DV | DoubleVerify

GLOBAL INSIGHTS REPORT

2023

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A NOTE ABOUT TERMS AND METHODOLOGY

A detailed methodology and glossary of terms are included in the appendix of this report.

Here are four key terms to consider:

Violation Rates (Fraud/SIVT or Brand Safety and Suitability): Those impressions — either delivered or blocked — that do not comply with a client's specific settings.

Incident Rates: Delivered — but not blocked — impressions that do not comply with a client's specific settings.

Block Rates: Blocked impressions that do not comply with a client's specific settings.

Fraud: As used throughout the report, "fraud" refers to all types of sophisticated invalid traffic (SIVT).

EXECUTIVE SUMMARY

DV is pleased to release our 2023 Global Insights Report, which examines media quality and performance trends from 5.5 trillion media transactions across 1,000 customers in nearly 100 countries.

Advertising drives the value exchange between consumers and publishers; it is essential to support a free and open internet. But as the digital landscape grows more complex daily, so does the pressure to validate how digital investments drive returns efficiently and effectively.

THIS YEAR'S REPORT AIMS TO:

Highlight quality metrics that enable advertisers to strengthen digital media strategies.

Demonstrate how attention metrics are becoming a currency for performance and how these metrics can be used to inform and optimize campaign strategies.

Reveal the value of consistent, holistic measurement and protection that extends to all channels, including proprietary platforms, the open web and emerging channels.

Provide a market-by-market analysis of the APAC, EMEA, LATAM and North America regions that highlights local nuances.

DV's 2023 Global Insights Report considers these topics in three chapters that explore how verification impacts quality, the importance of verifying all media across channels and the learnings that come with measuring attention.

Always On: Stay Protected with Always-On Verification

DV data show quality improving and stabilizing: viewability rates are up while fraud and brand suitability violations continue declining. These trends speak to how the industry has evolved, and they reflect the quality of inventory purchased by advertisers who use verification.

To better understand the state of quality across the open web, DV did two things:

- We took a deep dive into the factors that influence quality – factors like device type, daily fluctuations in news cycles, emerging fraud schemes, regional influences and more.
- We ran a directional unmanaged campaign with no protections in place to compare against DV data.

The "Always On" chapter shows how verification is similar to a security system. Security systems offer protection in three ways: they act as a deterrent; they intercede in the event of an emergency; they record and monitor activity. A holistic verification system operates similarly: pre-bid protections avoid quality violations before they happen; post-bid blocking and filtering halts ad delivery in unacceptable environments; monitoring documents and reports activity (which may be used to inform planning and optimization).

Verify Everywhere: Verify Every Ad Across Every Environment

Social, CTV, audio — all present new ways to engage with audiences. But these channels are not immune to quality concerns. An always-on strategy must extend to all places where people consume media.

The "Verify Everywhere" chapter looks at new and emerging channels and reveals the value of a holistic measurement campaign. Highlights include:

- Social, audio and gaming stats that demonstrate the impact of verification everywhere.
- A look at growing CTV consumption and measurement around the world.
- The increase of fraud across CTV that's accompanying booming growth and increased ad spending.

Impact Everywhere: Measure Impact Through Attention

With a robust security system in place, advertisers can then turn to optimizing performance. For the first time ever, privacy-friendly measurement captures both how an ad is presented and how a user interacts, or fails to interact, with that ad. With this information, advertisers can now see what dimensions drive attention and, ultimately, outcomes.

Through the attention analysis in this report, the "Impact Everywhere" chapter uncovers findings such as:

- How attention varies across regions.
- The impact of device and size on performance (for example, small display ads actually drive higher attention across all devices when bought directly through a publisher).
- Which verticals register the highest and lowest attention scores.

ALWAYS ON

Stay Protected with Always-On Verification

For DV advertisers, global trends across core quality indicators are positive or have remained stable in 2022. The numbers reflect strong adoption of both pre- and post-bid verification, helping ensure quality and transparency in the ecosystem.

2022

7.1%	1.1%	69%	74%	66%
Brand Suitability Violation Rate	Fraud Violation Rate	Display Viewable Rate	Video Viewable Rate	Authentic Viewable Rate
0%	↓25%	↑4%	↑2%	↑4%
Change Year-Over-Year	Decrease Year-Over-Year	Increase Year-Over-Year	Increase Year-Over-Year	Increase Year-Over-Year

These trends speak to what happens when protections are in place. Always-on verification means an advertiser uses pre-bid avoidance and video filtering to prevent violations before they happen. They use blocking as a defensive tactic to ensure ads will not appear in unacceptable environments and they use monitoring and reporting data to inform campaign insights.

To better understand the state of quality for unprotected advertisers or those who use verification only during peak buying periods, DV ran a directional test campaign with no protections in place, and a tale of two advertising landscapes emerged. While managed campaigns continued trending in the right direction, the unmanaged campaign saw poor viewability rates, high incidents of fraud and myriad brand suitability and safety infractions.

ALWAYS-ON VERIFICATION

- Pre-bid Avoidance
- Video Filtering
- Post-bid Blocking
- Monitoring and Reporting
- Campaign Optimization
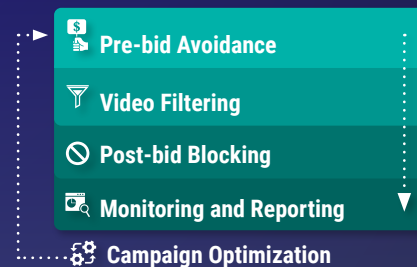
BRAND SUITABILITY

Violations Can Spike Anytime, Anywhere

The global rate of suitability violations remained at 7.1 percent for the second year in a row, after rising in 2020 amidst news of the pandemic. Enhanced pre-bid protections — especially adoption of DV's Authentic Brand Suitability (ABS) — are the primary driver behind this trend.

BRAND SUITABILITY VIOLATION RATE: TRENDS OVER TIME

7.5%
2019

7.8%
2020

7.1%
2021

7.1%

2022
BEHIND THE TREND: DAILY FLUCTUATIONS
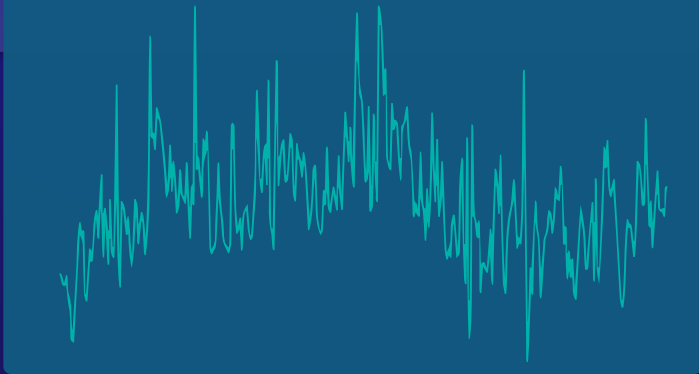
The macro view of the violation rate, however, can be deceiving. Brand suitability violations spike and dip daily. Elections, economic events, geopolitical concerns and even celebrity meltdowns contribute to the volatility of news cycles. In fact, brand suitability violations can swing up to 27 percent from one day to the next. To strike the right balance of protection and scale, brands need to be vigilant in maintaining and updating their brand suitability settings.

The Cost of Doing Nothing

To see what media quality looks like relative to brand suitability without protections in place, DV monitored the unmanaged test campaign based on two scenarios:

As if the advertiser had **strict brand suitability settings** in place.

As if the advertiser had **average brand suitability settings** in place.

Comparing the results of the unmanaged campaign against DV's benchmarks starkly contrasts what the media landscape looks like with and without verification. The unmanaged campaign with strict suitability settings in place experienced a 323 percent higher violation rate than managed campaigns. And the unmanaged campaign with average suitability settings saw a 94 percent higher violation rate. The day-to-day range of violations for the unmanaged campaign was also significantly higher than the managed campaigns.

BRAND SUITABILITY VIOLATION RATES ACROSS AN UNMANAGED CAMPAIGN

■ Overall Rate   ▬ Highest Day   ▬ Lowest Day

14%

27pp

30%

19pp

UNMANAGED CAMPAIGN
WITH AVERAGE SETTINGS

UNMANAGED CAMPAIGN
WITH STRICT SETTINGS

+94%   **VIOLATION RATE DIFFERENCE**
Compared to the global average
for managed campaigns (7.1%)   **+323%**

DAILY RANGE
The unmanaged campaign experienced wide daily percentage point range
in suitability rates, illustrating even further risk for unprotected advertisers.

The Impact of Geography

Where ads run also impacts violation rates and reinforces the need for always-on protection. Although brand suitability violations have stabilized for protected advertisers, EMEA and LATAM experience higher violations, with respective rates of 10.6 percent and 9.2 percent. In both regions, desktop and mobile web have been driving higher suitability violation rates.

BRAND SUITABILITY VIOLATION RATE BY REGION

Global Average (7.1%)

- APAC: 6.8%
- EMEA: 10.6%
- LATAM: 9.2%
- NORTH AMERICA: 6.4%
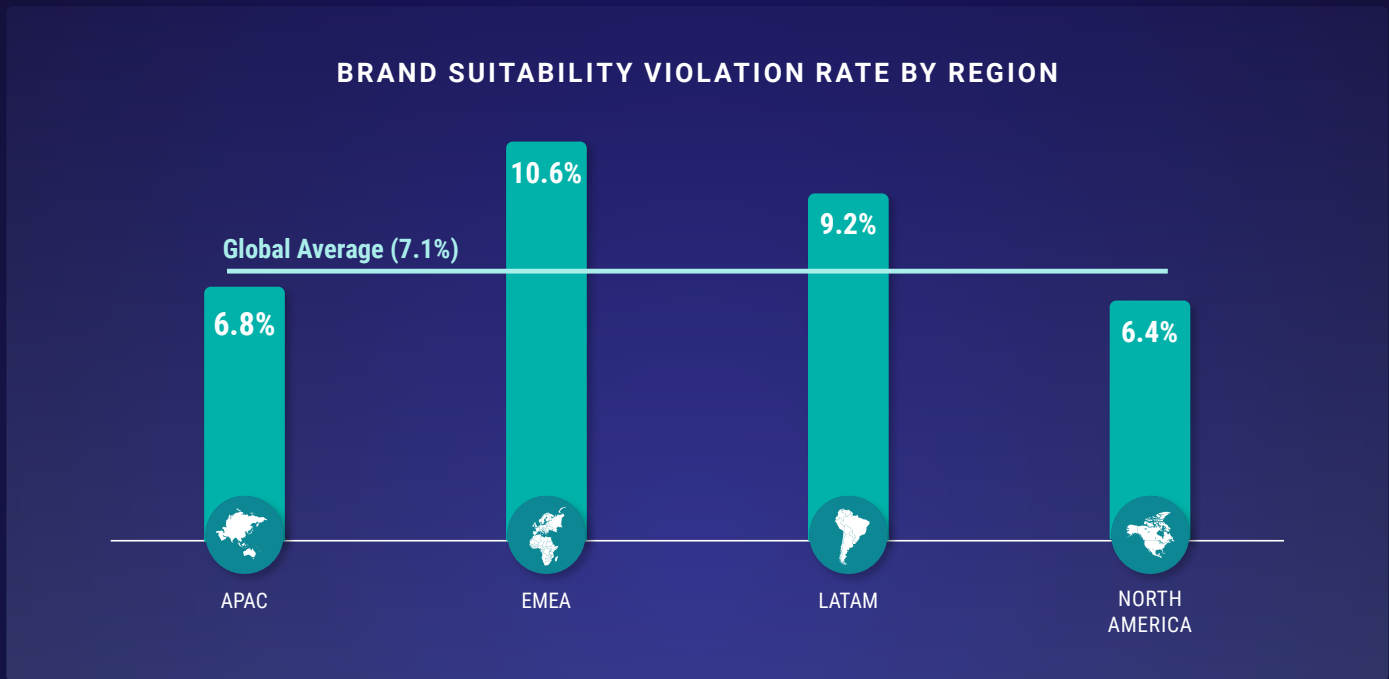
REGIONAL DEVICE HOTSPOTS (YEAR-OVER-YEAR INCREASE)

Spikes for brand suitability violations can occur anytime, anywhere — including hotspots of EMEA and LATAM, on Desktop and Mobile Web.

	OVERALL	DESKTOP	MOBILE WEB
EMEA	+50% Above the global violation rate	+22% Year-over-year increase	+13% Year-over-year increase
LATAM	+31% Above the global violation rate	+9% Year-over-year increase	-8% Year-over-year decrease

THE BOTTOM LINE IMPACT

At scale, unmanaged campaigns may result in significantly more brand suitability waste than managed campaigns:

$199K Per Billion Impressions
Unmanaged (average settings)

$685K Per Billion Impressions
Unmanaged (strict settings)

FRAUD

New Fraud Schemes More Than Doubled Over the Last Two Years

Post-bid fraud/sophisticated invalid traffic (SIVT) rates decreased for the third consecutive year. But as with brand suitability, decreasing post-bid rates do not tell the whole story. Pre-bid fraud protections significantly mitigate the damage fraudsters can do, but these protections do not stop them from concocting increasingly sophisticated schemes aimed at siphoning ad spend. In fact, the number of new fraud schemes and variants DV detects annually has more than doubled from 2020 to 2022.

Post-bid fraud rates decreased for the third consecutive year

FRAUD/SIVT VIOLATION RATE: TRENDS OVER TIME

2019	2020	2021	2022
2.6%	1.6%	1.5%	1.1%
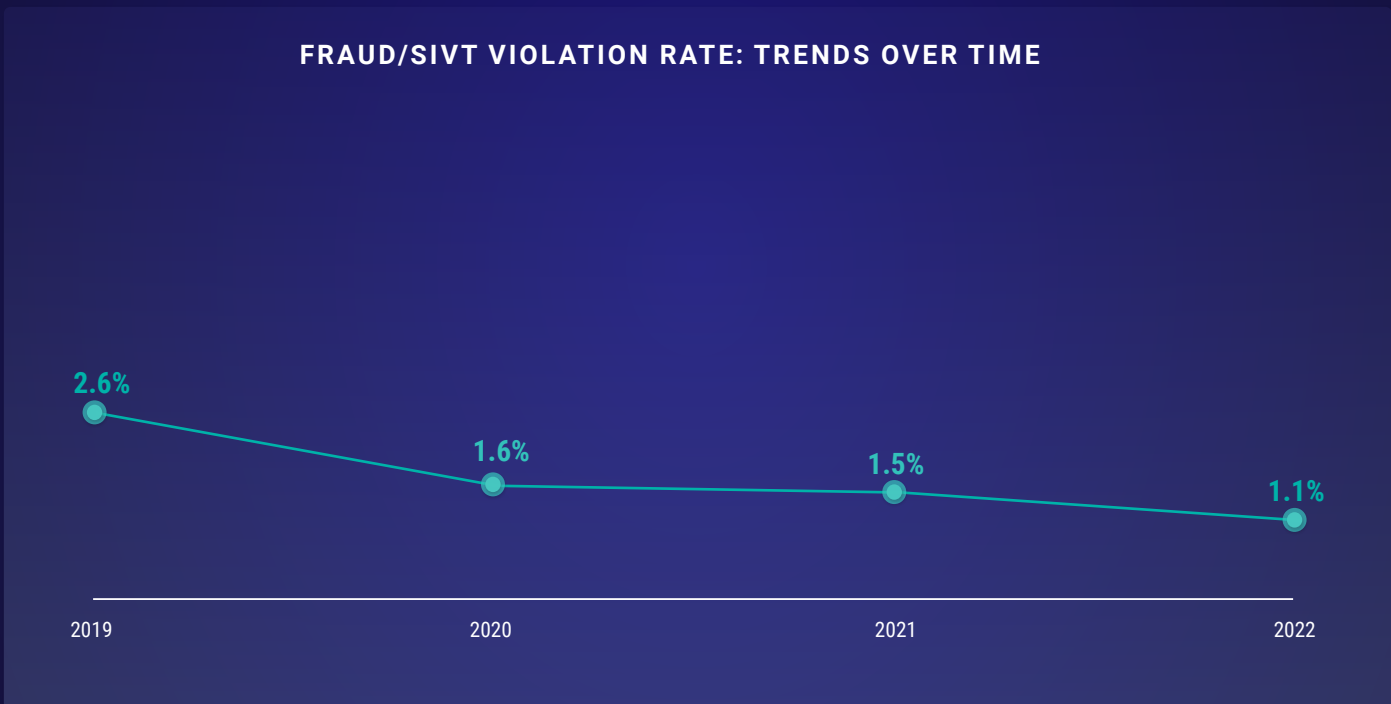
The Cost of Doing Nothing

To see what media quality looks like relative to fraud without protections in place, DV monitored the unmanaged test campaign for post-bid fraud violations.

Fraud rates were 5.1 percent on the unmanaged campaign — 367 percent higher than managed campaigns. And on peak days, fraud rates for the unmanaged campaign spiked to nearly 25 percent, resulting in one out of every four impressions being wasted on fraud.

FRAUD/SIVT VIOLATION RATES

■ Overall Rate   ▬ Highest Day   ▬ Lowest Day

24pp

1.1%   ⋯ 1pp   5.1%

MANAGED CAMPAIGNS   UNMANAGED CAMPAIGNS

367% **FRAUD/SIVT RATE DIFFERENCE**
Between the unmanaged campaign and managed campaigns

DAILY RANGE
The violation rate for the unmanaged campaign ranged 24 percentage points between the highest and the lowest days, compared to just 1 percentage point for managed campaigns.

The Impact of Geography

Just as fraud fluctuates from day to day, it also varies by region. Despite a global decrease in post-bid fraud rates, the fraud violation rate has continued climbing in LATAM and APAC. Content consumption on mobile apps has surged in LATAM and APAC. And both regions have seen fraud rates increase across mobile app and mobile web over the past two years, even as global mobile app fraud rates have been slowly declining.

FRAUD/SIVT VIOLATION RATE BY REGION

Global Average (1.1%)

	APAC	EMEA	LATAM	NORTH AMERICA
	1.0%	1.2%	1.5%	1.1%
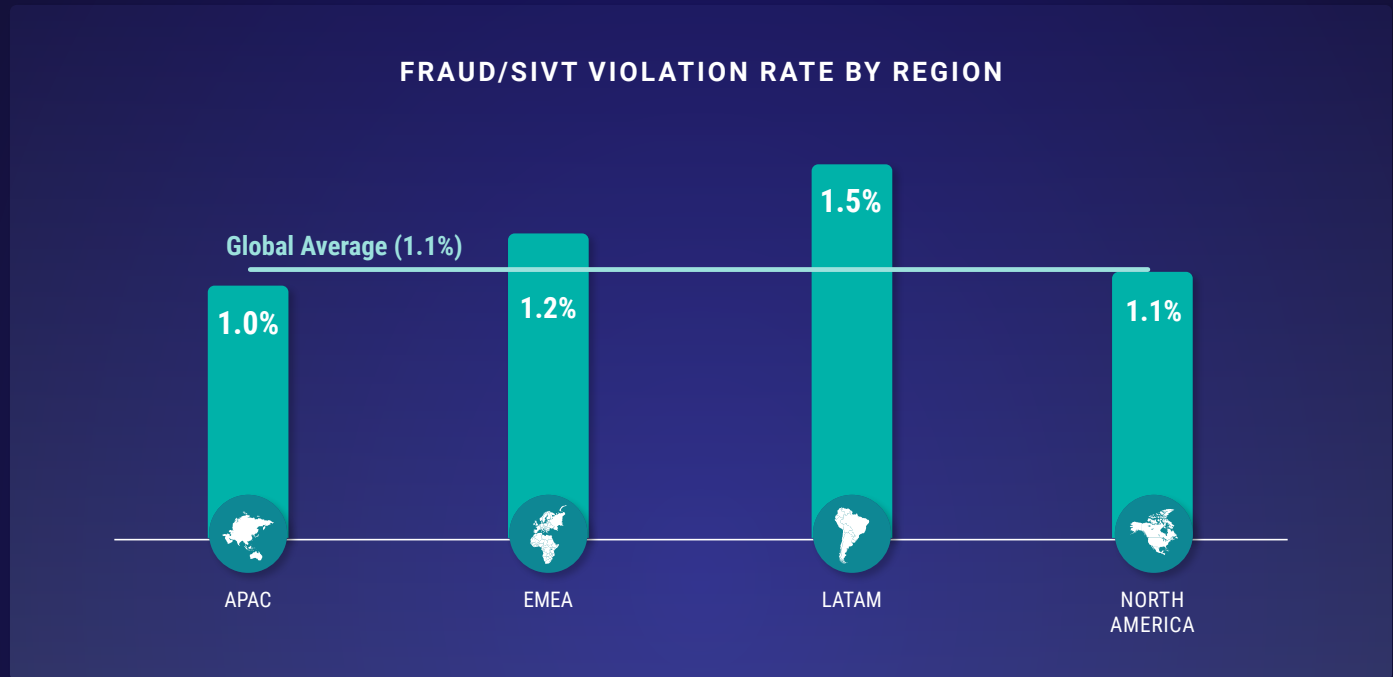
REGIONAL DEVICE HOTSPOTS (YEAR-OVER-YEAR INCREASE)

Despite the global decrease in fraud violations, there was a significant increase in fraud in certain pockets — namely, APAC and LATAM mobile buys.

		OVERALL	MOBILE APP	MOBILE WEB
	APAC	+7% Year-over-year increase	+44% Year-over-year increase	+1% Year-over-year increase
	LATAM	+16% Year-over-year increase	+24% Year-over-year increase	+8% Year-over-year increase

THE BOTTOM LINE IMPACT

🚫 **$121K** Per Billion Impressions
Unmanaged Campaign Fraud Waste

VIEWABILITY

From 2019 to 2022, viewability rates steadily increased and are now at or above the IAB's recommended threshold of 70 percent. What was once aspirational is today's norm.

This may be attributed to a variety of factors, not the least of which is environment. For example, mobile apps — which typically experience higher viewability — saw a 117 percent increase in measured impression volume from 2019 to 2022.

Mobile apps saw a 117% increase in measured impression volume from 2019-2022.
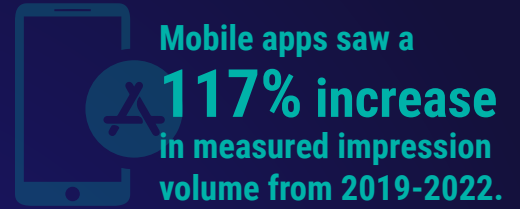
DISPLAY AND VIDEO VIEWABLE RATE: TRENDS OVER TIME

● Display Viewability   ● Video Viewability

65%   70%   73%   74%
61%   66%   67%   69%

2019   2020   2021   2022
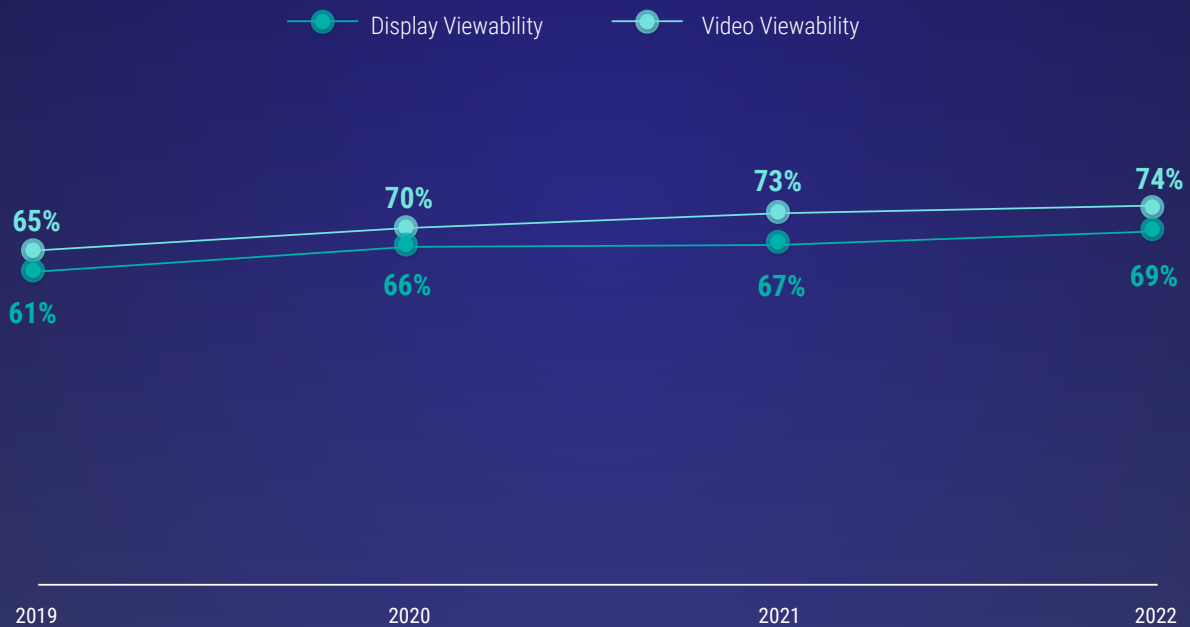
The Cost of Doing Nothing

To see what media quality looks like relative to viewability without protections in place, DV monitored the unmanaged test campaign and observed viewability rates.

As it relates to viewability, rates were significantly lower for the unmanaged campaign than managed campaigns. In addition, the viewability the campaign experienced varied greatly from day to day as illustrated below.

VIEWABLE RATE

Overall Rate   Highest Day   Lowest Day

Display

69%   7pp
57%   36pp

MANAGED   UNMANAGED

Video

74%   7pp
43%   47pp

MANAGED   UNMANAGED

-18% DISPLAY VIEWABLE RATE DIFFERENCE
Between the unmanaged campaign and managed campaigns

-42% VIDEO VIEWABLE RATE DIFFERENCE
Between the unmanaged campaign and managed campaigns

DAILY RANGE

The unmanaged campaign experienced up to a 47 percentage point range between the high and the low daily viewable rate, compared to just 7 percentage points for managed campaigns. The result is far greater reliability for the managed campaigns.

The Impact of Geography

With the exception of display ads in EMEA and APAC, viewability is well above the IAB's recommended threshold of 70 percent. For two years, DV customers' campaigns have continued to surpass the IAB threshold for video viewability, with an average rate of 74 percent across campaigns and device types in 2022. The display viewable rate has also increased to 69 percent overall; however, they only exceed IAB standards on mobile apps (79 percent).

VIEWABLE RATE BY REGION

Display

Global Average (69%)

Region	Rate
APAC	65%
EMEA	67%
LATAM	74%
North America	70%

Video

Global Average (74%)

Region	Rate
APAC	78%
EMEA	76%
LATAM	75%
North America	73%
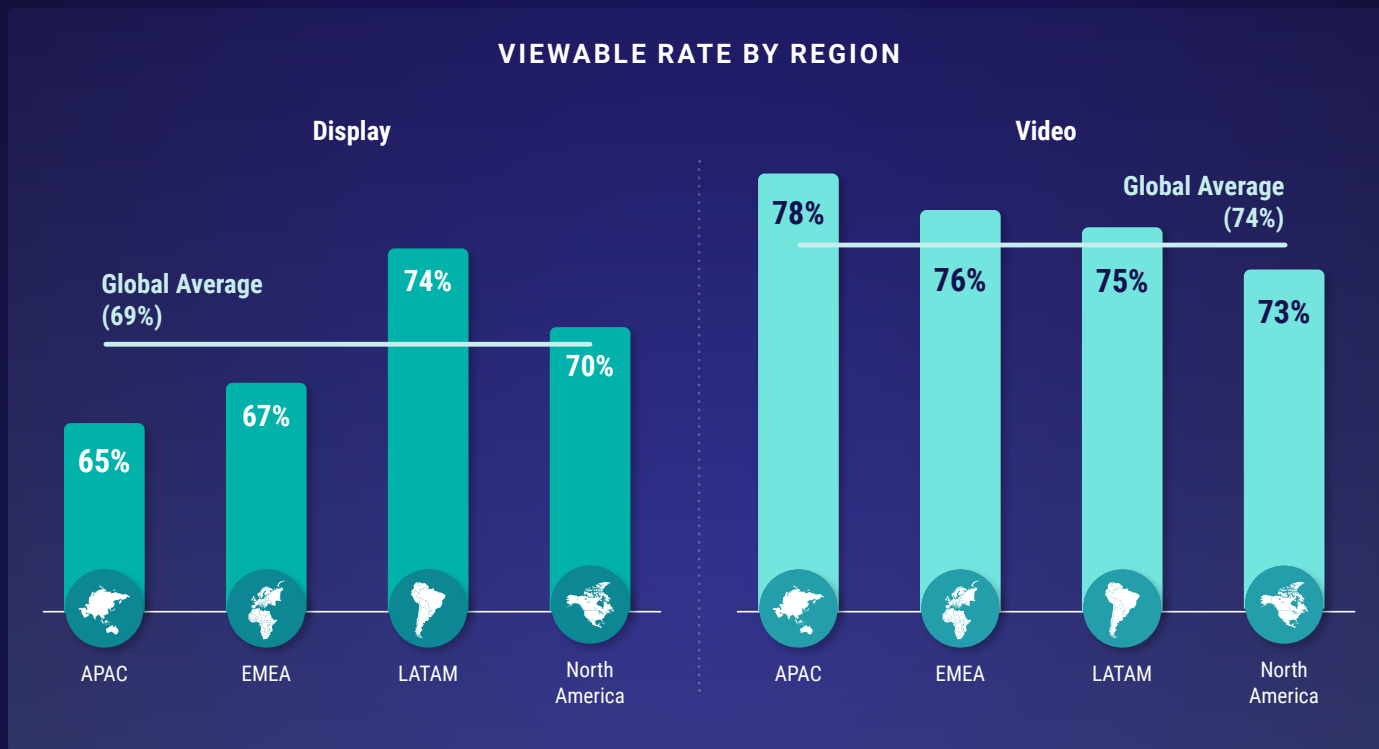
DEVICE HOTSPOTS

An increase in mobile measurement across both display and video has led to more accurate — and often higher — viewability benchmarks.

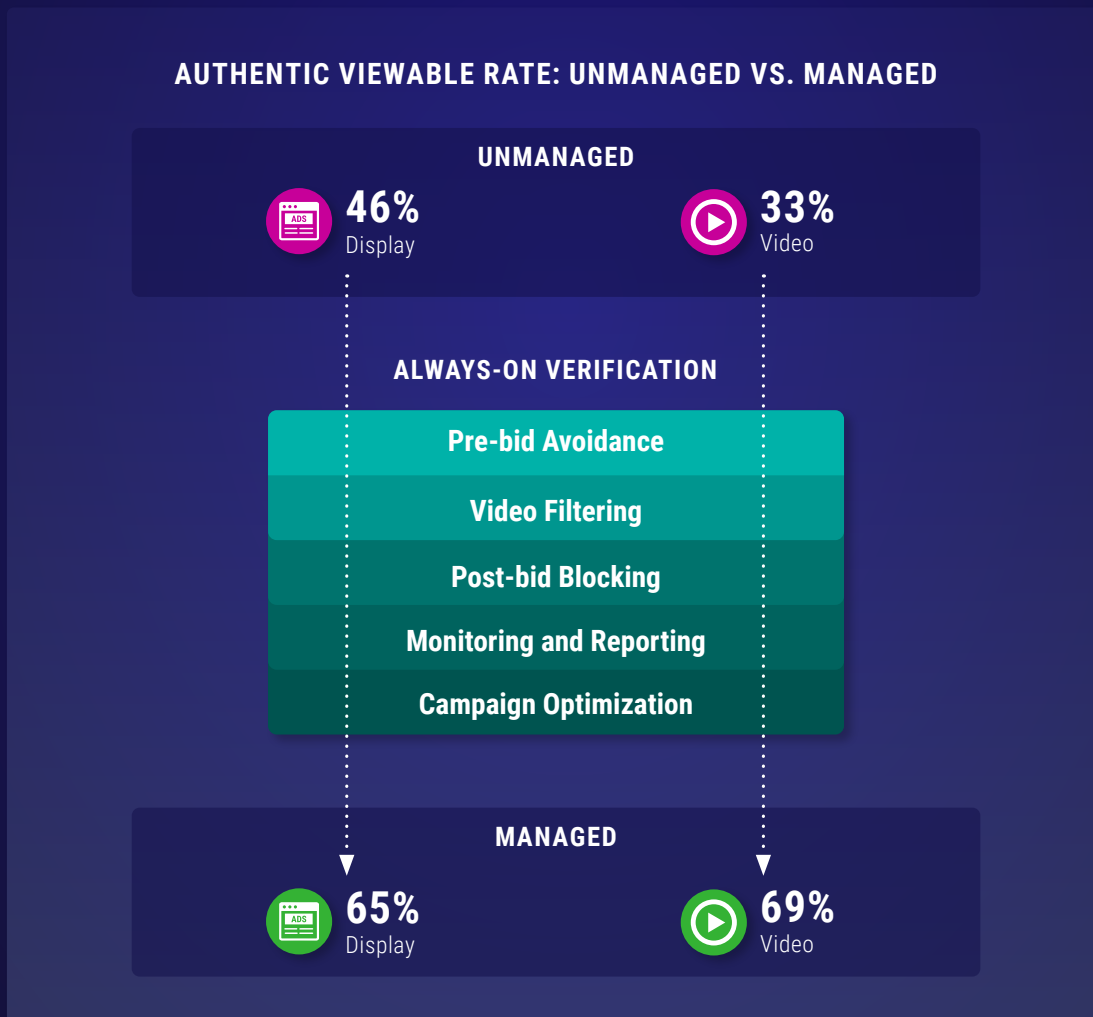|	MOBILE APP	MOBILE WEB
DISPLAY	79% ↑9% Year-over-year increase	66% ↑3% Year-over-year increase
VIDEO	75% ↓3% Year-over-year increase	74% ↑4% Year-over-year increase

THE BOTTOM LINE IMPACT

$458K Per Billion Impressions
Unmanaged Campaign Viewability Waste

THE AUTHENTIC AD™

Maximizing Media Quality to Set the Stage for Performance

Throughout this section, we have discussed the need for always-on protection relative to key quality metrics like brand suitability, fraud and viewability. But these metrics cannot be viewed in a silo — they must be evaluated together to fully gauge campaign effectiveness.

This is why DV created the Authentic Ad™. An ad is considered Authentic when it has the opportunity to be seen by a human being, in a brand suitable environment, in the intended geography. Many of our customers use this as their definitive measure of media quality. To be most effective, however, protections must be applied throughout the media transaction, as displayed in the chart below. Every added step of protection moves advertisers closer and closer to the goal of making the most of every dollar spent.

AUTHENTIC VIEWABLE RATE: UNMANAGED VS. MANAGED

UNMANAGED

46% Display

33% Video

ALWAYS-ON VERIFICATION

Pre-bid Avoidance

Video Filtering

Post-bid Blocking

Monitoring and Reporting

Campaign Optimization

MANAGED

65% Display

69% Video

VERIFY EVERYWHERE

Verify Every Ad Across Every Environment

Digital content consumption is booming around the world. In 2020, more than 80 percent of Americans got their news from digital devices. By 2025, global CTV spend will be nearly equal to multichannel (cable and satellite) television spend. Social networks reached more than half (54 percent) of people around the world in 2022. And, globally, we now spend an average of two hours and 27 minutes on social channels per day.
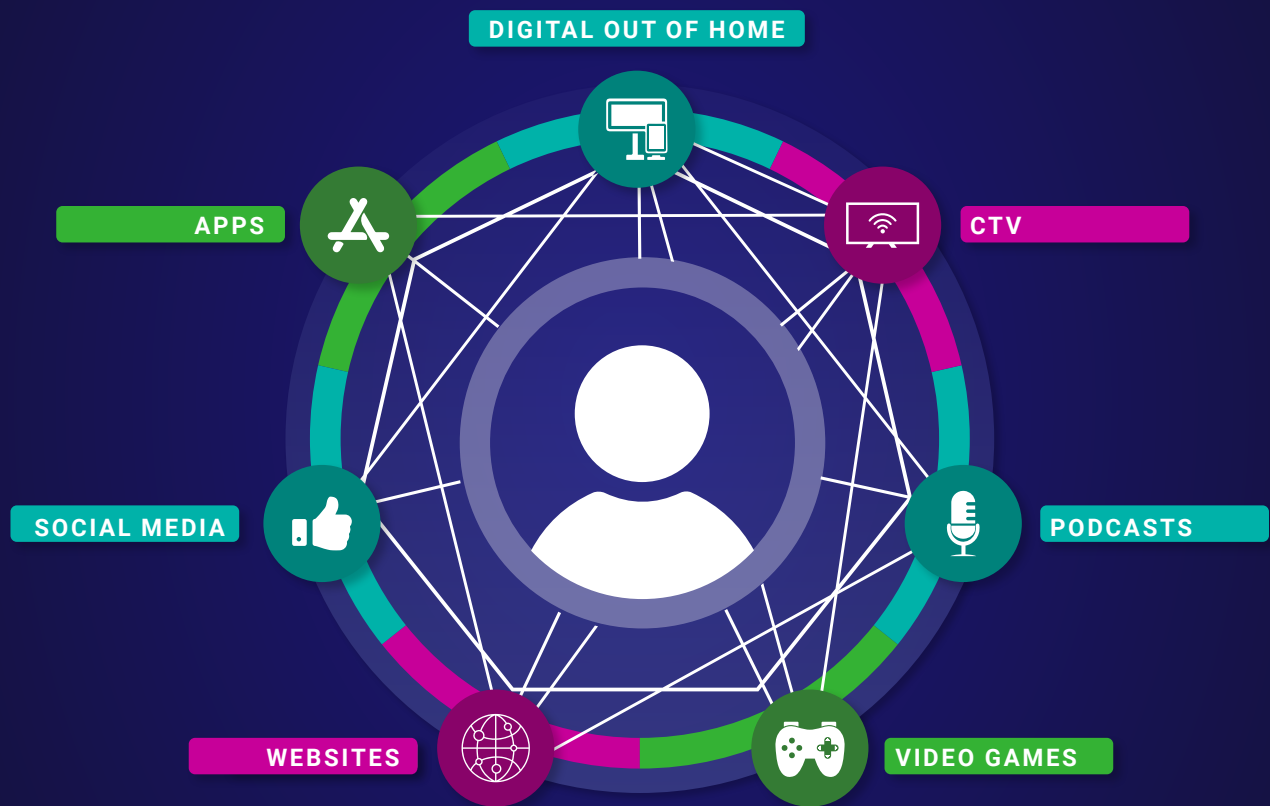
With the proliferation of digital content consumption comes the need to adapt and extend quality standards across a variety of new channels. In this section of the report, we explore insights across social, CTV and emerging channels, such as gaming and retail media networks.

THE CASE FOR VERIFICATION EVERYWHERE

Social, CTV and audio all present new ways to engage with audiences. But these channels are not immune to quality concerns. That is why a brand's media quality should extend to everywhere content consumption takes place. The data below demonstrates the insights that can help drive media optimization, even in nascent environments.

TIKTOK

97% Of TikTok impressions are served with audio turned on.

DID YOU KNOW?
TikTok's audibility exceeds DV's tagged video placements by more than 50%.

PINTEREST

81% Viewable rate across Pinterest display placements.

DID YOU KNOW?
Pinterest's display viewability exceeds DV's open web mobile benchmarks.

AUDIO

1st Large-scale SSAI fraud scheme – BeatSting – targeted audio media in early 2023.

DID YOU KNOW?
BeatSting cost unprotected advertisers up to $1 million a month.

GAMING

43% Of mobile app impressions originate from games.

DID YOU KNOW?
9.8% of mobile app games are classified by DV as a high or medium brand suitability risk.

TWITTER

1.5x Stronger viewability and 1.2x higher completion rate on Twitter In-Stream Video Views and Promoted Video Views objectives, compared with other objectives on the platform.

DID YOU KNOW?
DV and Twitter had viewability measurement across 29 countries in 2022.

SNAP

81% Video viewable rate on Snapchat Commercials.

DID YOU KNOW?
Snapchat shows strong performance on Commercials, which are non-skippable and average a 55% video completion rate.

RETAIL MEDIA NETWORKS (RMNs)

Audience extension has a **129% higher Violation Rate**, but a **91% higher Viewable Rate** (vs. O&O) on RMNs.

DID YOU KNOW?
Audience extension makes up over half of DV-measured inventory on retail media networks.

CTV BY THE NUMBERS

An increase in streaming subscriptions — which include free, ad supported plans — is fueling Connected TV's ascension. As CTV becomes a top channel for consumers and advertisers alike, measurement and protection are becoming increasingly important, because with growth comes growing pains.

CTV CONSUMPTION AND QUALITY VERIFICATION GROWS GLOBALLY

YEAR-OVER-YEAR GROWTH IN CTV AD IMPRESSION VOLUME

↑62% Globally

↑61% US

↑252% UK

↑369% India

↑150% Australia

↑453% Brazil
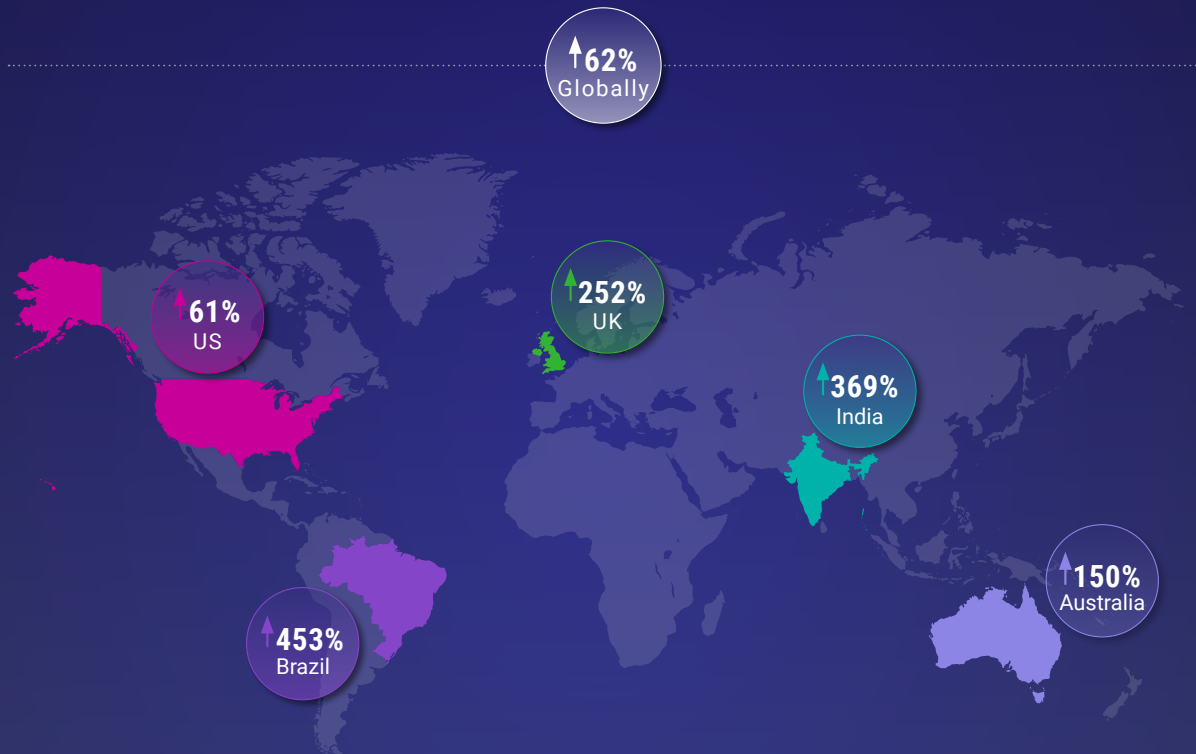
VIDEO COMPLETION RATE ON CTV OUTPACES OTHER ENVIRONMENTS...

DESKTOP
74%

MOBILE APP
74%

MOBILE WEB
59%

CTV
96%

96% vs. 67% VCR on CTV vs. all other devices

...BUT ADS PLAYING WHILE TVs ARE OFF IS A CONCERN

MORE THAN 1 IN 3

CTV impressions are served into environments that fire ads when the TV is turned off. DV's new CTV Viewability measurement solution helps solve for this and other viewability challenges.

CTV BY THE NUMBERS: GROWTH AND GROWING PAINS

As CTV has grown, so too have quality infractions. Bot fraud, in particular, is prevalent and growing. In fact, DV saw a 69 percent increase in bot fraud across CTV in 2022. This is particularly concerning for unprotected advertisers who experience 17.6 times more fraud violations than managed campaigns.

CTV FRAUD VIOLATION RATES

11.2%

+17.6x

0.6%

✔

🚫

MANAGED CAMPAIGNS

UNMANAGED CAMPAIGN
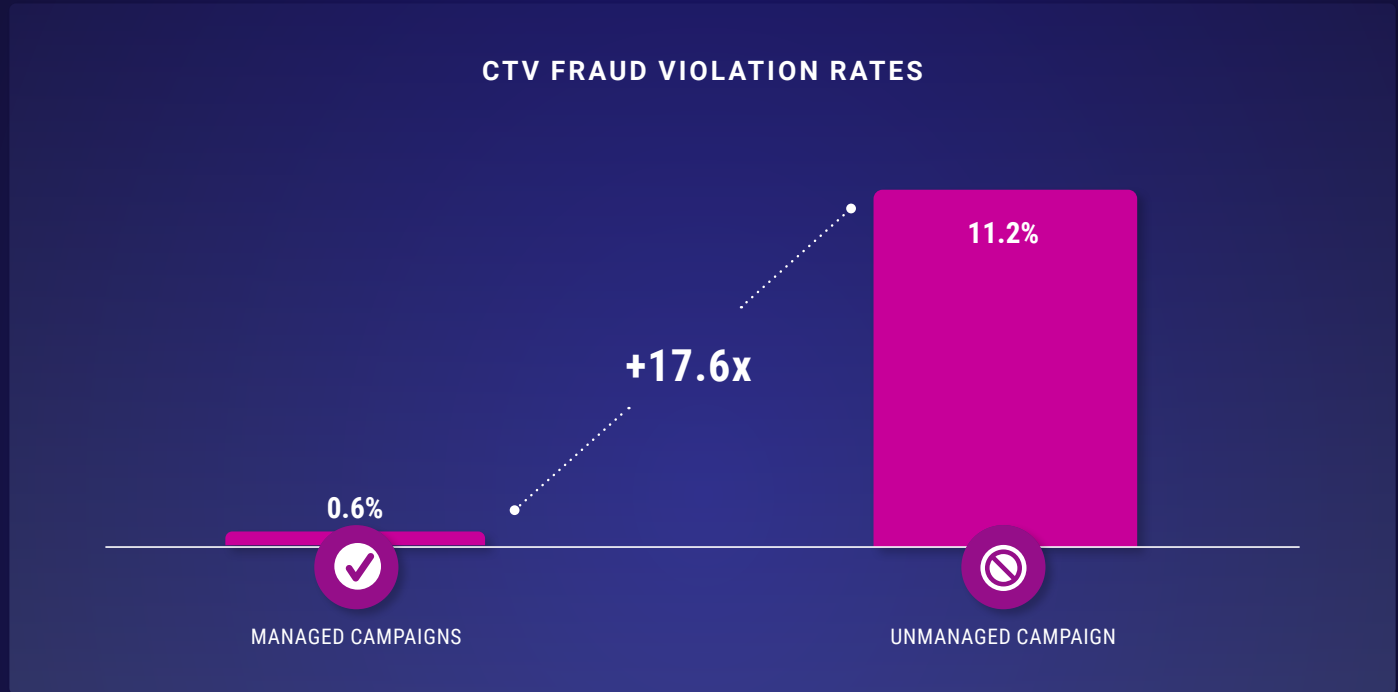
Detecting schemes early — before they have a chance to gain momentum — is critical to keeping our advertiser and platform partners protected. And the growing number of fraud schemes each year underscores the need for early detection and protection across channels. In fact, the number of CTV fraud schemes and variants DV detected has tripled since 2020.

3x CTV schemes have tripled from 2020-2022

72% Year-over-year increase in DV Video Filter Rate on CTV

Multi-Layered Protection Helps Advertisers Combat Fraud on CTV

A multi-layered verification strategy — one that employs protection before, during and after an ad serves — can help enhance advertisers' confidence in their media buys. Unique tools like DV's Video Filtering provide an added layer of protection that works in conjunction with existing controls, such as blocking and pre-bid activation. DV's Video Filtering enables advertisers to further reduce waste and minimize video infractions across devices including CTV, mobile and desktop.

IMPACT EVERYWHERE

Measure Impact Through Attention

Qualifying an ad's impact matters more than ever before. In 2007, The New York Times reported that consumers saw 5,000 ads a day. Ten years later, Forbes estimated this number could be as high as 10,000.

2007

2017

Consumers Saw
5,000 ADS PER DAY

Consumers Saw
10,000 ADS PER DAY
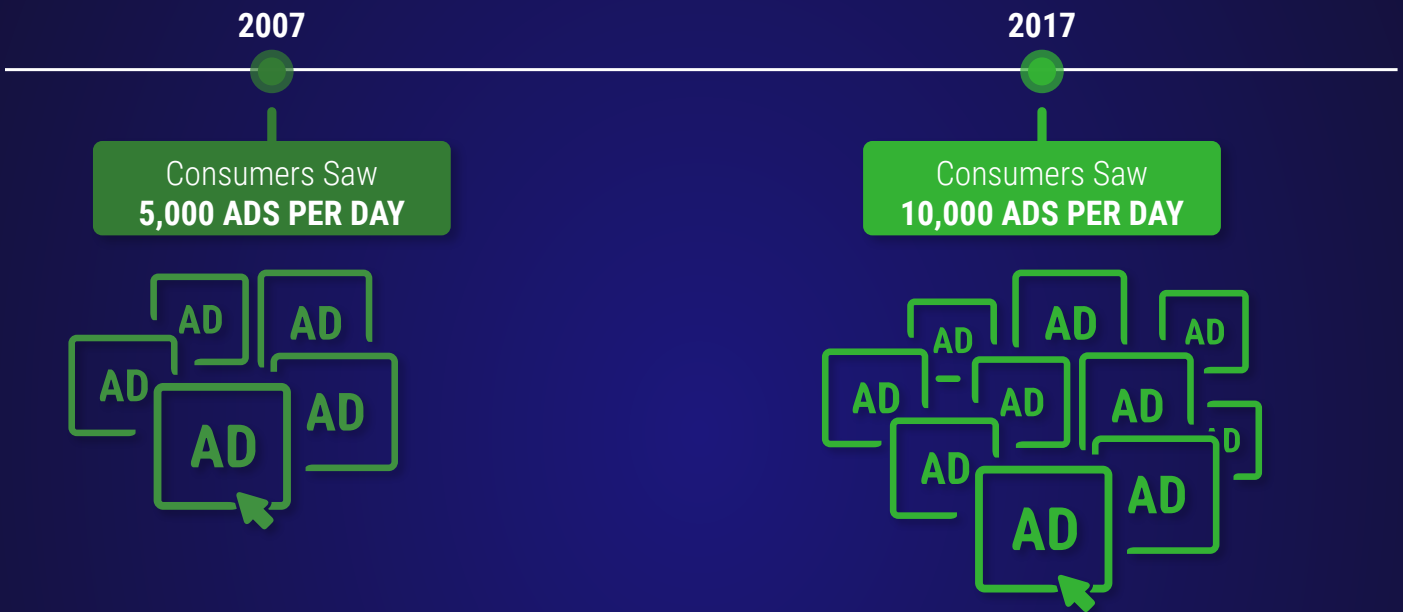
Understanding the impact of an ad's presentation, as well as key dimensions of consumer engagement, enables advertisers to optimize campaign performance and increase their return on investment. Attention is making an impact everywhere and has changed the game in advertising.

Looking at engagement and exposure measurement through different lenses, DV formulates insights about attention based on variables like region, device type and ad placement.
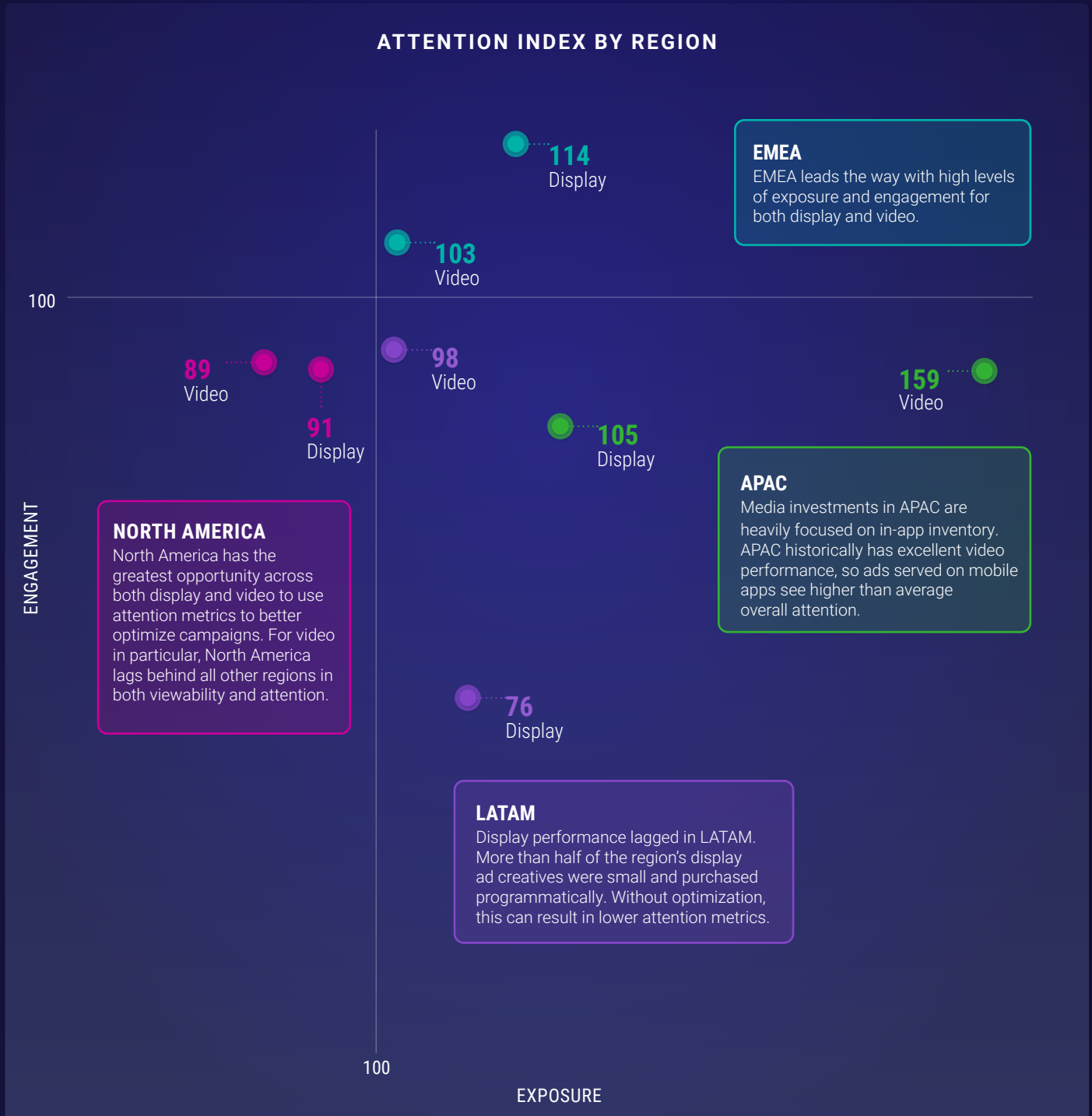
DV AUTHENTIC ATTENTION®

DV's privacy-friendly attention measurement solution that does not rely on cookies - analyzes over 50 data points on the exposure of a digital ad and consumer's engagement with a digital ad and device — in real-time. For exposure, DV Authentic Attention® evaluates an ad's entire presentation, quantifying its intensity and prominence through metrics that include viewable time, share of screen, video presentation, audibility, and more. For engagement, DV Authentic Attention® analyzes key user-initiated events that occur while the ad creative is displayed, including user touches, screen orientation, video playback, and audio control interactions. As an end-to-end solution that drives outcomes through the marketing funnel, it enables brands to measure campaign effectiveness and optimize performance.

LOCATION MATTERS

Regional Influence on Attention Outcomes

Exposure and engagement vary significantly at a regional level. A primary driver of attention results between regions is inventory buying strategies. The graph below provides insights into attention measurement trends within each region.
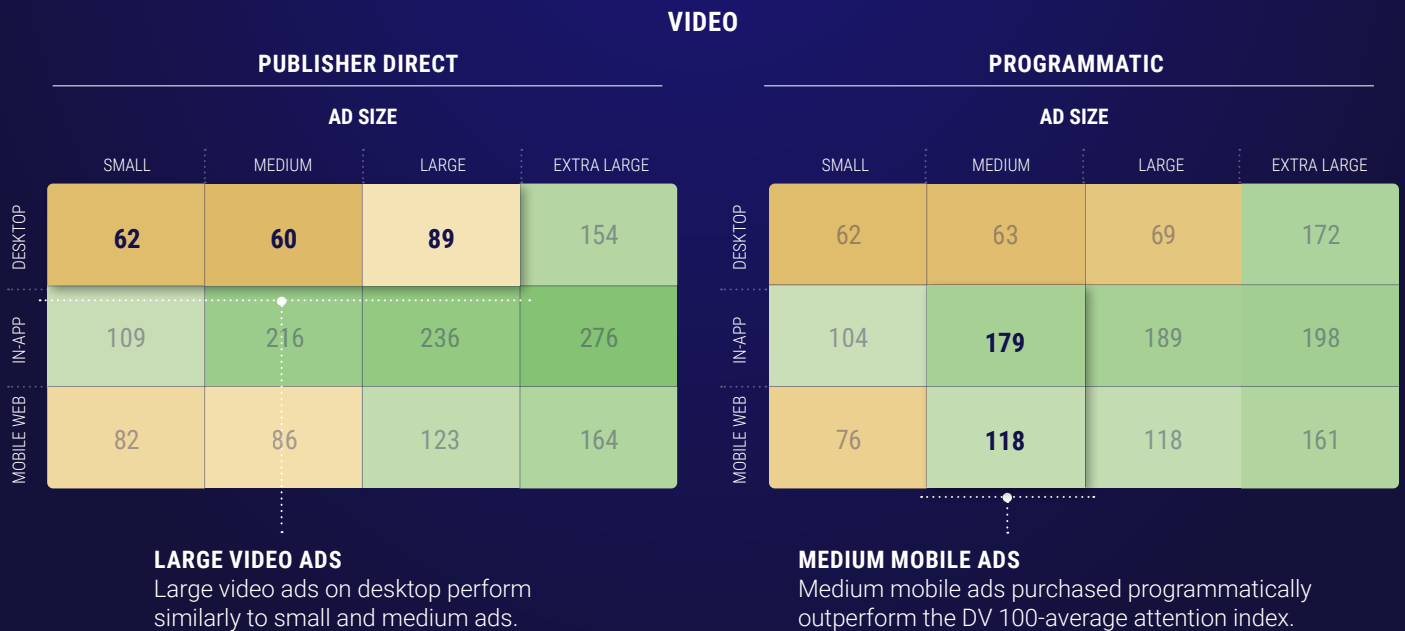
ATTENTION INDEX BY REGION

114
Display

103
Video

EMEA
EMEA leads the way with high levels of exposure and engagement for both display and video.

100

89
Video

91
Display

98
Video

159
Video

105
Display

ENGAGEMENT

NORTH AMERICA
North America has the greatest opportunity across both display and video to use attention metrics to better optimize campaigns. For video in particular, North America lags behind all other regions in both viewability and attention.

APAC
Media investments in APAC are heavily focused on in-app inventory. APAC historically has excellent video performance, so ads served on mobile apps see higher than average overall attention.

76
Display

LATAM
Display performance lagged in LATAM. More than half of the region's display ad creatives were small and purchased programmatically. Without optimization, this can result in lower attention metrics.
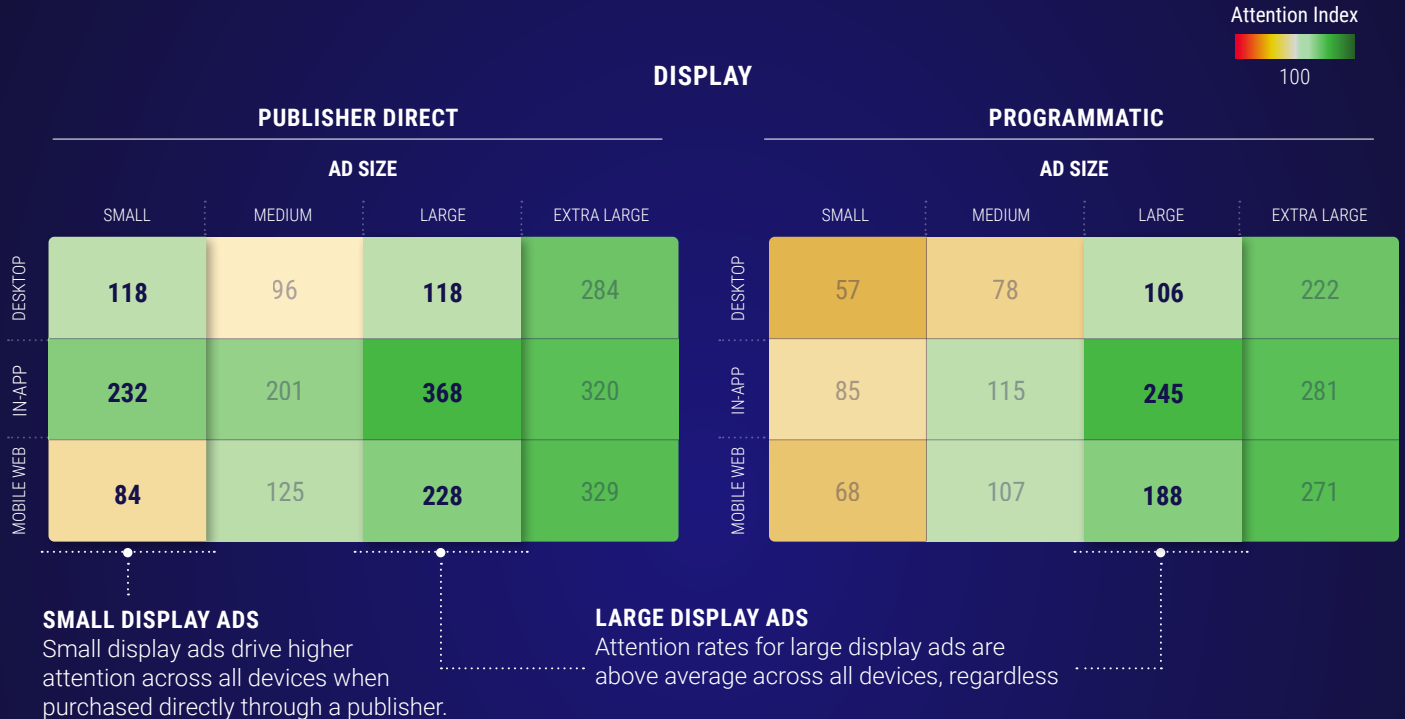
100

EXPOSURE

Note: Each attention index analysis is centered on DV's 100-average attention value.

HOW YOU BUY MATTERS

Ad Size and Device Impact

Whether buying programmatically or directly, understanding the impact of ad size and viewing environment on attention can influence an advertiser's buying strategy. Not surprisingly, extra large ads performed the best across buying mediums, formats and environments. Although it's not all negative news for smaller ad sizes, it is clear that advertisers must consider a variety of factors — including size — to capture consumer attention.
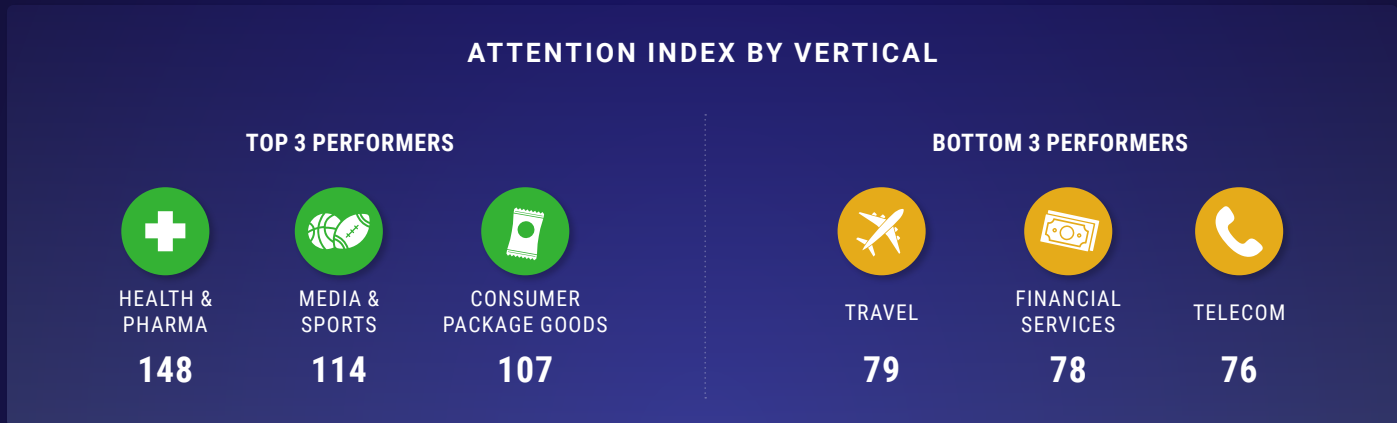
Attention Index

100

DISPLAY

PUBLISHER DIRECT
AD SIZE

	SMALL	MEDIUM	LARGE	EXTRA LARGE
DESKTOP	**118**	96	**118**	284
IN-APP	**232**	201	**368**	320
MOBILE WEB	**84**	125	**228**	329

PROGRAMMATIC
AD SIZE

	SMALL	MEDIUM	LARGE	EXTRA LARGE
DESKTOP	57	78	**106**	222
IN-APP	85	115	**245**	281
MOBILE WEB	68	107	**188**	271

SMALL DISPLAY ADS
Small display ads drive higher attention across all devices when purchased directly through a publisher.

LARGE DISPLAY ADS
Attention rates for large display ads are above average across all devices, regardless

VIDEO

PUBLISHER DIRECT
AD SIZE

	SMALL	MEDIUM	LARGE	EXTRA LARGE
DESKTOP	**62**	**60**	**89**	154
IN-APP	109	216	236	276
MOBILE WEB	82	86	123	164

PROGRAMMATIC
AD SIZE

	SMALL	MEDIUM	LARGE	EXTRA LARGE
DESKTOP	62	63	69	172
IN-APP	104	**179**	189	198
MOBILE WEB	76	**118**	118	161

LARGE VIDEO ADS
Large video ads on desktop perform similarly to small and medium ads.

MEDIUM MOBILE ADS
Medium mobile ads purchased programmatically outperform the DV 100-average attention index.

Note: Each attention index analysis is centered on DV's 100-average attention value.

INDUSTRY MATTERS

Advertiser Vertical Performance

The top and bottom-performing verticals based on DV's Attention Index are highlighted below. Advertiser verticals that garner the most attention for their campaigns invest in media buying combinations such as ads on mobile devices and video campaigns. Verticals with a lower average DV attention index, however, tend to invest in medium-sized display ads on a desktop.
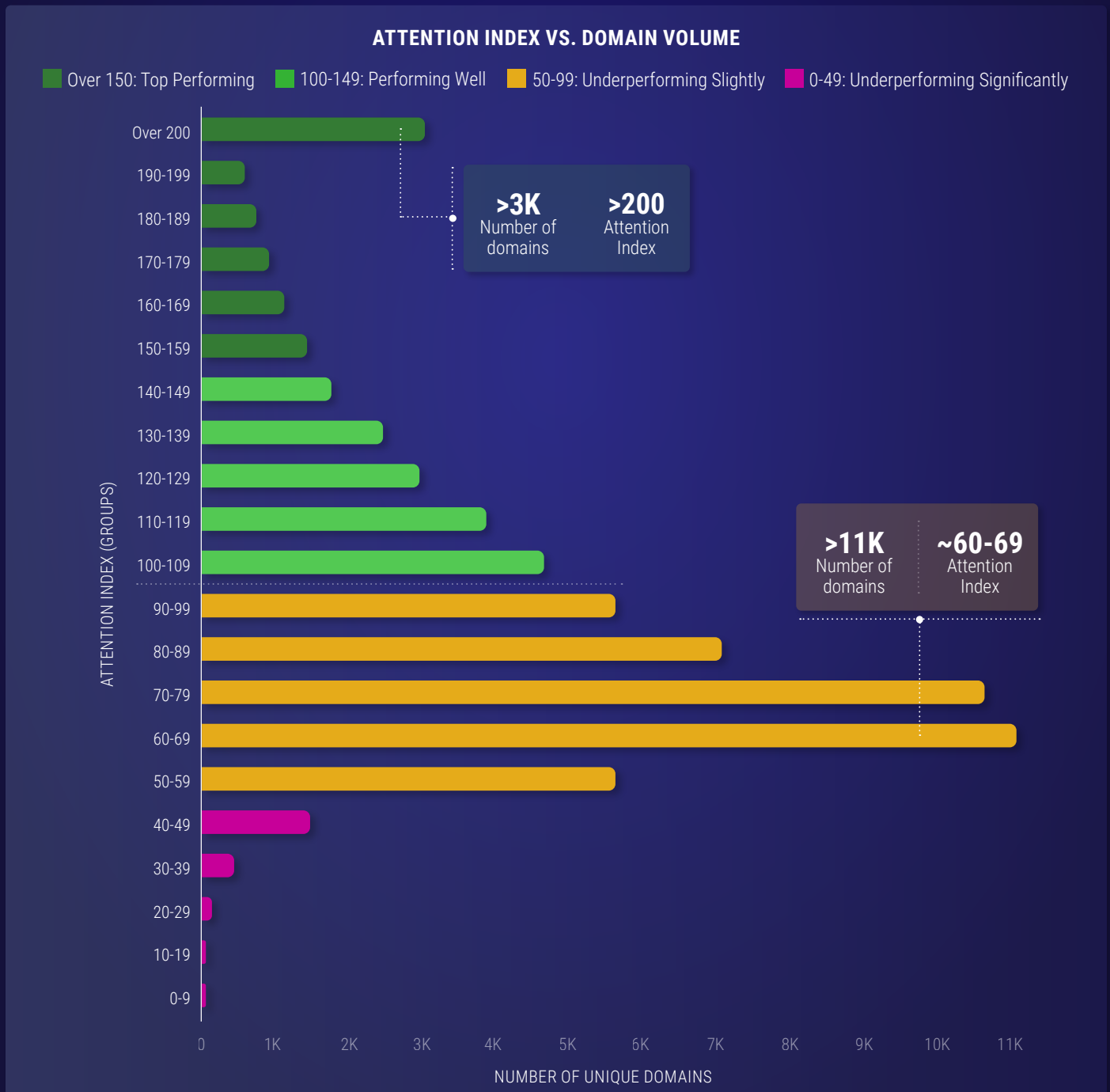
ATTENTION INDEX BY VERTICAL

TOP 3 PERFORMERS

HEALTH & PHARMA	MEDIA & SPORTS	CONSUMER PACKAGE GOODS
148	114	107

BOTTOM 3 PERFORMERS

TRAVEL	FINANCIAL SERVICES	TELECOM
79	78	76

The Role of Planning and Optimization

Device and format are only part of the puzzle. The highest ranking verticals for attention outperform the lowest ranking verticals, even when the lower ranking verticals invest in typically attention-grabbing devices and formats. Across mobile app display advertising, for example, the top three verticals achieved an Attention Index of 173, while the bottom three verticals — on the same media type — had an attention index of just 77. In fact, for the bottom three performing verticals, there was no significant difference in display performance across devices (desktop, in app and mobile web all had an attention index of 77).

This demonstrates that it is not just one factor driving attention — it is the combination of device, audience, environment, message and creative that influence whether consumers pay attention to ads. That is why measuring and refining campaigns based on all of these factors can help make a real difference in performance.
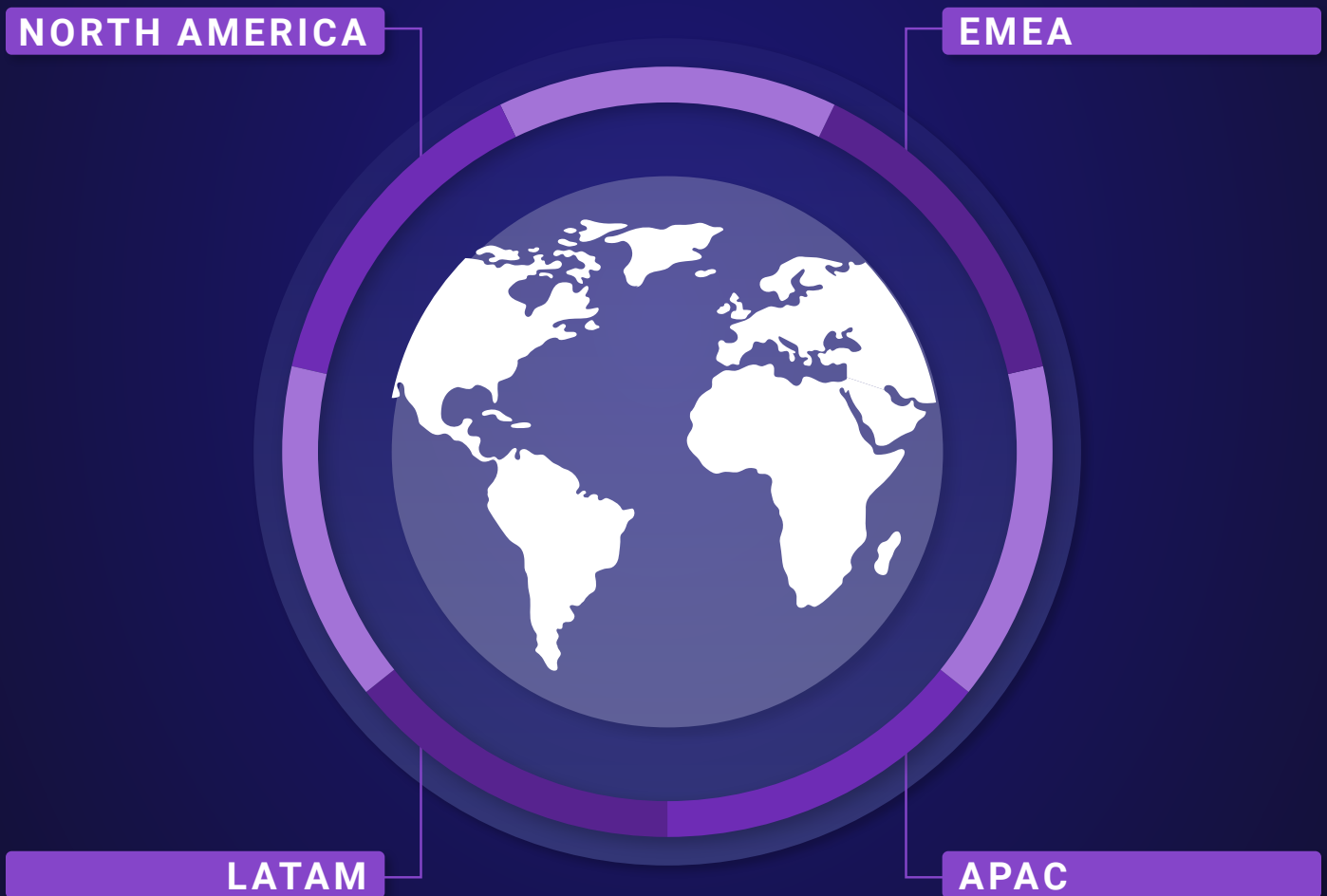
WHERE YOU BUY MATTERS

Significant Opportunity to Optimize to High Attention Inventory

For advertisers, there is stiff competition to make their campaigns stand out from the crowd. Where ads are placed plays a critical role in the likelihood of the campaign to perform well. Based on our analysis, there is significant opportunity for brands to up-level their attention optimization efforts — shifting placements from high-volume average or low-performing domains to those that index higher for attention. Focusing on quality over quantity can help drive performance and, ultimately, outcomes for brands.

ATTENTION INDEX VS. DOMAIN VOLUME

■ Over 150: Top Performing　■ 100-149: Performing Well　■ 50-99: Underperforming Slightly　■ 0-49: Underperforming Significantly

>3K Number of domains　**>200** Attention Index

>11K Number of domains　**~60-69** Attention Index

ATTENTION INDEX (GROUPS)

NUMBER OF UNIQUE DOMAINS

REGIONAL AND VERTICAL BENCHMARKS

NORTH AMERICA

EMEA

LATAM

APAC

APAC

APAC HAD THE HIGHEST VIDEO VIEWABILITY AND LOWEST FRAUD/SIVT

APAC still outperforms other regions in two key quality metrics: video viewability and fraud/SIVT,, despite a 6 percent decrease in video viewability and 7 percent increase in fraud/SIVT violations in 2022. APAC also has the second lowest brand suitability violation rate among all regions.

QUALITY METRICS BY REGION AND COUNTRY
(2022 FULL YEAR RATES AND YEAR-OVER-YEAR PERCENT CHANGE)

	Authentic Viewable	Display Viewable	Video Viewable	Fraud/ SIVT	Brand Suitability
Australia/ New Zealand	66% ↑7%	73% ↑6%	75% ↑3%	1.2% ↓16%	9.9% ↑20%
Japan	47% ↑7%	50% ↑10%	74% ↓7%	0.4% ↑68%	7.0% ↓5%
India	64% ↑1%	68% ↑4%	67% ↓17%	0.9% ↑95%	4.3% ↓33%
Southeast Asia	69% · 0%	70% ↑2%	85% · 0%	1.5% · 0%	6.3% ↑7%
Indonesia	76% ↓6%	71% ↑3%	90% ↑2%	0.5% ↓30%	5.2% ↑31%
Philippines	74% · 0%	74% ↓1%	77% · 0%	1.2% ↓13%	2.1% ↓38%
Thailand	70% ↑3%	68% ↑3%	83% ↓8%	0.8% ↑142%	6.2% ↓13%
TOTAL	**62% ↓1%**	**65% ↑1%**	**78% ↓6%**	**1.0% ↑7%**	**6.8% ↓2%**

Japan's display viewable rate remains one of the lowest in the region.

While Japan's display viewable rate is the one of the lowest in APAC, it showed one of the highest year-over-year increases in the region, primarily driven by performance on programmatic campaigns.

Increased measurement in India coincided with a decrease in its video viewable rate.

India's video viewability dropped the most in APAC due to a decrease in mobile app usage. In India, four-fifths of all video ads are viewed on mobile apps, which had an 18 percent drop in video viewability. For the second year in a row, SEA continued to achieve one of the highest video viewable rates across all subregions, globally.

Japan and India's fraud rates saw a big increase, but still remain among the lowest in the region.

Japan and India saw some of the most significant increases in fraud/SIVT rates due to fraud violations on mobile app in Japan (up 300 percent) and on desktop in India (up 230 percent). Still, both countries maintained some of the lowest rates in the region. Fraud/SIVT stabilized in Southeast Asia despite Thailand seeing an increase of 142 percent.

Brand suitability violations were up in Australia by 22%, with mobile web driving the increase.

India's brand suitability violation rate is down by 33 percent, but APAC only showed a 2 percent decrease overall. This is because Australia's brand suitability violations increased by 49 percent for mobile web alone, offsetting India's decrease.

EMEA

EMEA REDUCED FRAUD/SIVT RATE BY 15%

EMEA saw a 15 percent reduction in fraud/SIVT violations in 2022. But brand suitability violations spiked to 10.6 percent (a 13 percent increase from the previous year) — making EMEA's brand suitability violations the highest among all regions. Brand suitability violations have historically been high in EMEA due to its longtail domains and higher proportion of mobile web inventory.

QUALITY METRICS BY REGION AND COUNTRY
(2022 FULL YEAR RATES AND YEAR-OVER-YEAR PERCENT CHANGE)

	Authentic Viewable	Display Viewable	Video Viewable	Fraud/ SIVT	Brand Suitability
Central Europe	58% ↑ 4%	61% ↑ 3%	74% ↑ 6%	1.0% ↓ 2%	8.8% · 0%
Germany	58% ↑ 5%	61% ↑ 3%	74% ↑ 8%	0.9% ↓ 2%	8.7% ↓ 3%
Eastern Europe	53% ↑ 1%	61% ↑ 7%	79% ↓ 2%	0.8% ↓ 6%	15.0% ↑ 81%
France	59% ↑ 3%	63% ↑ 1%	77% ↑ 1%	0.9% ↑ 14%	10.8% ↓ 10%
MENAT*	50% ↓ 11%	66% ↑ 3%	74% ↓ 2%	1.3% ↓ 21%	14.7% ↓ 8%
UK & Northern Europe	67% · 0%	72% · 0%	73% ↑ 6%	1.5% ↓ 24%	9.8% ↑ 4%
Southern Europe	59% ↑ 19%	60% ↑ 20%	80% ↓ 1%	0.4% ↓ 11%	9.2% ↑ 10%
Italy	57% ↑ 26%	56% ↑ 26%	82% ↓ 2%	0.4% ↓ 8%	8.3% ↑ 30%
Sub-Saharan Africa	57% ↑ 25%	60% ↑ 24%	56% ↓ 23%	0.9% ↑ 10%	16.5% ↑ 11%
TOTAL	62% ↑ 2%	67% ↑ 4%	76% ↑ 1%	1.2% ↓ 15%	10.6% ↑ 13%

Italy drove the increase in display viewability in southern Europe.

Southern Europe saw one of the largest display viewable rate increases, due to a spike in mobile web in Italy (up 29 percent).

Despite misconceptions about video measurement challenges, Germany is now on par with the U.S.

Germany's video viewability measurement increased by over 90% in 2022. At the same time, Germany saw an 8 percent increase in its video viewability. This was consistent across all devices, with mobile app driving the largest increase in measurement.

Display ads saw significantly less fraud in MENAT and Northern and Southern Europe.

MENAT, Northern Europe and Southern Europe had the largest decrease in fraud/SIVT violations for display ads, which carry a prevalent SOV in each of these subregions. All three of these regions have continued a downward trend in fraud/SIVT violations for the past two years.

Poland's brand suitability violations spiked, causing Eastern Europe to have the highest violation rate in EMEA.

Brand suitability violations surged in Eastern Europe as the Russo-Ukraine War dominated headlines. Violations in Poland in particular spiked by 70% YoY due to display ads on desktop (up 109 percent) and mobile web (up 94 percent). This is the first time in three years that MENAT didn't have the highest brand suitability violation rate.

*Middle East, Northern Africa and Turkey

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LATAM

LATAM HAD THE HIGHEST AUTHENTIC VIEWABILITY OF ALL REGIONS

LATAM had the highest authentic viewable rate of all regions in 2022, driven by strong performance in display.

LATAM also had the highest fraud/SIVT violation rate — despite being the second lowest in 2021 there was regional improvement to LATAM's brand suitability rate, though, thanks to Brazil's increased implementation of pre-bid brand suitability protections.

QUALITY METRICS BY REGION AND COUNTRY
(2022 FULL YEAR RATES AND YEAR-OVER-YEAR PERCENT CHANGE)

	Authentic Viewable	Display Viewable	Video Viewable	Fraud/ SIVT	Brand Suitability
Brazil	71% ↑ 9%	74% ↑ 5%	77% ↓ 3%	1.4% ↑ 14%	8.2% ↓ 24%
Spanish-Speaking	70% ↓ 2%	75% · 0%	70% ↓ 4%	1.7% ↑ 17%	11.1% ↑ 18%
Colombia	64% ↑ 14%	79% ↑ 21%	77% ↑ 19%	1.8% ↑ 5%	21.1% ↑ 41%
Mexico	71% ↓ 2%	74% ↓ 2%	68% ↓ 8%	1.7% ↑ 20%	9.5% ↑ 15%
TOTAL	71% ↑ 5%	74% ↑ 3%	75% ↓ 3%	1.5% ↑ 16%	9.2% ↓ 10%

Colombia's display viewability rose, but Mexico's decrease offset the overall increase in LATAM.

Colombia saw a 21 percent increase in its display viewable rate, but Mexico — the second largest market in the region — had a slight decrease, which leveled out overall display viewability for LATAM.

Brazil and Mexico's programmatic buys are impacting LATAM's overall video viewability rate.

Brazil and Mexico — the first and second largest markets in the region, respectively — reduced overall video viewability in LATAM, primarily driven by programmatic (vs. direct) campaigns across all environments.

Mobile app display ads in Brazil and Mexico drove LATAM's increase in fraud violations.

LATAM's fraud/SIVT violation rate was heavily influenced by an increase in Brazil and Mexico's fraud/SIVT violations for display ads on mobile app due to a continuing rise of the adware/malware fraud. Over one-half of display ads in Brazil and over one-third of display ads in Mexico are located on mobile app.

LATAM's brand suitability violation rates improved by 10 percent year-over-year, despite increases attributed to Mexico and Colombia's programmatic buys.

Brand suitability rates were up in Mexico (15 percent) and Columbia (41 percent) primarily due to programmatic campaigns delivered on mobile app and mobile web. Despite these increases, the overall brand suitability rate in LATAM decreased by 10 percent in 2022, because Brazil - the region's largest market - reduced violations by 24 percent.

NORTH AMERICA

NORTH AMERICA CROSSED IAB'S 70% VIEWABILITY THRESHOLD IN DISPLAY AND VIDEO

For the very first time, the US crossed IAB's 70 percent viewability threshold across both display and video ads. North America also reduced its fraud/SIVT violation rate for the third year in a row and became the second lowest rate among all regions, just below APAC.

QUALITY METRICS BY REGION AND COUNTRY
(2022 FULL YEAR RATES AND YEAR-OVER-YEAR PERCENT CHANGE)

	Authentic Viewable	Display Viewable	Video Viewable	Fraud/ SIVT	Brand Suitability
Canada	65% ↑ 7%	69% ↑ 8%	74% ↓ 2%	1.0% ↓ 19%	8.4% ↑ 18%
US	66% ↑ 5%	70% ↑ 4%	73% ↑ 3%	1.1% ↓ 29%	6.3% ↓ 4%
TOTAL	66% ↑ 5%	70% ↑ 5%	73% ↑ 3%	1.1% ↓ 29%	6.4% ↓ 3%

For the very first time, the US crossed IAB's 70 percent viewability threshold across both display and video ads.

The overall display viewable rate for the US achieved 70 percent in 2022 for the first time, driven primarily by strong performance in mobile. At 68 percent, the desktop viewable rate lags behind.

Both Canada and the US saw a dramatic drop in fraud violations year-over-year.

While fraud/SIVT violations decreased by only 6 percent in Canada and 4 percent in the US in 2021, both countries saw a much more significant decrease in 2022 — down 19 percent in Canada and 29 percent in the US, driven by decreases in fraud across all devices other than CTV.

North America had the lowest brand suitability violation rate of all regions, driven by a decrease in the US.

The US offset a spike in brand suitability violations in Canada that was driven by a 16 percent increase in mobile web. This led to North America having an overall moderate decrease YoY and the lowest brand suitability rate across all regions in 2022.

VERTICAL BENCHMARKS

ALL VERTICALS SHOWED IMPROVEMENT IN DISPLAY VIEWABILITY AND FRAUD/SIVT

In general, quality metrics have improved across all verticals YoY. In fact, display viewability and fraud/SIVT improved across every category this year. Entertainment and Media & Sports showed the largest swings YoY in both fraud/SIVT and brand suitability.

QUALITY METRICS BY VERTICAL
(2022 FULL YEAR RATES AND YEAR-OVER-YEAR PERCENT CHANGE)

	Authentic Viewable	Display Viewable	Video Viewable	Fraud/ SIVT	Brand Suitability
Automotive	63% ↑ 4%	67% ↑ 3%	71% ↑ 5%	0.9% ↓ 20%	6.1% ↑ 1%
Consumer Packaged Goods	69% ↑ 4%	73% ↑ 4%	74% ↓ 3%	0.9% ↓ 25%	6.9% ↓ 14%
Education	65% ↑ 29%	68% ↑ 25%	69% ↓ 2%	1.0% ↓ 20%	5.2% ↓ 2%
Entertainment	65% ↑ 4%	68% ↑ 3%	79% ↑ 3%	1.0% ↓ 57%	7.2% ↓ 38%
Financial Services	64% ↑ 10%	67% ↑ 10%	74% ↑ 11%	1.2% ↓ 24%	5.3% ↓ 10%
Heath & Pharma	70% ↑ 3%	73% ↑ 3%	72% ↑ 6%	0.9% ↓ 14%	6.5% ↑ 1%
Media & Sports	63% ↑ 7%	68% ↑ 8%	71% ↑ 7%	1.6% ↓ 32%	11.5% ↑ 43%
Retail & Restaurants	65% ↑ 2%	70% ↑ 1%	76% · 0%	1.1% ↓ 20%	8.0% ↑ 3%
Technology	65% · 0%	68% ↑ 1%	68% ↓ 3%	1.3% ↓ 30%	9.0% ↑ 14%
Telecommunications	61% ↑ 7%	65% ↑ 7%	77% ↑ 2%	1.0% ↓ 18%	5.1% ↓ 4%
Travel	66% ↑ 7%	71% ↑ 7%	78% ↑ 14%	1.7% ↓ 19%	8.0% ↓ 26%
TOTAL	65% ↑ 4%	69% ↑ 4%	74% ↑ 2%	1.1% ↓ 25%	7.1% · 0%

Display viewability is up across all verticals, with Heath & Pharma and Consumer Packaged Goods leading the way.

Health & Pharma and Consumer Packaged Goods had the highest display viewability across all verticals in 2022, at 73 percent. Education had the most significant year-over-year increase of 25 percent.

Entertainment, Travel and Telecommunications have the highest video viewable rates.

Travel's video viewability increased the most in 2022 — a 14 percent bump from the previous year — making it the second highest across all verticals. Telecommunications is close behind with a video viewability rate of 77 percent.

Fraud violations are down across all verticals in 2022.

Fraud/SIVT violations decreased across all verticals in 2022. Entertainment saw the most significant decrease (57 percent from the previous year.)

Brand suitability violations fluctuated, with Entertainment and Media & Sports seeing the largest YoY swings.

Entertainment's brand suitability violations decreased by 38 percent in 2022, the largest drop across all verticals. Media & Entertainment saw the most significant shift across all verticals with an increase of 43 percent, making it the industry with the highest brand suitability violation rate.

METHODOLOGY

Data Notice

All data is post-bid unless otherwise indicated. Post-bid monitoring and blocking technologies record violations. Violation rates are post-bid metrics because violations are tracked after an ad has been purchased. Pre-bid technology stops an advertiser from bidding on an unsuitable impression, which prevents a violation from happening in the first place. That is why many of the numbers we report, while directionally accurate, do not represent the full scope of DV's protection.

Unless otherwise noted, year-over-year data ranges and comparisons span from January 2022 to December 2022 versus the same time period for the prior year. Attention data used in this report was collected throughout Q4 2022.

Unmanaged Campaign

As a point of comparison to DV client campaigns (the majority of which use a combination of pre- and post-bid protections), DV created a test campaign with no protections. We collected monitoring data on the unmanaged campaign from May 11, 2022 to December 31, 2022 and compared it alongside our 2022 benchmark data, which is referenced throughout the report as managed campaign data and spans January 1, 2022 to December 31, 2022.

Media waste is the approximate calculated cost associated with total media violations (brand suitability, fraud/SIVT, etc.). This cost figure is derived by multiplying the total violations by a $3 "cost-per-mille" (CPM), which reflects the cost per 1,000 impressions.

DV Authentic Attention®

DV Authentic Attention® is MRC accredited for its full set of display and video attention metrics across desktop, mobile web and in-app. DV's privacy-friendly attention measurement solution does not rely on cookies and analyzes over 50 data points for the exposure of a digital ad and a consumer's engagement with a digital ad and device in real time.

- For exposure, DV Authentic Attention® evaluates an ad's entire presentation, quantifying its intensity and prominence through metrics that include viewable time, share of screen, video presentation, audibility and more.

- For engagement, DV Authentic Attention® analyzes key user-initiated events that occur while the ad creative is displayed, including user touches, screen orientation, video playback and audio control interactions.

DV Authentic Attention® data used in this report was collected on authentic viewable impressions served between October 1, 2022 to December 31, 2022.

GLOSSARY

TERM	DEFINITION
Ad Fraud	Ad fraud/Sophisticated Invalid Traffic (SIVT) is a type of invalid activity that illegitimately represents online advertising impressions or data events in order to generate revenue. As more advertising becomes digitized, fraudsters are realizing the increasing opportunity to exploit unprotected advertisers.
Attention Index	A proprietary, MRC-accredited aggregated measure of 50+ attention signals that provides actionable insights into ad exposure and user engagement to measure campaign performance. • Calculated in real time against a 28-day rolling window, normalized to 100, for display and video. • An index above 100 indicates that performance is above average, and an index below 100 indicates that performance is below average.
Audible and Viewable Upon Completion (AVOC)	The percentage of measurable impressions that were audible and at least 50% of the pixels were in view when the video reached completion.
Authentic Ad™	A proprietary metric that ensures media quality standards are met. To be counted as Authentic, an ad must have the opportunity to be seen, by a human being, in a brand suitable environment, within the intended geography.
Authentic Brand Suitability (ABS)	A solution from DoubleVerify that allows advertisers to create a centralized set of brand safety controls and automatically deploy these controls across multiple programmatic buying platforms and campaigns. ABS was the first solution to perfectly align pre- and post-bid settings – therefore enabling advertisers to avoid unsafe and unsuitable content before placing a bid.
Authentic Rate	The percentage of monitored ads that meet the definition of Authentic – namely, that they are brand suitable, fraud free and served in the intended geography. It is calculated using the following formula: Authentic Ads/ Monitored Ads.
Authentic Viewable Rate	The percentage of measured ads that meet the definition of authentic viewable - namely, that the ad has the opportunity to be seen in a brand suitable environment that is fraud-free and served in the intended geography. The rate is calculated using the following formula: Authentic Viewable Impressions/Measured Impressions.
Bot Fraud	Bot Fraud occurs when impressions are served to a fraudulent nonhuman requestor. These bots can mimic legitimate human web traffic interactions to generate additional web page impressions, or even clicks on digital ads. However, these bots are easy to spot especially if they can't imitate human interactions accurately.
Brand Safety	It describes the controls that digital advertisers employ to protect a brand's ads from appearing alongside content that is generally considered inappropriate for monetization. Examples include sexually explicit content, terrorism, hate speech and other extreme and graphic content that most brands want to avoid.
Brand Suitability Violation Rate	Brand Suitability violations represent requests and incidents from apps, sites, or pages that served or were prevented from being served because they did not meet one or more of a brand's Brand Suitability settings.

TERM	DEFINITION
Block Rates	Blocked impressions that do not comply with a client's specific brand suitability or fraud settings.
Connected TV (CTV)	A television set that is connected to the Internet via OTT devices, Bluray players, streaming boxes or sticks,, and gaming consoles, or has built-in internet capabilities (i.e., a Smart TV) and is able to access a variety of long-form and short-form web-based content. (IAB)
Direct Buys	Ad inventory purchased directly from a publisher as part of an insertion order (IO).
DV Video Filtering	DV Video Filtering works by preventing ads from serving on fraudulent, unsuitable and/or out-of-geo inventory in CTV, mobile and desktop environments even when blocking is not available. DV Video Filtering collects data from an ad request, runs it through DV's advanced fraud, brand suitability and geo detection models and ensures that ads are not served on non-compliant impressions.
Engagement (Authentic Attention)	For engagement, DV Authentic Attention® analyzes key user-initiated events that occur while the ad creative is displayed, including user touches, screen orientation, video playback, and audio control interactions.
Exposure (Authentic Attention)	For exposure, DV Authentic Attention® evaluates an ad's entire presentation, quantifying its intensity and prominence through metrics that include viewable time, share of screen, video presentation, audibility, and more.
Fraud/SIVT Violation Rate	Fraud/SIVT violations represent requests and incidents that served or were prevented from being served because they were recorded as bot fraud, site fraud, nonhuman data center traffic and/or injected ad events.
In-App	Ads delivered within a mobile application.
Incident Rates	Delivered (but not blocked) impressions that do not comply with a client's specific brand suitability or fraud settings.
Managed campaigns	Managed campaigns, in this context, refers to DV client campaigns in aggregate, which employ varying services across our suite of verification solutions.
Media Waste	Media waste (as defined by DV for the purposes of this report) is the approximate calculated cost associated with total media violations (Brand Suitability, Fraud/SIVT, etc.). This cost figure is derived by multiplying the total violations by an estimated $3 "cost-per-mille" (CPM), which reflects the cost per 1,000 impressions.
Post-Bid	Post-bid refers to what happens after a programmatic bid is placed.
Pre-Bid Activation	Pre-bid activation refers to the evaluations that happen before a programmatic bid is placed.
Programmatic	Media or ad buying that uses technology to automate and optimize, in real time, the ad buying process.

TERM	DEFINITION
Strict and Average Brand Suitability Profiles	Strict and average brand suitability profiles, in this context, refer to settings an advertiser with both average and strict brand suitability would likely apply to their campaigns.
Unmanaged Campaign	DV's test campaign with monitoring services active but no pre- or post-bid protections in place.
Video Completion Rates	The percentage of all video ads that play through their entire duration to completion.
Viewable Rate	The Interactive Advertising Bureau (IAB) and Media Rating Council (MRC)'s standard definition of ad viewability dictates that at least 50% of an ad must be in view for a minimum of one second for display ads or two seconds for video ads. The viewable rate is calculated using the following formula: Viewable Impressions/ Measured Impressions.
Viewability Threshold	The IAB recommends that measured impressions be held to a 70% viewability threshold.

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