PREMIERES:

LIKELIHOOD OF HAVING GONE TO A THEATER TO WATCH NEWLY RELEASED MOVIES[1] VIEWED ON EACH SERVICE, U.S., 2021, % VIEWINGS OF NEWLY RELEASED MOVIES[1] ON DISNEY+ PREMIER ACCESS OR HBO MAX[2,3]

Had the movie not been available through Disney+ Premier Access or HBO Max and assuming personal health due to COVID-19 was not a concern…

NEWLY RELEASED MOVIE[1] VIEWINGS THROUGH:



IMPACT OF ACCESS TO NEWLY RELEASED MOVIES[1] FOR SELECT SUBSCRIPTIONS, U.S., 2021, % ADULTS AGED 18+ WHO VIEWED A NEWLY RELEASED MOVIE[1] ON DISNEY+ PREMIER ACCESS OR HBO MAX[2]

Of those who watched newly released movies[1] through Disney+ Premier Access or HBO Max, access to these movies influenced…

1. "Newly released movies" are defined as movies that are not yet widely available (i.e. only available in theaters or on Disney+ Premier Access / HBO Max). 2. If multiple newly released movies were viewed on Disney+ or HBO Max, answers for each movie/service were counted separately. 3. Viewings by adults aged 18+.
Sources: Activate analysis, Activate 2021 Consumer Video Research Study (n = 2,014)

In 2022, major film studios have returned to giving films an exclusive theatrical run but now have greater flexibility over theatrical window length

MOVIE RELEASE STRATEGIES BY SELECT MAJOR FILM STUDIOS, U.S., 2022

2022

ADHERENCE TO ~45-DAY THEATRICAL WINDOW: Tentpole films are given at least a 45-day theatrical window before they appear on streaming platforms

Jackass Forever was released exclusively in theaters on 2/4/22 and arrived on Paramount+ 45 days later

Paramount+

Sonic the Hedgehog 2 was released exclusively in theaters on 4/8/22 and arrived on Paramount+ 45 days later

Paramount+

The Batman was released exclusively in theaters on 3/4/22 and arrived on HBO Max 45 days later

WARNER BROS. PICTURES HBO max

DC League of Super-Pets was released exclusively in theaters on 7/29/22 and arrived on HBO Max 45 days later

WARNER BROS. PICTURES HBO max

Lightyear was released exclusively in theaters on 6/17/22 and arrived on Disney+ 47 days later

Disney+

FURTHER FLEXIBILITY / "CASE-BY-CASE": Some films are receiving longer theatrical windows before reaching streaming platforms

Top Gun: Maverick was released exclusively in theaters on 5/27/22, and the film's Paramount+ arrival date has yet to be announced; it is the top-grossing film of 2022 so far (~$715M in U.S. box office revenue as of 10/13/22)

Paramount+

Elvis was released exclusively in theaters on 6/24/22 and arrived on HBO Max 70 days later; the film grossed over $150M in U.S. box office revenue

WARNER BROS. PICTURES HBO max

Thor: Love and Thunder was released exclusively in theaters on 7/8/22 and arrived on Disney+ over 60 days later; the film grossed over $340M in U.S. box office revenue

MARVEL STUDIOS Disney+

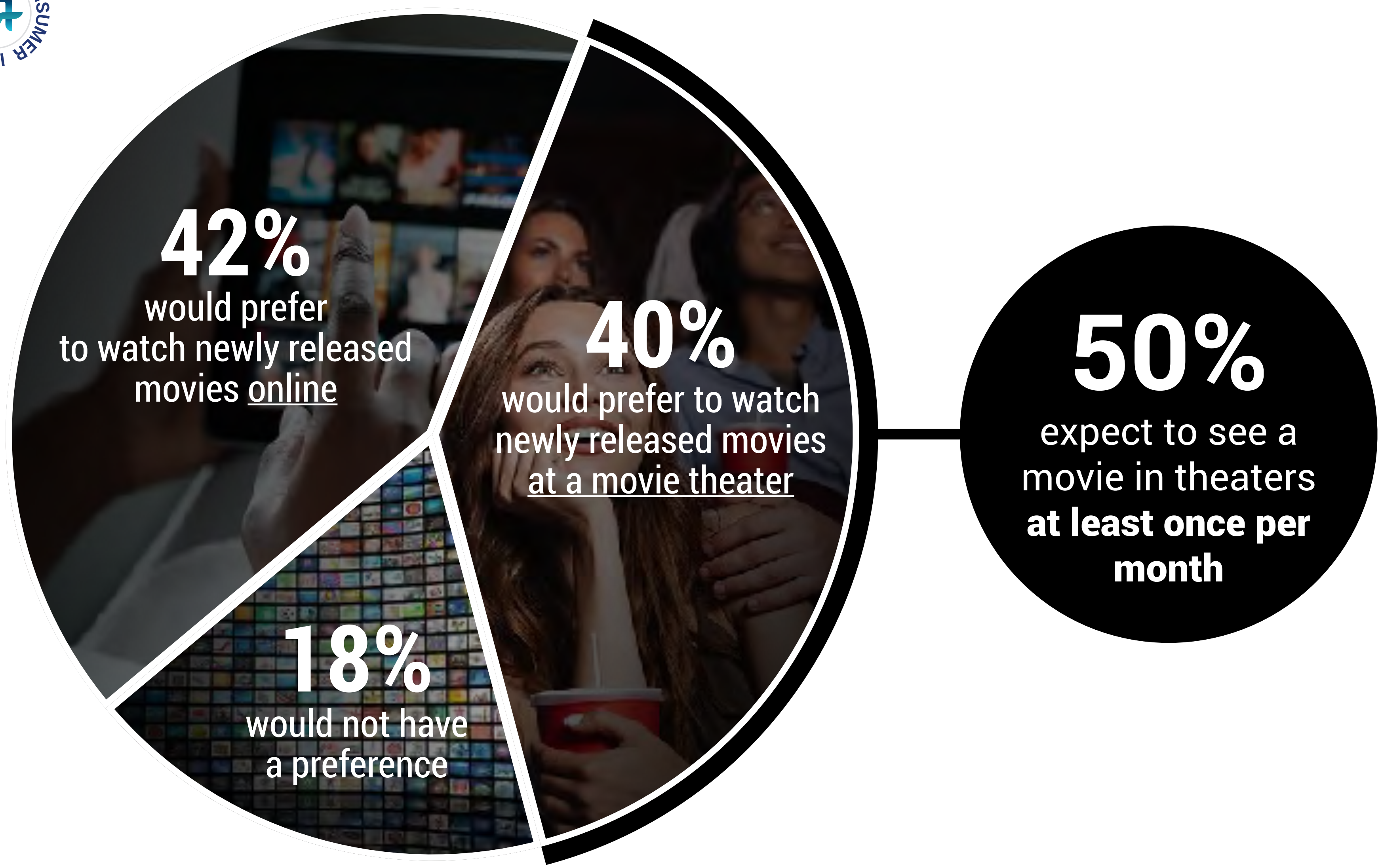
STUDIO/EXHIBITOR DEAL EXAMPLES

STUDIO	EXHIBITORS	DEAL DETAILS
UNIVERSAL (A Comcast Company)	AMC Theatres; Cinemark; Cineworld	Greater than $50M opening weekend box office gross: 31-day exclusive theatrical window Less than $50M opening weekend box office gross: 17-day exclusive theatrical window; Universal then has the option to release the film digitally
WARNER BROS. PICTURES	AMC Theatres; Cinemark; Cineworld	45-day exclusive theatrical window, followed by digital release

Sources: Activate analysis, Box Office Mojo, Company sites, Deadline, S&P Global, Variety

There is a sizable audience who prefers to watch newly released movies in theaters, validating movie studios' renewed focus on theatrical releases

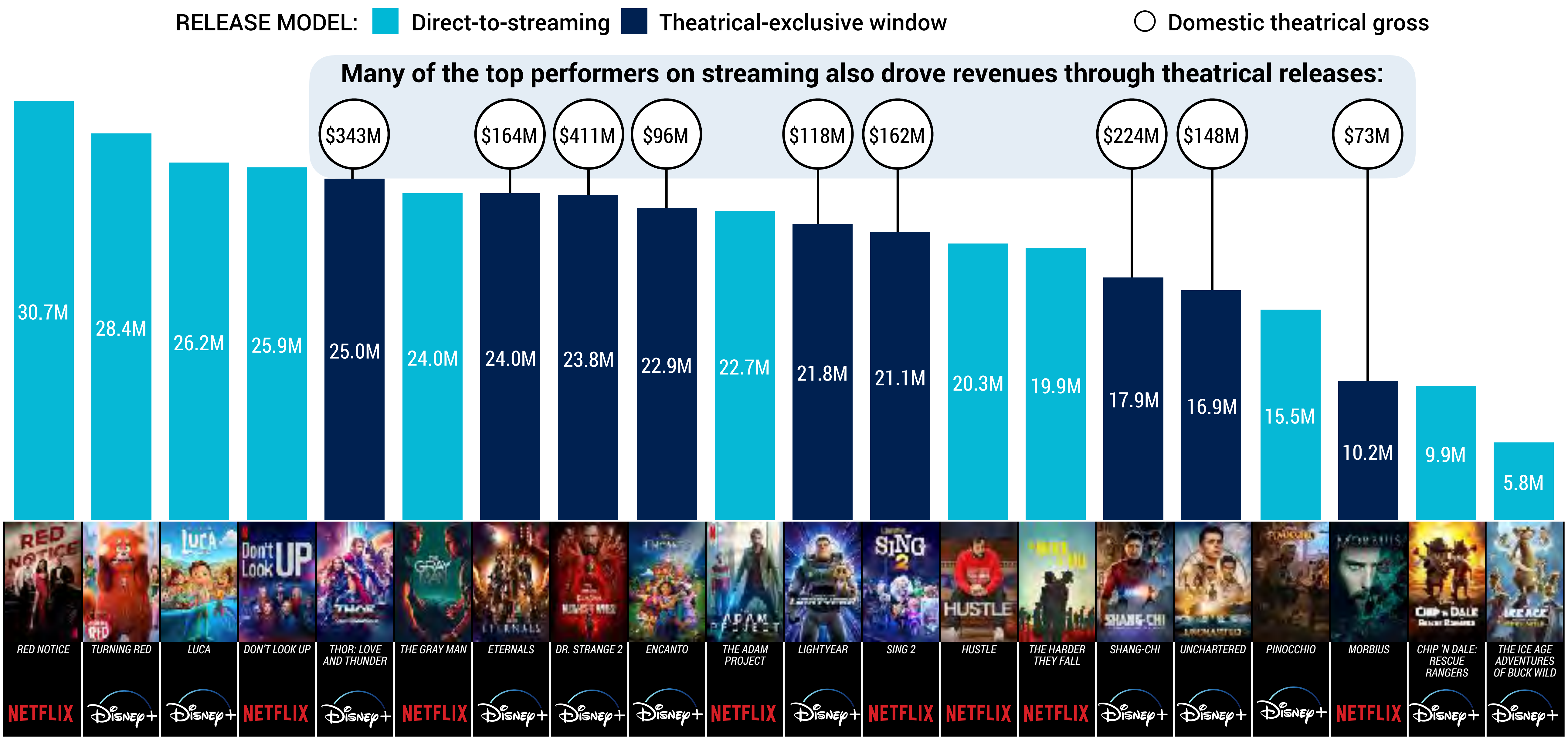
PREFERENCE FOR WATCHING NEWLY RELEASED MOVIES, U.S., 2022, % ADULTS AGED 18+



Sources: Activate analysis, Activate 2022 Metaverse & NFT Consumer Research Study (n = 3,078)

Many top performing films on streaming also drove substantial theatrical revenues, suggesting that a theatrical window does not cannibalize engagement on streaming platforms

TOTAL HOURS WATCHED IN DEBUT WEEK ON STREAMING[1], U.S., JAN. 2021-SEPT. 2022, MILLIONS HOURS



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1. Based on viewership during debut week on paid streaming services (as determined by Nielsen Streaming Content Ratings). SVOD services measured include Netflix, Disney+, Amazon Prime Video, HBO Max, and Hulu. Reflects films streamed by persons aged 2+. Excludes movies released via Disney+ Premier Access.
Sources: Activate analysis, Box Office Mojo, Entertainment Strategy Guy, Nielsen Streaming Content Ratings

WSJ TECH LIVE

Streaming content spend on original series and movies is growing to drive increased consumption

STREAMING SERVICE CONTENT SPEND BY COMPANY[1], GLOBAL, 2021 VS. 2026E, BILLIONS USD

Company	2021	2026E	2021-2026E CAGR:	Select major content investments
Netflix	$17.5B	$21.1B	4%	The Gray Man, The Sandman, Glass Onion: A Knives Out Mystery
Disney+ Hotstar, Hulu, ESPN+	$6.3B	$19.8B	26%	Star Wars: Obi-Wan Kenobi, Moon Knight, The Bear
Prime Video, Freevee	$9.1B	$18.4B	15%	The Lord of the Rings: The Rings of Power, Thursday Night Football, Reacher
HBO Max, discovery+	$2.1B	$11.2B	40%	Game of Thrones: House of the Dragon, Tokyo Vice, Minx
Apple TV+	$6.0B	$9.7B	10%	Severance, The Tragedy of Macbeth, CODA
Paramount+, Showtime, Pluto TV	$1.3B	$6.6B	38%	iCarly Reboot, Halo, SEAL Team
Peacock	$1.5B	$6.6B	34%	Meet Cute, The Resort, Bel-Air

1. Represents cash content spend.
Sources: Activate analysis, MoffettNathanson, Wells Fargo

Movie consumption on streaming is driven by new releases – of the top 30 movies streamed in 2022 so far, only three films were released before 2021

TOP 30 MOST STREAMED FILMS ON PAID VIDEO STREAMING SUBSCRIPTION SERVICES[1], U.S., DEC. 2021-SEPT. 2022[2], BILLIONS MINUTES STREAMED

Only three movies in the Top 30[1] were released before 2021

LEGEND

XXXX | XX | X.XB

RATING

BILLIONS MINUTES

RELEASE YEAR

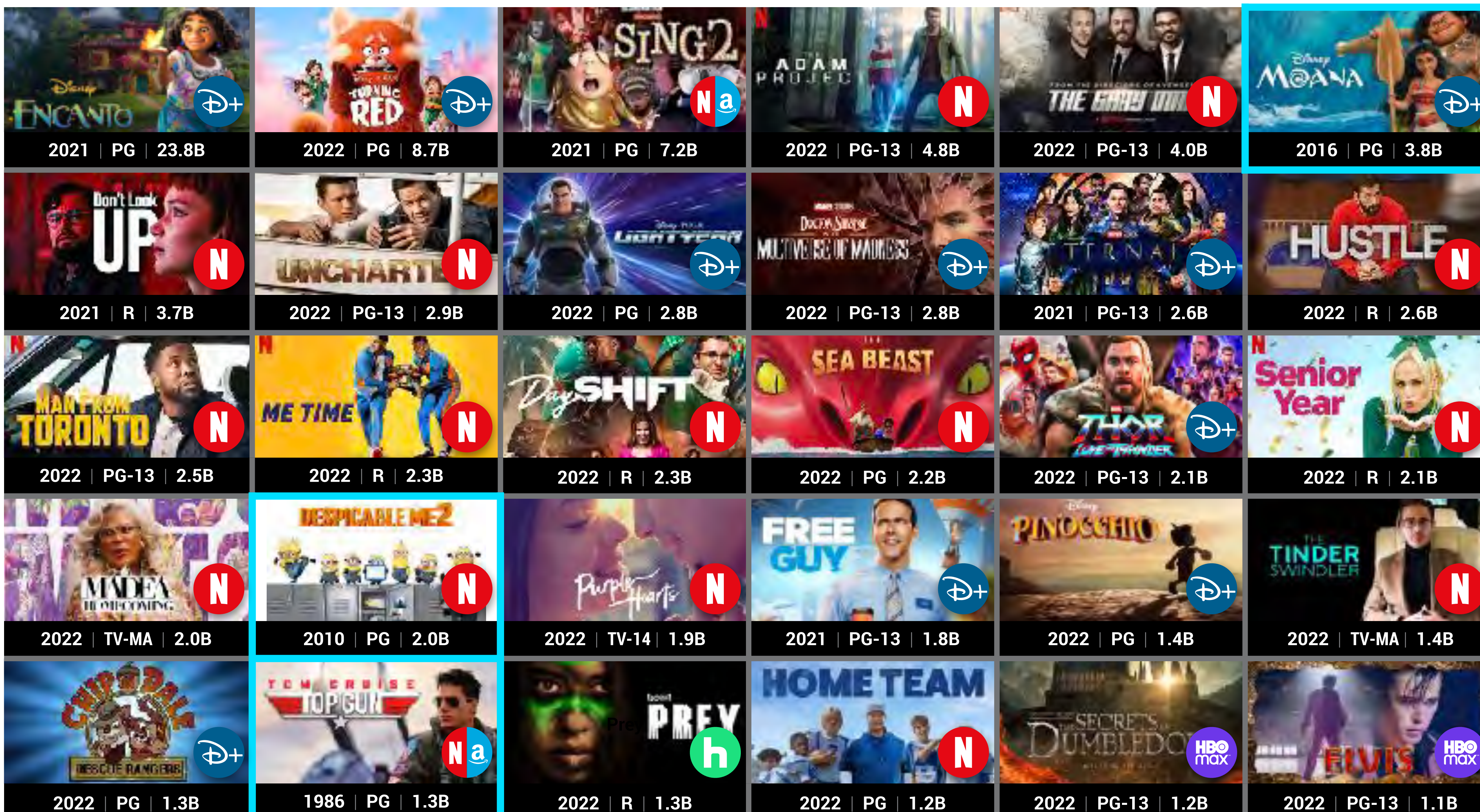
= Disney+

= Netflix

= Amazon Prime Video

= Hulu

= HBO Max



1. Based on aggregate viewership of weekly top 10 most viewed films across select paid video streaming subscription services (determined by Nielsen Streaming Content Ratings). Services measured include Amazon Prime Video, Disney+, HBO Max, Hulu, and Netflix. Includes films streamed by persons aged 2+.
2. Period spanning Dec. 27, 2021 to Sept. 18, 2022.
Sources: Activate analysis, Nielsen Streaming Content Ratings

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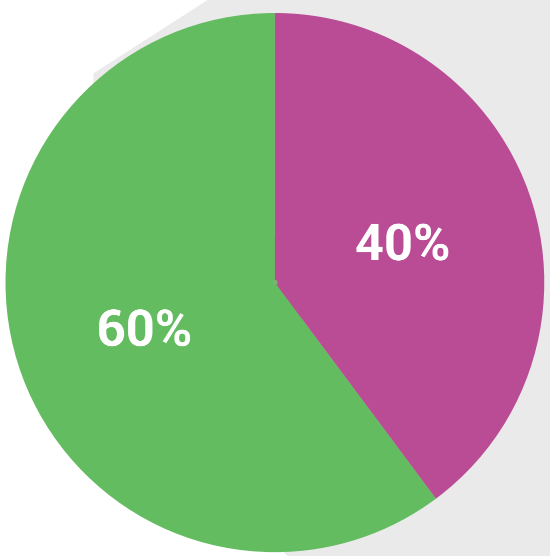
Nielsen ACTIVATE DATA PARTNER

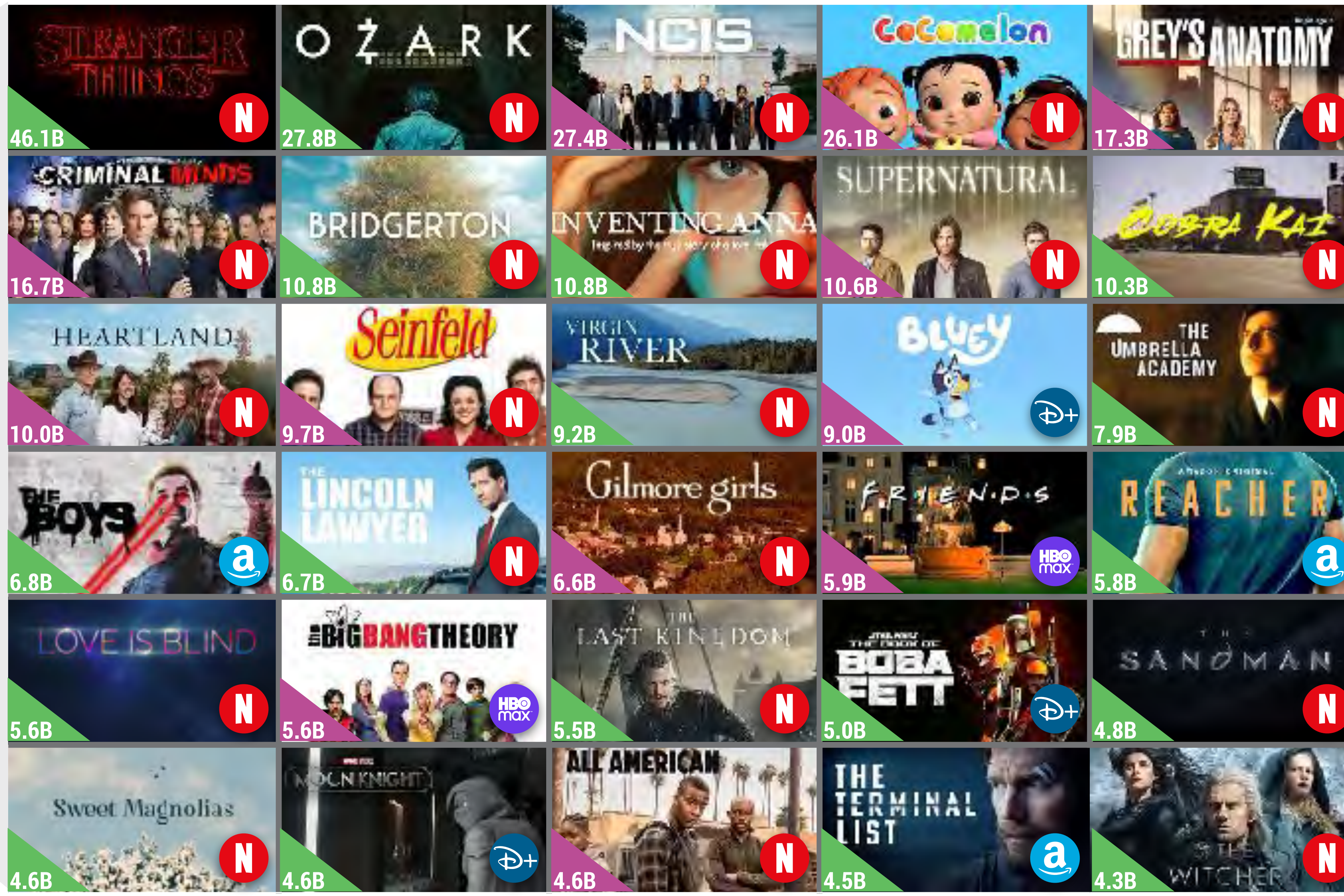
WSJ TECH LIVE

Original and acquired series are critical to drive viewing and engagement

TOP 30 MOST STREAMED SERIES ON PAID VIDEO STREAMING SUBSCRIPTION SERVICES[1], U.S., DEC. 2021-SEPT. 2022[2], BILLIONS MINUTES STREAMED

ORIGINAL VS. ACQUIRED VIEWING SHARE OF TOP 30 SERIES STREAMED ON PAID STREAMING SUBSCRIPTION SERVICES[1], *U.S., DEC. 2021-SEP. 2022[2],% TOTAL MINUTES STREAMED[1]*





LEGEND

X.X ORIGINAL — X.X ACQUIRED

= Disney+

= Netflix

= Amazon Prime Video

= HBO Max

1. Based on aggregate viewership of weekly top 10 most viewed series across select paid video streaming subscription services (determined by Nielsen Streaming Content Ratings). Services measured include Amazon Prime Video, Disney+, HBO Max, Hulu, and Netflix. Includes series streamed by persons aged 2+.
2. Period spanning Dec. 27, 2021 to Sept. 18, 2022.
Sources: Activate analysis, Nielsen Streaming Content Ratings

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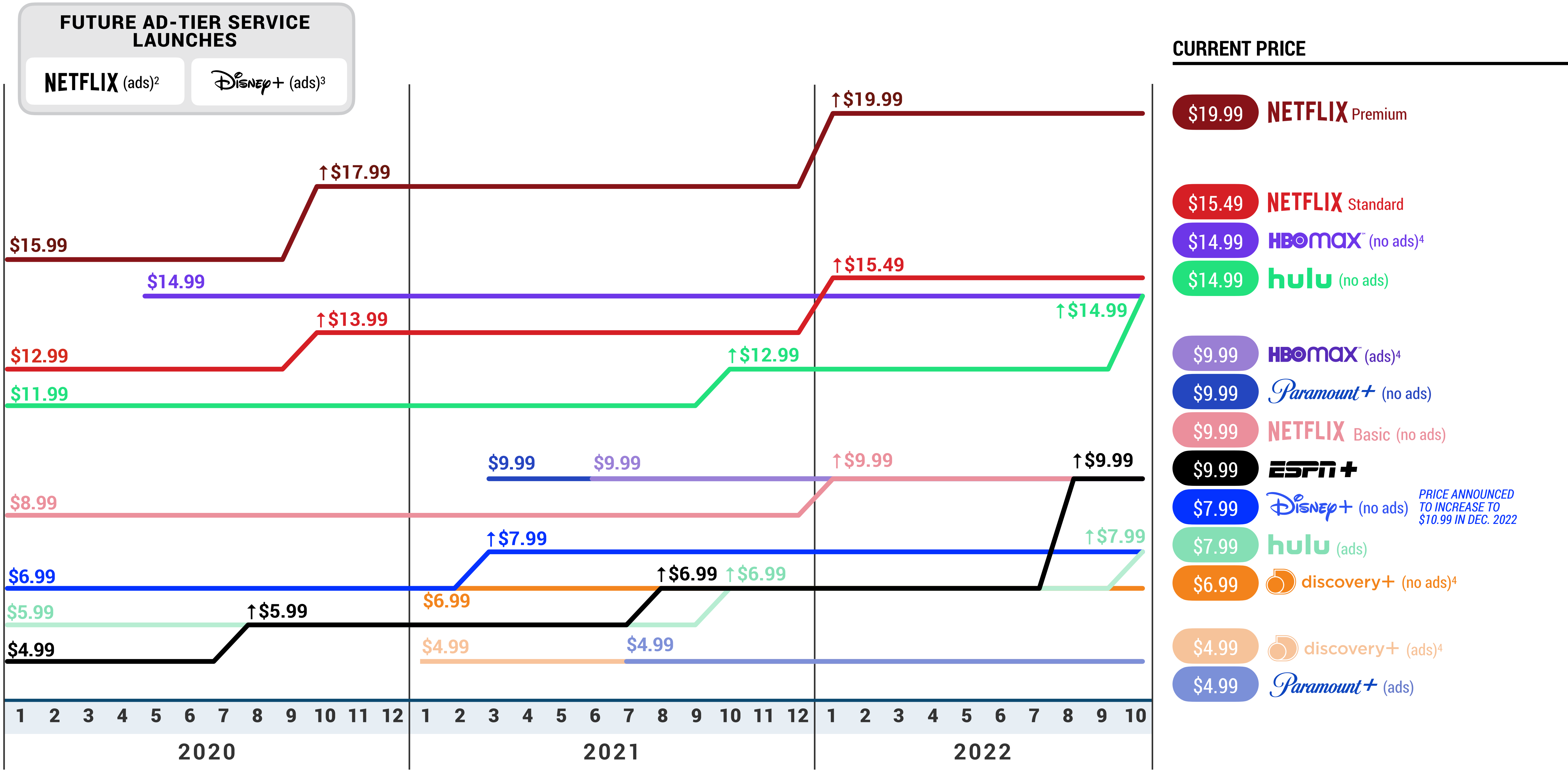
Nielsen ACTIVATE DATA PARTNER

WSJ TECH LIVE

As services have become more established and increased in scale, they have raised prices to drive monetization

MONTHLY STANDARD SUBSCRIPTION PRICES OF SELECT PAID VIDEO STREAMING SERVICES, U.S., JAN. 2020-OCT. 2022[1], USD



1. As of Oct. 1, 2022. 2. Reported launch date: Nov. 3, 2022. Cost for Netflix Basic with ads: $6.99. 3. Reported launch date: Dec. 8, 2022. Cost for Disney+ with ads: $7.99. 4. By summer 2023, HBO Max and Discovery+ expected to merge into a new streaming service; name, exact launch date, and subscription price have not been announced.
Sources: Activate analysis, Company press releases, Company sites

As individual streaming service prices increase, consumers will increasingly turn to bundles offering higher value

TODAY: MEDIA COMPANIES BUNDLE THEIR OWN VIDEO STREAMING SERVICES TO DRIVE SUBSCRIPTION GROWTH

NOT EXHAUSTIVE

MEDIA COMPANY	BUNDLES
Disney	Disney+, hulu, ESPN+ Price[2]: \$13.99[3] (\$25.97 value)
Paramount	Paramount+, SHOWTIME Price[2]: \$11.99 (\$15.98 value)
AMC NETWORKS	AMC+[4] IFC Films Unlimited, SHUDDER, SUNDANCE NOW Price[2]: \$8.99 (\$18.97 value)

FUTURE: BUNDLING WILL CONTINUE AND EXPAND TO INCLUDE VIDEO STREAMING SERVICES ACROSS PARENT COMPANIES

POTENTIAL SERVICES FOR BUNDLING

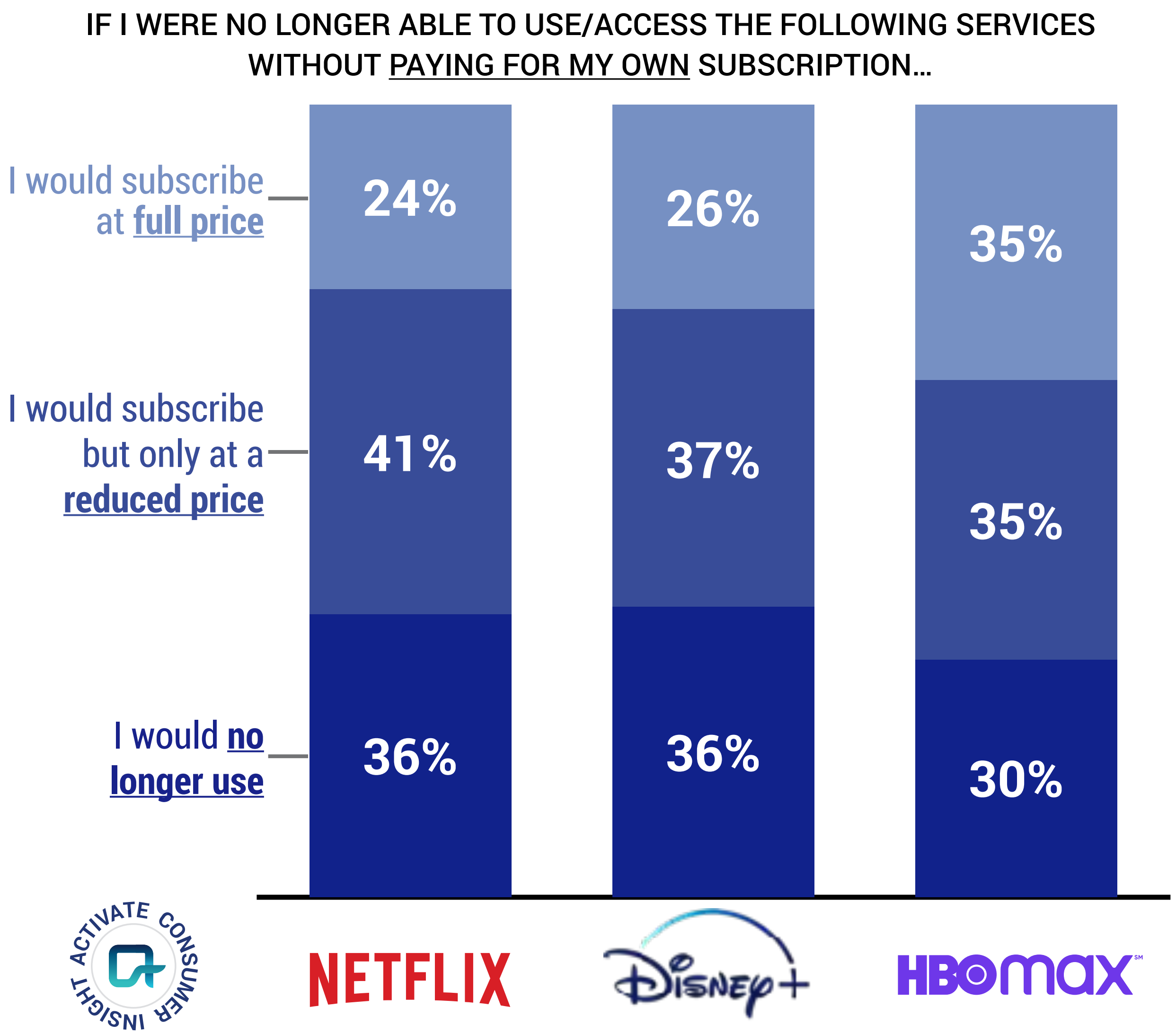
NOT EXHAUSTIVE

tv+	britbox	THE CRITERION CHANNEL
crunchyroll	Curiosity STREAM	Disney+
ESPN+	F1 TV Access	HBO max
hulu	MLB.TV	NBA League Pass
NETFLIX	NFL+	noggin
PANTAYA	Paramount+	peacock
SHUDDER	STARZ	UFC FIGHT PASS

1. Not exhaustive. 2. Prices reflect the ad-supported monthly service tiers when applicable. Prices as of Oct. 23, 2022. 3. Price announced to increase to \$14.99 on Dec. 8, 2022. 4. AMC+ also includes additional content from AMC, BBC America, IFC, and Sundance TV.
Sources: Activate analysis, Company press releases, Company sites

Streaming players have also signaled that they will crack down on password sharing, which could convert non-paying borrowers to paying subscribers

EXPECTED RESPONSE TO PASSWORD-SHARING CRACKDOWN ON PAID STREAMING SUBSCRIPTION BORROWER BEHAVIOR[1,2], U.S., 2022, % PAID STREAMING SUBSCRIPTION BORROWERS[1]



STREAMING PLAYERS ARE TAKING MEASURES TO MINIMIZE PASSWORD SHARING

NETFLIX

Netflix unveils "add a home" feature to curb password sharing | July 19, 2022 | Fierce Video

"Starting next month, Netflix subscribers in select Latin American countries will be able to purchase up to a certain number of additional homes, depending on the subscription tier."

Disney+ may be next to crack down on password sharing | May 5, 2022 | Protocol

"Disney recently sent out a questionnaire to subscribers in Spain, asking them why they are sharing their Disney+ passwords with people outside of their own household."

HBO max

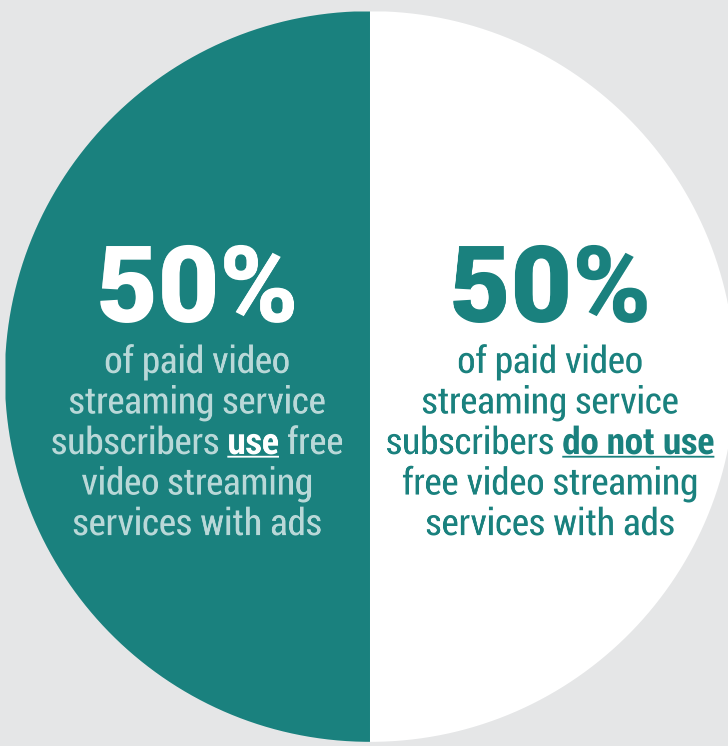
AT&T: HBO Max has built-in features to mitigate password sharing | April 21, 2022 | Fierce Video

"AT&T incorporated features into HBO Max to crack down on password sharing and actions considered as 'rampant abuse' of the streaming service."

1. "Paid streaming subscription borrowers" are defined as adults aged 18+ who use a subscription paid for by someone outside of the household. 2. Figures do not sum to 100% due to rounding.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Fierce Video, Protocol

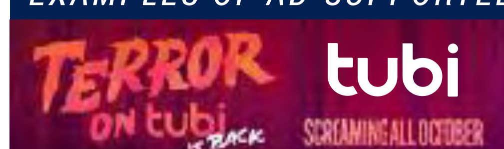
To capture audience time, ad-supported free streaming services have been investing in original programming and deepening their library of content

USE OF FREE VIDEO STREAMING SERVICES WITH ADS[1] BY PAID VIDEO STREAMING SERVICE SUBSCRIBERS, U.S., 2022, % PAID VIDEO WATCHERS[2]



CONTENT TYPES FREQUENTLY[3] WATCHED ON SELECT AD-SUPPORTED FREE STREAMING SERVICES[4], U.S., 2022, % AD-SUPPORTED FREE STREAMING USERS OF SELECT SERVICES[5]

EXAMPLES OF AD-SUPPORTED FREE STREAMING SERVICES INVESTING IN ORIGINAL CONTENT



Tubi is streaming 27,000 hours of Halloween-related content throughout October 2022, including 6 brand-new Tubi Originals

The Roku Channel

Weird: The Al Yankovic Story **| Released Sept. 8, 2022**

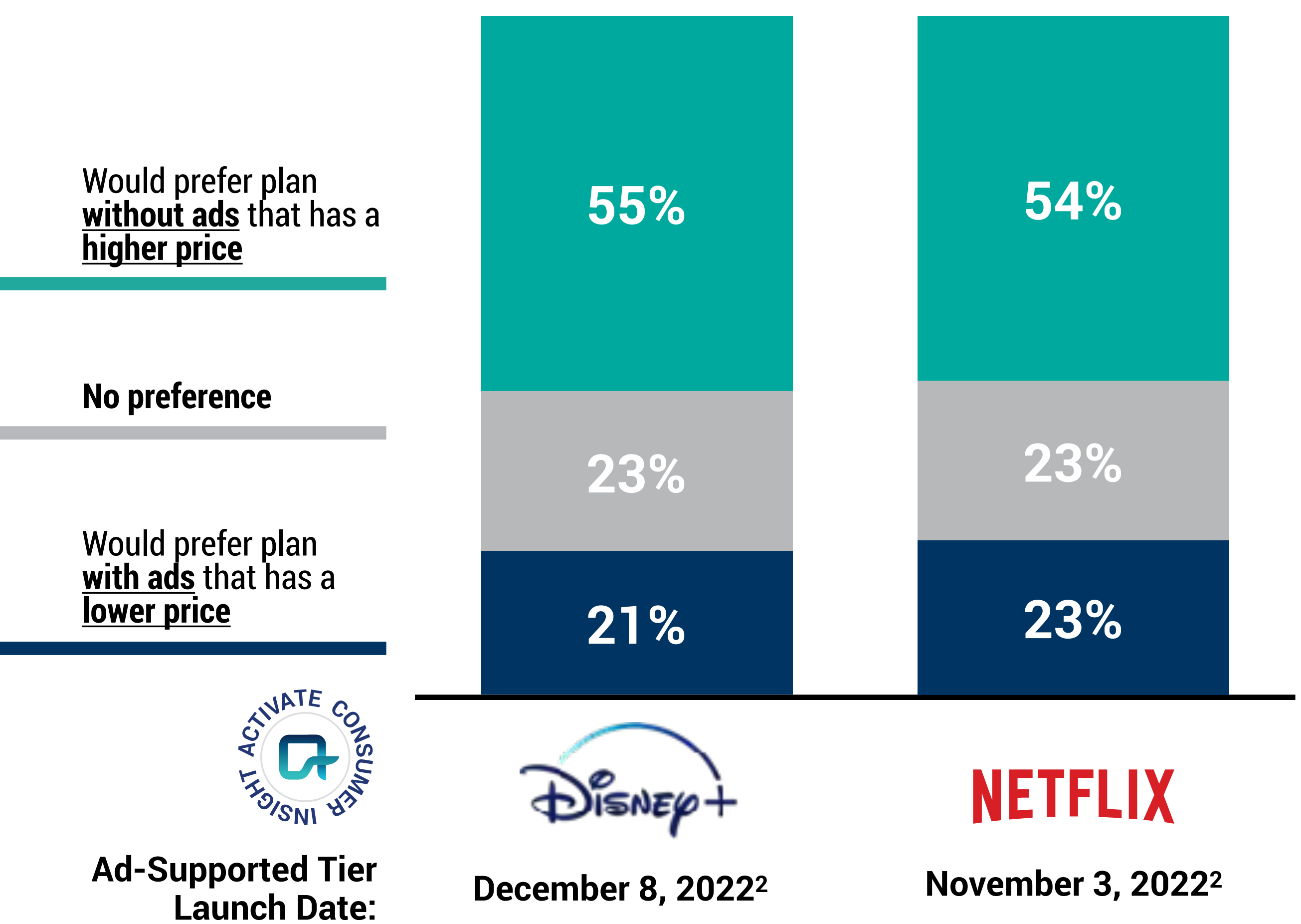
- A music biopic parody of Weird Al Yankovic, starring Daniel Radcliffe
- A 2022 Toronto International Film Festival's People's Choice winner in the Midnight Madness Award category

1. YouTube and Twitch excluded due to their focus on user-generated video. 2. "Paid video watchers" are defined as adults aged 18+ who use at least one paid video streaming subscription service at least once per month. 3. "Frequently" is defined as a 4 or 5 on a scale of 1-5, where 5 represents "I frequently watch this type of content on this service" and 1 represents "I never watch this type of content on this service." 4. Includes Pluto TV, Tubi, and XUMO. 5. "Ad-supported free streaming users" are defined as adults aged 18+ who use either Pluto TV, Tubi, or XUMO to watch video.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Company press releases, Company sites

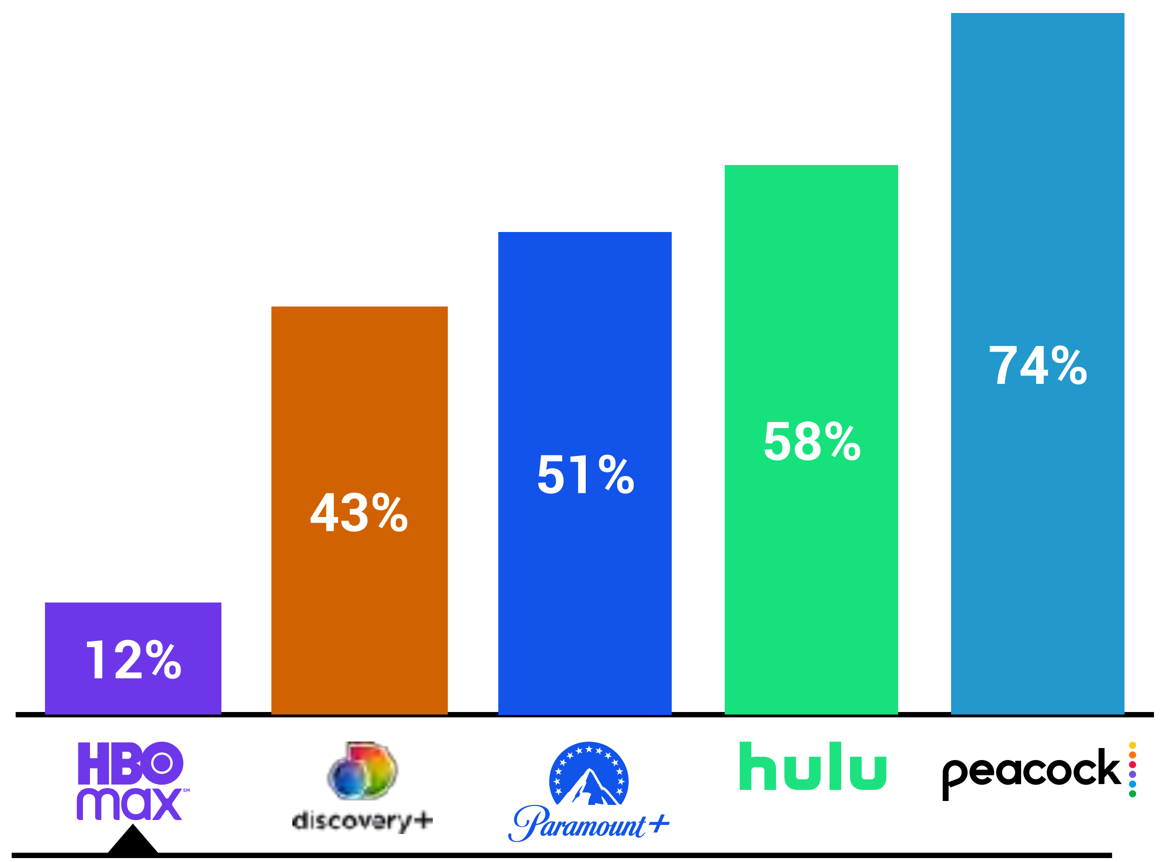
Paid video streaming services are launching ad-supported tiers to better align with consumer preferences

EXPECTED RESPONSE TO PAID STREAMING SUBSCRIPTION SERVICES LAUNCHING LOWER-PRICED PLANS WITH ADS[1], U.S., 2022, % CURRENT DISNEY+/ NETFLIX USERS AGED 18+

If Disney+/Netflix offered a new lower-priced plan with ads…



AD-SUPPORTED SUBSCRIPTIONS AS A SHARE OF TOTAL SUBSCRIPTIONS BY SERVICE, U.S., JUNE 2022, % SUBSCRIBERS FOR EACH SERVICE[3]

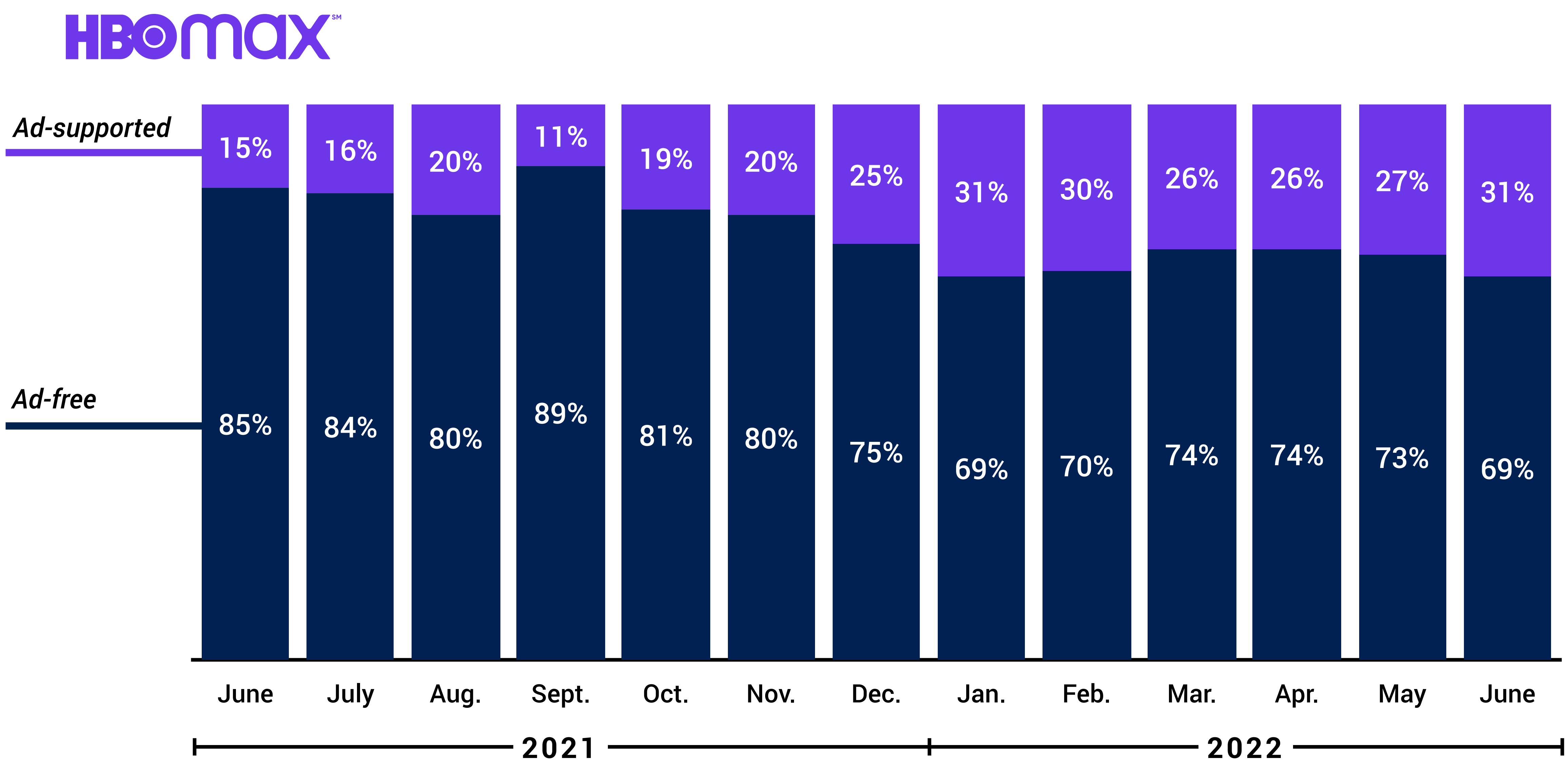


HBO Max launched with only an ad-free offering on May 27, 2020 while its ad-supported tier was not offered until June 2, 2021; the other streaming platforms shown launched ad-free and ad-supported tiers at similar times, which increased the uptake of their ad-supported tiers

1. Figures do not sum to 100% due to rounding. 2. Reported launch date. 3. Does not include sign-ups via Pay TV / Telco distribution or select bundles.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Antenna, Company sites

HBO Max's experience demonstrates that adding an ad-supported tier can be an effective way to drive customer acquisition

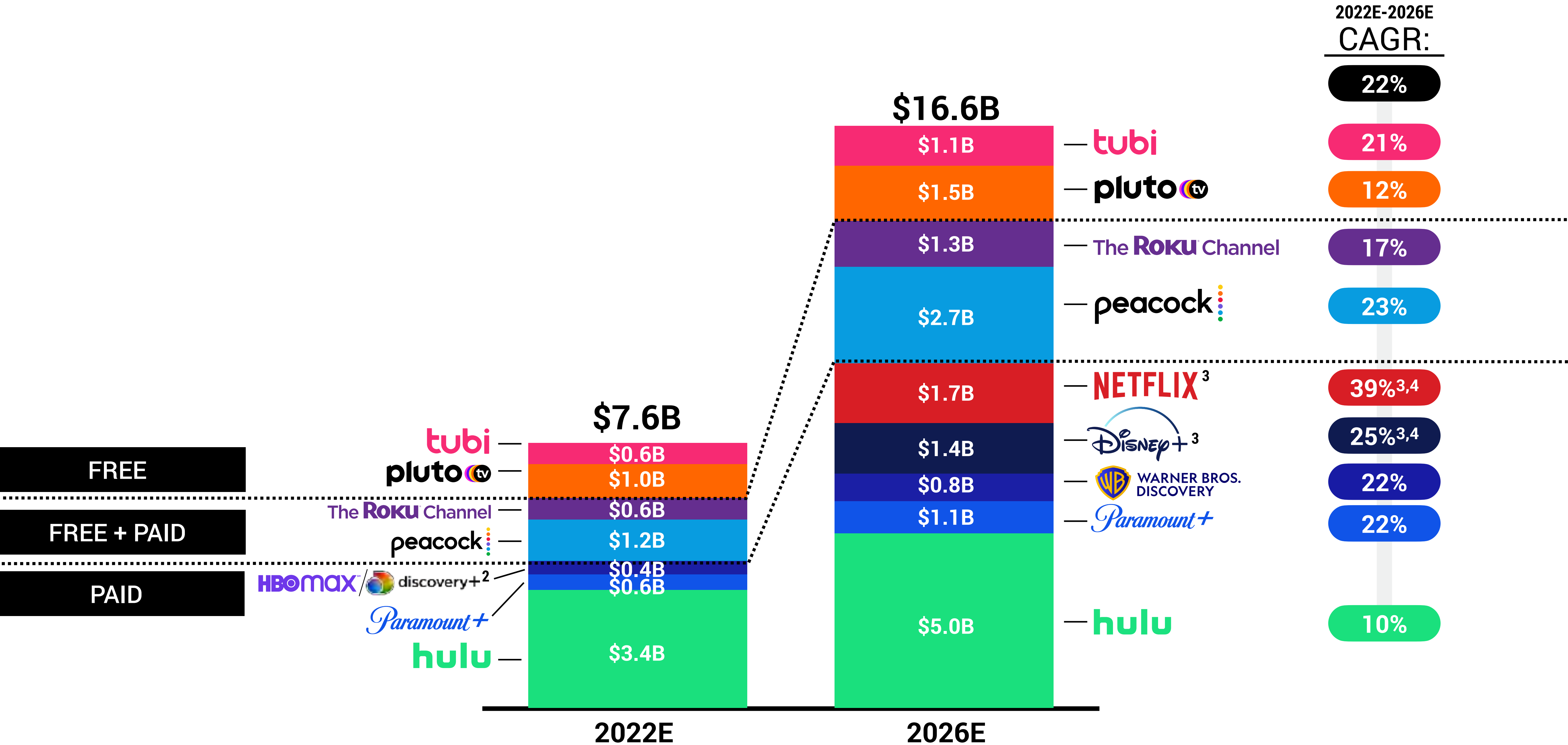
HBO MAX GROSS SUBSCRIBER ADDITIONS[1] BY TIER, U.S., JUNE 2021-JUNE 2022, % GROSS SUBSCRIBER ADDITIONS[1]



1. "Gross subscriber additions" are defined as total new subscribers in each month, including both newly signed up paid users and users who converted from a free trial.
Sources: Activate analysis, Antenna

Domestic advertising revenues for the major streaming services will more than double to $16B between 2022 and 2026

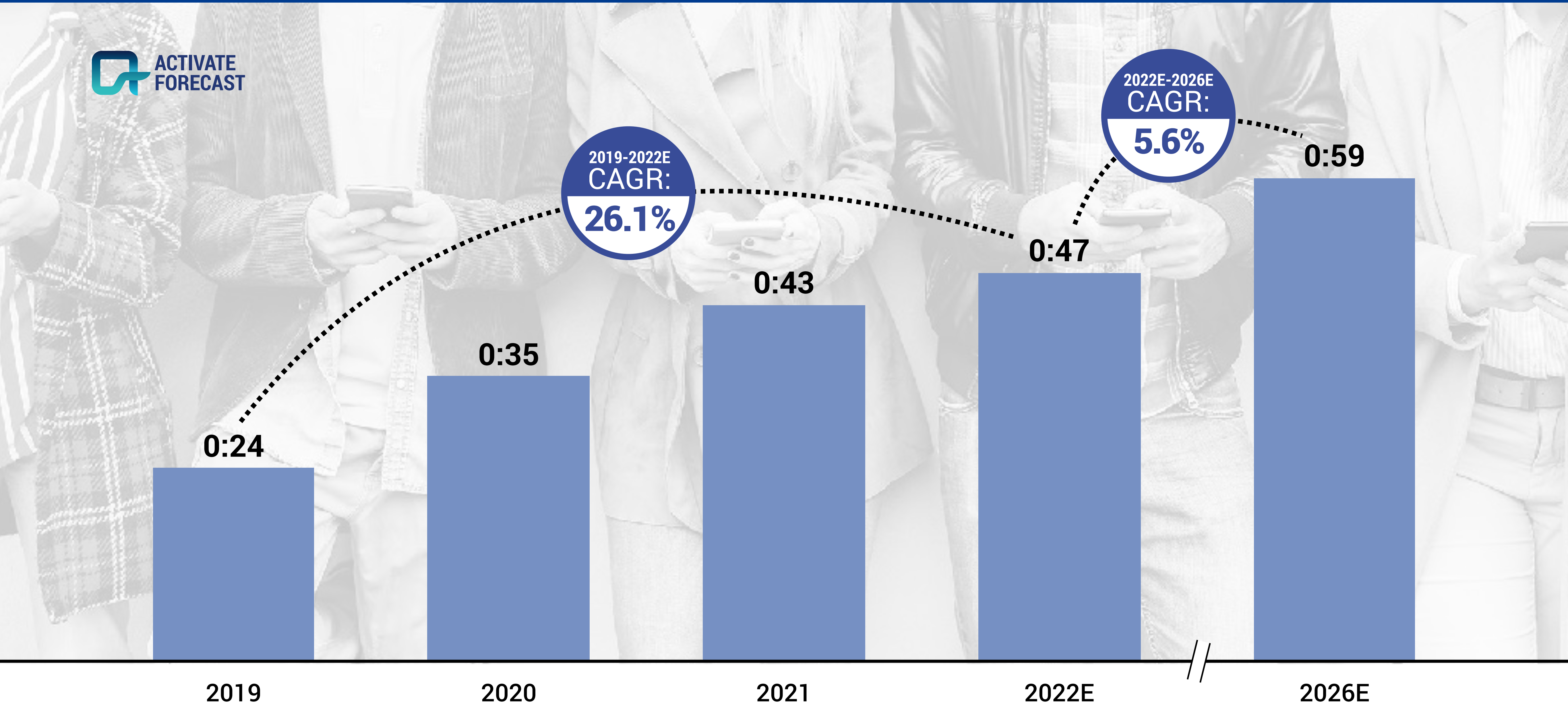
ADVERTISING REVENUES FOR SELECT AD-SUPPORTED SERVICES[1], U.S., 2022E VS. 2026E, BILLIONS USD



1. Figures do not sum due to rounding. 2. Combined revenues due to expected merger in 2023. 3. Ad-supported tiers launching in Q4 2022. 4. Indicates 2023E-2026E CAGR.
Sources: Activate analysis, MoffettNathanson, Morgan Stanley, S&P Global, Standard Media Index

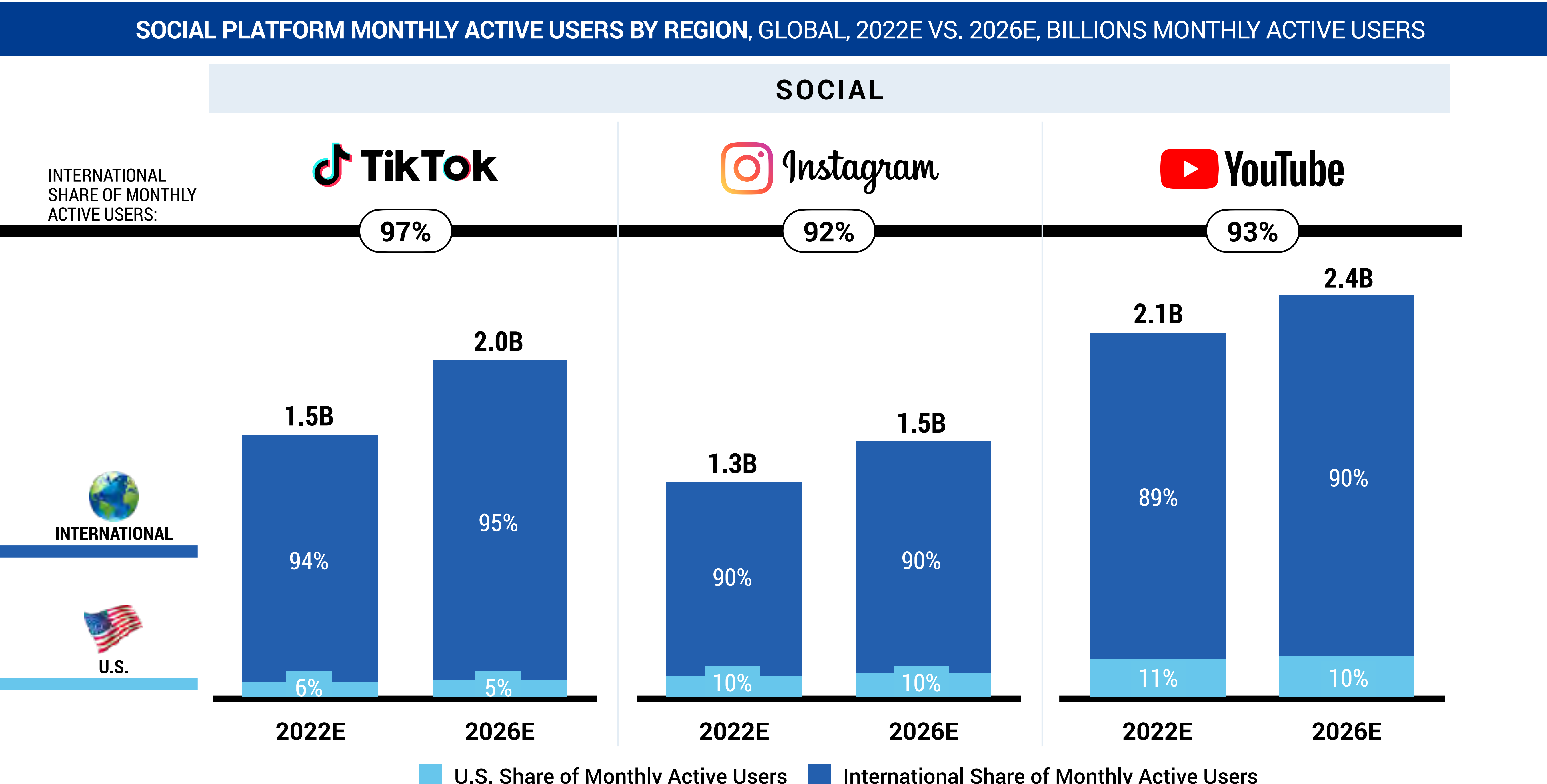
Consumers will grow their consumption of social video, reaching almost an hour per day by 2026

AVERAGE DAILY TIME SPENT WITH SOCIAL VIDEO PER ADULT AGED 18+, U.S., 2019-2022E VS. 2026E, HOURS:MINUTES



Sources: Activate analysis, eMarketer, GWI, Nielsen, Pew Research Center, U.S. Bureau of Labor Statistics

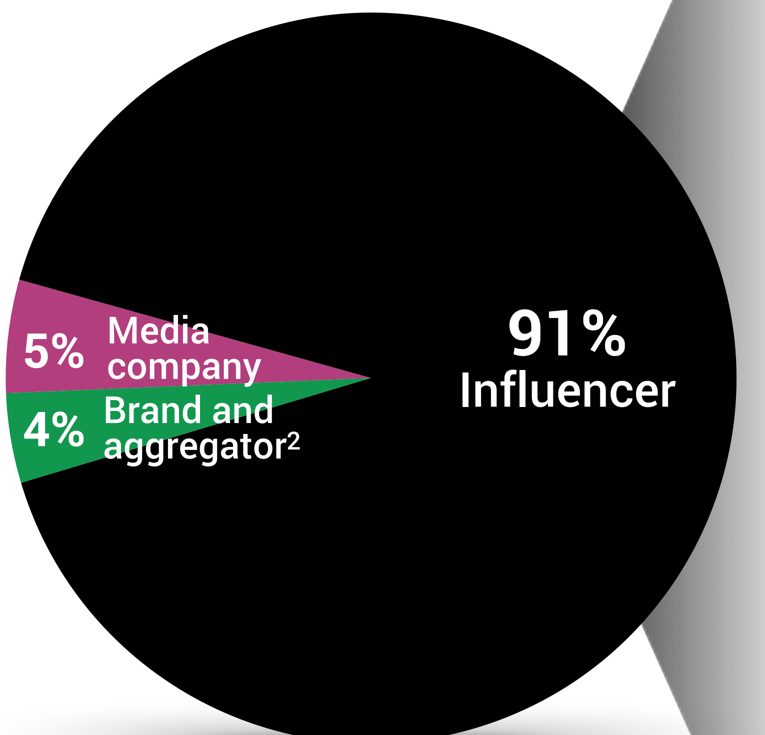
Social platforms will continue to grow around the world



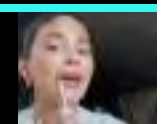
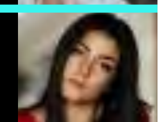
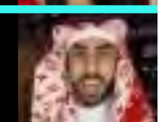
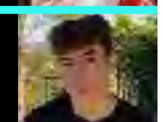
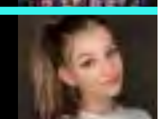
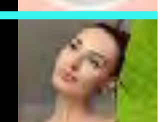
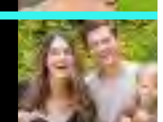
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Company filings, Company press releases, Company sites, eMarketer

Social video engagement is driven by influencers (1/2)

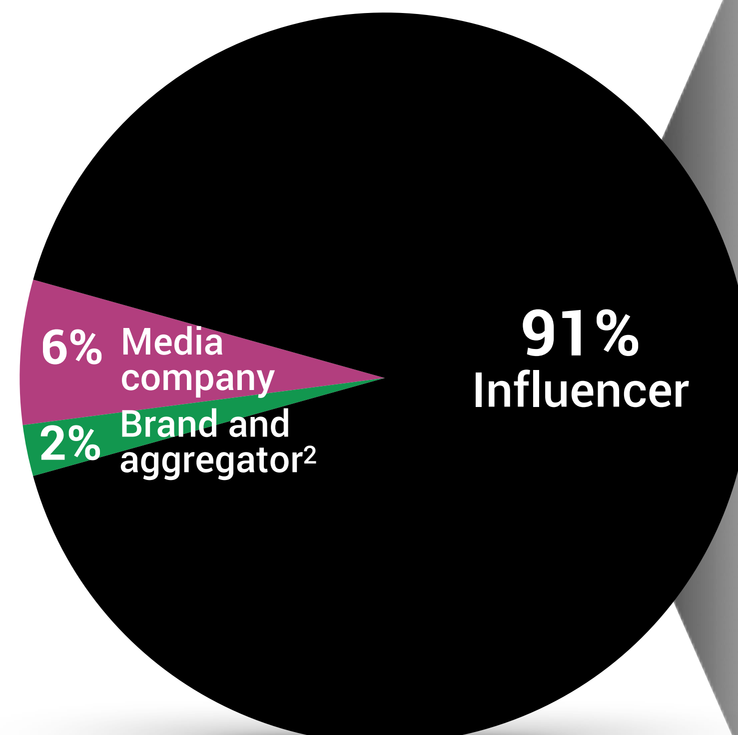
SHARE OF TIKTOK VIDEO VIEWS BY CREATOR CATEGORY, U.S., YTD JULY 2022, % VIEWS



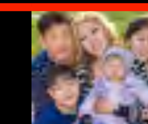
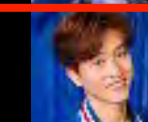
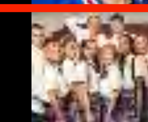
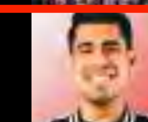
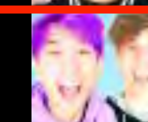
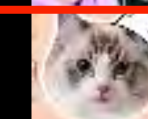
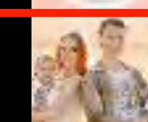
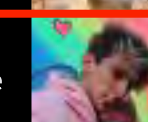
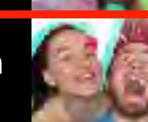
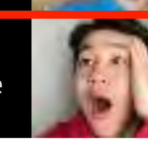
TOP TEN TIKTOK INFLUENCERS[1], U.S., JULY 2022

Kylie Jenner Reality TV Star & Internet Personality	
Charli D'Amelio Dancer & Lifestyle Content Creator	
Bader Al Safar ASMR Creator & Food Explorer	
KEEMOKAZI Lifestyle & Comedy Content Creator	
XO TEAM Creative Community	
Brooke Monk Dancer & Lip-Syncer	
JoJo Siwa Dancer & Actress	
That Little Puff Cat Chef	
Katy Vine Model & Comedy Content Creator	
Abbie Herbert Parenting Content Creator	

SHARE OF YOUTUBE VIDEO VIEWS BY CREATOR CATEGORY[3], U.S., YTD JULY 2022, % VIEWS



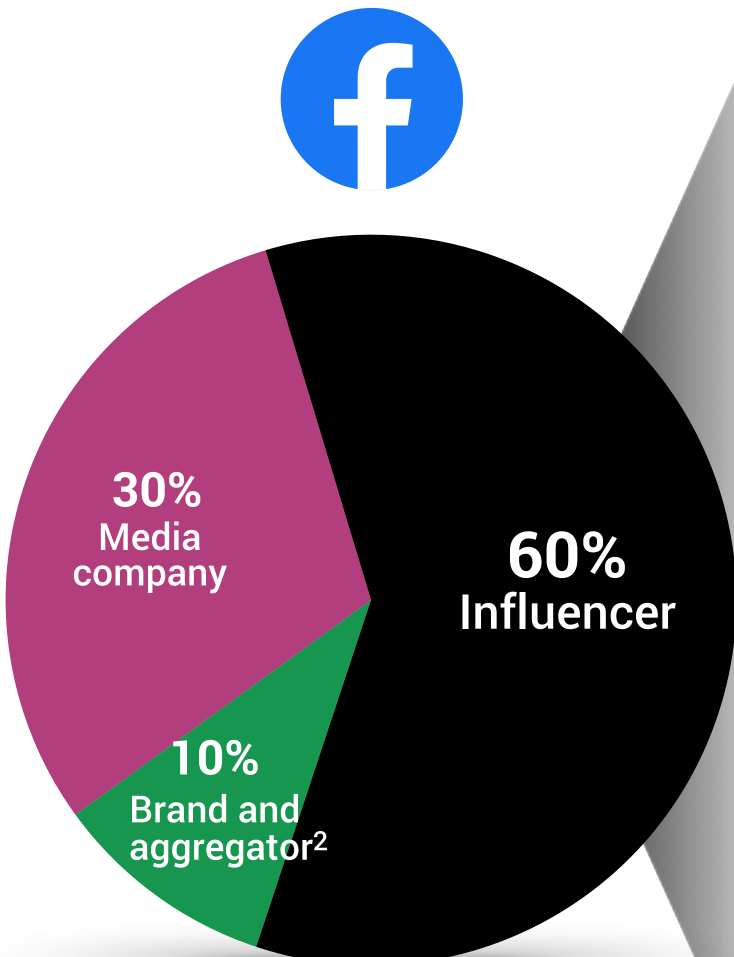
TOP TEN YOUTUBE INFLUENCERS[4], U.S., JULY 2022

LeoNata Family Family Content Creators	
Alan Chikin Chow Comedy Content Creator	
XO TEAM Creative Community	
Omar Raja Sports Commentator	
LankyBox Gamers & Reaction Video Creators	
That Little Puff Cat Chef	
Filaretiki Family Content Creators	
NichLMAO Prankster & Challenge Completer	
Marta and Rustam Internet Couple	
Zhong Prankster & Challenge Completer	

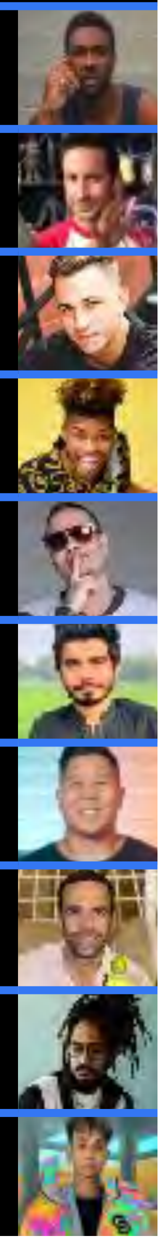
1. Rank based on platform viewing metrics. 2. "Brands" are defined as organizations that sell primarily non-media goods or services, and "aggregators" are defined as unverified creators who mainly repost content. 3. Figures do not sum to 100% due to rounding. 4. Rank based on total 30-second views.
Sources: Activate analysis, Tubular Labs

Social video engagement is driven by influencers (2/2)

SHARE OF FACEBOOK VIDEO VIEWS BY CREATOR CATEGORY, U.S., YTD JULY 2022, % VIEWS

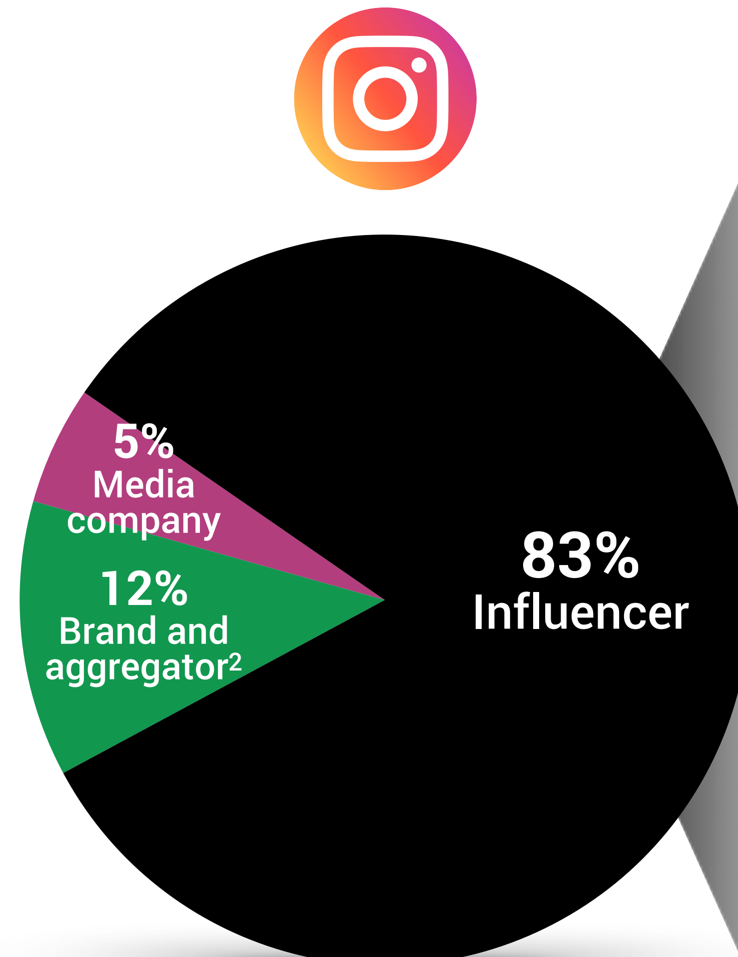


TOP TEN FACEBOOK INFLUENCERS[1], U.S., JULY 2022

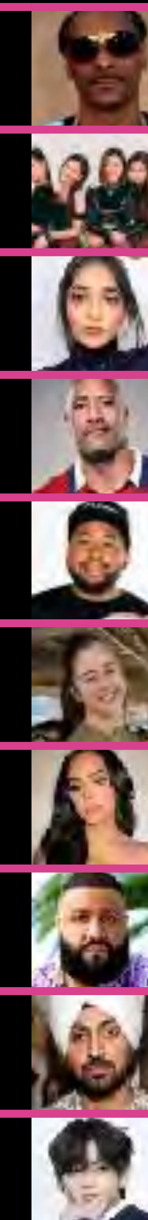


- **Sean Bridon** – Comedy Content Creator
- **Rick Lax** – Magician
- **Justin Flom** – Magician
- **Jibrizy** – Magician & Comedy Content Creator
- **Alberto Stylee** – Reggaeton Singer
- **Khizar Omer** – Comedy Content Creator
- **PaulVuTV** – Magician
- **Yanni 🍴 Foody Fetish** – Food Content Creator
- **Patrick Cloud** – Music Artist & Lifestyle Content Creator
- **Marcus Dobre** – Prankster & Comedy Creator

SHARE OF ENGAGEMENTS FOR INSTAGRAM VIDEOS BY CREATOR CATEGORY, U.S., YTD JULY 2022, % ENGAGEMENTS



TOP TEN INSTAGRAM INFLUENCERS[3], U.S., JULY 2022



- **Snoop Dogg** – Rapper & Internet Personality
- **Itzy** – K-Pop Girl Group
- **Krutika** – Lifestyle Content Creator
- **Dwayne Johnson** – Movie Star
- **DJ Akademiks** – Hip-Hop Personality
- **Sofi Manassyan** – Dancer & Actress
- **Kristy Sarah** – Lifestyle Content Creator
- **DJ Khaled** – Hip-Hop Personality
- **Diljit Dosanjh** – Music Artist & Actor
- **V** – K-Pop Superstar

1. Rank based on total 30-second views in July 2022. 2. "Brands" are defined as organizations that sell primarily non-media goods or services, and "aggregators" are defined as unverified creators who mainly repost content. 3. Rank based on total engagements in July 2022.
Sources: Activate analysis, Tubular Labs

TikTok's rise has inspired other social platforms to build short-form video products and provides a potential launch pad for new talent to enter traditional long-form entertainment, though few have yet to successfully make the leap

SELECT SHORT-FORM VIDEO PRODUCTS LAUNCHED BY MAJOR SOCIAL PLATFORMS

PLATFORM	SHORT-FORM VIDEO PRODUCT	U.S. LAUNCH DATE
Instagram	REELS	**August 2020**
Snapchat	SPOTLIGHT	**November 2020**
YouTube	SHORTS	**March 2021**
facebook	REELS	**September 2021**

THERE ARE LIMITED EXAMPLES OF TIKTOK STARS SUCCESSFULLY TRANSITIONING INTO LONG-FORM MEDIA

SUCCESS STORIES

NETFLIX

TikTok Star:
Addison Rae

addisonre
88.7M[1]
Followers

Release date: August 25, 2021

Description: Film starring TikTok star Addison Rae

hulu

TikTok Stars:
Charli D'Amelio, Dixie D'Amelio

charlidamelio
148.3M[1]
Followers

dixiedamelio
57.5M[1]
Followers

Release date: September 3, 2021 (Season 1)

Description: Reality show following the D'Amelio family; currently in Season 2

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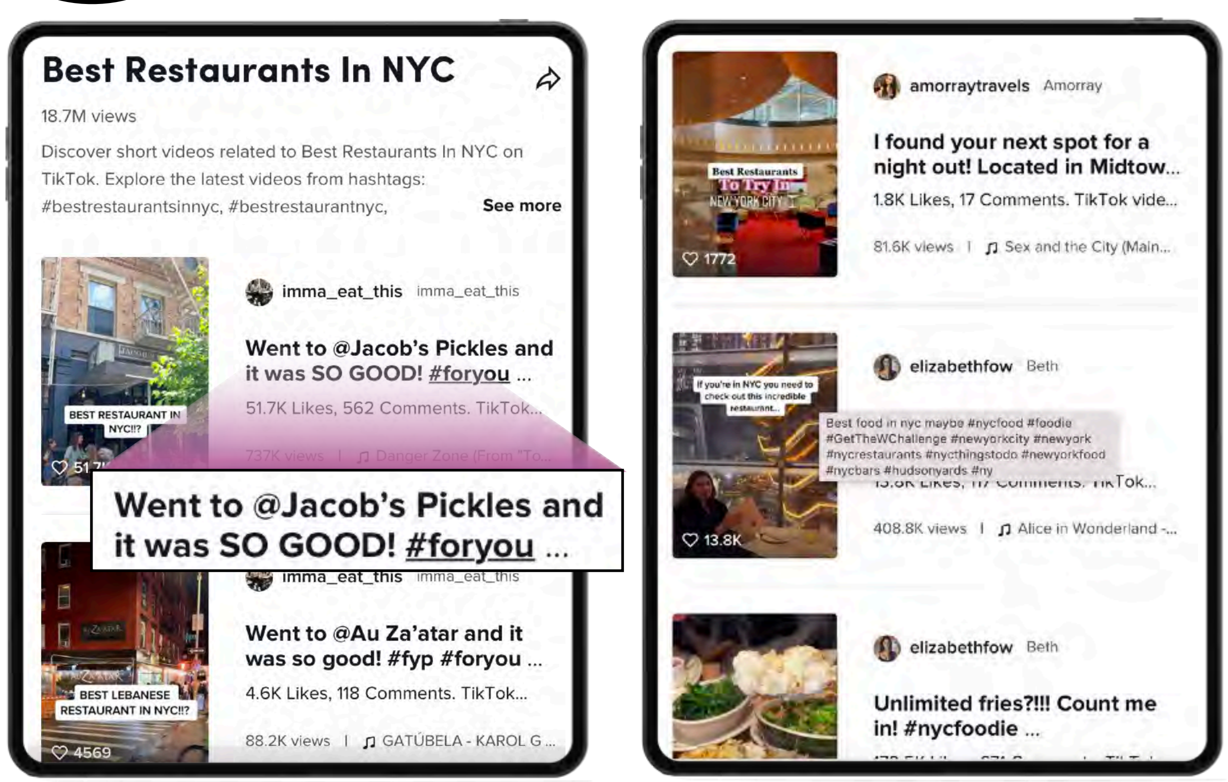
1. TikTok followers as of Oct. 24, 2022.
Sources: Activate analysis, Company press releases, Company sites, Fierce Video, The Split

Video consumption is driving innovation in advertising: TikTok is becoming a space for search-based ads, and streaming platforms have begun launching interactive ads

GEN Z IS INCREASINGLY USING TIKTOK AS ITS SEARCH ENGINE OF CHOICE

~40% of Gen Z prefers TikTok for online searches

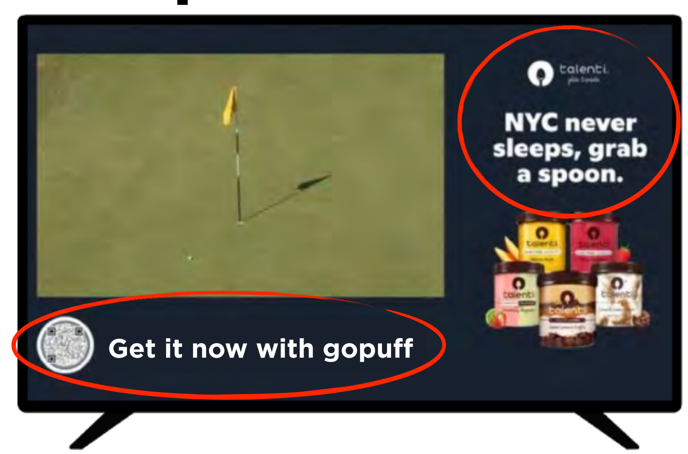
TikTok



In September 2022, TikTok announced that the **maximum length of its video descriptions would increase from 300 to 2,200 characters**, making space for advertisers to post their information and making it easier to find advertiser content in search results

STREAMING PLATFORMS ARE INTRODUCING MORE INTERACTIVE AD FORMATS

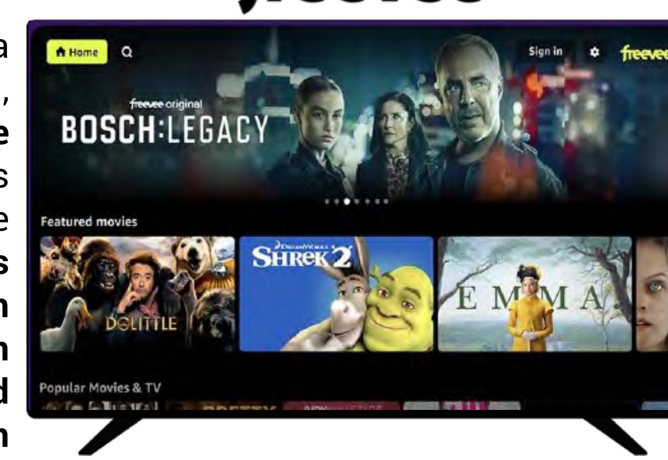
peacock



Peacock has been trialing new forms of **interactive advertising on its video streaming platform to make it easier for consumers to interact with and purchase advertised products**

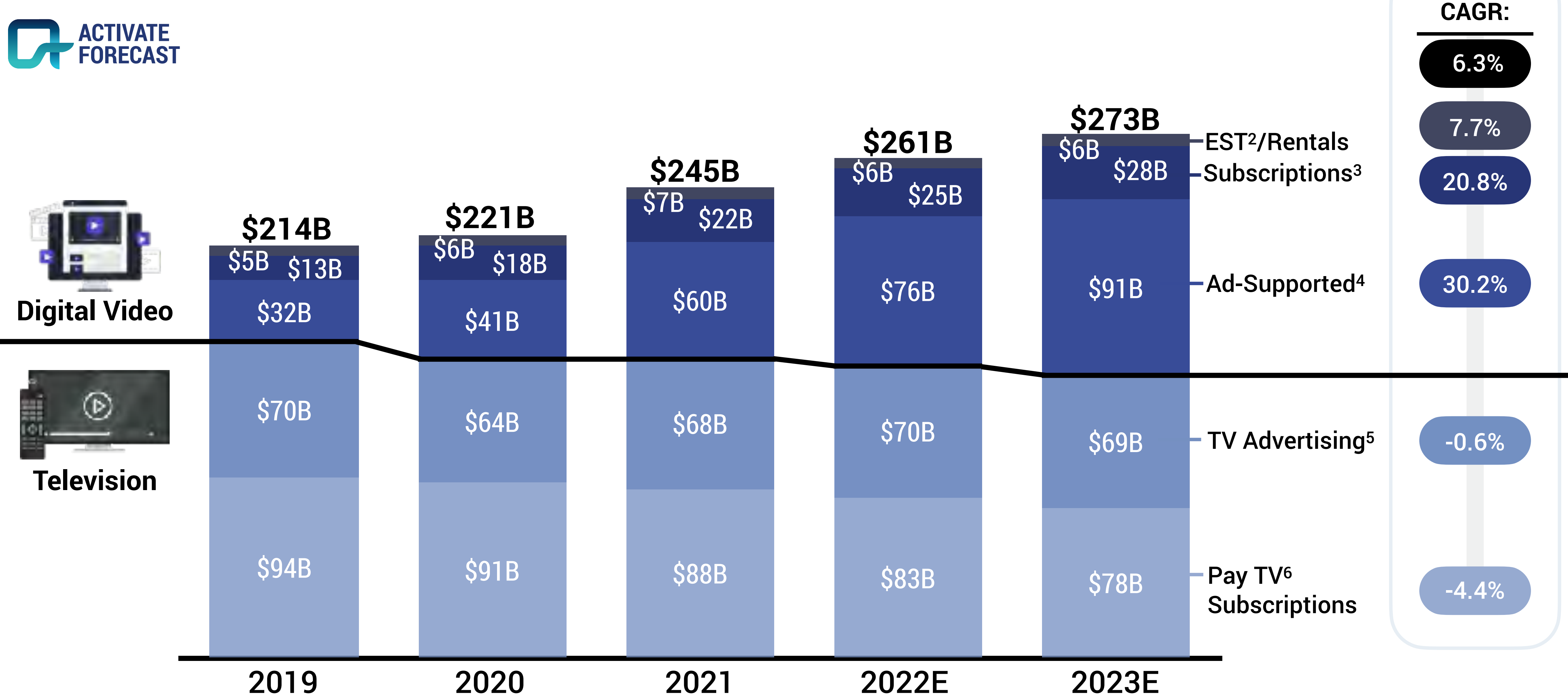
freevee

Amazon Freevee is beta testing a seven-second, full-screen **Welcome Screen** for customers launching the app on Fire TV; this will **allow brands to greet audiences with their creative content in place of the standard loading screen**



Despite the decline in the Pay TV universe and the growth in streaming, Pay TV still commands a significant share of value in the video ecosystem

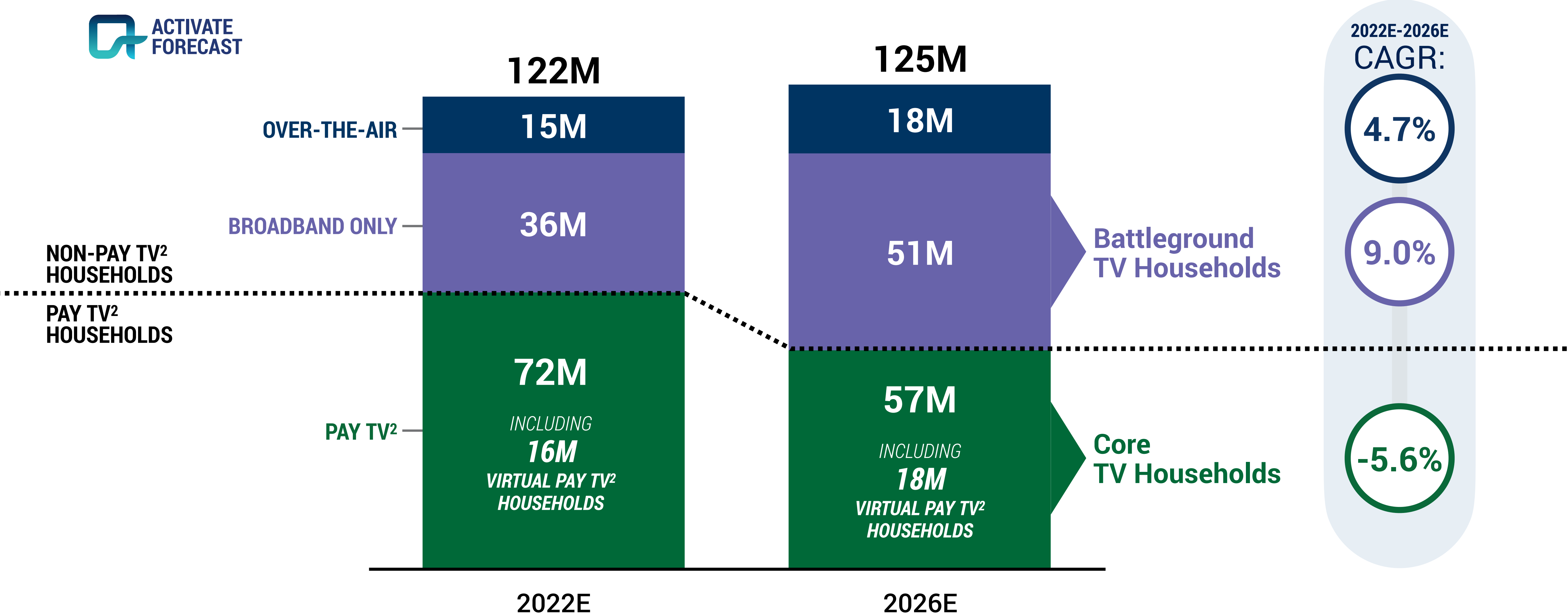
VIDEO REVENUE BY TYPE[1], U.S., 2019-2023E, BILLIONS USD



1. Figures do not sum due to rounding. 2. "EST" stands for electronic sell-through; includes spend on online video on-demand transactions (e.g. purchases and rentals). 3. Includes spend on paid video streaming subscriptions. 4. Includes in-stream video advertising (e.g. pre-roll, mid-roll, post-roll) on digital video content, including on social networks and out-stream video advertising (e.g. native, in-feed, in-article, in-banner, interstitial). 5. Includes advertising on broadcast TV and Pay TV. 6. "Pay TV" includes traditional Pay TV (i.e. TV delivered through a set-top box) and virtual Pay TV (i.e. TV delivered through the internet without a set-top box).
Sources: Activate analysis, BMO Capital Markets, eMarketer, MoffettNathanson, Omdia, PricewaterhouseCoopers, Wells Fargo

We forecast that "battleground TV households" will continue to grow as Pay TV households decline through 2026

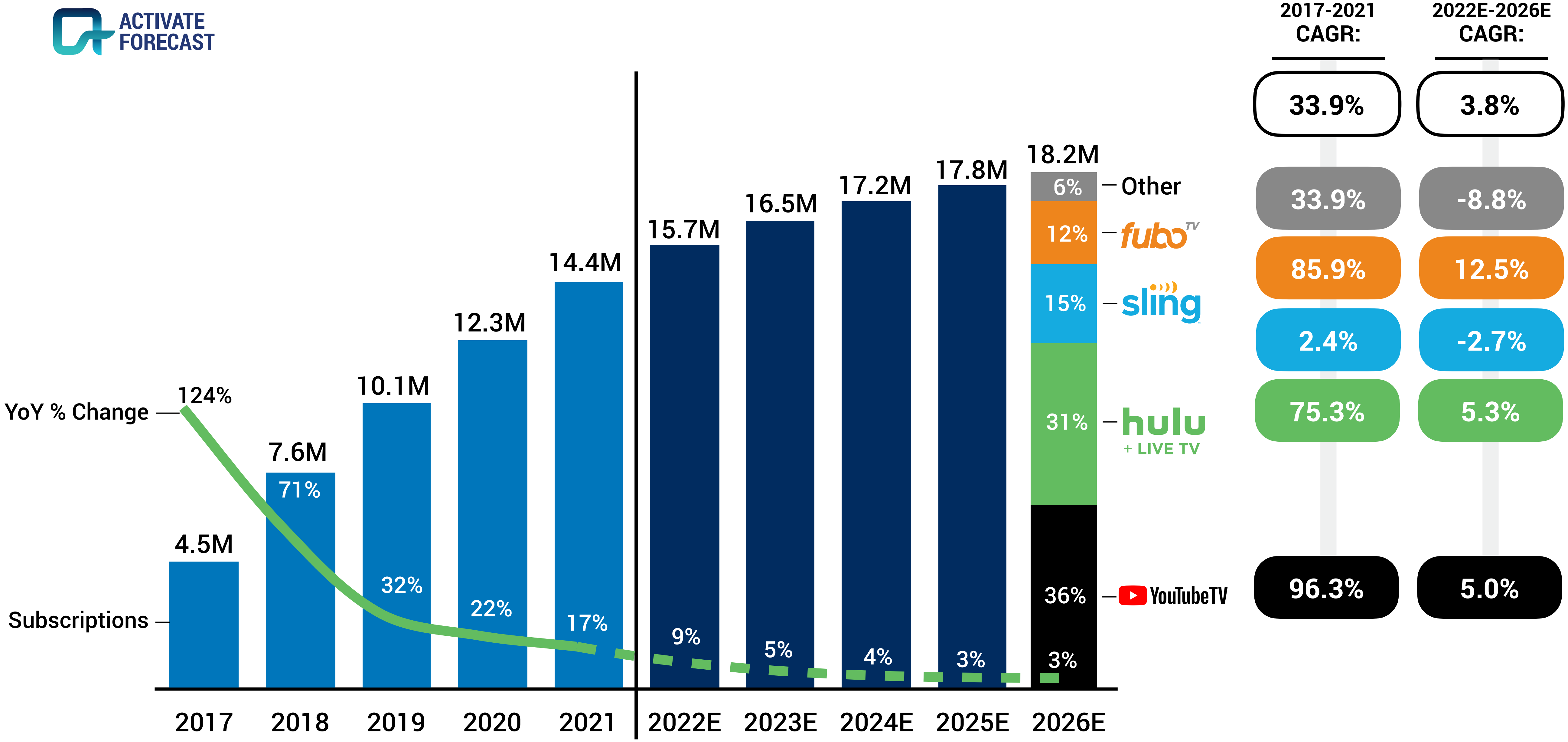
TELEVISION HOUSEHOLD BREAKDOWN[1], U.S., 2022E VS. 2026E, MILLIONS HOUSEHOLDS



1. Figures do not sum due to rounding. 2. "Pay TV" is defined as traditional Pay TV (i.e. TV delivered through a set-top box) and virtual Pay TV (i.e. TV delivered through the internet without a set-top box).
Sources: Activate analysis, Activate 2016 Consumer Technology & Media Research Study (n = 4,000), Activate 2017 Consumer Technology & Media Research Study (n = 4,047), Activate 2018 Consumer Technology & Media Research Study (n = 4,000), Activate 2019 Consumer Technology & Media Research Study (n = 4,006), Activate 2020 Consumer Technology & Media Research Study (n = 4,003), Activate 2021 Consumer Technology & Media Research Study (n = 4,018), Activate 2021 Consumer Video Research Study (n = 2,014), Activate 2022 Consumer Technology & Media Research Study (n = 4,001), eMarketer, MoffettNathanson, Nielsen, S&P Global, U.S. Census Bureau, Wells Fargo

After growing at over 30% per year, Virtual Pay TV growth will slow through 2026

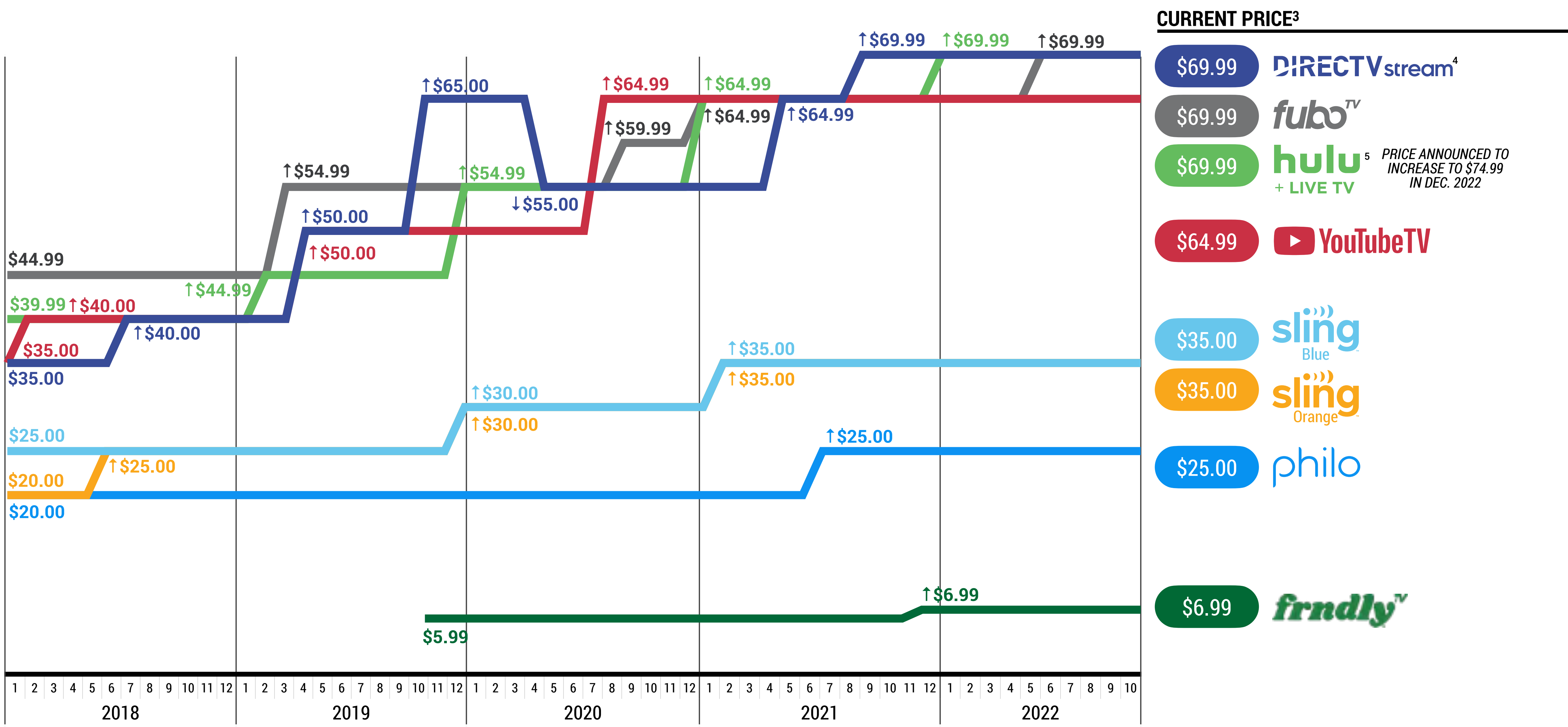
VIRTUAL PAY TV[1] SUBSCRIPTIONS, U.S., 2017-2026E, MILLIONS SUBSCRIPTIONS / YOY % CHANGE



1. "Virtual Pay TV services" are defined as services that deliver TV through the internet without a set-top box.
Sources: Activate analysis, eMarketer, MoffettNathanson, Nielsen, S&P Global, Wells Fargo

Virtual Pay TV prices will continue to increase, resulting in lower growth in the adoption of these services

MONTHLY SUBSCRIPTION PRICE[1] OF VIRTUAL PAY TV SERVICES[2], U.S., JAN. 2018-OCT. 2022[3], USD



1. Price reflects each service's base package. 2. "Virtual Pay TV services" are defined as services that deliver TV through the internet without a set-top box. 3. Pricing information as of Oct. 10, 2022. 4. Includes prices from previously rebranded services (i.e. DirecTV Now, AT&T TV Now, and AT&T TV). 5. As of Dec. 21, 2021, Hulu + Live TV subscriptions include Disney+ and ESPN+.
Sources: Activate analysis, Company press releases, Company sites, S&P Global

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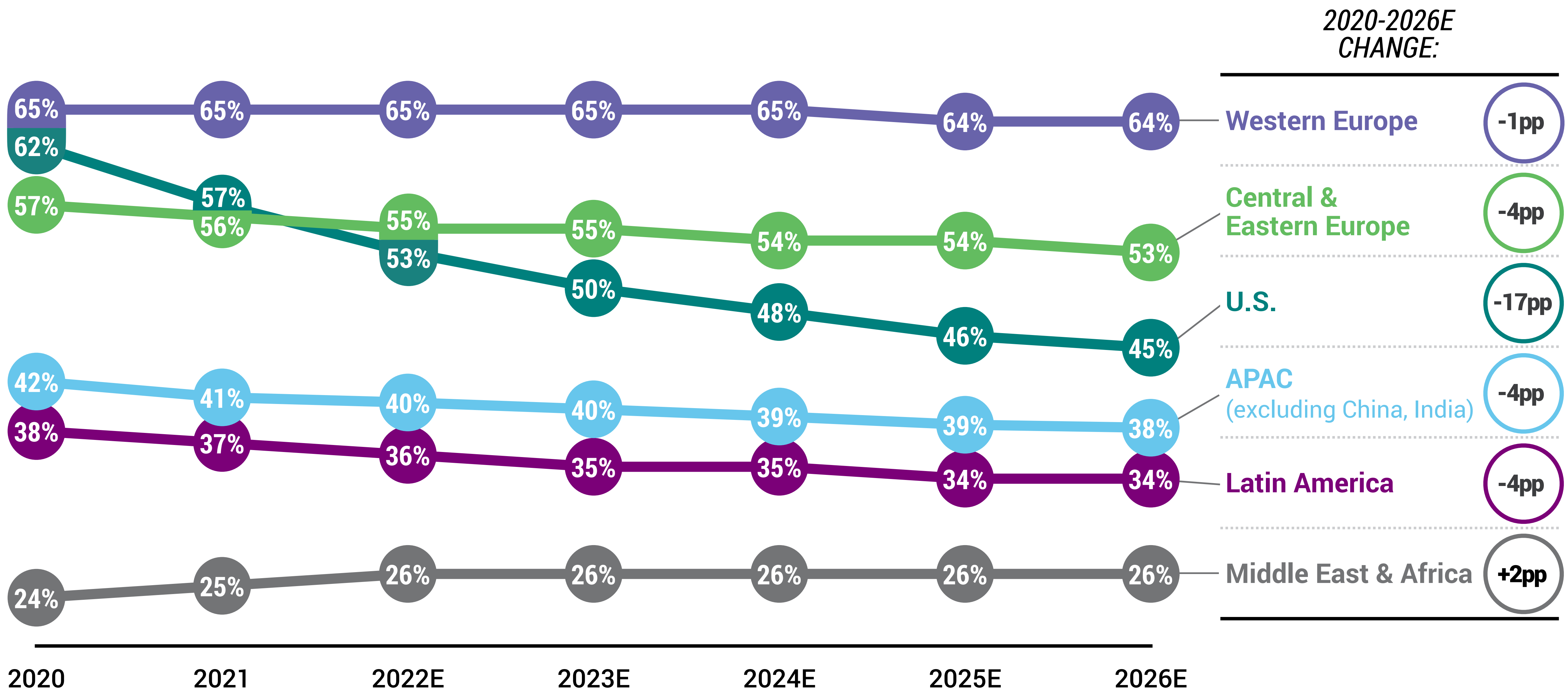
We forecast that Pay TV will mostly decline and do so at a much slower pace internationally than in the U.S.

PAY TV[1] PENETRATION BY REGION, GLOBAL, 2020-2026E, % HOUSEHOLDS IN EACH REGION



1. "Pay TV" is defined as traditional Pay TV (i.e. TV delivered through a set-top box) and virtual Pay TV (i.e. TV delivered through the internet without a set-top box).
Sources: Activate analysis, Omdia, PricewaterhouseCoopers, S&P Global

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CONTENTS

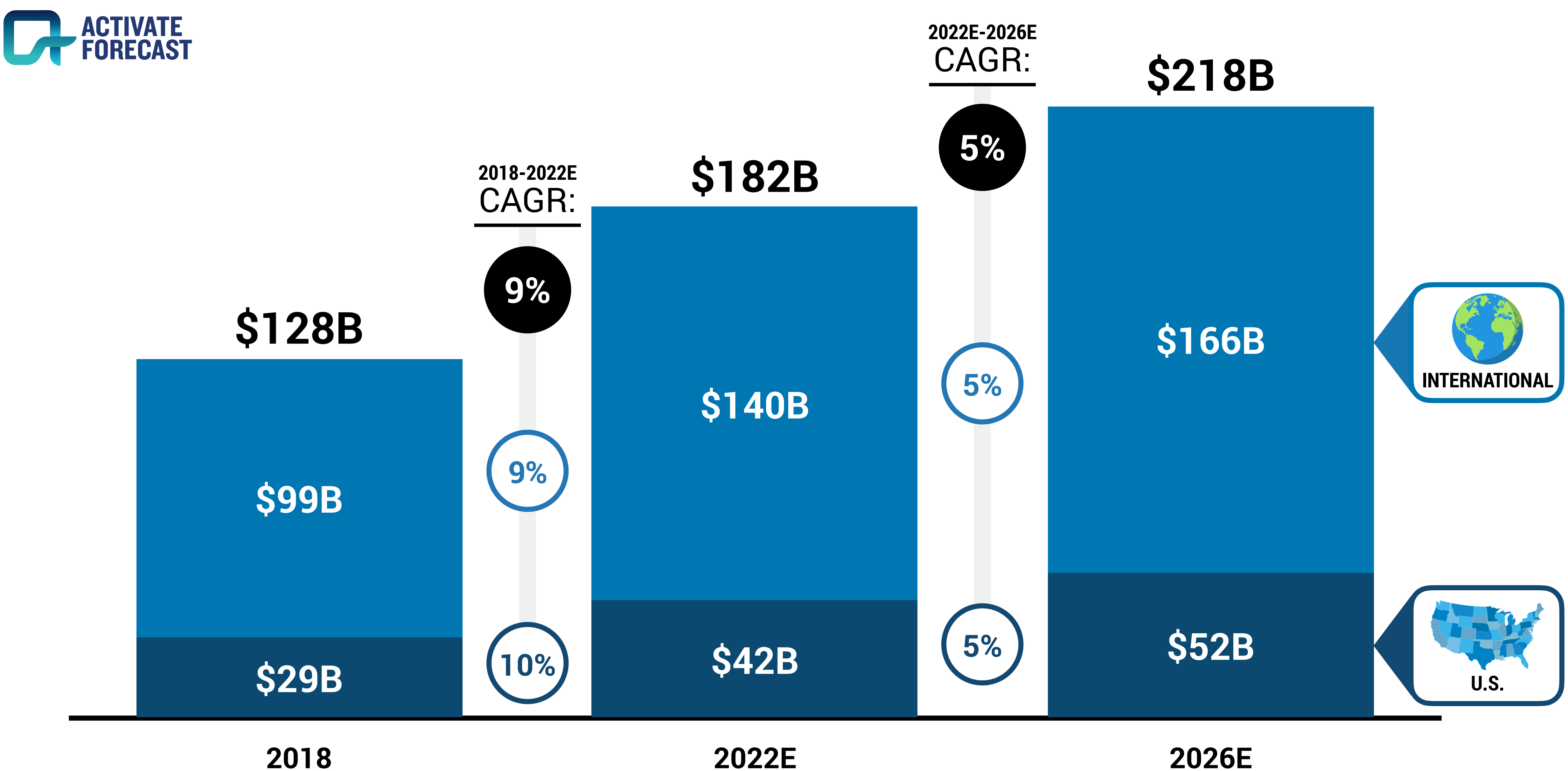
There are nearly 150M active gamers in the U.S. today, up from 124M in 2019

GAMING POPULATION BY REGION, GLOBAL, 2019 VS. 2022E, MILLIONS GAMERS[1]

1. "Gamers" are defined as adults aged 18+ who currently play video games.
Sources: Activate analysis, Activate 2019 Consumer Technology & Media Research Study (n = 4,006), Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Newzoo, U.S. Census Bureau

We forecast that the global video game market will grow to nearly $220B by 2026, with over $50B generated in the U.S.

CONSUMER VIDEO GAME REVENUE BY REGION[1], GLOBAL, 2018 VS. 2022E VS. 2026E, BILLIONS USD



1. Excludes hardware and device sales, augmented reality / virtual reality content, and advertising.
Sources: Activate analysis, Newzoo, Omdia, PricewaterhouseCoopers

We have segmented the gaming population by their level of engagement within the space, from the most involved Habitual Gamers to the more infrequent Occasional Gamers

OUR RESEARCH SHOWS THAT U.S. GAMERS[1] FALL INTO ONE OF THREE SEGMENTS…

ACTIVATE CONSUMER INSIGHT

HABITUAL GAMERS[2]

- Play video games as their **primary source** of entertainment
- **Follow** gaming content online (e.g. watch playthroughs, read reviews)

35% OF U.S. GAMERS[1]

51M IN THE U.S.

RECREATIONAL GAMERS[3]

- Play video games as **one of a few equivalent sources** of entertainment
- **May follow** gaming content online

36% OF U.S. GAMERS[1]

54M IN THE U.S.

OCCASIONAL GAMERS[4]

- Play video games **only when other sources** of entertainment are **unavailable**
- **Are unlikely to follow** gaming content online

29% OF U.S. GAMERS[1]

43M IN THE U.S.

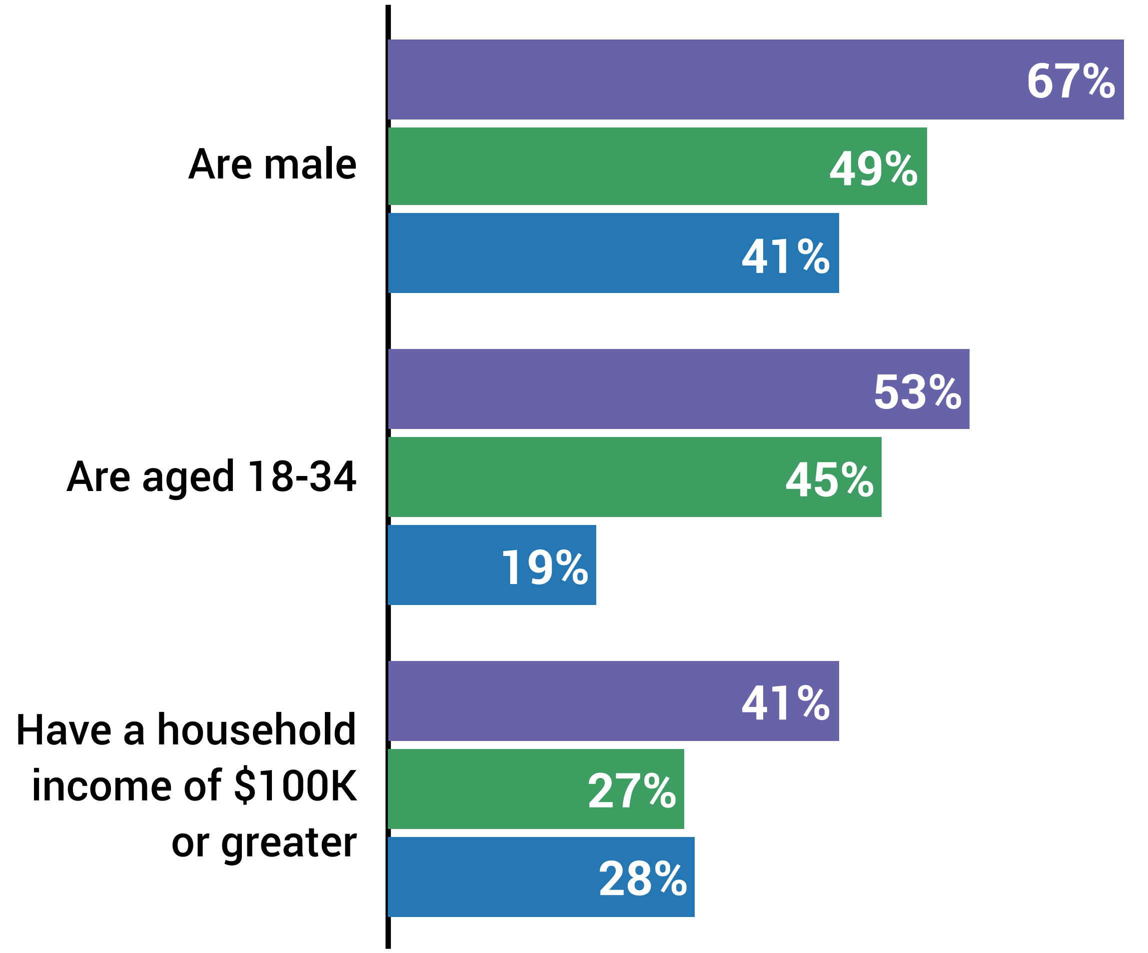
1. "Gamers" are defined as adults aged 18+ who currently play video games. 2. "Habitual Gamers" are defined as gamers who view gaming as their primary source of entertainment and follow gaming content online. 3. "Recreational Gamers" are defined as gamers who view gaming as one of a few equivalent options for entertainment, or gamers who view gaming as their primary source of entertainment but do not follow gaming content online. 4. "Occasional Gamers" are defined as gamers who only view gaming as an entertainment option when other options are not available, or gamers who view gaming as one of a few equivalent options for entertainment but do not follow gaming content online.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), U.S. Census Bureau

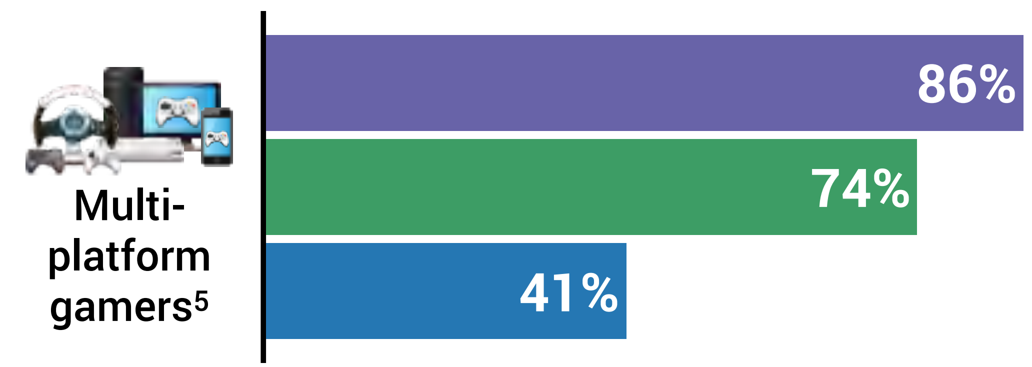
Gamers in each segment are demographically and behaviorally distinct: Habitual Gamers are more likely to be male, younger, and higher-income, and they dedicate more time to gaming across multiple devices

DEMOGRAPHICS BY GAMER[1] SEGMENT,
U.S., 2022, % GAMERS[1] BY SEGMENT

MULTI-PLATFORM USAGE BY GAMER[1] SEGMENT,
U.S., 2022, % GAMERS[1] BY SEGMENT

% Habitual Gamers[2] % Recreational Gamers[3] % Occasional Gamers[4]





Compared to Occasional Gamers[4]...

Habitual Gamers[2] spend **2.4x**

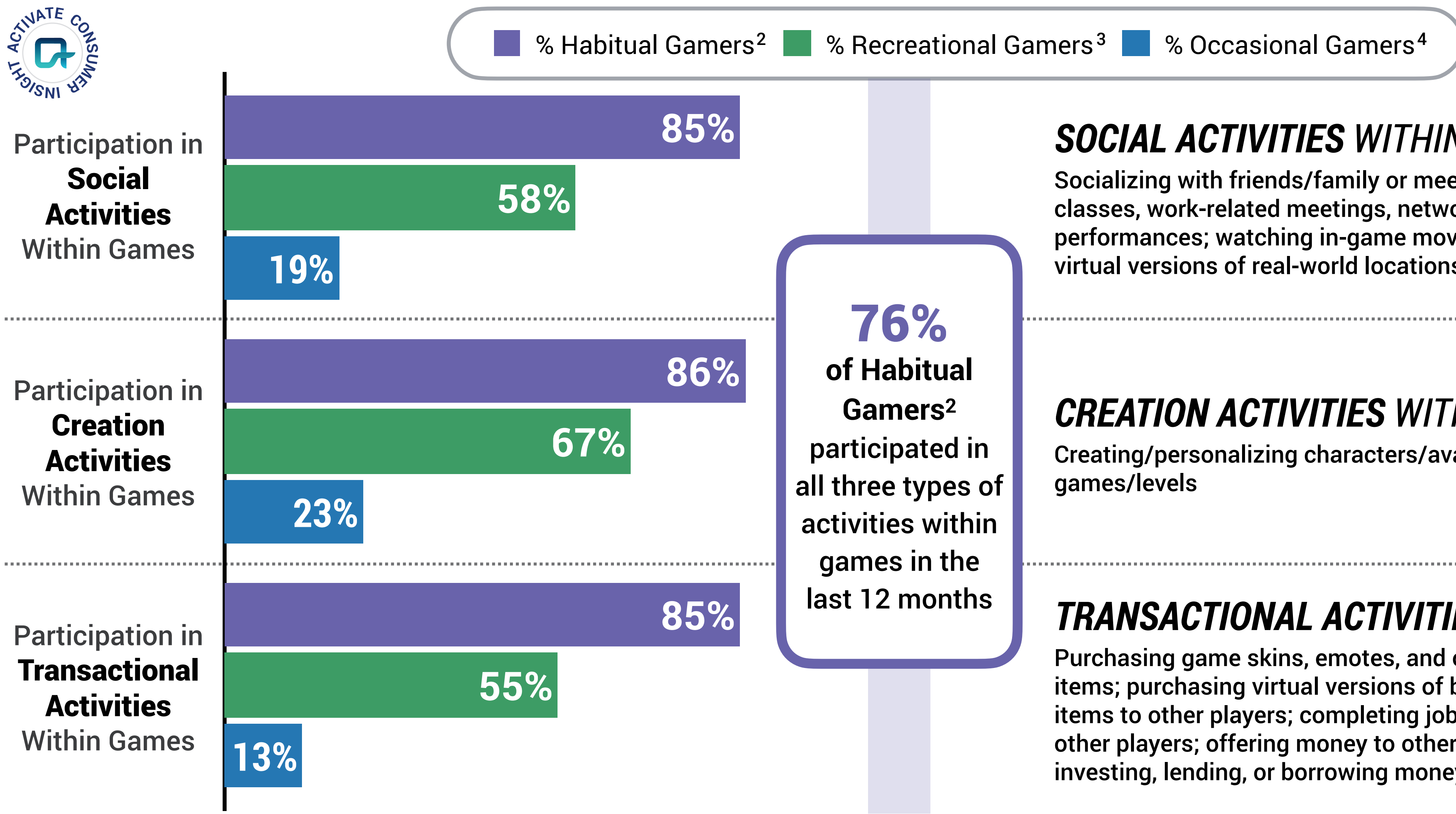
Recreational Gamers[3] spend **1.7x**

...as much time per week playing video games

1. "Gamers" are defined as adults aged 18+ who currently play video games. 2. "Habitual Gamers" are defined as gamers who view gaming as their primary source of entertainment and follow gaming content online. 3. "Recreational Gamers" are defined as gamers who view gaming as one of a few equivalent options for entertainment, or gamers who view gaming as their primary source of entertainment but do not follow gaming content online. 4. "Occasional Gamers" are defined as gamers who only view gaming as an entertainment option when other options are not available, or gamers who view gaming as one of a few equivalent options for entertainment but do not follow gaming content online. 5. "Multi-platform gamers" are defined as gamers who currently play video games across two or more platforms (i.e. mobile, PC, console).
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

Habitual Gamers will be the earliest adopters of the Metaverse as they already take advantage of opportunities for immersive activities within games today

PARTICIPATION IN SELECT METAVERSE ACTIVITIES WITHIN GAMES BY GAMER[1] SEGMENT, U.S., 2022, % GAMERS[1] BY SEGMENT



76% of Habitual Gamers[2] participated in all three types of activities within games in the last 12 months

SOCIAL ACTIVITIES WITHIN GAMES INCLUDE:

Socializing with friends/family or meeting new people; attending educational classes, work-related meetings, networking events, or live in-game performances; watching in-game movies, TV shows, or previews; traveling to virtual versions of real-world locations

CREATION ACTIVITIES WITHIN GAMES INCLUDE:

Creating/personalizing characters/avatars, items, places, maps, or new games/levels

TRANSACTIONAL ACTIVITIES WITHIN GAMES INCLUDE:

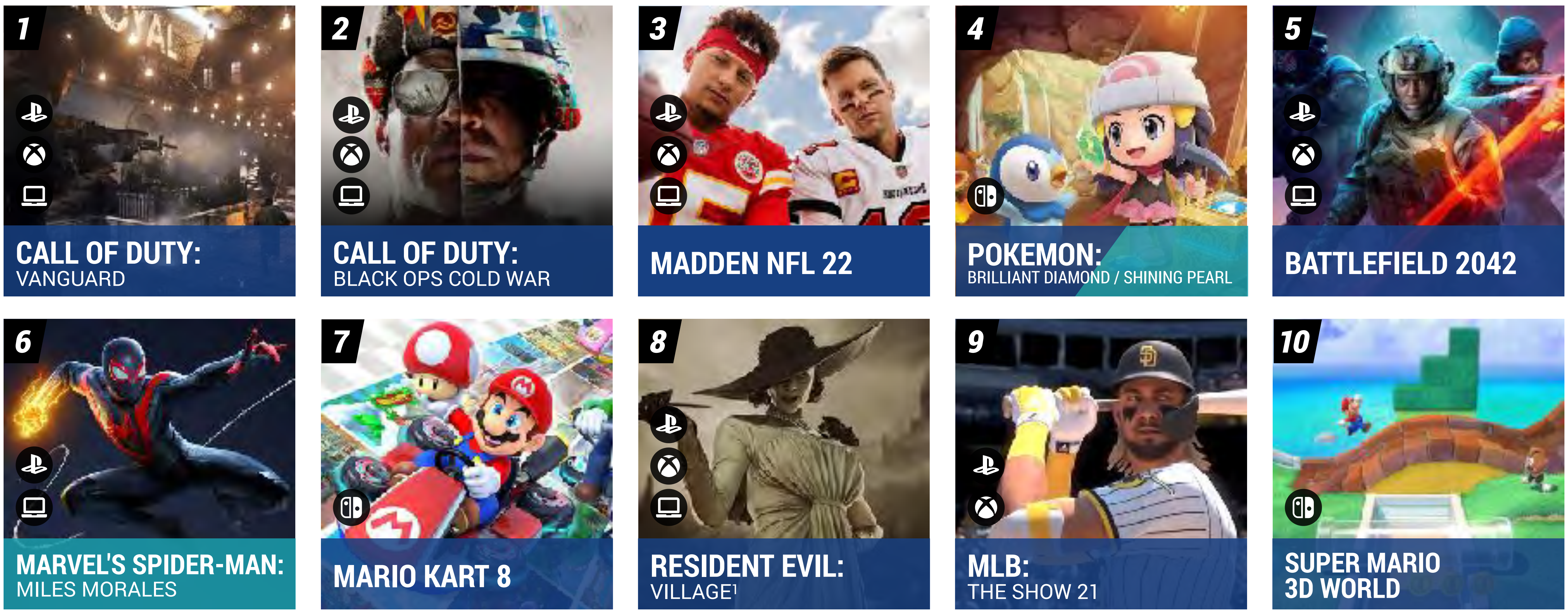
Purchasing game skins, emotes, and other in-game personalization content/items; purchasing virtual versions of brand-name items; selling virtual goods/items to other players; completing jobs in games in exchange for money from other players; offering money to other players in exchange for completing jobs; investing, lending, or borrowing money; betting/gambling; owning virtual land

1. "Gamers" are defined as adults aged 18+ who currently play video games. 2. "Habitual Gamers" are defined as gamers who view gaming as their primary source of entertainment and follow gaming content online. 3. "Recreational Gamers" are defined as gamers who view gaming as one of a few equivalent options for entertainment, or gamers who view gaming as their primary source of entertainment but do not follow gaming content online. 4. "Occasional Gamers" are defined as gamers who only view gaming as an entertainment option when other options are not available, or gamers who view gaming as one of a few equivalent options for entertainment but do not follow gaming content online.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

The top-performing PC and console game titles of the last year offer cross-platform, multiplayer, and open-world features to enable creative and connected experiences for gamers

TOP-EARNING PAID PC AND CONSOLE VIDEO GAME TITLES, U.S., 2021

NINTENDO SWITCH | PLAYSTATION | XBOX | DESKTOP/LAPTOP



Includes Multiplayer (i.e. ability to play with others)

Includes Open World (i.e. ability to freely explore and interact with environment)

1. Multiplayer mode is expected to launch on Oct. 28, 2022.
Sources: Activate analysis, Company sites, NPD Group

The top-earning mobile game titles offer integrated social features and unique rewards for playing online with friends, suggesting that gaming is increasingly a community-driven behavior

TOP-EARNING[1] MOBILE GAME TITLES, GLOBAL, 2021[2], BILLIONS USD

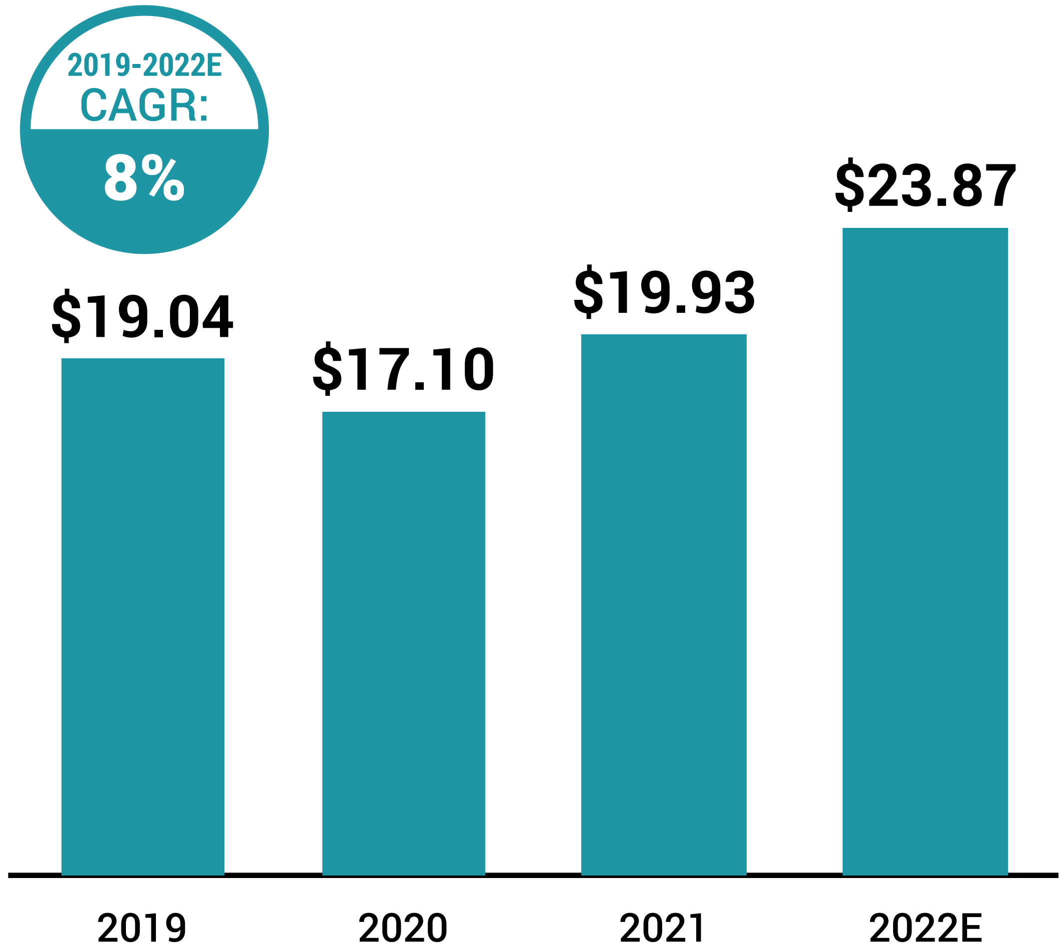
TOP MOBILE GAMES ENCOURAGE PLAYERS TO ENGAGE SOCIALLY WITH OTHERS

MOBILE GAMING TITLE	REVENUE[3]	SOCIAL FEATURES/REWARDS	In-Game Chat Feature	Ability to Connect to Social Media	Ability to Form Teams
PlayerUnknown's Battlegrounds Mobile	$2.8B	• Ability to share highlights and results via chat • Ability to invite and compete with players from the same region	✓	✓	✓
Honor of Kings	$2.8B	• Cooperative play with five people • Integrations with social or messaging platforms (e.g. WeChat, QQ)	✓	✓	✓
Genshin Impact	$1.8B	• Ability to invite others to online cooperative mode • Built-in chat system to communicate within server	✓	✓	—
Roblox	$1.3B	• Ability to invite others to specific servers • Increasing in-game payouts based on engagement	✓	✓	✓
Coin Master	$1.3B	• Bonuses for linking to social media accounts (e.g. Facebook) • In-game rewards for inviting friends	✓	✓	✓
Pokémon GO	$1.2B	• Ability to send in-game gifts to others • Bonuses based on tiered "Friendship Levels"	*Announced*	✓	✓

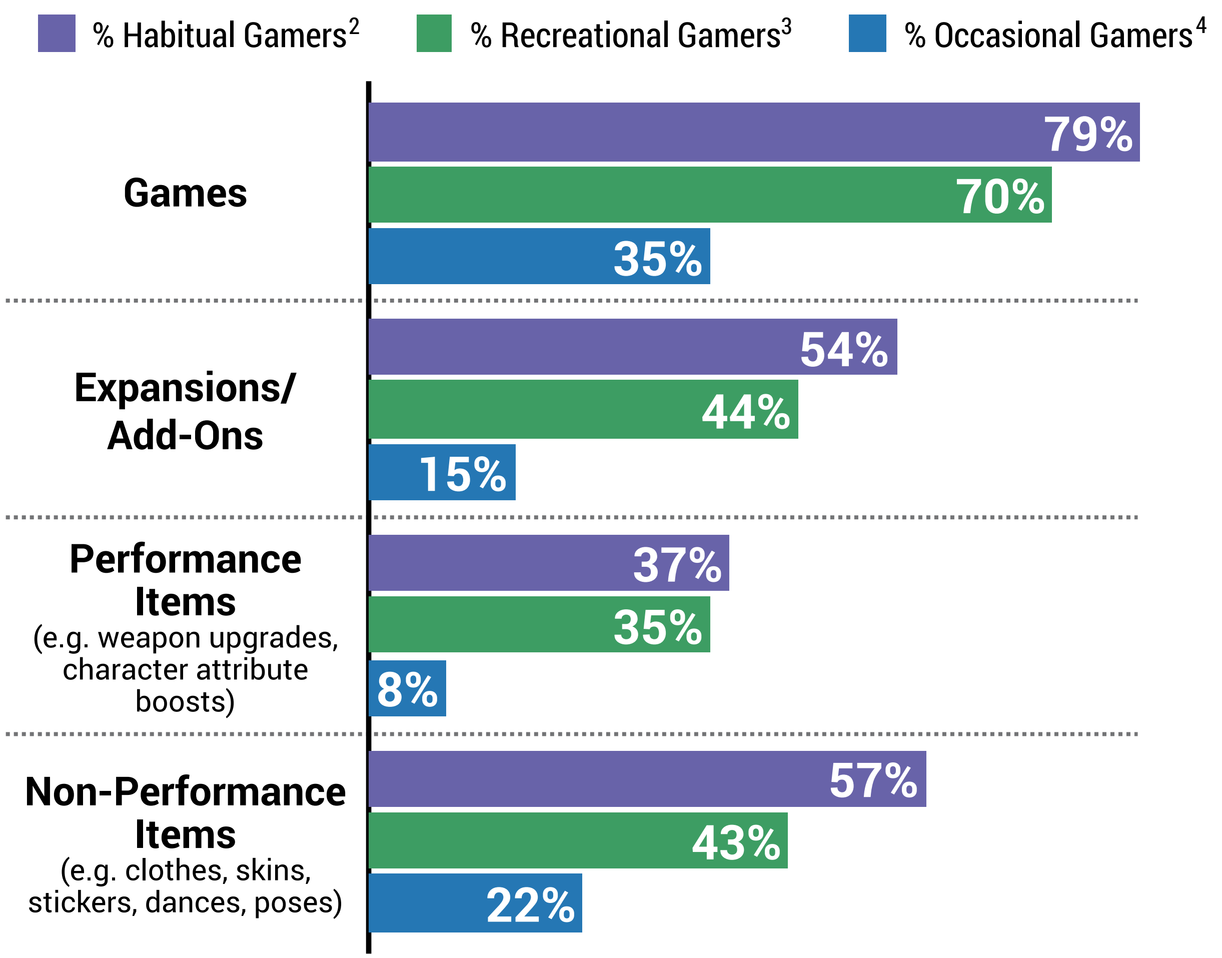
1. Top-earning mobile games on the Google Play Store and Apple App Store. Excludes third-party app stores.
2. Between Jan. 1, 2021 and Dec. 14, 2021.
Sources: Activate analysis, Company sites, Sensor Tower

Gamers on average are spending more than ever as content offerings become more varied – Habitual Gamers are especially eager to spend on add-ons and items to enhance their experiences

AVERAGE MONTHLY SPEND PER GAMER[1], U.S., 2019-2022E, USD PER MONTH



GAMING PURCHASES BY PURCHASE TYPE AND GAMER[1] SEGMENT, U.S., 2022, % GAMERS[1] WHO SPEND ON GAMING CONTENT BY SEGMENT



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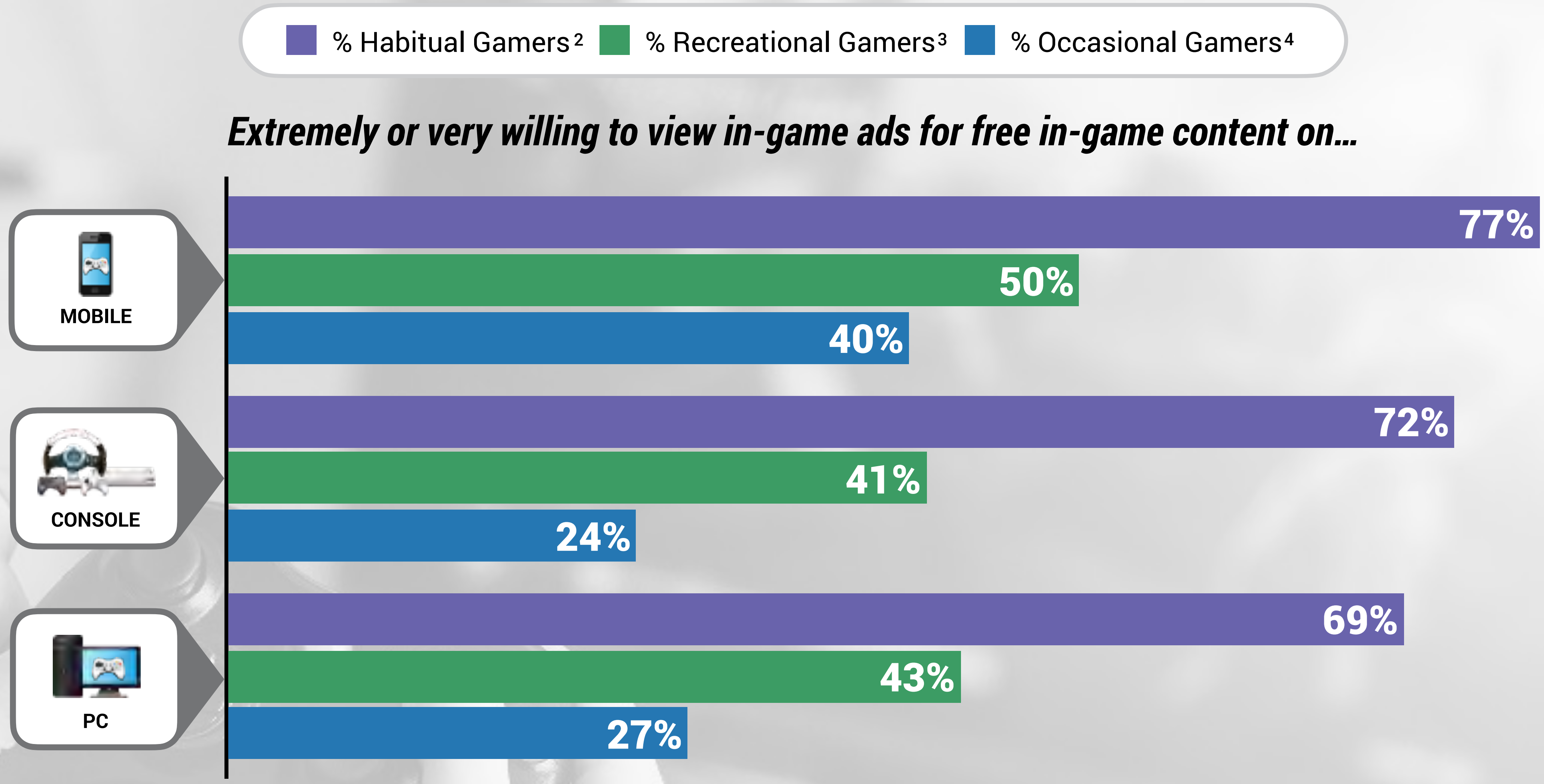
In-game advertising captures consumer attention in exchange for free in-game content; Habitual Gamers are most receptive to in-game advertising, especially on mobile

WILLINGNESS TO VIEW IN-GAME ADVERTISEMENTS IN EXCHANGE FOR FREE IN-GAME CONTENT BY PLATFORM, U.S., 2022, % GAMERS[1] WHO USE EACH PLATFORM BY SEGMENT



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Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

Gaming IP is increasingly leveraged in all forms of media and entertainment as studios capitalize on increased consumer affinity and demand

SELECT TV/FILM ADAPTATIONS OF GAMING IP

SONIC THE HEDGEHOG 2
APRIL 2022

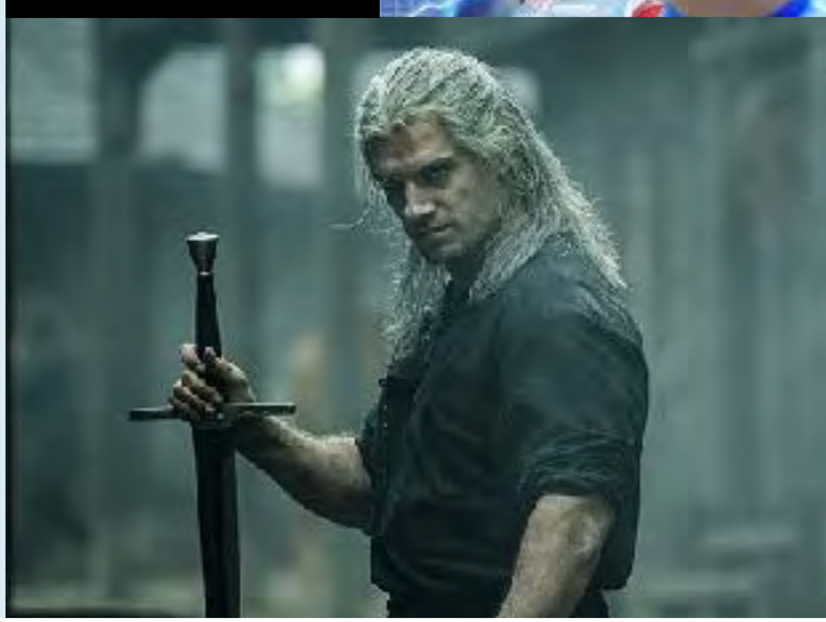
Sonic the Hedgehog 2 became the top-grossing video game movie of all time, earning $331M at the box office

The ***Sonic the Hedgehog*** game series sold ~5M units in 2022, quadrupling from 2021

UNCHARTED
FEBRUARY 2022

Uncharted became the fifth-highest-grossing video game movie of all time

The movie had a budget of $120M and starred Tom Holland and Mark Wahlberg



THE WITCHER
DECEMBER 2021

Netflix released Season 2 of ***The Witcher***, a fantasy drama TV series

Following the release, ***The Witcher*** video game spiked to 71,000 concurrent players

HALO: THE SERIES
MARCH 2022

This science fiction series was developed for Paramount+

Halo is now the streaming service's second-most-watched original series

Technology companies are increasingly taking a full-stack approach to build out capabilities in the gaming space as consumer demand grows

SELECT COMPANIES' PRESENCE IN GAMING[1]

* Announced, not yet released

	amazon	Apple	Google	Meta	Microsoft	NETFLIX	Nintendo	SONY	Tencent	VALVE
GAME PUBLISHER	games			READY AT DAWN	XBOX GAME STUDIOS	night school studio; Next Games; BOSSFIGHT	Nintendo	Sony Interactive Entertainment	Tencent Games	VALVE
VIRTUAL WORLD				horizon; FACEBOOK Reality Labs	MINECRAFT; AltspaceVR					garry's mod[2]
CONSOLE[3]					XBOX	NINTENDO SWITCH	PlayStation	logitech G handheld[4] *	STEAM DECK
AR/VR DEVICE		Glass *	GLASS	oculus; Meta Quest Pro *	Microsoft HoloLens		NINTENDO LABO	PlayStation VR; PlayStation VR2 *		STEAMVR; VIVE; VALVE INDEX
CLOUD	luna			facebook gaming[5]	CLOUD GAMING[6]		NINTENDO SWITCH CLOUD STREAMING[7]	PlayStation Now	START	STEAM CLOUD PLAY
APP STORE	amazon appstore	App Store	Google Play	Meta Quest Store	Microsoft Store		Nintendo eShop	PlayStation Store	应用宝	STEAM
SUBSCRIPTION SERVICE	luna; prime gaming	Arcade	Google Play Pass		XBOX GAME PASS; CLOUD GAMING[6]; XBOX LIVE GOLD	NETFLIX	ONLINE Nintendo Switch Online	PlayStation Plus	START	
GAMING AS VIDEO	twitch		YouTube GAMING	facebook gaming[5]					企鹅电竞 EGAME	STEAM TV

1. Information as of Oct. 2022. Does not include areas in which company is a majority stakeholder. 2. Engine created by Valve and game eventually published by Valve, but independently developed by Garry Newman and Facepunch Studios. 3. Excludes devices with a primary purpose other than gaming (e.g. Apple TV). 4. Co-developed by Logitech and Tencent. 5. Meta does not offer a standalone cloud service but allows streaming of select games through Facebook on Android and web. The standalone Facebook Gaming app for iOS and Android will be shut down in Oct. 2022 but gaming features will remain available in the main Facebook app. 6. Only available through a bundle with Xbox Game Pass Ultimate. 7. On a game-by-game basis, not as a subscription or service.
Sources: Activate analysis, Company press releases, Company sites

Major technology companies are leveraging their scale to acquire game publishers in pursuit of full-stack gaming capabilities – this is only the beginning for M&A in the gaming space, as we expect industry consolidation to continue

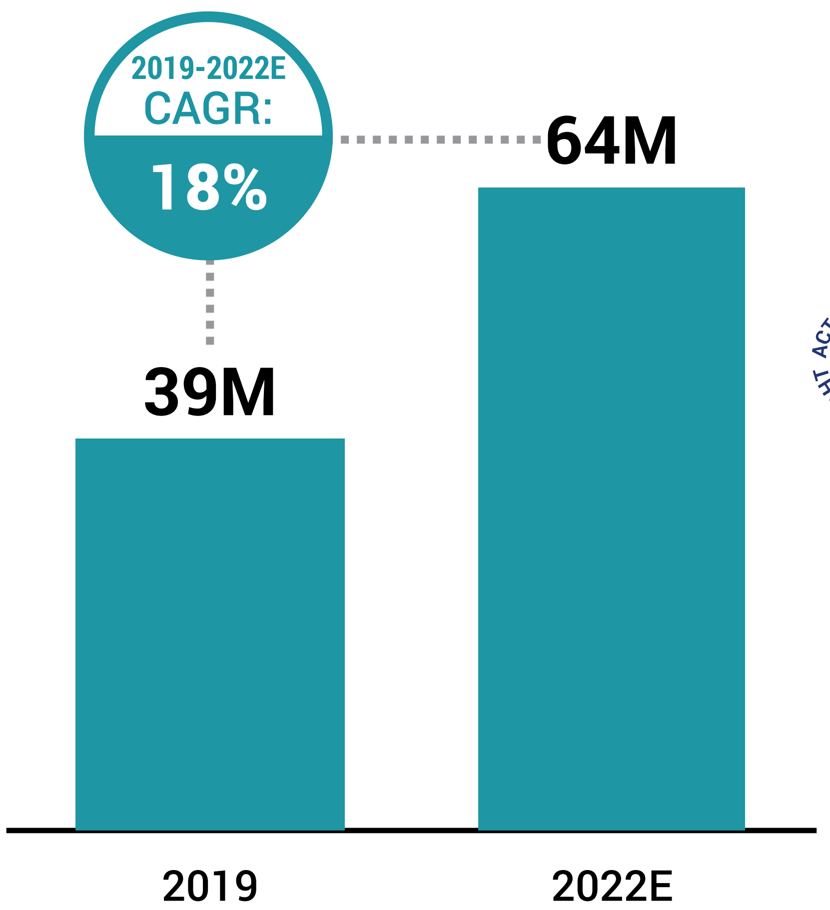
RECENT ACQUISITIONS OF GAMING STUDIOS

ACQUIRING COMPANY		TARGET COMPANY	DATE OF ANNOUNCEMENT	ACQUIRING COMPANY MARKET CAP[1]	REPORTED TRANSACTION VALUE	RATIONALE
Microsoft	»	Activision	Jan. 2022	$1,830B	$68.7B	Provide building blocks for the Metaverse
T2 Take Two Interactive	»	zynga	Jan. 2022	$20.6B	$12.7B	Expand into mobile gaming
SONY	»	BUNGiE	Jan. 2022	$80.5B	$3.6B	Expand live service game offerings
Embracer Group	»	asmodee	Dec. 2021	$5.47B	$3.0B	Improve player experience
Savvy Gaming Group	»	ESL/FACEIT	Jan. 2022	*Undisclosed*	$1.5B	Improve capabilities and resources in esports
Embracer Group	»	SQUARE ENIX	May 2022	$5.47B	$0.3B	Create new installments from original IP
STILLFRONT GROUP	»	6w 6waves	Jan. 2022	$1.26B	$0.2B	Strengthen presence in free-to-play gaming and the Japanese market
SONY	»	Savage Game Studios	Aug. 2022	$80.5B	*UNDISCLOSED*	Expand to additional platforms

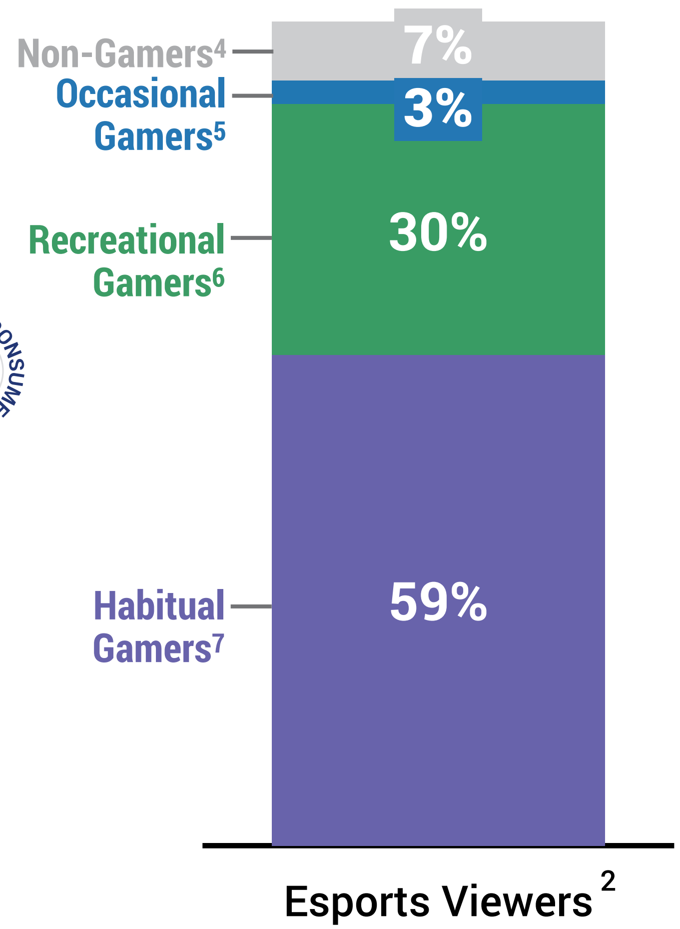
1. Market capitalizations as of Oct. 24, 2022.
Sources: Activate analysis, Company press releases

There are over 64M esports viewers in the U.S. today — while the majority of esports viewers are also gamers, there are key differences in the populations the two spaces attract

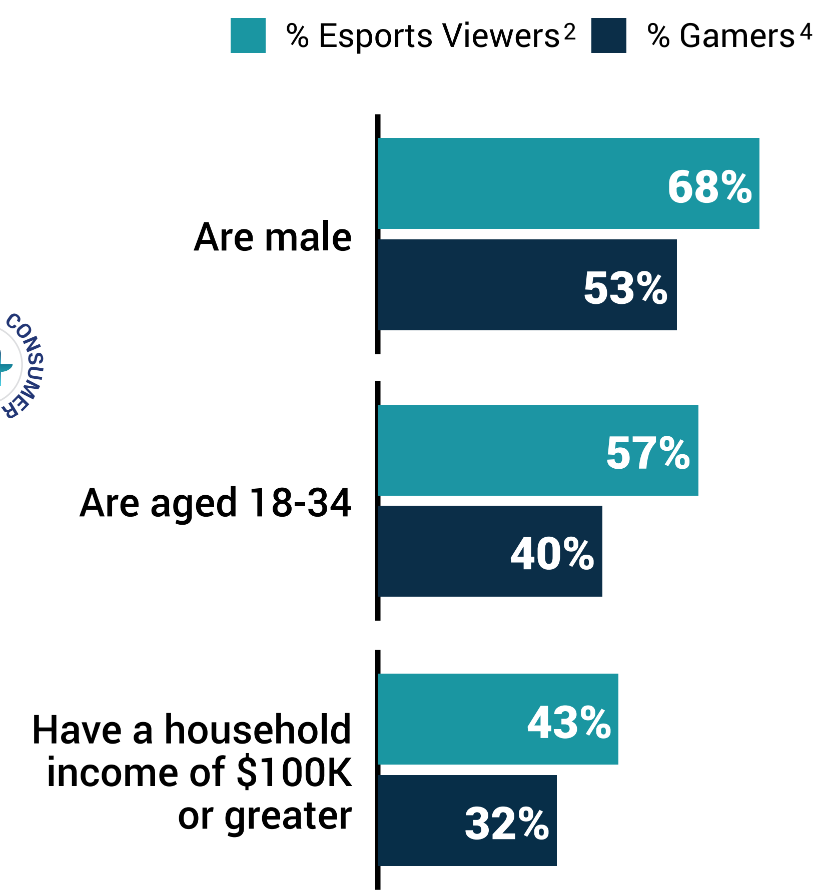
ESPORTS VIEWERSHIP, U.S., 2019 VS. 2022E, MILLIONS ESPORTS VIEWERS[1,2]



ESPORTS VIEWERS[2] BY GAMER SEGMENT[3], U.S., 2022, % ESPORTS VIEWERS[2]



ESPORTS VIEWER[2] AND GAMER[4] DEMOGRAPHICS, U.S., 2022, % ESPORTS VIEWERS[2] VS. % GAMERS[4]



1. "Esports viewers" (2019) are defined as adults aged 18+ who have watched an esports competition at any point in time.
2. "Esports viewers" (2022) are defined as adults aged 18+ who have watched or attended an esports competition within the last 12 months. 3. Figures do not sum to 100% due to rounding. 4. "Gamers" are defined as adults aged 18+ who currently play video games. 5. "Occasional Gamers" are defined as gamers who only view gaming as an entertainment option when other options are not available, or gamers who view gaming as one of a few equivalent options for entertainment but do not follow gaming content online. 6. "Recreational Gamers" are defined as gamers who view gaming as one of a few equivalent options for entertainment, or Gamers who view gaming as their primary source of entertainment but do not follow gaming content online.
7. "Habitual Gamers" are defined as gamers who view gaming as their primary source of entertainment and follow gaming content online.

Sources: Activate analysis, Activate 2019 Consumer Technology & Media Research Study (n = 4,006), Activate 2022 Consumer Technology & Media Research Study (n = 4,001), U.S. Census Bureau

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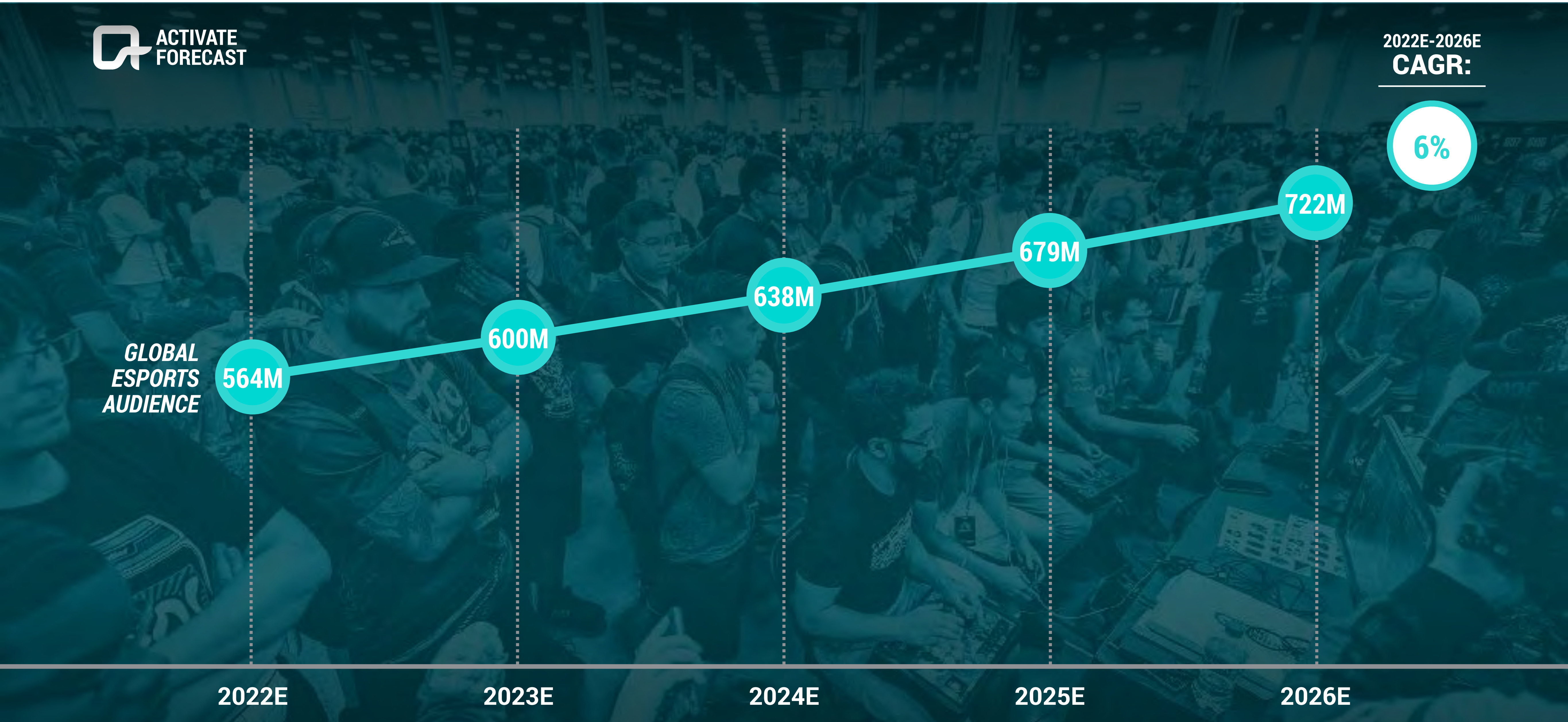
The global esports audience has already surpassed half a billion viewers and will continue to grow as the space develops

ESPORTS VIEWERSHIP, GLOBAL, 2022E-2026E, MILLIONS ESPORTS VIEWERS

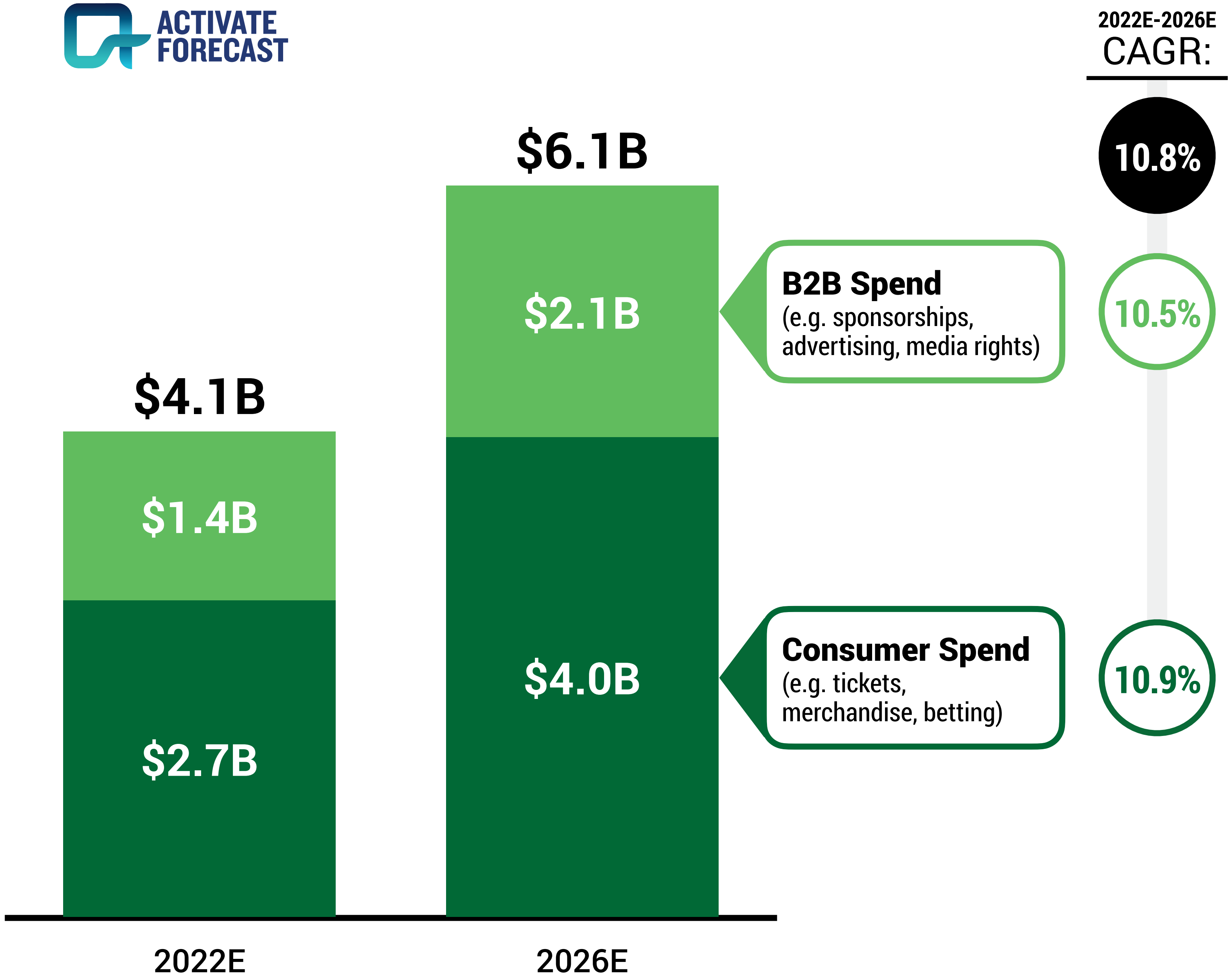


Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Newzoo

The future of esports will be driven by media rights and distribution to capture incremental audiences

ESPORTS REVENUE BY TYPE, GLOBAL, 2022E VS. 2026E, BILLIONS USD

ACTIVATE FORECAST



SELECT DEVELOPMENTS IN ESPORTS MEDIA RIGHTS

CS:GO esports series BLAST Premier has agreed to 35 media deals for the broadcast of its 2022 season

G4, the exclusive media rights partner to ESL Gaming, has partnered with Pluto TV to distribute its content through ad-supported free streaming

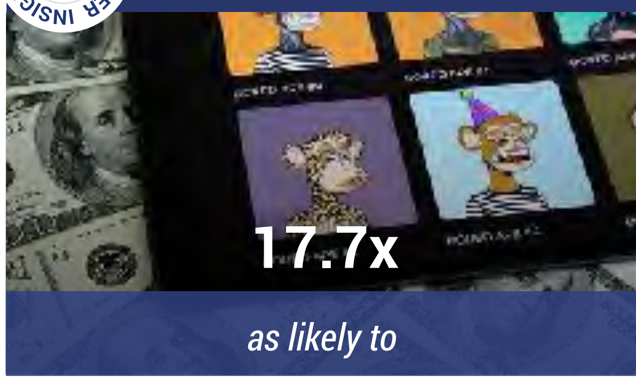
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Company press releases, Newzoo, Omdia, PricewaterhouseCoopers

Growing esports markets will have an amplified impact across technology and media, enabling a broad set of other digital activities

MEDIA BEHAVIORS, U.S., 2022, ESPORTS FOLLOWERS[1] INDEXED TO NON-ESPORTS FOLLOWERS[1]

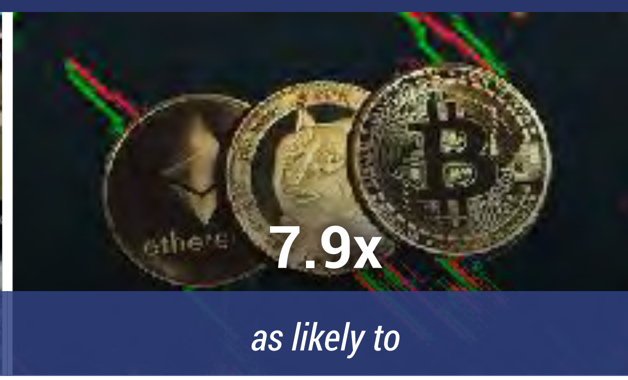
ACTIVATE CONSUMER INSIGHT

Esports followers[1] are…



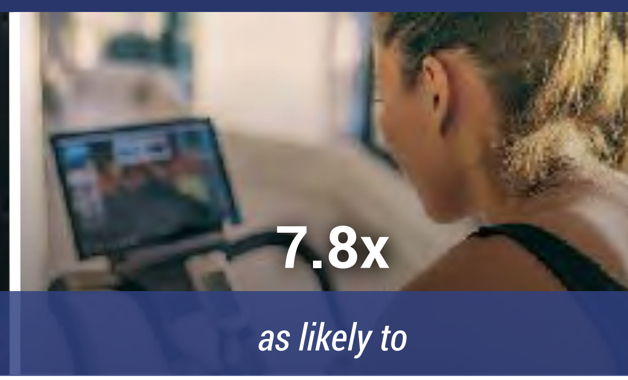
17.7x *as likely to*

Have Bought/Sold/Created NFTs[2]



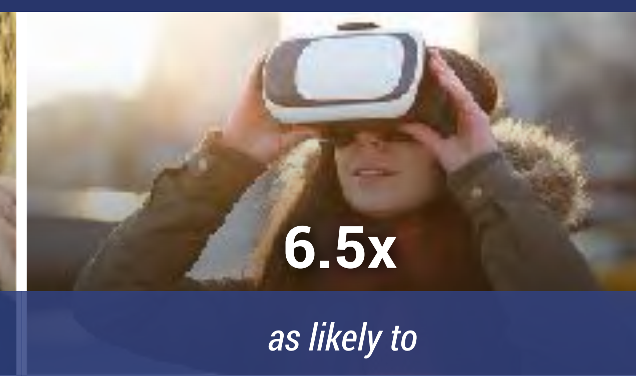
7.9x *as likely to*

Have Used/Acquired Cryptocurrency[2]



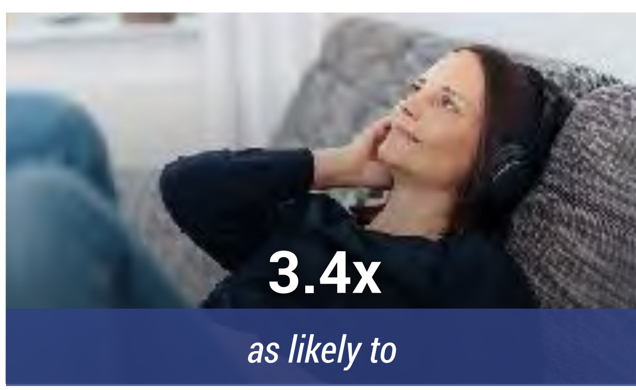
7.8x *as likely to*

Own Connected Fitness Equipment[3]



6.5x *as likely to*

Use VR Headsets[2]



3.4x *as likely to*

Listen to Podcasts

1.6x *as likely to*

Watch Live Sports[2]

1.3x *as likely to*

Listen to Music

1.3x *as likely to*

Use Social Media

…as non-esports followers[1]

1. "Esports followers" are defined as adults aged 18+ who have attended esports events or watched, listened to, or read esports content (e.g. highlights, news, competitions) in the last 12 months. 2. Based on behaviors in the last 12 months. 3. "Connected fitness equipment" is defined as internet-connected exercise equipment with social / live-class capabilities. Ownership is defined at the household level.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

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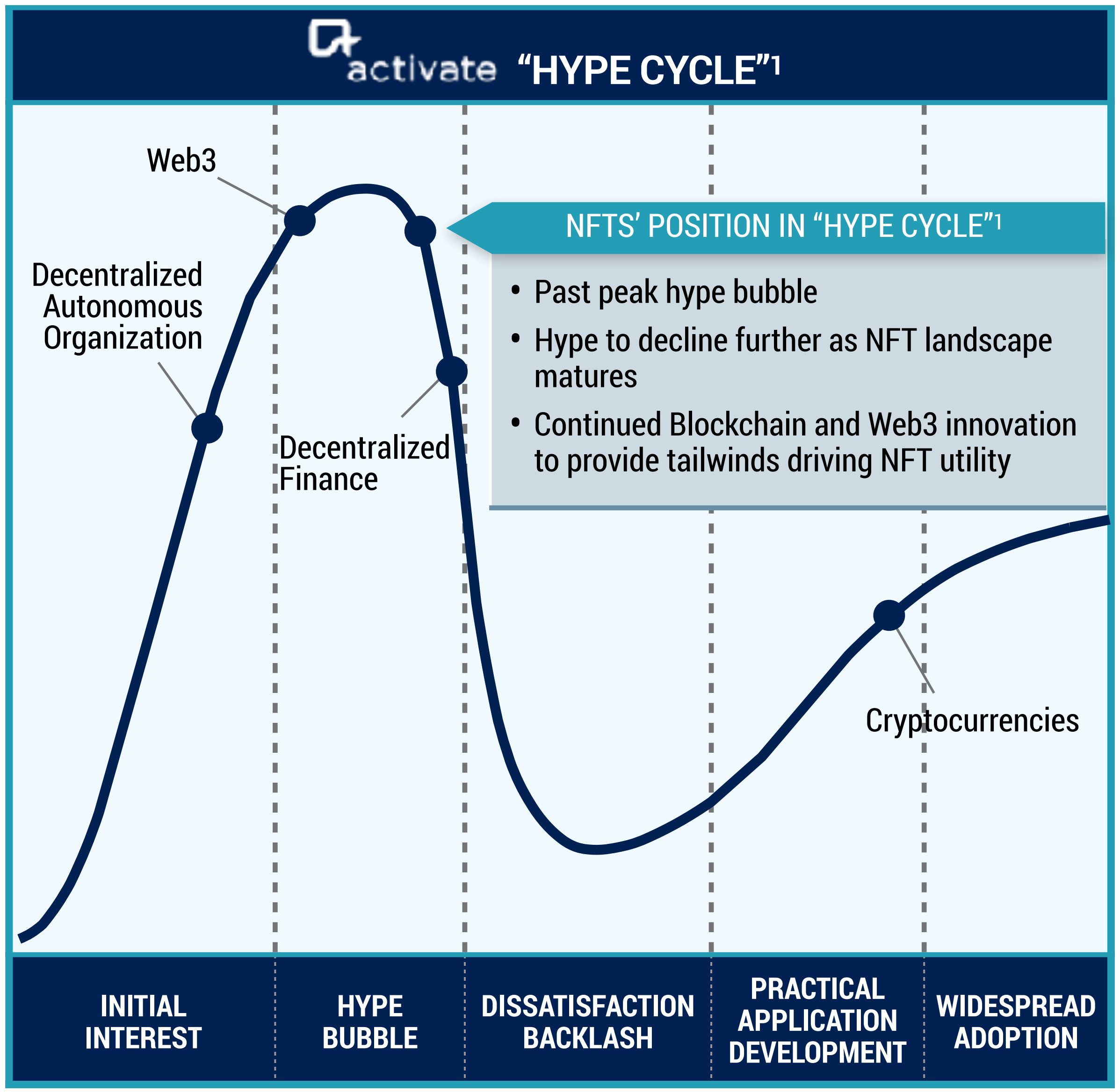
In 2022, NFTs passed their peak hype, making way for more tangible use cases

"HYPE CYCLE"[1] FOR NFTS AND RELATED TOPICS, U.S., SEPT. 2022



HYPE[2]

PHASE

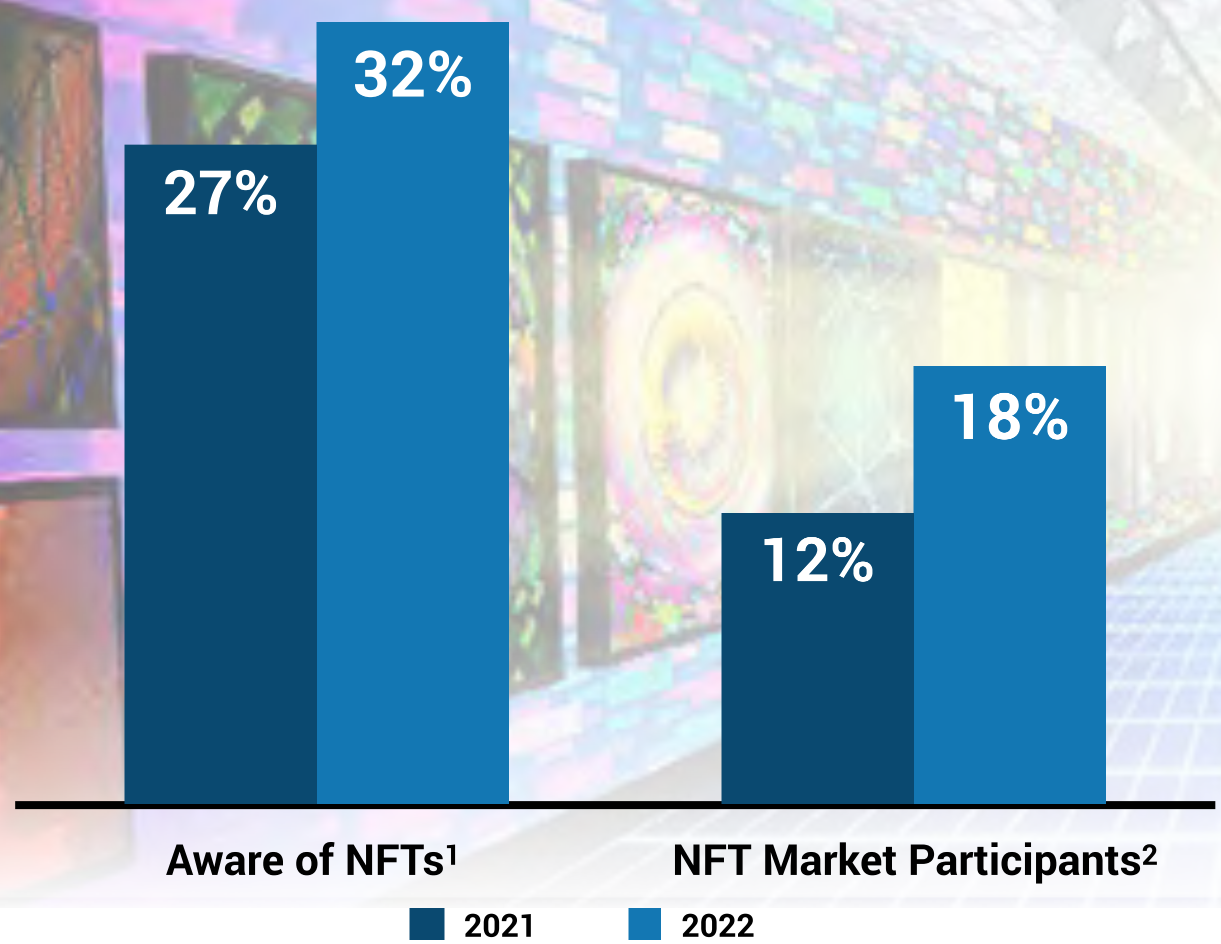
ACTIVATE POINT OF VIEW

1. **The end of excessive NFT hype is making way for a new set of more tangible use cases rooted in established technology and media behaviors (e.g. commerce, social)**
2. **Moving forward, these use cases will focus on problems that NFTs have a strong rationale for solving, such as community building and rewarding loyal brand users**
3. **User rationale for purchasing NFTs has also changed, moving away from investment use cases and towards displaying and collecting**
4. **NFT companies have continued to be attractive targets for investors and have grown substantially in the last 12 months, reflecting continued interest in the NFT market (despite falling cryptocurrency values driving down NFT prices)**

1. "Hype cycle" is defined as a visual representation of the path from initial interest to widespread adoption of a new technology / technology application over time. 2. "Hype" is derived from average Google Trends search frequency.
Sources: Activate analysis, Google Trends, PitchBook

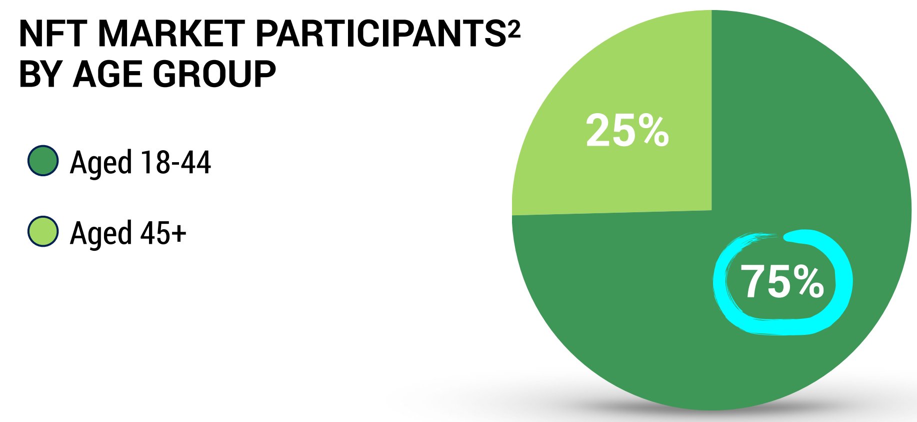
NFT usage is still a relatively nascent behavior, with less than one third of the population aware of what NFTs are and relatively younger and more affluent consumers leading the way

NFT AWARENESS[1] AND PARTICIPATION[2], U.S., 2021 VS. 2022, % ADULTS AGED 18+

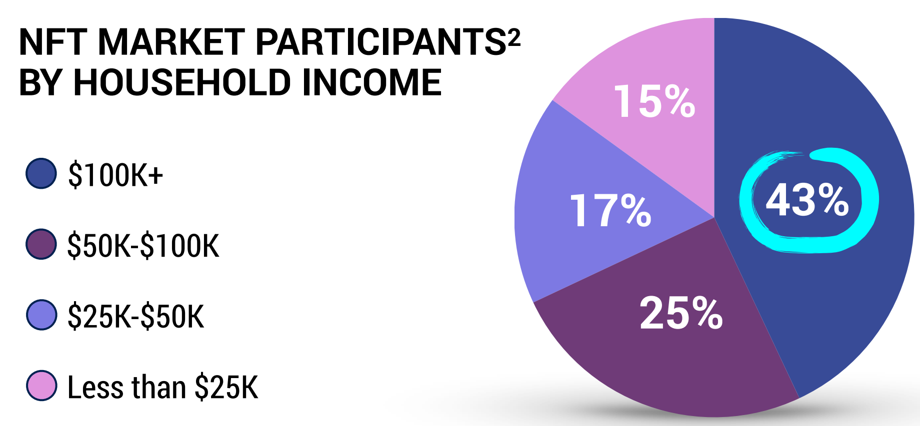


NFT MARKET PARTICIPANT[2] DEMOGRAPHICS, U.S., 2022, % NFT MARKET PARTICIPANTS[2] AGED 18+

NFT MARKET PARTICIPANTS[2] BY AGE GROUP



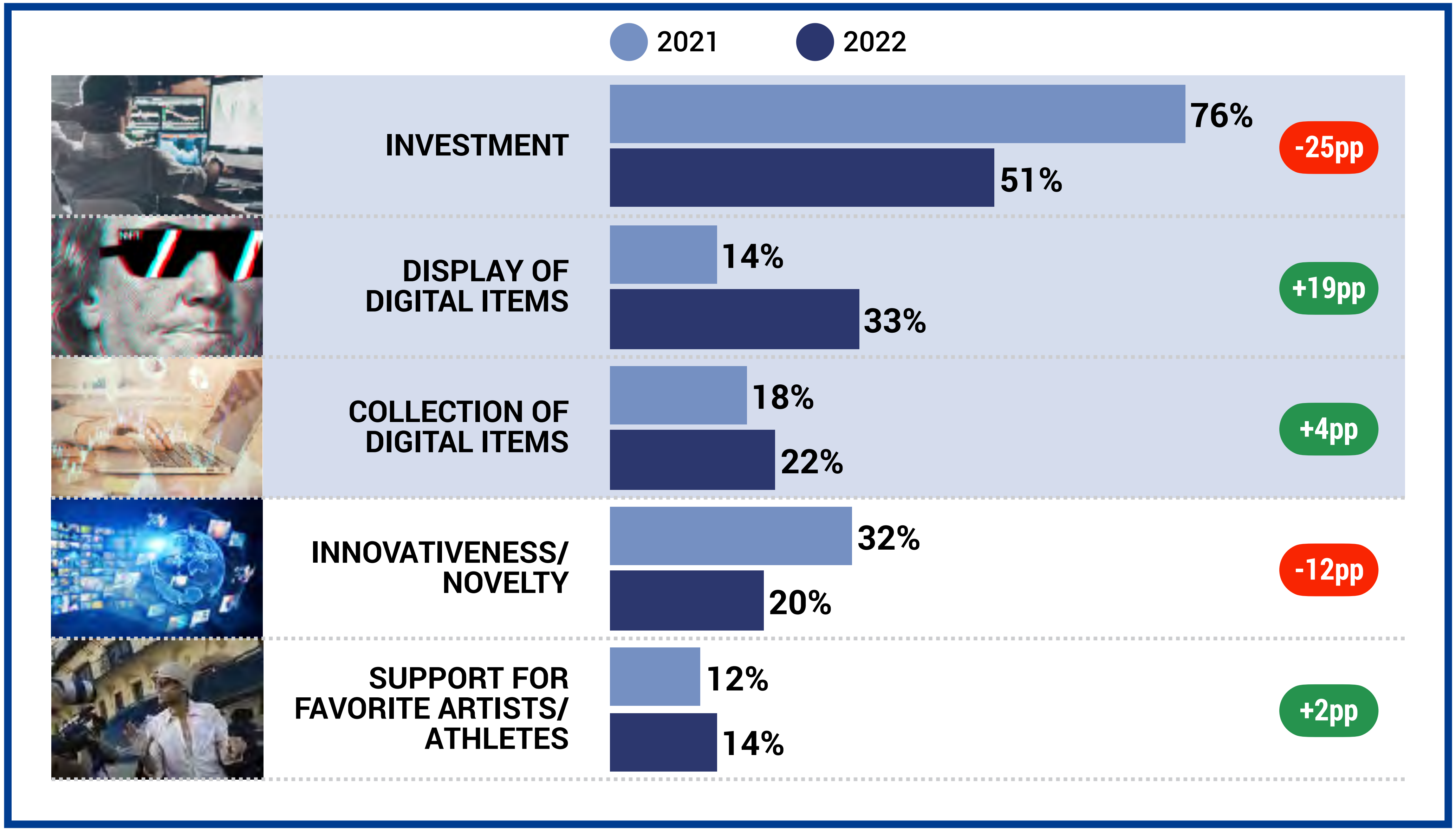
NFT MARKET PARTICIPANTS[2] BY HOUSEHOLD INCOME



1. "Aware of NFTs" is defined as knowing what NFTs are. 2. "NFT market participants" are defined as those who researched/discussed, browsed, bid on, purchased, displayed, sold, or created NFTs in the last 12 months.
Sources: Activate analysis, Activate 2021 Consumer NFT Research Study (n = 1,040), Activate 2022 Metaverse & NFT Consumer Research Study (n = 3,078)

Consumers are moving away from primarily buying NFTs as investments and towards other tangible use cases, such as displaying and collecting digital items

TOP REASONS[1] FOR PURCHASING NFTS, U.S., 2021 VS. 2022, % NFT PURCHASERS[2]



1. Consumers were asked to select up to two top reasons. 2. "NFT purchasers" are defined as adults 18+ who have purchased NFTs in the last 12 months.
Sources: Activate analysis, Activate 2021 Consumer NFT Research Study (n = 1,040), Activate 2022 Metaverse & NFT Consumer Research Study (n = 3,078)

Moving forward, NFTs can add the most value through creating exclusive digital communities and rewarding loyal customers

SELECT NFT USE CASES

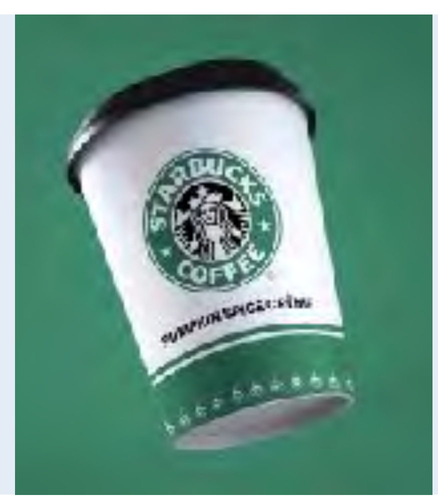
Community Building: NFTs enable digital communities to form around the ownership of scarce collectibles

- **Sellers**: Enables the leveraging of a community vs. a one-off sale
- **Buyers**: Provides outlet for connection and feelings of belonging in digital spaces

Bored Ape Yacht Club's success hinges upon **scarcity**; there are only 10,000 unique Bored Ape NFTs in existence, so **membership is limited and exclusive**, similar to physical membership clubs (e.g. Soho House)

Rewarding Loyal Users: NFTs can function as a way to reward loyal customers with perks and connections to the brand

- **Sellers**: Develops a more engaged customer base
- **Buyers**: Allows customers to connect with, support, and invest in the brand in novel ways



Starbucks plans to create a series of branded NFT collections, which will allow members to **access exclusive experiences and rewards** (e.g. espresso martini-making class, exclusive artwork)

Community Building: Many NFT projects are finding success online through Discord, beginning with the development of a project server and eventually growing into a global community

NFT PROJECT GROWTH PROCESS ON DISCORD

1 ORIGINATION

NFT teams begin initial project development by **creating a Discord server**, where investors, artists, digital developers, businesses, and fans **come together in a community chat to collaborate and discuss new ideas**

2 PROMOTION

Next, teams begin promotion of the project through methods such as **inviting users via social media, sharing the Community Server link** through existing channels, and **making the platform settings public and discoverable** to all users

3 COMMUNITY FORMATION

Teams then develop a community by **engaging in conversation** with followers, **maintaining standard rules, hosting frequent Q&A sessions and competitions**, and **offering whitelist memberships**, guaranteeing early access to NFT minting

4 MAINTAINING POPULARITY

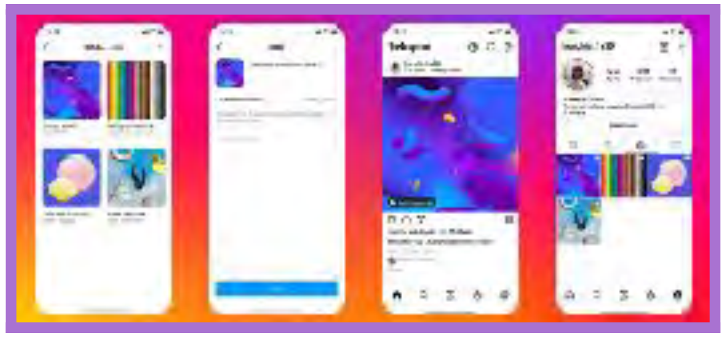
Finally, teams maintain this following through large-scale initiatives like **collaboration with other NFT teams, one-time NFT giveaways or exclusive line drops**, and **partnering with NFT / social media influencers**

Sources: Activate analysis, Chain Debrief, Company sites, Cyber Scrilla, Token Minds, Wealth Quint

Community Building: Social media companies are integrating features to support users who want to display NFTs as part of a community identification

EXAMPLE NFT USE CASES IN SOCIAL MEDIA

INSTAGRAM



Description:

Instagram allows users to **integrate their digital wallet into their profile to display their NFT collection**

Activate Perspective:

The **ability to integrate NFTs seamlessly into profiles** will be critical for NFT use in social media

TIKTOK

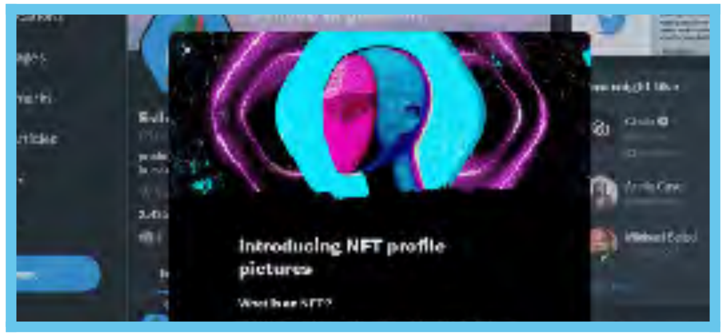
Description:

TikTok released **three one-of-one and limited-edition drop NFTs** of viral videos through **TikTok Top Moments**, but faced issues releasing more due to **waning user interest**

Activate Perspective:

Social media companies **must provide a clear utility to users** when launching NFT projects to achieve success

TWITTER



Description:

Twitter launched support for **NFT profile pictures**, which take on a distinct hexagonal shape

Activate Perspective:

The **ability to signal membership in exclusive clubs** remains the major use case for NFTs in social media

Sources: Activate analysis, Company sites

Rewarding Loyal Users: eCommerce Brands will use NFTs that are redeemable for physical goods as a rewards system for their most loyal customers

EXAMPLE NFT USE CASES IN ECOMMERCE

LOYALTY

Description:

Existing brands can **offer NFTs to reward their most engaged clients**, which can include **attaching physical perks** to digital collectibles

Example:

Clinique ran a competition for its loyalty program members, **offering a limited-edition NFT to three winners**, which gave them **access to exclusive products** each year for the next decade

CLINIQUE

PRODUCT CONTRIBUTION

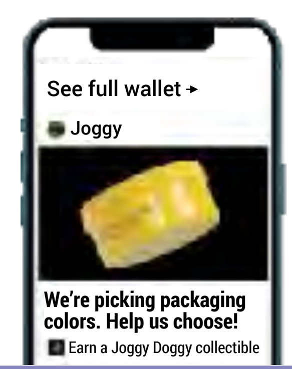
Description:

Emerging brands are using NFTs as part of their **customer rewards** strategy, **promising collectibles as incentives for early adopters**

Example:

Try Your Best is a Web3 platform designed to help consumer goods brands offer their most loyal customers **incentives to share their feedback and preferences in exchange for collectible NFTs, physical products, and the ability to influence product choices** (e.g. packaging colors)

tyb



Activate Perspective:

The most successful innovators with NFTs will be able to provide consumers with tangible benefits (e.g. physical product counterparts, exclusive product launches, influence on future products)

Rewarding Loyal Users: Promotional/loyalty campaigns are the most common pathway to NFT ownership as companies look for new ways to reward their loyal customers

METHODS OF NFT ACQUISITION IN THE LAST 12 MONTHS, U.S., 2022, % NFT OWNERS AGED 18+

ACTIVATE CONSUMER INSIGHT

PROMOTIONS/ LOYALTY	Being gifted NFT(s) for free as part of a promotion/loyalty program from a brand/artist	46%
PURCHASES	Paying for NFT(s)	38%
EXCHANGES	Receiving NFT(s) in exchange for a non-monetary action (e.g. leaving a review)	35%
GAMES	Earning NFT(s) through playing a game	33%

PROMOTION/ LOYALTY EXAMPLES

BURGER KING, "KEEP IT REAL MEALS" NFT CAMPAIGN: QR CODE LEADING TO DIGITAL COLLECTIBLE ON NEARLY SIX MILLION MEAL BOXES. REWARDS INCLUDED:

- WHOPPER SANDWICHES FOR A YEAR
- AUTOGRAPHED GOODS
- PHONE CALL WITH ONE OF THE CAMPAIGN'S CELEBRITIES

NFL, COMPLIMENTARY NFTS FOR SELECT GAMES: THE LEAGUE DISTRIBUTED MORE THAN 500,000 COMPLIMENTARY VIRTUAL COMMEMORATIVE TICKET NFTS TO FANS

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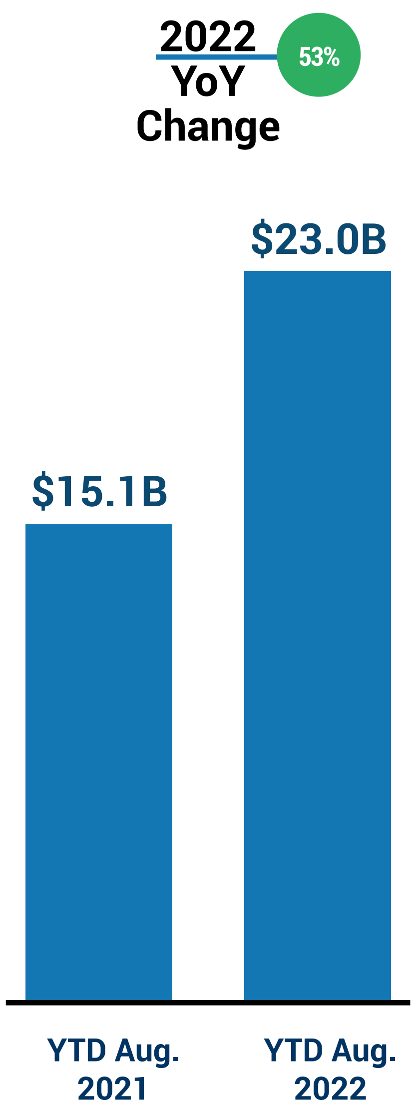
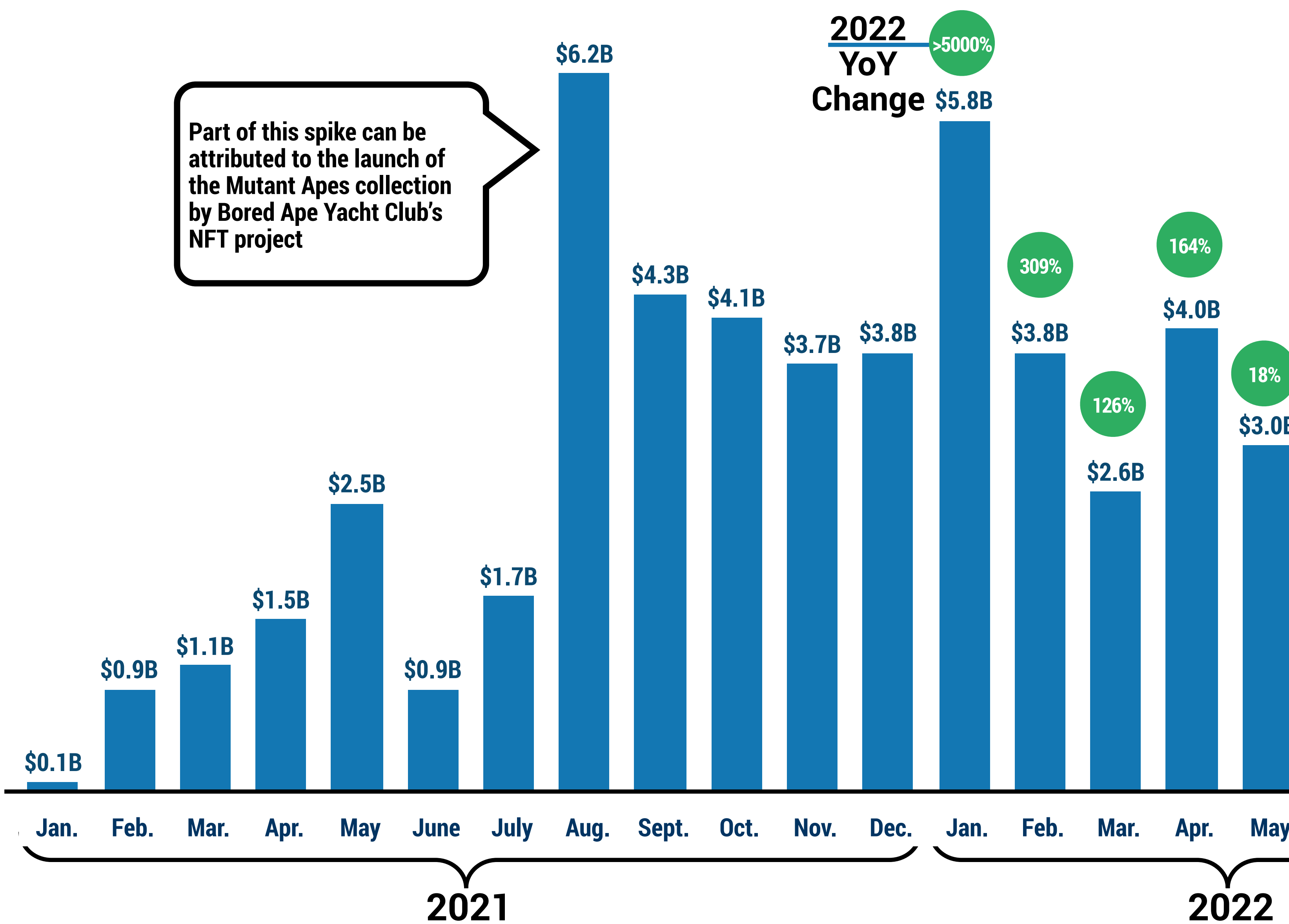
Sources: Activate analysis, Activate 2022 Metaverse & NFT Consumer Research Study (n = 3,078), Insider, The Verge

While NFT sales growth has slowed recently, overall sales volume has already exceeded $23B in 2022, underscoring continued consumer interest

TOTAL SALES OF NFTS[1], GLOBAL, 2021-YTD AUG. 2022, USD BILLIONS



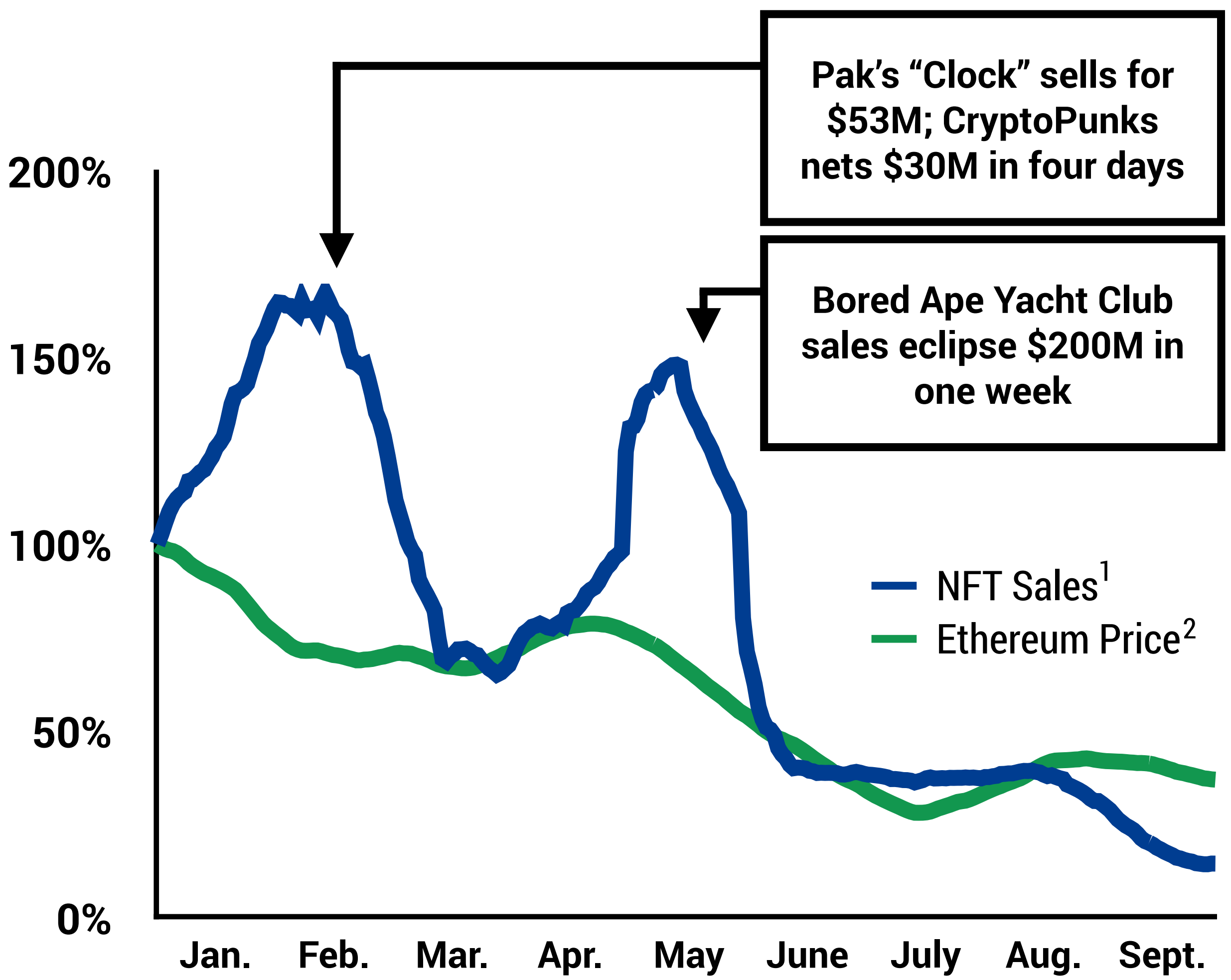


There is significant NFT sales volume in 2022, with a positive YoY growth rate for every month except July and August

1. Includes primary and secondary market sales. 95% of the sales from LooksRare is excluded due to wash trading. Wash trading is an act where a trader sells an asset belonging to them to another wallet controlled by them (often to game platform financial incentives).
Sources: Activate analysis, Bloomberg, CryptoSlam, DappRadar

Recent trends in the NFT market have mirrored those in cryptocurrency, given the overlap of users and dependencies on cryptocurrency for purchasing

AVERAGE NFT SALES[1] AND ETHEREUM PRICE[2],
GLOBAL, YTD SEPT. 2022, % INDEXED TO JAN. 1, 2022



RATIONALE FOR COMPARING NFT SALES TO ETHEREUM PRICE

- **Ethereum** is the underlying blockchain for **over 86% of current NFTs[3]**
- As a general rule, **consumers can only purchase NFTs using cryptocurrency, typically Ethereum**
- There is a significant overlap of purchasers for NFTs and cryptocurrency, with **over two thirds of NFT purchasers also purchasing cryptocurrency**
- Given this, **when cryptocurrency prices** (especially Ethereum) **decline, it has a direct impact on NFT sales value** when expressed in fiat currency (e.g. USD)

1. Includes primary and secondary market sales for the trailing one month period. 2. Relative to USD for the trailing one month period. 3. Refers to minted (i.e. created), verified, and tracked NFTs.
Sources: Activate analysis, Activate 2022 Metaverse & NFT Consumer Research Study (n = 3,078), Company sites, CryptoSlam, DappRadar, NonFungible

Significant growth in funding for NFT-related ventures in 2022 will further support NFT use cases, especially those related to Gaming and Marketplaces, which have made up more than 70% of all investments

TOP NFT INVESTMENT CATEGORIES BY FUNDING SIZE[1], GLOBAL, SEPT. 2020-SEPT. 2022, MILLIONS USD

CATEGORY	PRIMARY FOCUS	Sept. 2020-Sept. 2021	Sept. 2021-Sept. 2022	EXAMPLES
GAMING	Building NFT-native games	$573M	$1,733M	FORTE, Dapper
NFT MARKETPLACES	Functioning as a place to buy and sell third-party NFTs	$294M	$1,109M	MAGIC EDEN, Autograph, OpenSea
TECHNOLOGY	Developing technology to enable specific advancements in NFT projects	$46M	$855M	UPSHOT, Co:Create, immi
INVESTING	Creating investment vehicles for funding other NFT projects	$56M	$190M	Vera, MetaStreet
MEDIA	Generating narrative storytelling media content around NFT projects	$42M	$177M	NFT OASIS
MUSIC	Supporting monetization of musical content and performances through NFTs	$87M	$126M	royal, ONEOF, ANIMAL CONCERTS

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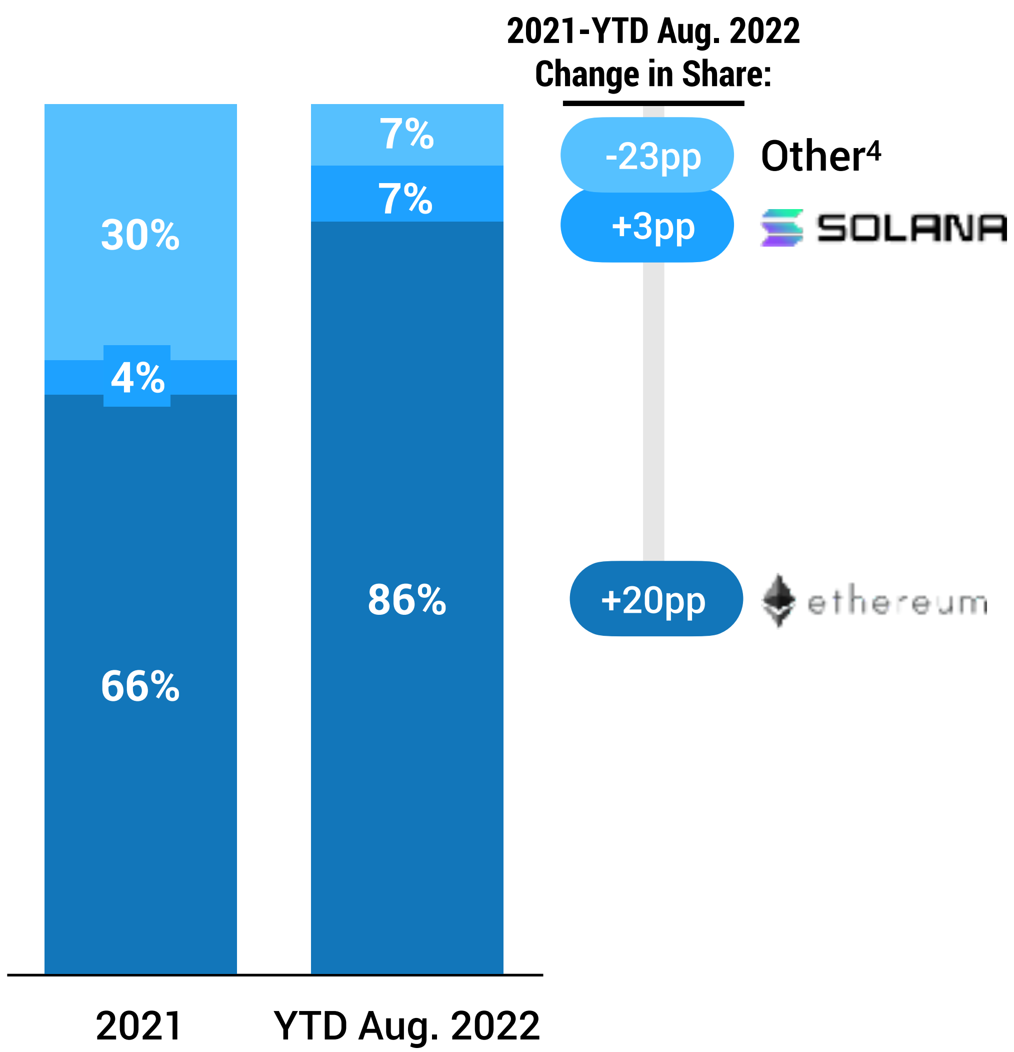
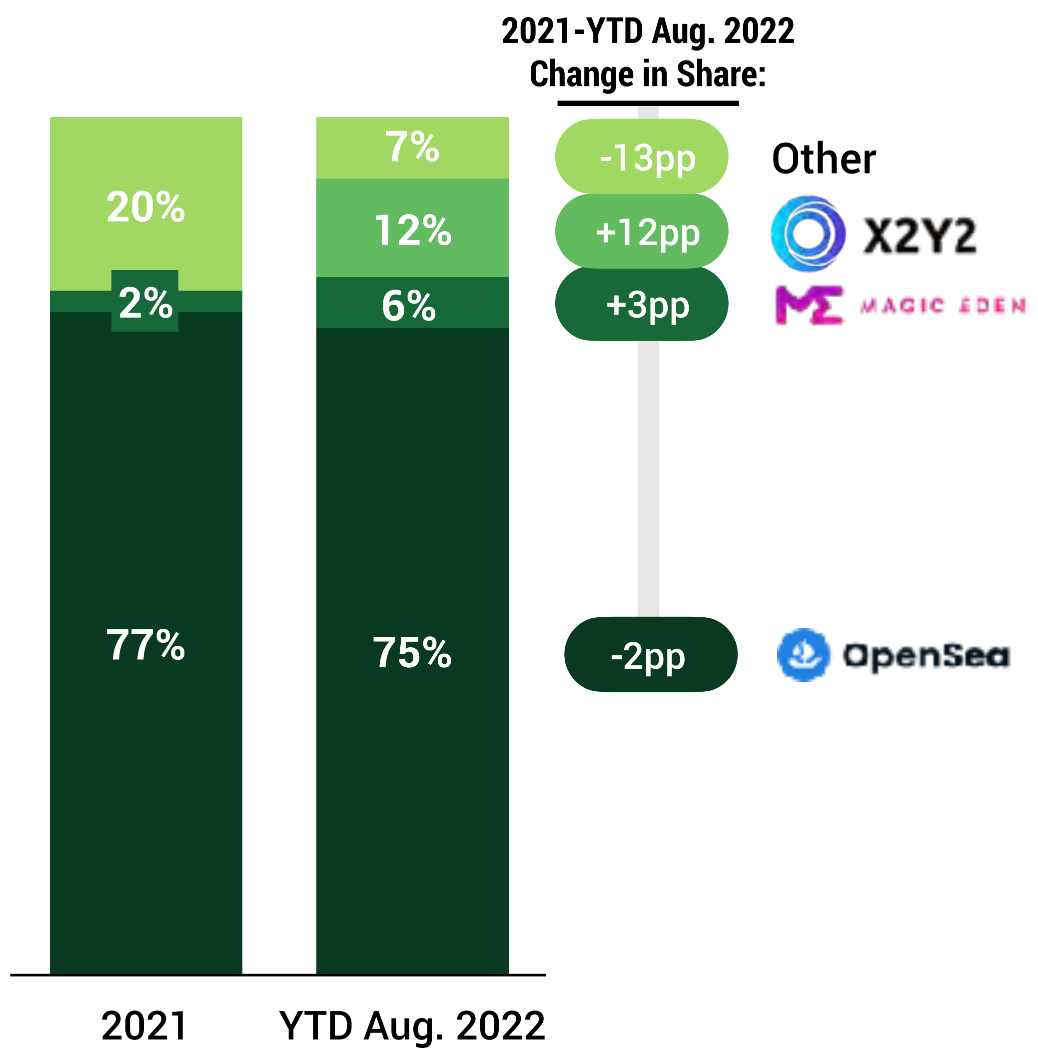
1. Data is based on the 50 largest investments made in NFT projects between Sept. 8, 2020 and Sept. 7, 2021 and the 50 largest investments made in NFT projects between Sept. 8, 2021 and Sept. 7, 2022.
Sources: Activate analysis, PitchBook

More than 80% of NFTs are part of the Ethereum blockchain and the majority of them go through the OpenSea marketplace

SHARE OF NFT SALES[1] BY BLOCKCHAIN,
GLOBAL, 2021 VS. YTD AUG. 2022, % NFT SALES[1]



SHARE OF NFT SALES[1] BY MARKETPLACE[2,3],
GLOBAL, 2021 VS. YTD AUG. 2022, % NFT SALES[1]



1. Includes primary and secondary market sales. 2. 95% of the sales from LooksRare is excluded due to wash trading. Wash trading is an act where a trader sells an asset belonging to them to another wallet controlled by them (often to game platform financial incentives). 3. Figures do not sum due to rounding. 4. Decline in "Other" is mainly due to the decline of Ronin NFT sales.
Sources: Activate analysis, BeinCrypto, CryptoSlam, DappRadar

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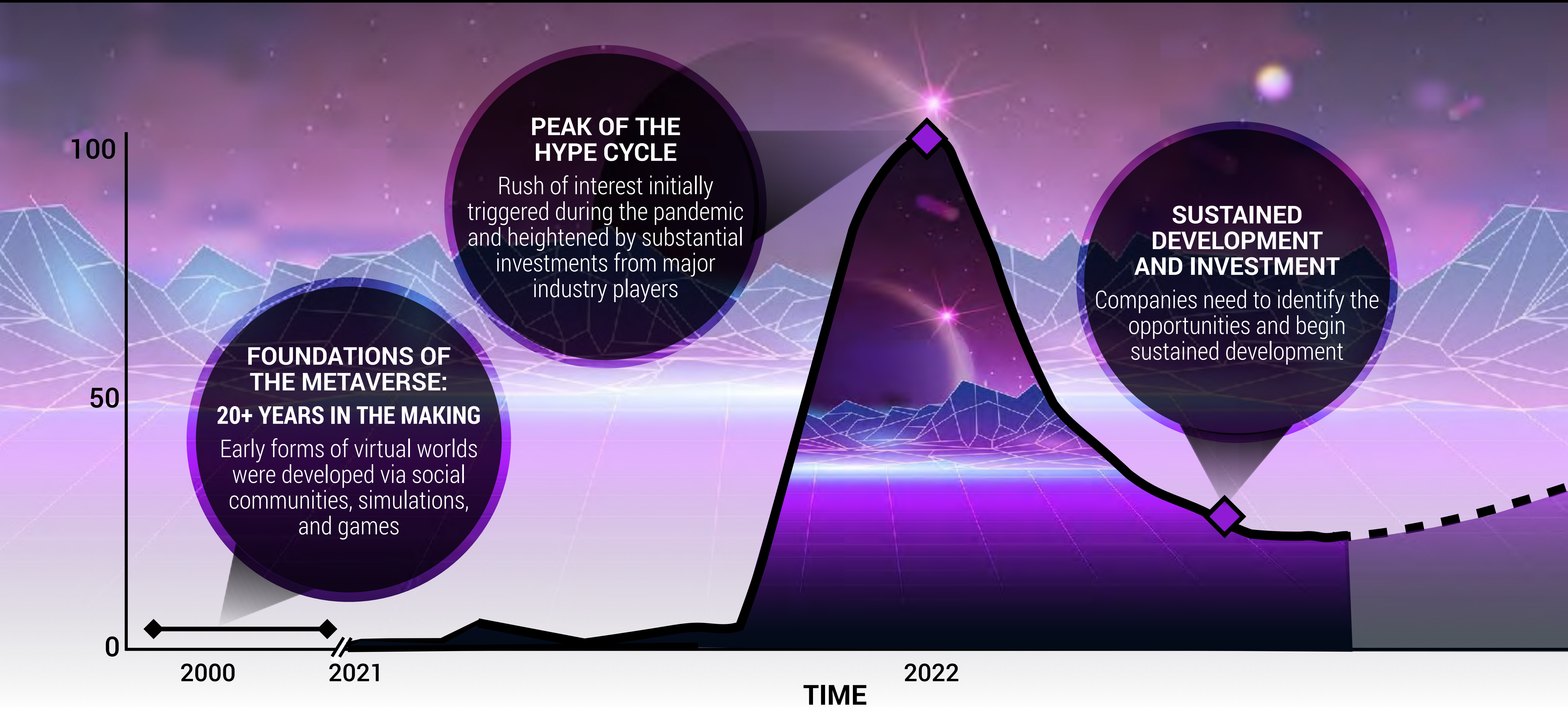
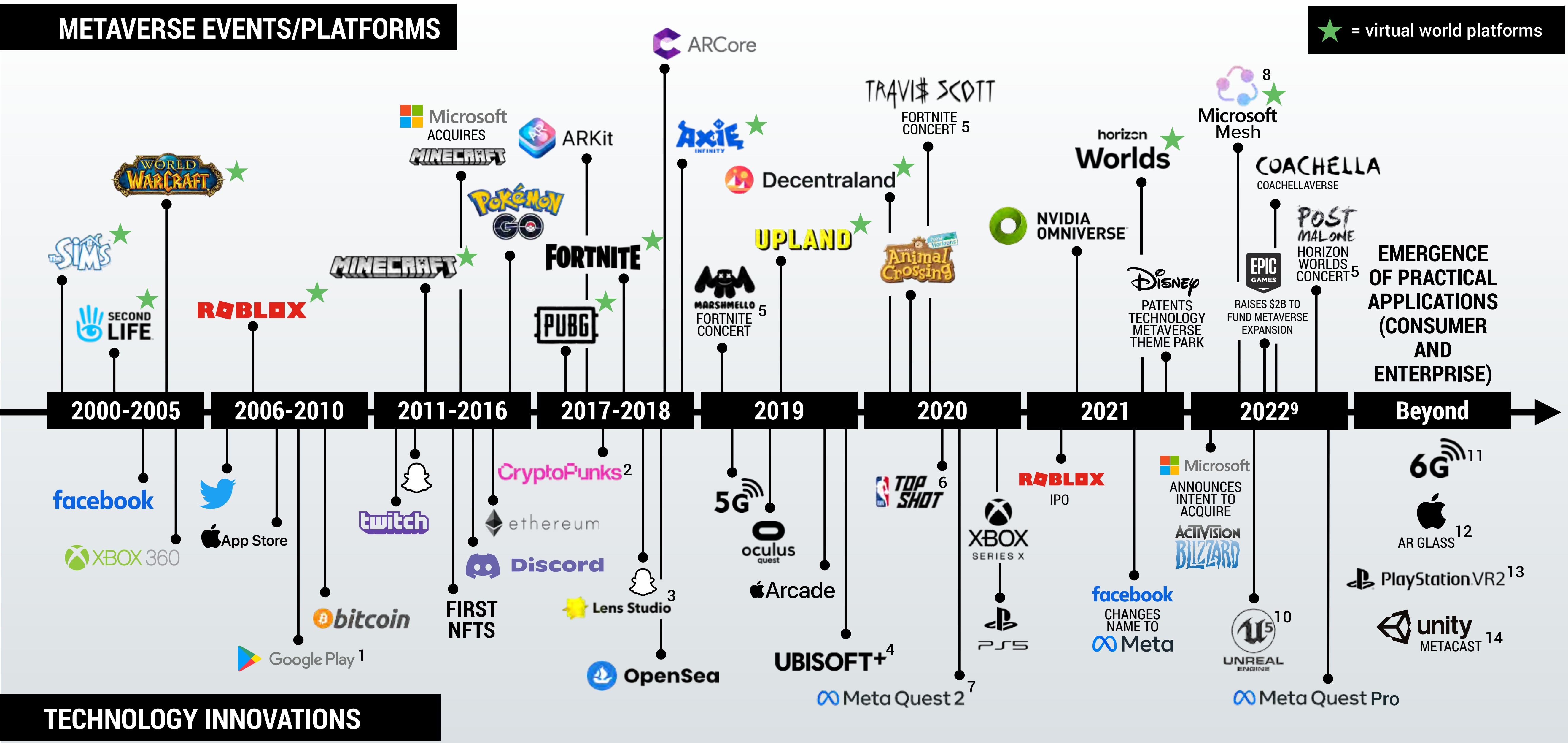
We believe that the Metaverse has just passed its peak hype cycle; now is when companies need to begin sustained development and investment

GOOGLE SEARCH INTEREST[1] IN THE METAVERSE, U.S., JAN. 2021-OCT. 2022, INDEXED TO PEAK INTEREST



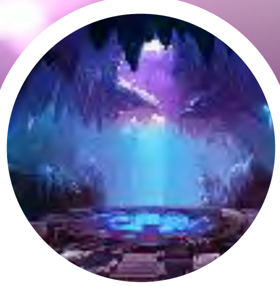
1. Google Trends captures interest in a topic on a scale of 1-100 over time, with 100 representing the peak interest.
Sources: Activate analysis, Google Trends

The foundation for the Metaverse has been in development for the last 20 years through games, virtual experiences, and technologies; going forward we will see the emergence of practical applications (consumer and enterprise)



Note: Not exhaustive. 1. Previously Android Market. Rebranded to Google Play in Mar. 2012. 2. CryptoPunks is an early NFT project developed on the Ethereum blockchain. 3. Lens Studio is Snap's AR platform available on mobile devices. 4. Previously Uplay+, Ubisoft+ is a game subscription service that allows access to 100+ games. 5. Not exhaustive. Other Metaverse concerts include but are not limited to Ariana Grande in Fortnite, Charli XCX in Roblox, BLACKPINK in PUBG, and BTS in Minecraft. 6. Top Shot is a collection of NFTs that showcase memorable NBA moments. 7. Rebranded from Oculus Quest 2. 8. Microsoft Mesh became available for limited preview in Mar. 2022. Initially announced in Mar. 2021. 9. As of Oct. 24, 2022. 10. Unreal Engine 5 released in 2022. Unreal Engine originally released in 1998. 11. 6G projected in the coming years. 12. Apple AR glass rumored. 13. PlayStation VR2 expected to launch in early 2023. 14. Unity Metacast to offer interactive 3D sports experiences.
Sources: Activate analysis, Company press releases, Company sites

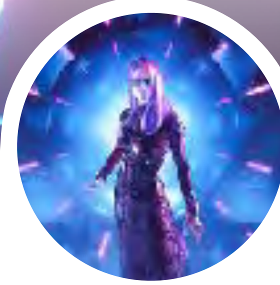
The Metaverse is already here (not years away): virtual worlds, experiences, large scale user bases, functionality, IP, user agency, and social activities largely exist inside of video games today and will provide the foundation for the future



Video games already offer connected immersive experiences at scale

Consumers are participating in non-gaming activities and demonstrating social behaviors inside of video games

User creation, co-creation, and building are established behaviors
(e.g. user-generated activities, games, experiences, virtual goods, environments, worlds)



Players control their identity
Users can customize a digital persona in a virtual world distinct from their real-world identity, for use in virtual platforms

Digital twins as mirrors of the real world
(e.g. virtual representations of real-world spaces/ objects)

Established IP and relatable contexts and characters

Technology, game engines, and platforms already in wide use
(e.g. game mechanics, concurrency, social, AR/VR integration, security, identity, content moderation)

Large-scale, established global economies

Source: Activate analysis

Eventually, all digital behavior and many daily activities will be in Metaverse platforms; many of these take place in games today

SOCIAL			ENTERPRISE		
Communication	Social Networks	Messaging	Workplace and Productivity	Browsing	Search
Telephony	Dating/ Relationships	Shopping and Marketplaces	Events/ Performances/ Exhibits	Learning	Experience and Content Creation
Sex and Pornography	NFTs and Other Digital Goods	Real Estate and Land Ownership	Video	Music	Video Games
Advertising/ Sponsorships/ Partnerships	Trading and Finance	Payments and Currency	Gambling	News	Sports
ECONOMIES			MEDIA EXPERIENCES		

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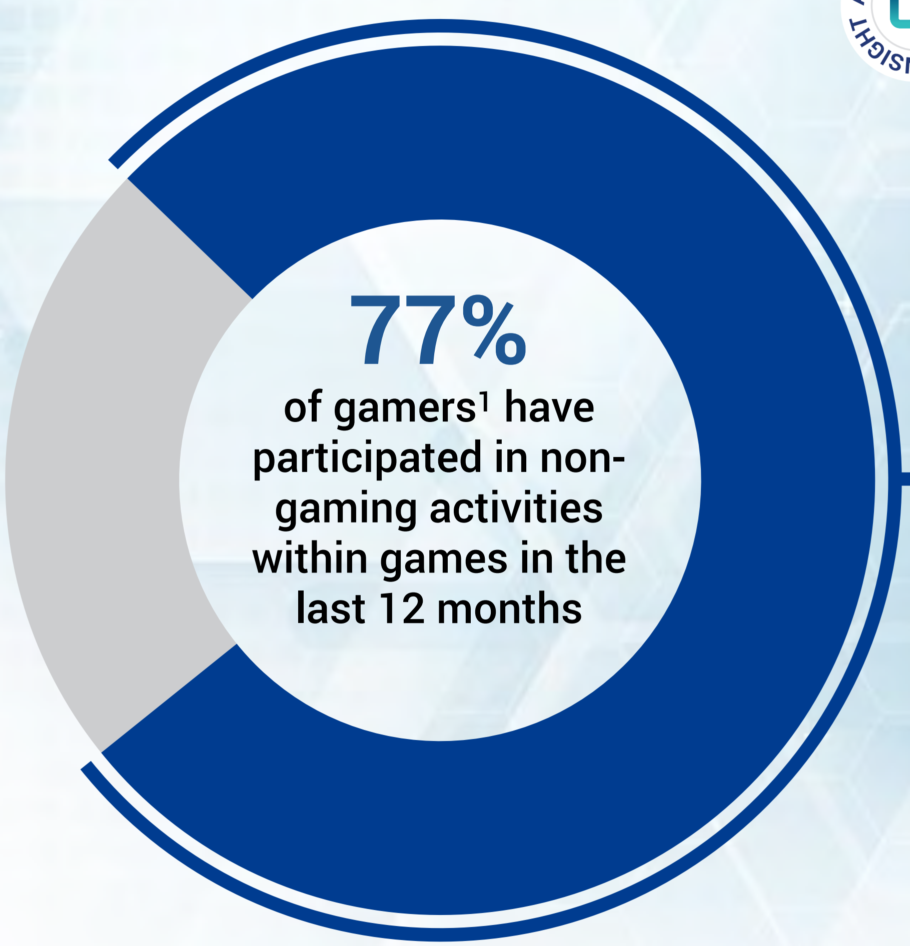
Source: Activate analysis

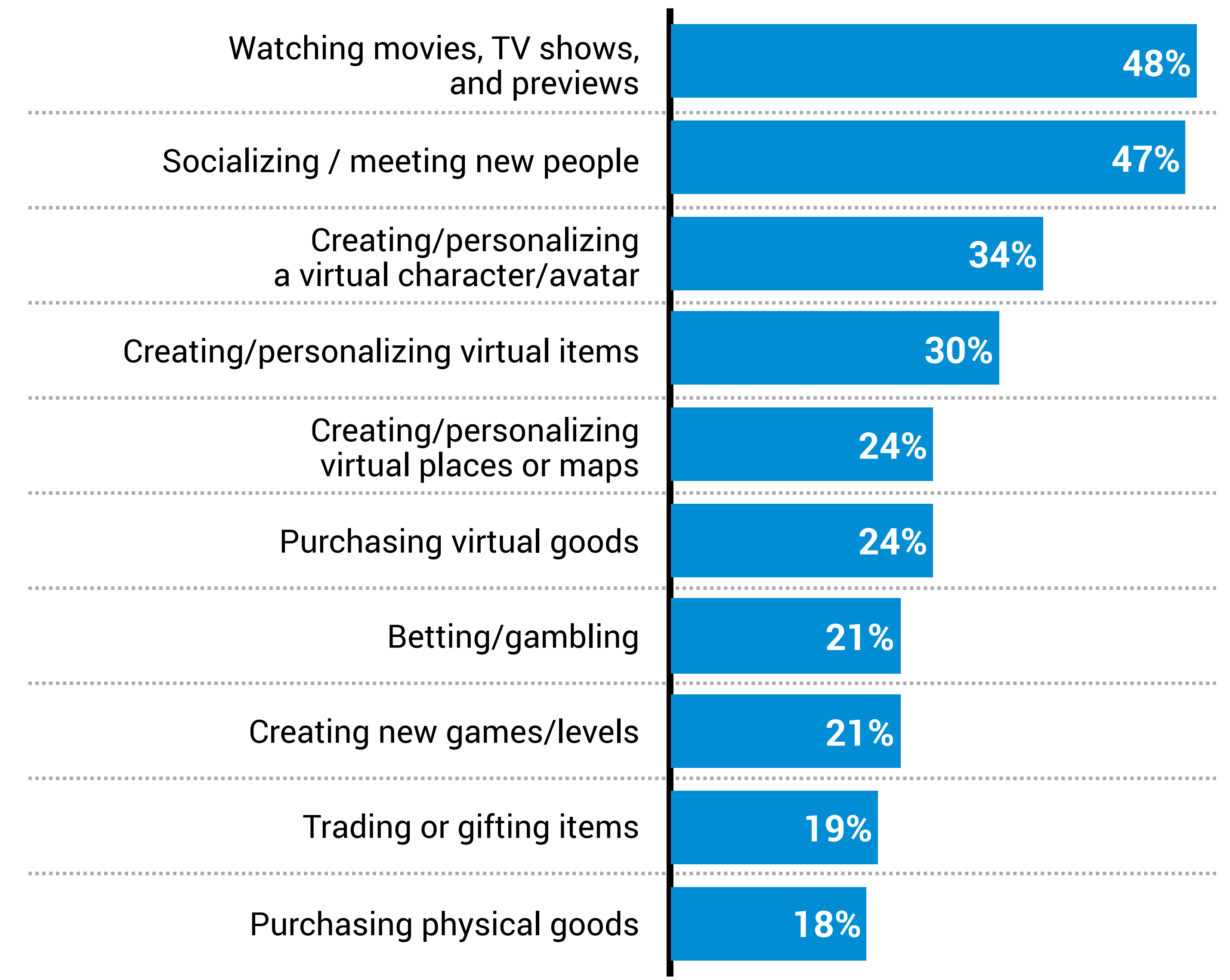
Our research shows that the majority of gamers participate in non-gaming, Metaverse-like activities inside of games

PARTICIPATION IN NON-GAMING ACTIVITIES OR EVENTS WITHIN VIDEO GAMES IN THE LAST 12 MONTHS, U.S., 2022, % GAMERS[1]

100% = 148M U.S. Gamers[1]



PARTICIPATION IN NON-GAMING ACTIVITIES OR EVENTS WITHIN VIDEO GAMES IN THE LAST 12 MONTHS, U.S., 2022, % GAMERS[1]



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1. "Gamers" are defined as adults aged 18+ who currently play video games.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Activate 2022 Metaverse & NFT Consumer Research Study (n = 3,078), U.S. Census Bureau

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Today, there are over 300M people globally who spend a great part of their lives in the major virtual world Metaverse games

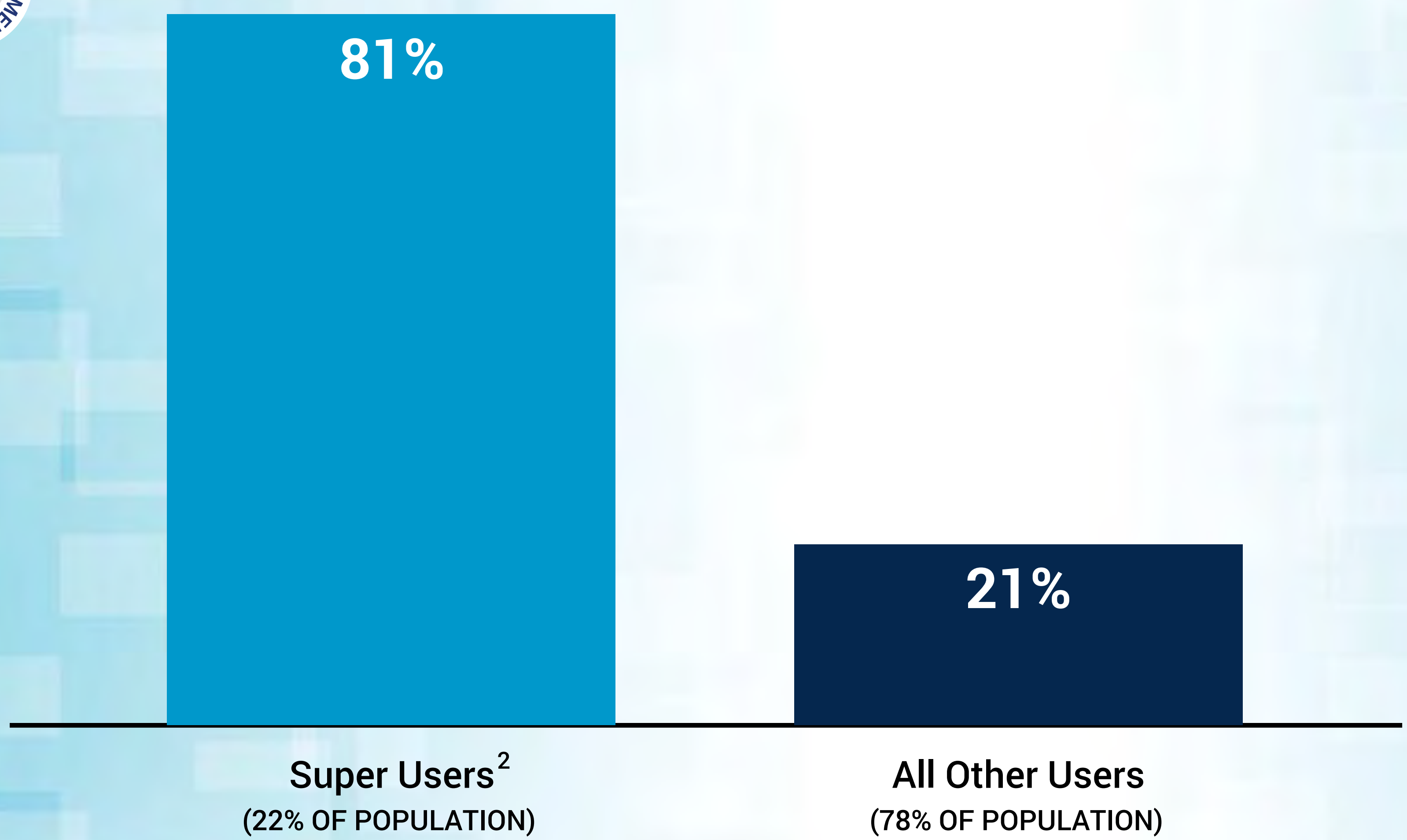
Game	GLOBAL MAUs
ROBLOX	202M[1]
MINECRAFT	140M[2]
FORTNITE	81M[3]
WORLD OF WARCRAFT	27M[4]
ZEPETO	20M[5]
Other (The Sandbox, Decentraland, Second Life, Rust, Upland, Alien Worlds)	

AVERAGE TIME SPENT PER MONTH BY METAVERSE GAME,
SELECT COUNTRIES[6], 2022, HOURS:MINUTES

1. Estimate. 2. As of Aug. 2021. 3. As of June 2020. 4. Includes MAUs for all Blizzard Entertainment games as of June 2022. 5. As of Mar. 2022. Users predominantly in China, Japan, and South Korea. 6. Includes France, Germany, UK, and U.S.
Sources: Activate analysis, Company filings, Company press releases, DappRadar, Naver, Newzoo, RTrack, Yahoo

Media and Technology Super Users are Metaverse Natives; over 80% of Super Users have used a Metaverse platform in the last 12 months

USAGE OF METAVERSE PLATFORMS[1] IN THE LAST 12 MONTHS, U.S., 2022, % ADULTS AGED 18+



EXAMPLE METAVERSE PLATFORMS[1]

- FORTNITE
- Grand Theft Auto Online
- MINECRAFT
- ROBLOX
- World of Warcraft
- The Sandbox
- VR CHAT

SEE SUPER USERS SECTION FOR DETAILED DEFINITION AND ANALYSIS

1. "Metaverse platforms" are defined as platforms with immersive virtual worlds, within which consumers can explore with a personalized character/avatar, interact with other users, and participate in a range of activities (e.g. online concerts, online games, online work meetings). 2. "Super Users" are a segment who over-index on daily time spent with technology and media (18:55 vs. 9:21 for all other users).
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

Super Users – the most important user segment for all technology and media businesses – will be critical for the growth of Metaverse platforms

INTEREST IN PARTICIPATING IN SELECT METAVERSE ACTIVITIES IN THE NEXT 12 MONTHS, U.S., 2022, % ADULTS AGED 18+

	EXTREMELY OR VERY INTERESTED IN…	% Super Users[1] (22% OF POPULATION)	% All Other Users (78% OF POPULATION)
CREATION ACTIVITIES IN THE METAVERSE	Creating/personalizing a virtual character/avatar or virtual items	76%	20%
	Creating/personalizing virtual places or maps	67%	14%
SOCIAL ACTIVITIES IN THE METAVERSE	Attending live performances, sporting events, or esports events	73%	25%
	Socializing with friends/family or meeting new people	72%	20%
	Traveling to virtual versions of real-world locations	71%	21%
	Attending educational classes, work-related meetings, or networking events	66%	19%
TRANSACTIONAL ACTIVITIES IN THE METAVERSE	Purchasing or selling virtual goods	71%	15%
	Purchasing or selling physical goods	69%	17%
	Investing, lending, or borrowing money	57%	10%

SEE SUPER USERS SECTION FOR DETAILED DEFINITION AND ANALYSIS

1. "Super Users" are a segment who over-index on daily time spent with technology and media (18:55 vs. 9:21 for all other users).
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

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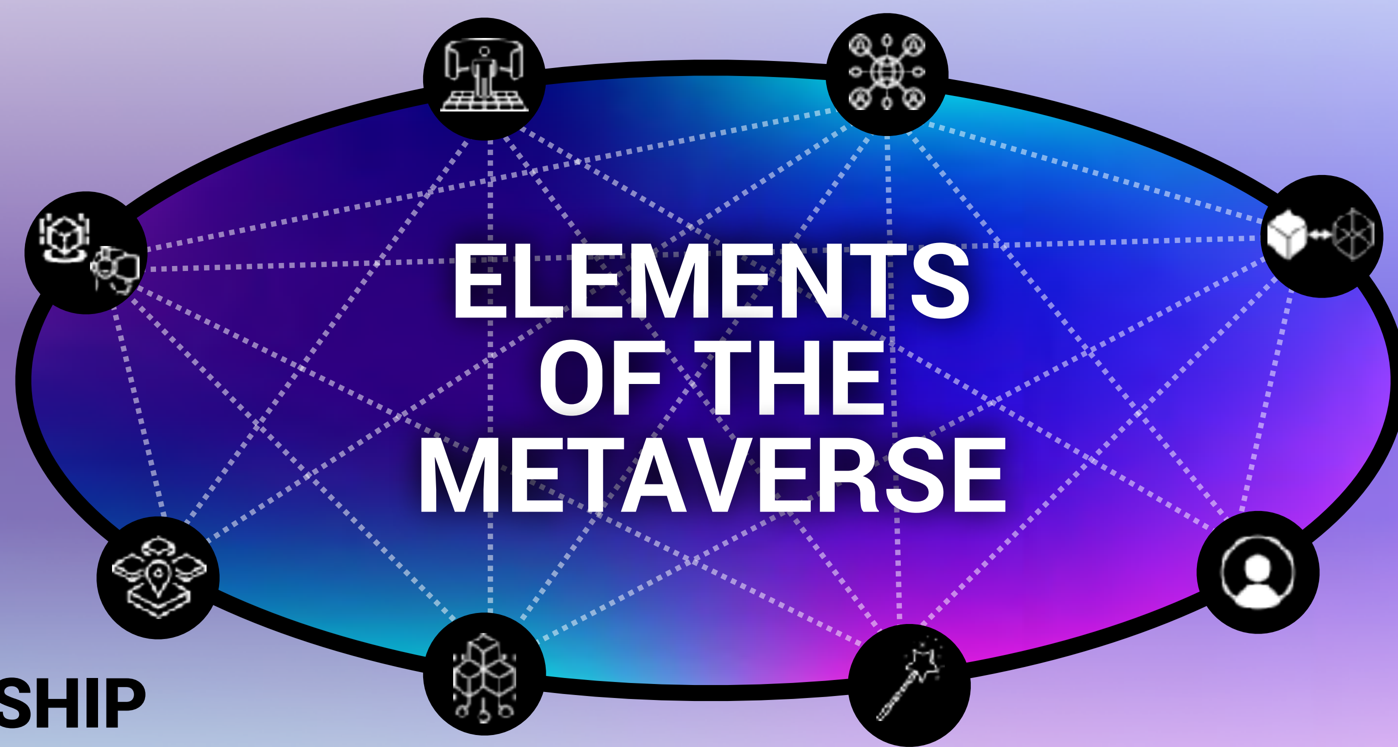
WSJ TECH LIVE

We see eight foundational elements of the Metaverse and proof points for each of these elements today

IMMERSIVE EXPERIENCES
- Interactive gameplay in virtual worlds
- Presence in simulated environments

SOCIAL INTERACTIONS
- Immersive social communities and experiences
- Enterprise collaboration / distributed work

MIXED REALITY
- Immersive virtual worlds
- Interactive digital overlays in physical spaces
- Persistent digital content anchored to real-world locations



DIGITAL TWINS
- Digital counterparts to physical spaces/objects with real-time synchronization

IDENTITY
- Personalized avatars enabling self-expression
- Persistent identity

VIRTUAL OWNERSHIP
- Virtual goods ownership and usage
- Authenticated ownership of digital/ physical assets

ECONOMY
- Marketplaces
- Branding and advertising

CREATION AND AGENCY
- In-game experience creation
- Design and development tools

Source: Activate analysis

Virtual world video games already include most of the eight foundational Metaverse elements

SELECT VIRTUAL WORLDS AND METAVERSE ELEMENTS

✔ FEATURE/CAPABILITY AVAILABLE

MAJOR VIRTUAL WORLD GAMES

METAVERSE ELEMENTS	FORTNITE	ROBLOX	MINECRAFT	WORLD WARCRAFT	SECOND LIFE
IMMERSIVE EXPERIENCES	✔	✔	✔	✔	✔
IDENTITY	✔	✔	✔	✔	✔
CREATION & AGENCY	✔	✔	✔	✔	✔
DIGITAL TWINS		✔	✔		✔
SOCIAL INTERACTIONS	✔	✔	✔	✔	✔
VIRTUAL OWNERSHIP	✔	✔	✔	✔	✔
ECONOMY	✔	✔	✔	✔	✔
MIXED REALITY		✔	✔		

Note: Information as of Oct. 20, 2022. Includes early-stage indicators for Metaverse applications (e.g. ability to create environments that mirror the real world, ability to create personalized avatars, ability to purchase virtual goods).
Sources: Activate analysis, Company sites

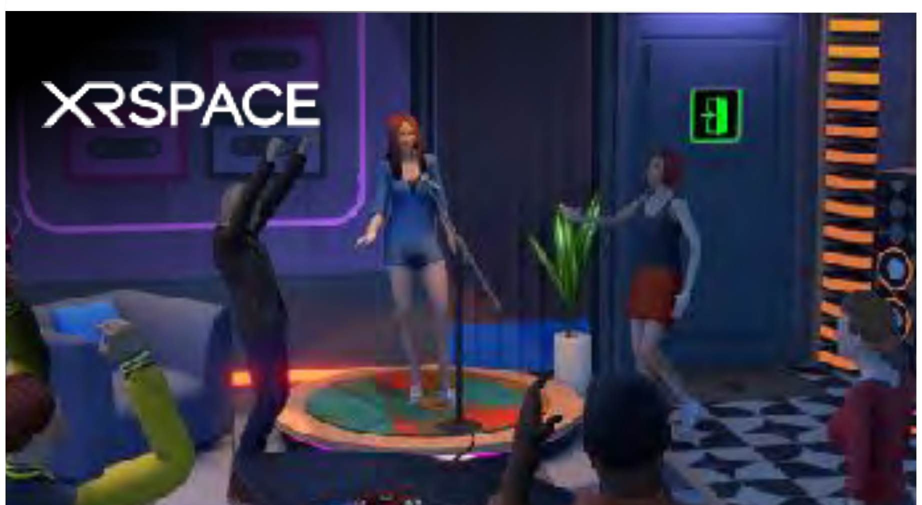
Shared immersive experiences will be the foundation for Metaverse platforms

IMMERSIVE EXPERIENCES

EXAMPLES OF IMMERSIVE EXPERIENCES WITHIN THE METAVERSE

EXPLORE WORLD OF WARCRAFT'S OPEN-GAME WORLD, COMPLETE QUESTS, AND INTERACT WITH OTHER PLAYERS

ATTEND A LIVE VIRTUAL MUSIC PERFORMANCE WITH FRIENDS IN SOUNDSCAPE VR



PARTICIPATE IN A 3D VIRTUAL KARAOKE EXPERIENCE IN XRSPACE PARTYON

BATTLE OTHER USERS IN REC ROOM'S LASER TAG ARENA

ACTIVATE PERSPECTIVE

Immersive experiences in the Metaverse will:

- Grow in variety and number as the Metaverse develops
- Provide opportunities to meet people through both structured activities (e.g. sports, games, concerts) and non-structured activities (e.g. open space exploration)
- Increasingly replicate real-life activities and experiences as Metaverse participation becomes a more mainstream behavior
- Evolve in complexity, detail, and functionality to offer virtual experiences with greater similarity to physical world activities

Sources: Activate analysis, Company sites

SOCIAL INTERACTIONS

Social experiences and interactions will increasingly take place in Metaverse platforms

EXAMPLES OF SOCIAL INTERACTIONS WITHIN THE METAVERSE

SPEND TIME WITH FRIENDS IN FORTNITE'S PARTY WORLDS

PARTY WITH PARIS HILTON AT CRYPTOWEEN IN ROBLOX AND THE SANDBOX

PLAY GAMES OF PICKUP BASKETBALL IN NBA 2K22 "THE NEIGHBORHOOD"

CELEBRATE A VIRTUAL WEDDING IN ANIMAL CROSSING

ACTIVATE PERSPECTIVE

Social interactions in the Metaverse will:

- Include the ability to engage with real-life friends and meet new people in virtual worlds (e.g. open spaces, events, meetings)
- Enhance activities with live user-to-user interaction (e.g. virtual gameplay)
- Develop additional applications as more activities become available (e.g. dating, attending festivals, professional networking)
- Supplement or even replace an increasing number of real-world social events over time (e.g. parties, weddings, sports games)

Sources: Activate analysis, Company sites

Metaverse workplace collaboration platforms will provide a more immersive vehicle for virtual interaction and an expansion of video conferencing technologies

EXAMPLES OF EARLY METAVERSE WORKPLACE COLLABORATION

DEVELOP AND SHARE IDEAS REMOTELY IN CUSTOMIZED, FLEXIBLE ROOMS WITH HORIZON WORKROOMS

BUILD IMMERSIVE WORKSPACES TO GATHER WITH COWORKERS AND ATTEND MEETINGS WITH MESH FOR TEAMS

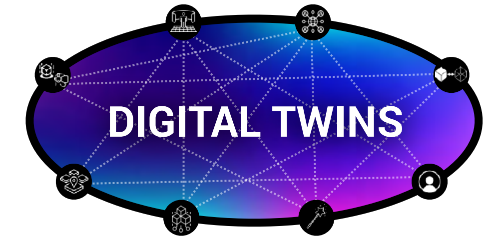
ACTIVATE PERSPECTIVE

Collaboration in the Metaverse will:

- Enable deeper levels of immersion over time
- Leverage avatars to create a sense of presence and provide users with agency over their own representation
- Include a broadening set of tools and resources to facilitate immersive collaboration (e.g. virtual conference rooms, shared whiteboards, spatial audio)
- Allow users to collaborate directly on files/projects as if in person together (e.g. object manipulation, 3D physical objects, interoperability of files across platforms)

Sources: Activate analysis, Company sites

Digital twins will provide a bridge between the real world and virtual worlds



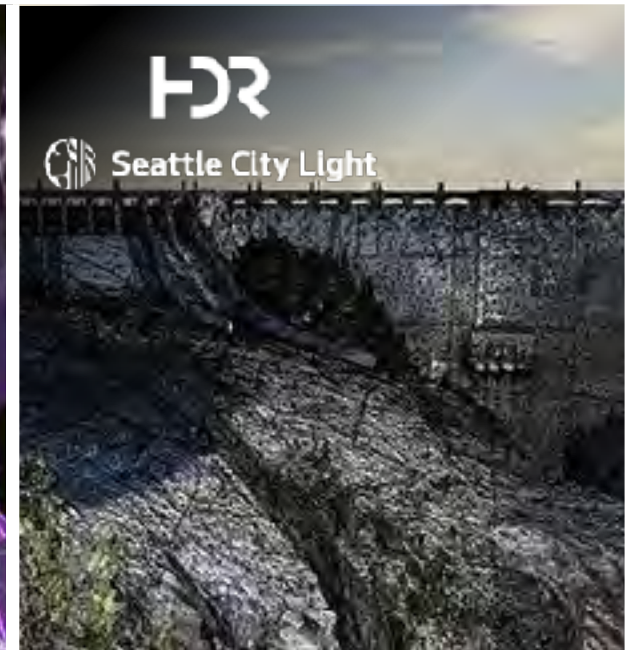
EXAMPLES OF EARLY METAVERSE DIGITAL TWINS

BuildTheEarth is an open-contribution effort to **recreate the world at a 1:1 scale in Minecraft**

Currently, BuildTheEarth has **over 4,700 ongoing build projects** across **more than 7,000 square kilometers**

Real estate giant **Jamestown** and digital assets investor **Digital Currency Group** partnered to recreate **One Times Square in Decentraland**

The build area spans 170 LAND parcels and was launched on New Year's Eve with the MetaFest 2022 global party



HDR, Inc. and Seattle City Light developed a digital twin model of **Diablo Dam** down to a **2cm visual accuracy** through high-res photography

The model incorporates **data from additional technologies** for a holistic view of the dam (e.g. piezometers, seepage/ leakage detectors, ground-penetrating radar)

ACTIVATE PERSPECTIVE

Digital twins in the Metaverse will:

- Serve as digital replications of a growing number of real-world systems, objects, and locations
- Develop to be larger, more complex, and more synchronized with their real-world counterparts
- Incorporate a range of data types beyond visual inputs (e.g. spatial data, performance data, health data)
- Become increasingly accessible for public viewing, usage, and contribution
- Feature two-way synchronization, more closely linking the physical and digital worlds (e.g. products, changes, ownership)

Sources: Activate analysis, Company sites

The tools to build digital twins are becoming accessible to enterprise and SMBs to create their own digital models of environments

DIGITAL TWINS

EXAMPLES OF DIGITAL TWINS WITH ENTERPRISE AND SMB USE CASES

AZURE DIGITAL TWINS:

Allows users **to create digital models** of buildings, factories, energy networks, railways, cities, and more

Example Applications: **Ansys, Bentley Systems, Bosch, ICONICS, Samsung, and Willow** use Azure Digital Twins in their software applications

NVIDIA OMNIVERSE DIGITAL TWINS:

Enables users **to develop physically accurate, AI-enabled virtual simulations of real world environments**

Example Applications: BMW uses NVIDIA's Omniverse platform to build digital twins for 31 different factories; **individual creators and developers** can download, use, and contribute to NVIDIA Omniverse for free

GE DIGITAL TWIN SOFTWARE:

Allows users **to create digital twins that represent an individual asset, an integrated system of assets, or a fleet of assets**

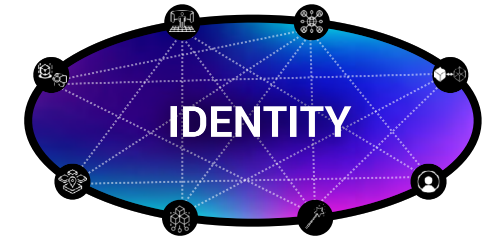
Example Applications: Chevron uses GE's Digital Twin software for predictive maintenance in its oil fields and refineries

ACTIVATE PERSPECTIVE

Digital twins in the Metaverse will:

- Be applied to a greater set of enterprise use cases and leveraged across a widening set of businesses
- Become increasingly accessible to SMBs and consumers, in addition to enterprises, as tools for building and using digital twins become more user-friendly
- Evolve to support systems with greater size and complexity as technology improves

Sources: Activate analysis, Company sites



People will have an expansive set of options to define their Metaverse identity – either as themselves today, an idealized version, or entirely new person

IMPORTANCE OF IDENTITY IN THE METAVERSE

IDENTITY WILL BE CORE TO THE METAVERSE

- **Personalized identities** will allow people to **reinvent themselves**, reflecting who they are and want to be
- The ability to use a **consistent identity across platforms** will serve to **unify the Metaverse** across separate systems
- Building the infrastructure and systems to **ensure security, privacy, and protections** for participants will be critical to the development of the Metaverse

ALTSPACEVR CUSTOMIZABLE AVATARS

GENIES DIGITAL 3D AVATARS

KEY ELEMENTS FOR IDENTITY IN THE FUTURE STATE OF THE METAVERSE

Interoperability
(i.e. use the same avatar in separate platforms and environments)

Personalization
(i.e. customize how one wants to be perceived in a virtual world through self-expression)

Authentication
(i.e. establish procedures for identify verification to ensure security and build trust between users)

Privacy
(i.e. provide users the choice over how their personal data and digital identity is used)

Sources: Activate analysis, Company sites

CREATION AND AGENCY

User creation and agency will be critical to the full development of Metaverse platforms; people will expect to create and build themselves (not just accept a world created for them)

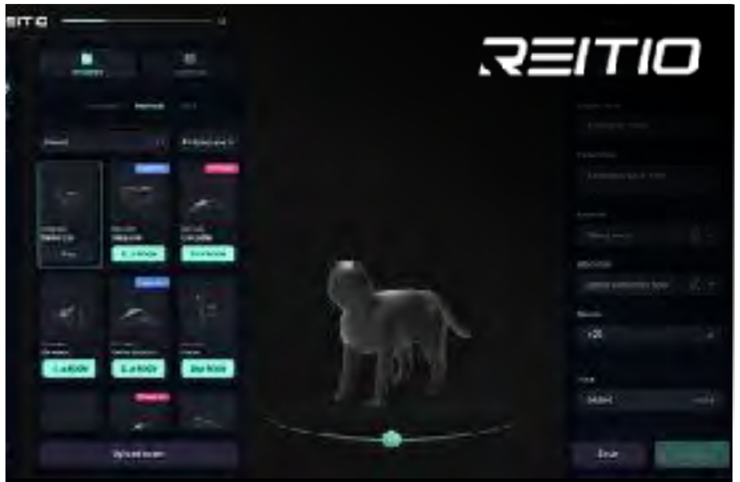
INTEREST[1] IN CREATION ACTIVITIES IN THE METAVERSE,
U.S., 2022, % ADULTS AGED 18+

ACTIVATE CONSUMER INSIGHT

35%

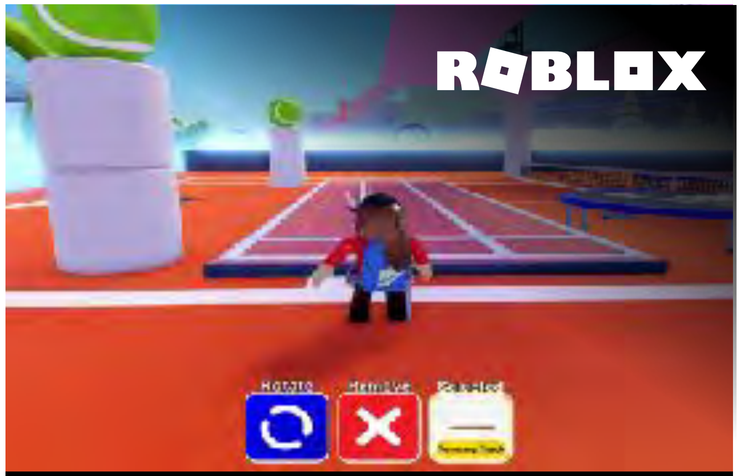
OF U.S. ADULTS ARE INTERESTED[1] IN **PERSONALIZING** THEIR METAVERSE EXPERIENCES THROUGH **CREATION-BASED ACTIVITIES**

29% CREATING/PERSONALIZING AN AVATAR



27% CREATING/PERSONALIZING VIRTUAL ITEMS

26% CREATING/PERSONALIZING VIRTUAL PLACES OR MAPS



23% CREATING NEW GAMES OR LEVELS

1. "Interested" includes consumers who are extremely or very interested in participating in the future.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

CREATION AND AGENCY

User creation and agency are core to today's major Metaverse platforms and games

EXAMPLES OF USER-GENERATED CONTENT AND CREATOR ECONOMIES WITHIN THE METAVERSE

ROBLOX

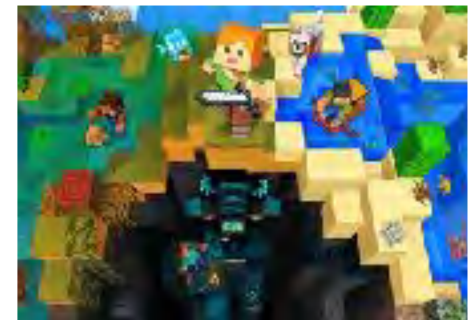
- Roblox experiences are **built almost entirely by users and developers**
- Roblox has **more than 10M developers** globally who have built **over 29M virtual experiences**
- In 2021, Roblox paid out **over $500M in in-game currency** to developers and creators, **up by 52% from 2020** – 2,200 creators earned over $10K, and 500 creators earned over $100K

REC ROOM

- Rec Room enables users to **build, create, and play games** in rooms, with **over 12M rooms** created as of Dec. 2021
- Rec Room also offers community programs to **educate and connect creators**
- During Q1 2021, Rec Room paid creators **$1M for their contributions** to the platform

FORTNITE

- Fortnite allows players to make **unique islands and games** to share with friends through its **Creative Mode**
- Fortnite also **features new games on their discovery page** to encourage **exploration of user-generated content**
- **Over 50% of playtime** among Fortnite users is spent with **content made by other players**



MINECRAFT

- Minecraft users can **build worlds** in Creative Mode and **develop story-based games** in Adventure Mode
- Users can **monetize creations** through the **Minecraft Marketplace** (e.g. maps, mini games, skins)
- As of Q3 2021, creators have generated **over $350M in revenue** for Minecraft from **over 1B downloads** of mods, add-ons, and experiences

ACTIVATE PERSPECTIVE

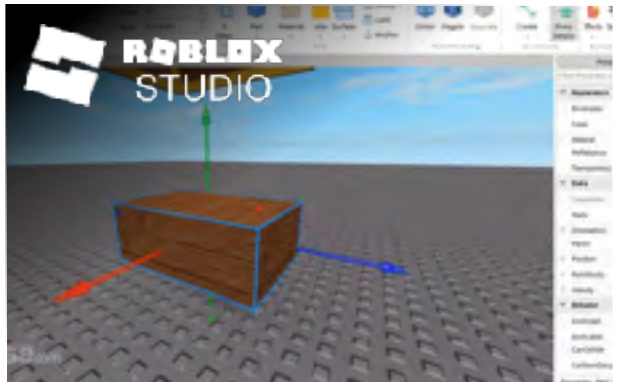
- The Metaverse will be built by both professional developers and everyday users
- User-generated creation will lead to a rapid proliferation of virtual content and Metaverse experiences
- Tools for content creation will become more intuitive, widely available, and easy to use, allowing for greater participation, creation, and sharing of unique experiences (e.g. A.I.-enhanced hyper-personalization of avatars, drag-and-drop tools for in-game creation and customization, and stable diffusion to create original and explicit image and video content)
- The development of Metaverse economies, virtual ownership, and content monetization will create an ecosystem that fosters user-led creation

Sources: Activate analysis, Company filings, Company press releases, Company sites

CREATION AND AGENCY

Consumerization of development tools will fuel expanded Metaverse creation and participation

EXAMPLES OF CREATOR TOOLS WITHIN THE METAVERSE



Roblox Studio is a **free immersive creation engine** that users can access **on their own Windows or Mac devices**

Creative mode in Minecraft is **free and simple**, and enables users to **generate custom content across all platforms**

Unreal Engine is **free for all creators**, and the Blueprints Visual Scripting system **allows beginners to create game elements without writing any code**

Unity's ProBuilder is a hybrid design tool with **tutorials for beginners** and a **consumer-friendly interface**, providing **easy access to world generation and object modeling**

Adobe Substance 3D Modeler, **available on desktop and in VR with a free trial**, allows users to create 3D models

Consumers of all design backgrounds can create in Meta Horizon Worlds by leveraging **templates and tutorials** in build mode

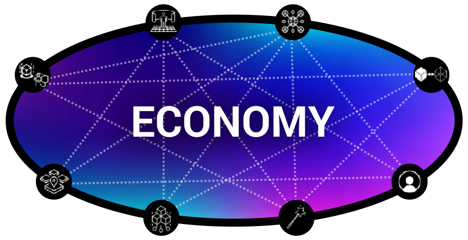
Everyday users can leverage Microsoft Mesh's simple **menu of creative actions** to quickly build collaborative spaces for free

ACTIVATE PERSPECTIVE

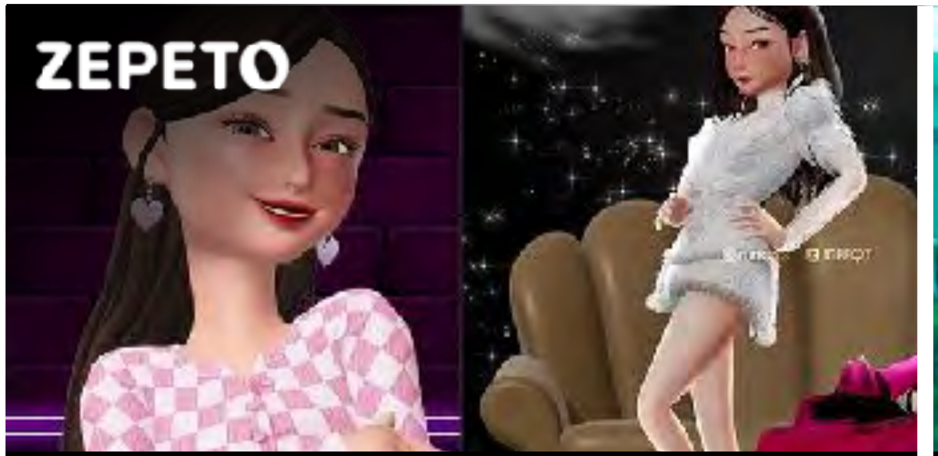
Developer tools will evolve to include:

- Increasingly accessible versions for everyday consumers (e.g. user-friendly interfaces, project templates, free pricing)
- More complex capabilities and toolsets available to expand the possibilities of creation
- More comprehensive integration of data, analytics, and AI services to fuel creation in the Metaverse
- Ability to import content from third-party tools and other platforms, further enabling user creativity and unifying content across otherwise siloed experiences

Virtual economies, created by companies and users, will become increasingly sophisticated and expansive; we expect that a substantial number of people will make their entire living in the Metaverse

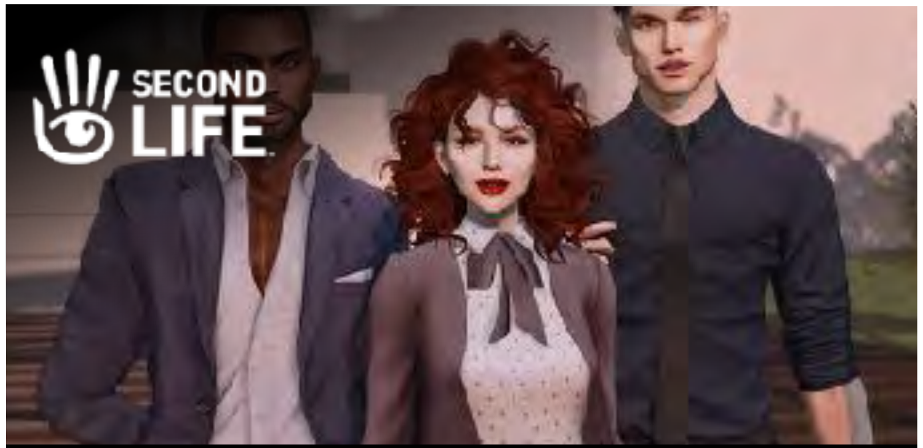


EXAMPLES OF VIRTUAL ECONOMIES WITHIN THE METAVERSE



Zepeto users can design and sell clothes to other users on the platform, earning a revenue share with in-game currency

In The Sandbox, users can purchase, sell, and rent land to other users, including through secondary markets (e.g. OpenSea, Rarible)



Second Life players can generate income from designing and selling goods on the platform (e.g. homes, furniture, vehicles) and can hire other players to fulfill certain roles (e.g. shop attendants, security agents, real estate agents)

Developers on Roblox can earn money by designing and selling access to games, experiences, and virtual items, with Roblox paying out over $500M to developers in 2021

ACTIVATE PERSPECTIVE

- Building blocks of the Metaverse economy will include:
  - Digital goods/services (e.g. skins for avatars, virtual fashion, virtual makeup)
  - eCommerce (e.g. shopping for physical goods in a virtual environment)
  - Advertising (e.g. showrooms, product testing, product placement)
- Brands will utilize both virtual and real-world storefronts to engage with customers
  - Digital outfits from Balenciaga, Prada, and Thom Browne are coming to Meta's soon-to-be-unveiled Avatar Store

ECONOMY

One world will not be enough: brands will need to build a presence in multiple Metaverse platforms and virtual worlds

EXAMPLES OF IN-GAME BRAND PLACEMENTS

Visit Ralph Lauren's Winter Escape in **Roblox** to enjoy winter activities and discover exclusive Ralph Lauren styles

Participate in Puma Mania in **NBA 2K22 The City**, receiving bonus XP for playing games while wearing Puma gear

Unlock ***Star Wars*** skins in **Fortnite** and wield signature lightsabers and blaster rifles in combat

Play as *Die Hard's* John McClane in **Call of Duty: Warzone** and complete special quests inside *Die Hard*-themed locations

Sources: Activate analysis, Company sites

Virtual ownership will be more than just virtual goods; it will be about self-expression, prestige, personalization, and the fundamental need to belong

VIRTUAL OWNERSHIP

EXAMPLES OF OWNING VIRTUAL GOODS WITHIN THE METAVERSE

Fortnite partnered with the NBA to celebrate the NBA's 75th anniversary by offering a collection of transactable in-game character skins modeled after NBA team apparel and uniforms

Nike partnered with Roblox to create a Nike-branded virtual world called Nikeland where users can buy virtual goods from Nike, which has reached over 21M visitors as of Sept. 2022

Decentraland users can display owned 2D NFTs on the platform, including displaying virtual art galleries in owned spaces

Zara partnered with Zepeto in Mar. 2022 to launch a limited-edition fashion collection for users' avatars, including a range of apparel, makeup, and accessories

ACTIVATE PERSPECTIVE

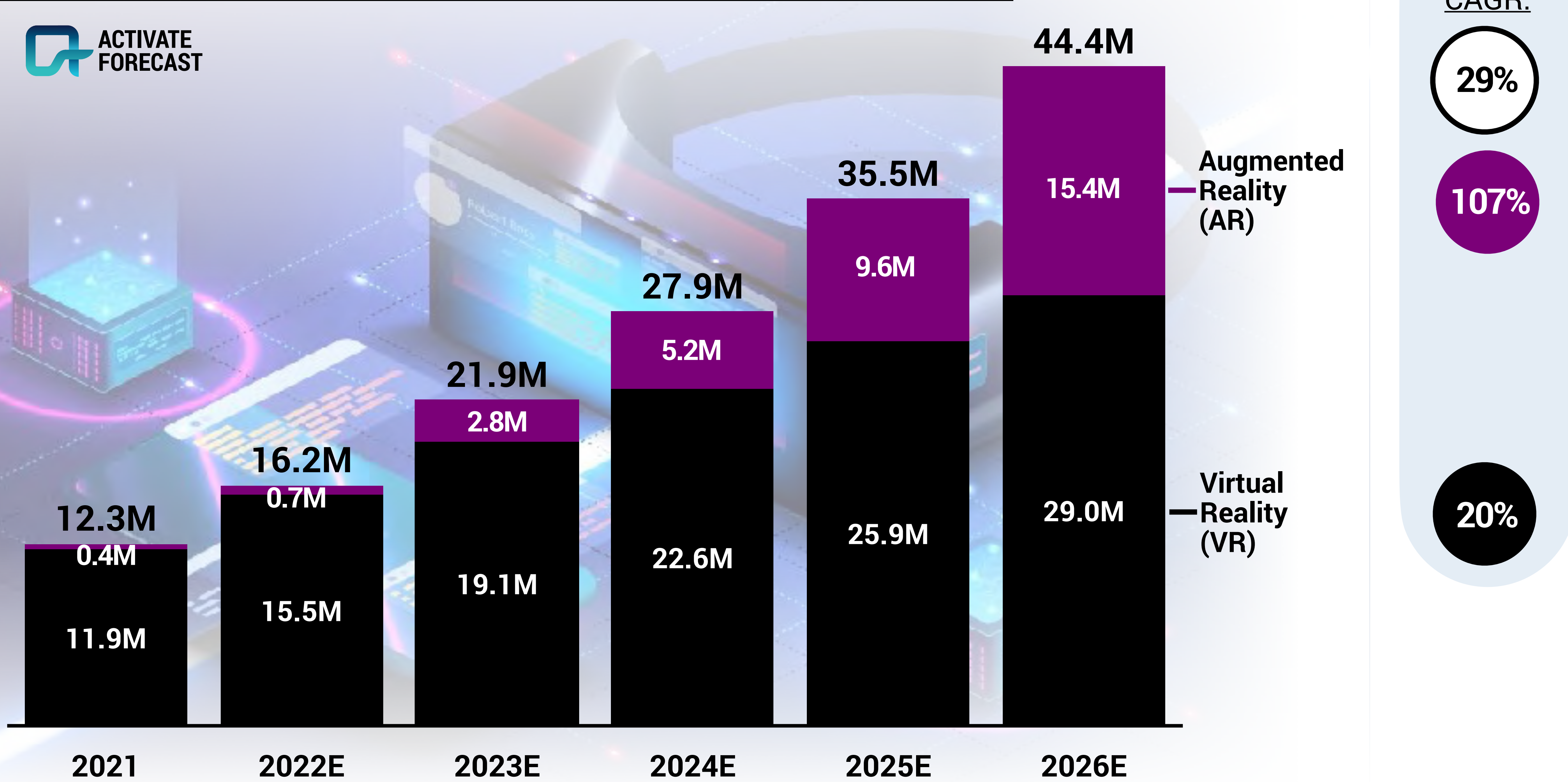
- Virtual ownership will become more mainstream as platforms make items more attainable, a wider range of items become available, and a greater number of brands and users participate
- Virtual goods will hold value for consumers (e.g. self-expression, status, exclusivity, personalization, ability to trade)
- Platforms will explore select circumstances in which consumers can access owned virtual goods from other platforms
- Physical items will be paired with ownership of digital items (e.g. ownership of real-world items will be reflected on virtual platforms)

Sources: Activate analysis, Company press releases, Company sites

Mixed reality will significantly enhance immersion but will not be critical to the growth of the Metaverse; we forecast that VR and AR headset sales will fall short in reaching the great majority of potential Metaverse users

MIXED REALITY

AR AND VR HEADSET UNIT SALES[1], GLOBAL, 2021-2026E, MILLIONS UNITS

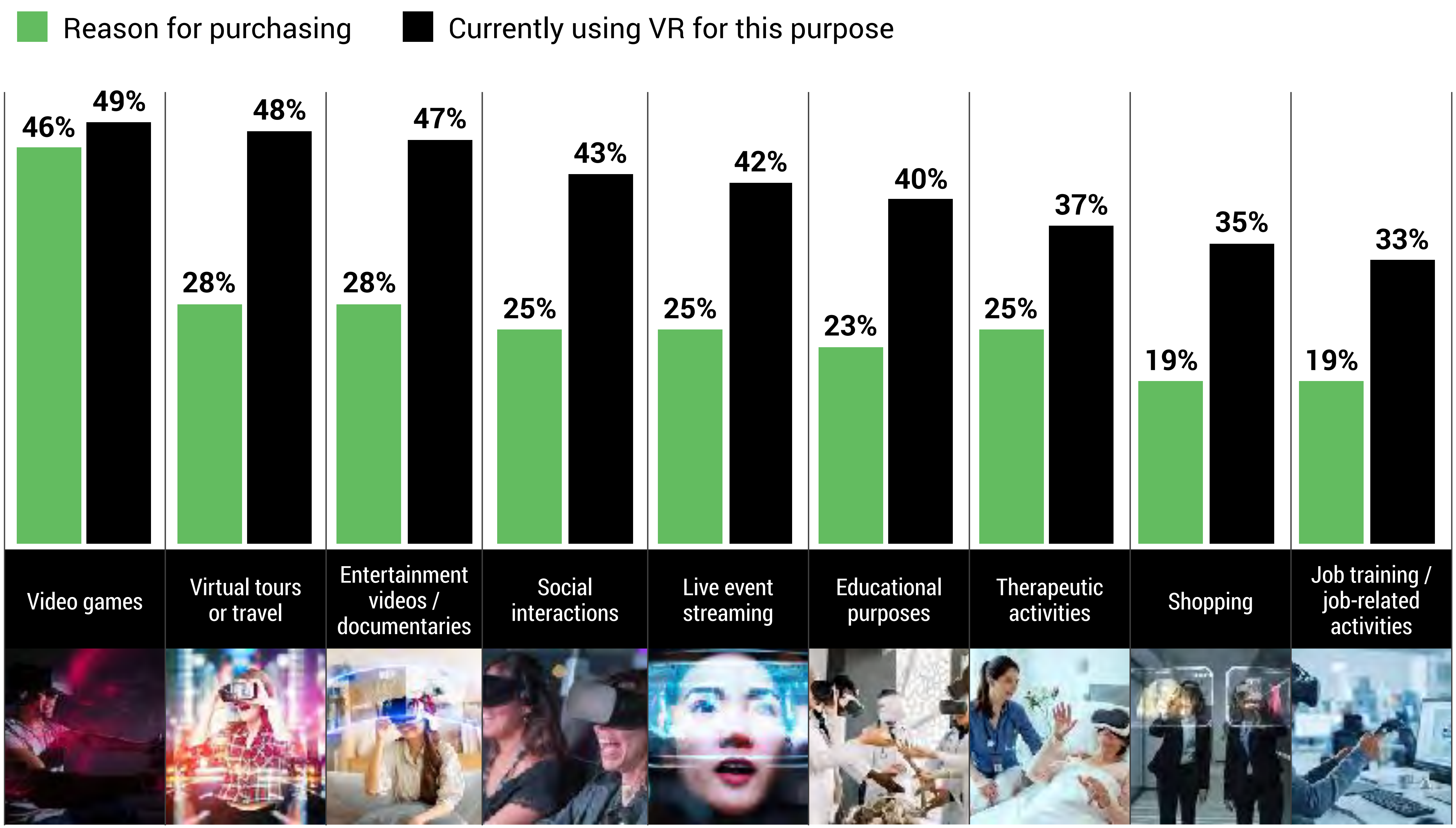


1. Excludes Google Cardboard and other headsets with no built-in technology. Figures do not sum due to rounding.
Sources: Activate analysis, AR Insider, Company press releases, Company sites, eMarketer, IDC, Morgan Stanley Research, Omdia, PricewaterhouseCoopers, Road to VR, Sensor Tower, Statista, Steam Spy, Strategy Analytics, SuperData, VGChartz

MIXED REALITY

Actual usage of VR headsets for non-gaming/Metaverse activities has far exceeded the original purchase intent for the headset

REASONS FOR PURCHASING AND USING VR HEADSETS, U.S., 2022, % VR HEADSET USERS

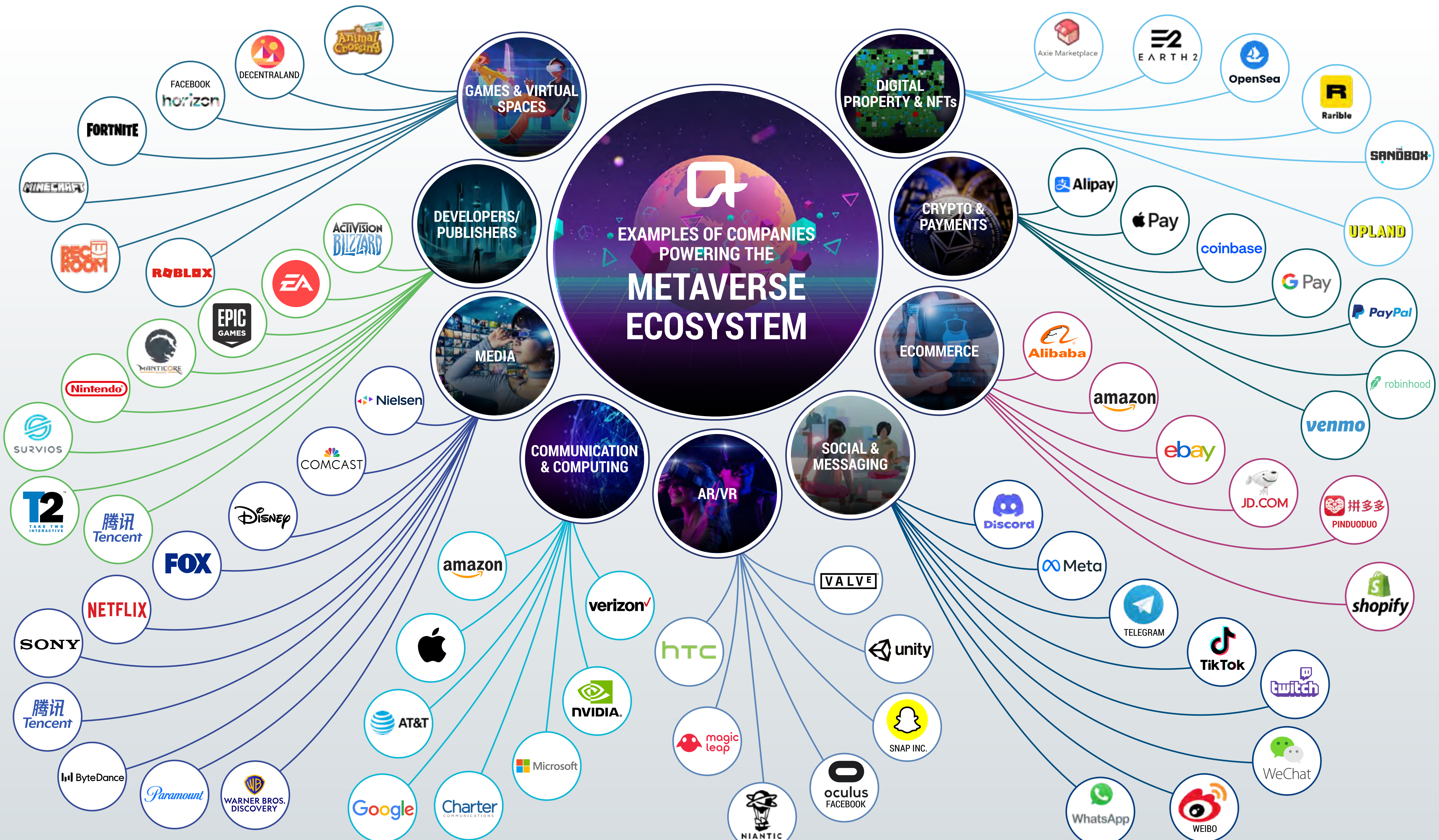


ACTIVATE CONSUMER INSIGHT

91% of VR users are gamers[1], and 78% of VR users use VR for non-gaming activities

1. "Gamers" are defined as adults aged 18+ who currently play video games.
Sources: Activate analysis, Activate 2022 Metaverse & NFT Consumer Research Study (n = 3,078)

Over the next years, companies building the Metaverse will be part of an extensive ecosystem



Note: Not exhaustive.
Sources: Activate analysis, Company sites

The major technology and gaming companies will build out their capabilities across each element of the Metaverse

	amazon		EPIC GAMES	Google	Meta	Microsoft	ROBLOX	SONY	Tencent
Immersive Experiences	games, Luna		FORTNITE		Gaming, BEAT SABER, horizon Worlds	XBOX, ACTIVISION, MINECRAFT, Mesh	ROBLOX	PlayStation, PlayStation Plus, BUNGIE	Tencent Games
Mixed Reality: AR	AR View	Glass (Rumored)	Reality Scan	Google Lens, Google Maps Live View, GLASS	Meta Quest Pro, REALITY LABS	Microsoft HoloLens 2, Mesh		Partnership KRAMER	ultraleap (Series D Investment)
Mixed Reality: VR	prime video vr	NEXTVR		Google Earth VR, YouTube VR	Meta Quest 2, REALITY LABS, horizon Worlds	HP REVERB G2 Co-development, Mesh, Altspace VR	ROBLOX VR	PlayStation VR	ultraleap (Series D Investment)
Social Interactions	twitch	iMessage	PARTY ROYALE	Project Starline	Instagram, Messenger, horizon Worlds	Teams, LinkedIn, Mesh, MINECRAFT	Roblox Chat & Community Space		QQ
Creation & Agency	Amazon Sumerian, twitch	ARKit, Reality Composer, RoomPlan	Unreal Engine, FORTNITE CREATIVE	ARCore, YouTube VR	Meta Spark	MINECRAFT	Roblox Studio	dreams	
Identity		Memoji	Fortnite Avatars	Google Chrome Avatar	Meta 3D Avatar	Teams and Mesh Avatars	Roblox Avatars	DESTINY Guardian Creation	超级QQ秀 SUPER QQ SHOW
Digital Twins	aws IoT TwinMaker		Unreal Engine	Google Cloud: Supply Chain Twin and Pulse		Azure Digital Twins			Tencent Cloud
Economy	amazon appstore	App Store	EPIC GAMES STORE, FORTNITE ITEM SHOP	Google Play	Meta Quest Store, Meta Pay	Microsoft Store	ROBLOX Game Shop, Robux	PlayStation Store	WeChat Pay, 应用宝 MY APP
Virtual Ownership	aws Build NFT Applications	Apple NFT Trading Cards (Rumored)	Enable NFT Games via Epic Games Store (e.g. Blankos Block Party)		NFT Sharing with Verified Ownership on Instagram/Facebook	NFTs in Windows 11			幻核 Magic Core (No longer issuing new NFTs)

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Note: Not exhaustive. Information as of Oct. 20, 2022. Categorization reflective of forward-looking indicators for Metaverse applications (e.g. NFTs for virtual ownership, real-time synchronization for digital twins).
Sources: Activate analysis, Company sites

We expect to see significant and sustained investment in innovation over the next years

IMMERSIVE EXPERIENCES	MIXED REALITY	SOCIAL INTERACTIONS	CREATION & AGENCY	IDENTITY	DIGITAL TWINS	ECONOMY	VIRTUAL OWNERSHIP
Illuvium	Niantic	IMVU	Infinite Reality	FilterYA	Living Cities	MoonPay	REB4S3
Clockwork Labs	DigiLens	Kumospace	Spatial	Genies	PassiveLogic	metajuice	sorare
AltspaceVR	eon reality	Gravvity	inworld	soul machines	5x5 Technologies	Sayollo	FANCURVE
Ethernity	blippar	HighRise	Pixel Canvas	Tafi	SharperShape	enya.ai	HORIZON BLOCKCHAIN GAMES
Somnium Space	Jadu AR	SpatialChat	octi	Rephrase.ai	SiteAware	tZERO	OpenSea
Smarterverse	zSpace	Topia	iverse	DIDIMO		VOAX	exclusible
Bloktopia	osso vr	IMVERSE		LALALAND		MetaStreet	LOOKSRARE
Mines of Dalarnia	Portal One	VR Chat		ObEN		ELUV.IO	ImmutableX
Rec Room	brightline			Avatoon		CODA Payments	
Playable Worlds							

EXAMPLE INVESTORS

Insight Partners, Tiger Global, Goldman Sachs Asset Management, General Atlantic, Sequoia, Andreessen Horowitz, Accel

Note: Not exhaustive. Companies listed by primary category but may have capabilities in other categories listed.
Information as of Oct. 24, 2022.
Sources: Activate analysis, Company press releases, Company sites

Interoperability between Metaverse platforms will take place through third-party companies and applications, creating significant opportunities for all businesses to capitalize on the potential of the Metaverse

INTEROPERABILITY LAYERS OF THE METAVERSE

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Source: Activate analysis

The Metaverse will be the user interface for Web3, similar to the role the browser played with the internet

Metaverse

A digitally native world in which we will spend our time working, socializing, and engaging in all types of activities

- Immersive Experiences
- Social Interactions
- Digital Twins
- Identity
- Creation and Agency
- Economy
- Virtual Ownership
- Mixed Reality

ACTIVATE PERSPECTIVE

The Metaverse and Web3 are two separate concepts

- Metaverse interfaces will be the user-friendly way to interact with Web3
- Web3 will set the future standards and technology foundations for Metaverse experiences
- Developments in both will be required to fully realize the potential of the Metaverse

The Metaverse will provide a unified, user-friendly interface that can integrate complex Web3 elements

WEB3

A set of decentralized protocols and technologies that can be used to build parts of the Metaverse and secure the new communities and economies that it will enable

- NFTs
- Decentralized Infrastructure
- Blockchain
- Cryptocurrencies
- Decentralized Finance (DeFi)
- Decentralized Identity
- Decentralized Autonomous Organizations (DAOs)
- Artificial Intelligence

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Source: Activate analysis

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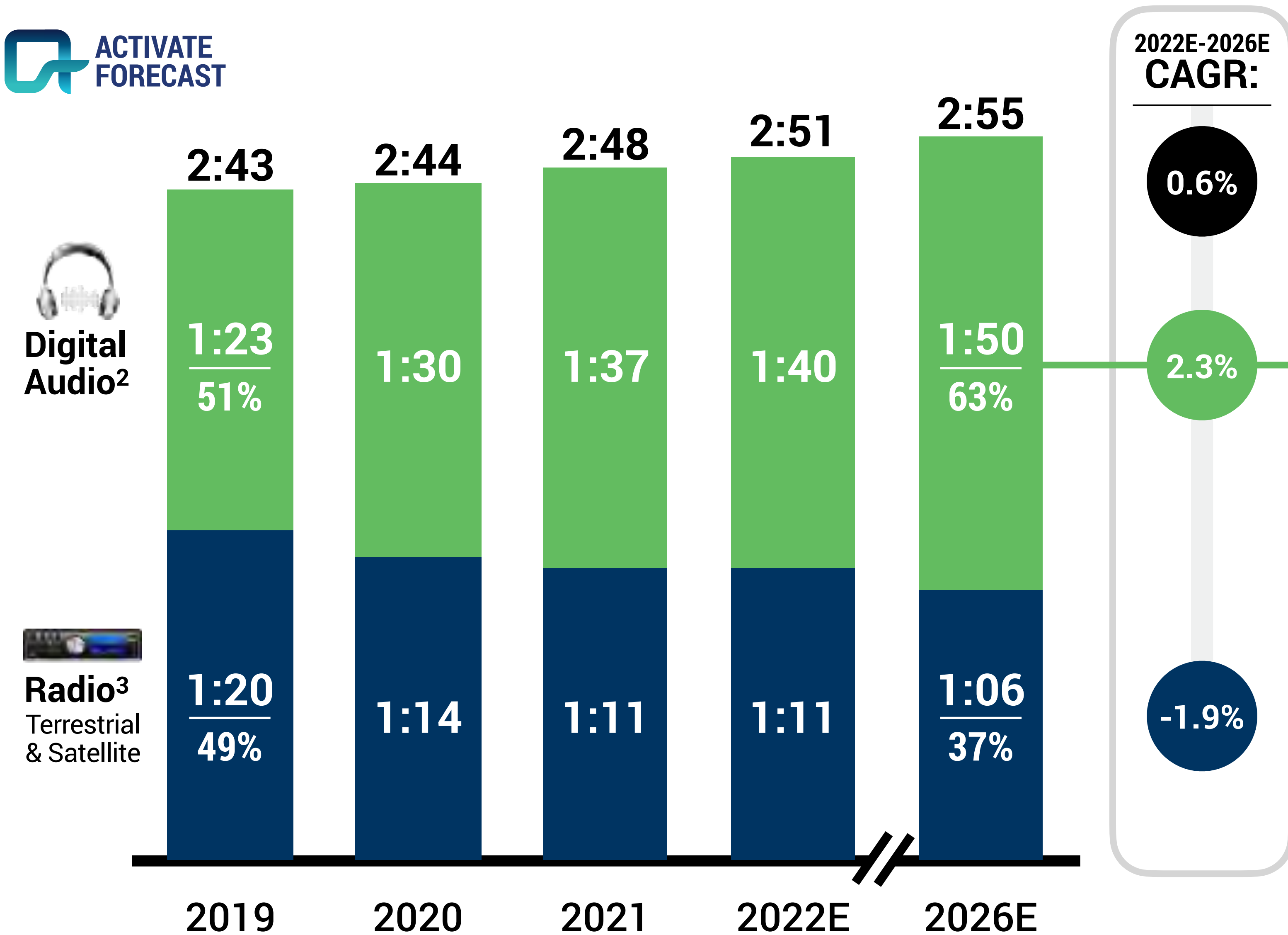
Consumer audio time will continue to increase and shift to digital; by 2026, 63% of audio time will be digital, up from 51% in 2019

AVERAGE DAILY AUDIO TIME PER ADULT AGED 18+ BY TYPE[1],
U.S., 2019-2022E VS. 2026E, HOURS:MINUTES



CORE BEHAVIORS DRIVING INCREASED TIME SPENT WITH DIGITAL AUDIO[2]

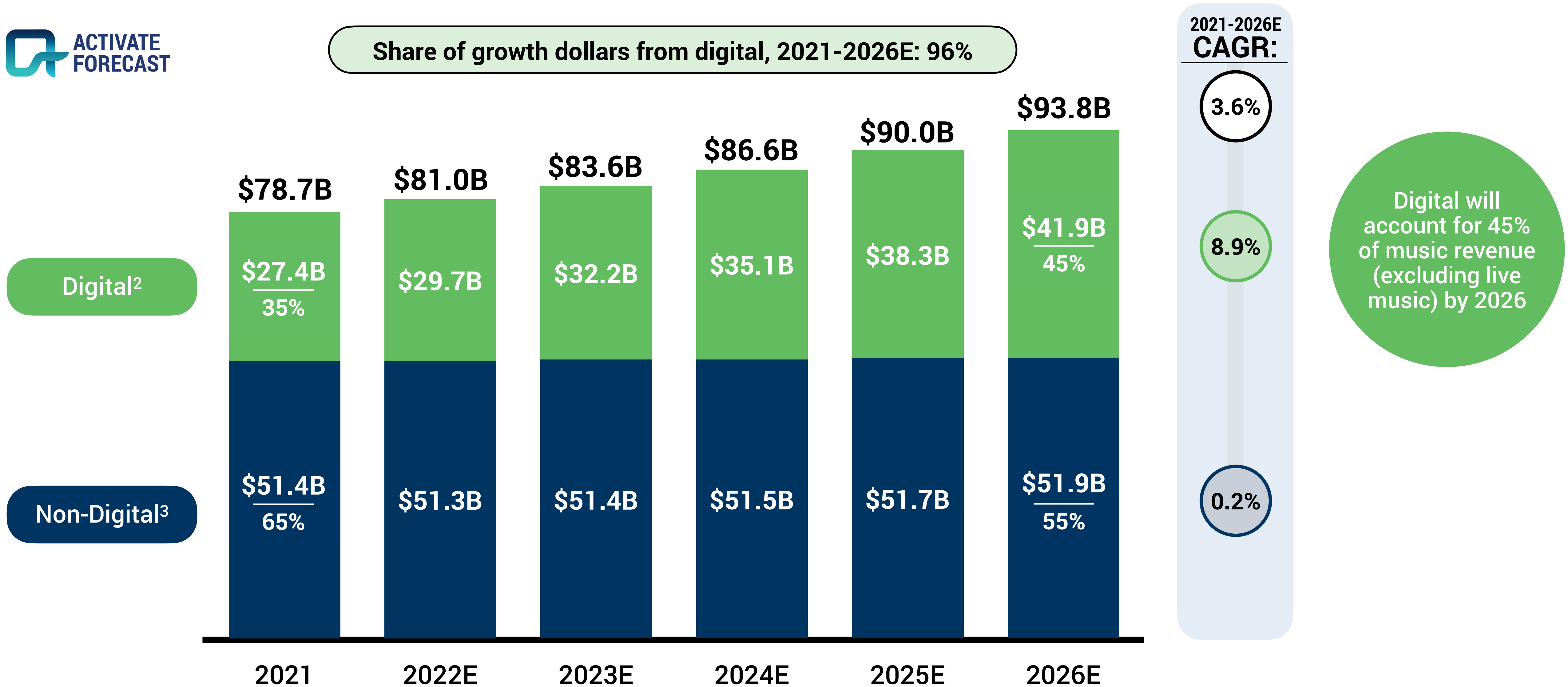
ACTIVATE CONSUMER INSIGHT

- **88%** of music listeners[4] use a **free or paid music service**[5] at least once per month
- **64%** of music listeners[4] use **multiple music services**[5] at least once per month
- Music listeners[4] are now more likely to use a **smartphone or tablet** to listen to music than any other device

1. Figures do not sum due to rounding. 2. "Digital audio" includes audio streamed via mobile and desktop/laptop.
3. "Radio" excludes digital radio. 4. "Music listeners" are defined as adults aged 18+ who spend any time listening to music.
5. "Music services" include free and paid services used for listening to music through any format excluding terrestrial radio.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), eMarketer, GWI, Music Biz

Significant growth in the global music industry will continue in the coming years, reaching $94B in revenue by 2026, driven almost entirely by digital audio

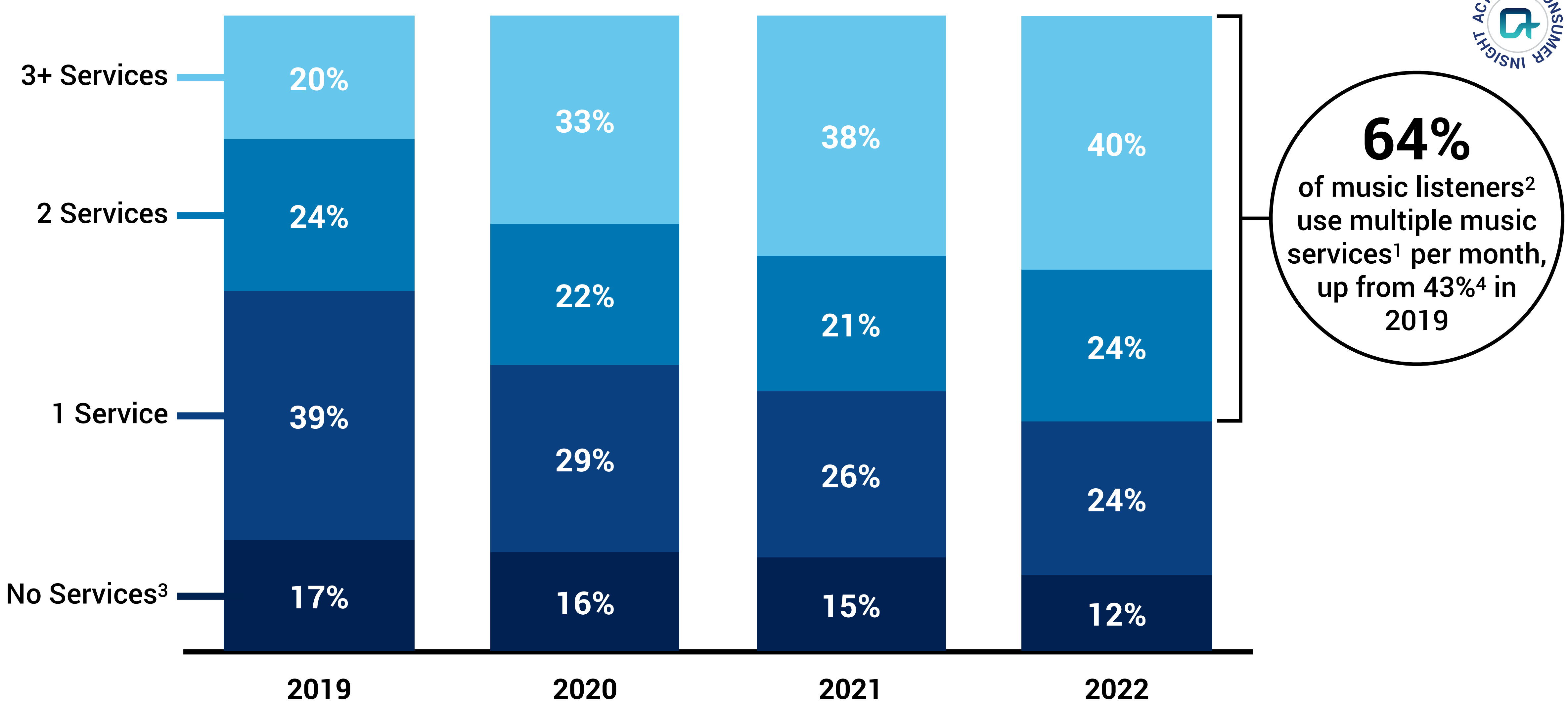
MUSIC REVENUE BY TYPE (EXCLUDING LIVE MUSIC)[1], GLOBAL, 2021-2026E, BILLIONS USD



1. Figures do not sum due to rounding. 2. "Digital" is defined as revenue generated from paid digital downloads of any licensed recorded music and from subscriptions and advertising on music streaming platforms, including platforms that offer podcasts (e.g. Spotify). 3. "Non-Digital" is defined as revenue generated from the use of music in other media (e.g. television), paying record companies for the right to play their music publicly, any purchase of physical audio formats (e.g. vinyl), satellite radio subscriptions and advertising (including non-music content such as talk and sports), and AM/FM radio stations and networks (including non-music content such as talk and sports).
Sources: Activate analysis, Goldman Sachs, Grand View Research, IFPI, Omdia, PricewaterhouseCoopers, Recording Industry Association of America, SiriusXM, Statista

More listeners than ever are using multiple free and paid music services

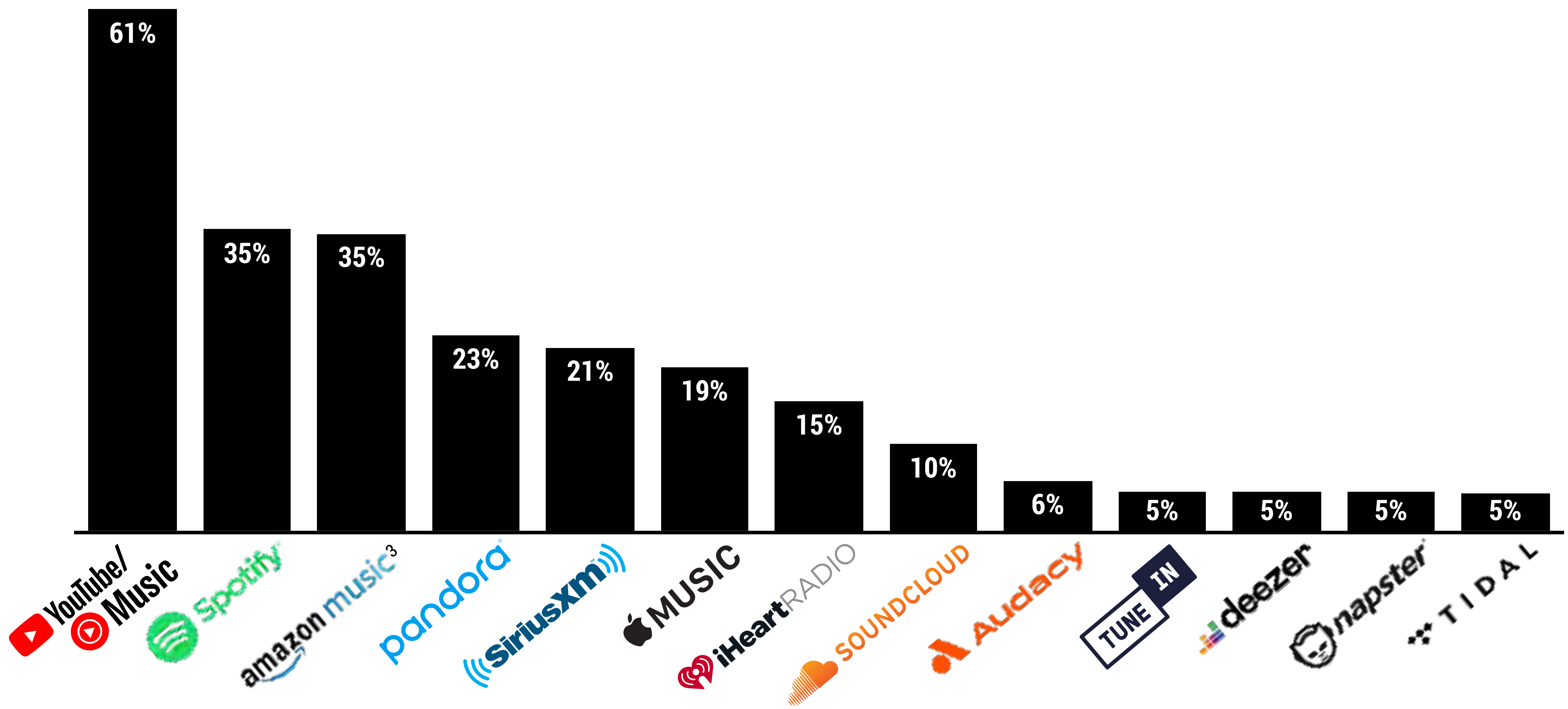
NUMBER OF FREE OR PAID MUSIC SERVICES[1] USED AT LEAST ONCE PER MONTH, U.S., 2019-2022, % MUSIC LISTENERS[2]



1. "Music services" include free and paid services used for listening to music through any format excluding terrestrial radio. 2. "Music listeners" are defined as adults aged 18+ who spend any time listening to music. 3. "No services" includes those who do not use music services (e.g. only listen through terrestrial radio, CDs, vinyl). 4. Figures do not sum due to rounding.
Sources: Activate analysis, Activate 2019 Consumer Technology & Media Research Study (n = 4,006), Activate 2020 Consumer Technology & Media Research Study (n = 4,003), Activate 2021 Consumer Technology & Media Research Study (n = 4,018), Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

YouTube is the most used music service among music listeners, followed by Spotify and Amazon Music

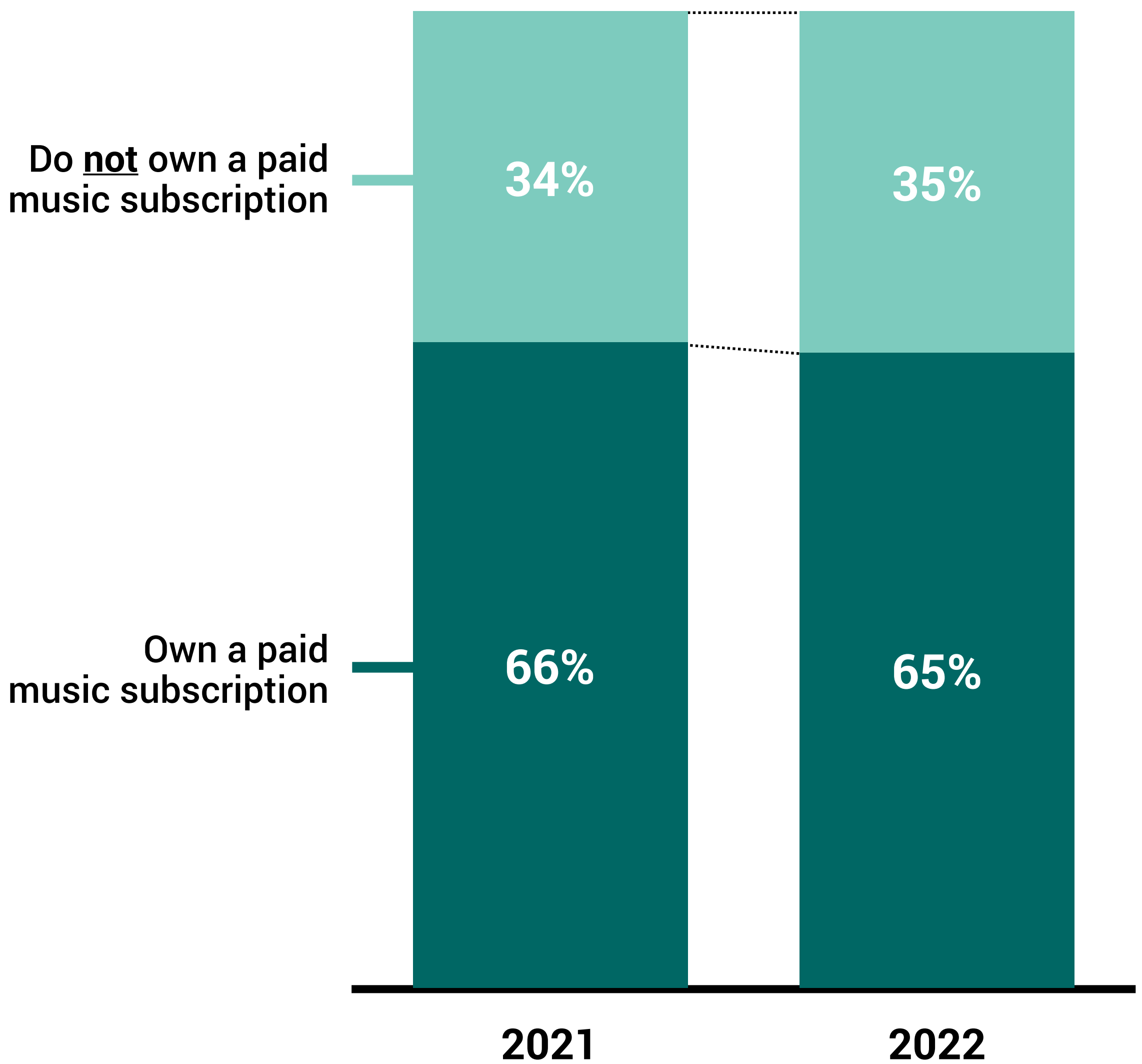
FREE OR PAID MUSIC SERVICES[1] USED AT LEAST ONCE PER MONTH, U.S., 2022, % MUSIC LISTENERS[2]



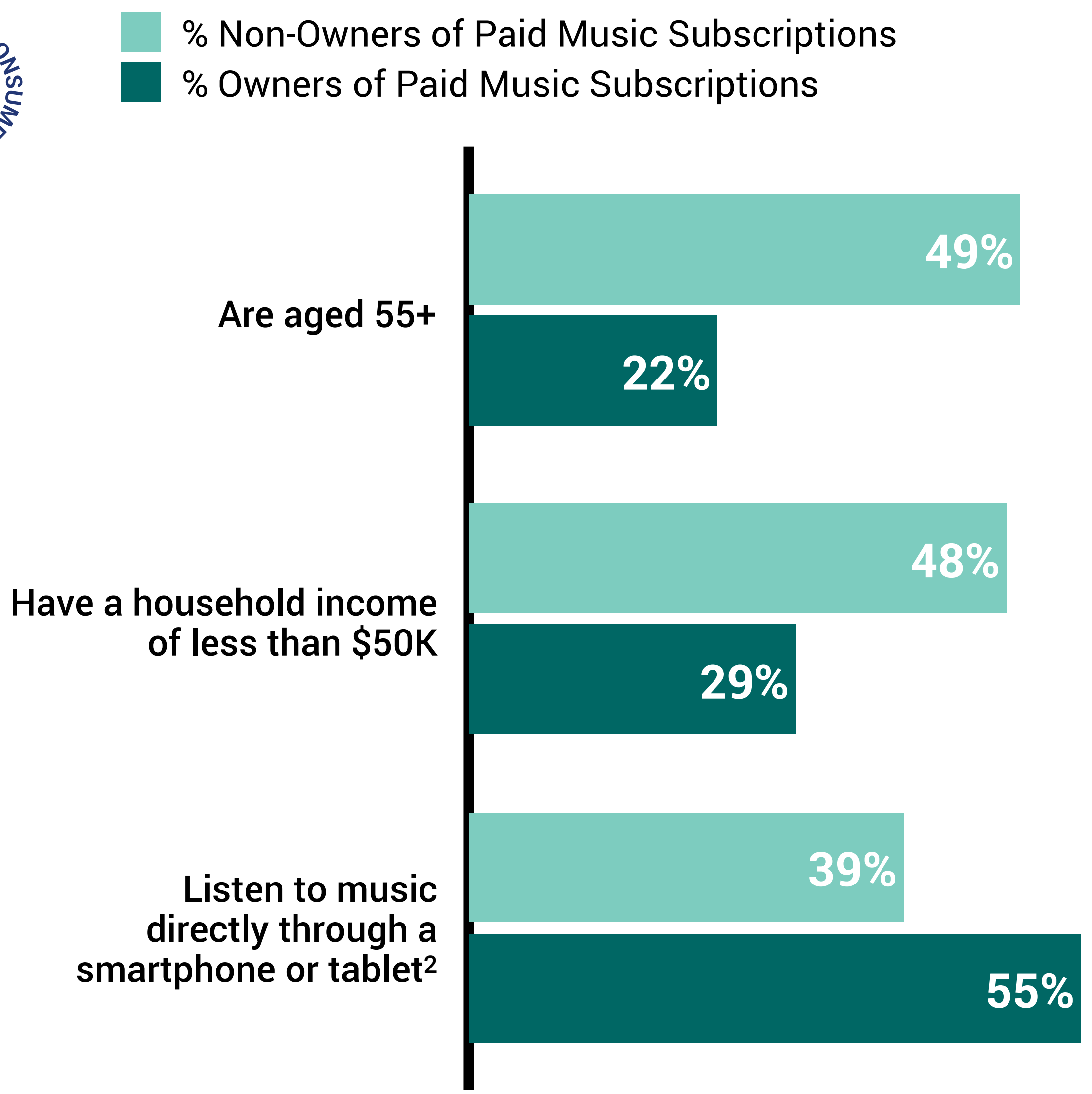
1. "Music services" include free and paid services used for listening to music through any format excluding terrestrial radio.
2. "Music listeners" are defined as adults aged 18+ who spend any time listening to music. 3. Includes consumers who use Amazon Music through their Amazon Prime subscription, as well as consumers who use the standalone Amazon Music service.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

In 2021 and 2022, over a third of music listeners did not pay for a music service, presenting an opportunity to serve them via ad-supported offerings; these listeners are older, less affluent, and less likely to use mobile devices for music

PAID MUSIC SUBSCRIPTION OWNERSHIP, U.S., 2021 VS. 2022, % MUSIC LISTENERS[1]



MUSIC LISTENER[1] DEMOGRAPHICS AND BEHAVIORS, U.S., 2022, % MUSIC LISTENERS[1]



1. "Music listeners" are defined as adults aged 18+ who spend any time listening to music. 2. Includes using headphones.
Sources: Activate analysis, Activate 2021 Consumer Technology & Media Research Study (n = 4,018), Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

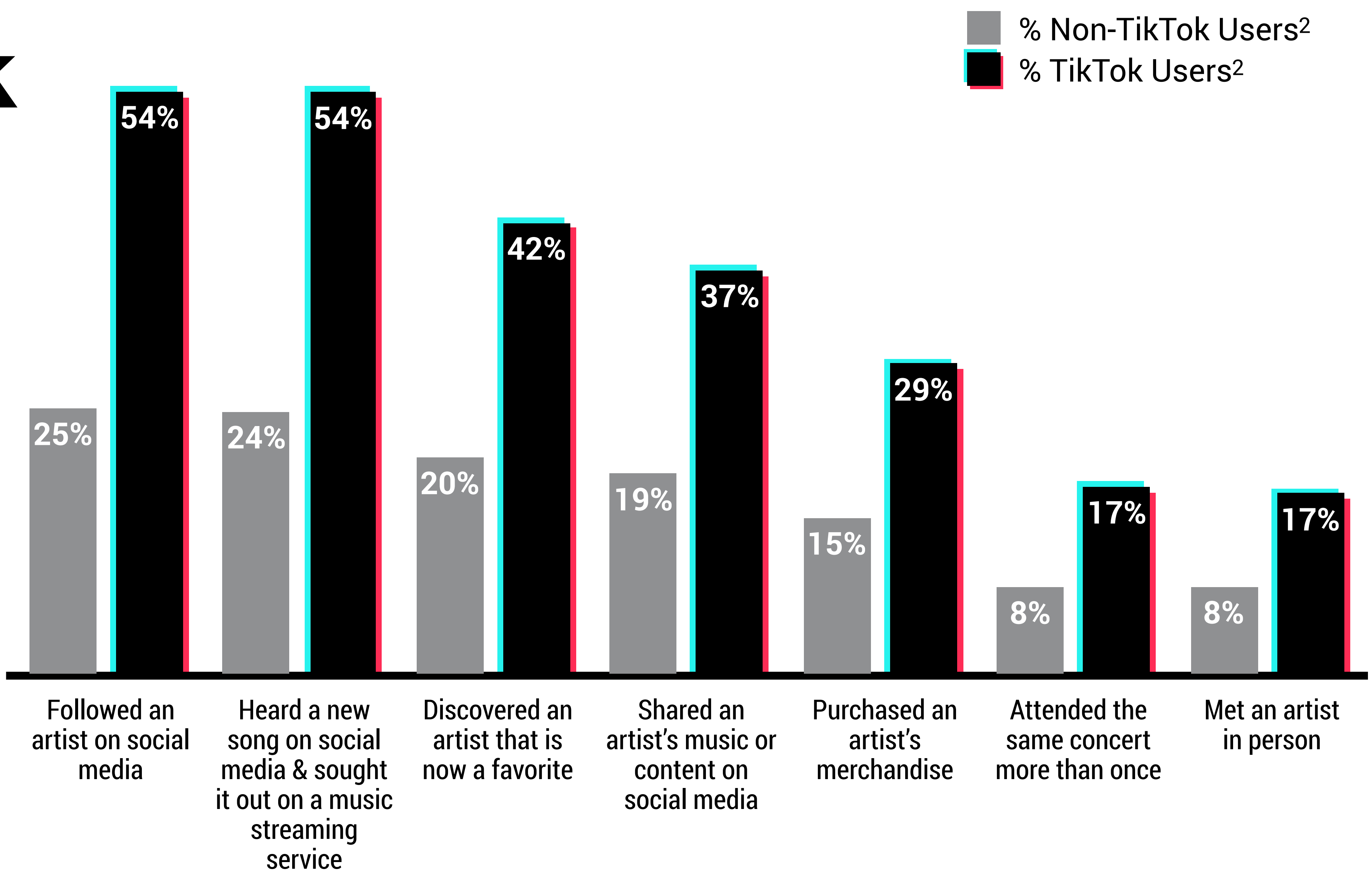
TikTok has helped fuel consumer engagement with music; its users are significantly more likely to participate in music-related activities

PARTICIPATION IN MUSIC-RELATED ACTIVITIES IN THE LAST 12 MONTHS, U.S., 2022, % MUSIC LISTENERS[1]

TikTok users[2] spend **2.1x** as much money on music and music services[3] as non-users[2]

TikTok users[2] are **1.5x** as likely to attend concerts as non-users[2]

TikTok users[2] use **1.8x** as many music services[3] as non-users[2]

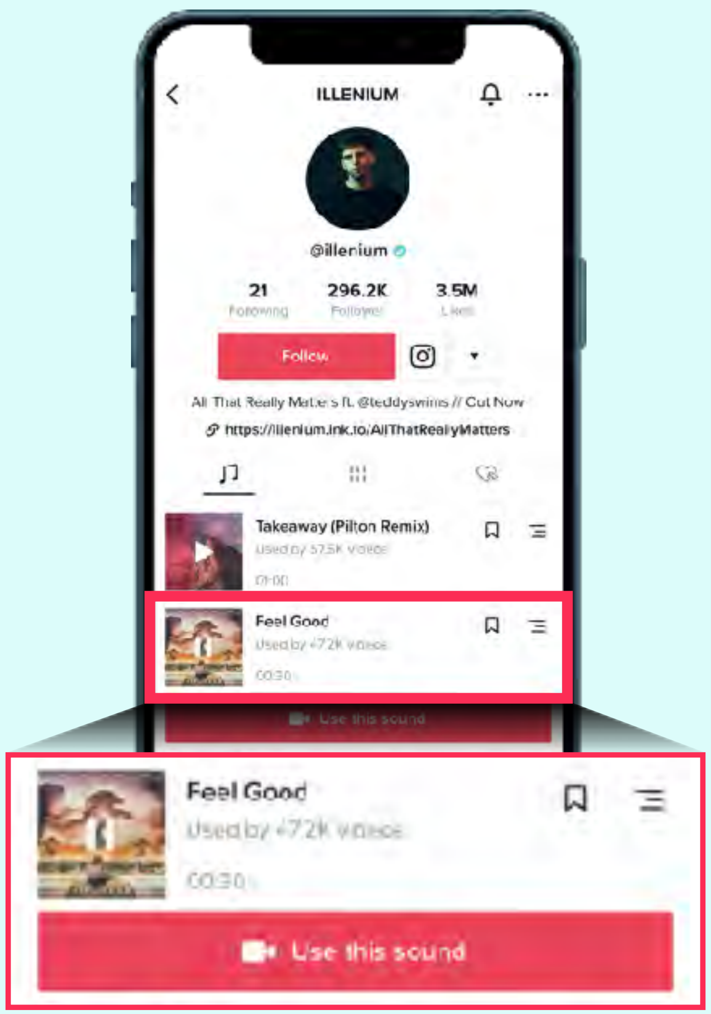


1. "Music listeners" are defined as adults aged 18+ who spend any time listening to music. 2. "TikTok users" are defined as adults aged 18+ who use TikTok at least once per month. 3. "Music services" include free and paid services used for listening to music through any format excluding terrestrial radio.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

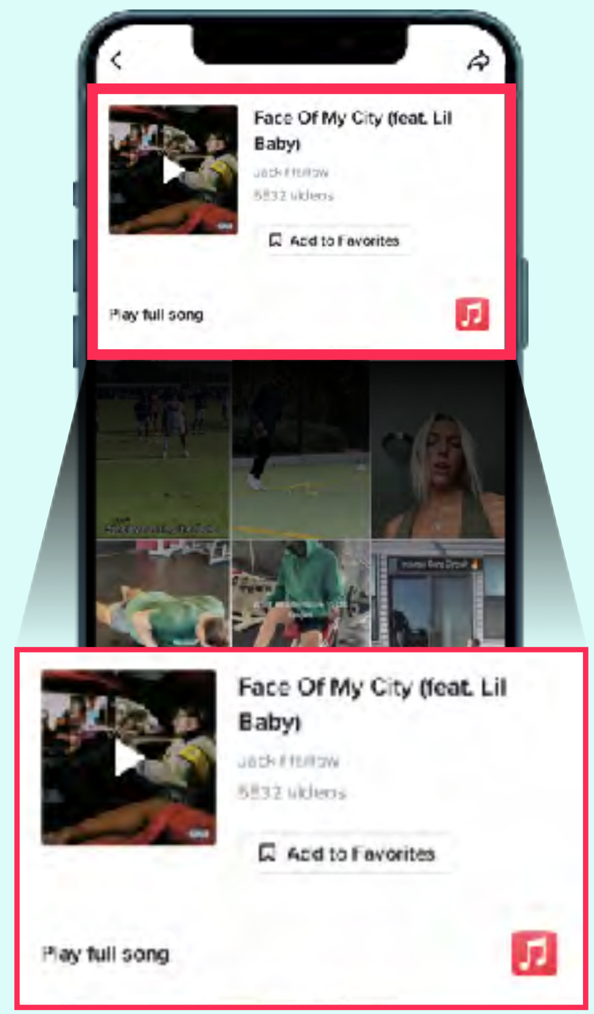
TikTok's discovery features help spur consumer interest in new artists and genres, further deepening engagement

SELECT TIKTOK DISCOVERY FEATURES

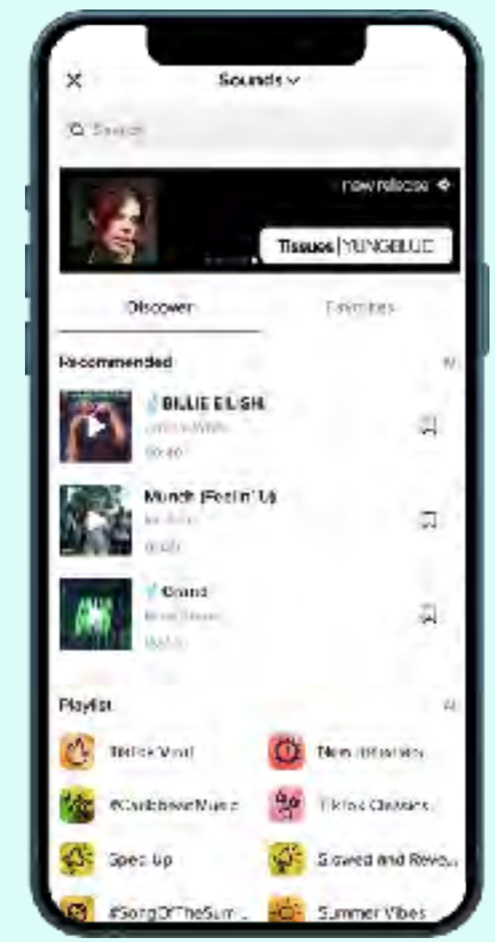
Discover music by listening to songs on an artist's profile



Listen to full songs with Apple Music integration[1]



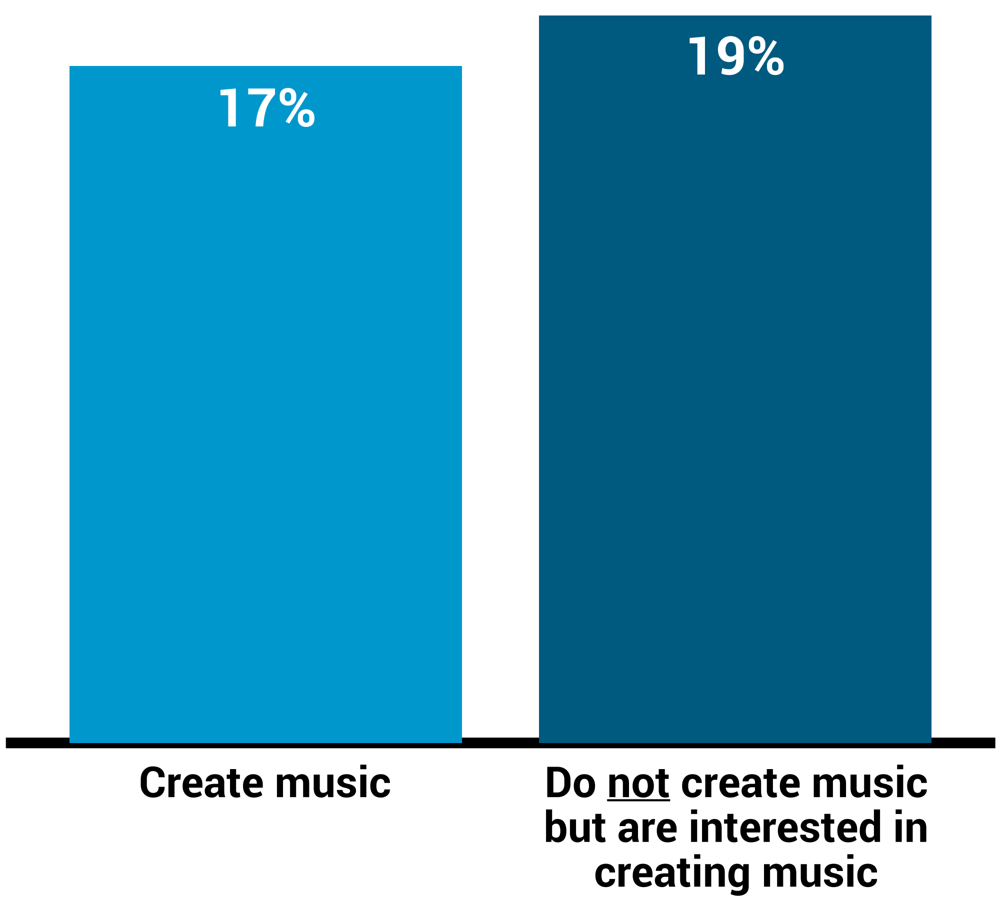
Use the in-app search feature to discover new music and sounds by artist, genre, or popularity



1. Only available for select songs.
Sources: Activate analysis, TikTok

Nearly 40% of music listeners create music or are interested in creating music, driving demand for creation and distribution tools that best serve the needs of independent creators

MUSIC CREATION AND INTEREST IN MUSIC CREATION,
U.S., 2022, % MUSIC LISTENERS[1]



MAJOR MUSIC AND TECHNOLOGY COMPANIES ARE INVESTING IN CREATOR DISTRIBUTION TOOLS

SOUNDCLOUD

REPOST

Gives independent artists distribution tools to share their music on major music streaming services, as well as marketing support to help promote their songs

TikTok

SoundOn

Enables creators to distribute their music on TikTok and all major music streaming services, providing artists with an opportunity to leverage TikTok as a major promotional channel

Snapchat

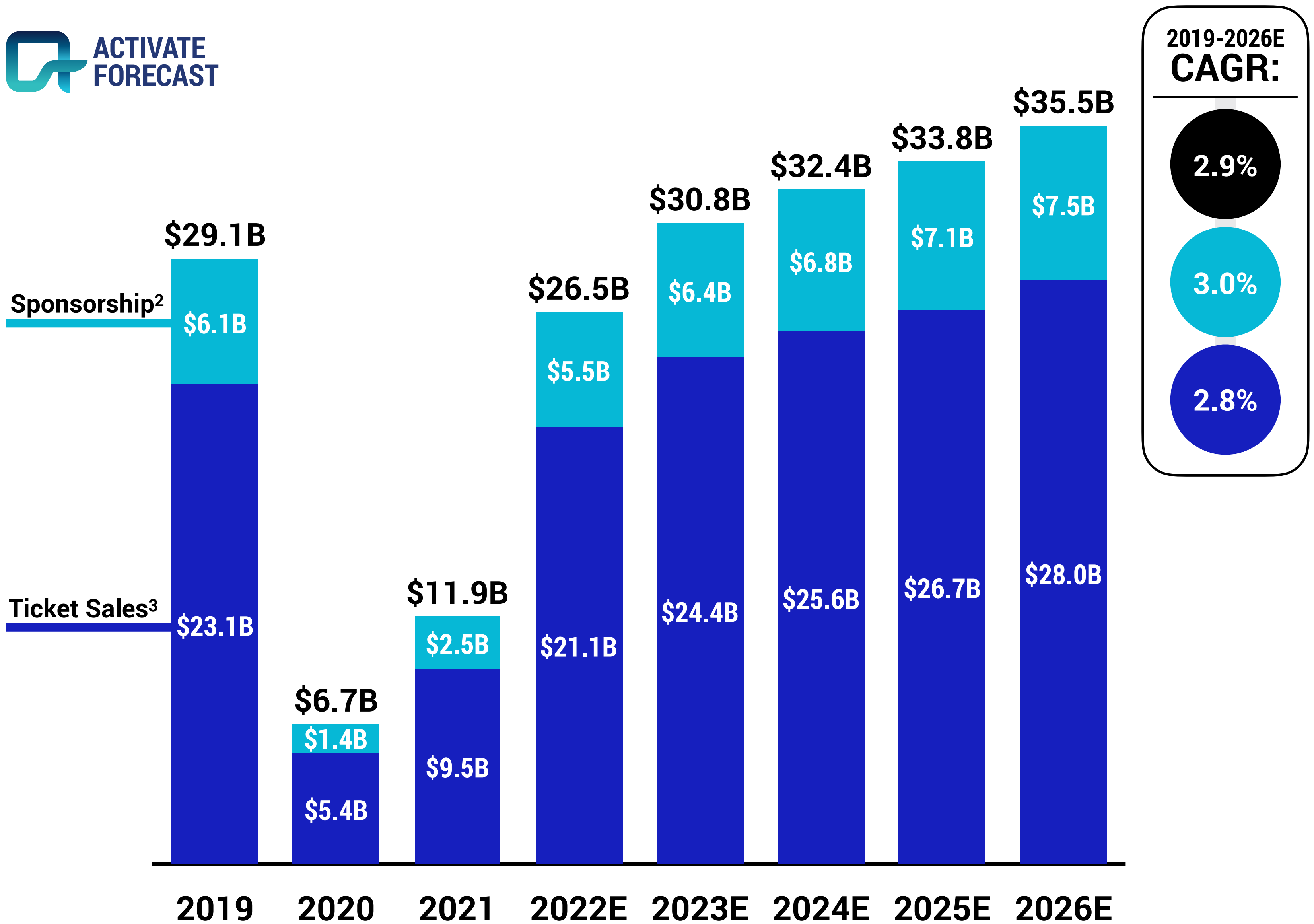
DISTROKID
X
Sounds Creator Fund

Provides monthly grants of up to $100K to independent artists and helps them distribute their music through Snapchat

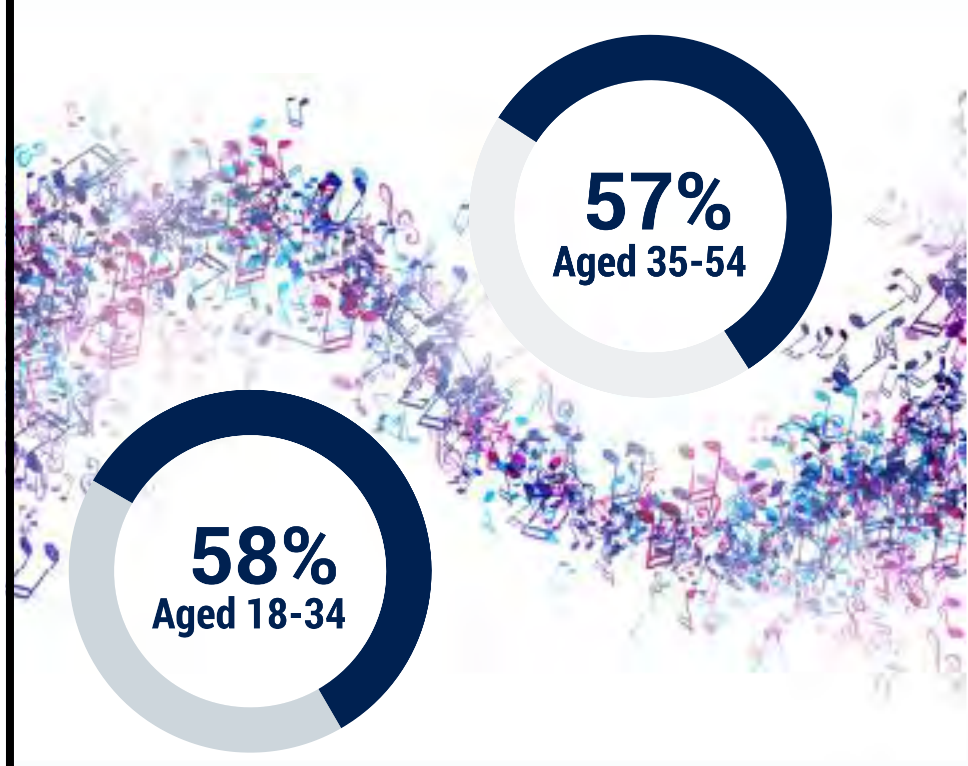
1. "Music listeners" are defined as adults aged 18+ who spend any time listening to music.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Company press releases, Company sites

The live music industry will surpass pre-COVID-19 levels by 2023, with high participation expected across age groups

IN-PERSON LIVE MUSIC REVENUE BY TYPE[1], GLOBAL, 2019-2026E, BILLIONS USD



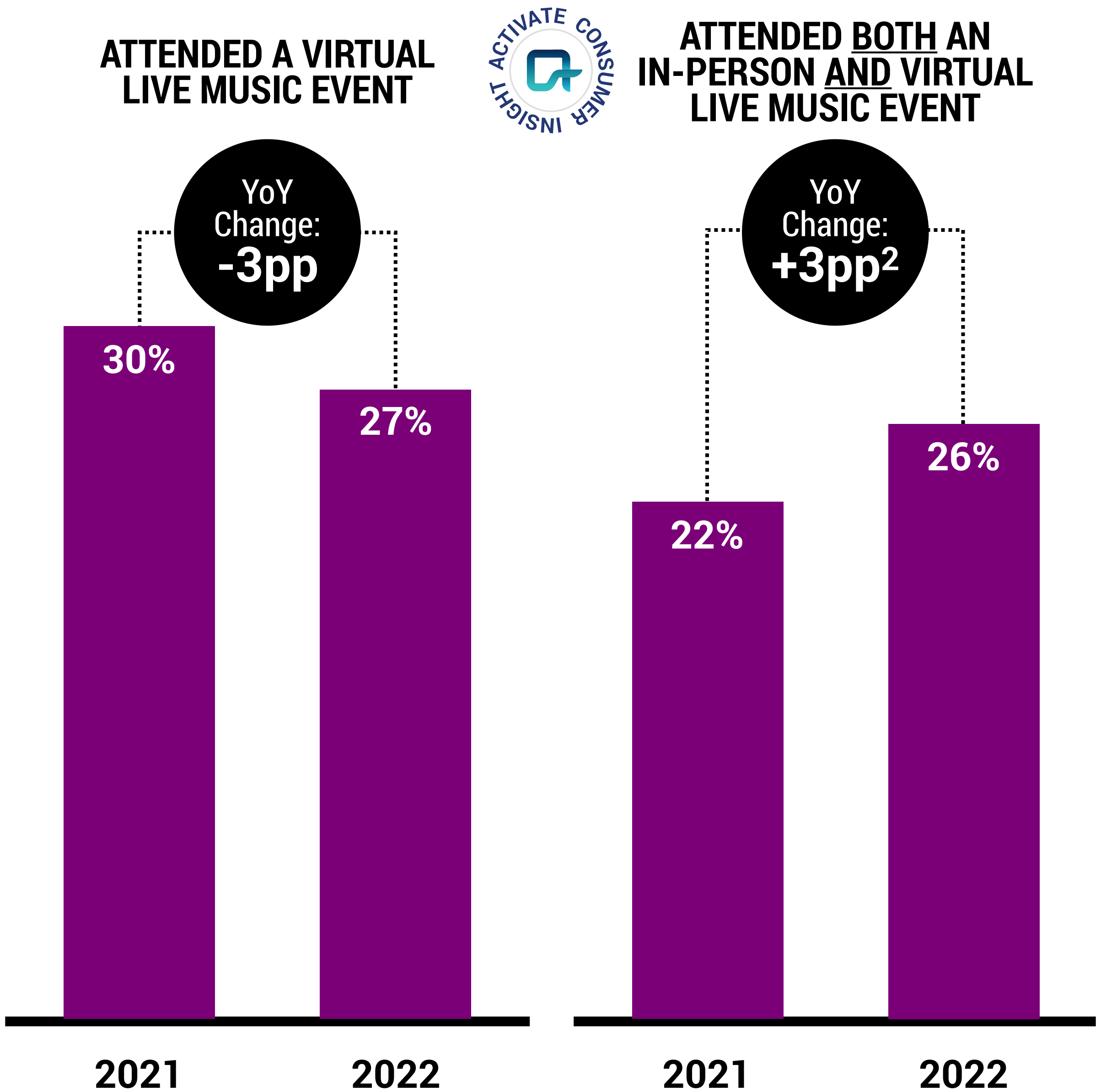
INTENT TO ATTEND AN IN-PERSON CONCERT OR MUSIC FESTIVAL IN THE NEXT 12 MONTHS BY AGE GROUP, U.S., 2022, % MUSIC LISTENERS[4]



1. Figures do not sum due to rounding. 2. "Sponsorship" includes revenue from sponsorship of live music events (advertising spending). 3. "Ticket sales" include revenue from consumer spend on tickets to live music events. Does not include revenue from merchandise or concessions. 4. "Music listeners" are defined as adults aged 18+ who spend any time listening to music.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Omdia, PricewaterhouseCoopers, Statista

While virtual event attendance is down from 2021, consumers increasingly see virtual as a complement to, rather than a replacement for, in-person events, especially given the uniquely immersive experiences virtual events offer

LIVE MUSIC EVENT ATTENDANCE, U.S., 2021 VS. 2022, % MUSIC LISTENERS[1]

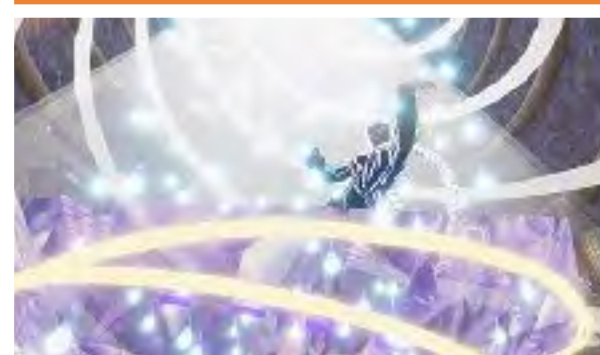


EXAMPLES OF VIRTUAL LIVE MUSIC EVENT VR/AR TECHNOLOGY

VR AND METAVERSE CONCERTS

Artists are increasingly performing in VR and Metaverse concerts, in which users can **watch artists through VR headsets or as avatars in virtual worlds**

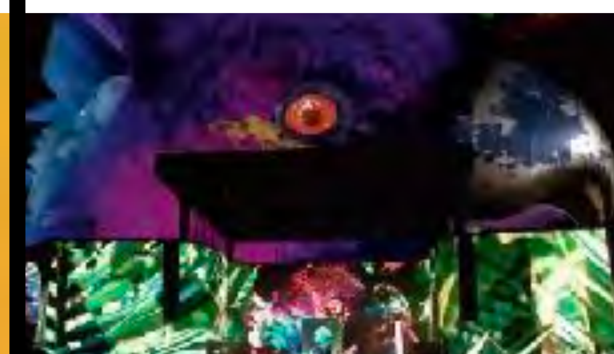
For Megan Thee Stallion's 2022 VR tour, attendees were given VR headsets in select theaters for a more immersive concert experience



Grimes performed in her avatar form for the Metaverse Fashion Week in Decentraland

AR-ENHANCED STREAMING

With AR, artists are able to provide **viewers at home** with a **differentiated experience compared to in-person live music events**



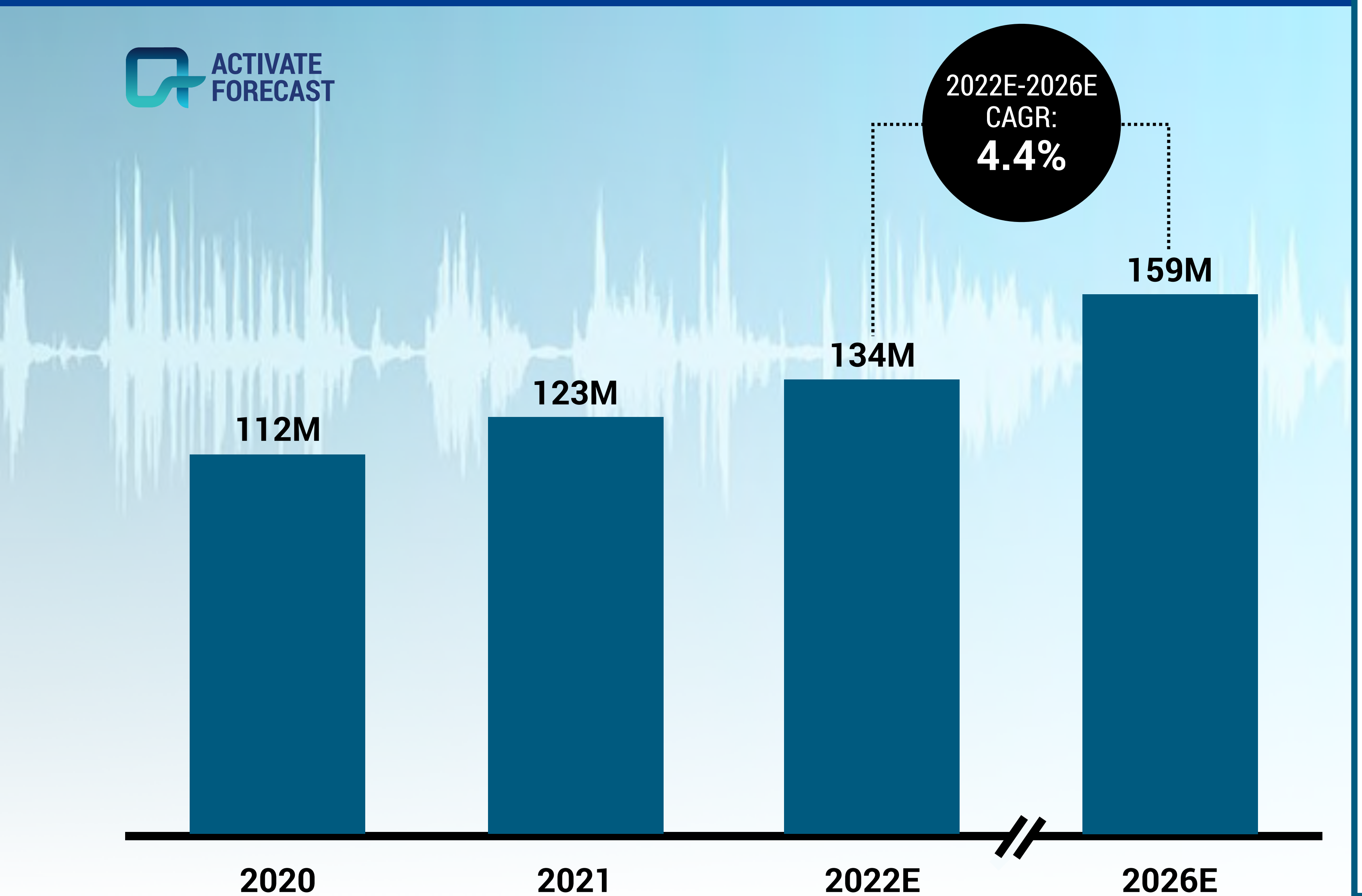
Using AR technology, Flume provided at-home viewers of his 2022 Coachella performance with a unique set of visuals that were overlaid onto the YouTube livestream

Beyond Live, an online paid concert platform, leverages augmented reality to create visual experiences optimized for online audiences, such as integrating 3D graphics into performances

1. "Music listeners" are defined as adults aged 18+ who spend any time listening to music. 2. Figures do not sum due to rounding.
Sources: Activate analysis, Activate 2021 Consumer Technology & Media Research Study (n = 4,018), Activate 2022 Consumer Technology & Media Research Study (n = 4,001), ARPost, Company press releases, Company sites, TIME, Zero Density

Podcast listening is a core behavior for audio platforms to address, with significant potential for further user growth

MONTHLY PODCAST LISTENERS[1],
U.S., 2020-2022E VS. 2026E, MILLIONS LISTENERS AGED 12+



DRIVERS OF PODCAST GROWTH

INTEGRATION OF PODCASTS INTO MUSIC STREAMING SERVICES

Most major music services[2] now allow users to listen to podcasts, providing consumers with a single platform for multiple audio behaviors

SOCIAL MEDIA PLATFORMS' PUSH INTO THE PODCAST SPACE

Social media companies are increasingly integrating podcasts into their platforms, driving new modes of podcast discovery and consumption

INCREASING VALUE OF AD SPOTS IN PODCASTS

Dynamic ad insertion will drive up the value of ad spots in podcasts — major acquisitions in adtech (e.g. Chartable and Podsights) have signaled a continued push into targeted advertising

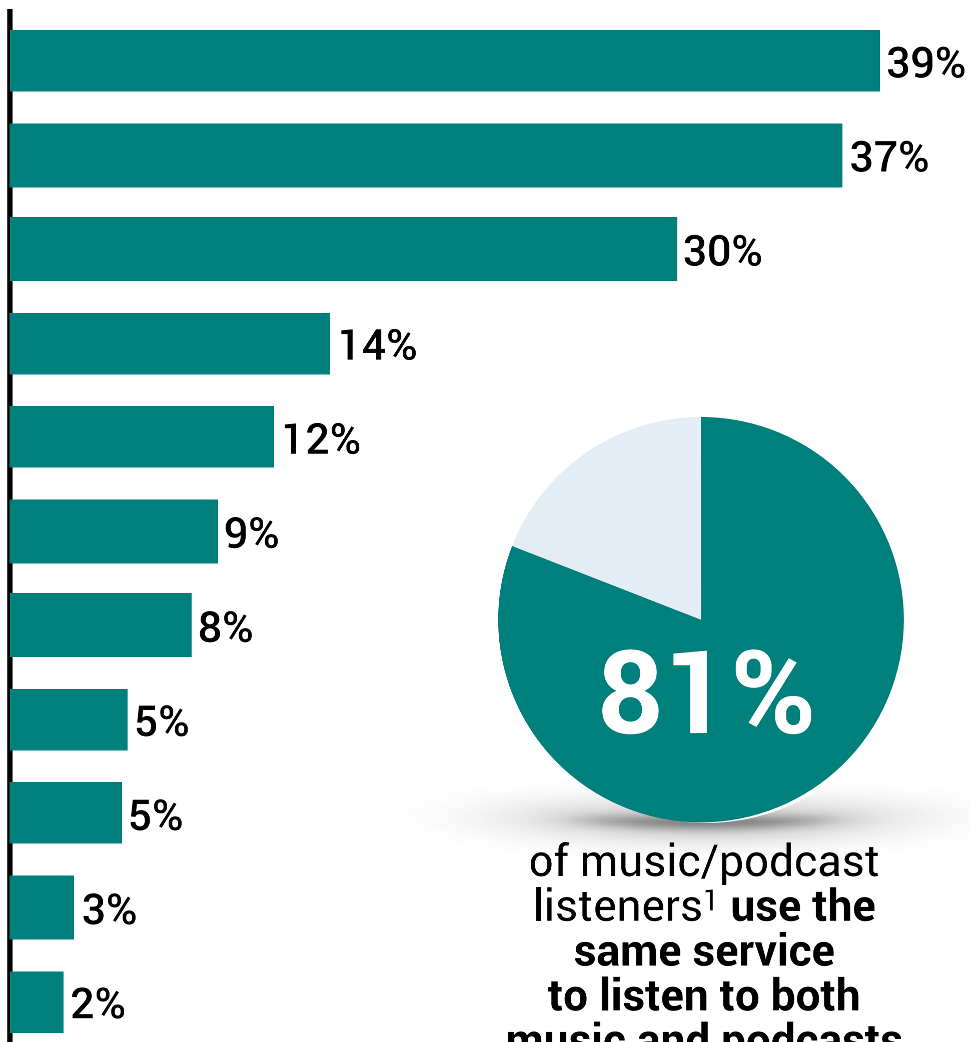
1. "Podcast listeners" are defined as adults aged 12+ who spend any time listening to podcasts. 2. "Music services" include free and paid services used for listening to music through any format excluding terrestrial radio.
Sources: Activate analysis, Activate 2019 Consumer Technology & Media Research Study (n = 4,006), Activate 2021 Consumer Technology & Media Research Study (n = 4,018), AdExchanger, Apple World Today, Apple WWDC 2018, Automotive News, Car & Driver, Cox Automotive, Digital Trends, Edison Research, eMarketer, Nielsen, Omdia, Pew Research Center, PricewaterhouseCoopers, Scarborough Research, TechCrunch, U.S. Bureau of Economic Analysis, U.S. Census Bureau, The Verge

Most music and podcast listeners use the same service to listen to both types of content; music services will continue to acquire and produce major podcast titles to drive consumer engagement

FREE OR PAID SERVICES USED AT LEAST ONCE PER MONTH FOR BOTH MUSIC AND PODCASTS, U.S., 2022, % MUSIC/PODCAST LISTENERS[1]

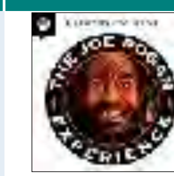
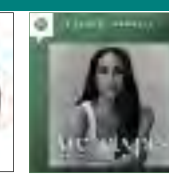
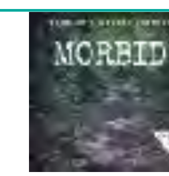
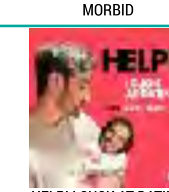
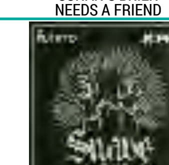
ACTIVATE CONSUMER INSIGHT

SERVICES USED FOR BOTH MUSIC AND PODCASTS



of music/podcast listeners[1] **use the same service to listen to both music and podcasts**

SELECT PODCAST TITLES ACQUIRED BY MAJOR AUDIO PLATFORMS

AUDIO PLATFORM	PODCASTS		
Spotify	 THE JOE ROGAN EXPERIENCE	 ARCHETYPES	 CALL HER DADDY
amazon	 MORBID		
iHeart MEDIA	 HELP! I SUCK AT DATING WITH DEAN, JARED & ...		
SiriusXM	 CONAN O'BRIEN NEEDS A FRIEND		
Apple	 SUAVE		

1. "Music/podcast listeners" are defined as adults aged 18+ who spend any time listening to both music and podcasts.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Apple Podcasts, Billboard, Company press releases, Company sites, The Hollywood Reporter, iHeartMedia, TechCrunch, Variety

Consumers are highly receptive to podcast advertising; ad unit improvements, such as targeting and dynamic ad insertion, will continue to drive up the value of podcast inventory in the future

PODCAST AD RECEPTIVITY, U.S., 2022, % PODCAST LISTENERS[1]

ACTIVATE CONSUMER INSIGHT

82%

of podcast listeners[1] are likely[2] to look into a product/service being advertised during a podcast

DYNAMIC AD INSERTION

Advertisers can deliver advertisements on-demand into ad slots, as opposed to advertisements being "baked-in" as permanent, pre-recorded components of a podcast

Advertisers can deliver different advertisements tailored to listeners based on their individual traits (e.g. geography, demographics)

Ad spots increase in value as a result of the increased targeting and measurement capabilities dynamic ad insertion enables

KEY ACQUISITIONS

- Spotify
  - Megaphone (2020)
  - Chartable (2022)
  - podsights (2022)
- iHeart MEDIA
  - VOXNEST (2020)
  - TRITON (2021)
- amazon
  - ART19 (2021)

1. "Podcast listeners" are defined as adults aged 18+ who spend any time listening to podcasts. 2. "Likely" is defined as extremely, very, somewhat, or slightly likely.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Castos, Company press releases, Company sites, Digiday, RiversideFM

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We expect three major trends to drive sports revenue growth in 2023 and beyond

1

EMERGENCE OF NEXT-GEN SPORTS FANS

A younger generation of sports fans will drive growth in:

- Live sports streaming
- Non-live game content consumption
- Participation in sports-related activities

2

TRANSITION OF LIVE SPORTS TO STREAMING

- Media companies will continue to transition live sports to streaming
- Technology companies will increasingly enter live sports
- Fans will adopt sports-focused streaming services

3

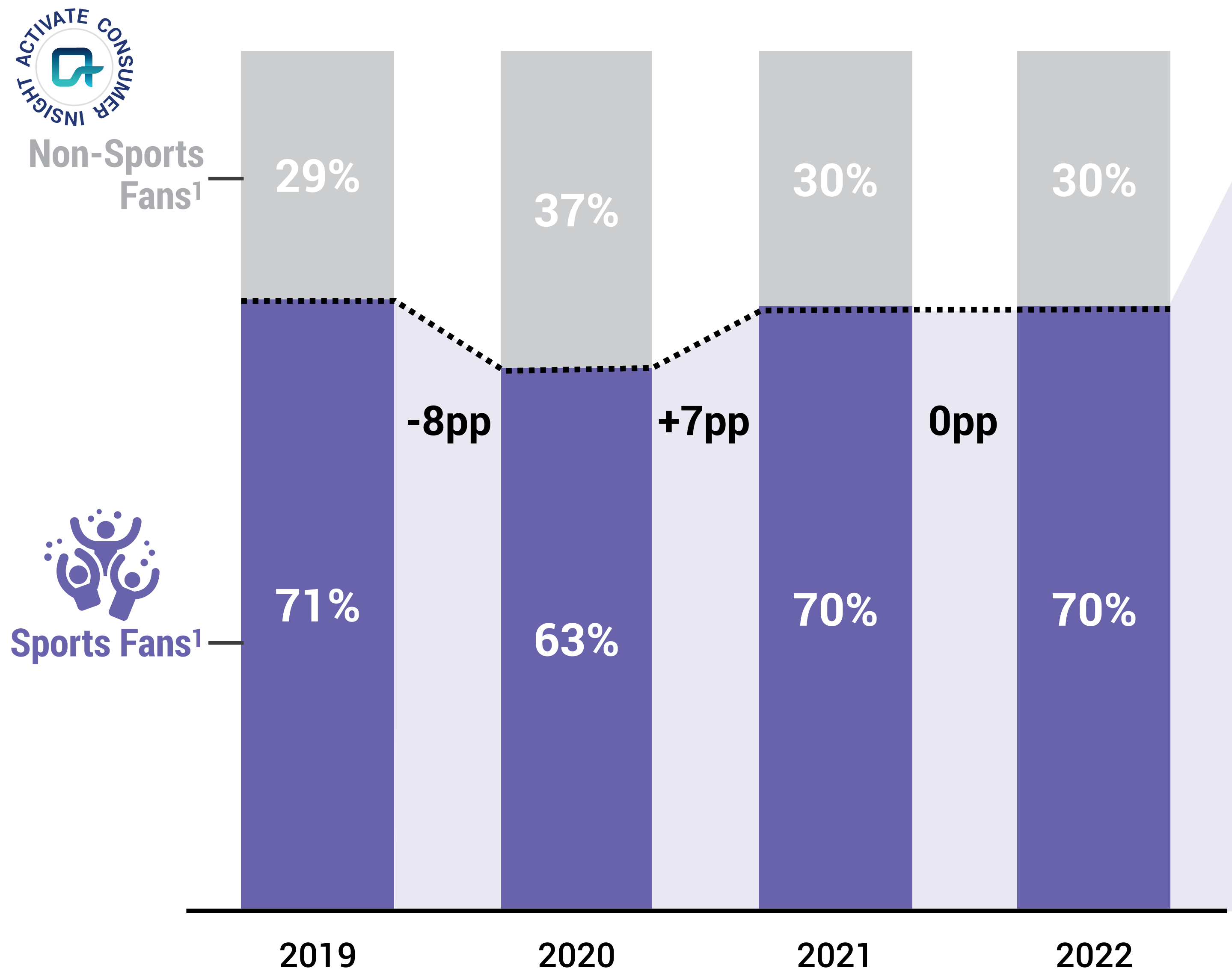
CONTINUED GROWTH OF SPORTS BETTING

- A growing number of states will pursue legalization
- Overall consumer participation in sports betting will increase

Source: Activate analysis

There is a growing divergence in behavior between Next-Gen and Legacy Fans that will impact the future of the sports ecosystem

SPORTS FANS[1] VS. NON-SPORTS FANS[1],
U.S., 2019-2022, % ADULTS AGED 18+



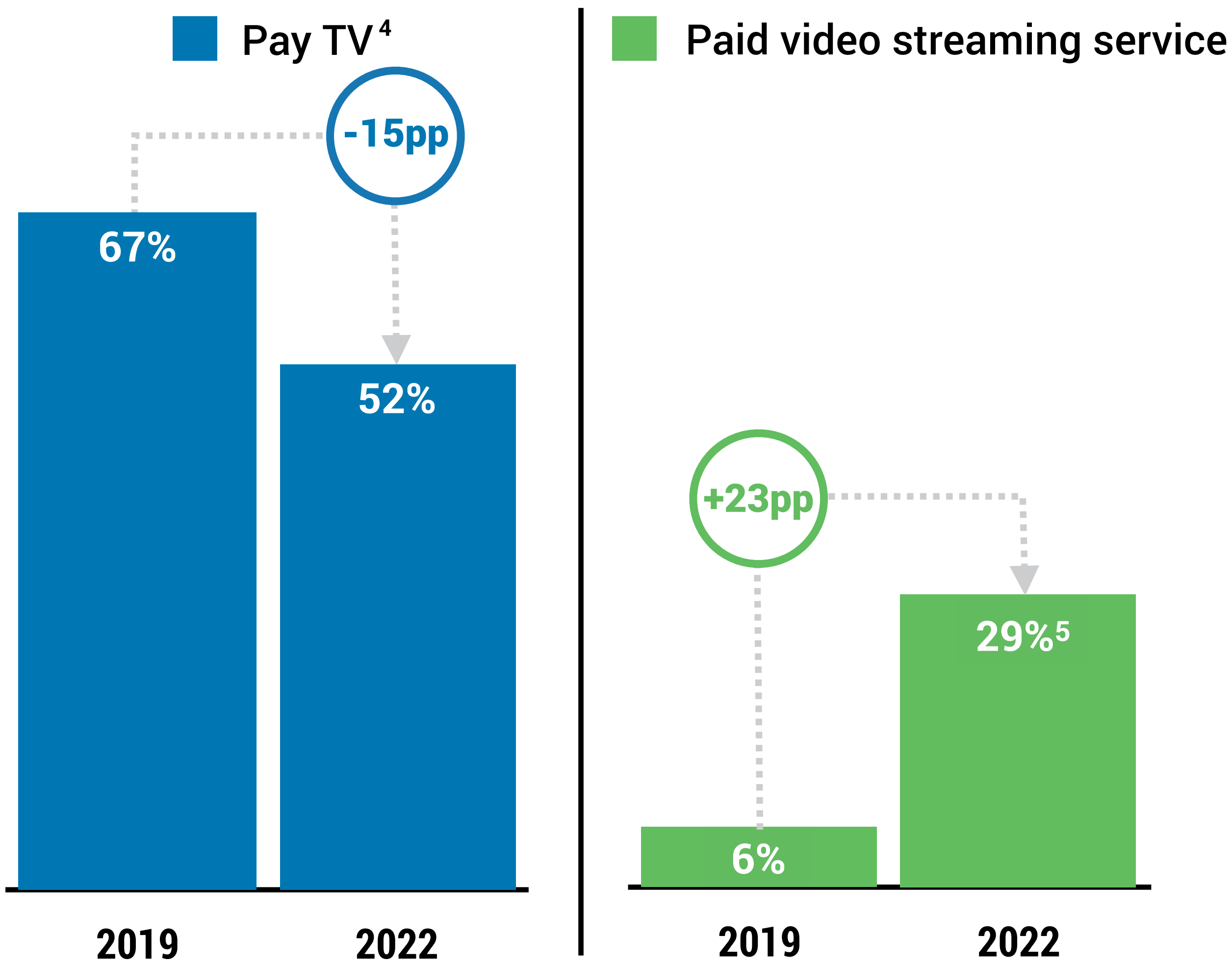
SPORTS FAN[1] SEGMENT	AGE GROUP	% OF SPORTS FANS[1]	TOTAL POPULATION
 NEXT-GEN FANS[2]	18-34	32%	58M
 LEGACY FANS[3]	35+	68%	122M

1. "Sports fans" are defined as adults aged 18+ who followed at least one sport in the last 12 months (e.g. those attending live games in person, watching live games or game highlights, reading articles or statistics). 2. "Next-Gen Fans" are defined as sports fans aged 18-34. 3. "Legacy Fans" are defined as sports fans aged 35 or older.
Sources: Activate analysis, Activate 2019 Consumer Technology & Media Research Study (n = 4,006), Activate 2020 Consumer Technology & Media Research Study (n = 4,003), Activate 2021 Consumer Technology & Media Research Study (n = 4,018), Activate 2022 Consumer Technology & Media Research Study (n = 4,001), U.S. Census Bureau

Live sports streaming continues to grow in 2022, driven by Next-Gen Fans who are avoiding the Pay TV bundle

LIVE SPORTS VIEWERSHIP BY VIEWING METHOD, U.S., 2019 VS. 2022, % SPORTS FANS[1]

*In the **last 12 months**, I have **watched live sports through**...*



NEXT-GEN FANS[2] ARE **25% LESS LIKELY** TO WATCH LIVE SPORTS THROUGH PAY TV[4]...

...AND **36% MORE LIKELY** TO WATCH THROUGH A PAID VIDEO STREAMING SERVICE THAN **LEGACY FANS**[3]

1. "Sports fans" are defined as adults aged 18+ who followed at least one sport in the last 12 months (e.g. those attending live games in person, watching live games or game highlights, reading articles or statistics). 2. "Next-Gen Fans" are defined as sports fans aged 18-34. 3. "Legacy Fans" are defined as sports fans aged 35 or older. 4. "Pay TV" includes traditional Pay TV (i.e. TV delivered through a set-top box) and virtual Pay TV (i.e. TV delivered through the internet without a set-top box).
5. Value does not include viewership of Thursday Night Football on Amazon Prime.
Sources: Activate analysis, Activate 2019 Consumer Technology & Media Research Study (n = 4,006), Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

NFL Case Study: Live sports streaming will continue to grow in 2023, as technology and media companies increasingly provide access to premier sports properties through their paid services

U.S. NFL LIVE SPORTS PROGRAMMING ACCESS FOR THE 2022-2023 SEASON

BROADCAST PARTNER	FOX	Disney	Paramount	COMCAST	amazon
EST. ANNUAL CONTRACT VALUE[1]	$2.0B	$2.7B	$2.1B	$2.0B	$1.2B
PROPERTY	FOX NFL SUNDAY	MONDAY NIGHT FOOTBALL	NFL CBS	SUNDAY NIGHT FOOTBALL	THURSDAY NIGHT FOOTBALL
PAY TV[2] CHANNEL	FOX	ESPN	CBS	NBC	N/A
INCLUDES DIGITAL RIGHTS	✓	✓	✓	✓	✓
STREAMING OPTION	No digital streaming option	Alternative broadcast on ESPN+	Digital simulcast full slate on Paramount+	Digital simulcast full slate on peacock	Exclusive rights on prime video
FIRST YEAR OF FULL STREAMING AVAILABILITY	N/A	2021	2022	2022	2022

prime video

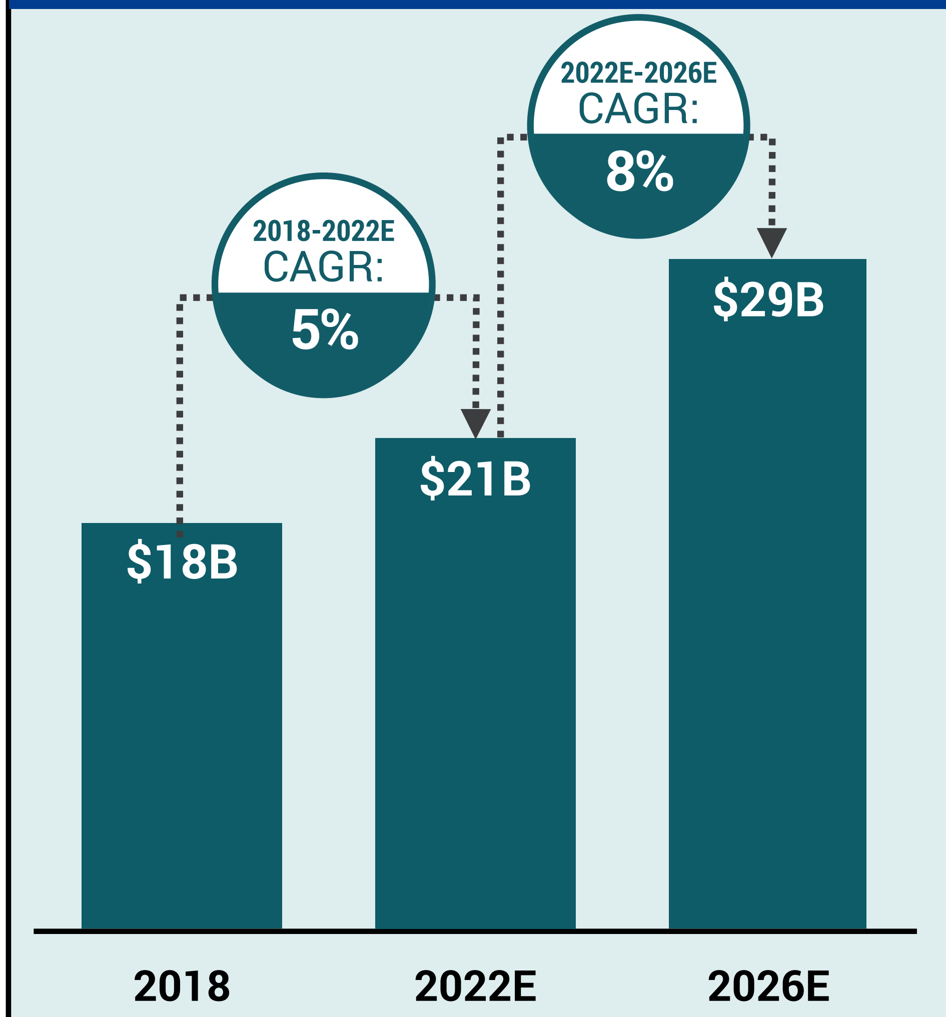
*The September 15th **debut of Thursday Night Football** on Prime Video **averaged 13 million viewers,** demonstrating to major leagues that **streaming exclusives can reach a mass audience***

For the first time, **3 out of 5** major NFL broadcast properties will be **fully available via streaming** for the 2022-2023 season

1. Value reflects NFL's new contract term beginning in 2022. 2. "Pay TV" includes traditional Pay TV (i.e. TV delivered through a set-top box) and virtual Pay TV (i.e. TV delivered through the internet without a set-top box).
Sources: Activate analysis, Bloomberg, Company sites, Fierce Video, MoffettNathanson, Sportico, The Sports Business Journal

Technology companies are increasingly competing with traditional media companies for live rights, driving contract values to new heights

ESTIMATED TOTAL ANNUAL VALUE OF LIVE SPORTS BROADCAST RIGHTS[1], U.S., 2018 VS. 2022E VS. 2026E, BILLIONS USD



SELECT EXAMPLES OF RISING CONTENT RIGHTS VALUATIONS DRIVEN BY EMERGENCE OF TECHNOLOGY COMPANIES INTO SPORTS

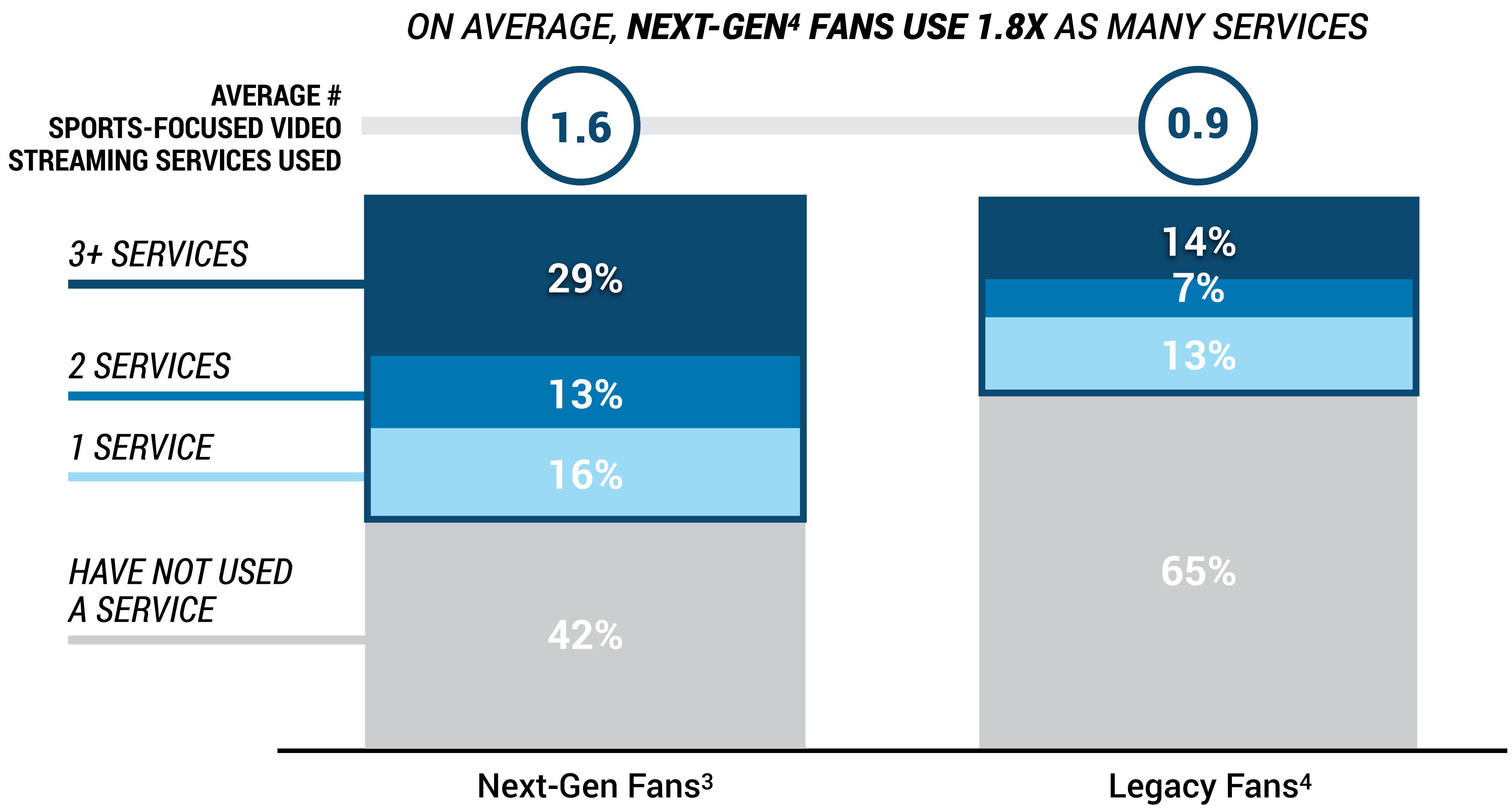
PROPERTY	PREVIOUS DEAL		NEW DEAL *DATA AS OF OCTOBER 2022*			VALUE INCREASE
	Rights Owners	Est. Annual Value[2]	Rumored Bidders[3]	Rights Owners	Est. Annual Value[2]	
NFL Sunday Ticket	DIRECTV	$1.5B	amazon, YouTube, Disney	Apple *Rumored*	$2.5B	1.7X
Thursday Night Football	FOX	$0.7B	ESPN, FOX, CBS, NBC	amazon	$1.2B	1.8X
MLS	ESPN, Univision, FOX	$90M	ESPN, Univision	Apple	$250M	2.8X
Formula 1	ESPN	$5M	amazon, NETFLIX, COMCAST	ESPN	$83M	17X

Technology company | Traditional media company

1. Includes spend by U.S. TV networks and streaming services on rights to major U.S. leagues (i.e. MLB, NBA, NFL, NHL), international leagues (e.g. English Premier League, Formula 1), top leagues in other major sports (e.g. golf, motor racing, pro wrestling, soccer, tennis, UFC), college sports, and the Olympics. 2. Based on total value and length of contract. 3. "Rumored Bidders" excludes new rights owners.
Sources: Activate analysis, The Athletic, Bloomberg, The Guardian, MoffettNathanson, The New York Times, Sports Business Journal, Variety, The Wall Street Journal

Next-Gen Fans are more likely to use sports-focused streaming services and will fuel the continued growth of these services going forward

NUMBER OF SPORTS-FOCUSED STREAMING SERVICES USED[1], U.S., 2022, % SPORTS FANS[2] BY SEGMENT

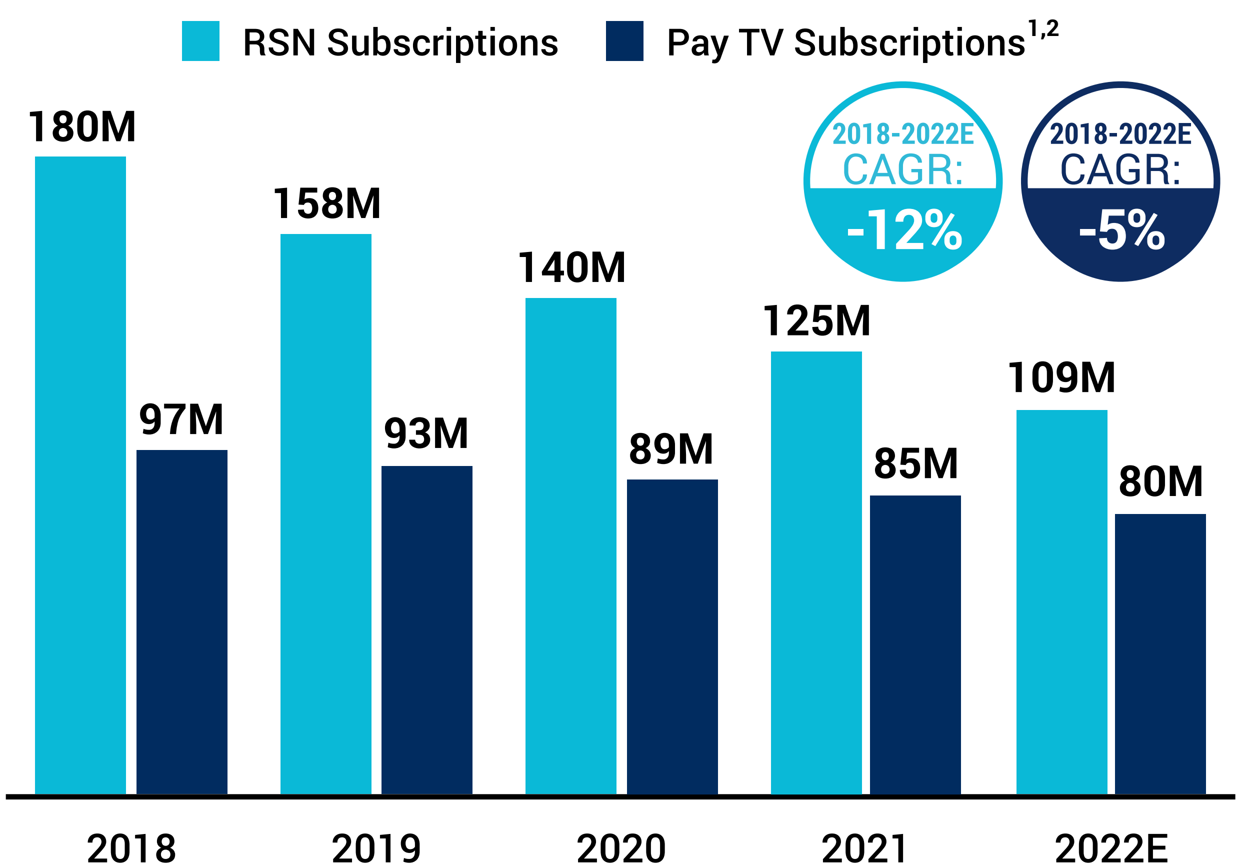


EXAMPLE SPORTS-FOCUSED VIDEO STREAMING SERVICES

1. "Usage" is defined as having watched live sports through a sports-focused streaming service when the sport they follow was in season. 2. "Sports fans" are defined as followers (e.g. those attending live games in person, watching live games or game highlights, reading articles or statistics) of at least one sport in the last 12 months. 3. "Next-Gen Fans" are defined as sports fans between the ages of 18-34. 4. "Legacy Fans" are defined as sports fans aged 35 or older.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

RSN subscriptions have declined faster than overall Pay TV subscriptions due to traditional and virtual Pay TV providers reducing carriage – the future role of RSNs in live sports is uncertain

TOTAL SUBSCRIPTIONS TO TOP 50 RSNs VS. PAY TV SUBSCRIPTIONS[1], U.S., 2018-2022E, MILLIONS



RSN EXAMPLES

KEY INSIGHT

RSNs are declining faster than Pay TV[1], as traditional and virtual Pay TV providers reduce RSN carriage or exclude them from the bundle

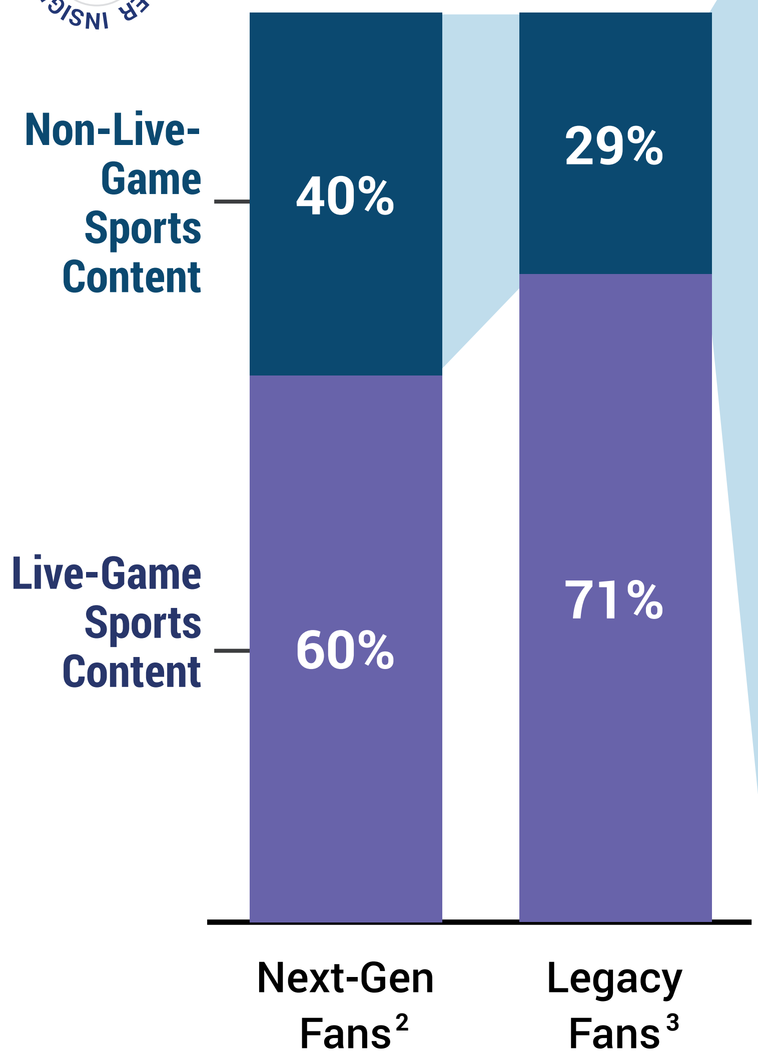
INDUSTRY INSIGHTS

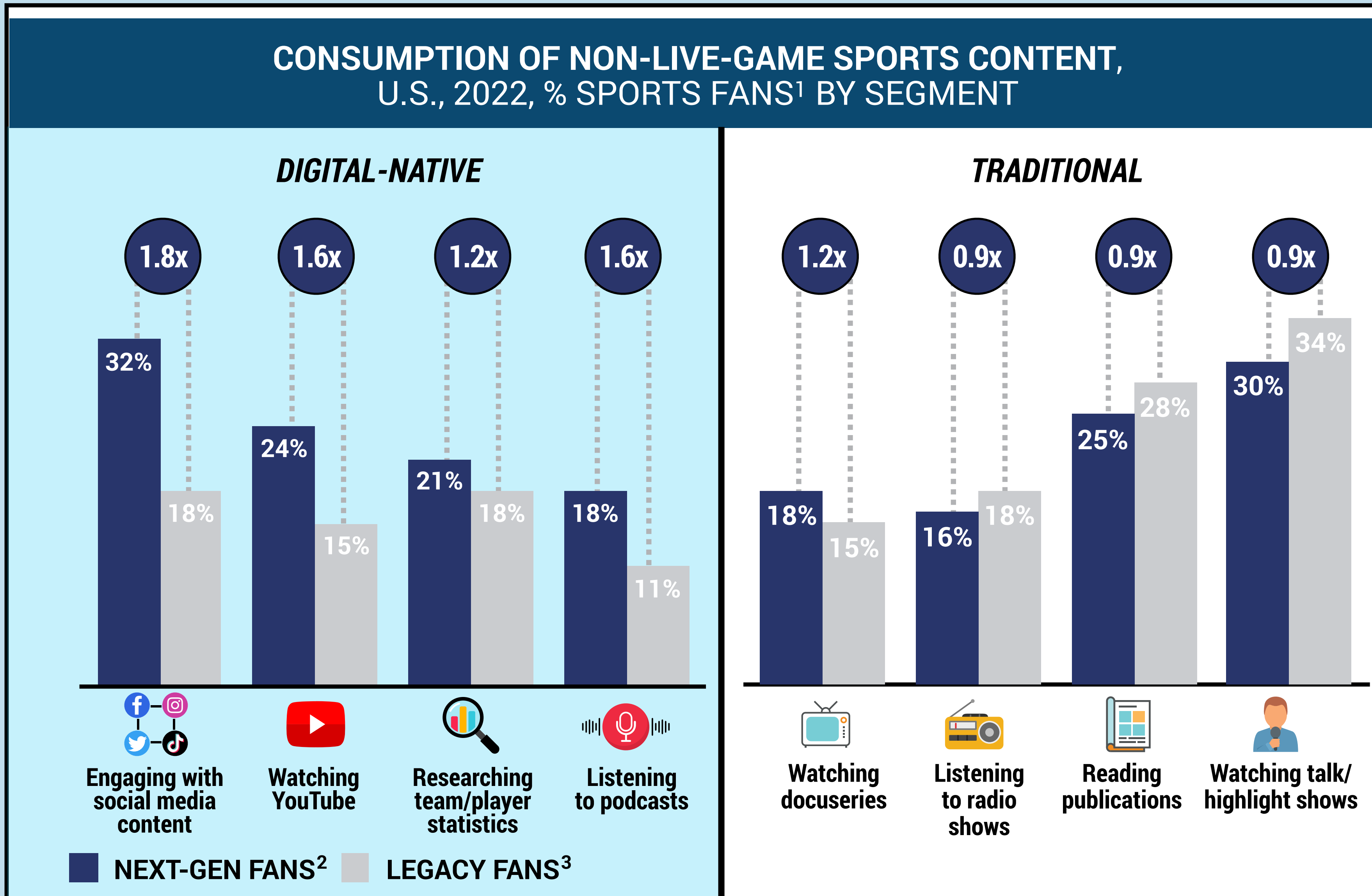
- **RSNs drive significant costs for traditional and virtual Pay TV providers – they are among the most expensive in the Pay TV bundle** (top RSNs average $5-$8 in monthly affiliate revenue per subscriber)
- **Consumers are watching less live-game content on RSNs** (e.g. the majority of RSNs saw year-over-year MLB ratings decline in the 2021-2022 season, regular-season NHL games on RSNs saw 23% ratings declines in 2021-2022)
- **To adapt to a shifting landscape, RSNs will increasingly go direct-to-consumer** (e.g. Bally Sports+, NESN 360)
- **To be viable long-term, DTC services likely need to bundle**

1. "Pay TV subscriptions" are defined as total subscriptions to traditional and virtual Pay TV. 2. "Pay TV" includes traditional Pay TV (i.e. TV delivered through a set-top box) and virtual Pay TV (i.e. TV delivered through the internet without a set-top box).
Sources: Activate analysis, Company sites, eMarketer, Fierce Video, MoffettNathanson, Nielsen, S&P Global, The Sports Business Journal, Stratechery, The Streamable, U.S. Census Bureau, Wells Fargo

Next-Gen Fans consume an outsized share of non-live-game content compared to Legacy Fans – they spend significantly more time engaged with digital-native sports content via social media, YouTube, and podcasts

SHARE OF TIME SPENT CONSUMING SPORTS CONTENT BY CONTENT TYPE, U.S., 2022, % SPORTS FANS[1] BY SEGMENT





1. "Sports fans" are defined as followers (e.g. those attending live games in person, watching live games or game highlights, reading articles or statistics) of at least one sport in the last 12 months. 2. "Next-Gen Fans" are defined as sports fans between the ages of 18-34. 3. "Legacy Fans" are defined as sports fans aged 35 or older.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

Next-Gen Fans are more likely to participate in sports-related spending activities – technology and media companies are diversifying their offerings to capture a greater share of Next-Gen Fan spend and attention

SPORTS-RELATED SPENDING BEHAVIORS IN THE LAST 12 MONTHS, U.S., 2022, NEXT-GEN FANS[1] INDEXED TO LEGACY FANS[2]

The New York Times

Purchased **online subscription-based sports editorial site** *The Athletic* in early 2022

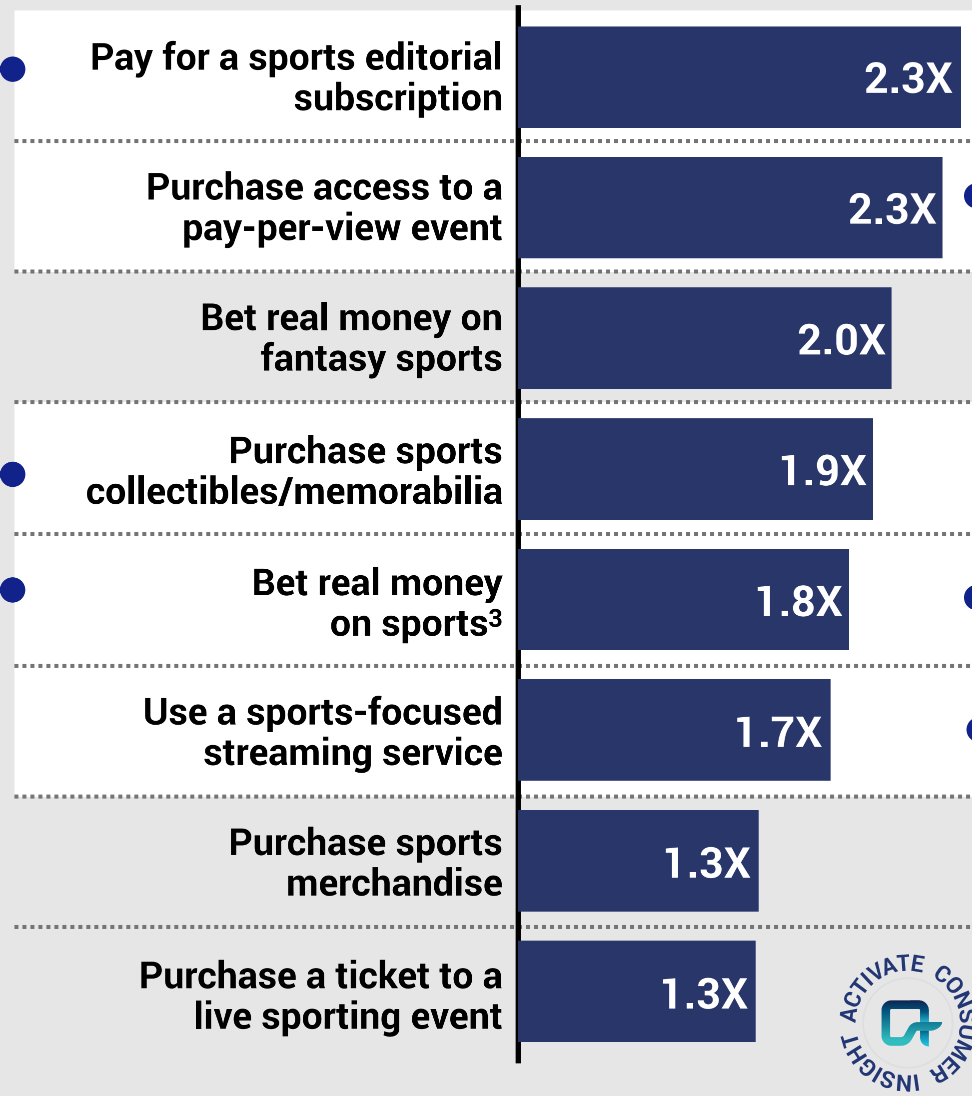
DraftKings

Launched its **NFT Marketplace** in late 2021, enabling users to **buy and sell digital collectibles**

Fanatics

Announced plans to launch a **sports betting platform by the end of 2022**

NEXT-GEN FANS ARE MORE LIKELY TO...



BARSTOOL SPORTS

Grew its **pay-per-view** (PPV) **platform *Rough N' Rowdy***, averaging 60,000 PPV units sold per event in 2022

ESPN

In 2022, announced plans to enter the **sports betting space in partnership with DraftKings**

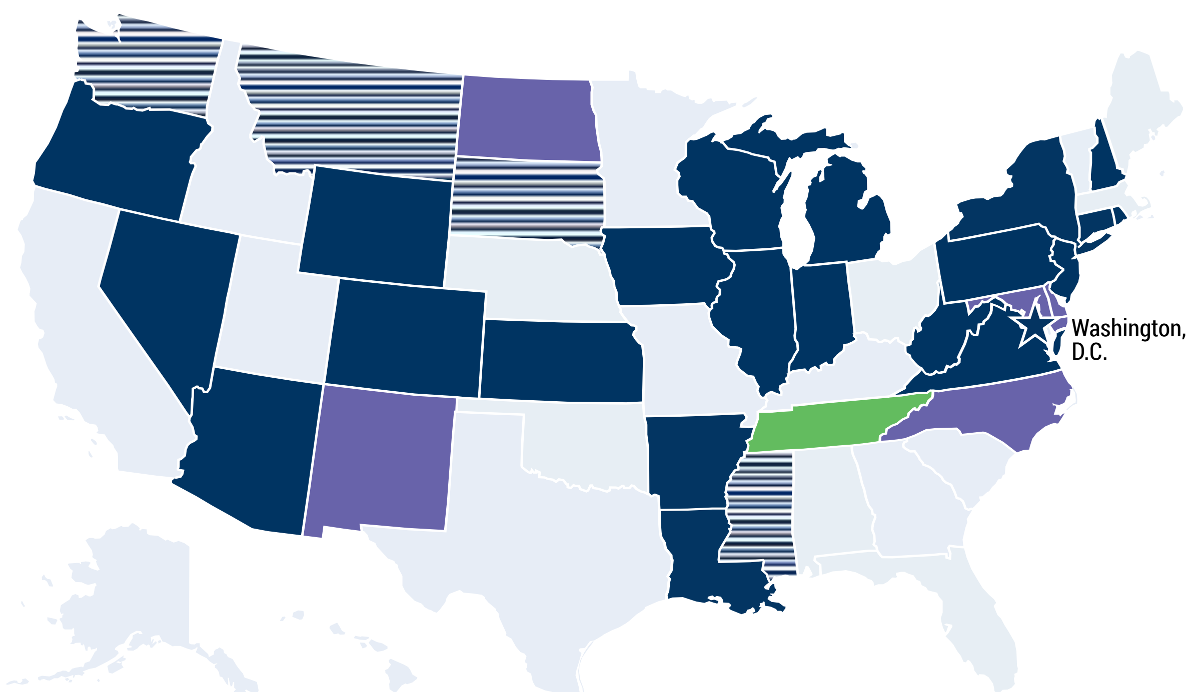
FANDUEL

In 2022, announced its new **OTT service FanDuel+**

1. "Next-Gen Fans" are defined as sports fans between the ages of 18-34. 2. "Legacy Fans" are defined as sports fans aged 35 or older. 3. Does not include fantasy sports leagues, contests, or office pools.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Bloomberg, Company press releases, Company sites, Sports Business Journal

Sports betting continues to surge in the U.S., with total wagers nearly doubling year-over-year to reach $47B in the first half of 2022

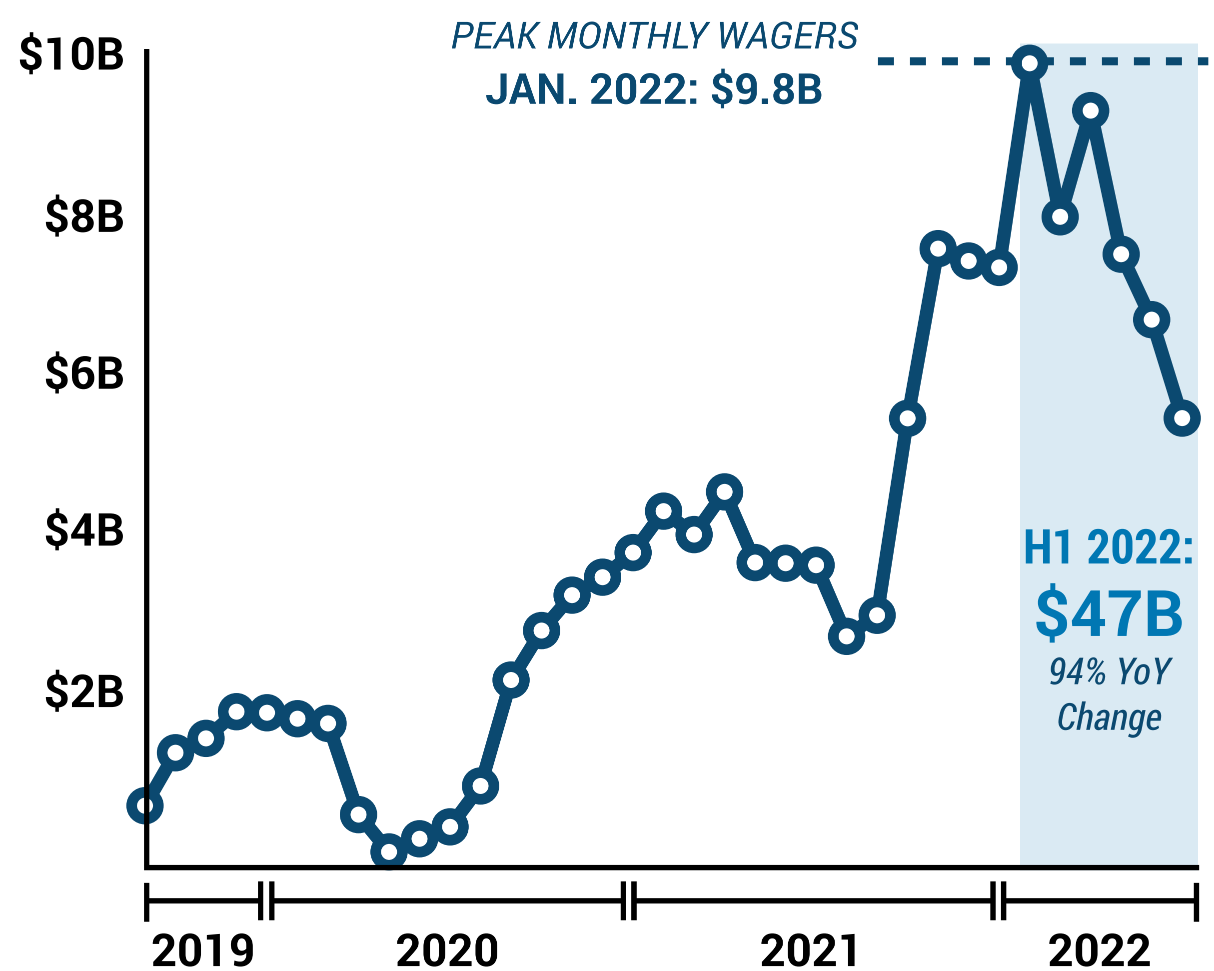
SPORTS BETTING MARKET LIVE STATES[1] BY CHANNEL, U.S., SEPT. 2022



	# States:
Online & Retail	22
Geofenced Online & Retail[2]	4
Online Only	1
Retail[3] Only	5
Not Live[4]	19

32 Live States[1]

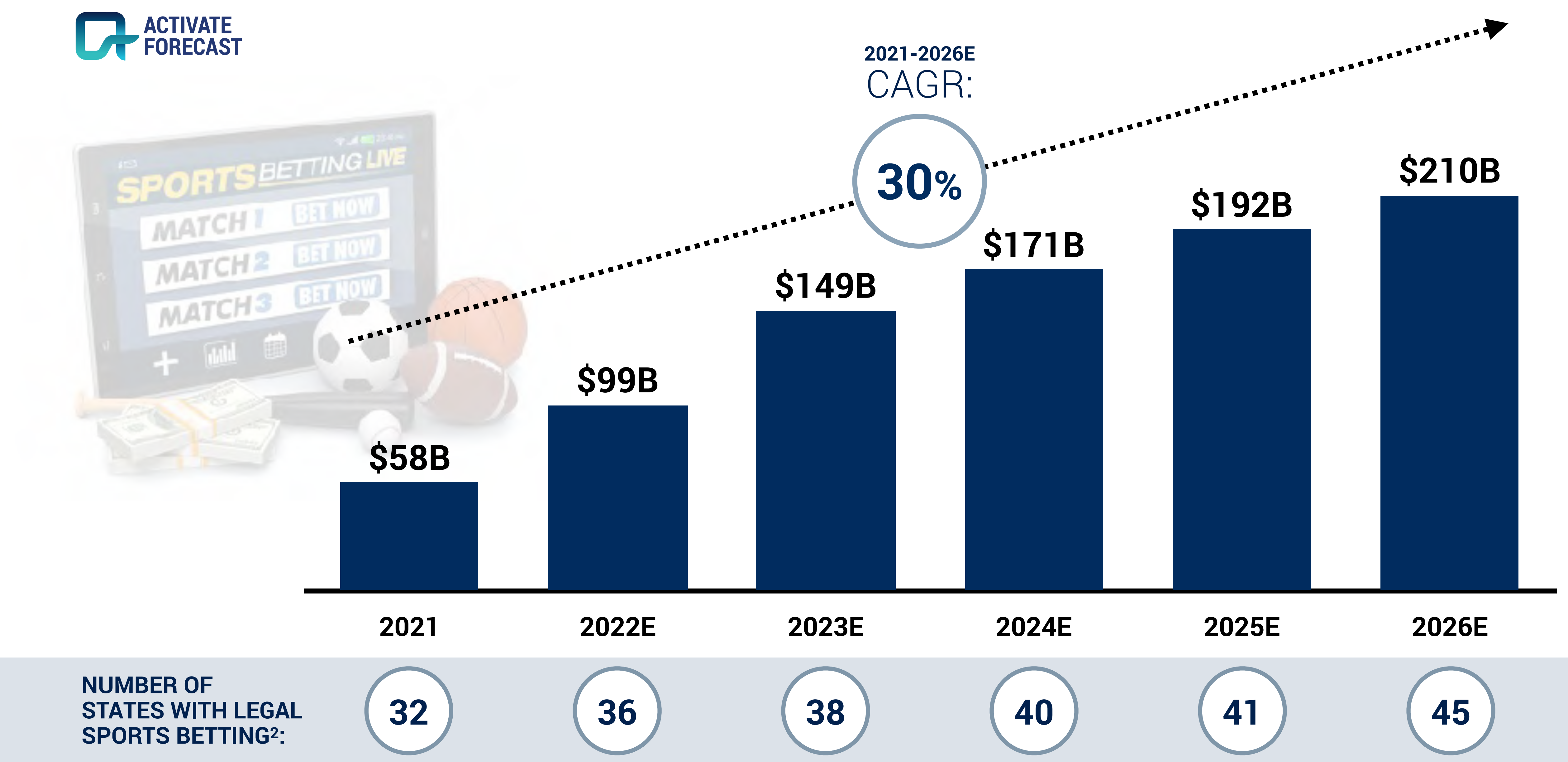
TOTAL SPORTS BETTING WAGERS BY MONTH, U.S., AUG. 2019-JUNE 2022, BILLIONS USD



Note: Sports betting excludes fantasy sports and horse racing. Florida passed a gaming compact that legalized sports betting, but the compact has been vacated as of late 2021. 1. “Live states” are defined as states in which sports betting is legal and currently operational as of Sept. 2022. Includes Washington, D.C. as a state. Includes states in which sports betting is only legal and currently operational in tribal gaming venues via tribal-state compact. 2. “Geofenced online & retail” states are defined as states in which online sports betting is legal and live, but permitted only within the physical boundaries of a retail-licensed sports betting operator (e.g. sports venues, casinos, hotels, restaurants). 3. Online sports betting is legal in MD, but not live. 4. Both retail and online sports betting are legal in MA, ME, and OH, but not live. Retail sports betting is legal in NE, but not live.
Sources: Activate analysis, Legal Sports Report, State regulator sites

We forecast that the total sports betting amount wagered will reach $210B by 2026 as sports betting becomes legal in a growing number of states

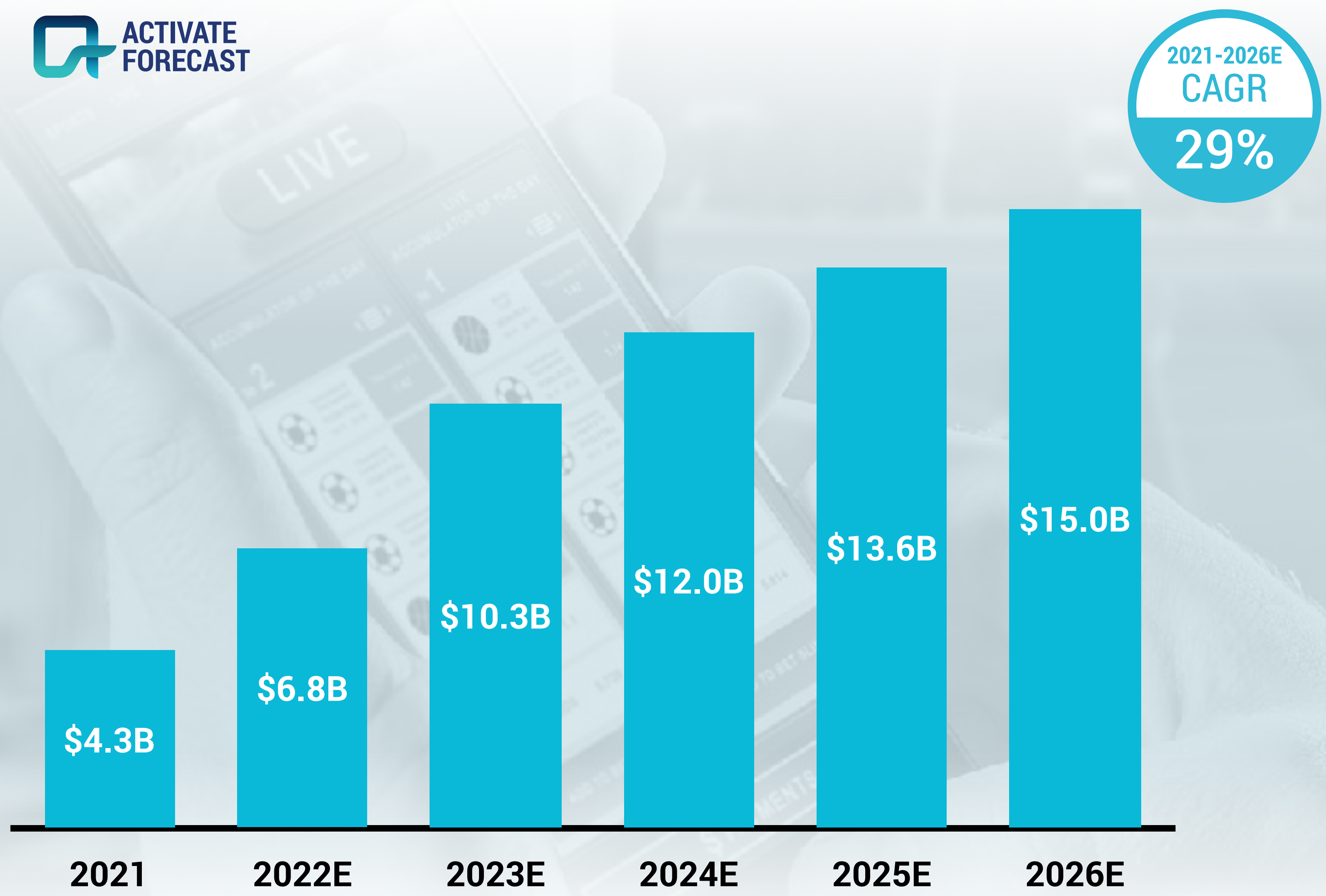
TOTAL SPORTS BETTING AMOUNT WAGERED[1], U.S., 2021-2026E, BILLIONS USD



1. Projection assumes 45 states will legalize (but not necessarily launch) sports betting by 2026. 2. Projected number of states that have legalized (but not necessarily launched) betting by the end of the stated year. Includes Washington D.C., as a state.
Sources: Activate analysis, Action Network, Legal Sports Report, State regulator reports, U.S. Bureau of Economic Analysis

We expect that U.S. sports betting direct revenues will reach $15B by 2026

DIRECT SPORTS BETTING REVENUE[1], U.S., 2021-2026E, BILLIONS USD



DIRECT SPORTS BETTING REVENUE[1] GOES TO:

ONLINE SPORTSBOOKS

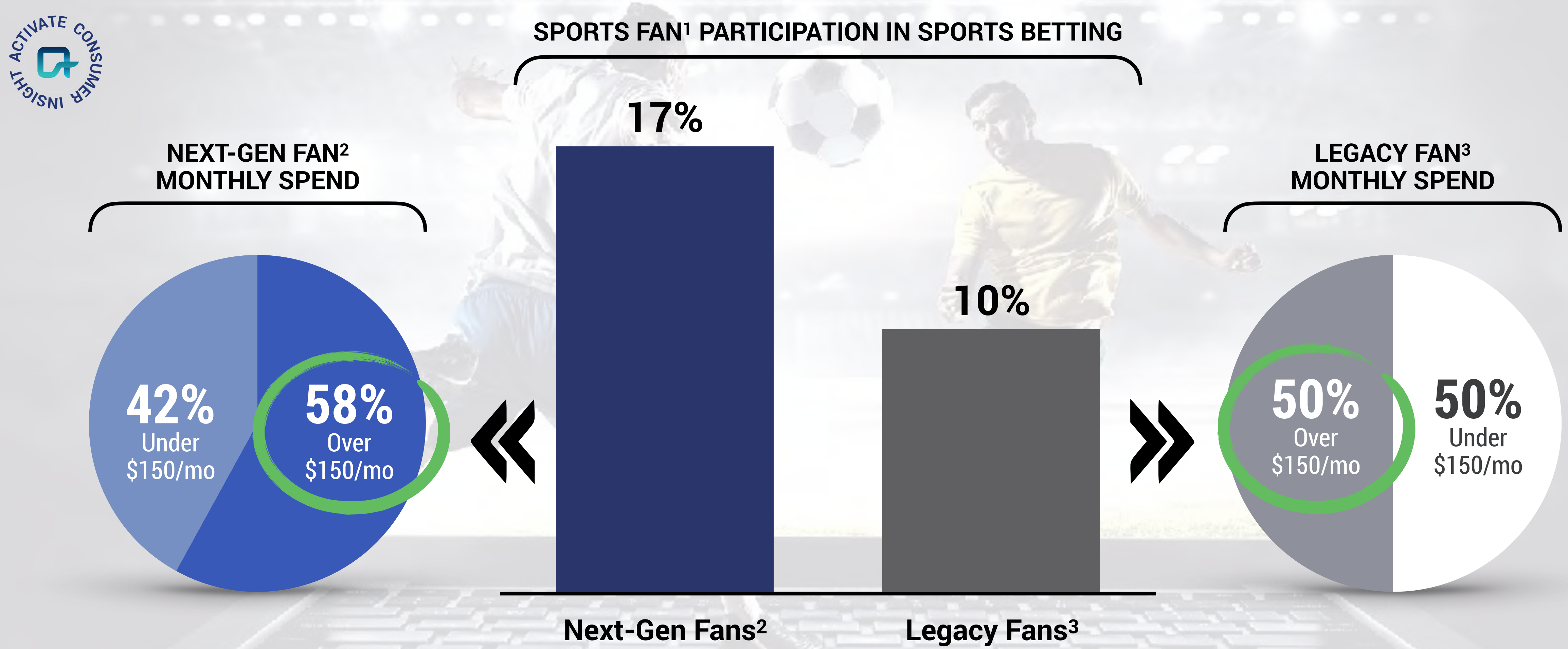
CASINOS/RACETRACKS

STATES[2]

1. "Direct sports betting revenue" is defined as revenue calculated as a share of the total amount wagered and depends on odds, type of wager, and individual sportsbooks. 2. State tax income is generated as a share of the total amount wagered, a share of gross gaming revenue (ranges depending on the state and type of betting), and by gaming licensing fees.
Sources: Activate analysis, Eilers & Krejcik Gaming, Legal Sports Report, The Lines, Nevada Gaming Control Board, U.S. Bureau of Economic Analysis

Next-Gen Fans are more likely to participate in and spend more on sports betting than Legacy Fans

SPORTS FAN[1] PARTICIPATION AND SPEND IN SPORTS BETTING, U.S., 2022, % SPORTS FANS BY SEGMENT



Next-Gen Fans[2] will define the trajectory of the U.S. sports betting market, already representing over half of U.S. aggregate total wagers year-to-date[4]

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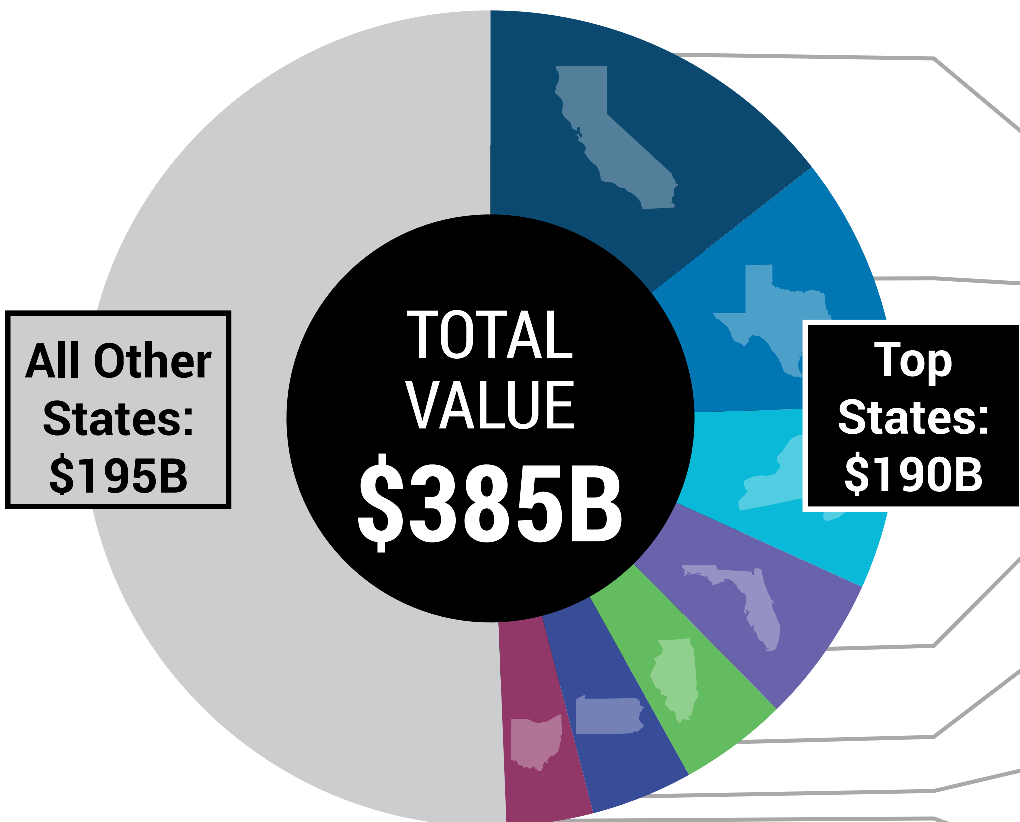
1. "Sports fans" are defined as followers (e.g. those attending live games in person, watching live games or game highlights, reading articles or statistics) of at least one sport in the last 12 months. 2. "Next-Gen Fans" are defined as sports fans between the ages of 18-34. 3. "Legacy Fans" are defined as sports fans aged 35 or older. 4. As of Aug. 2022.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

The largest states have yet to reach maturity or legalize sports betting – legislative battles in these states will be instrumental in determining the full U.S. market potential

TOTAL SPORTS BETTING AMOUNT WAGERED AT MARKET MATURITY[1,2] BY STATE, U.S., BILLIONS USD

ACTIVATE FORECAST



STATE	CURRENT VALUE (2022E[3])	VALUE AT MATURITY[2]	LAUNCH DATE[4]
California	N/A	$55B	2026 (estimated)
Texas	N/A	$39B	2025 (estimated)
New York	$17B	$28B	2019
Florida[5]	N/A	$22B	2026 (estimated)
Illinois	$9B	$17B	2020
Pennsylvania	$7B	$15B	2018
Ohio	N/A	$13B	2023 (estimated)

Not Launched in State

Launched & Currently Live in State

1. Figures do not sum due to rounding. Aggregate gross amount wagered. 2. "Maturity" is defined as when all states reach a steady-state average aggregate total wagers per capita. Excludes "betting never" states. 3. YTD June 2022 aggregate total wagers annualized. 4. "Launch date" is defined as the year in which sports betting became / will become operational (online or retail) in the state. 5. Florida signed legislation authorizing retail and online sports betting into law in Apr. 2021, but the tribal-state gaming compact ratified by the legislation was invalidated in Nov. 2021.
Sources: Activate analysis, Action Network, Legal Sports Report, Nevada Gaming Control Board, State legislature reports, State regulator reports, U.S. Bureau of Economic Analysis, U.S. Census Bureau

CONTENTS

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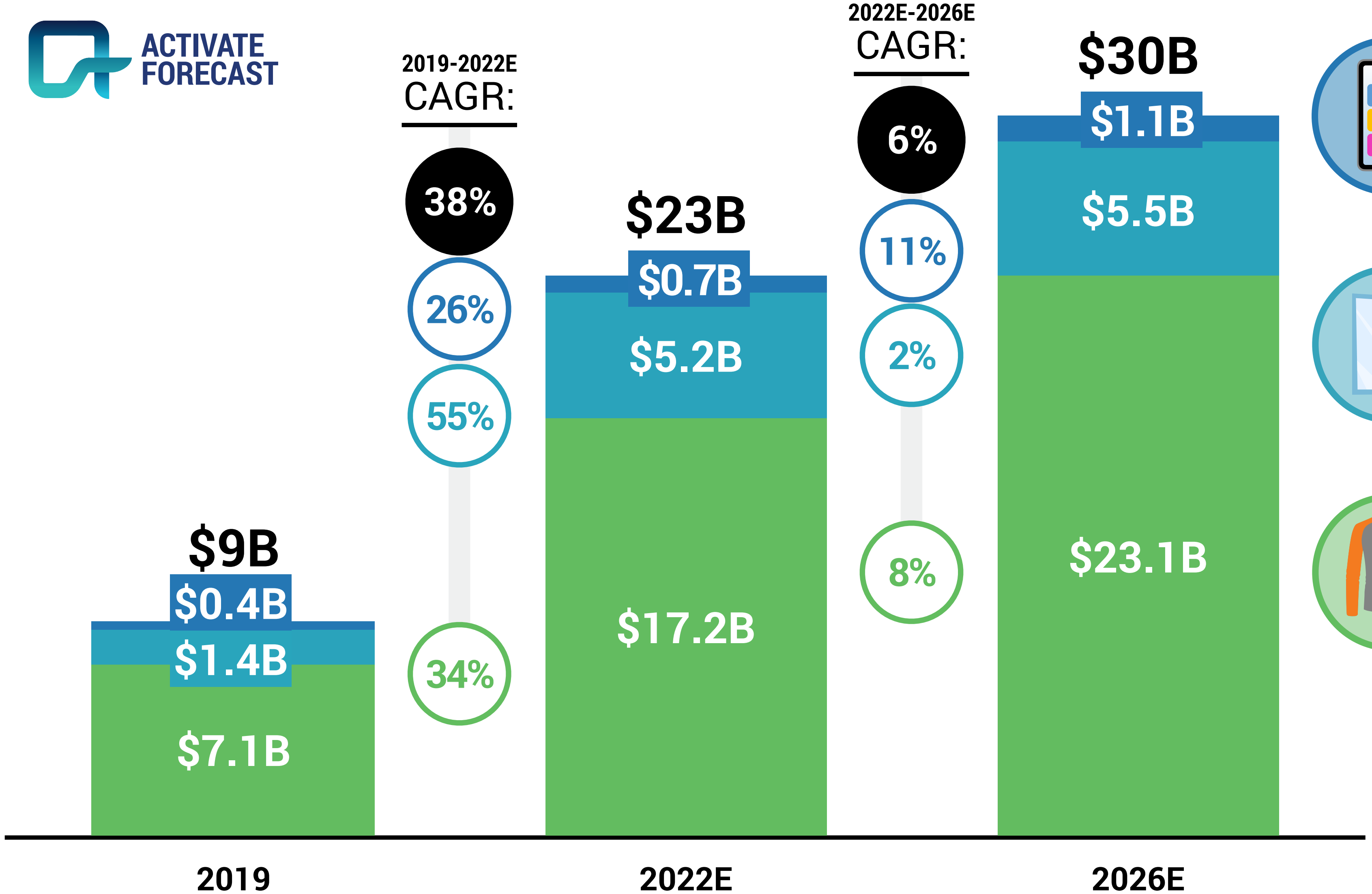
Health and fitness technology and services will reach a combined market value of $30B by 2026

HEALTH AND FITNESS MOBILE APP, CONNECTED FITNESS EQUIPMENT, AND WEARABLE DEVICE REVENUE[1], U.S., 2019 VS. 2022E VS. 2026E, BILLIONS USD



HEALTH AND FITNESS MOBILE APPS[2]
Workout/training, diet/nutrition tracking, mindfulness/meditation, and sleep tracking mobile apps for iOS and Android

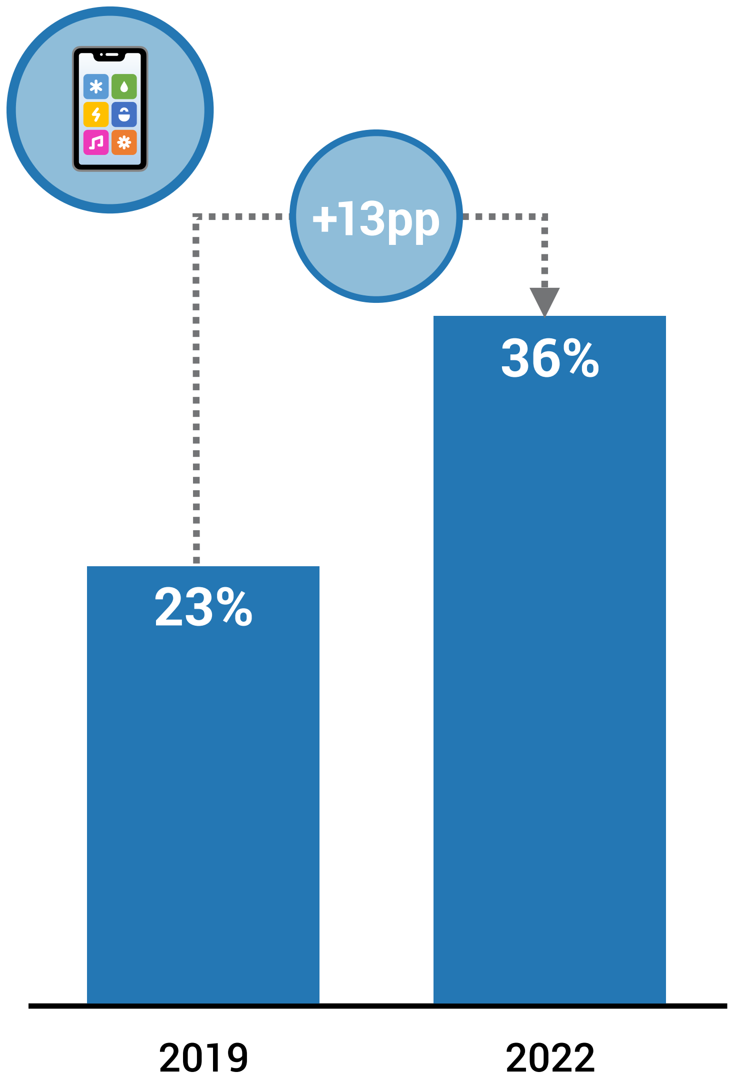
CONNECTED FITNESS EQUIPMENT[3]
Internet-connected exercise equipment with social / live class capabilities

WEARABLE DEVICES
Accessories or clothing embedded with electronics, software, or sensors (excludes headphones and AR/VR headsets)

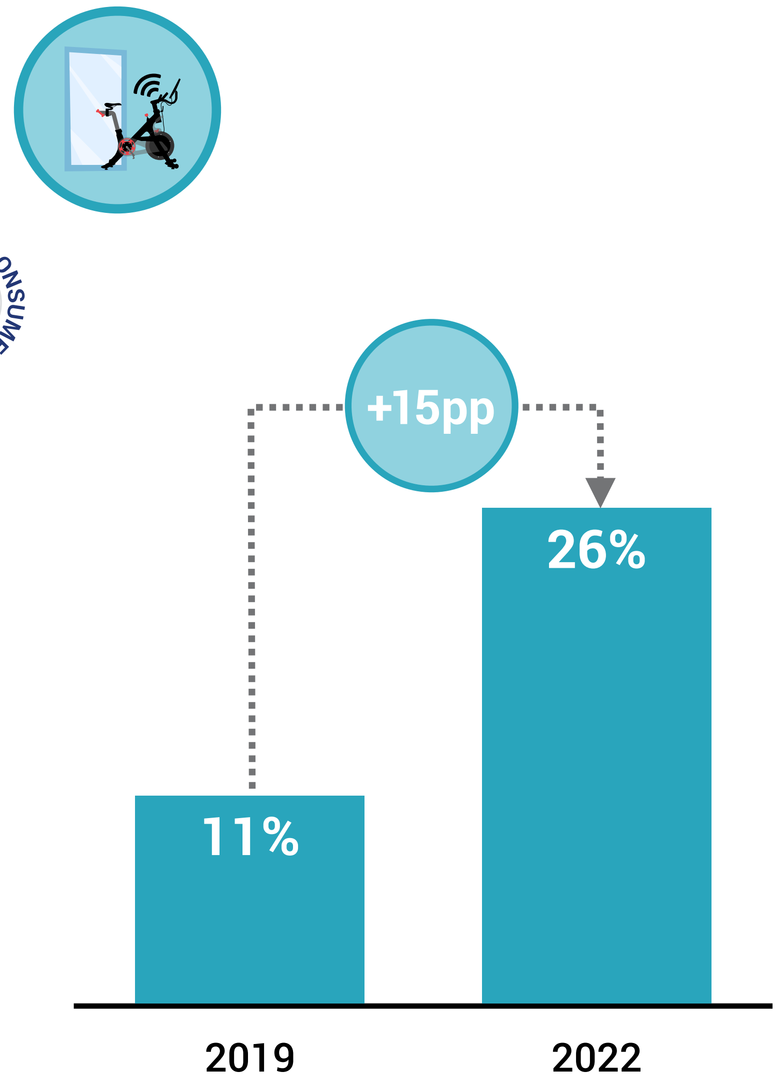
1. Figures do not sum due to rounding. 2. Includes revenue from both subscriptions and in-app purchases. 3. Includes B2C revenue only.
Sources: Activate analysis, Activate 2019 Consumer Technology & Media Research Study (n = 4,006), Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Canaccord Genuity, Centers for Disease Control and Prevention, CFRA, Cisco, Company sites, Crunchbase, data.ai, eMarketer, Euromonitor, Gallup, Gartner, IDC, Morgan Stanley, National Telecommunications and Information Administration, Oppenheimer, Piper Sandler, S&P Global, Statista, Truist Securities, U.S. Census Bureau, U.S. Department of Health & Human Services, William Blair

Consumer adoption of digital fitness technologies has significantly increased since the COVID-19 outbreak, with wearable devices having the largest penetration among consumers today

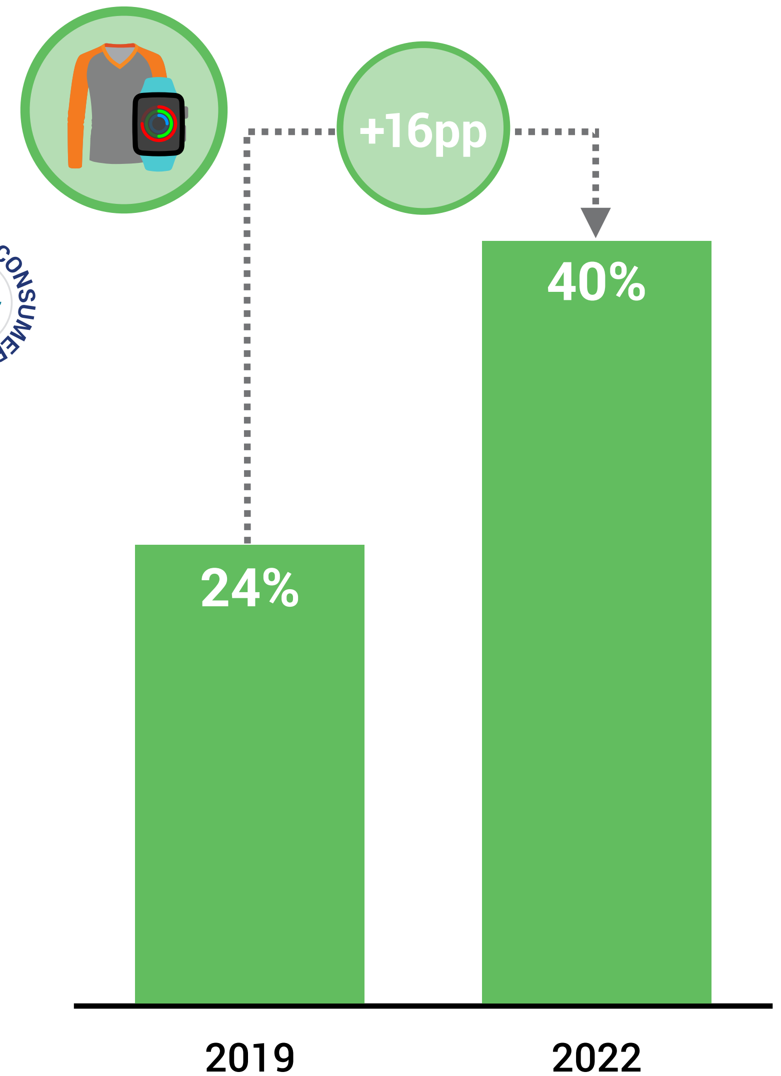
USAGE OF HEALTH AND FITNESS SERVICES/APPS[1], U.S., 2019 VS. 2022, % ADULTS AGED 18+



OWNERSHIP OF CONNECTED FITNESS EQUIPMENT[2], U.S., 2019 VS. 2022, % ADULTS AGED 18+



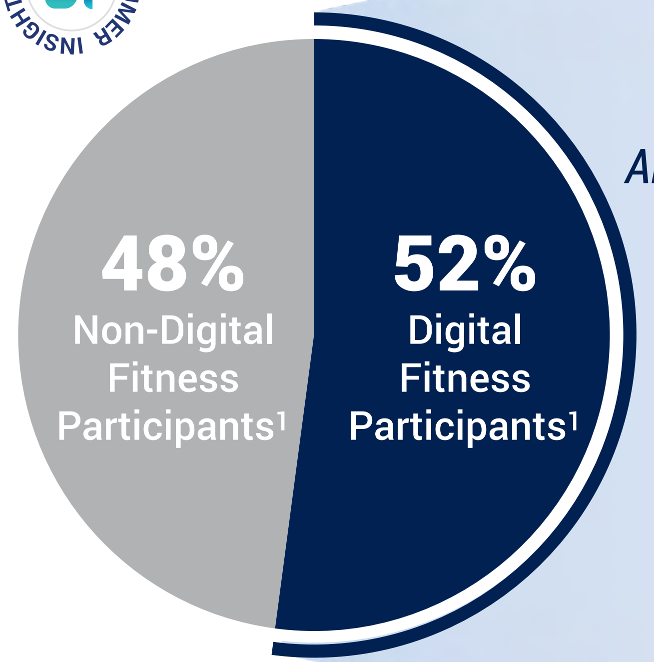
OWNERSHIP OF WEARABLE DEVICES[3], U.S., 2019 VS. 2022, % ADULTS AGED 18+



1. "Health and fitness services/apps" are defined as workout/training, diet/nutrition tracking, mindfulness/meditation, and sleep tracking services/apps. 2. "Connected fitness equipment" is defined as internet-connected exercise equipment with social / live class capabilities. Ownership is defined at the household level. 3. "Wearable devices" are defined as accessories or clothing embedded with electronics, software, or sensors. Excludes headphones and AR/VR headsets.
Sources: Activate analysis, Activate 2019 Consumer Technology & Media Research Study (n = 4,006), Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

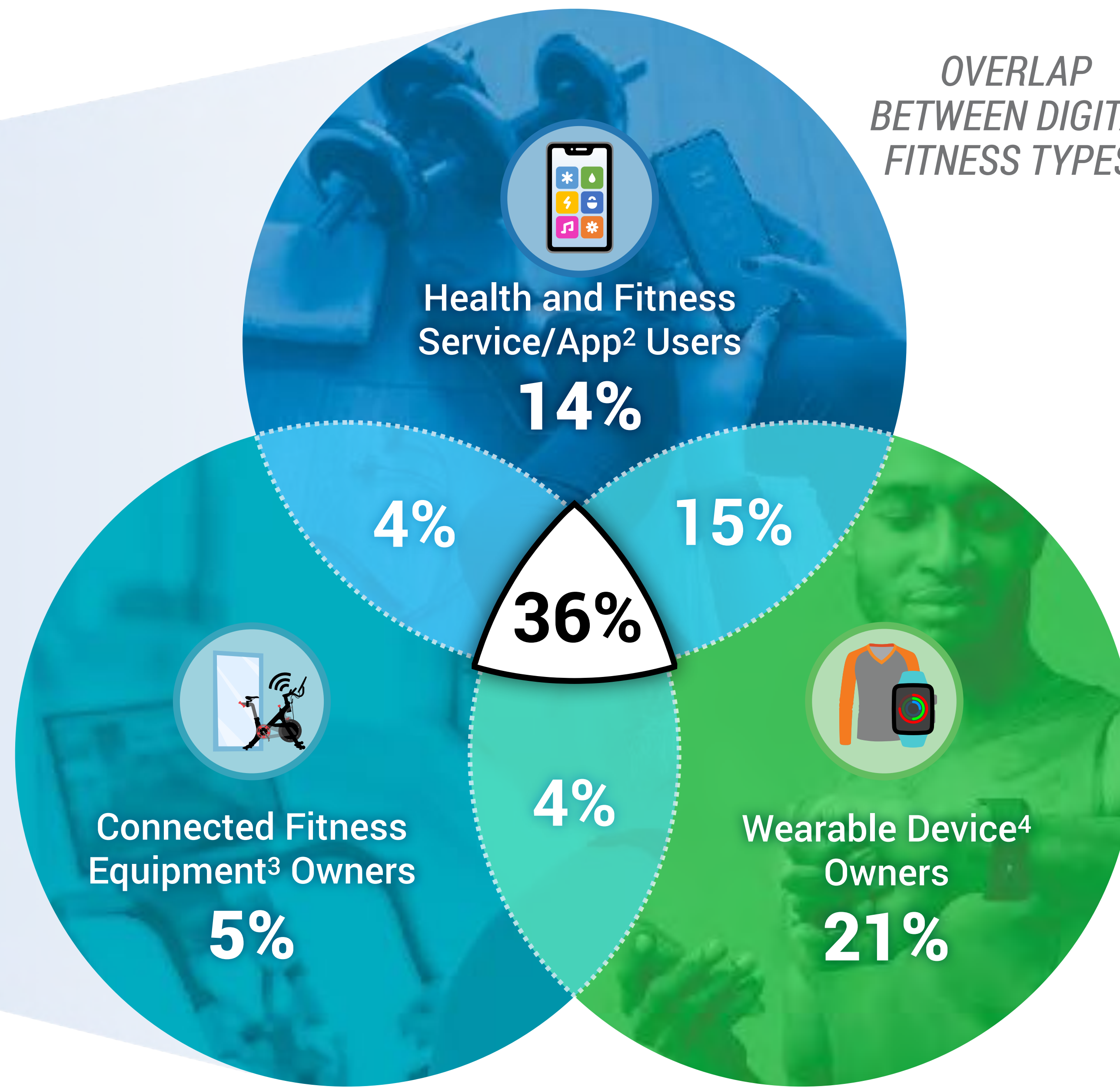
There is high consumer overlap with these behaviors; over one third of digital fitness participants use all three digital fitness types

DIGITAL FITNESS PARTICIPANTS[1], U.S., 2022, % ADULTS AGED 18+



135M
ADULTS AGED 18+
ARE DIGITAL FITNESS PARTICIPANTS[1]

OVERLAP BETWEEN DIGITAL FITNESS TYPES[5]



1. "Digital fitness participants" are defined as adults aged 18+ who use health and fitness services/apps, are in a household that owns connected fitness equipment, or own a wearable device. 2. "Health and fitness services/apps" are defined as workout/training, diet/nutrition tracking, mindfulness/meditation, and sleep tracking services/apps. 3. "Connected fitness equipment" is defined as internet-connected exercise equipment with social / live class capabilities. Ownership is defined at the household level. 4. "Wearable devices" are defined as accessories or clothing embedded with electronics, software, or sensors. Excludes headphones and AR/VR headsets. 5. Figures do not sum to 100% due to rounding.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), U.S. Census Bureau

As consumer interest has grown, a broad set of companies have entered the digital health and fitness space

HEALTH AND FITNESS SERVICES/APPS[1]

WORKOUT/TRAINING

- Fitness+
- ECHELON
- FITON Workouts & Fitness Plans
- EQUINOX+
- 30 DAY FITNESS AT HOME
- iFIT
- PELOTON
- DAILY BURN
- SWEAT
- BEACHBODY ON DEMAND
- NRC NIKE RUN CLUB
- MIRROR WORKOUT COMPANION
- NRC NIKE TRAINING CLUB
- STRAVA

DIET/NUTRITION TRACKING

- WW
- Carb Manager®
- myfitnesspal
- Lose It!
- Lifesum
- NOOM

SLEEP TRACKING

- bettersleep
- SleepWatch by bodymatter.
- Sleep Cycle
- Sleep++
- ShutEye

MINDFULNESS/MEDITATION

- headspace
- SIMPLE HABIT
- InsightTimer
- Calm
- Waking Up with Sam Harris

CONNECTED FITNESS EQUIPMENT[2]

STATIONARY BIKES

- NordicTrack FROM iFIT
- BOWFLEX
- freebeat.
- PRO-FORM
- PELOTON
- myxfitness
- TECHNOGYM
- ECHELON
- SOULCYCLE / EQUINOX

TREADMILLS

- NordicTrack FROM iFIT
- TECHNOGYM
- PELOTON
- PRO-FORM
- BOWFLEX
- ECHELON

ELLIPTICALS

- NordicTrack FROM iFIT
- PRO-FORM
- TECHNOGYM
- BOWFLEX

ROWERS

- PELOTON
- PRO-FORM
- ERGATTA
- hydrow
- TECHNOGYM
- NordicTrack FROM iFIT
- CITYROW
- ECHELON

MIRRORS/SCREENS

- NordicTrack FROM iFIT
- PRO-FORM
- FORME
- MIRROR
- MAGVON
- JAXJOX
- ECHELON
- OXEFIT
- TEMPO
- TONAL

PUNCHING/BOXING EQUIPMENT

- FIGHT CAMP
- LITEBOXER
- BOXINGRING

WEARABLE DEVICES[3]

SMARTWATCHES / FITNESS TRACKERS

- WATCH
- amazfit
- SAMSUNG
- fitbit
- WHOOP
- HUAWEI
- COROS
- xiaomi
- GARMIN.

CHEST HEART RATE MONITORS

- GARMIN.
- wahoo TICKR
- POLAR.
- COOSPO
- LIVLOV

SMART CLOTHING/SHOES

- Levi's COMMUTER X GOOGLE TRUCKER JACKET
- UNDER ARMOUR
- ambiotex
- sensoria
- NADI X

SMART RINGS

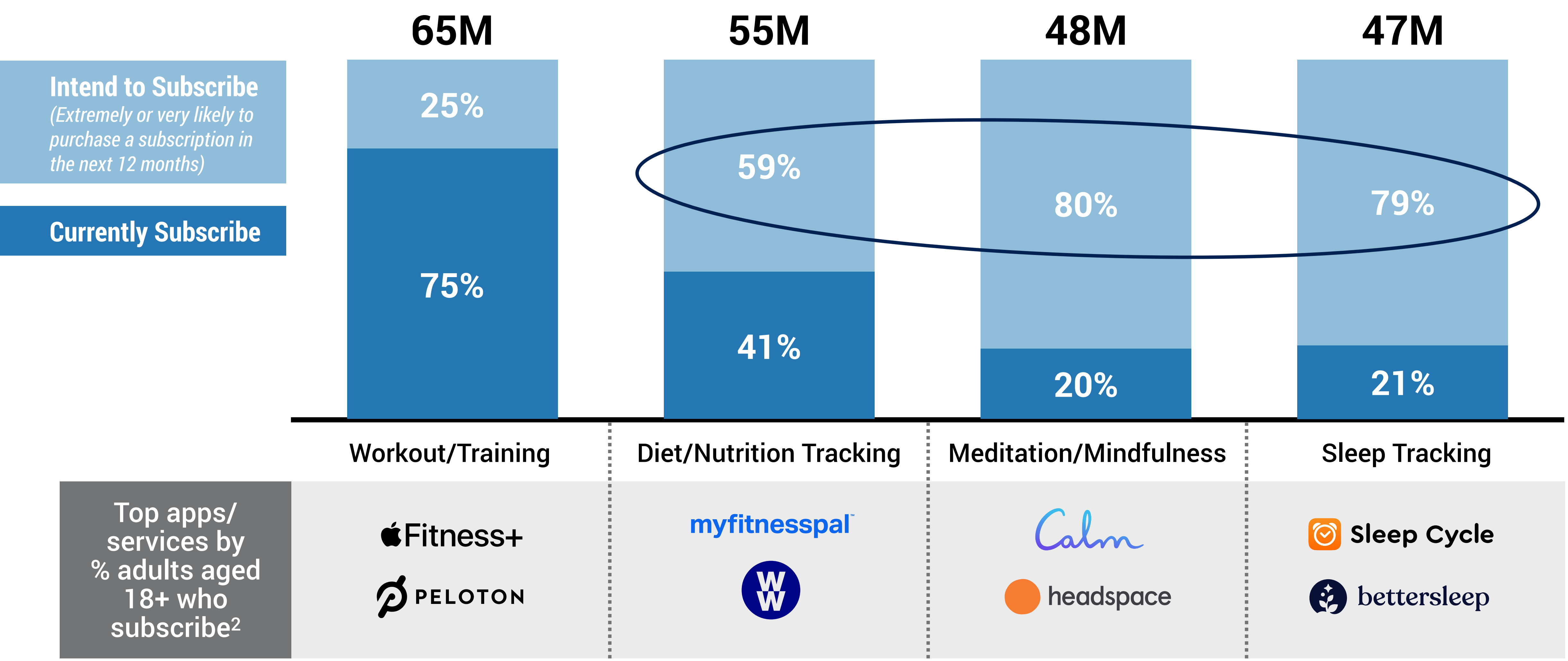
- ŌURA
- MOTIV
- ORII
- Token
- MCLEAR

Note: As of Sept. 2022. 1. "Health and fitness services/apps" are defined as workout/training, diet/nutrition tracking, mindfulness/meditation, and sleep tracking services/apps. 2. "Connected fitness equipment" is defined as internet-connected exercise equipment with social / live class capabilities. 3. "Wearable devices" are defined as accessories or clothing embedded with electronics, software, or sensors. Excludes headphones and AR/VR headsets.
Sources: Activate analysis, Company sites, data.ai

While workout/training apps currently have the highest penetration, we forecast that the next wave of consumer growth will come from diet, meditation, and sleep services/apps

CURRENT AND INTENDED OWNERSHIP OF DIGITAL HEALTH AND FITNESS SUBSCRIPTIONS[1], U.S., 2022,
% ADULTS AGED 18+ WHO SUBSCRIBE[2] TO OR INTEND[3] TO SUBSCRIBE TO EACH TYPE OF DIGITAL HEALTH AND FITNESS SERVICE/APP

Adults aged 18+ who currently subscribe[2] or intend[3] to subscribe



1. "Health and fitness subscriptions" are defined as paid subscriptions to workout/training, diet/nutrition tracking, mindfulness/meditation, and sleep tracking services/apps. 2. Defined at the household level. 3. "Intend" is defined as extremely or very likely to purchase a subscription in the next 12 months.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), U.S. Census Bureau

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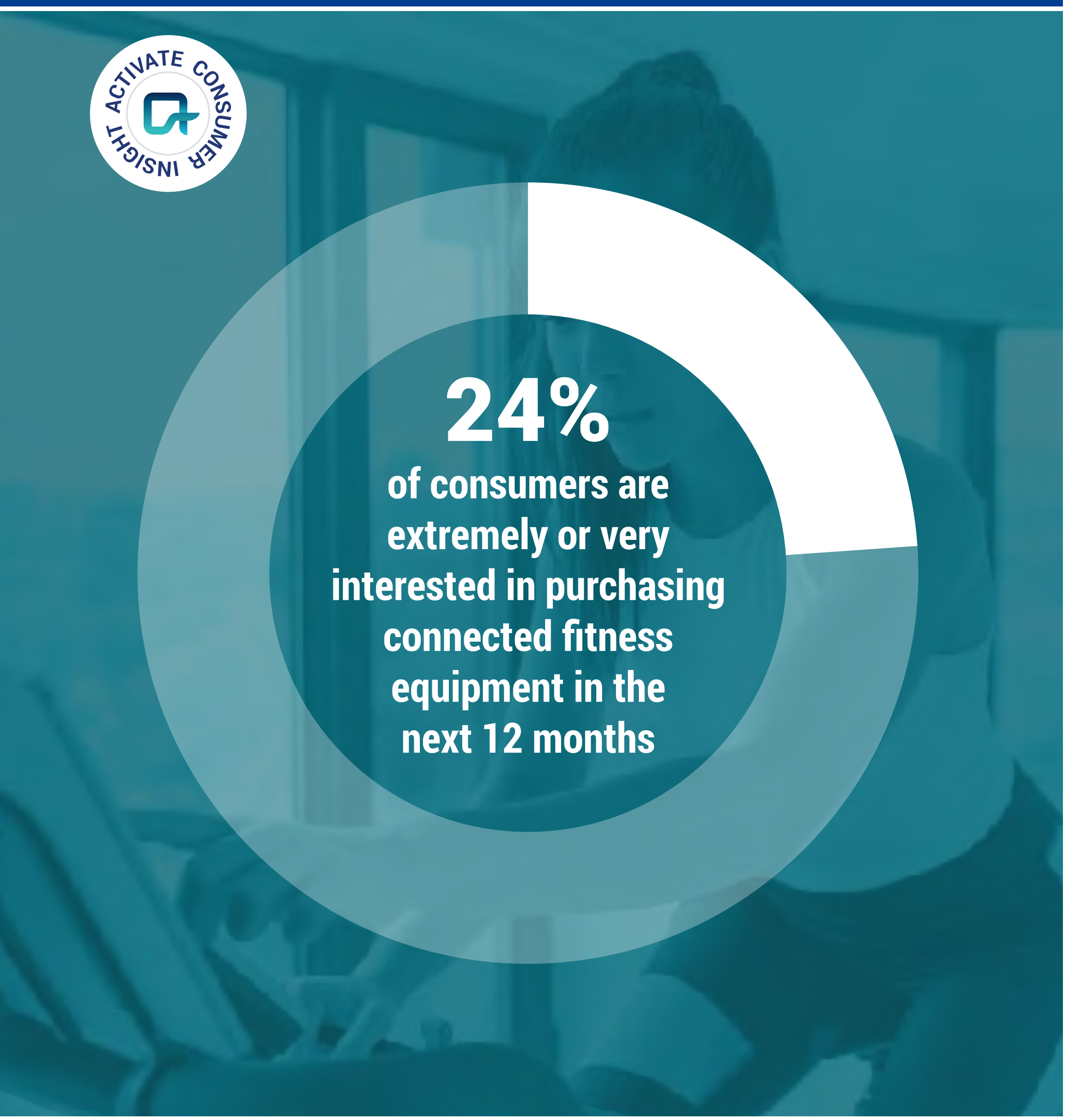
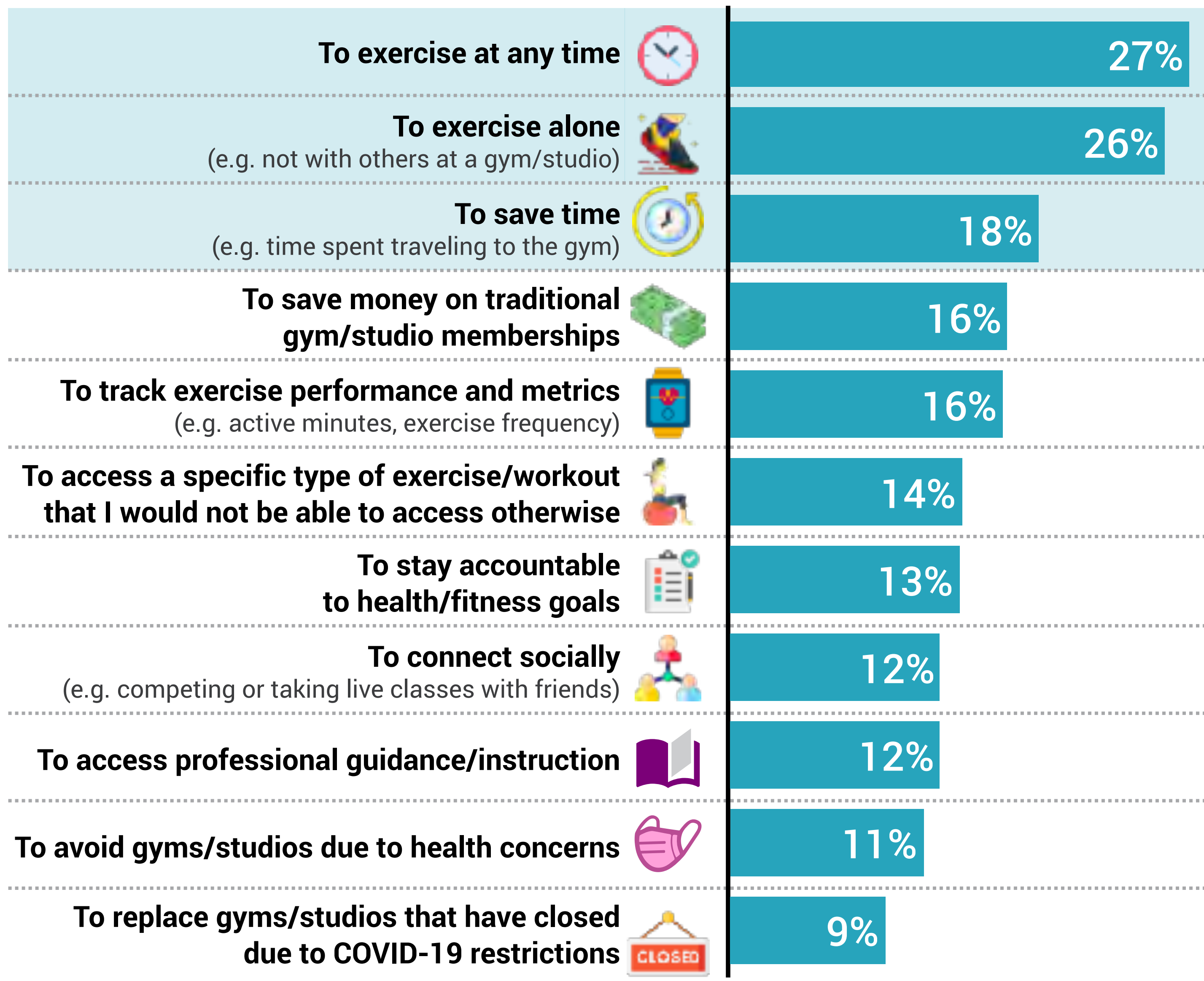
WSJ TECH LIVE

Our consumer research shows that interest in connected fitness equipment is driven by convenience

INTENDED[1] OWNERSHIP OF CONNECTED FITNESS EQUIPMENT[2], U.S., 2022, % ADULTS AGED 18+



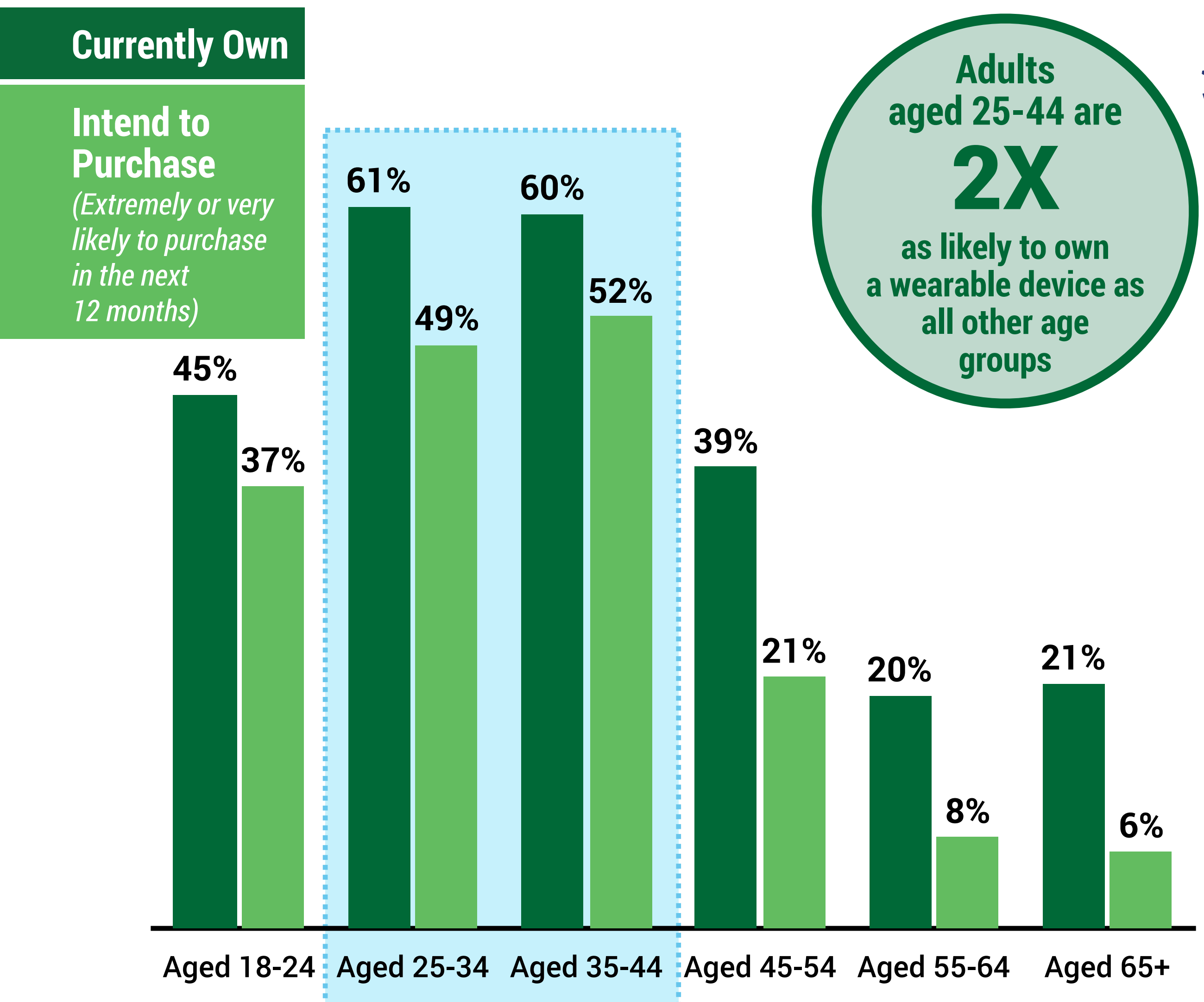
TOP REASONS[3] FOR PURCHASING CONNECTED FITNESS EQUIPMENT[2], U.S., 2022, % ADULTS AGED 18+ WHO OWN[4] CONNECTED FITNESS EQUIPMENT



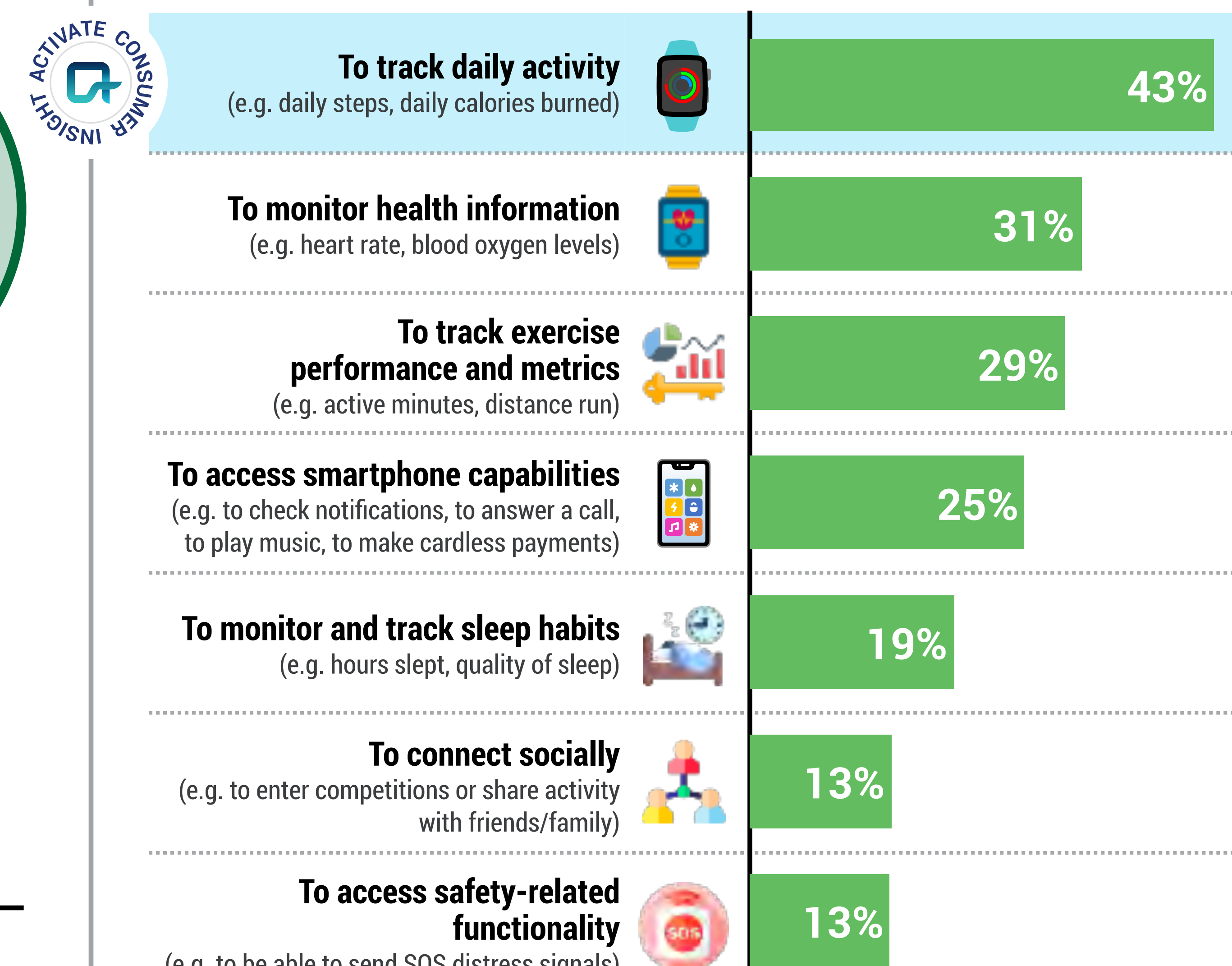
1. "Intend" is defined as extremely or very likely to purchase connected fitness equipment in the next 12 months.
2. "Connected fitness equipment" is defined as internet-connected exercise equipment with social / live class capabilities. 3. Consumers were asked to select up to two top reasons. 4. Ownership is defined at the household level.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

Millennials are twice as likely as all other age groups to own a wearable device and also the most likely to purchase one in the future; the main use case across all consumers is tracking daily activity

CURRENT AND INTENDED[1] OWNERSHIP OF WEARABLE DEVICES[2] BY AGE GROUP, U.S., 2022, % ADULTS AGED 18+



TOP REASONS[3] FOR PURCHASING A WEARABLE DEVICE, U.S. 2022, % ADULTS AGED 18+ WHO OWN A WEARABLE DEVICE[2]



1. "Intend" is defined as extremely or very likely to purchase a wearable device in the next 12 months. Includes both current owners and non-owners who intend to purchase. 2. "Wearable devices" are defined as accessories or clothing embedded with electronics, software, or sensors. Excludes headphones and AR/VR headsets. 3. Consumers were asked to select up to two top reasons.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001)

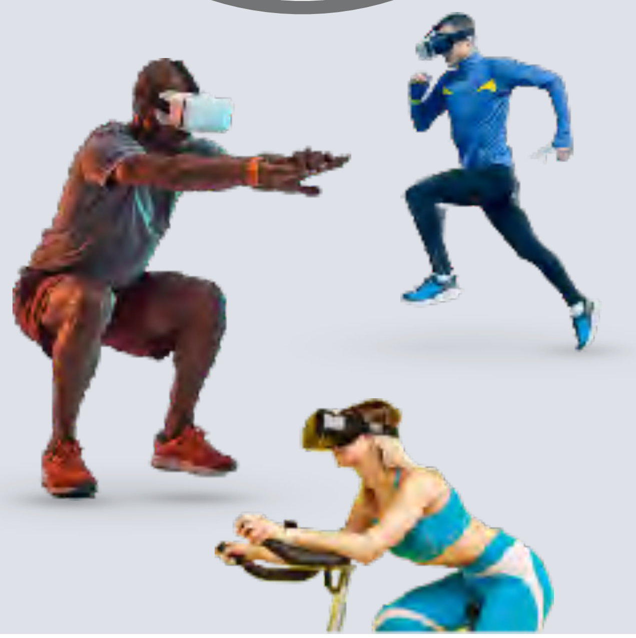
Virtual reality fitness games will enhance the digital fitness experience through a combination of wearables, connected devices, and subscription services; potentially a precursor to more advanced Metaverse experiences

ACTIVATE CONSUMER INSIGHT

DIGITAL FITNESS PARTICIPANTS[1] ARE

5X

AS LIKELY TO HAVE USED[2] A VR HEADSET THAN NON-DIGITAL FITNESS PARTICIPANTS[1]



Supernatural

Immersive VR fitness game that provides a variety of workouts (e.g. cardio, meditation, stretching) set in virtual locations

FIT XR

A wide range of different types of VR exercise classes (e.g. HIIT, boxing, dance) guided by instructors and paired with music

BEAT SABER

VR rhythm game in which players hold virtual sabers and slash objects to the beat of music

HOLOFIT VR

VR app that allows users to do a wide variety of workouts (e.g. rowing, running, HIIT) with the option to connect to home fitness equipment

1. "Digital fitness participants" are defined as adults aged 18+ who use health and fitness services/apps, are in a household that owns connected fitness equipment, or own a wearable device. 2. Used in the last 12 months.
Sources: Activate analysis, Activate 2022 Consumer Technology & Media Research Study (n = 4,001), Company sites, eMarketer, Everyday Health, The Gamer, Meta Quest Store, Muscle and Health, Steam, The Wall Street Journal

Our 2023 data partners

ACTIVATE DATA PARTNERS

Nielsen

tubular

Activate's capabilities to position companies for growth

GROWTH STRATEGY

- Work with CEOs, Founders, and senior executives to build the strategic roadmap for growth and value creation
- Identify new market opportunities (business areas, new products/ services, M&A)
- Create pragmatic growth initiatives to capture the opportunities

REVENUE OPTIMIZATION AND ENGINEERING

- Go-to-market
- Customer acquisition
- Loyalty, retention, and reactivation
- Sales activation
- Customer insight and segmentation
- Marketing optimization
- Pricing

IDENTIFY OPPORTUNITIES AND BUILD TECHNOLOGY-ENABLED BUSINESSES

- Identify major new opportunities
- Evaluate through consumer and market research
- Build the content, experience, functionality, distribution technology, and business plan
- Define the execution roadmap

IMPLEMENTATION AND EXECUTION MANAGEMENT

- Create major initiatives
- Set revenue targets
- Create roadmap/ timeline and ensure delivery
- Build organization and team
- Define and specify technology architecture
- Integration
- Build capabilities and enabling technology

PRINCIPAL AND PRIVATE EQUITY INVESTORS

- Strategic due diligence
- Value creation programs and strategies
- Publicly-traded company opportunities
- Opportunity identification
- Sell-side diligence and market evaluation

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Activate Technology & Media Outlook 2023

Thank you!

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