CLEARCODE

Programmatic Advertising and AdTech in OTT & CTV

From the evolution of TV consumption to the rise of streaming services and the opportunities for AdTech

Topics covered in this presentation

- The evolution of TV consumption.

- The streaming services landscape.

- CTV usage.

- Streaming services: OTT and CTV.

- OTT & CTV advertising and statistics.

- AdTech's role in OTT & CTV.

- The challenges facing the OTT and CTV advertising industry.

- Clearcode's OTT & CTV advertising development projects.

The Evolution of TV Consumption
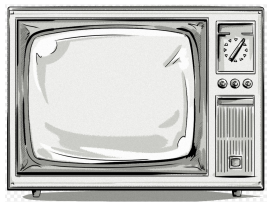
The Evolution of TV Consumption
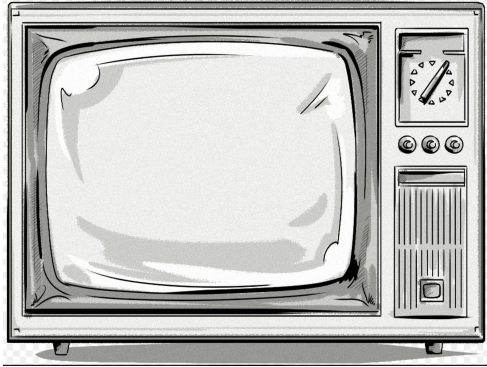
The way TV shows, movies, documentaries and sport are consumed has changed a lot over the past 30 years.

The introduction of pay-per-view, VHS, video on demand, DVDs, and digital video recorders (DVRs) have allowed consumers to view video content at a time that suits them — rather than having to wait for the programs to air on linear TV.

Thanks to the introduction and rise of streaming services, consumers yet again have another way to watch their favorite programs.

And this new form of TV consumption has also brought with it new advertising opportunities.
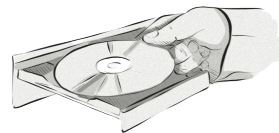
The Evolution of TV Consumption
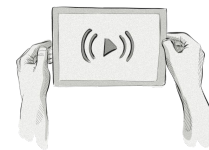
Linear TV

1930s

Pay-per-view

1985

DVDs

1996

Streaming services

2005

1970   **1980**   **1990**   **2000**   **2010**

VHS

1976

Video on demand

1990

Digital video recorder (DVR)

1999

The Evolution of TV Consumption

Key terms

Linear TV: Viewers have to consume TV content at a given time. Examples include free-to-air, cable, satellite, and broadcast.
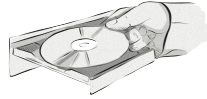
Pay-per-view: Viewers pay to watch a specific program, e.g. a boxing match.

VHS: Viewers can watch TV content on VHS tapes via a VHS player.

Video on demand: Viewers can watch TV shows and movies when they like.

DVDs: Viewers buy or rent TV shows and movies on DVD.

Digital video recorder (DVR): Viewers can record TV shows and movies and watch them later.

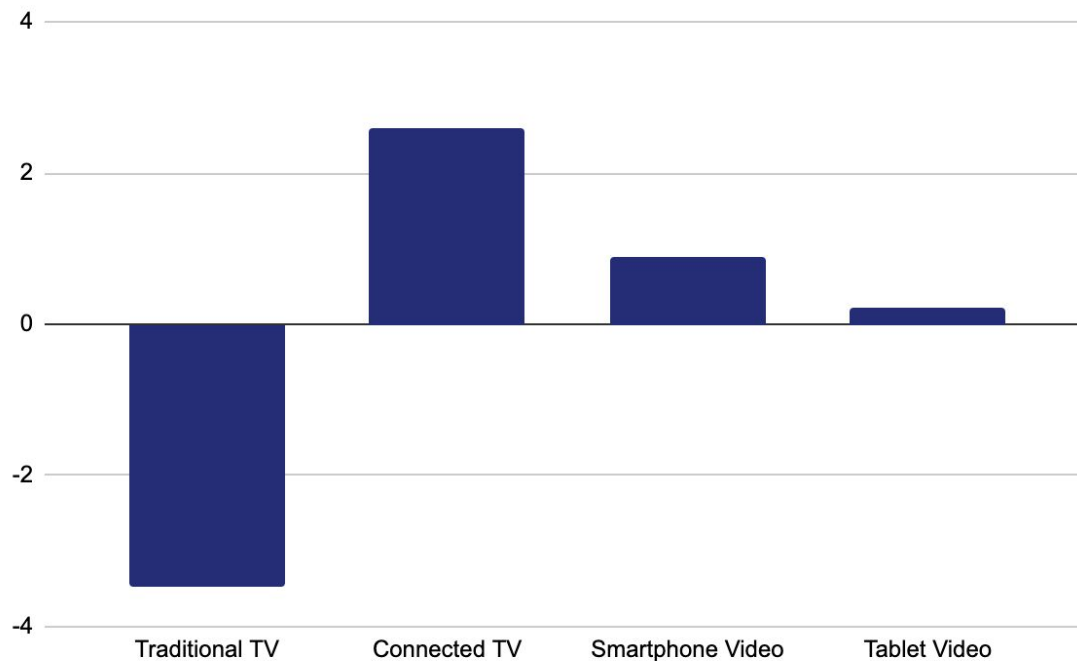**Streaming services:** Viewers can watch live sports, TV shows and movies via the Internet.

The Evolution of TV Consumption

Weekly hours of viewing added or lost by screen for the average US adult.

Q1 2018 to Q1 2020

	Traditional TV	Connected TV	Smartphone Video	Tablet Video

More viewers are watching video content (e.g. streaming services) on CTV devices than on traditional TV.

TV Consumption: The Rise of Streaming Services

Legend:
- Streaming
- Cable
- Other
- Broadcast

Pie chart values:
- Other Streaming — 10.2%
- Netfilx — 8.0%
- Youtube — 7.3%
- Hulu — 3.6%
- Prime Video — 3.0%
- Disney+ — 1.8%
- HBO Max — 1.0%
- 34.8%
- 21.6%
- 9.2%
- 34.4%
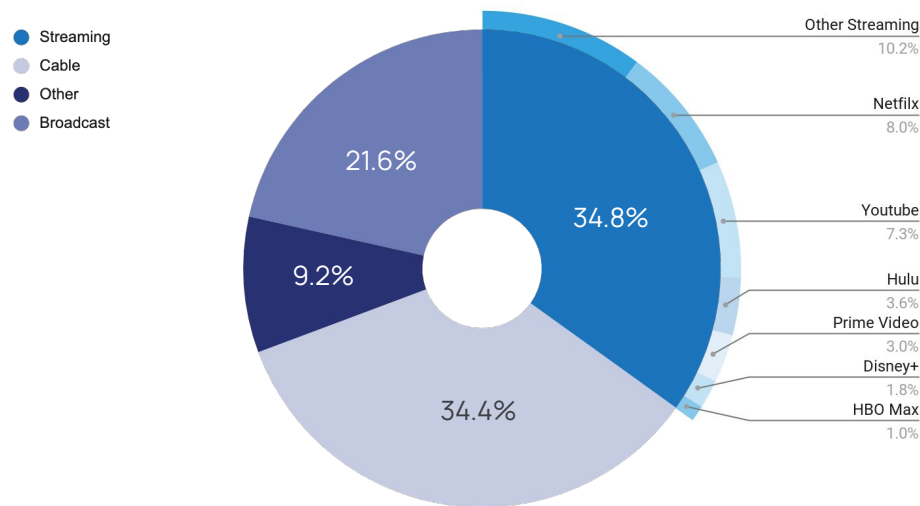
Total TV consumption in July 2022.

Bar chart legend: Broadcast, Cable, Streaming

Bar chart x-axis: July 2021, July 2021, YoY % Change
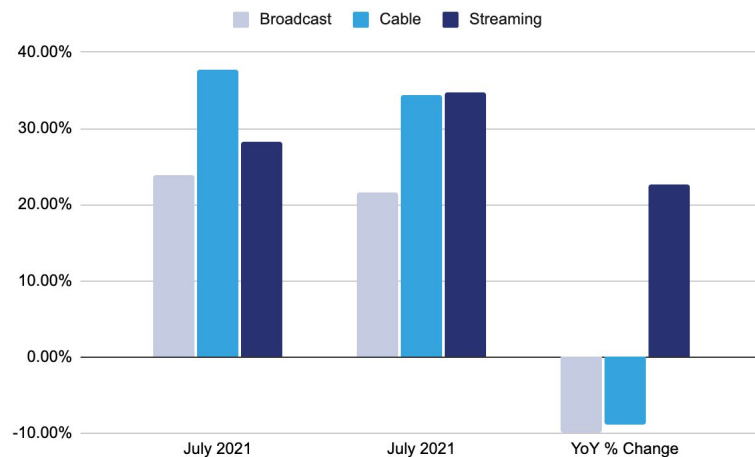
The change in distribution of viewing formats year over year.

Source: Nielsen, The Gauge, August 2022

Streaming Services:
OTT and CTV

Streaming Services: OTT and CTV

Streaming services, such as Netflix, Disney+, Hulu, Prime Video, etc. are referred to as **over-the-top (OTT)** media services.
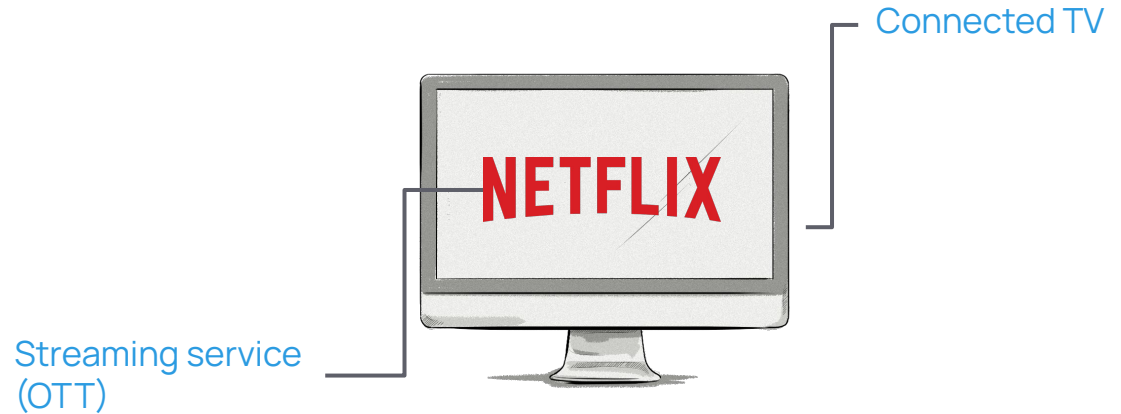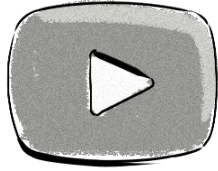
Many OTT media services are viewed on a **connected TV (CTV)** device.

Connected TV

Streaming service (OTT)

Streaming Services: OTT and CTV

OTT

OTT refers to the video content offered by streaming services.

These streaming services can be accessed via CTV devices, as well as desktops, laptops, smartphones, and tablets.

CTV
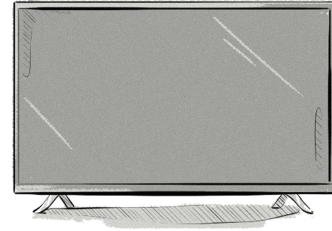
Connected TV refers to the devices used to view video content.

Examples of CTV devices include smart TVs, streaming devices, and game consoles.

Desktops, laptops, smartphones, and tablets aren't considered examples of CTV by the IAB Tech Lab.

Streaming Services: OTT and CTV

Over-the-top (OTT) video services

In the context of TV, OTT refers to video content that is available via the Internet. OTT video services can be viewed on CTV devices (e.g. smart TVs) and other devices (e.g. smartphones).

The Internet

Connected TV devices

Other devices
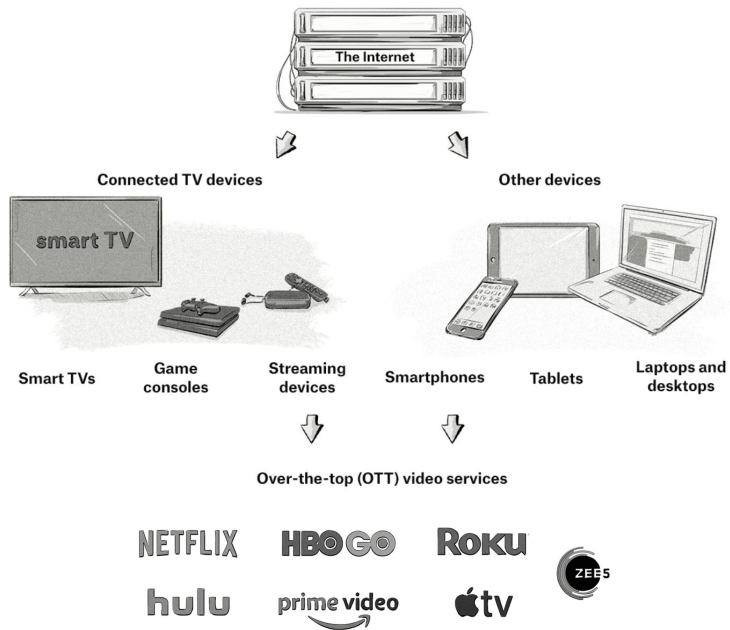
smart TV

Smart TVs **Game consoles** **Streaming devices** **Smartphones** **Tablets** **Laptops and desktops**

Over-the-top (OTT) video services

NETFLIX HBO GO ROKU ZEE5

hulu prime video tv

Connected TV (CTV)

Connected TV refers to any device that connects to the Internet and allows viewers to watch video content from a TV.

Connected TV (CTV)

smart TV

Smart TVs

Smart TVs can connect directly to the Internet to access OTT video content.

Game consoles

Examples: Playstation and Xbox.

Streaming devices

Examples: Roku, Apple TV, Chromecast, and Fire Stick
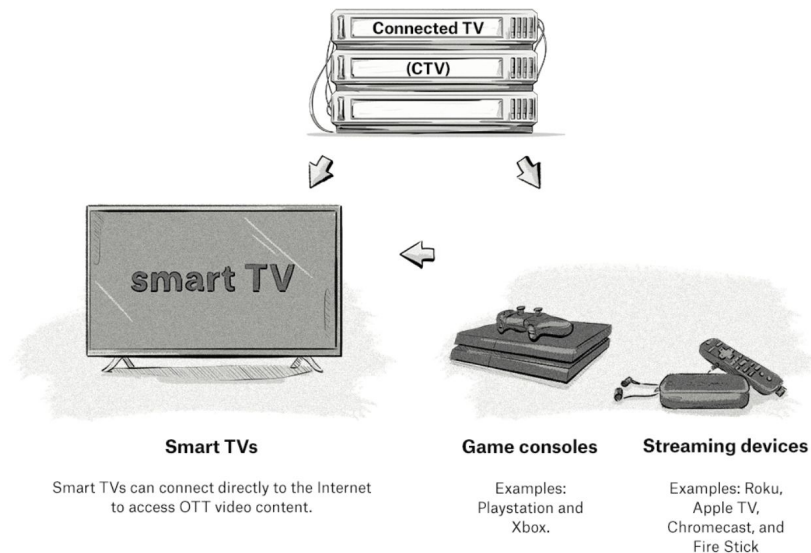
The Streaming-Services Landscape

The Streaming-Services Landscape

Today, there are **tens of dozens** of streaming services offering viewers access to TV shows, movies, documentaries and sport.

Platform	Subscribers
NETFLIX	~220
hulu	~46
HBO max	~77
prime video	~175
tv+	~33
Disney+	~152
Paramount+	~40
discovery+	~22
Curiosity Stream	~22
ESPN+	~22
britbox	~2
peacock	~28
Rakuten TV	~6
SHOWTIME	~21
Premium	~50
ZEE5	~3

Total number of subscribers
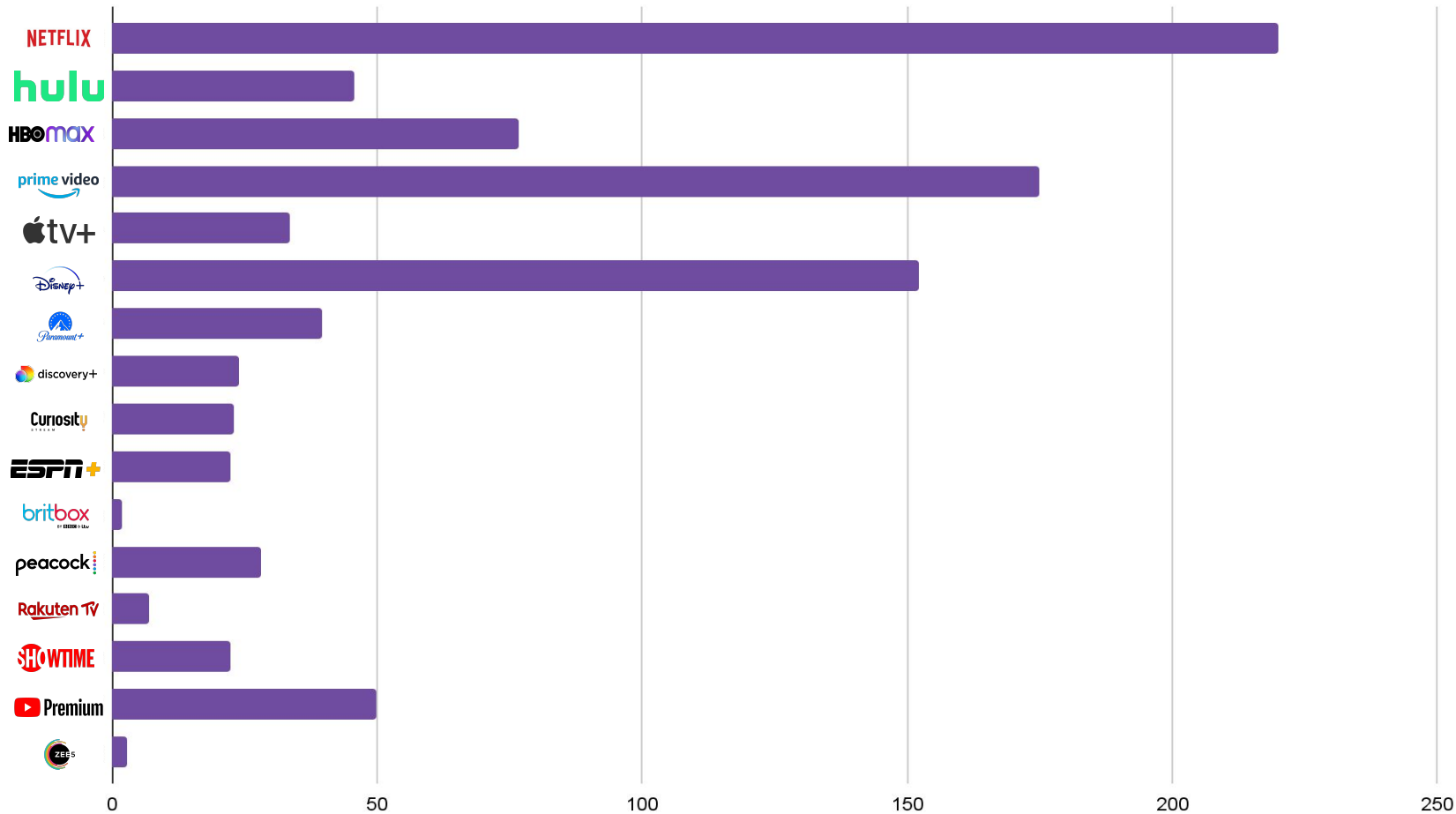
Source: Video Streaming App Revenue and Usage Statistics, Business of Apps.
* Disney+ figures were taken from its Q2 2022 financial report.

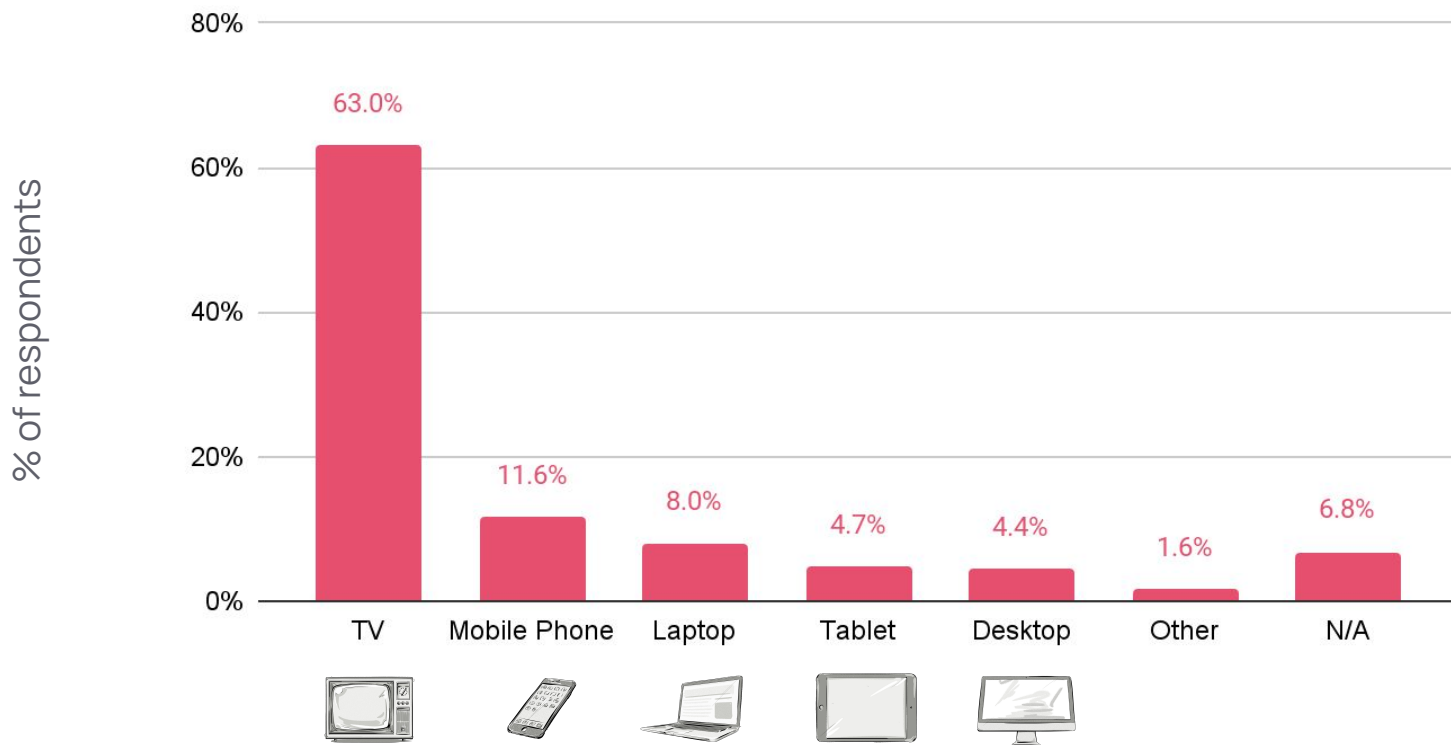# CTV Usage

CTV Usage

What Device Do US Internet Users Use Most Frequently to Wach Streaming* TV?

% of respondents

- 63.0% — TV
- 11.6% — Mobile Phone
- 8.0% — Laptop
- 4.7% — Tablet
- 4.4% — Desktop
- 1.6% — Other
- 6.8% — N/A
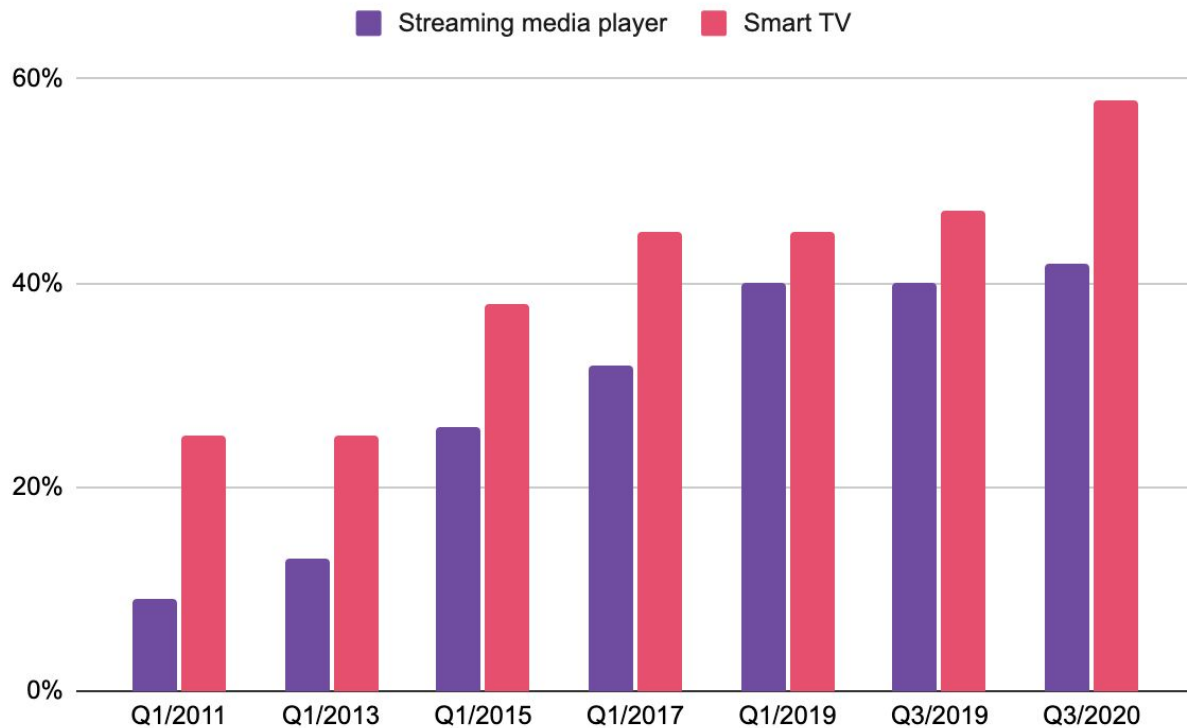
*Note: ages 18-66; numbers may not add up to 100% due to rounding; *streamed/catch-up TV from digital providers (e.g., Netflix, on-demand services)*
Source: Attest, "Media Consumption Report 2019," March 25, 2019

CTV Usage

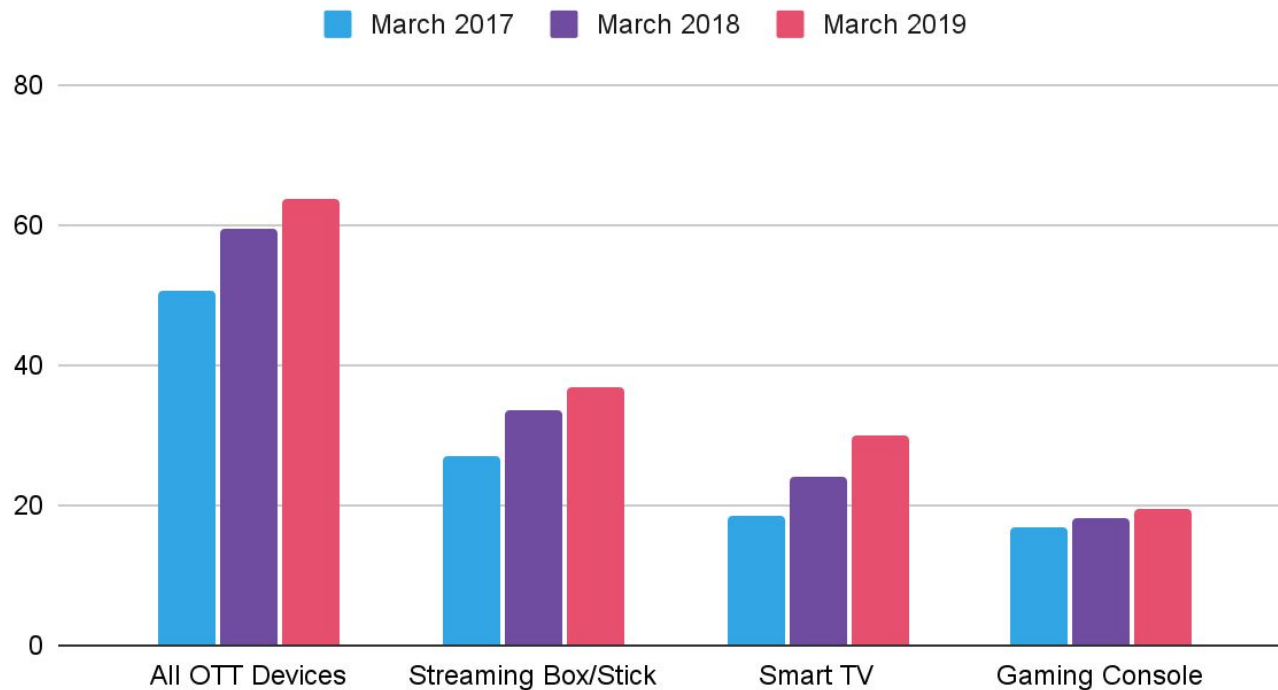Adaptation of Connected TV Devices (2011 - 2020) Among US Boardband Households

■ Streaming media player ■ Smart TV

Source: Parks Associates, 2020

CTV Usage

Total Household that Stream OTT Content (in millions)

Source: comScore, "State of OTT", 2019

CTV Usage

Percent of Video Impressions, by Device

Legend: CTV — Mobile — Tablet — Desktop — Unclassified

Data points:
- CTV: Q1 2018 31%, Q2 2018 38%, Q3 2018 38%, Q4 2018 43%, Q1 2019 49%
- Mobile: Q1 2018 33%, Q2 2018 30%, Q3 2018 31%, Q4 2018 27%, Q1 2019 25%
- Desktop: Q1 2018 24%, Q1 2019 17%
- Tablet: Q1 2018 11%, Q1 2019 7%
- Unclassified: Q1 2018 1%, Q1 2019 3%
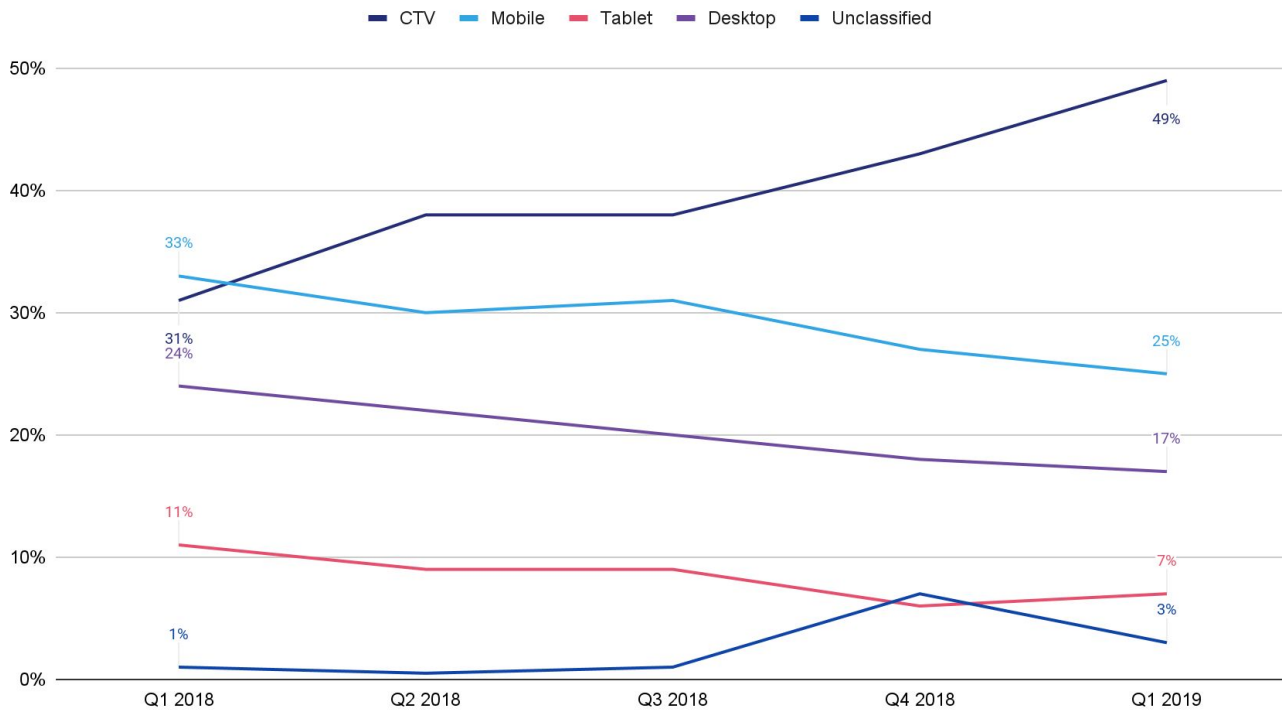
Source: Extreme Reach, Video Benchmarks report, 2019

OTT & CTV Advertising

OTT & CTV Advertising

Advertising has played a key role in helping various forms of media monetize their content and audiences, from newspapers and magazines to websites and mobile apps.

Due to the rise of streaming services, advertising is starting to play a key role in the OTT and CTV industries.

While many streaming services started off as paid subscription-only services, many have adopted an ad-supported subscription model.

Key terms

Subscription Video On Demand (SVOD): A subscription service where consumers pay a certain amount, usually monthly, to view the content.

Ad-Supported Video On Demand (AVOD): A subscription service where consumers don't pay, or pay less, to view the content but are shown ads.

Many streaming services offer both SVOD and AVOD plans.

# OTT & CTV Advertising

A tale of two streaming services

NETFLIX

hulu

- Currently offers just SVOD plans but will be offering AVOD plans in the near future to make up for lost subscriber revenue.
- Netflix's revenue in 2021 was USD $29.7 billion.

- Offers both SVOD and AVOD plans.
- Hulu's total revenue in 2020 was USD $7.2 billion.
- Hulu's ad revenue was USD $2.1 billion in the year leading up to September 2021.

OTT & CTV Advertising
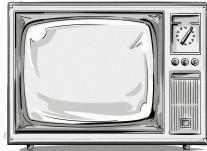
Main trends

- More viewers are turning away from traditional TV and towards streaming services.

- Ad spend on linear TV still dwarfs that of CTV, but ad spend on CTV and OTT is increasing, while ad spend on linear TV is decreasing.

- Many streaming services that have traditionally offered only paid subscription plans are adding ad-funded subscription plans to help increase subscription numbers and revenue lost from declining subscriptions.

OTT & CTV Advertising

Connected TV and OTT were ranked as the top priorities for media buyers and sellers.

Linear TV was ranked the third-to-last priority.
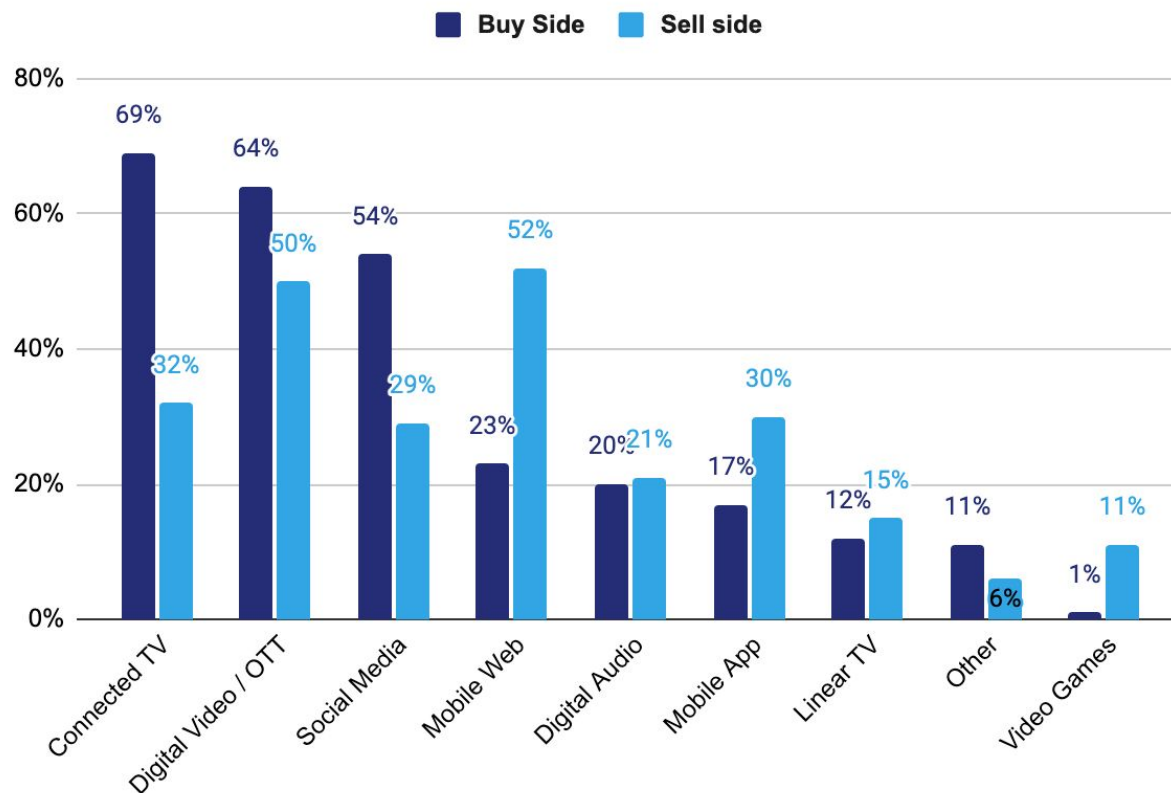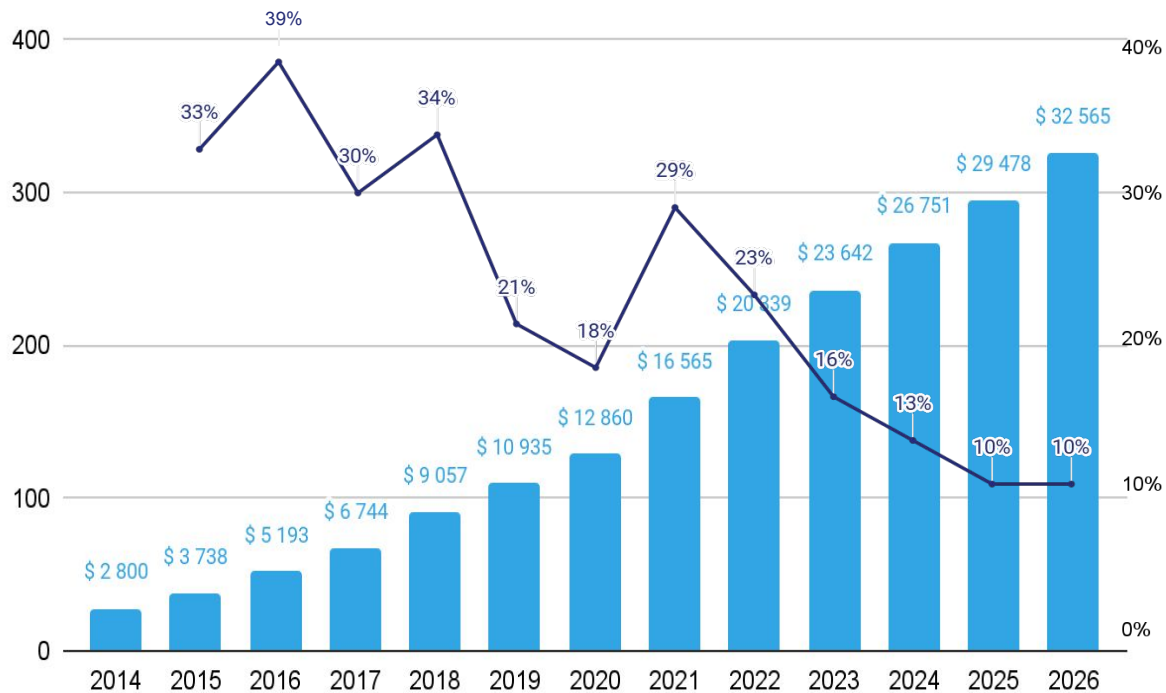
Source: IAS, 2021

OTT & CTV Advertising

Global CTV ad spend is estimated to reach $32 billion USD by 2026.

Please note: CTV in this chart includes video content delivered to desktop and mobile devices. This definition of CTV differs from that of the IAB's definition.

Source: GroupM, 2021

Data in billions

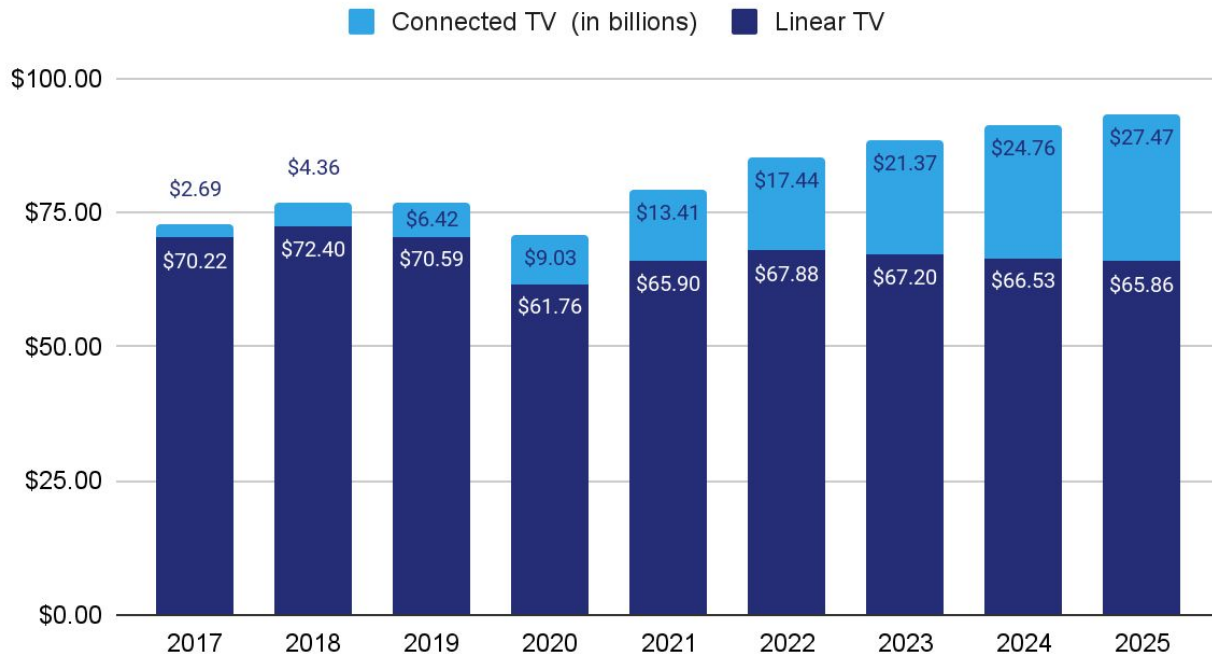| Year	Value	Growth
2014	$ 2 800	
2015	$ 3 738	33%
2016	$ 5 193	39%
2017	$ 6 744	30%
2018	$ 9 057	34%
2019	$ 10 935	21%
2020	$ 12 860	18%
2021	$ 16 565	29%
2022	$ 20 339	23%
2023	$ 23 642	16%
2024	$ 26 751	13%
2025	$ 29 478	10%
2026	$ 32 565	10%

OTT & CTV Advertising

CTV ad spend in the US is set to increase over the next few years.

Combined US Linear and Connected TV Ad Spending 2017-2025

Legend:
- Connected TV (in billions)
- Linear TV

Year	Connected TV	Linear TV
2017	$2.69	$70.22
2018	$4.36	$72.40
2019	$6.42	$70.59
2020	$9.03	$61.76
2021	$13.41	$65.90
2022	$17.44	$67.88
2023	$21.37	$67.20
2024	$24.76	$66.53
2025	$27.47	$65.86

Y-axis: $0.00, $25.00, $50.00, $75.00, $100.00

AdTech's Role in OTT & CTV
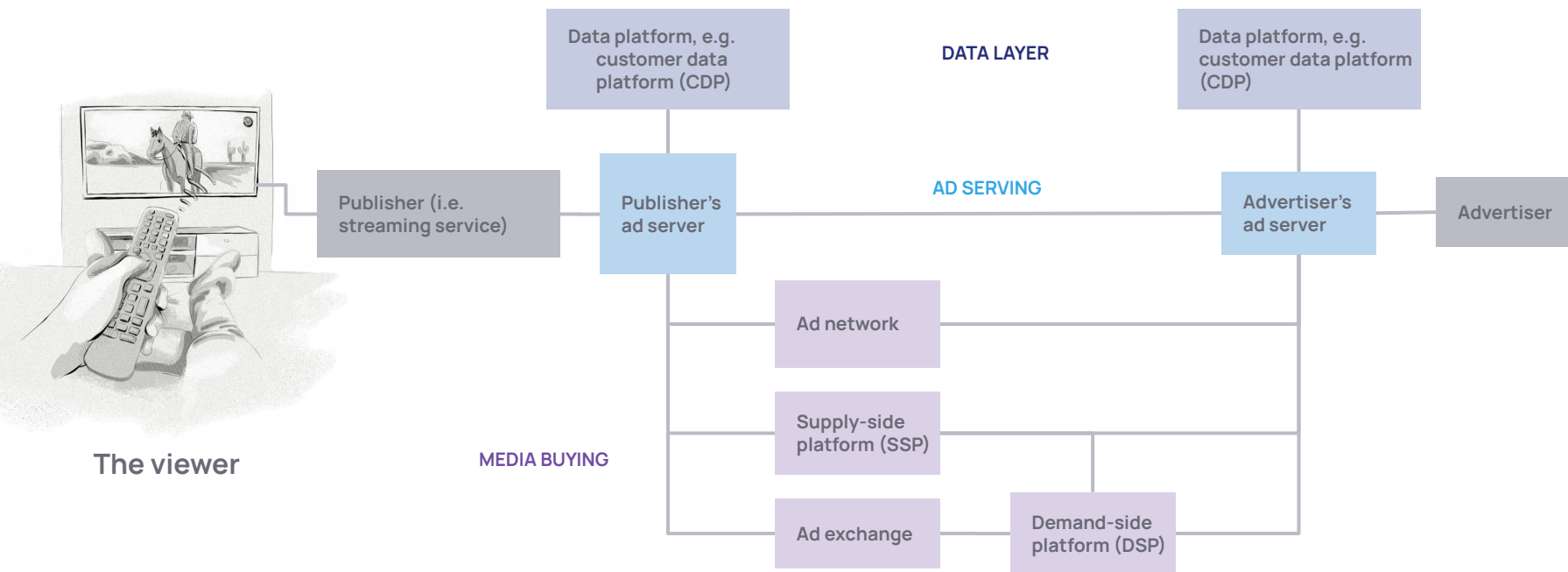
AdTech's Role in OTT & CTV
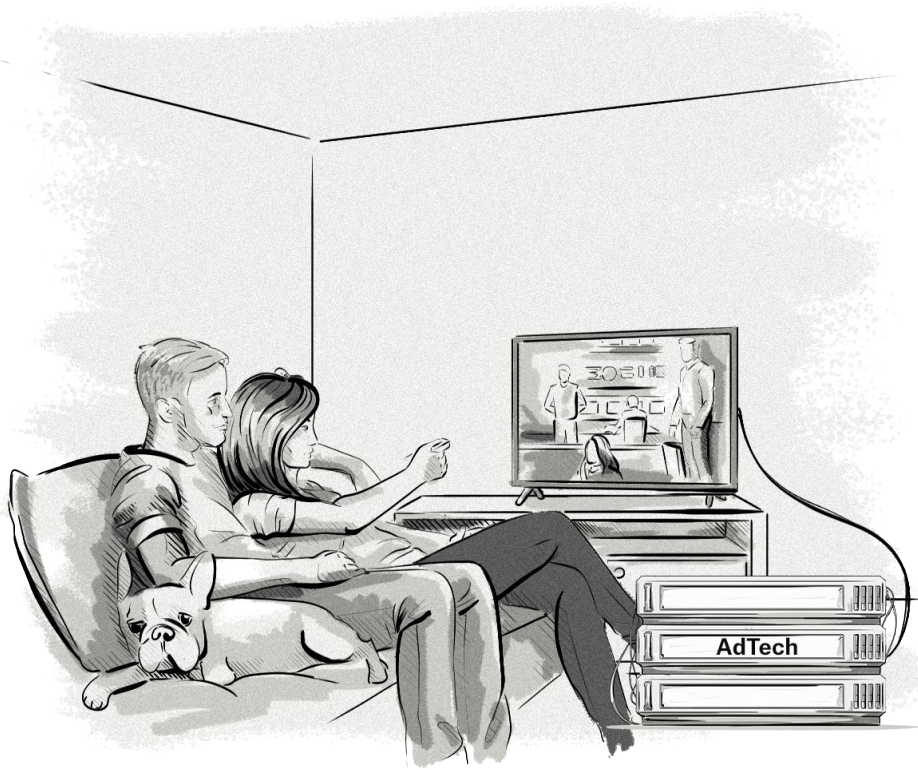
As OTT and CTV advertising continues to rise, the need to build new technologies grows.

Luckily, many of the key digital advertising processes needed to power OTT & CTV advertising can be powered by the existing AdTech infrastructure.

AdTech's Role in OTT & CTV

The viewer

Data platform, e.g. customer data platform (CDP)

DATA LAYER

Data platform, e.g. customer data platform (CDP)

Publisher (i.e. streaming service)

Publisher's ad server

AD SERVING

Advertiser's ad server

Advertiser

Ad network

Supply-side platform (SSP)

MEDIA BUYING

Ad exchange

Demand-side platform (DSP)

AdTech's Role in OTT & CTV

Just like in other channels, AdTech platforms in OTT and CTV advertising are responsible for:
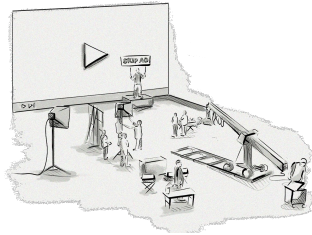
Ad serving

There are different ways to serve ads in the OTT and CTV environments, e.g. client-side ad insertion (CSAI) and server-side ad insertion (SSAI).

Media buying

Because OTT and CTV inventory is more premium than other types (e.g. display), the most common media-buying models are direct and private marketplace (PMP).

Data and measurement

Collecting and using data for OTT and CTV is more challenging than in other channels, e.g. web browsers. Measuring the performance of ads is also more challenging as some viewers may see an ad on CTV but then complete the conversion (e.g. a purchase) on a smartphone.

AdTech's Role in OTT & CTV

The main AdTech companies in the CTV & OTT space

AMOBEE

Magnite

SPOTX

theTradeDesk

publica

FREEWHEEL
A COMCAST COMPANY

BEESWAX

theviewpoint

DV DoubleVerify

The Challenges Facing the OTT and CTV Advertising Industry

The Challenges Facing the OTT and CTV Advertising Industry

- **Fragmentation:** Fragmentation is a common theme in programmatic advertising and the OTT and CTV industry isn't immune. For the most part, fragmentation in OTT & CTV refers to the fact that each CTV device has its own hardware and software, meaning they all have their own IDs.

- **Identity:** In the CTV and OTT environments, there are multiple CTV devices and multiple OTT apps, meaning identifying audiences across all of those devices and apps is a huge challenge.

- **Measurement:** The lack of consistent IDs, closed-off systems, and the nature of server-side ad insertion (SSAI) make it hard to measure the performance of campaigns and detect invalid traffic.

- **Ad fraud:** Fraudsters follow the money and there's a lot of money being poured into OTT and CTV. The fact that it's still in its infancy also means that detecting certain types of ad fraud is often harder than in other channels.

About Clearcode

Clearcode is a full-service AdTech & MarTech development company that **specializes in designing, building and maintaining** custom programmatic, RTB, data, and analytics platforms.

Companies partner with us because of **our experience, domain expertise, and knowledge** of the inner workings of the online advertising and marketing ecosystems.

We've built custom AdTech and MarTech platforms for the following companies:

Klarna.   sito MOBILE   ISOSKELE Une marque de La Poste   SPOTX   Broadsign   clarivoy

> " I had a wonderful experience working with Clearcode on several projects. The Clearcode team is extremely professional and deliverables were always received on time and on budget.

SPOTX

Allen Klosowski
SVP Advanced Solutions Group at SpotX

CLEARCODE

Looking to build an AdTech platform for OTT and CTV?

Get in contact with us
to find out how we can help you

Email: **sales@clearcode.cc**

Website: **www.clearcode.cc**