

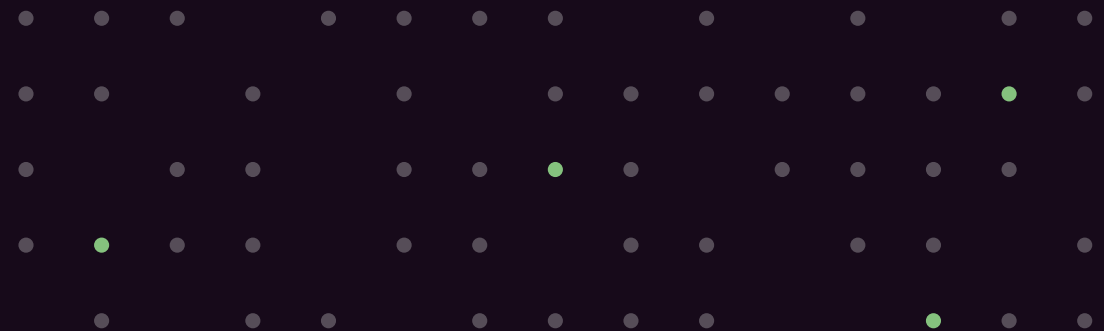
2022

STATE OF PROGRAMMATIC

Trends Report

 the mediagrid

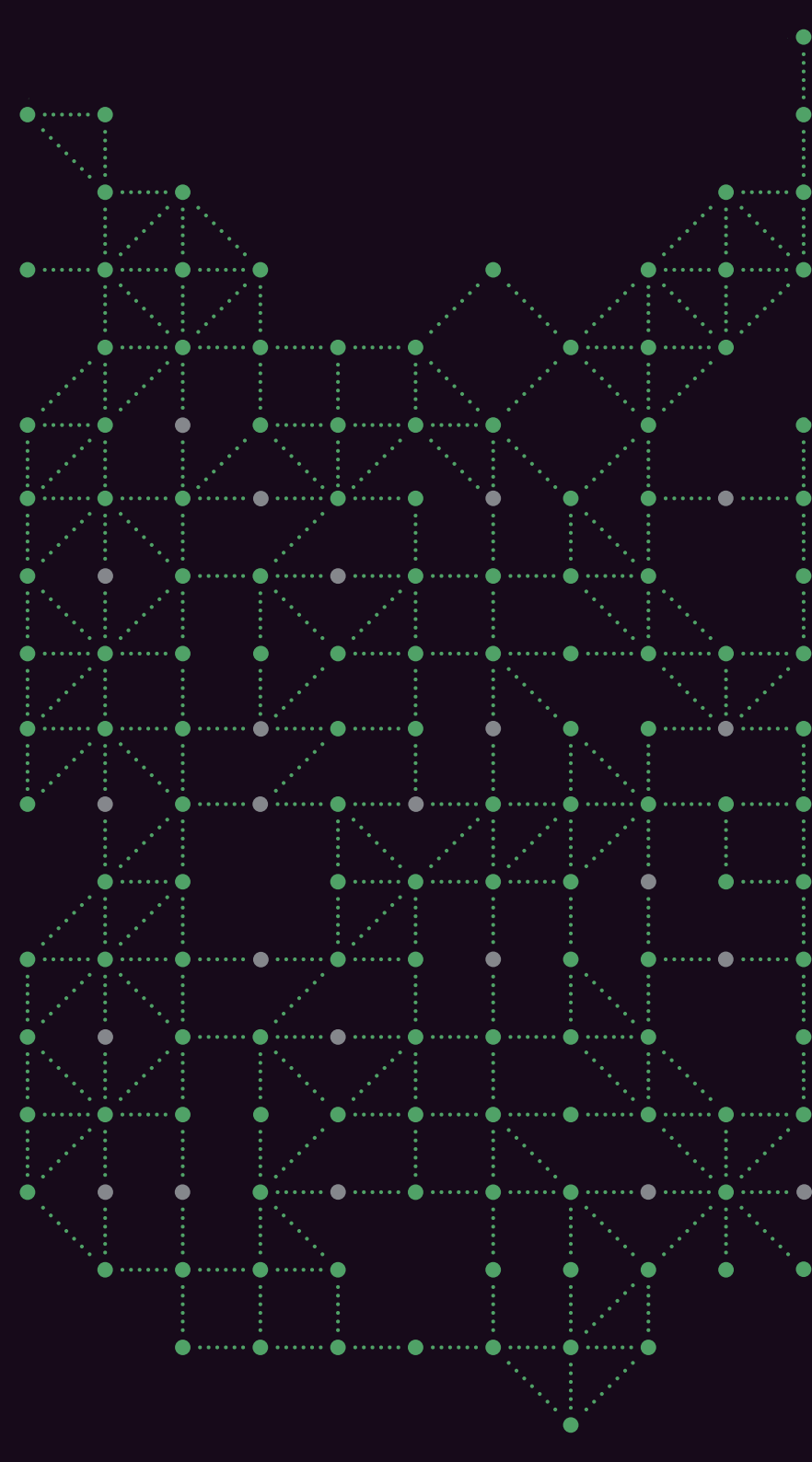
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Changing consumer habits as a result of COVID-19 coupled with a rapidly evolving global privacy landscape are driving a seismic shift in digital advertising. As the dominant method for executing digital buys, programmatic, too, is experiencing simultaneous rapid expansion and disruption.

The remainder of 2022 will undoubtedly present exciting challenges and opportunities for marketers and publishers alike as new and emerging formats shift increasingly to programmatic, and teams on both sides start to confront the reality of a digital world without third-party cookies.

This guide is a collection of market research, data, trends, and forecasts, compiled to help buyers and sellers understand the changing landscape and future-proof their own programmatic strategies.



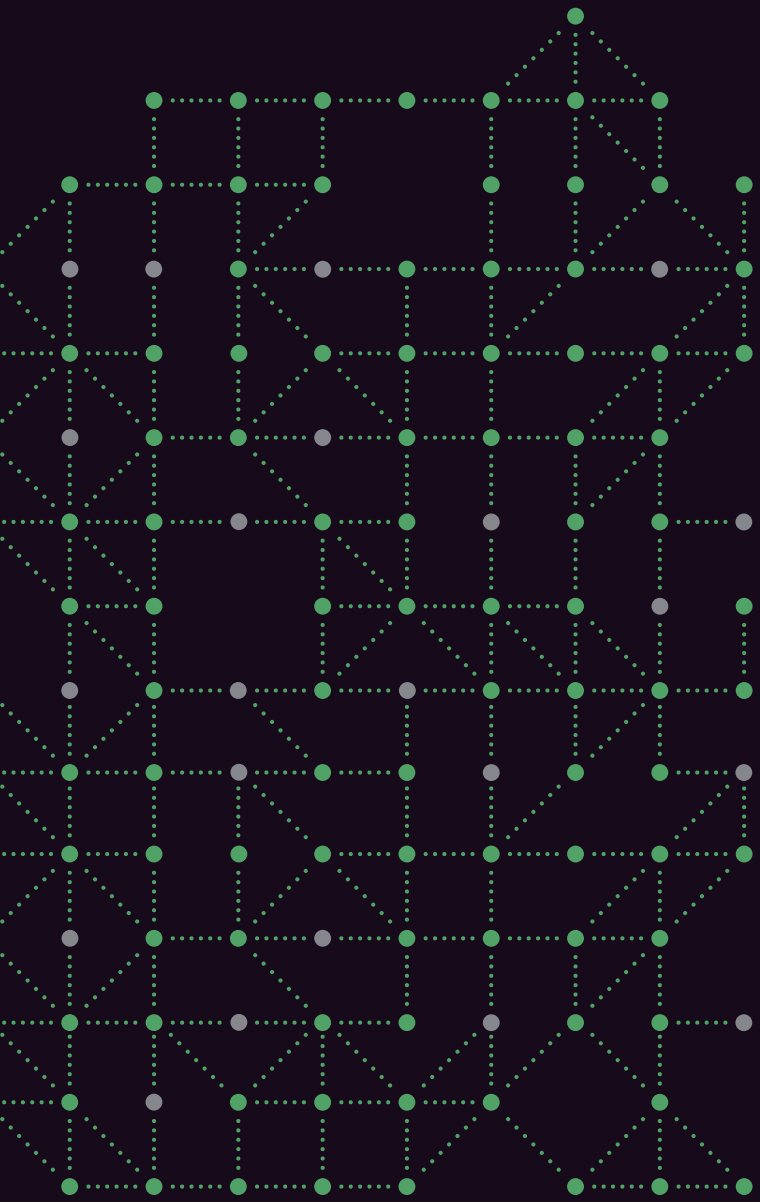
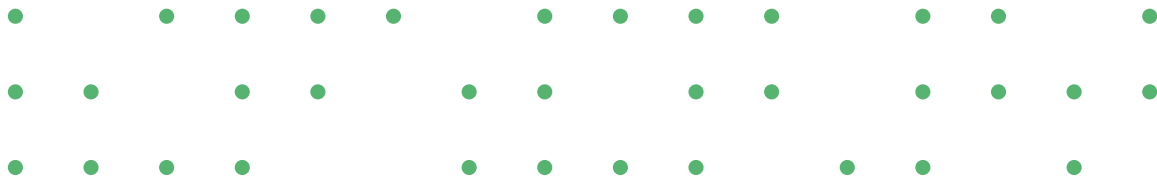


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Growth of Programmatic

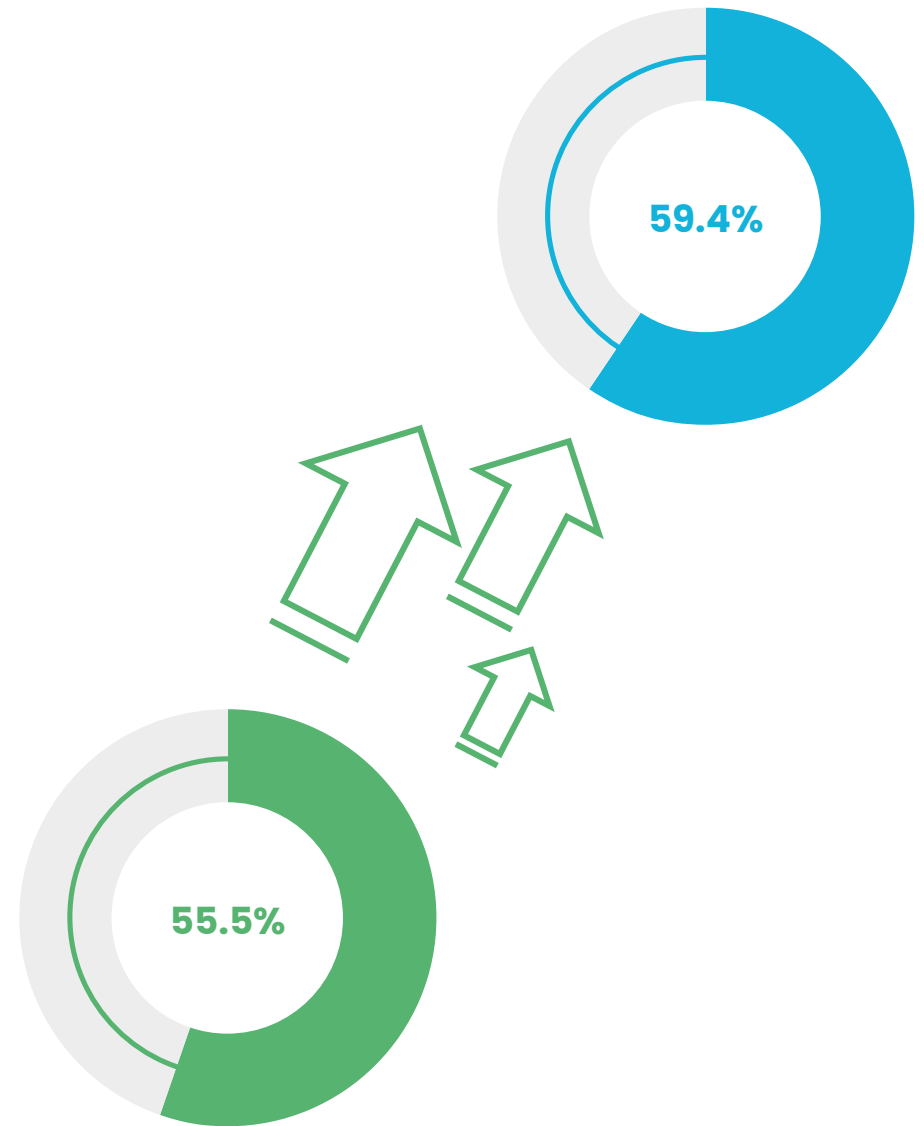




Digital increases its dominance as percent of total global ad spend

Global digital ad spend is forecast to reach USD \$408.4 billion in 2022, accounting for a 55.5% share of total global ad spend.

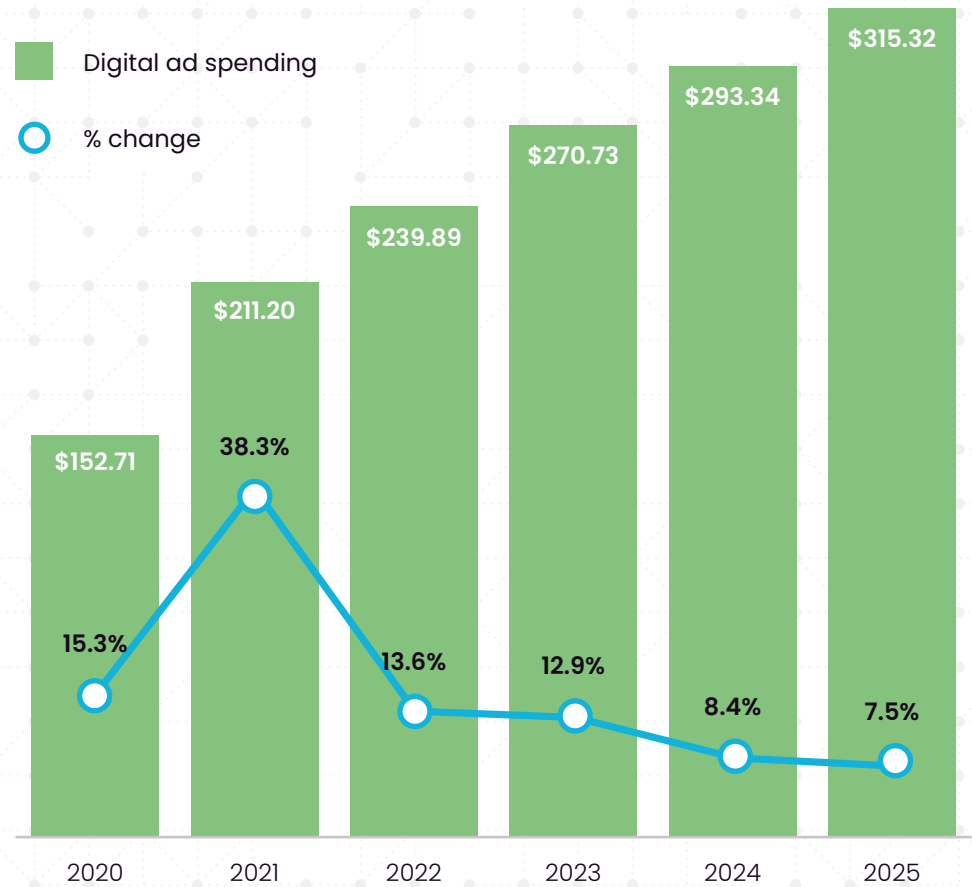
This number is predicted to increase to 59.4% by 2024.



US digital ad spend continues to grow, but signs of slowing are ahead

The US digital ad market will reach \$240 billion in 2022 and surpass \$300 billion by 2025, making up more than three-quarters of total US ad spend.

US Digital Ad Spending, 2020-2025
billions & % change

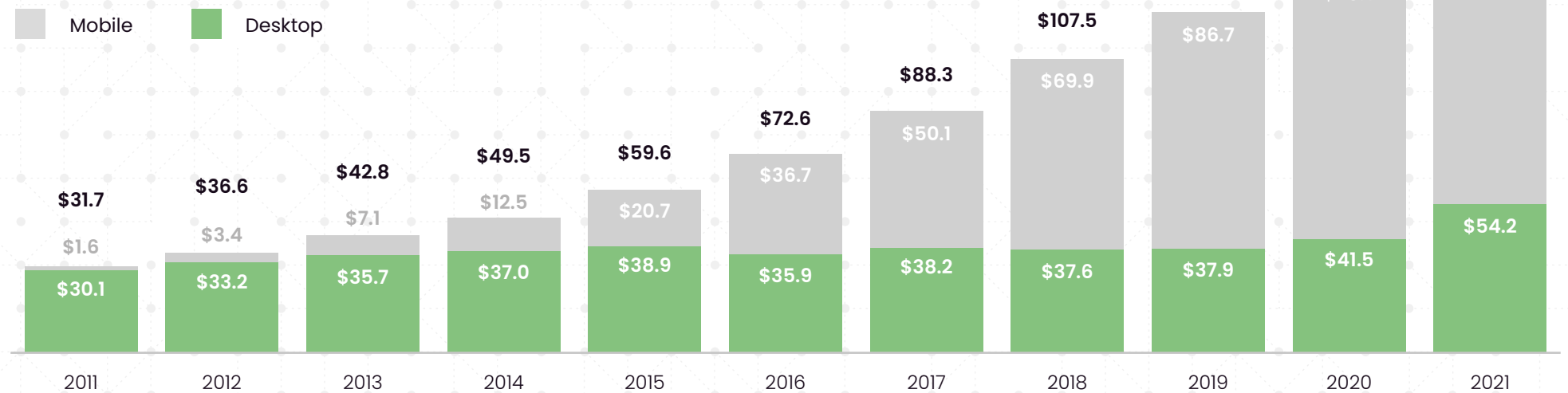


Mobile's share of ad spend soars, nearly doubling since 2018

Mobile ad spend surged 37% in 2021 after a three-year trend of decelerating growth: 13% growth in 2020 vs. 24% in 2019 vs. 40% growth in 2018.

In 2021, mobile accounted for nearly 75% of total digital ad spend.

Digital ad spending growth: mobile vs. desktop

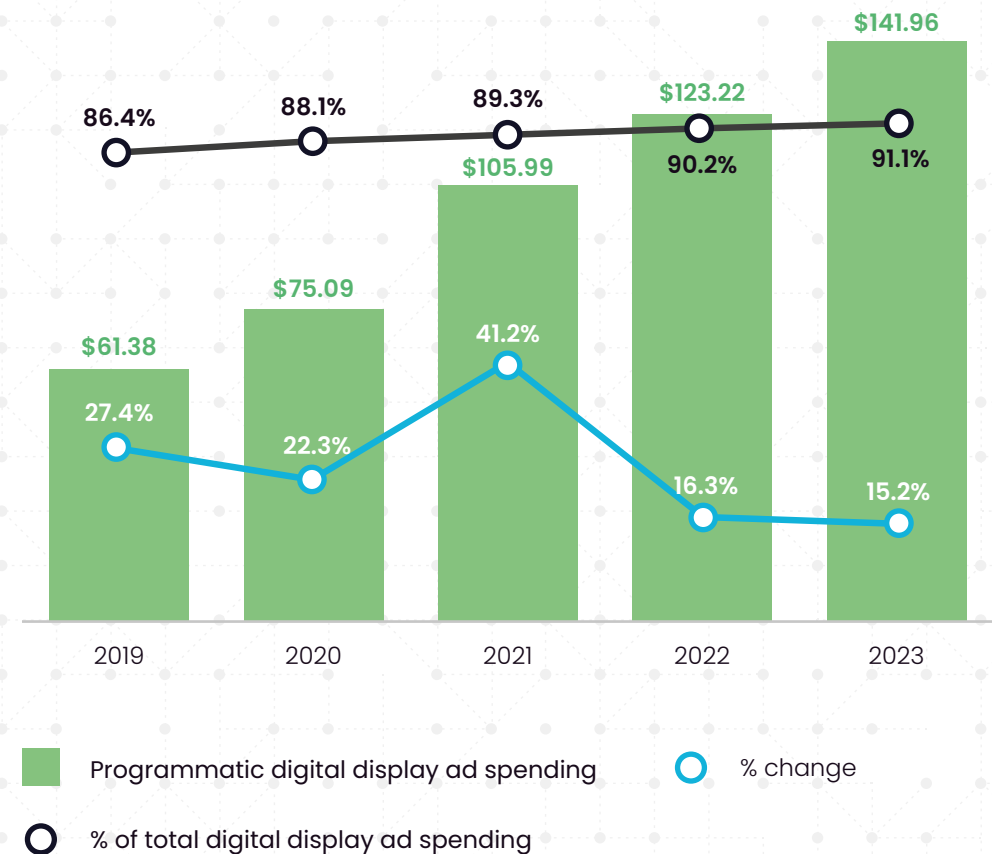


Growth in programmatic spend nearly doubles during pandemic

Programmatic experienced explosive growth in 2021, driven largely by simultaneous booms in at-home digital media consumption (especially across CTV and gaming) and online shopping. With so much uncertainty, advertisers also appreciated the extra layer of campaign controls available to them through programmatic buying platforms.

Although growth in programmatic spend will slow in 2022, advertisers will still spend a healthy \$123.22 billion, representing more than 90% of total digital display.

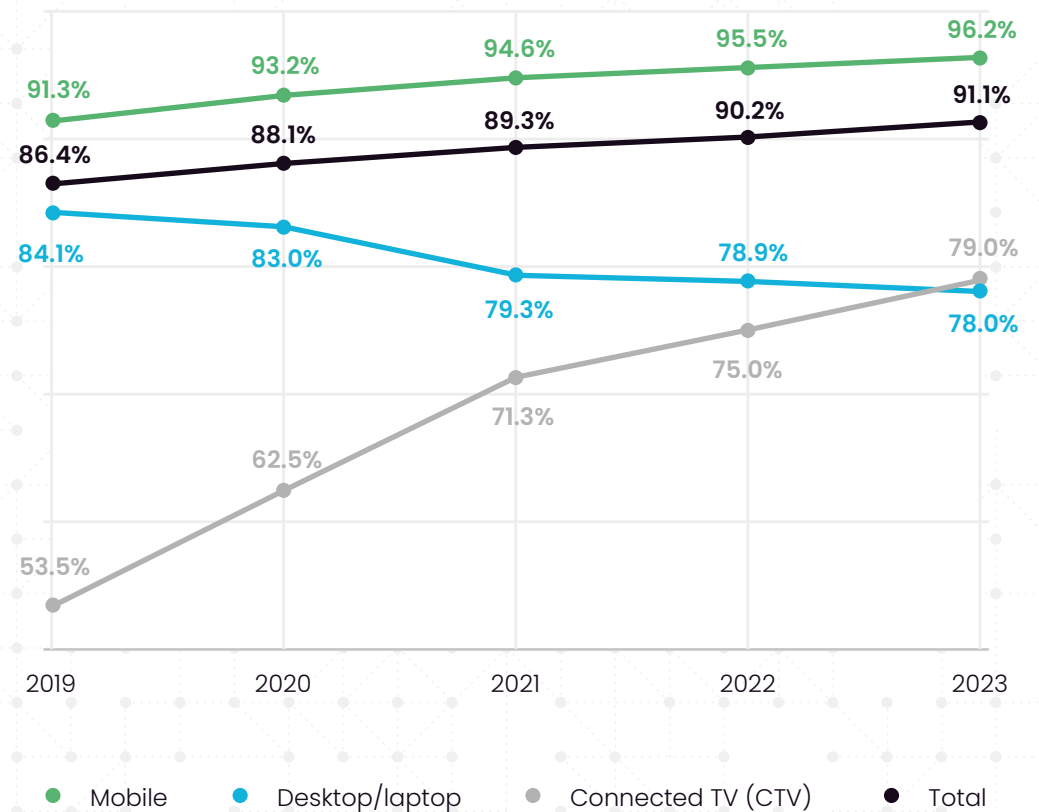
US Programmatic Digital Display Ad Spending, 2019–2023
billions, % change, and % of total digital display ad spending



Programmatic is the dominant channel across all devices

Mobile continues to outpace other devices in terms of share of ad spend transacted programmatically, but CTV is shifting in that direction rapidly. Interestingly, desktop display is moving slightly toward more direct buying, perhaps in a flight to inventory quality and a desire from buyers to secure premium supply directly from preferred publishers.

US Programmatic Ad Spending Share, by Device, 2019–2023
 % of digital display ad spending



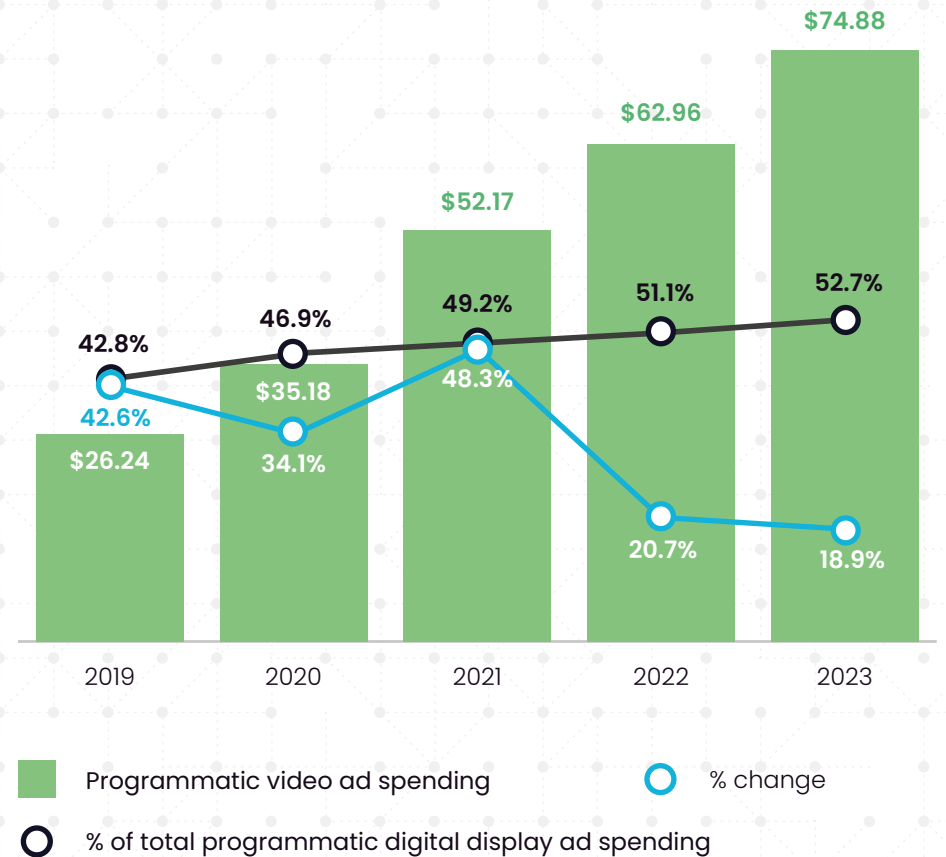
Video to surpass half of programmatic display ad spend

2022 marks the first year that video will surpass non-video formats in programmatic ad spending. Almost 9 in 10 of all digital video ad dollars will transact programmatically for the next few years.



US Programmatic Video Ad Spending, 2019–2023

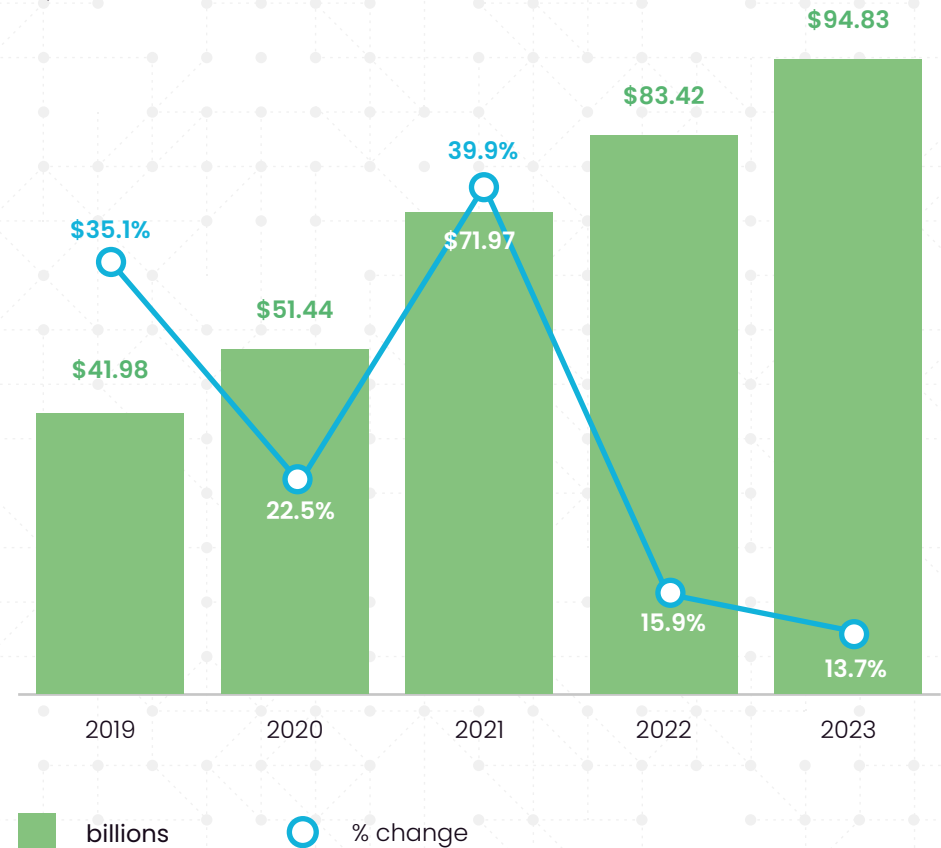
Billions, % change, and % of total programmatic digital display ad spending



Active growth in native display ad spend stabilizes after pandemic surge

Programmatic spend on native formats saw a 40% surge in 2021, which will slow to a still impressive 15.9% in 2022. Experts predict that the US native display ad market has reached maturity, noting the most prominent device type (mobile), buying method (programmatic) and ad medium (social) in which native ads are consumed will not drastically change in the foreseeable future.

Native Programmatic Display Ad Spending
US, 2019–2023

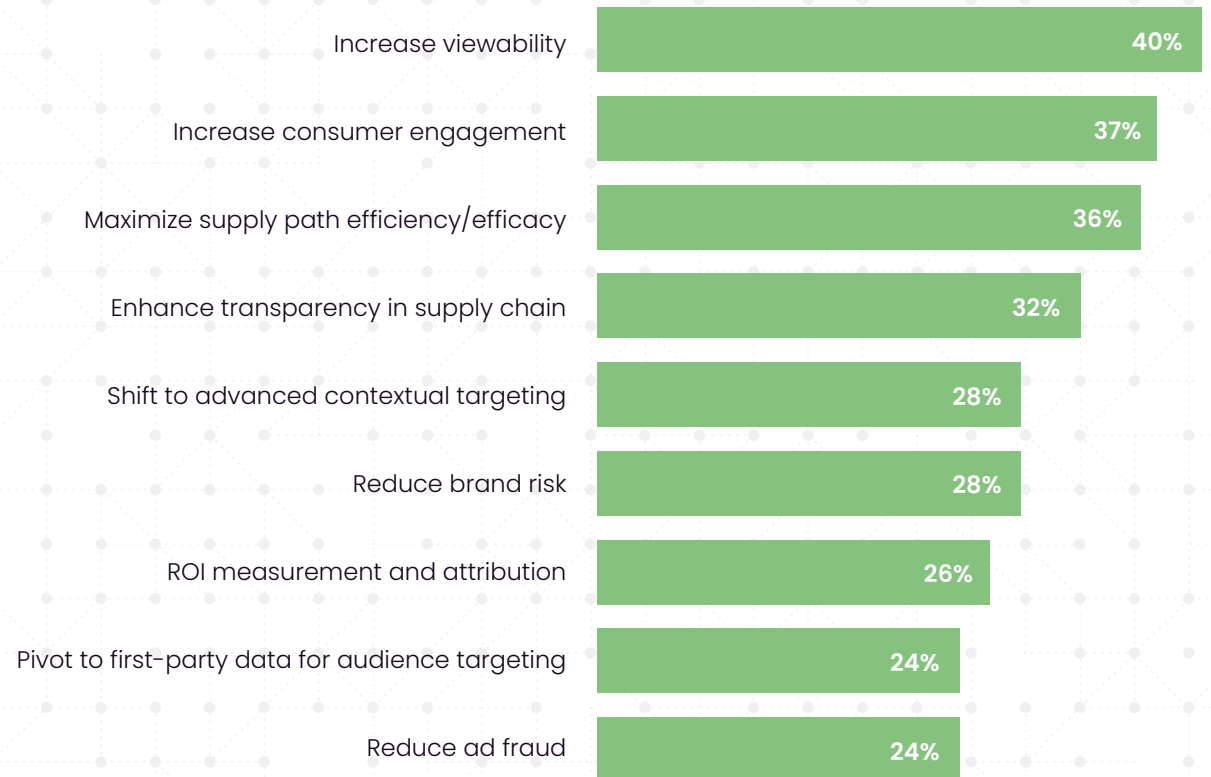


Programmatic priorities focus on engagement and efficiency

Increasing viewability is still tops on most digital media buyers' list of programmatic priorities. Cleaning up the supply chain and finding ways to boost customer engagement were close behind.

Top Programmatic Advertising Priorities in Next 12 Months

% selecting each within their top 3





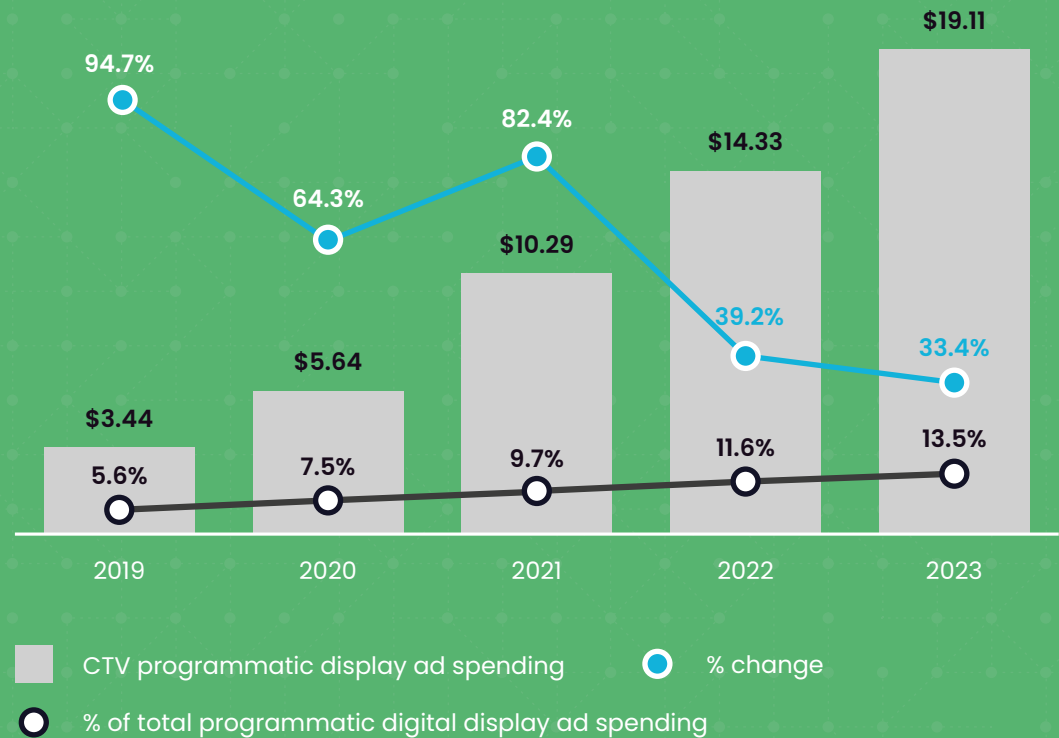
Connected TV

CTV spend is growing the entire programmatic pie

CTV is fast becoming the primary driver behind the tremendous growth in programmatic spend, accounting for more than \$1 in every \$5 spent on programmatic video, and one-tenth of total programmatic digital display.

US Connected TV (CTV) Programmatic Display Ad Spending, 2019–2023

Billions, % change, and % of total programmatic digital display ad spending

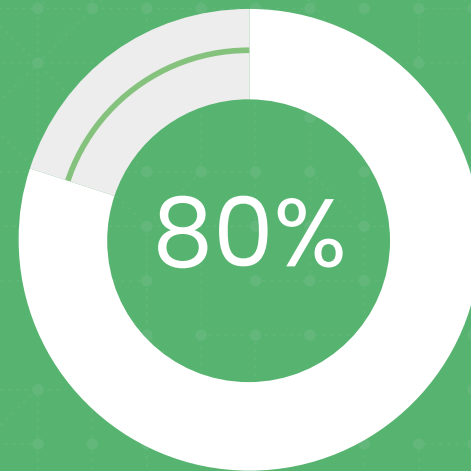


80% of US households reachable by CTV

Growth in Connected TV ad spend has been propelled by a surge in CTV inventory and increased CTV penetration. The pandemic boosted time spent with streaming video, leading media companies to funnel money into new streaming services.

As a result, more than 80% of US households were reachable by CTV at least once per month in 2021, creating a new mass media addressable channel for marketers.

US households reachable by CTV

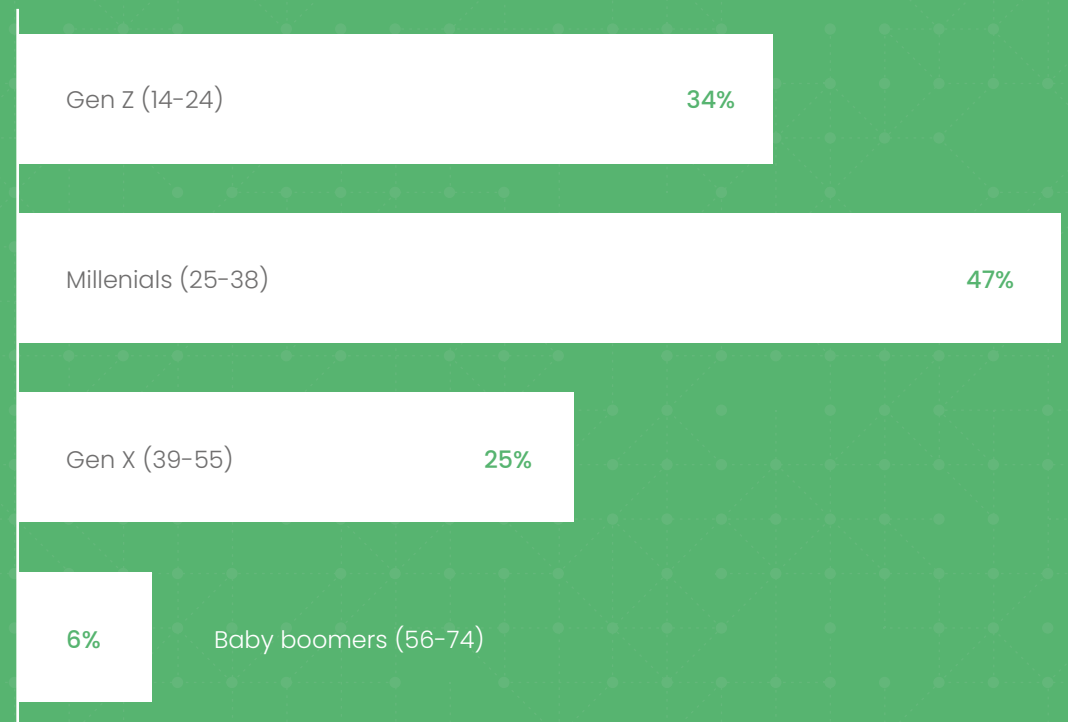


Younger generations are driving CTV growth

Nearly half of millennials and 34% of Gen Zers in the US reported renewing a streaming video subscription within a year of canceling it.

US Teens/Adults Who Have Cancelled and Re-subscribed to the Same Streaming Video Service, by Generation, Aug 2021

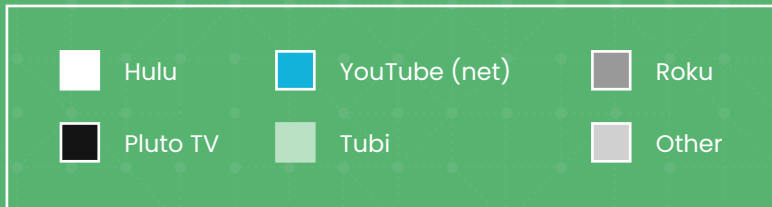
% of respondents in each group



Note: in the past year

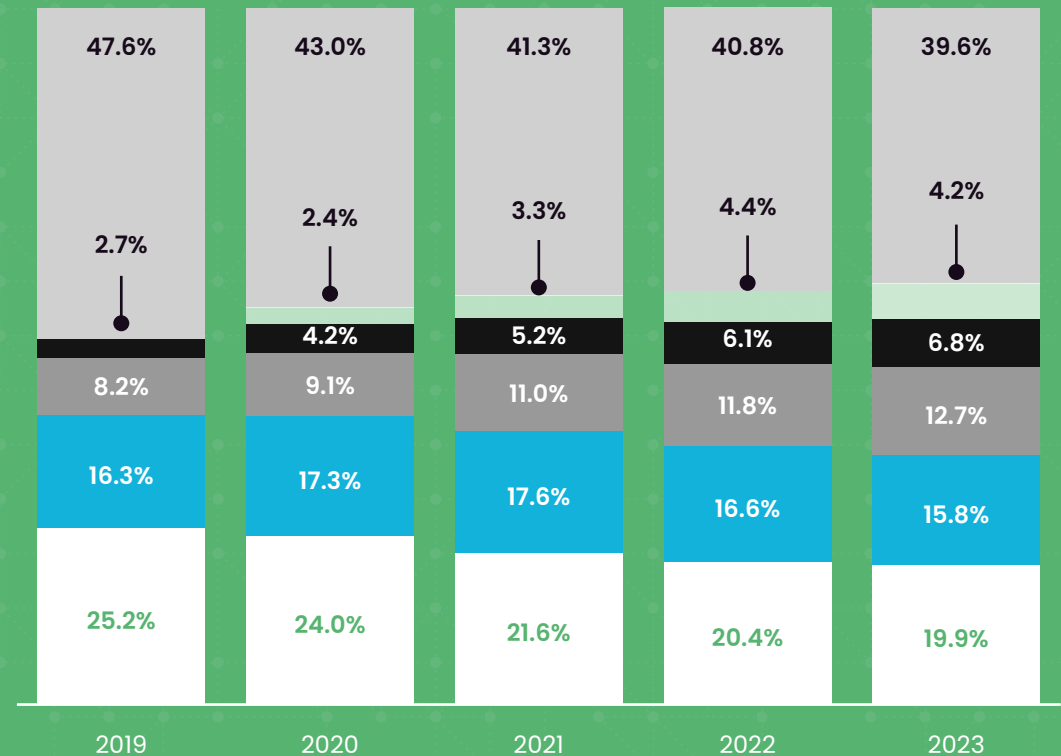
3 suppliers pull in more than half of all US CTV ad spend

Roku, YouTube, and Hulu together will net almost half of all US CTV ad spend in 2022, with Pluto TV and Tubi accounting for another 10%. All other players battle over the remaining 40%.



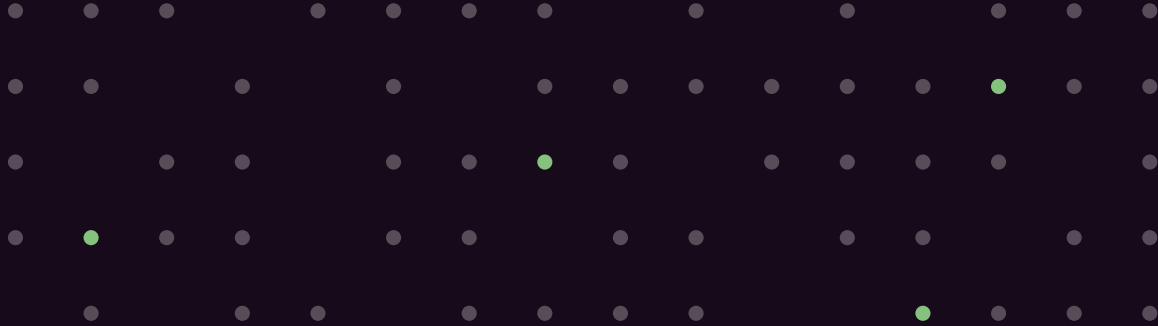
US Connected TV (CTV) Net Ad Spending Share, by Company, 2019-2023

% of total connected TV ad spending





Digital Audio



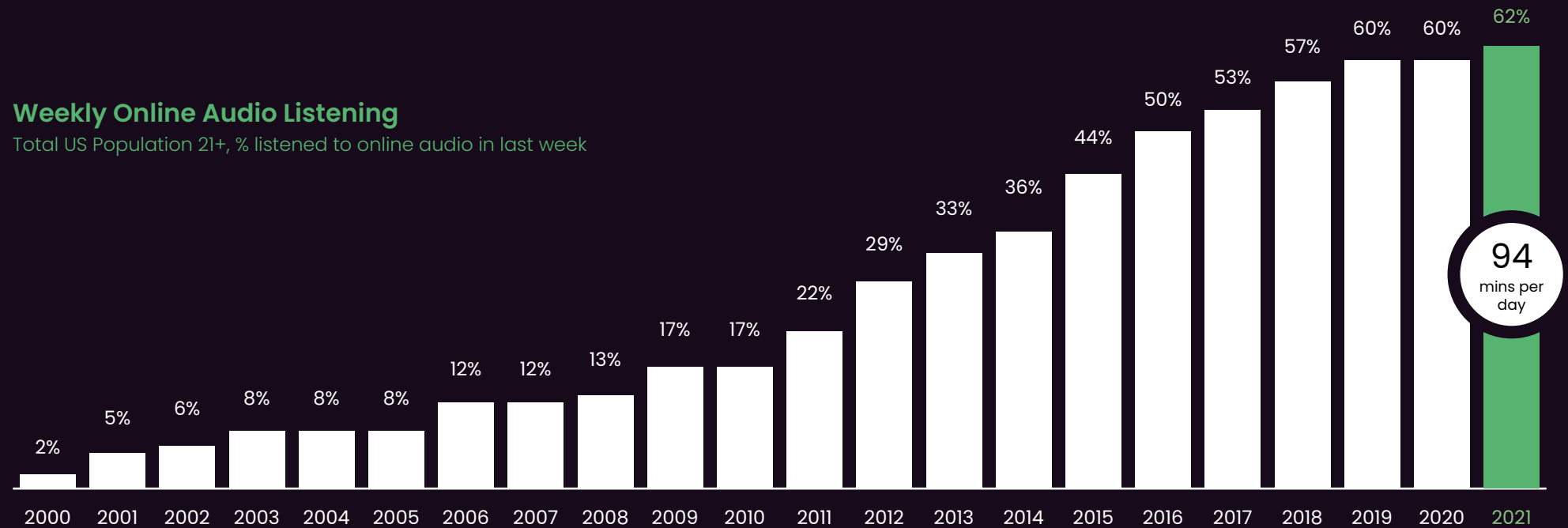
Digital audio popularity is ramping up

The percent of US adults listening to digital audio has more than doubled over the past decade, reaching 176 million people, or 62%. Time spent listening to digital audio accounted for nearly 12% (or 94 minutes) of total media time per day in 2021.

% of US Population (21+) listening to Digital Audio

Weekly Online Audio Listening

Total US Population 21+, % listened to online audio in last week

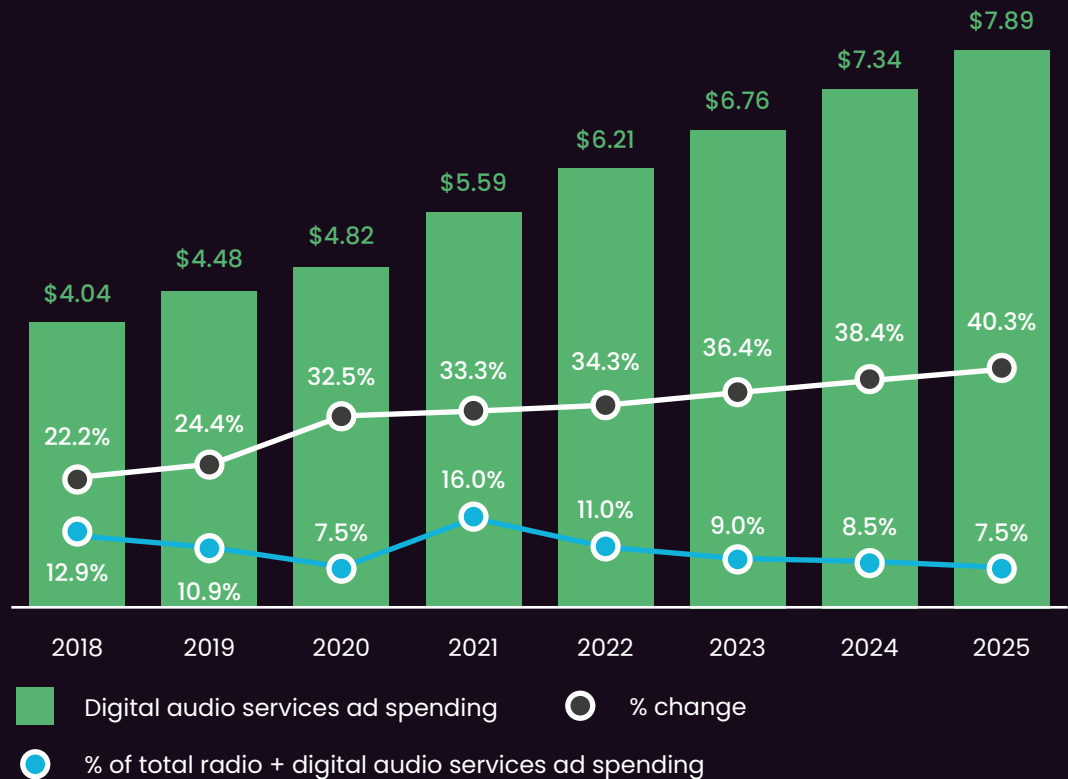


Digital audio ad spend tops \$6 billion in 2022

Digital audio services, like Spotify and Pandora, saw \$5.59 billion in ad spend in 2021. That number is expected to grow through at least 2025, at which point it will represent 40% of total audio ad spend.

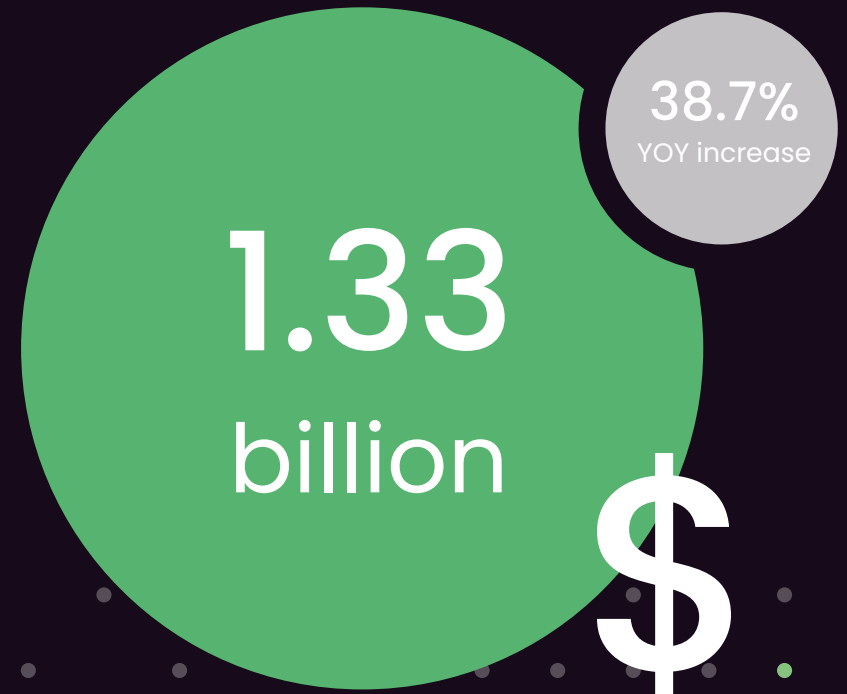
US Digital Audio Services Ad Spending, 2018-2025

Billions, % change, and % of total radio + digital audio services ad spending



The audience for podcasts is growing faster than the digital audio category

Edison and Triton estimated the portion of the US population that listens to at least one podcast each month nearly doubled in the past five years, from 21% in 2016 to 41% in 2021. Following suit, US advertisers will spend \$1.33 billion on podcast ads this year, a 38.7% year-over-year increase.

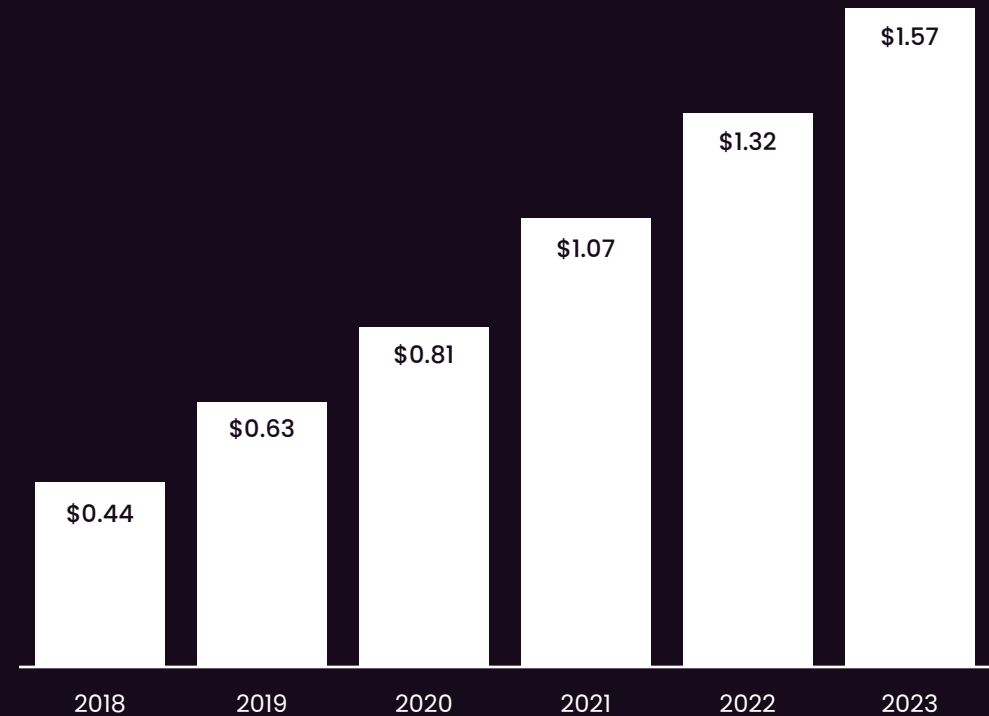


Programmatic is set to gain momentum in audio

Programmatic spending in digital audio topped \$1 billion in 2021, growth that is expected to continue at least through the end of 2023.

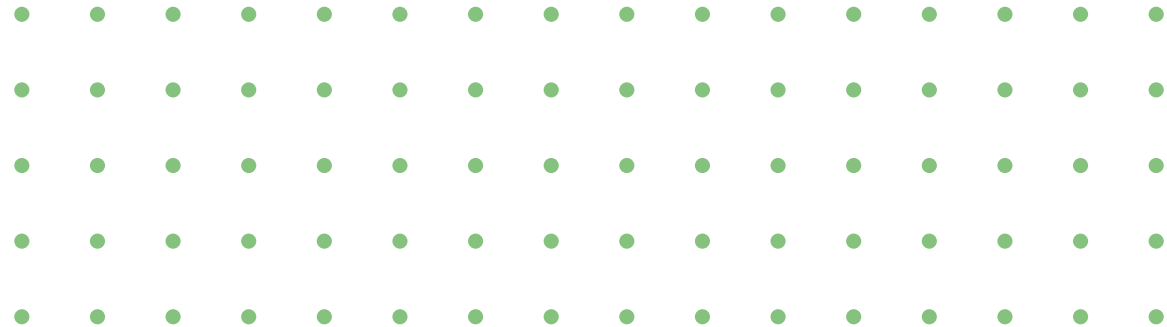
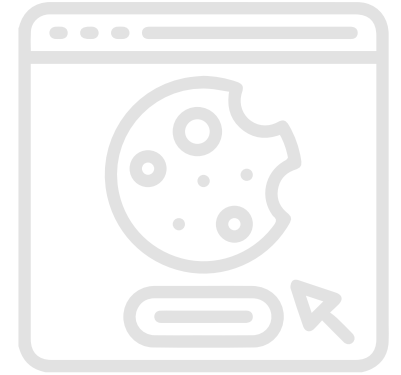
US Programmatic Digital Audio Services Ad Spending, 2018-2023

billions



Note: digital audio services ads transacted or fulfilled via automation

Third Party Cookies



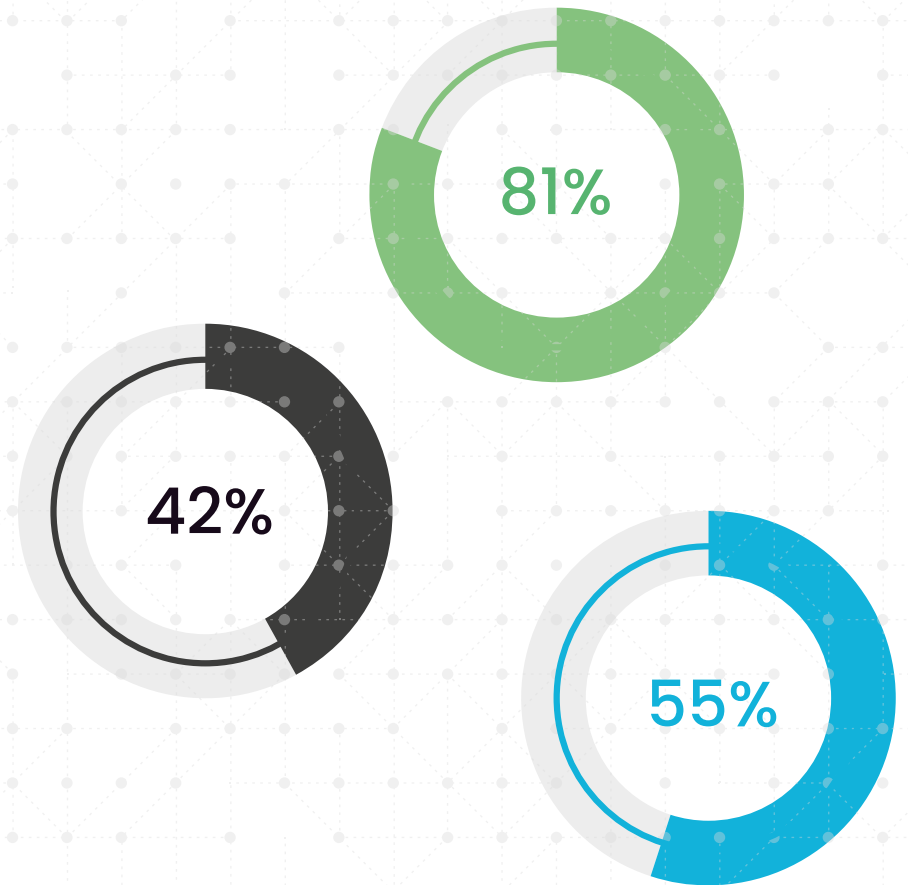
3rd-party cookies are going away in 2023.

Marketers are still not fully prepared.

81% of companies say they have either complete or substantial dependence on 3rd-party cookies, and that they would be seriously harmed by losing access.

55% of marketers say they are not fully prepared for the imminent cookieless world.

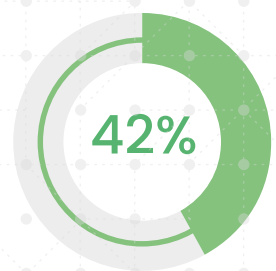
42% of companies predict that the impending changes will lead to lower ROI on ad spend and decreased ability to measure campaign efficiency.



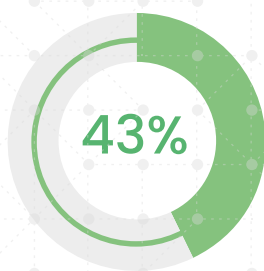
Could collaboration be the key to solving the addressability challenge?

There is broad agreement that there's no silver bullet when it comes to replacing the third-party cookie, though many marketers see opportunity in data collaboration initiatives. 60% of marketers across the US think having multiple solutions will be required to replicate all the functionality they currently get today from 3rd-party cookies.

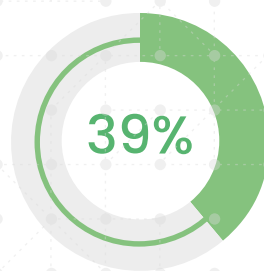
Approaches for readiness of third-party cookie deprecation - no silver bullet



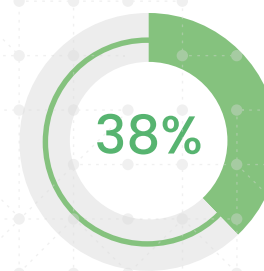
1st Party Data Ecosystems/Co-ops



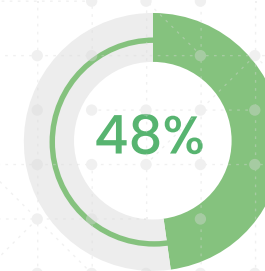
New Features in Web Browsers



Data Clean Rooms



Contextual Advertising



Data Collaboration

Impending cookie deprecation will drive investment in content and contextual

A growing number of marketers feel that the coming shift has provided the opportunity to differentiate through first-party data and the quality of content. Marketers are launching registration walls, widening user data pools, segmenting audiences and expanding the use of contextual targeting to build out their first-party data infrastructures. At least 51% of marketing professionals are investing more in contextual targeting, while 43% of advertisers say they're optimistic about the future of this method.

51%

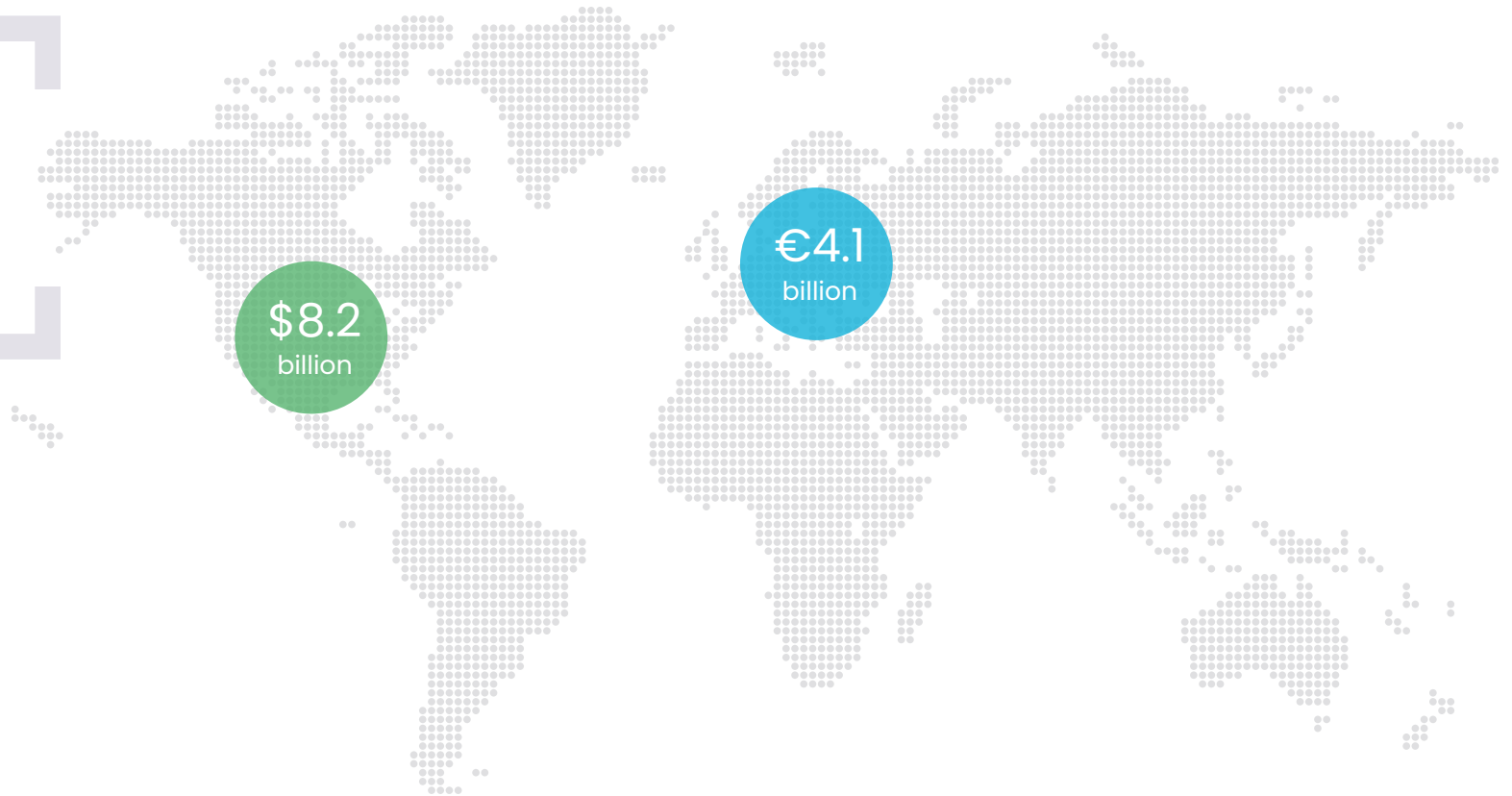
of marketing professionals are investing more in contextual targeting

43%

of advertisers say they're optimistic about the future of this method

ID resolution solutions are more important than ever with no signs of slowing down

Spending on identity solutions will reach \$8.2 billion by 2024 in the US, and €4.1 billion in Europe.



Continued growth and evolution in the identity space

The identity landscape is heating up, with dozens of familiar logos throwing their hat in the ring. This has resulted in more than 100 proprietary alternative ID solutions, all offering a unique approach and methodology to enabling addressability, and all competing for publisher and marketer attention.

IDENTITY

TAPAD

janrain

infutor

acxiom

seedtag

IRIS.TV

neustar

LiveIntent

ADELPHIC

SAMSUNG

TEMLIO

audigent

drawbridge

TRUEDATA

MEDIAWALLAH

towerd@ta

NBCUniversal

comscore

ZEOTAP

LiveRamp

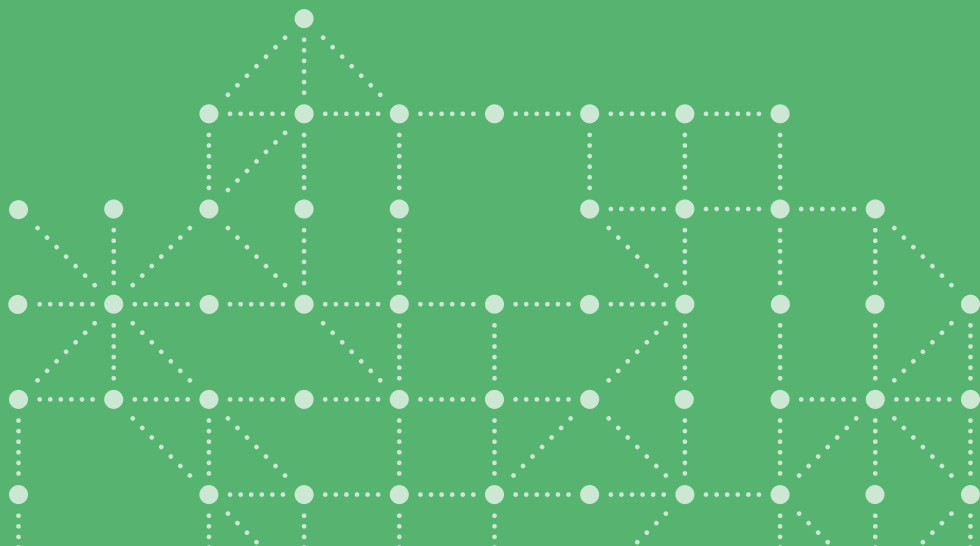
semasio

captify

twilio

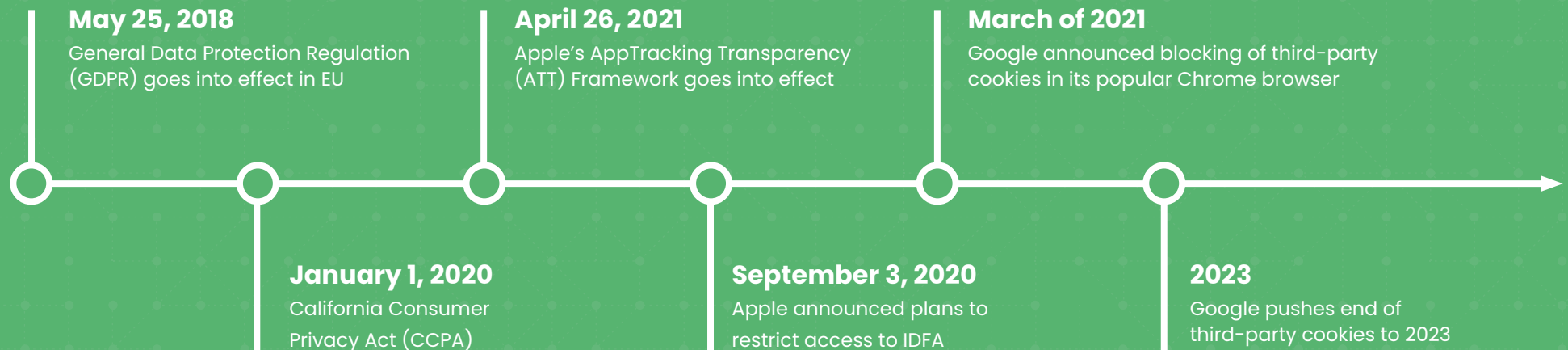
amazon

Consumer Privacy



Evolution of consumer privacy

The evolution of privacy has shifted tremendously as consumers have become increasingly more careful about sharing data. As a result, regulators have ramped up privacy requirements and data protections, creating personalization and measurement challenges for marketers.



CMOs are taking action to manage consumer privacy

On average, marketing leaders report that protecting the privacy of their customers falls squarely under their job description and high on their priority list. Deloitte surveyed 320 top marketers and asked what actions their companies were taking in the wake of third-party cookies disappearing. There were their responses:



58.3%

Created a stronger data strategy to capture better information

50.5%

Invested in innovations to engage with customers directly

32.3%

Reduced internal data silos to generate a more complete view of consumers

30.2%

Invested in customer data platform (CDP) that offers better information about the customer journey

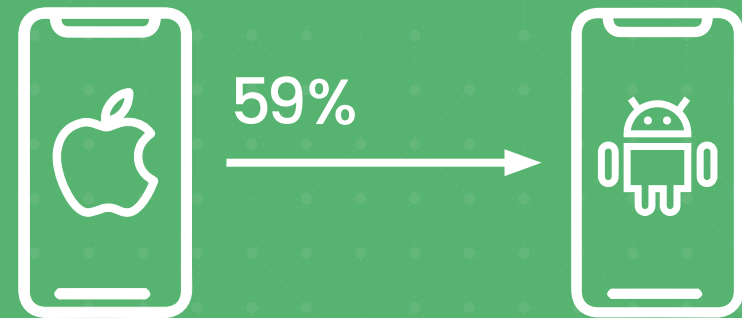
Apple privacy changes drive spend toward Android

In mid 2021, Apple released version 14.5 to its popular iOS operating system, requiring all apps to ask users for permission to be tracked.

In average, **only 21% of users are opting in**, limiting ad measurability and ROI in iOS environments.

39% of mobile advertisers said Apple's privacy moves hurt their revenues in 2021. 75% said that Apple's changes put the future of their businesses at risk and 55% said that mobile marketing was more difficult in 2021 than in the previous year.

As a result, 59% of mobile marketers shifted their budgets from iOS to Android

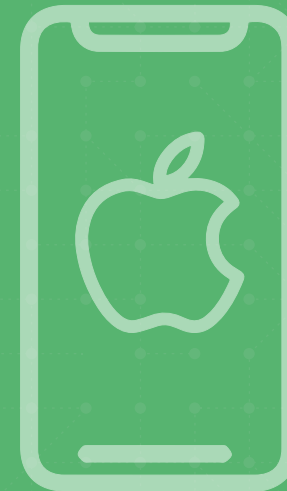


Estimated losses in the wake of IDFA

Apple's iPhone IDFA privacy upgrade cost Facebook, YouTube, Twitter, and Snap nearly \$10 billion in ad revenue. Facebook, YouTube, Twitter, and Snap collectively lost 12% of their advertising revenues in Q3 and Q4 of 2021 from users choosing to opt out of ad tracking on Apple devices.

\$10 billion

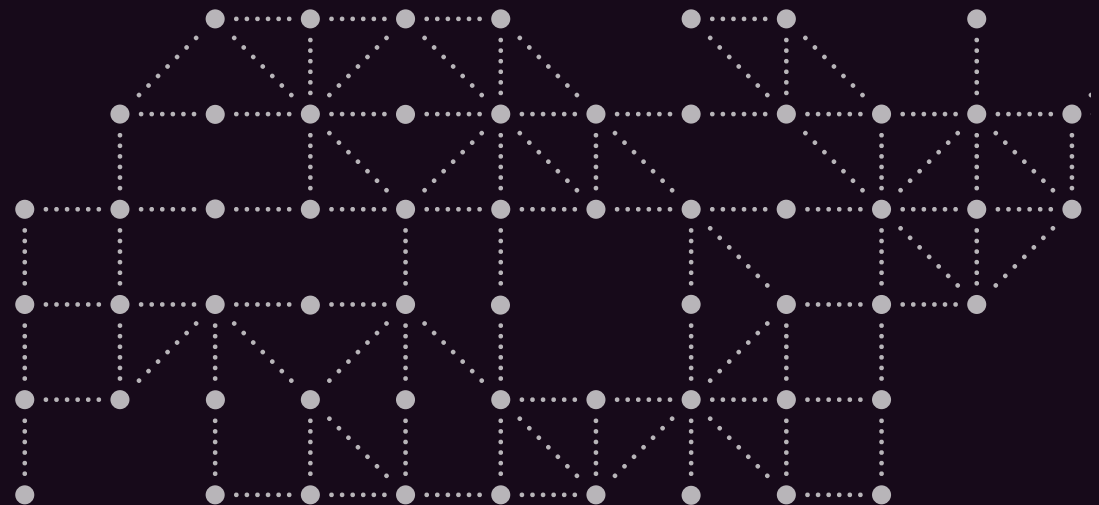
Privacy upgrade
cost in ad revenue



12%

Ad revenue loss in
Q3 and Q4

Growth in Gaming



Gaming snapshot

Gamers range in age from children under 18 to post-Boomers 70 and up. **68%** of American adults (163.3 million) are gamers, while **70%** of American kids aged 18 and below (or 51.1 million) are gamers, too.

Gamers worldwide spent an average of 6.33 hours a week playing video games in 2020, a considerable **11% drop** from 2019's 7.11 hours. Male video gamers clocked in 6.84 hours each week compared to 5.8 hours for female gamers

The gender split has a slight skew in favor of male gamers at a **59%** to **41%** ratio in the US. The average gamer age is **34** years for men and **36** years for women.

Age-wise, 18- to-25 year-olds record longest daily gameplay, with **6.56** hours. 60-plus gamers clock in with shortest gameplay at **2.58** hours.

There were **2.69 billion** video game players worldwide in 2020. The figure will rise to **3.07 billion** in 2023 based on a 5.6% year-on-year growth forecast.

Mobile gaming is a channel to watch

With more than 3 billion people playing mobile games worldwide, the mobile gaming market grew 4.4% in 2021 to \$90.7 billion in consumer spend on games and in-game purchases.



3.1 bn
mobile gamers



4.4%
market growth

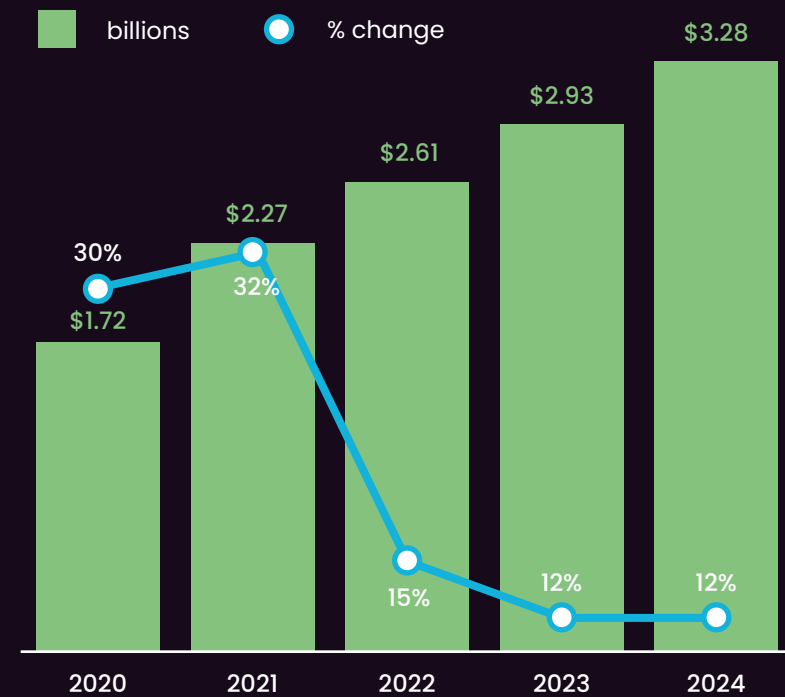


\$90.7 bn
in consumer spend
on mobile games

US gaming video content ad revenues normalize post pandemic surge

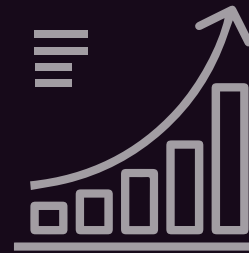
Ad spend is expected to hit \$2.61 billion in 2022, rising to \$3.28 billion by 2024.

Gaming Video Content Ad Revenues
US, 2020-2024



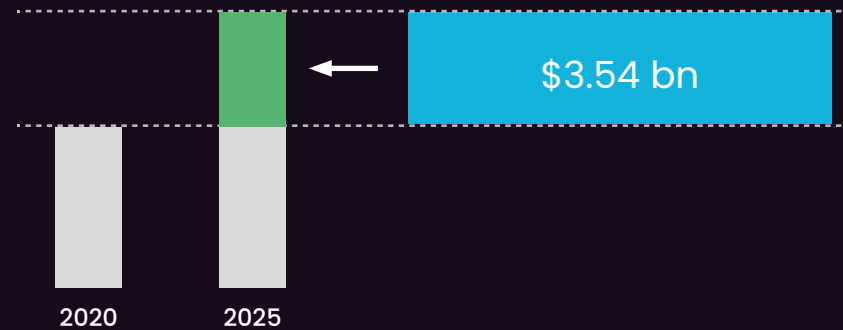
In-game advertising growth is accelerating

The in-game advertising market share is expected to increase by USD \$3.54 billion from 2020 to 2025, and the market's growth momentum will accelerate at a CAGR of 16%.



16%

**CAGR with
ACCELERATING
momentum**



Programmatic is growing gaming

Growth of in-game advertising is fueled by broader availability of programmatic options, third-party verification for in-game advertising performance and an increase in the availability of in-game inventory. 81% of media buyers will maintain or increase in-game advertising spend over the next 12 months, with 93% of media buyers intending to run some form of in-game advertising by 2025.

81%

of media buyers will maintain or increase in-game advertising spend



93%

of media buyers intend to run some form of in-game advertising by 2025



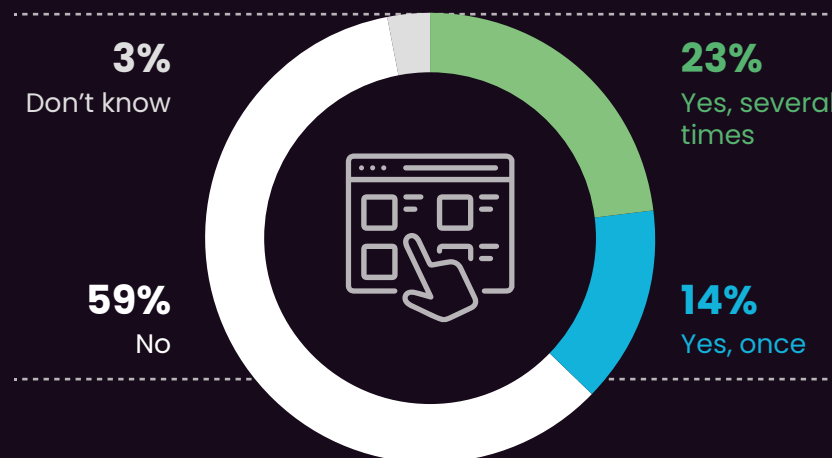
Gamers are ready for in-game advertising

Over two-thirds of US gamers would welcome more advertising into their games. Among those gamers, mobile in-game ads remains most popular (78%), but console (57%) and PC (54%) are catching up. Nearly one in four (23%) of US mobile gamers say they have been influenced by an in-game ad to make a purchase “several times.”



Have US Mobile Gamers Ever Been Influenced to Make a Purchase by an In-Game Mobile Ad?

% of respondents, May 2021



More education is needed around in-game infrastructure and ad formats

One out of five media buyers cited a lack of understanding as the biggest reason they were not investing in in-game advertising, while 31% are unsure how to go about building their in-game presence.

31%

of media buyers are unsure how to go about building their in-game presence

1 out of 5

media buyers cited a lack of understanding as a biggest reason they were not investing in in-game advertising

Ad Fraud

Fraud still an issue for marketers

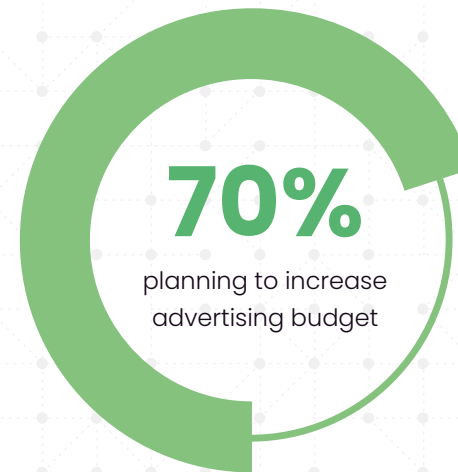
Nearly 18%

of all internet traffic can be attributed to nonhuman bots.



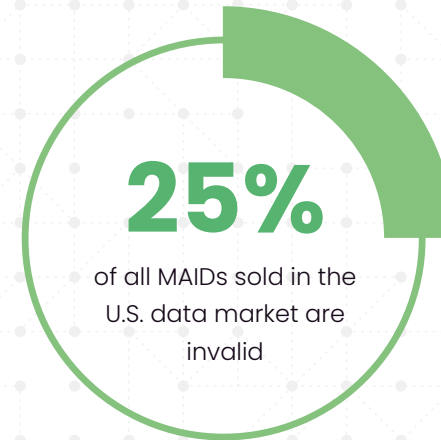
Marketers spending more to compensate for ad fraud

69% of brands spending \$1 million per month reported that at least 20% of their budgets were being lost to digital ad fraud; 70% of these companies reported that they were actually planning to increase their advertising budget to compensate for the loss.



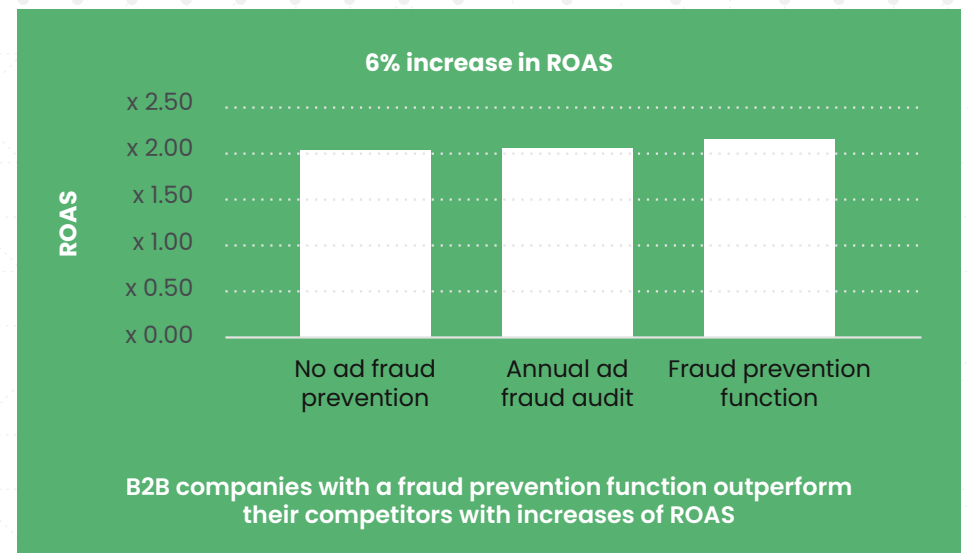
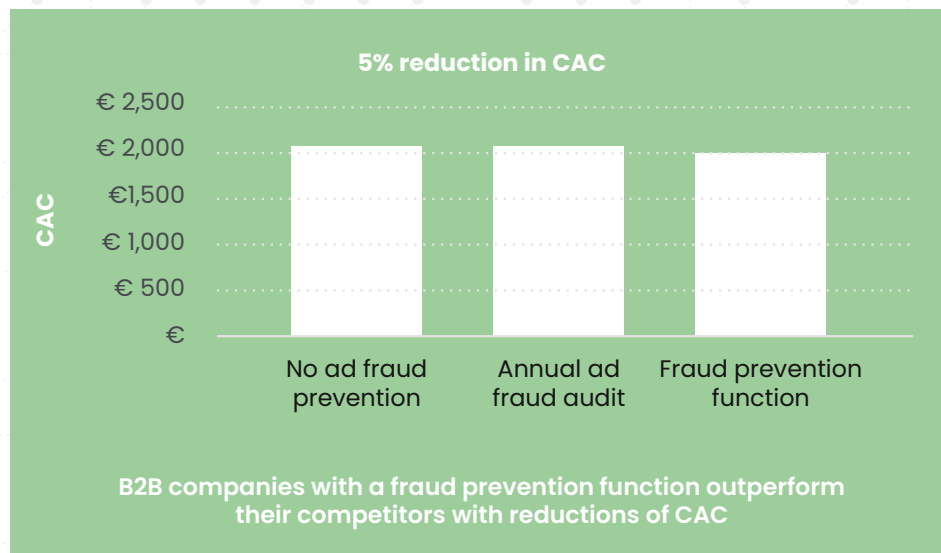
Bots are mimicking human behavior to evade detection

Up to 25% of all mobile advertising IDs (MAIDs) sold in the U.S. data market are invalid. Of every 1 billion device identifiers sold in the U.S., 21% of hashed emails (MD5s) are linked to more than 10 MAIDs, indicating potential non-human behavior. 2% of consumer IP addresses and 1.1% of email MD5s sold in the U.S. are invalid.



Ad fraudsters are following the money and picking up steam

69% of brands spending \$1 million per month Ad fraud costs the marketing industry an estimated \$51 million per day, and these losses are likely to increase to \$100 billion annually by 2023. Having no systems or processes in place to prevent ad fraud will reduce ROAS by 6%, while simultaneously increasing acquisition costs (CAC) by 5%. Ad fraud drains ad budgets rapidly, which means these seemingly small percentages have a huge impact on an advertiser's ROI.



CTV ad fraud schemes cost publishers \$144M a year

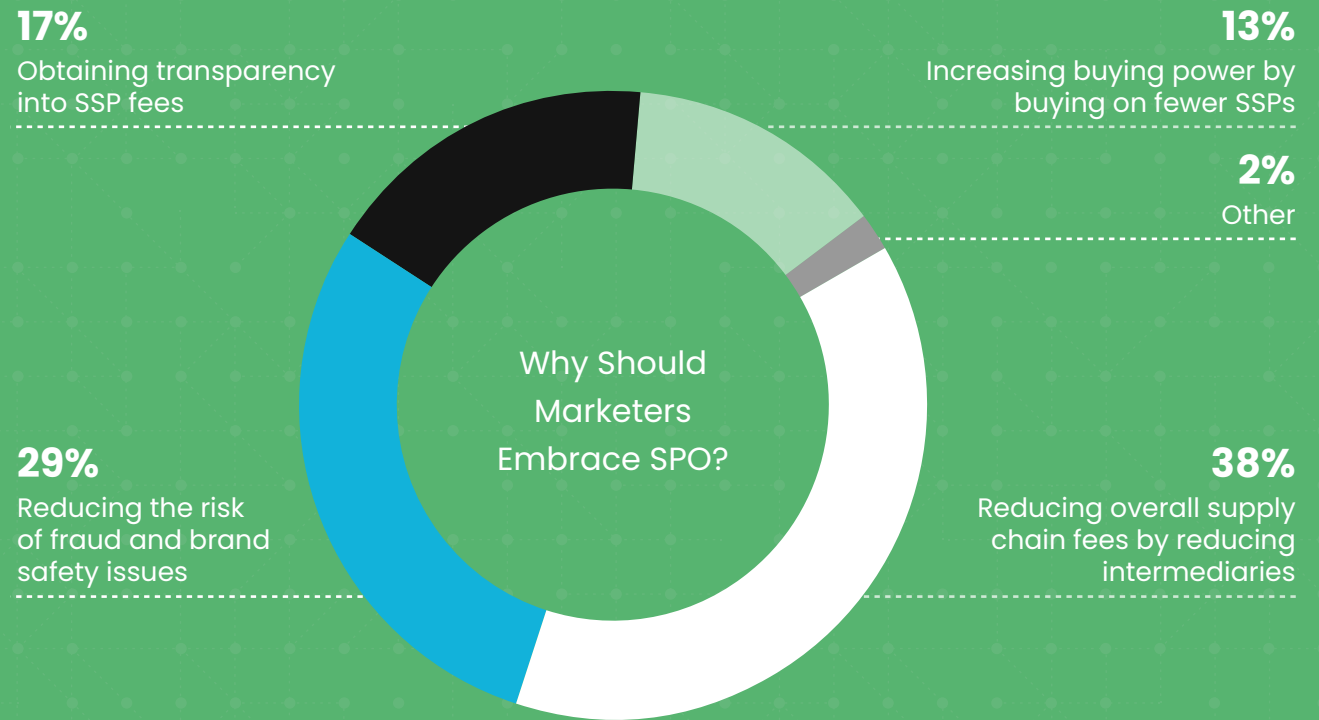
According to DoubleVerify, which detected and shut down several CTV fraud schemes in 2021, CTV publishers stood to lose an average of \$144M annually due to blocked fraudulent impressions, a number which is sure to grow as spend in CTV increases in the coming years.



SPO, Media Quality, and Deals

Marketers are getting serious about SPO strategy

Efficiency and safety top the list of reasons marketers are embracing Supply Path Optimization.



Supply is becoming a value differentiator

Curated marketplace are creating opportunities for media buyers to be in greater control of their inventory and supply strategies.



Viewability remains high across formats and devices

Continued marketer focus on viewability is paying off. Average viewability rates consistently hover above 70% across the majority of formats and devices, with the more premium formats, such as in-app video and CTV, achieving more than 90% viewability on average in 2021.

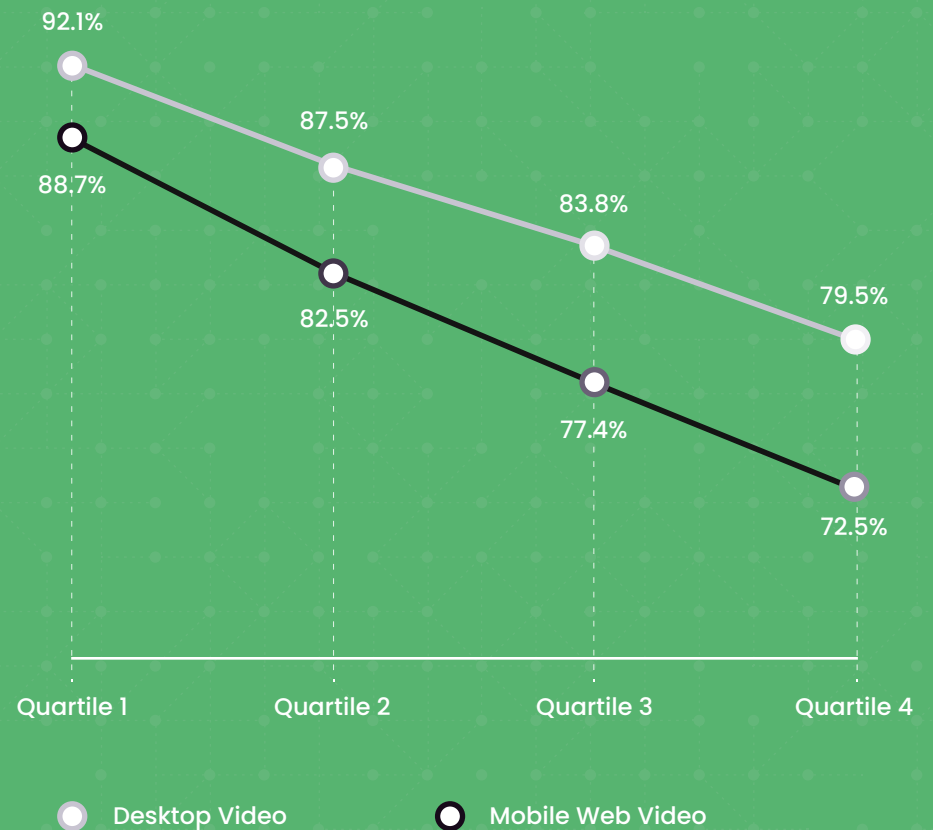
Worldwide Viewability by Format

	H2 2020	H2 2021
Desktop Display	68.8%	70.1%
Desktop Video	73.6%	74.8%
Mobile Web Display	62.9%	65.6%
Mobile Web Video	73.7%	76.6%
Mobile App Display	72.1%	77.6%
Connected TV	93.1%	93.3%
Mobile App Video	85.5%	92.6%

Desktop drives higher video completion rates than mobile

Desktop outperforms mobile environments for video viewership and completion rates consistently across video quartiles. On average, nearly 80% of desktop video plays are watched to completion, vs 72% in mobile web.

Worldwide Video Ad Completion (by device)
2H 2020 vs 2H 2021

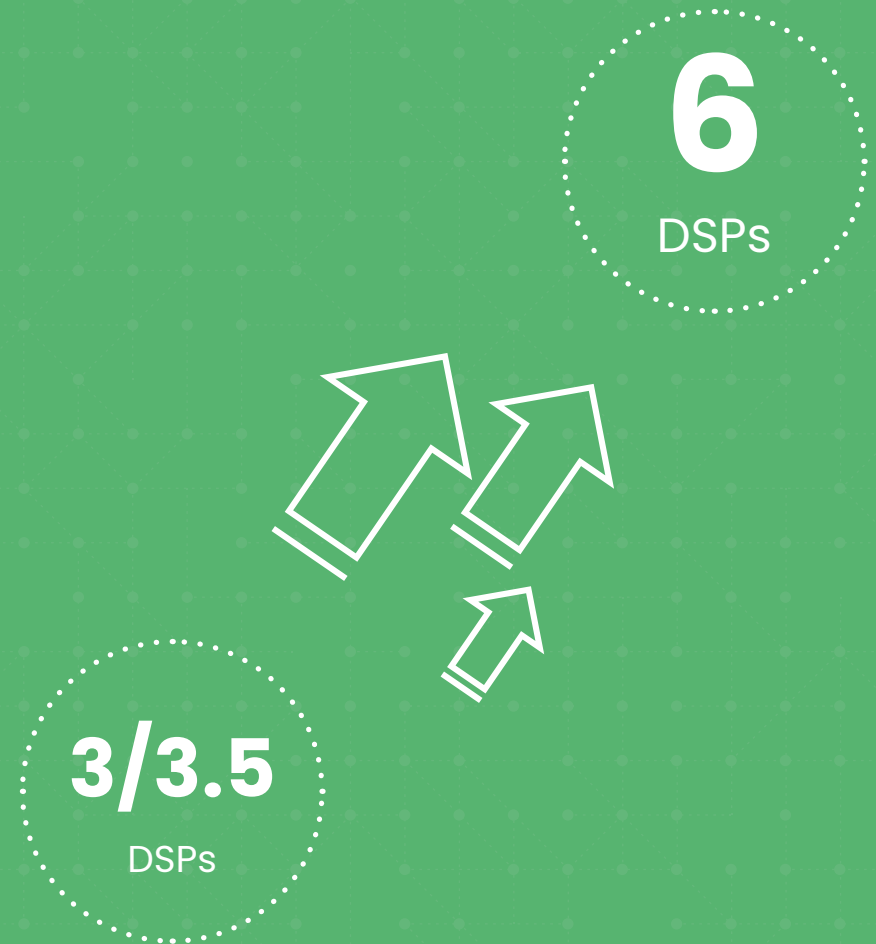


DSP diversification is on the rise

On average, marketers are claiming they intend to use 6 DSPs in the next 12 months. This number is consistent with 2018 trends but comes in above numbers for the past three years, which hovered between 3 and 3.5 DSPs on average.

Advertisers list the primary benefits of using multiple DSPs as:

- Differentiated features needed to execute each campaign
- Accessing DSP-specific audience data
- Scaling out the reach of campaigns.

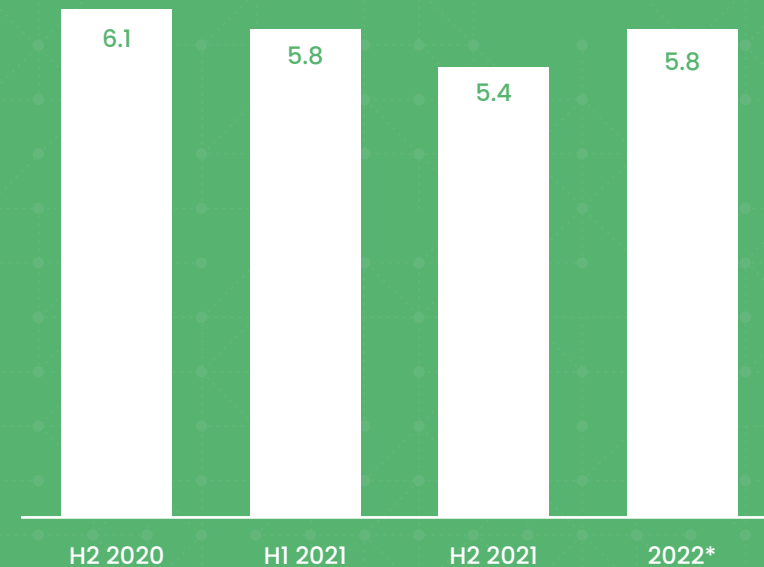


SSP use count set to reverse a recent downward trend

A survey carried out in 2H 2021 found that US publishers used on average 5.4 supply-side platforms (SSP), a number that had been on the decline for several quarters.

That same research, however, projected that pubs would start adding platforms back into the mix in 2022 as they look to diversify demand in preparation for 3rd-party cookie deprecation.

Average number of supply-side platforms (SSPs) used by publishers in the US from 2020 to 2022

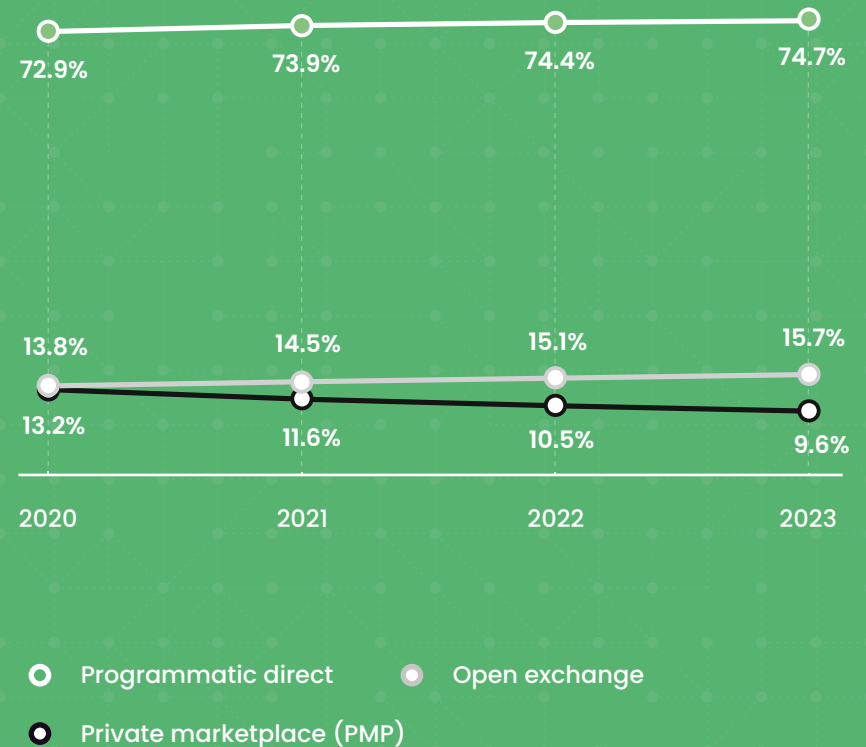


Programmatic Direct dominates programmatic digital display ad spend

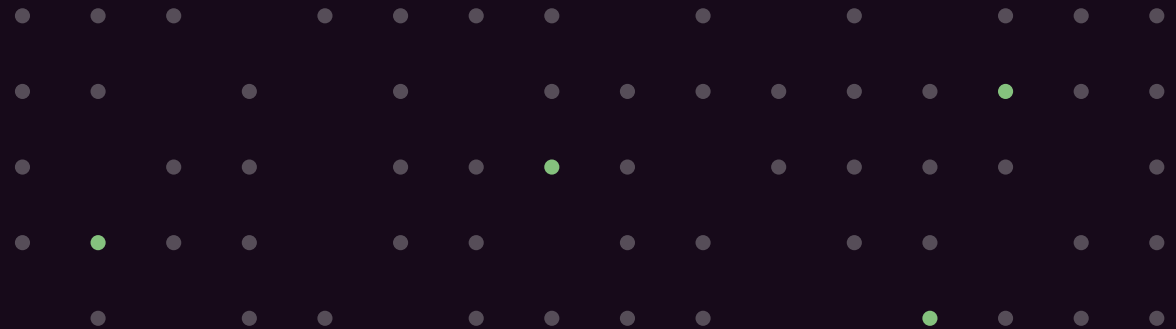
Continuing a trend since 2015, programmatic direct remains the dominant transaction method over open exchange and PMP. Media bought via direct IOs retain the top spot in terms of pricing due to preferential access and perceived quality.

Channel	2020 CPM	2021 CPM	YoY
IO	\$19.30	\$20.40	6%
PG/PD	\$14.20	\$16.00	13%
PMP	\$7.50	\$8.70	16%

US Programmatic Ad Spending Share, by Transaction Method, 2019-2023
% of total programmatic digital display ad spending



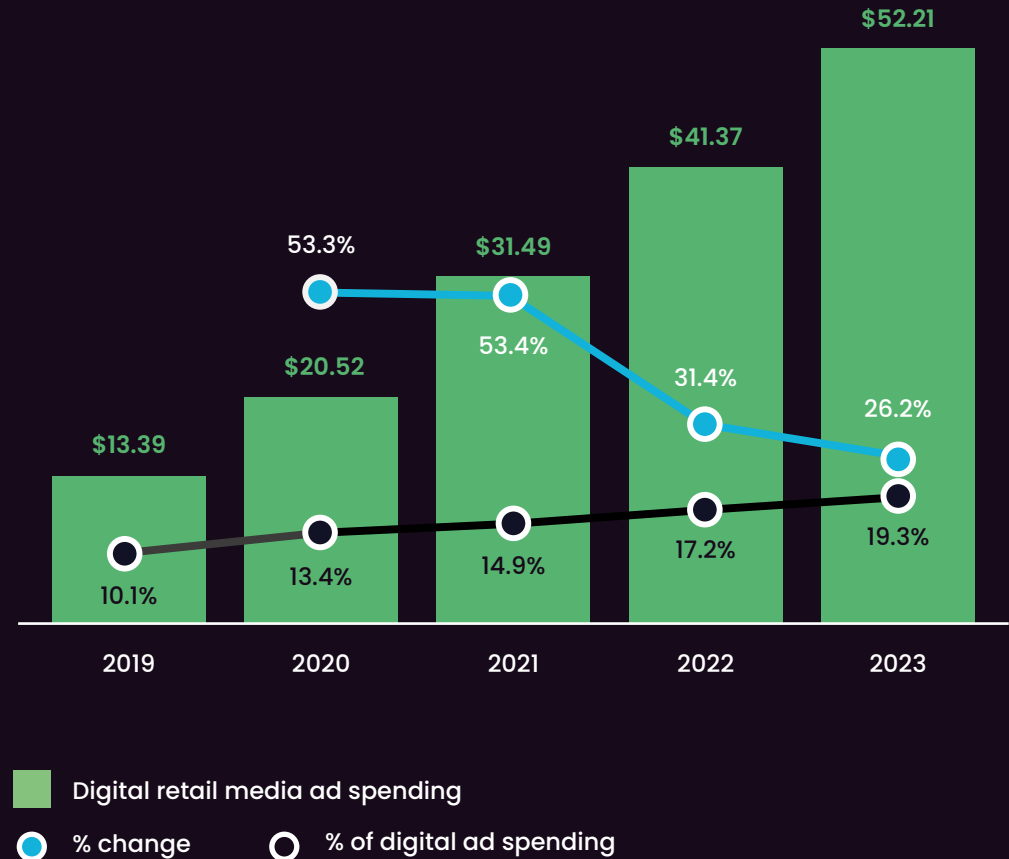
Retail Media



1 out of every 8 ad dollars is spent on retail ad networks

US retail media ad spend was forecast to grow 53.4% in 2021, representing a total ad market of more than \$30 billion. That would mean that \$1 out of every \$8 ad dollars was being spent on retail media or with a retail media network. It is estimated that ad spending on retail media in the US will pass \$50 billion by 2023.

US Digital Retail Media Ad Spending, 2019–2023
Billions, % change, and % of digital ad spending



Amazon continues to dominate the retail media space

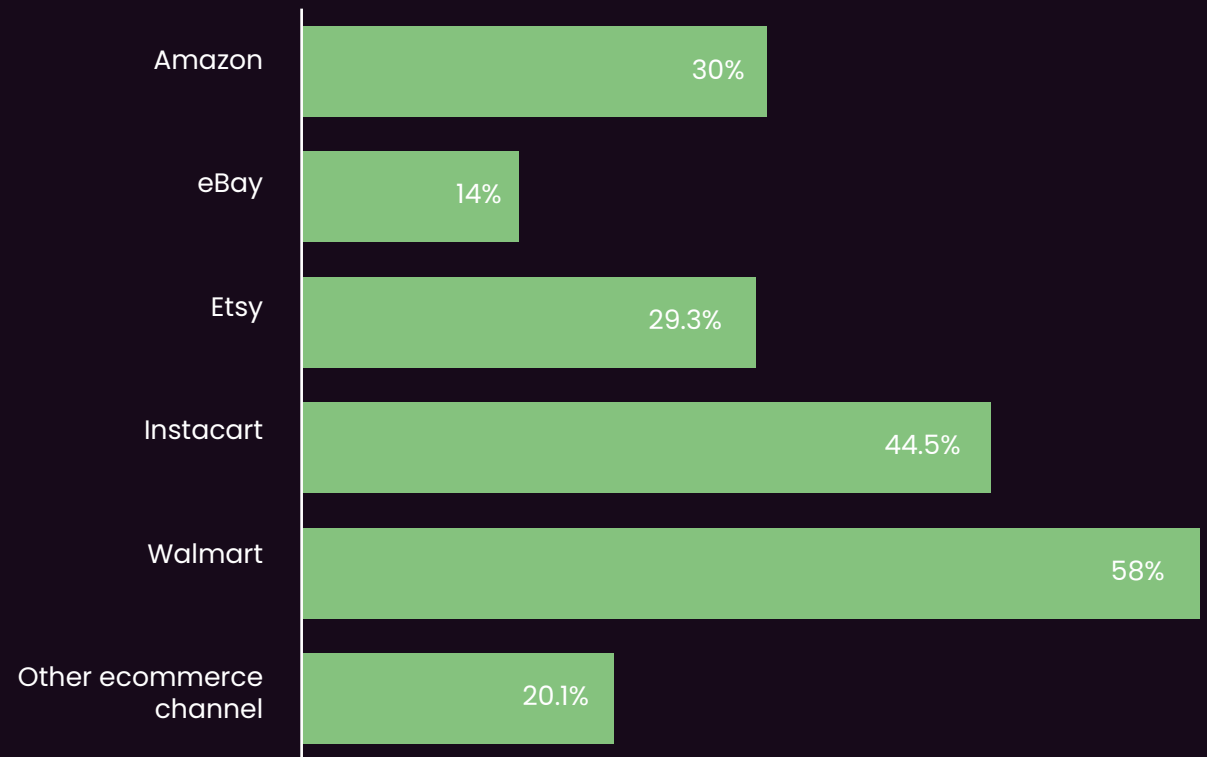
Amazon takes the lion's share of retail media ad dollars, accounting for 77.7% of US digital retail media spend. Companies like Walmart and Instacart however are quickly emerging as media networks to watch. Walmart's US digital advertising revenues hit \$2.1 billion in 2021, and Instacart hopes to reach \$1 billion by 2023.



Retail media networks are beginning to scale

Amazon has driven much of retail media's growth to date, but nearly every major retailer now has a retail media network—with several already generating hundreds of millions of dollars in high-margin revenue. In Walmart's case, it tops the growth charts and is well into the billions.

Retail Media Ad Spending Growth, by Company
US, 2022, % change

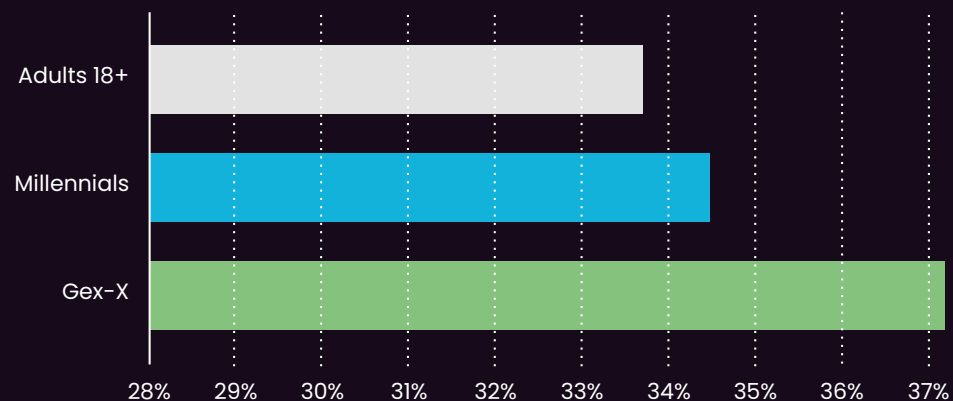


Nearly 34% of consumers are shopping more online as a result of the pandemic

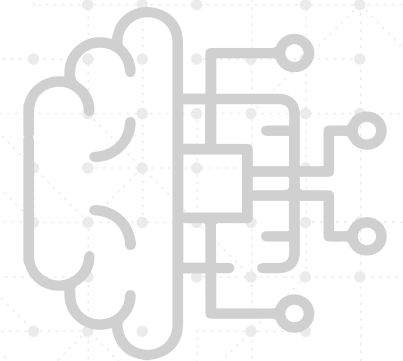
This shift to online shopping is also driving growth for the digital advertising industry, where spend is estimated to reach \$211.2 billion in 2021, a 38 percent increase from the year before.

How, if at all, are you changing your shopping behavior as a result of the Coronavirus/COVID-19 (Dec-2021)

Shopping more online

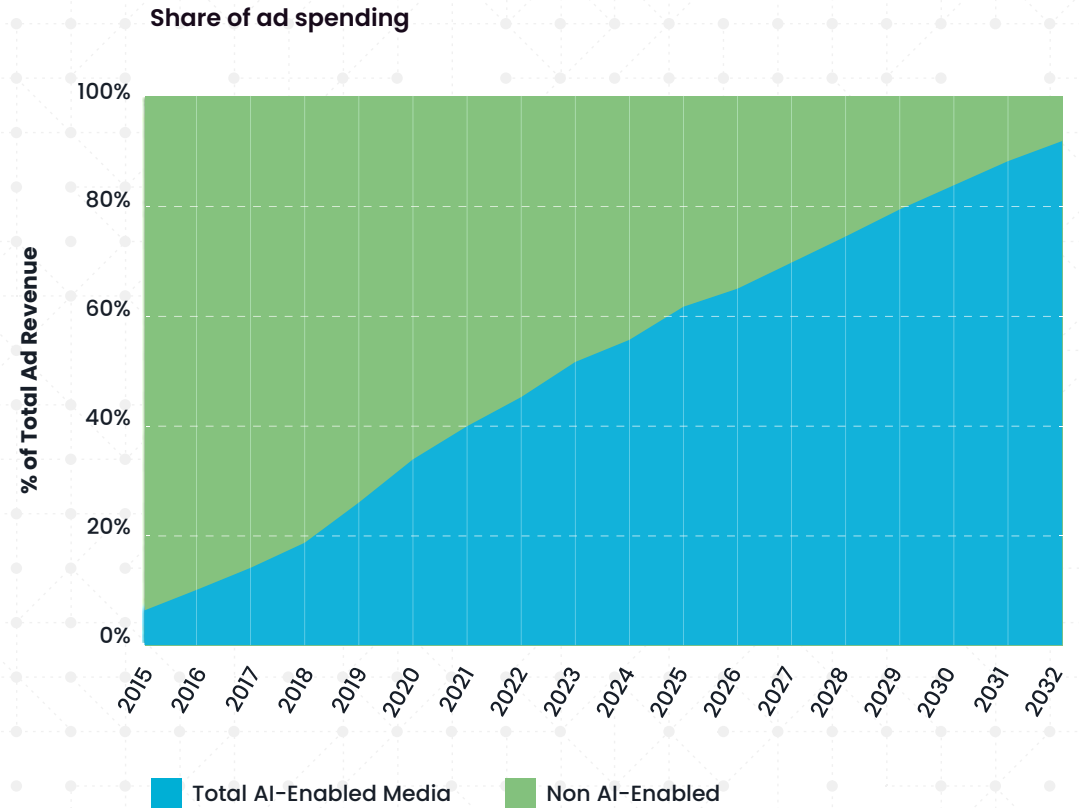


Machine Learning and AI in digital advertising



Artificial intelligence will represent the majority of all ad buys in 2022

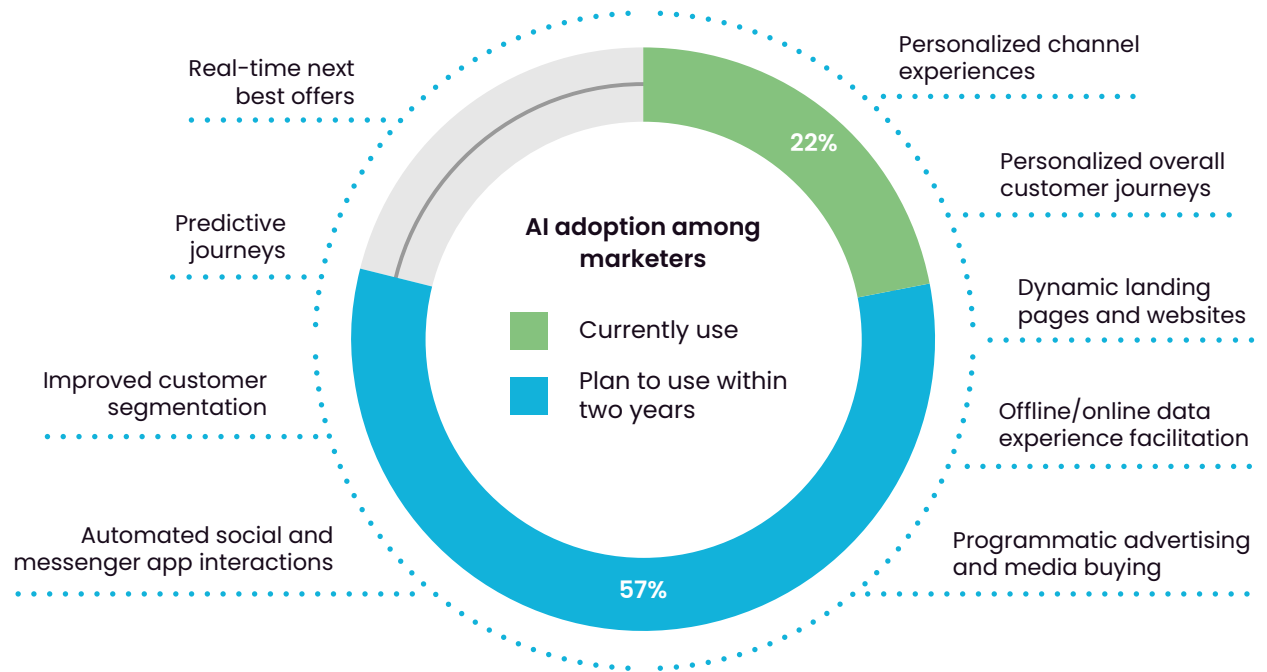
AI-enabled media will account for \$370 billion in ad spending in 2022, with a forecasted media ad spend of \$1.3T – or more than 90% of all ad spending – by 2032.



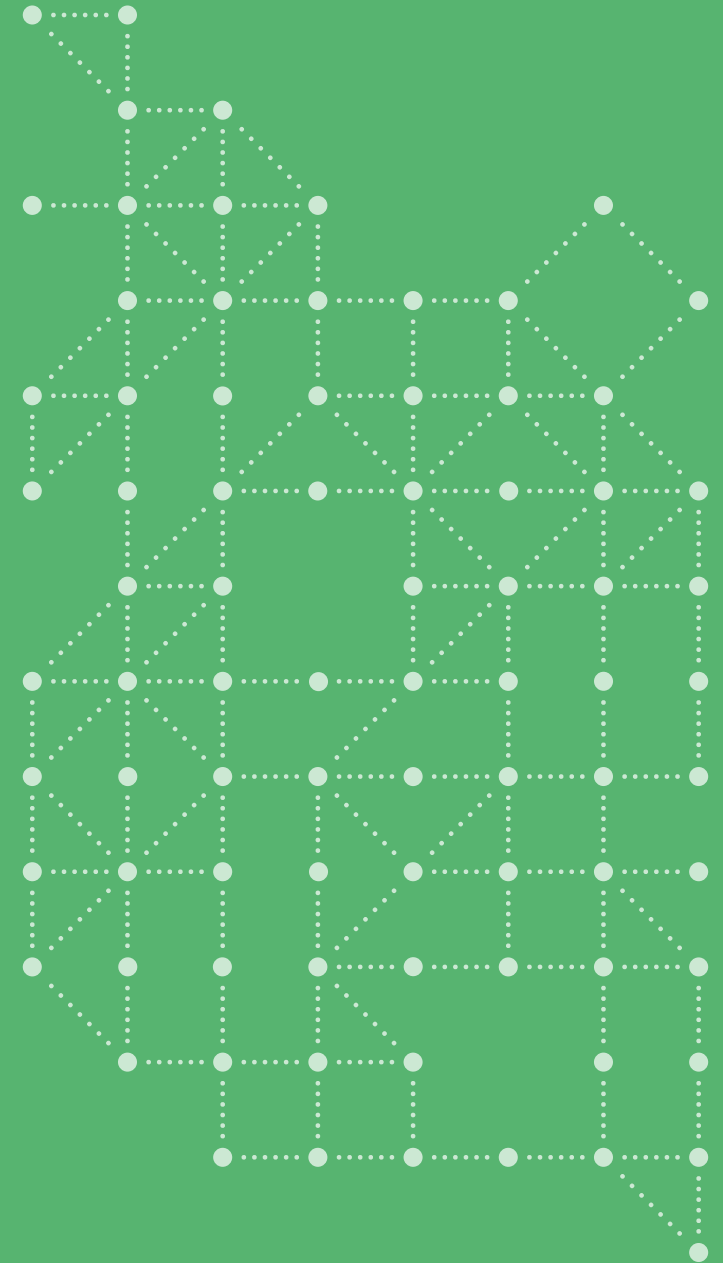
Artificial intelligence is on the rise among marketers

22% of marketers currently are using AI-based applications and an additional 57% plan to use it in the next two years to grow programmatic advertising and media buying capabilities.

How Marketers are Experimenting with AI

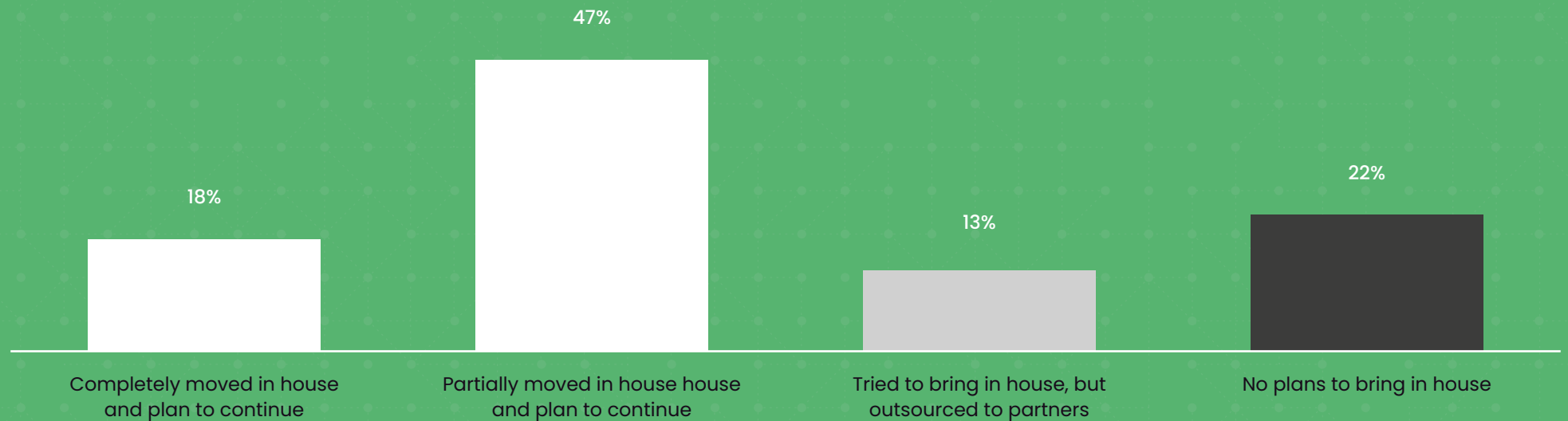


Programmatic In-Housing



Degrees of programmatic in-housing are drifting higher

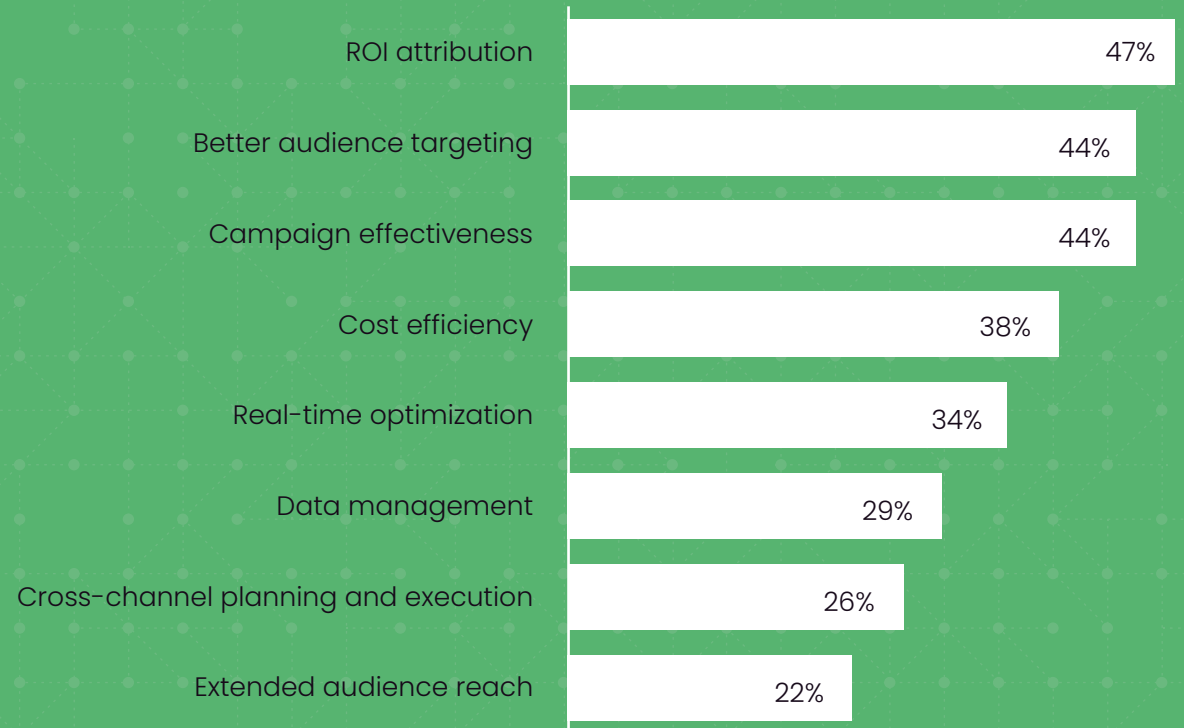
One out of five brands involved in programmatic buying has completely moved that function in house. Most brands, however, are still focused on developing partial in-house capabilities as a way to regain more control and automation over their media buying.



Squeezing more value out of advertising spend is driving the shift toward in-housing

ROI attribution, better audience targeting and campaign effectiveness were the top three programmatic in-housing objectives among brands who currently have in-house capabilities.

Top Programmatic In-Housing Objectives



IPONWEB

IPONWEB is an industry pioneer and world leader in the engineering and operation of highly customized, real-time media trading systems for publishers, advertisers, agencies and innovative technology companies. With more than 15 years' experience driving innovation in the ad exchange and real-time technology space, IPONWEB is the 'behind the scenes' technology provider that many of the world's leading industry players rely on to successfully power their media and data businesses. Visit www.iponweb.com to learn more.

the mediagrid

The MediaGrid, engineered by IPONWEB, is a next-generation supply curation and monetisation platform, built to power a new era of programmatic trading for agencies, publishers and data owners. The MediaGrid was designed to address the emerging challenges of a maturing programmatic supply chain with powerful inventory packaging and yield optimization tools that deliver more control, efficiency, and transparency to all parties – while closing the gap between buyers and sellers. Visit www.themediagrid.com to learn more.

Contact sales@themediagrid.com for more information about The MediaGrid.

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