State of OTT

An in-depth look at today's over-the-top content consumption and device usage

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Agenda

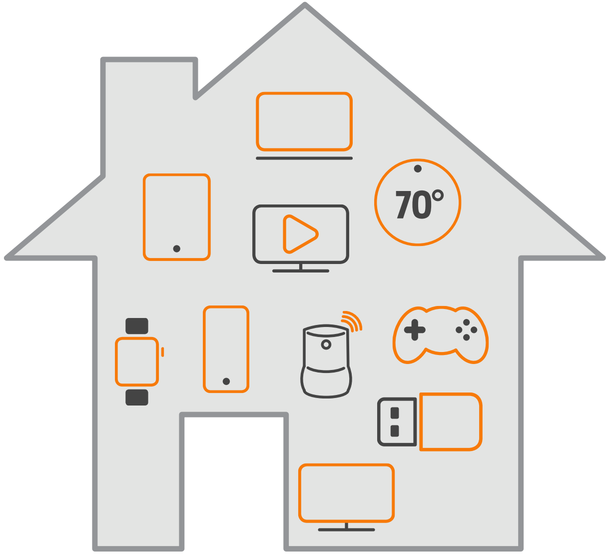
- OTT Market Overview
- Living Room Devices
- Household Viewing Segments
- OTT Content Providers
- Key Takeaways and Q & A

About this analysis

- **comScore's definition, aligned with the IAB definition, for over-the-top (OTT) is:**
  - Any video streamed on "a device that can connect to a TV, or functionality within the TV itself, to facilitate the delivery of Internet-based video content, such as Roku, Apple TV, Smart TVs, game consoles, etc."
- **This presentation leverages unique comScore data sources :**
  - comScore OTT Intelligence™ measures over-the-top streaming content consumption across OTT devices.
  - comScore Connected Home™ delivers insight into the usage of all internet- or router-connected devices in the home – including IoT.
  - The foundation of these two data sources is the comScore Total Home Panel™, a breakthrough, single-source measurement solution that measures consumer behavior across home network-connected devices.

About this analysis

- **Total Home Panel** methodology and information:
  - Single-Source Behavioral
  - Measures ~8,000 Homes and ~100,000 Devices Monthly
  - Geographically Distributed in the U.S.
  - Weighted to U.S. homes with Wi-Fi (94M homes)
- **OTT Intelligence™** measures consumption across 70 OTT services which account for the overwhelming majority of OTT usage
- **When publishing or using information from this presentation**, please be sure to cite comScore as sourced at the bottom of each slide



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Key Takeaways

1

OTT streaming is a mainstream behavior that has grown significantly

2

There is still opportunity for OTT streaming growth, especially among certain segments

3

Consumption of OTT services is concentrated, but with a long tail

OTT Market Overview

OTT viewing has become a mainstream media behavior in the U.S.

59.5 MM

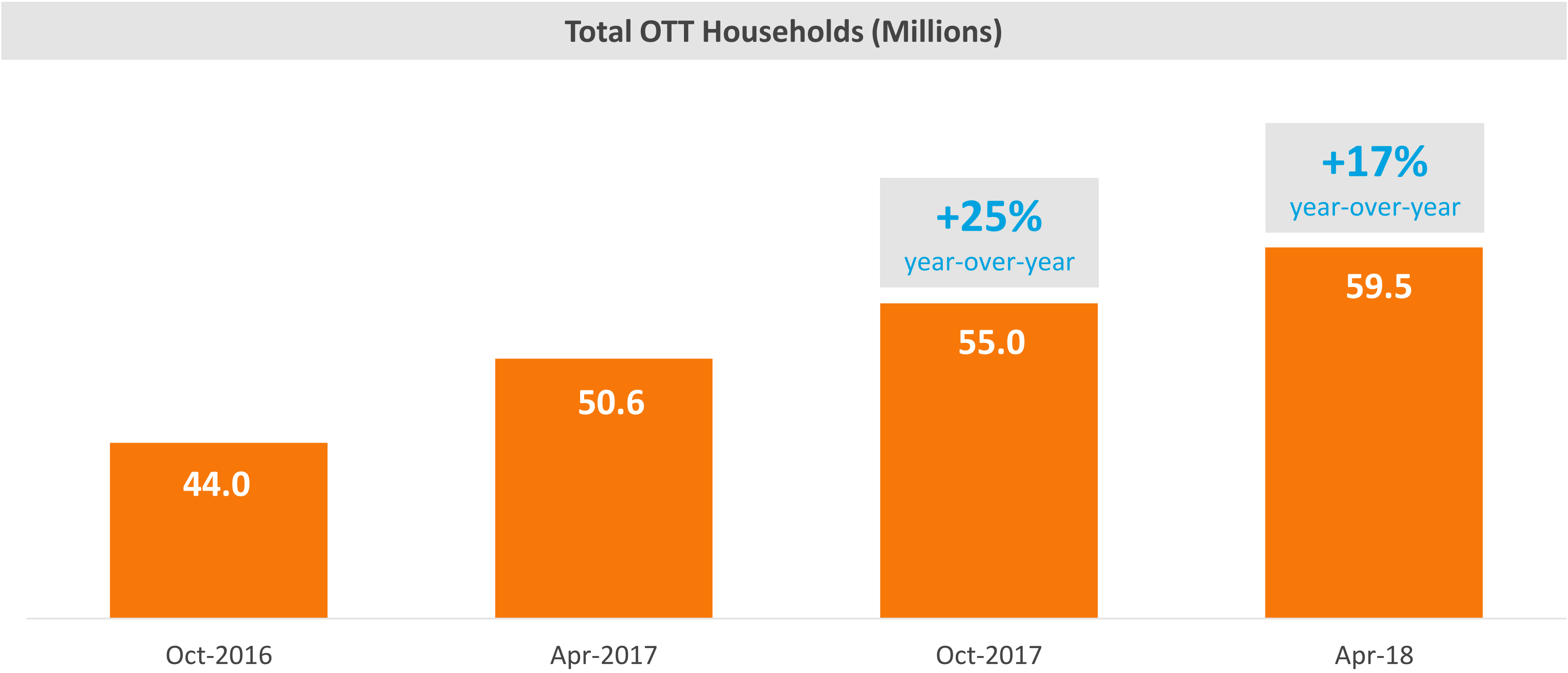
homes used OTT in April.

That's **63.5%** of all homes with Wi-Fi

Homes using OTT has gone up **17%** year-over-year

Source: comScore OTT Intelligence, U.S., April 2018

The OTT market is steadily growing, with 8.8M more OTT viewing households coming online over the past year – a 17% increase



Source: comScore OTT Intelligence, U.S., October 2016 - April 2018

Audiences are spending a significant amount of time with OTT

These 59.5MM homes viewed, on average,

54 Hours

of OTT content in April 2018…

(+4.4 hours per household year-over-year)

…this was spread across

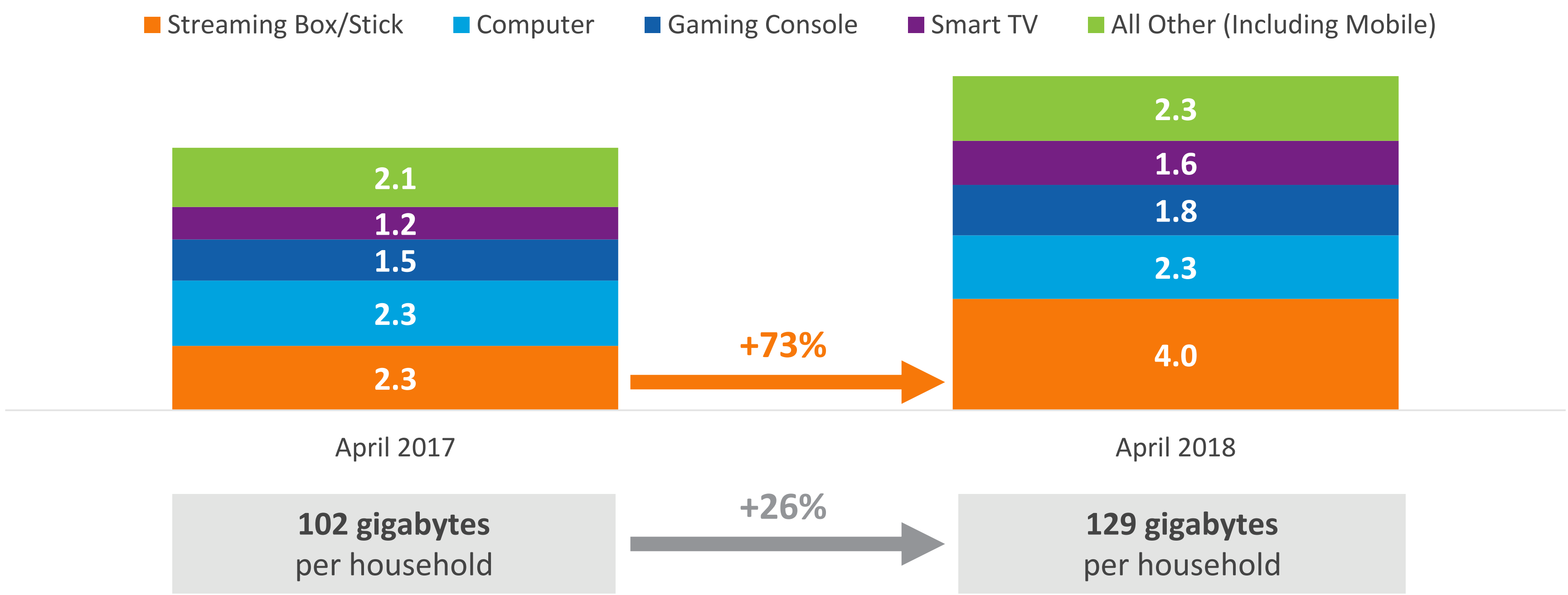
16.4 average viewing days

Total time spent streaming OTT is up **28%** year-over-year

Source: comScore OTT Intelligence, U.S., April 2017 - April 2018

Computers used to equal streaming devices in data use – now, data use by streaming devices is up 73 percent

Total Gigabytes of Data Received in All U.S. Wi-Fi Homes (Billions)



comScore

Source: comScore Connected Home, U.S., April 2017 vs. April 2018

Living Room Devices

Adoption of OTT devices is still on the rise and viewers are doing more with the devices they have

Year-over-Year Change April 2017 to April 2018

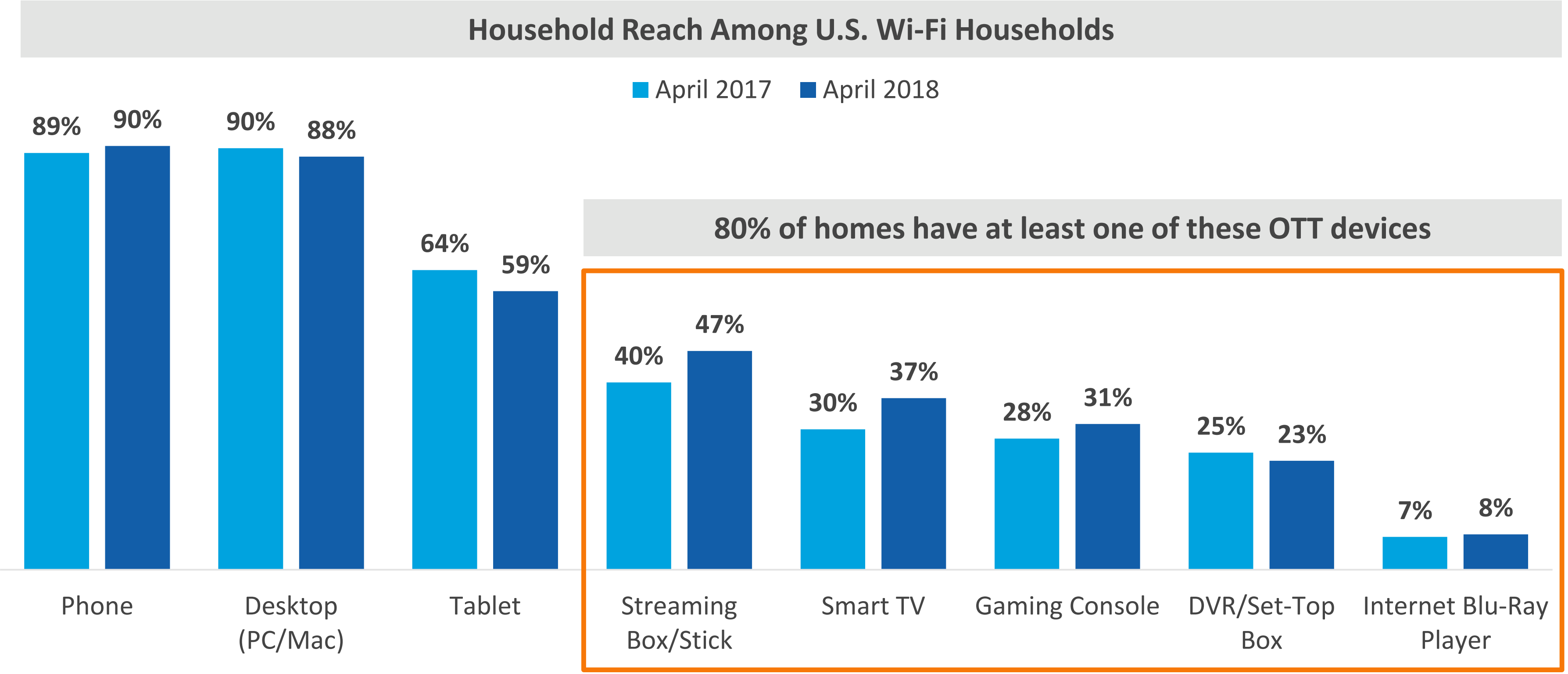
+4%
Homes with an OTT Device

+6%
Average Number of OTT Devices per Home (2.54 to 2.7)

+17%
Homes streaming OTT content

Source: comScore Connected Home, U.S., April 2018 and OTT Intelligence, U.S. April 2018

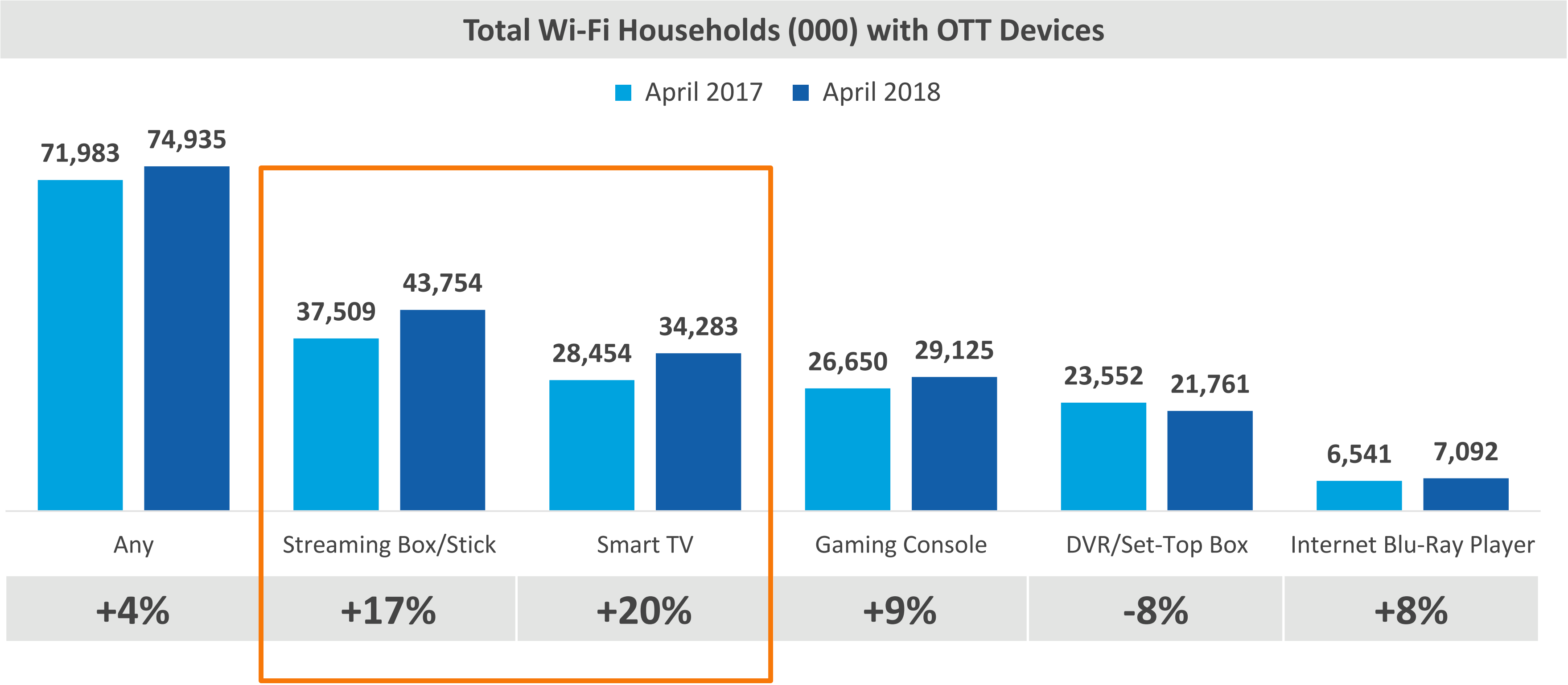
While traditional digital devices are still the most prevalent, most OTT devices are showing significant growth



comScore

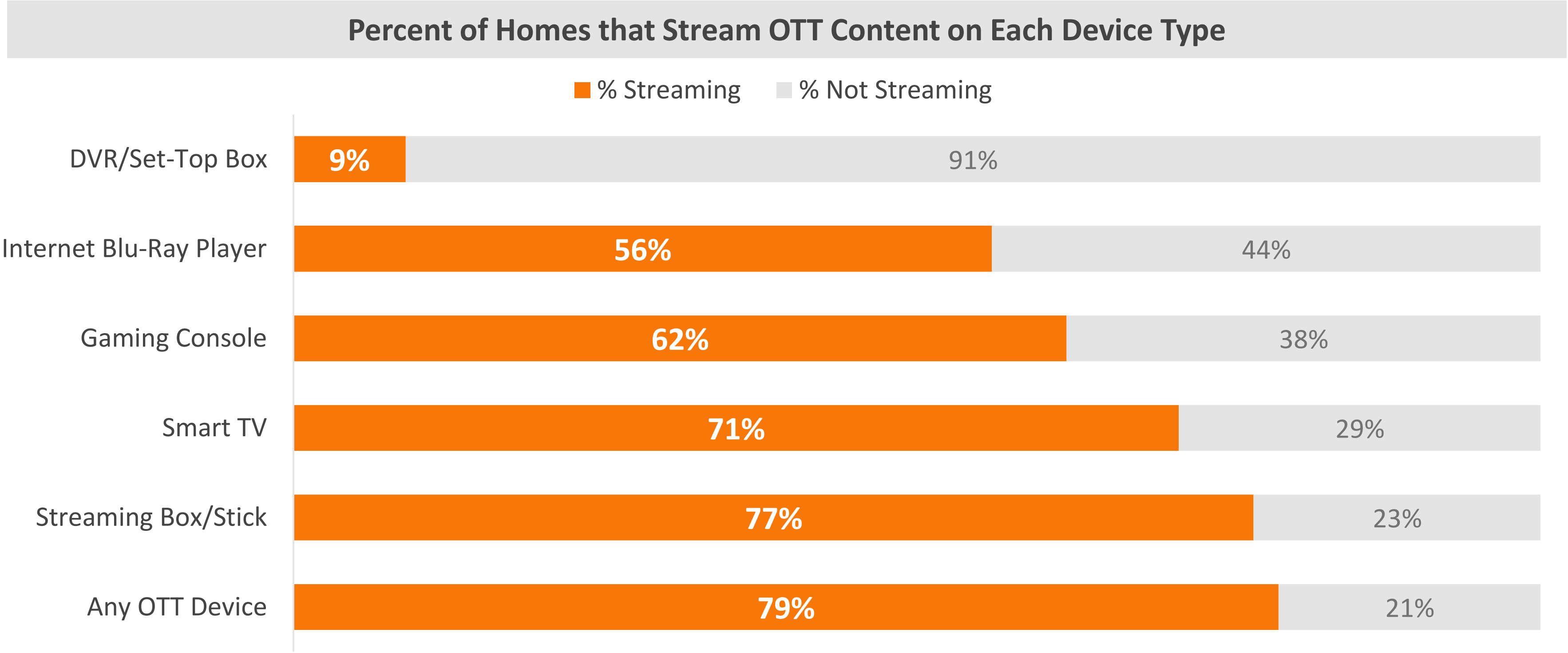
Source: comScore Connected Home, U.S., April 2018
* DVR/Set-Top Box only include those that are connected to the home router

Penetration of OTT devices in Wi-Fi households is up with streaming boxes/sticks and smart TVs leading the way



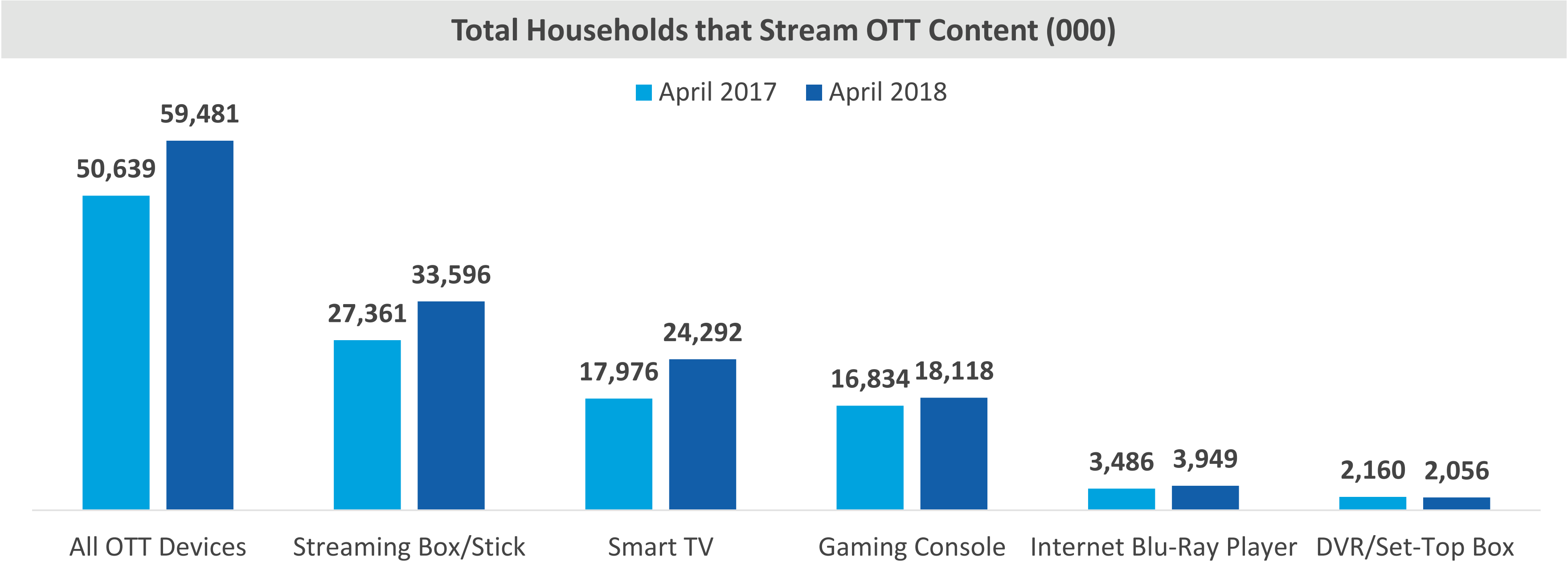
Source: comScore Connected Home, U.S., April 2018
* DVR/Set-Top Box only include those that are connected to the home router

While the majority of homes with OTT devices stream OTT content, there is opportunity in the 21% who do not



Source: comScore Connected Home and OTT Intelligence, U.S., April 2018
*DVR/Set-top boxes only include those that are internet-enabled

The amount of homes that stream content is up across the board on nearly every type of OTT device

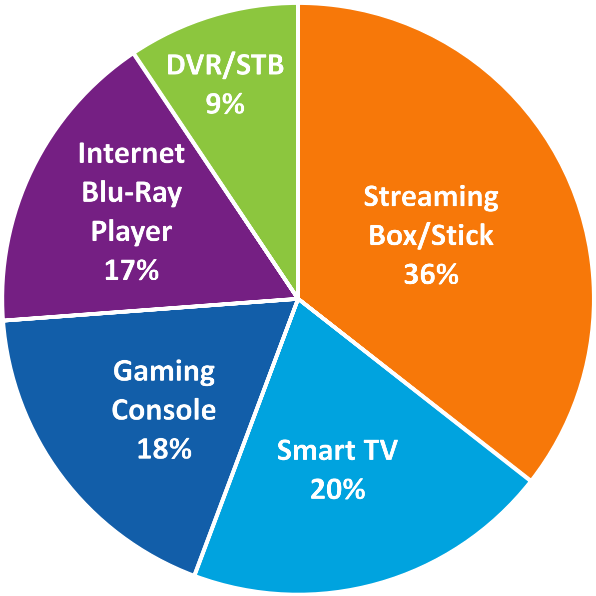


All OTT Devices	Streaming Box/Stick	Smart TV	Gaming Console	Internet Blu-Ray Player	DVR/Set-Top Box
+17%	+23%	+35%	+8%	+13%	-5%

Source: comScore OTT Intelligence, U.S., April 2018
* DVR / Set Top Boxes only include those that are internet-enabled and connected to the home router

In addition to being the most popular OTT device, streaming boxes/sticks also dominate time spent streaming by OTT households

Percent of Total OTT Viewing Hours by Device Type (April 2018)



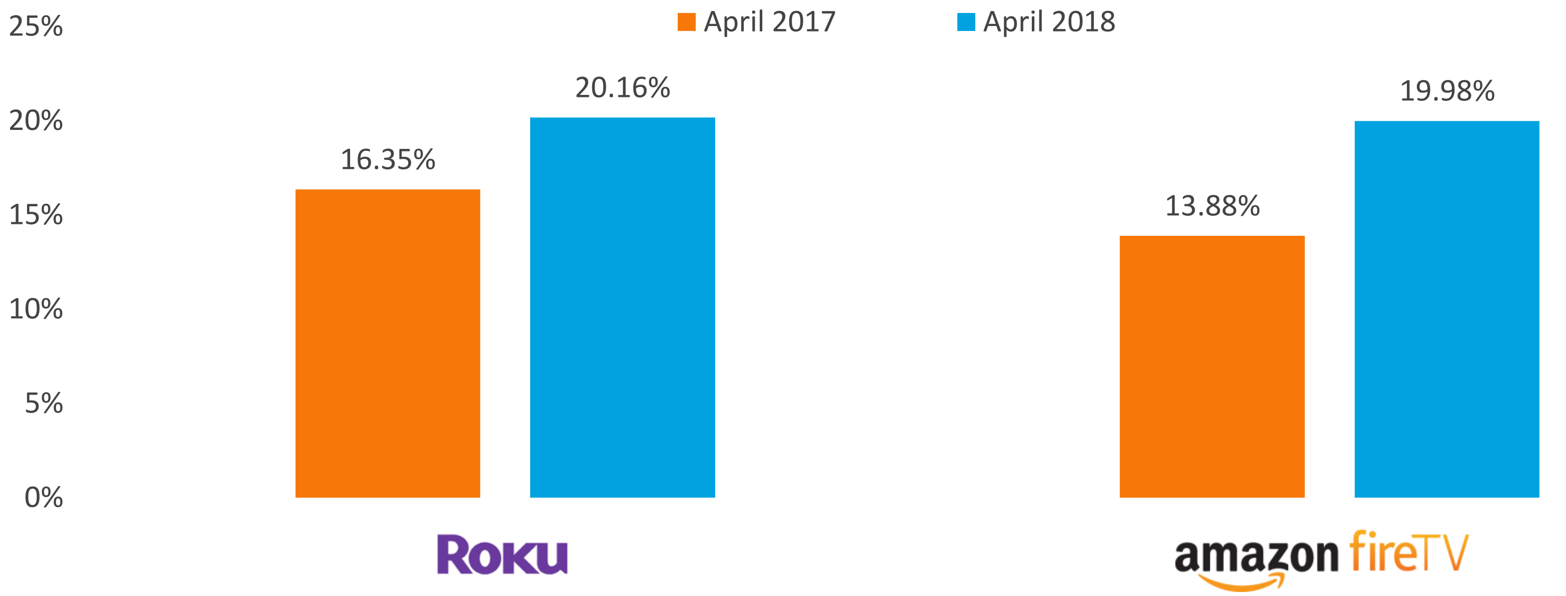
OTT Streaming Households by Platform (April 2018)

Platform	Viewing Hours per Household	Households
Streaming Box/Stick	**53**	**33.6 MM**
Smart TV	30	24.3 MM
Gaming Console	27	18.1 MM
Internet Blu-Ray Player	25	3.9 MM
DVR/Set-Top Box	14	2.1 MM

Source: comScore Connected Home, April 2018

Streaming box and stick devices are still driving the OTT category forward, with Roku and Amazon drawing closer to even this year

Select TV Streaming Boxes/Sticks: Penetration of U.S. Wi-Fi Households



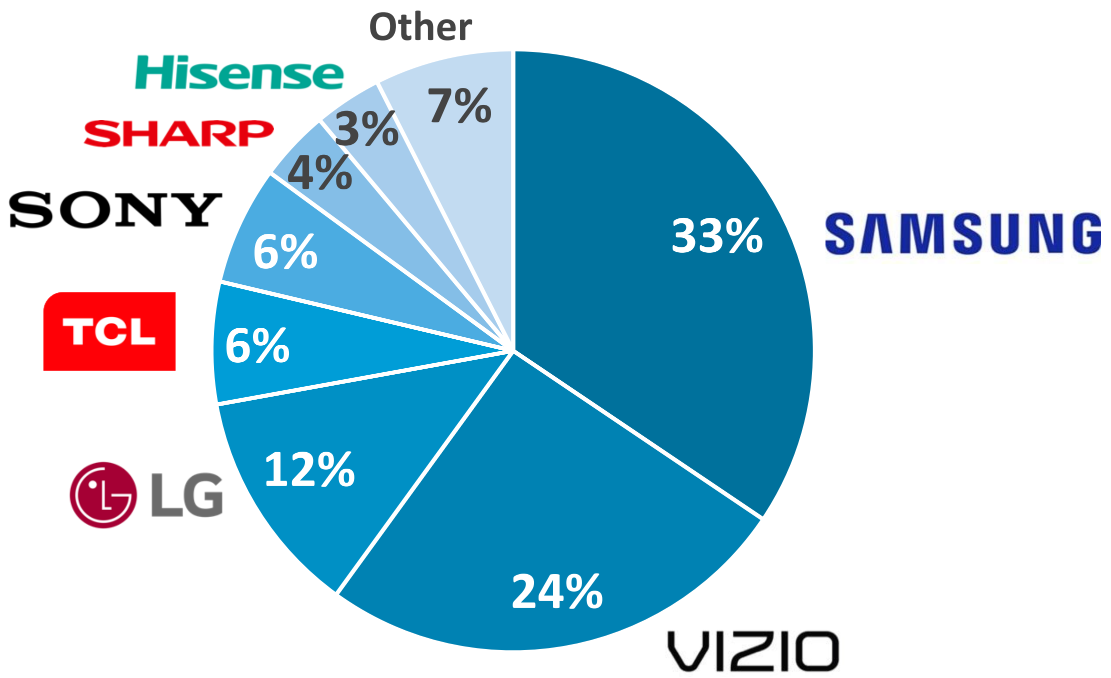
Note: Roku OS is also used on 13% of smart TVs

comScore

Source: comScore Connected Home, U.S., April 2017 vs. April 2018

The smart TV market is led by Samsung and Vizio, each accounting for a large piece of the pie

Share (%) of Smart TVs by OEM in U.S. Wi-Fi Households



Source: comScore Connected Home, U.S., April 2018

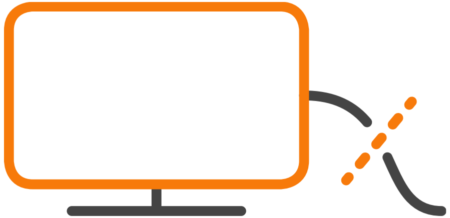
Household Viewing Segments

Definitions: Cordless, cord-cutters and cord-nevers

CORDLESS

Has no traditional pay-TV service (cable/satellite)

Cordless = cord-cutters + cord-nevers



CORD-CUTTERS

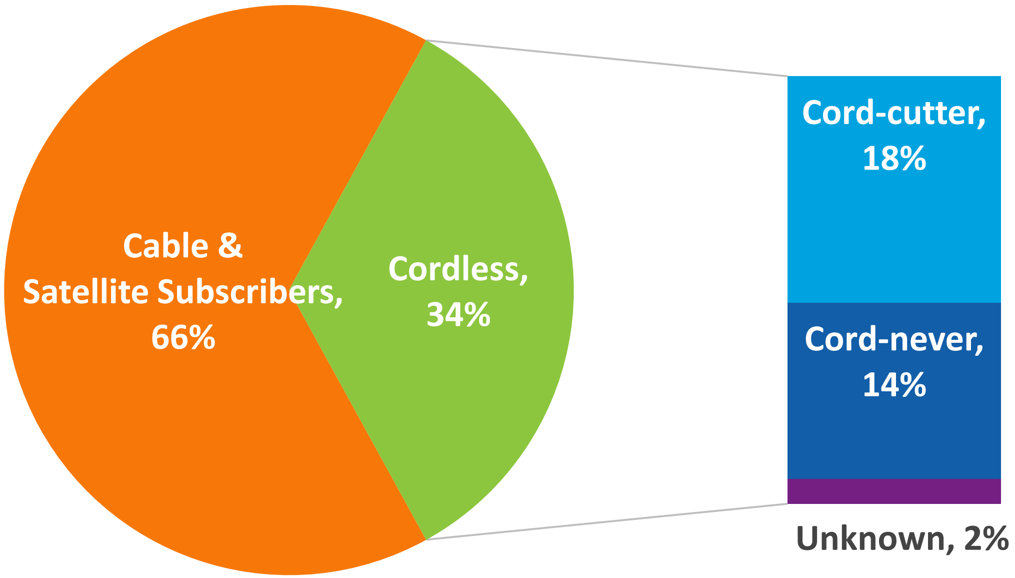
Has had a traditional pay-TV (cable/satellite) subscription in the past five years

CORD-NEVERS

Has not had a traditional pay-TV (cable/satellite) subscription in the past five years

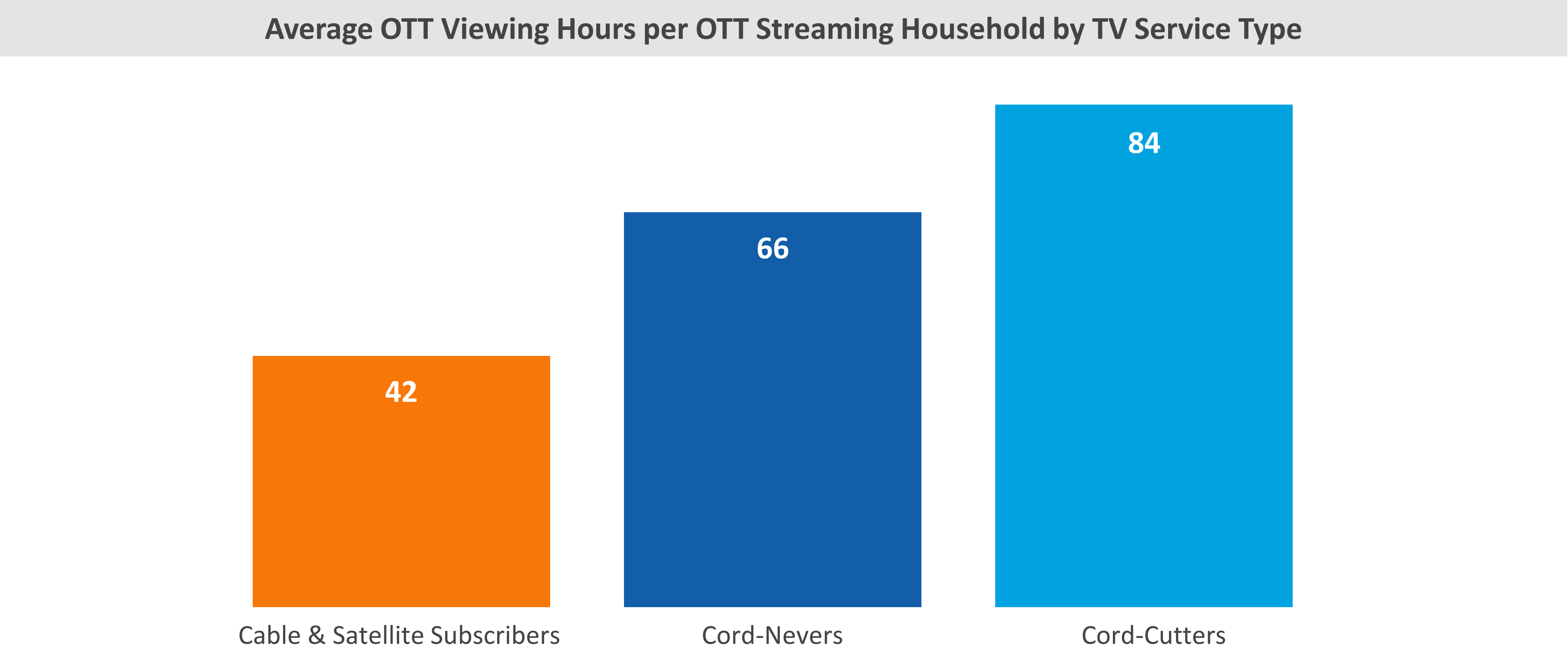
More than one-third of the OTT streaming audience is cordless and doesn't subscribe to pay-TV; those cordless households can be further broken down to "cord-cutters" and "cord-nevers"

OTT Streaming Households by TV Service Type



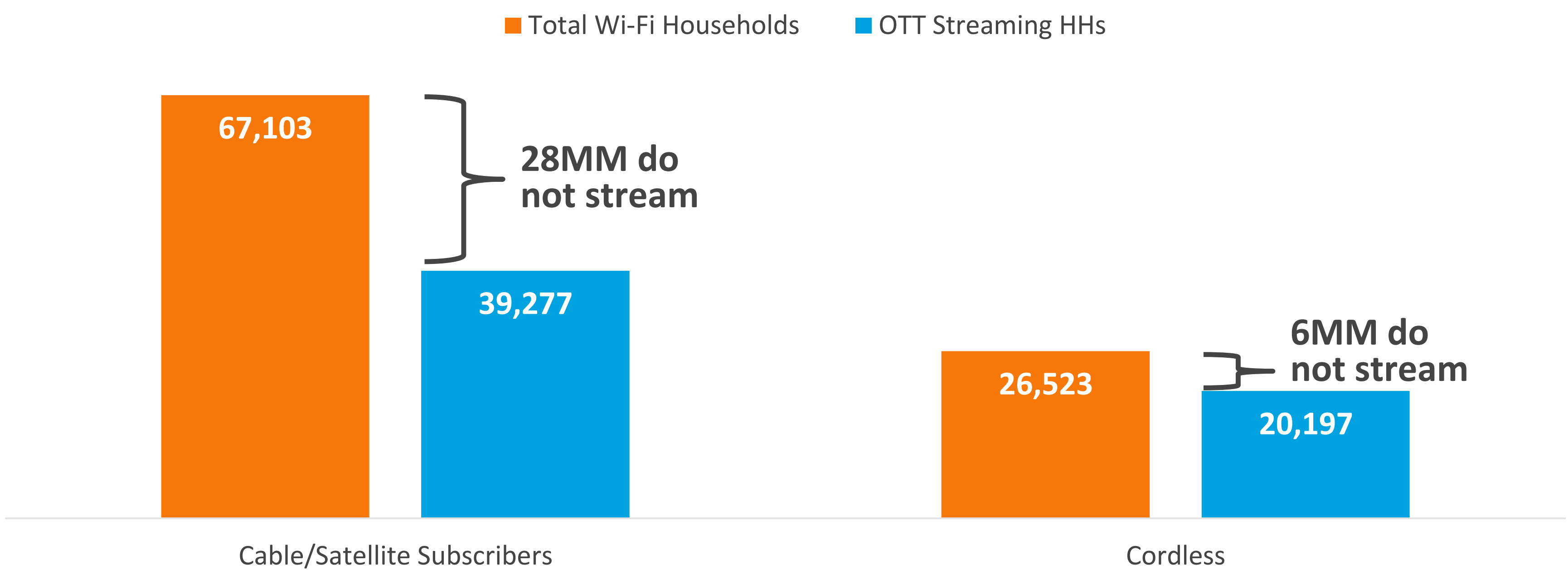
Source: comScore OTT Intelligence, U.S., April 2018
Households that use an antenna in addition to their cable or satellite services are included in those respective shares.
Cordless unknown is households that are cordless but it is unknown if they are cord-cutters or cord-nevers.

Cord-cutters are significantly more engaged with OTT streaming than cord-nevers



Cable and satellite subscribers who do not yet stream OTT pose a major growth opportunity

Total Wi-Fi Households vs. OTT Streaming Households (000)



Heavy streamers stream 13 times as much as light streamers

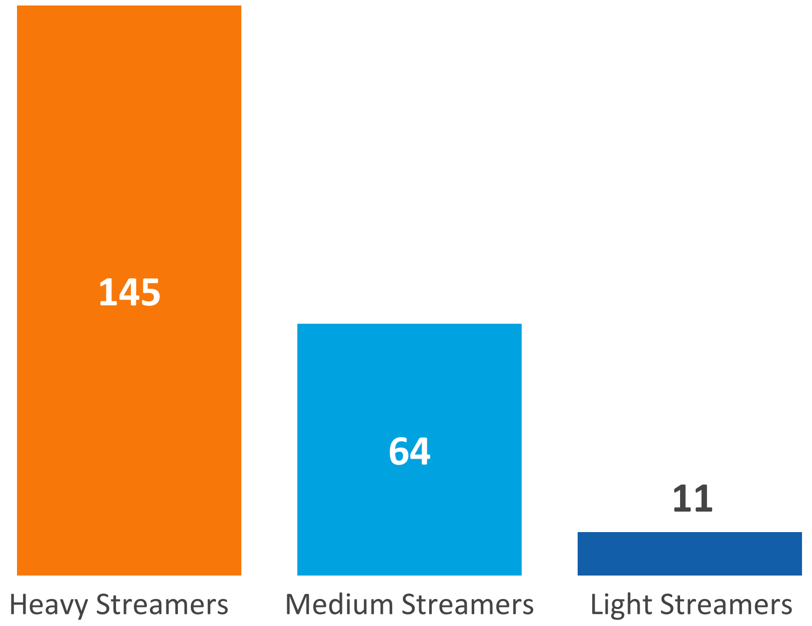
Definitions:

HEAVY STREAMERS
The top **20%** of OTT households based on duration.

MEDIUM STREAMERS
The next **30%** of OTT households based on duration.

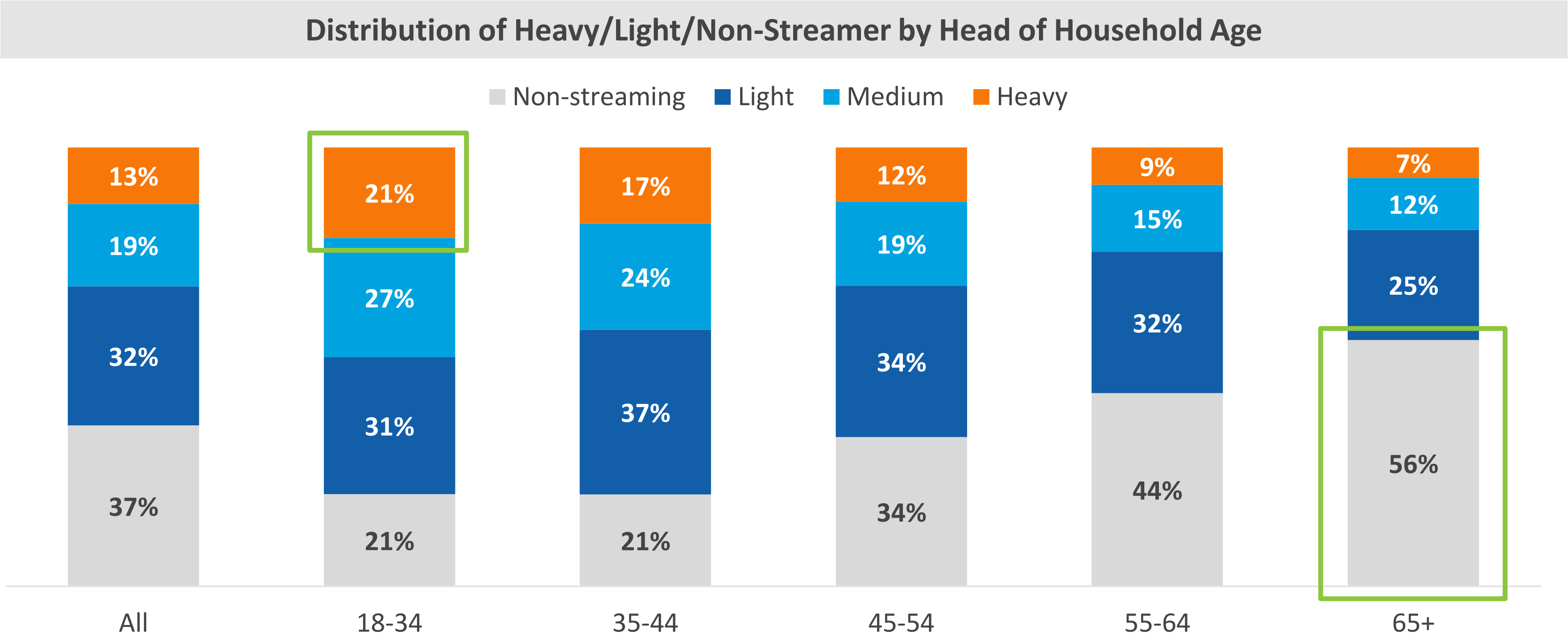
LIGHT STREAMERS
The bottom **50%** of OTT households based on duration.

Average OTT Viewing Hours per OTT Streaming Household

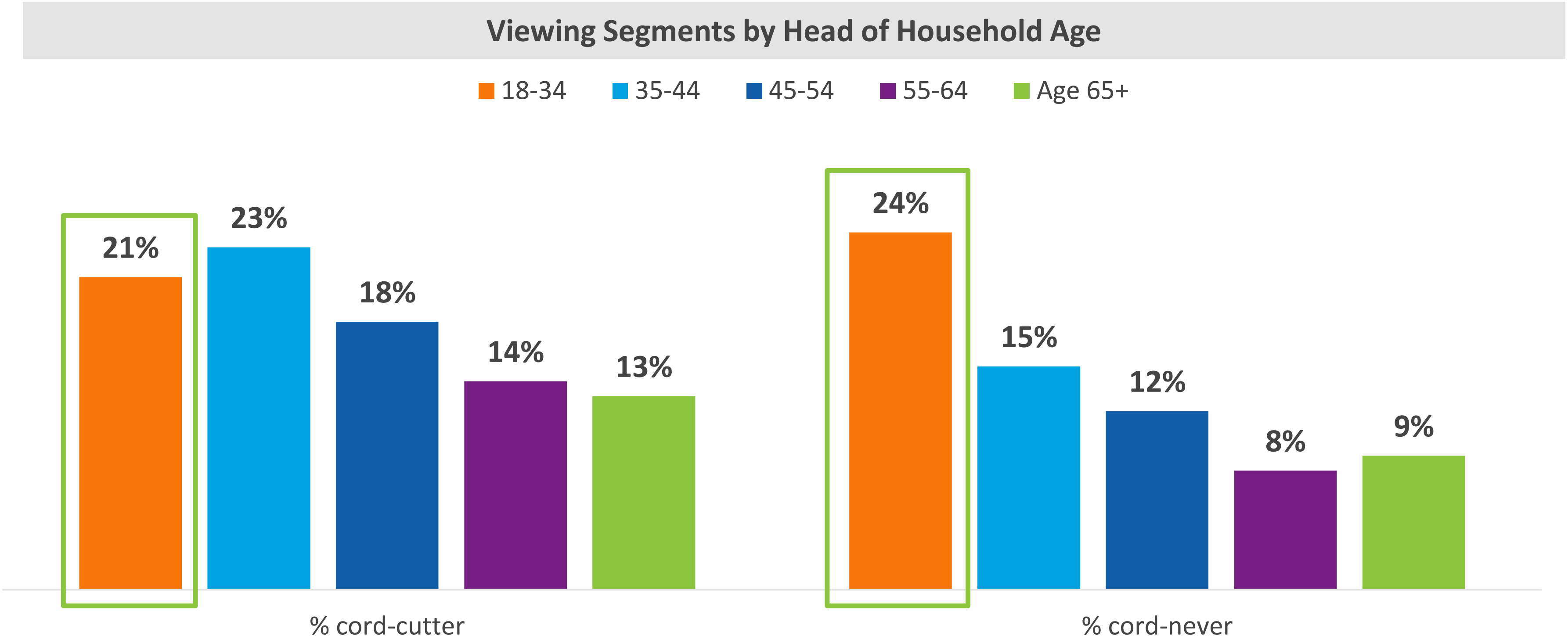


Source: comScore OTT Intelligence, U.S., April 2018

As expected, heavy streamers are more likely to be young, while seniors are more likely to not stream at all

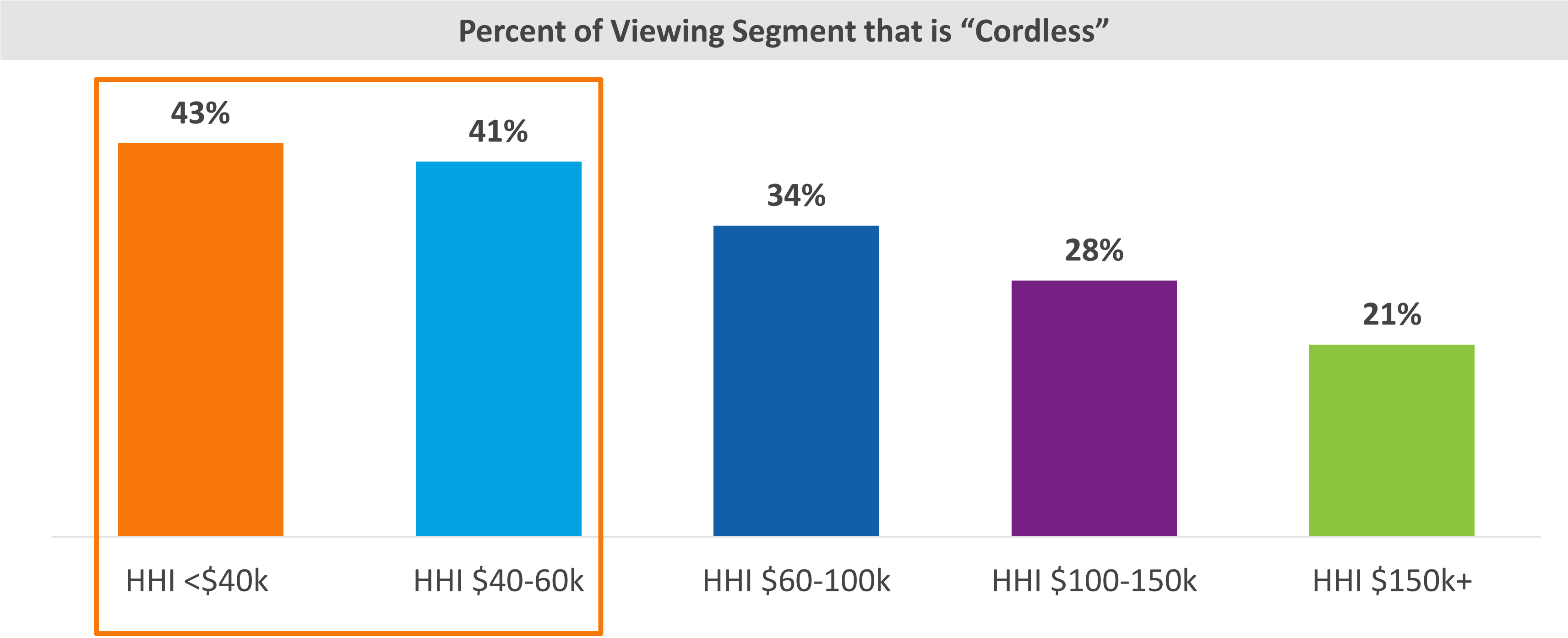


Homes with younger heads of household are more likely to be cord-nevers than cord-cutters



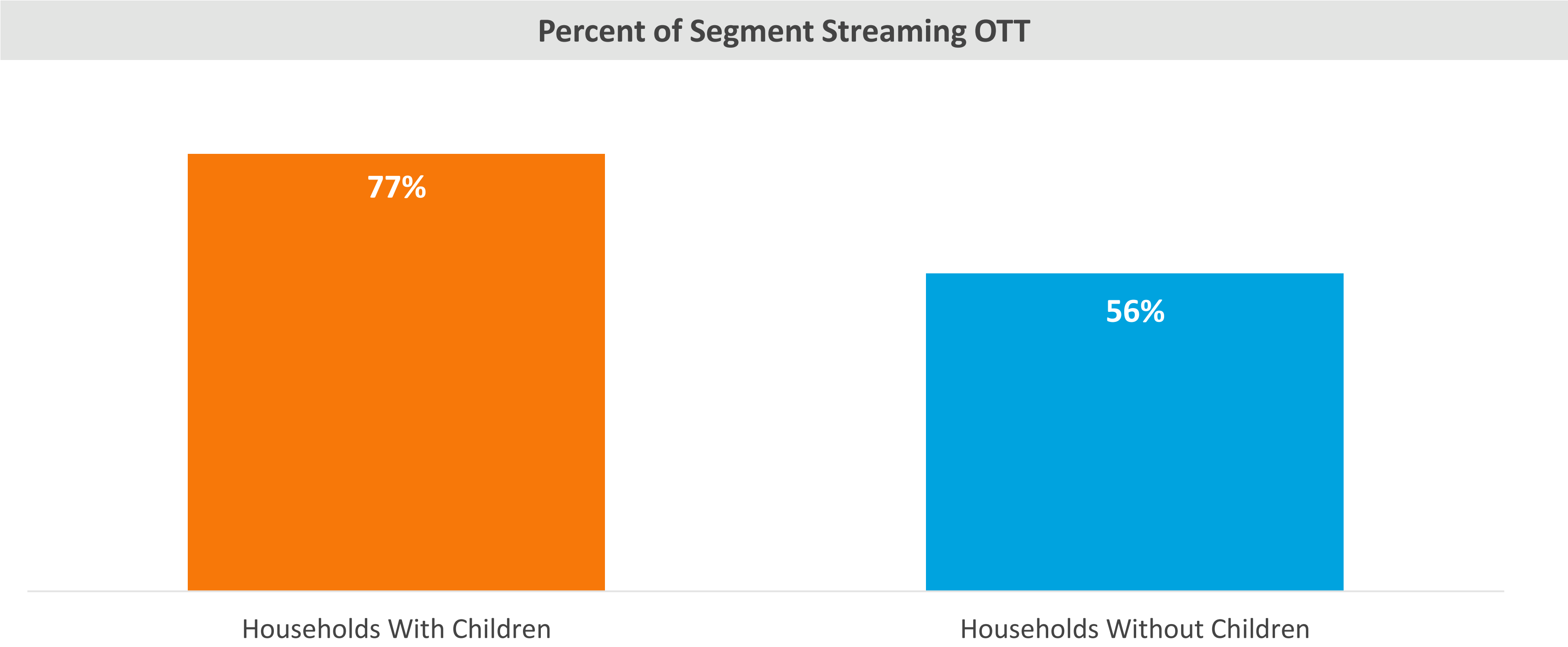
Source: comScore OTT Intelligence, U.S., April 2018

Lower-income households are twice as likely to be cordless than those with higher-income



Source: comScore OTT Intelligence, April 2018

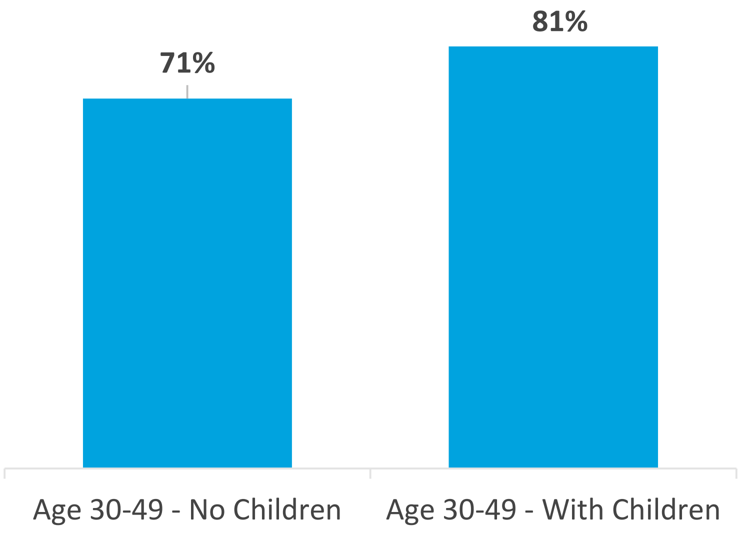
Homes with children are more likely to stream OTT content



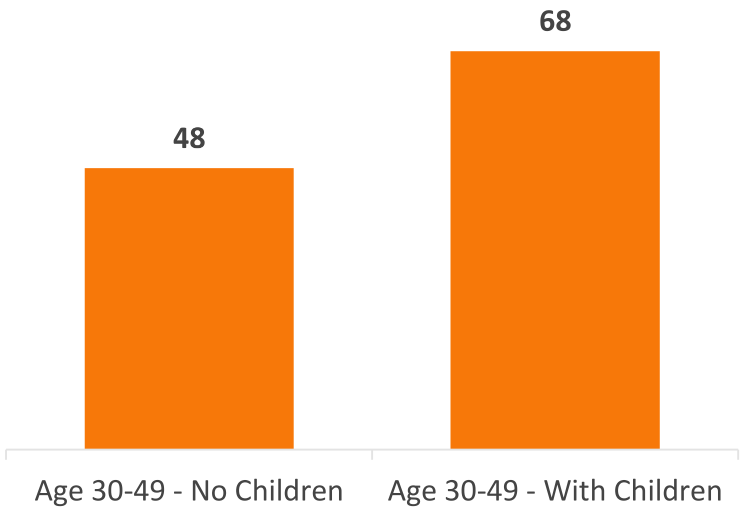
Source: comScore OTT Intelligence, April 2018

Presence of children in households with same head of household age increases streaming adoption and engagement

Percent of Segment Streaming OTT



Hours per OTT Streaming Household

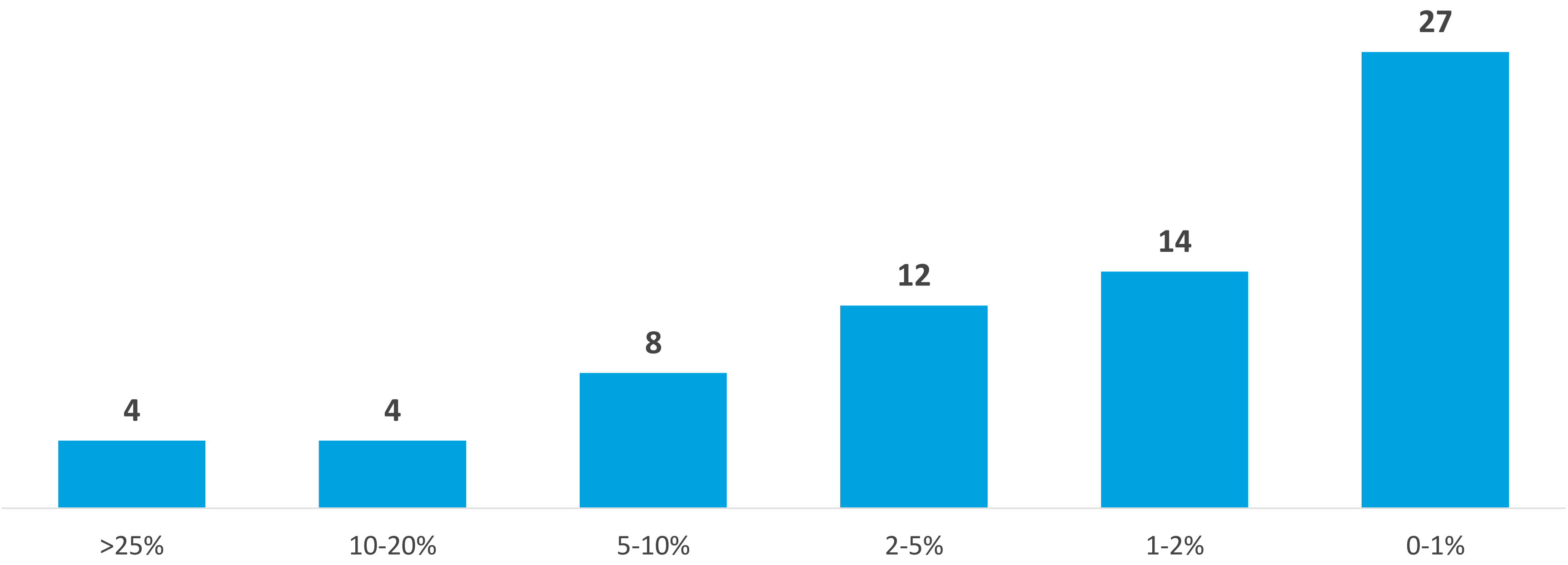


Source: comScore OTT Intelligence, U.S., April 2018

OTT Content Providers

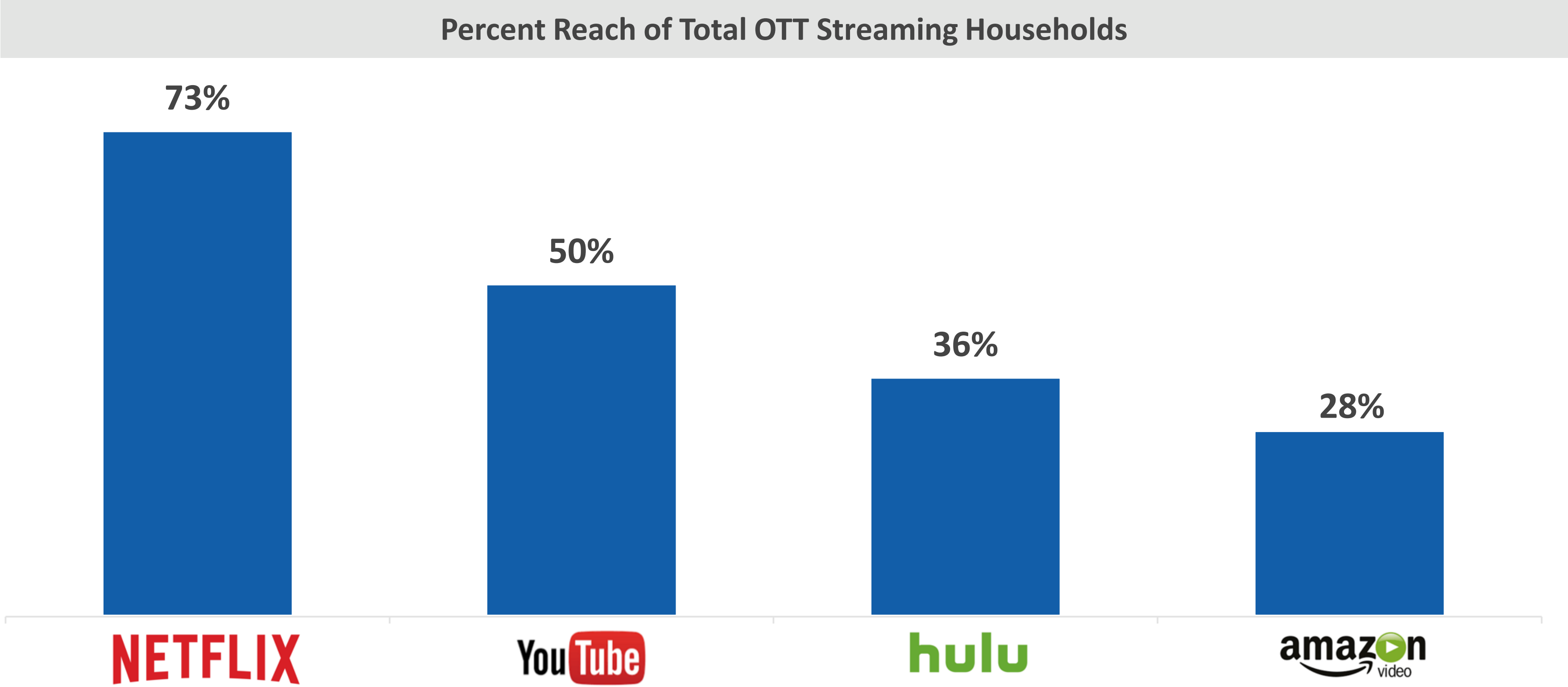
OTT streaming is a long-tail situation, with a few high-reach apps and many low-reach services

Number of Apps by Percent Reach of OTT Streaming Households



Source: comScore OTT Intelligence, U.S., April 2018

The four major OTT streaming services have significant penetration into all OTT households



comScore.

Source: comScore OTT Intelligence, U.S., April 2018

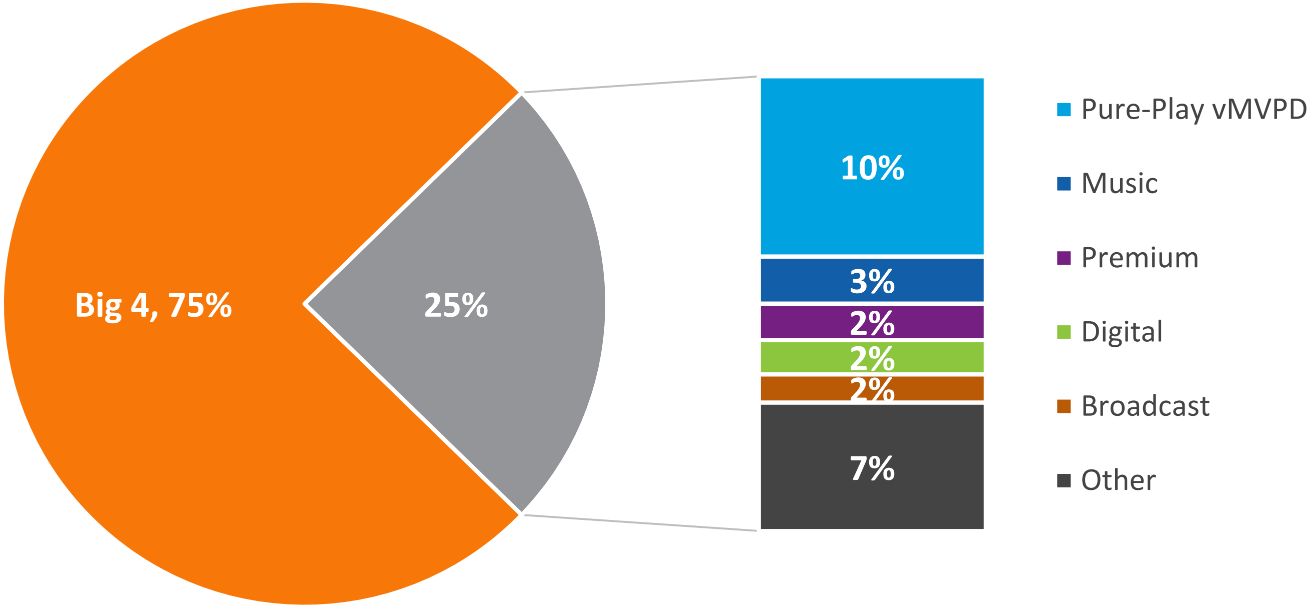
Hulu and YouTube have the highest percentage of cordless viewers and the highest time spent

	% CORDLESS	TOTAL OTT VIEWING HOURS	VIEWING DAYS
NETFLIX	37%	62	18.6
YouTube	41%	78	19.8
amazon video	37%	70	19.8
hulu	49%	86	21.6

Source: comScore OTT Intelligence, U.S., April 2018

Time spent streaming OTT is mainly spent on the big four, with pure-play virtual MVPDs next

Percent of OTT Streaming Time Spent

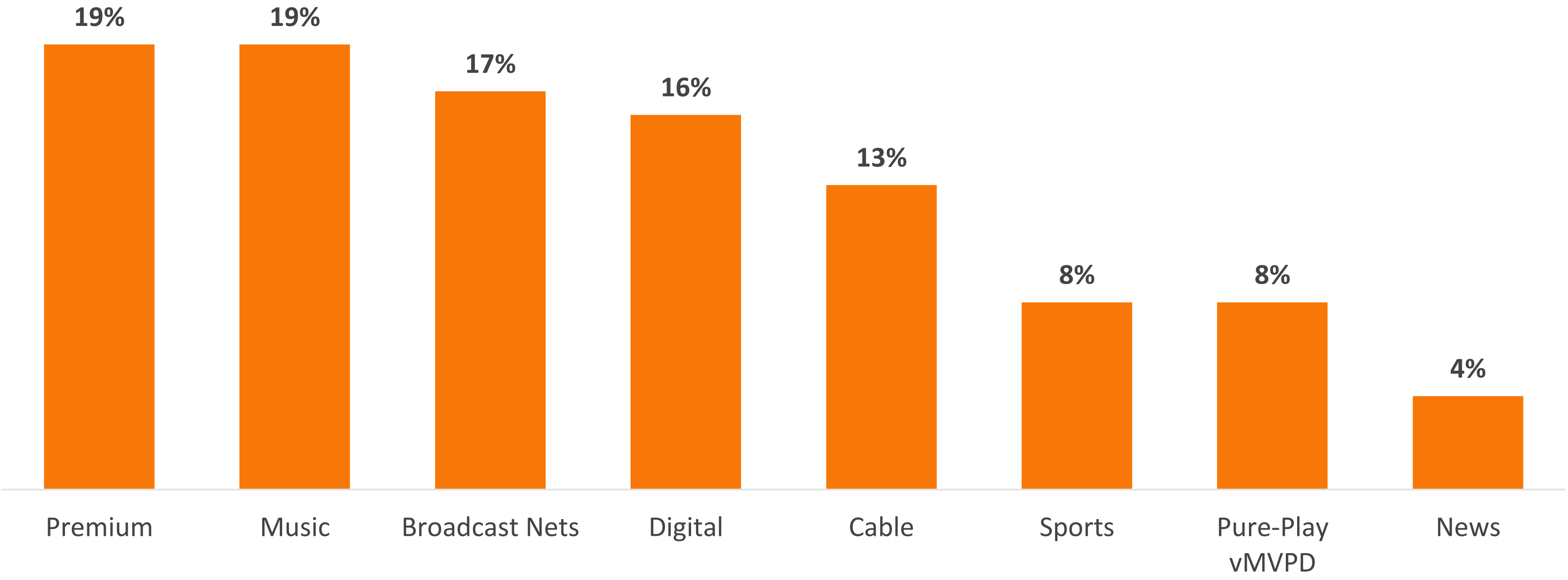


MVPD = Multichannel video (live TV) programming distributor (cable/satellite companies). A virtual MVPD is one that distributes content through the Internet. Examples are Sling, DirecTV Now, and PlayStation Vue.

Source: comScore OTT Intelligence, U.S., April 2018. Note: "Other" includes Includes Sports, Cable Channels, Transactional, MVPD, News, Public Broadcasting
*Households that use an antenna in addition to their cable or satellite services are included in those respective shares.

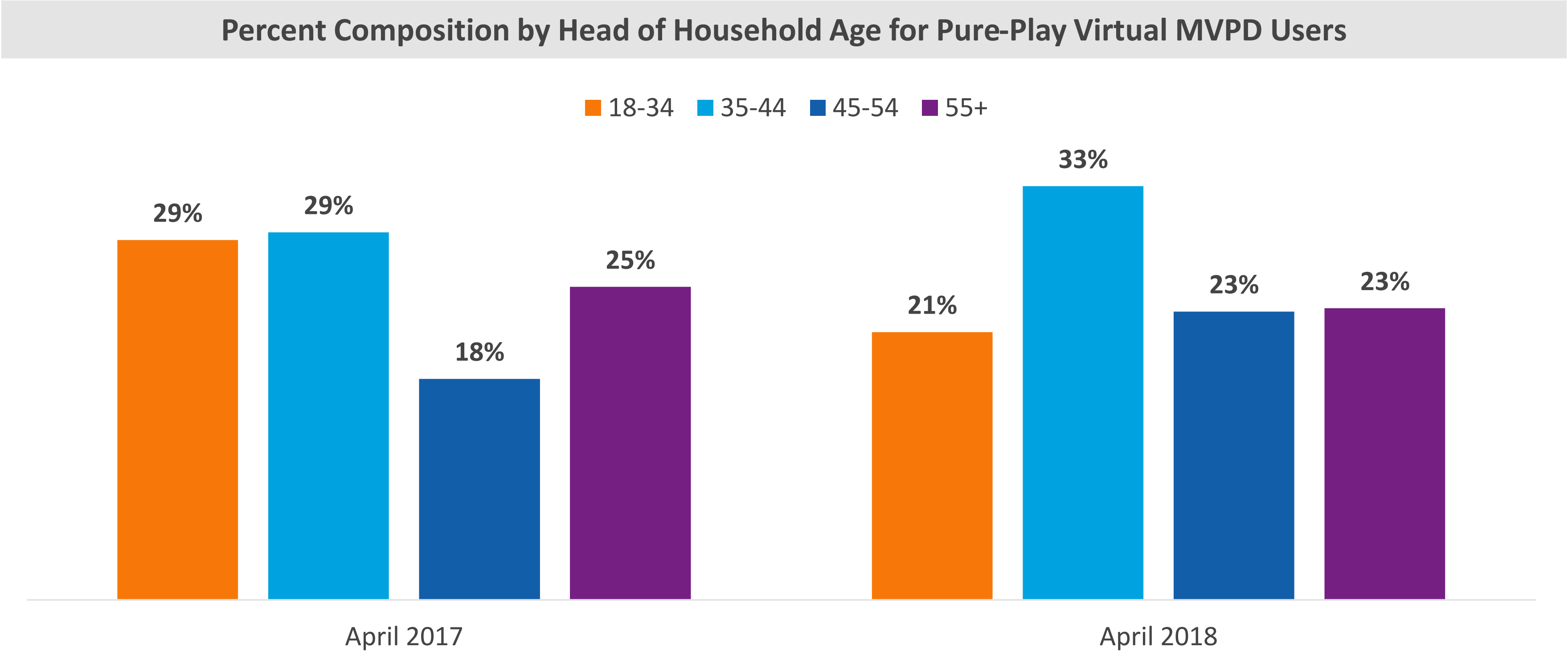
Outside of the Big Four services, the most popular categories are Premium Channels, Music Streaming, and Broadcast Networks

Percent Reach (of OTT Streaming HHs) of Various Genres – Three-Month Average (Feb. – April 2018)



Source: comScore OTT Intelligence, U.S., Feb-April 2018

More homes with older heads of household are using virtual MVPD services, indicating a potential expansion in generational adoption



Source: comScore OTT Intelligence, U.S., April 2017 and April 2018

The use of pure-play virtual MVPD services on OTT is on the rise

Pure-Play Virtual MVPDs - Year-over-Year Growth

+58%

Number of Households

+53%

Hours Spent Viewing

49%

Of time spent by OTT HHs with a vMVPD service is with the vMVPD

Almost All

vMVPD viewing is on streaming boxes/sticks

Source: comScore OTT Intelligence, U.S., April 2018

Key Takeaways

Key Takeaways

1

OTT streaming is a mainstream behavior that has grown significantly

- **59.5 million homes**, up 17% year-over-year - nearly 2/3 of U.S. homes with a Wi-Fi connection
- Households average **54 hours per month of streaming** on 16.4 days
- A **year-over-year increase of 26% in home data usage** is driven by OTT streaming
- Households headed by persons under 35 are **more likely to be cord-nevers than cord-cutters**

2

There is still opportunity for OTT streaming growth, especially among certain segments

- **20% of U.S. homes** with Wi-Fi do not have an OTT device
- Of households that do have an OTT device, **21% are not actively streaming**
- **The segments with the most opportunity for growth** are cable and satellite subscribers, households with a head of household age 55+, and younger households without children

3

Consumption of OTT services is concentrated, but with a long tail

- Netflix, YouTube, Amazon, and Hulu are the "big 4" services and comprise **75% of time spent streaming OTT**
- **Pure-play virtual MVPDs account for 10% of time on OTT streaming** and have grown significantly in the past year
- Broadcast, cable, and premium network apps each reach **more than 10% of OTT streamers**

comScore Total Home Panel™

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OTT Intelligence™

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Thank You!

For more information, please email learnmore@comScore.com

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Appendix

Definitions of Key Terms

- **Cordless:** A home that has no traditional pay-TV service (cable/satellite)
- **Cord-cutter:** A home that has had a traditional pay-TV (cable/satellite) subscription in the past five years.
- **Cord-never:** A home that has not had a traditional pay-TV (cable/satellite) subscription in the past five years.
- **Computer:** All PC and Mac computers, including desktops and laptops. Excludes tablets and smartphones.
- **Heavy streamers:** The top 20 percent of OTT households based on duration.
- **Light streamers:** The bottom 50 percent of OTT households based on duration.
- **Medium streamers:** The next 30 percent of OTT households (after heavy streamers) based on duration.
- **MVPD:** Multichannel video (live TV) programming distributor (cable/satellite companies).
- **Over-the-top (OTT):** Any video streamed on a device that can connect to a TV, or functionality within the TV itself, to facilitate the delivery of Internet-based video content, such as Roku, Apple TV, Smart TVs, game consoles, etc.
- **OTT streaming households:** Homes with OTT devices that stream content on those devices.
- **OTT services/apps:** Any app or service that provides content via OTT and bypasses traditional distribution (e.g. Netflix, Hulu, etc.).
- **Smart TV:** An internet-connected television on which users can stream OTT content.
- **Streaming box/stick:** Refers to devices that connect to a TV for the purpose of streaming video (e.g. Roku, Amazon Fire TV, Apple TV, and Chromecast).
- **Virtual MVPD:** An MVPD that distributes content through the Internet (e.g. Sling TV, DirecTV Now, and PlayStation Vue).
- **Wi-fi homes:** Refers to the 94 million U.S. homes that have wireless internet.

OTT Services Included – April 2018

1. ABC
2. ABC News
3. ACORN.TV
4. Amazon Video
5. AMC Mobile
6. Apple TV iTunes
7. Bravo Now
8. Cartoon Network Video
9. CBS All Access
10. CBS News
11. CNN Go
12. Crackle
13. Crunchyroll
14. CWTV
15. Dailymotion
16. DirecTV Now
17. Disney Now
18. DIY Network
19. Food Network
20. FOX News
21. Fox Now
22. Fox Sports Go
23. Fubo.tv
24. FXNow
25. Hallmark Channel Everywhere
26. HBO Go/Now
27. HGTV
28. Hulu
29. iFood.tv
30. iHeartRadio
31. Mixer
32. MLB.tv
33. MLG.tv
34. NBA App
35. NBC
36. NBC News
37. NBC Sports
38. NCAA March Madness Live
39. Netflix
40. NFL Mobile
41. NHL
42. Pandora Radio
43. PBS
44. PBS KIDS Video
45. Philo
46. Playstation Vue
47. Pluto.TV
48. Showtime
49. Showtime Anytime
50. Sling
51. Spectrum TV
52. Spotify
53. Starz
54. Syfy Now
55. TBS
56. The Roku Channel
57. The Vidmark Channel
58. Travel Channel
59. Tubi TV
60. Twitch
61. USA Network
62. VEVO
63. VRV: Anime, game videos & more
64. VUDU Movies and TV
65. Watch TNT
66. WatchESPN
67. WWE
68. XBox Movies & TV
69. Xumo
70. YouTube