OVER-THE-TOP (OTT) TRENDS 2021

Timothy Siglin,
Contributing Editor,
Streaming Media magazine;
Founding Executive Director,
Help Me Stream Research Foundation

Michelle Fore-Siglin, Principal Data Analyst,
Help Me Stream Research Foundation

Sponsored by

TULIX

UNISPHERE
R E S E A R C H

HELP ME
RESEARCH
FOUNDATION
STREAM

streaming media THE BUSINESS & TECHNOLOGY OF ONLINE VIDEO

TABLE OF
CONTENTS

KEY TAKEAWAYS

1 OTT viewership remains high, but revenues remain stubbornly low.

2 Growth in OTT is expected to continue over the next 24 months, with over half of respondents expecting at least 26% growth.

3 5Mbps continues to be the sweet spot for average online video delivery bandwidth.

4 The key compelling drivers for deploying new services are attracting new subscribers/viewers or retaining them.

5 OTT platforms continue to be the medium of choice for distributing new content.
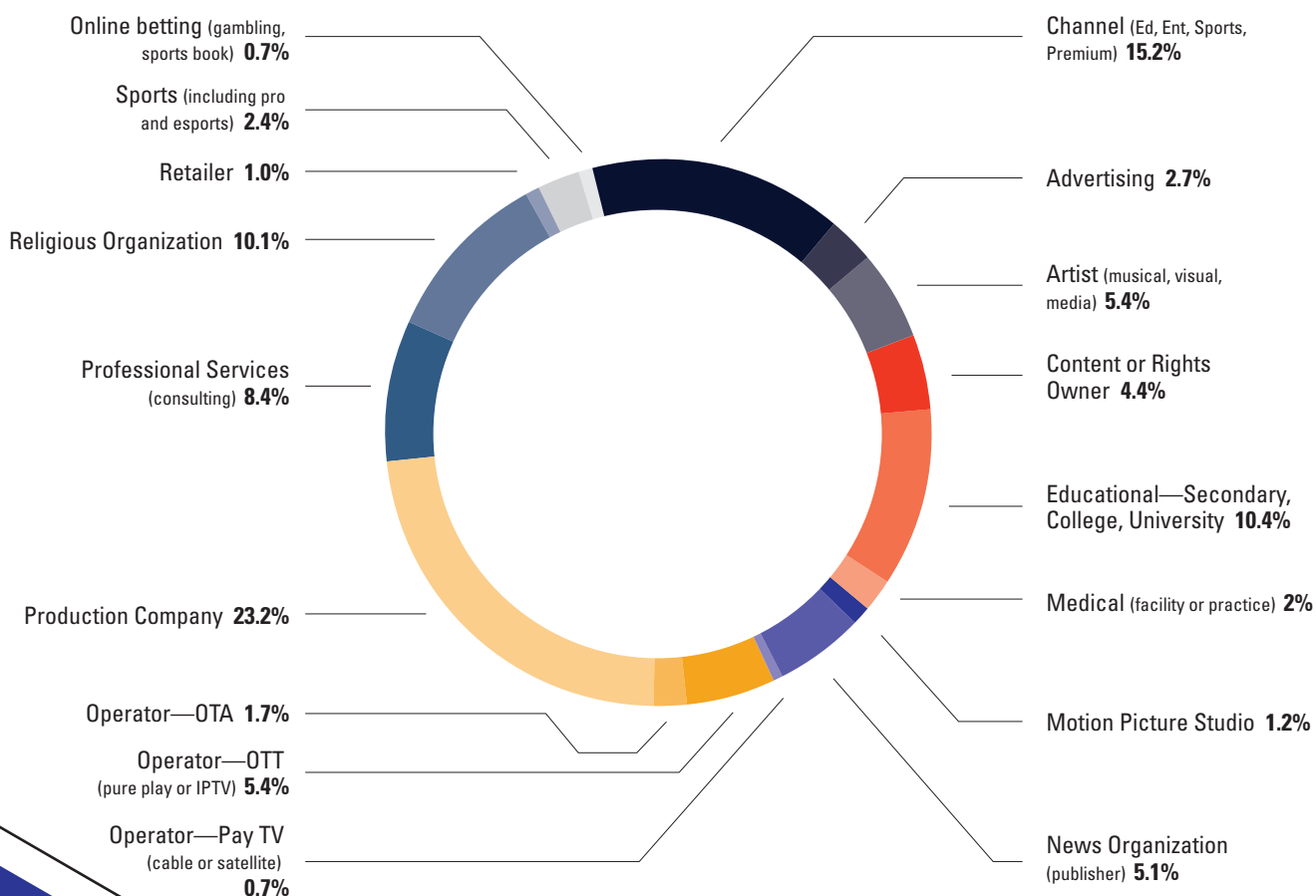
METHODOLOGY

Conducted in the first half of 2021, the Over-the-Top (OTT) Trends 2021 survey drew 354 quality responses from across the globe and 25 industry segments—ranging from rightsholders and OTT pure-play companies to artists, educators, houses of worship, and news organizations. Each response was verified by the Help Me Stream Research Foundation team prior to analysis.

A full 91% of respondents said their organizations either create content or distribute content; approximately 70% of respondents said their organization does both.

Geographically, 75% of respondents said they are based in North America, with Europe accounting for another 15%. The rest are spread across South America, the Asia-Pacific region, Africa, and India. Almost 300 respondents provided identifying information down to their postal code and country.

Primary job responsibilities were fairly evenly split between those in executive management (27%) and engineering (25%), with product management (11%) and a smattering of R&D, marketing, and business development roles rounding out the list.

Industries [Q3]

Online betting (gambling, sports book) **0.7%**

Sports (including pro and esports) **2.4%**

Retailer **1.0%**

Religious Organization **10.1%**

Professional Services (consulting) **8.4%**

Production Company **23.2%**

Operator—OTA **1.7%**

Operator—OTT (pure play or IPTV) **5.4%**

Operator—Pay TV (cable or satellite) **0.7%**

Channel (Ed, Ent, Sports, Premium) **15.2%**

Advertising **2.7%**

Artist (musical, visual, media) **5.4%**

Content or Rights Owner **4.4%**

Educational—Secondary, College, University **10.4%**

Medical (facility or practice) **2%**

Motion Picture Studio **1.2%**

News Organization (publisher) **5.1%**

AVERAGE OTT RESOLUTIONS AND FRAME RATES

Since approximately 70% of respondents said their organization both creates and distributes online video content, we were curious as to what resolutions and frame rates respondents used in early 2021.

Options for this question ranged from 720p 24/25/30 frames per second (fps) up to 4K (UHD) 50/60 fps. The higher 50 or 60 fps are used for high-motion content such as sports, primarily in Europe (50 fps) and the U.S. (60 fps).

Overall, 1080p resolution at 24/25/30 fps accounted for 41% of all content respondents created and/or distributed, followed by 24% choosing 1080p 50/60 fps. 4K content, at any frame rate, only accounted for 7% of overall responses, with 19% choosing 720p 24/25/30 fps and 9% choosing 720p 50/60 fps.

We also parsed the data for trends among respondents who indicated higher monthly viewership or subscription numbers in a separate question.

Respondents who have more than 1,000 monthly viewers or subscribers generated more 1080p 24/25/30 fps (49% versus 41% overall) and more 720p 24/25/30 content (23% versus 19% overall). Interestingly, that same group had less content being served at 1080p60 (15% versus 24% overall) and less at 720p60 (4% versus 9% overall).

In addition, those who have more than 10,000 monthly viewers were twice as likely to generate and distribute content at the higher 4K UHD resolution with either 24, 25, or 30 frames per second than the overall respondent rates. While this can partially be accounted for by respondents who work for broadcast stations or cable networks, it's also partially due to pure-play OTT providers pushing out premium content at ultra-high resolutions.

Average resolution & frame rate [Q2]

- 4K 60 **3%**
- 4K 24/25/30 **4%**
- 1080p 60 **24%**
- 720p 24/25/30 **19%**
- 720p 60 **9%**
- 1080p 24/25/30 **41%**
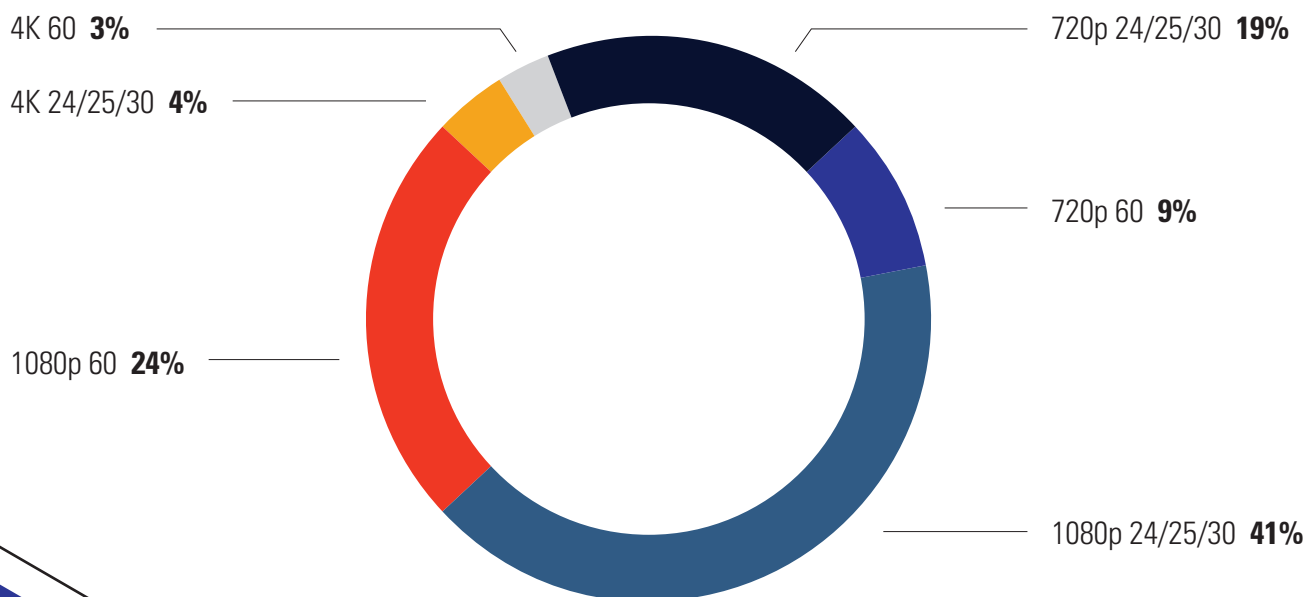
AVERAGE OTT BITRATE

It's been a few years since we asked a survey question about average bitrates, so the next question in this year's OTT Trends survey did just that. Options ranged from 1.5 megabits per second (Mbps) to more than 15.0Mbps.
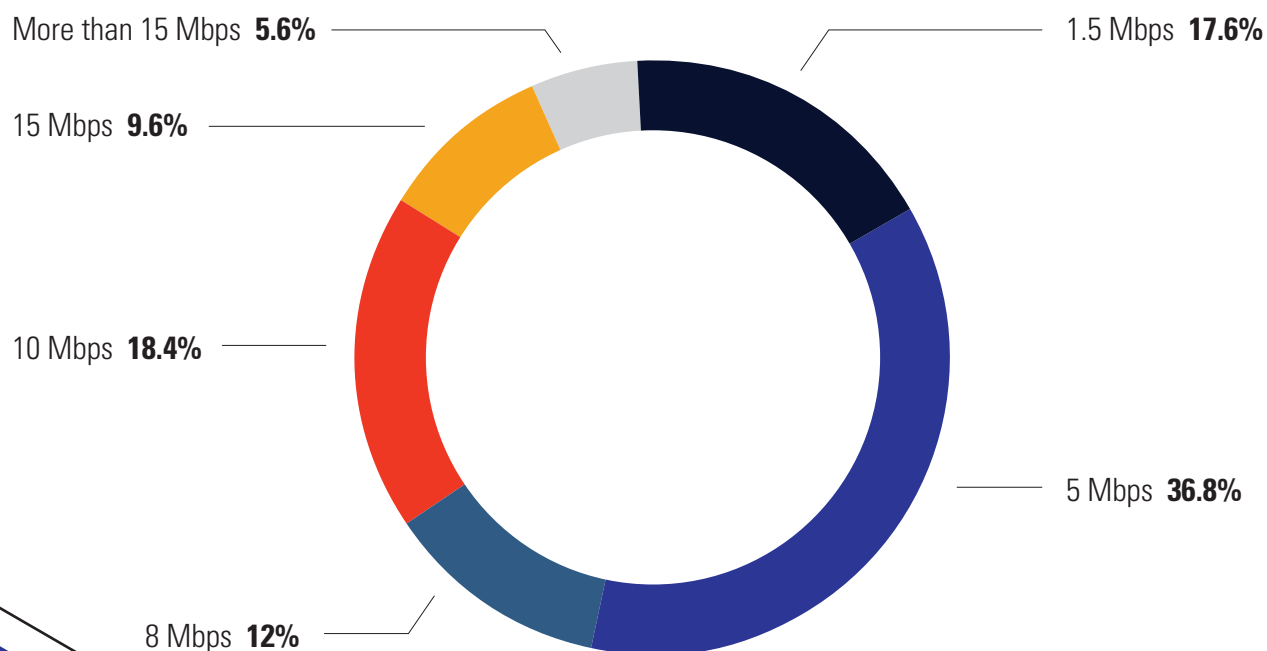
Bitrates between 1.5Mbps and 5Mbps accounted for almost 55% of overall responses, with 8 to 10Mbps accounting for an additional 30% of responses. As we did for Question 2 with average resolutions and frame rates, though, we also looked at the difference in bitrates between overall responses and those who had higher monthly viewership or subscriber numbers.

Among respondents who have more than 1,000 monthly viewers or subscribers, the percentage of video served between 1.5Mbps and 8Mbps is higher than overall respondents' stated data rates (71% versus 67% overall).

Interestingly, though, that same group has less video being served at the 5Mbps range than it does in the 8Mpbs or 1.5Mbps range (compared to overall percentages).

Respondents with even higher viewership or subscriber rates—those having between 1,001 and 10,000 monthly viewers—are even more likely to serve video at higher data rates. When we parse out these respondents, we find 73% of these respondents serve video up to 8Mbps, as opposed to 67% of overall respondents. This is also the one group who serves the majority of their video in the 5–8Mbps range.

Average bitrate [Q8]

More than 15 Mbps **5.6%**

15 Mbps **9.6%**

10 Mbps **18.4%**

8 Mbps **12%**

1.5 Mbps **17.6%**

5 Mbps **36.8%**

Typical monthly OTT viewership [Q10]

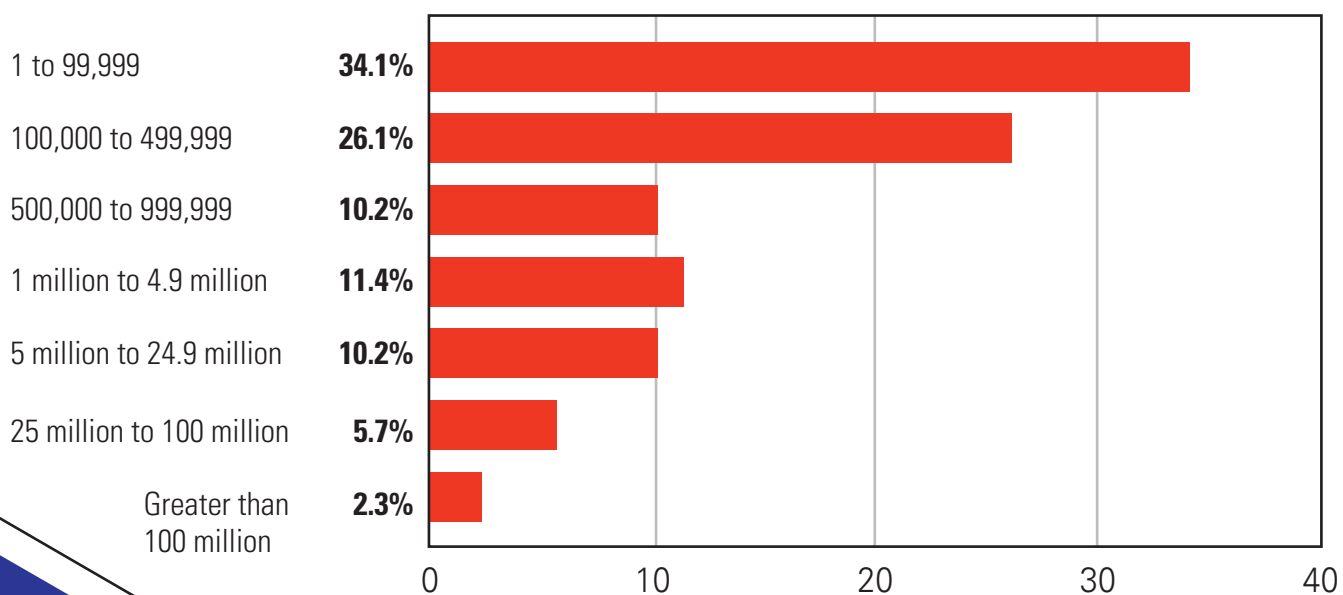| Range	%
1 to 100	**16.9%**
101 to 500	**14.5%**
501 to 1000	**13.7%**
501 to 1000	**21.8%**
Greater than 10,000	**33.1%**
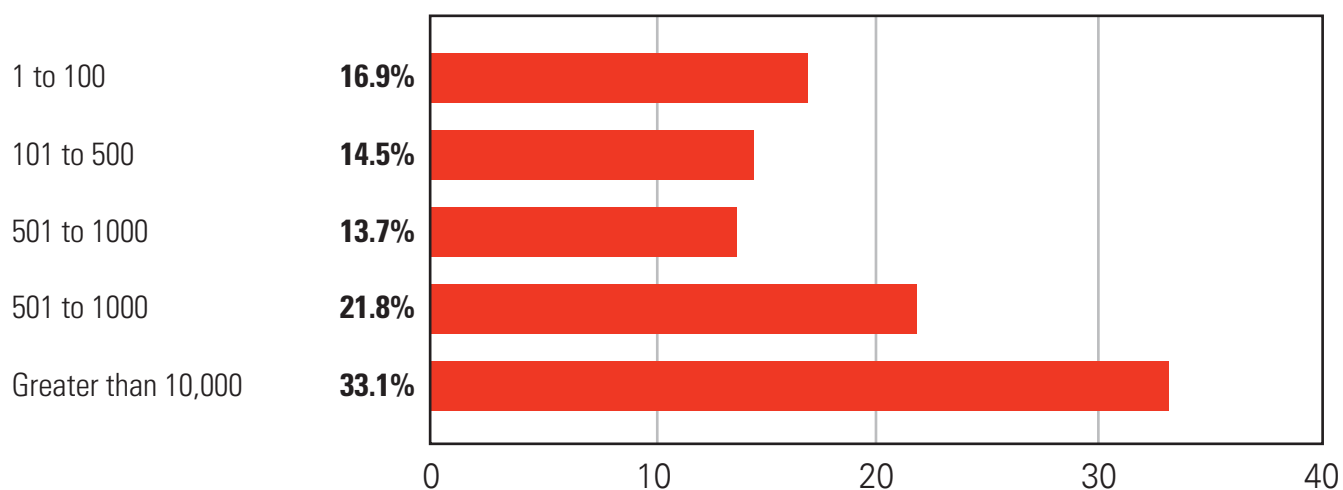
TYPICAL MONTHLY OTT VIEWERSHIP AND ANNUAL REVENUES (USD)

When respondents were asked to detail their average monthly viewership or subscriber numbers, as well as annualized revenue in U.S. dollars (USD), the results show that monthly viewership above 500 viewers is growing, while overall revenues continue to remain low. For that reason, we parsed several questions against viewership rates rather than annual revenues.

Average annual OTT-based revenue (USD) [Q11]

Range	%
1 to 99,999	**34.1%**
100,000 to 499,999	**26.1%**
500,000 to 999,999	**10.2%**
1 million to 4.9 million	**11.4%**
5 million to 24.9 million	**10.2%**
25 million to 100 million	**5.7%**
Greater than 100 million	**2.3%**

OTT REVENUE GROWTH (PROJECTED)

Having noted previously that average overall revenues were low, especially compared to continuing growth in monthly viewership or subscriber numbers, responses to the question below appear to show good news on the revenue front during the next 24 months.

For those claiming more than $1 million annual OTT-based revenue, two-thirds of those respondents expect more than a 26% growth rate between 2020 and 2022 (compared to 51% overall).

This is significant, given that the survey ran when it seemed that many travel restrictions would be lifted and in-person events would return to normal by summer of 2021. We'll watch this area closely to see if growth outpaces even these robust expectations.

Even on the high end of revenues—those who claim more than $25 million annual OTT-based revenue, which accounts for a small but influential group of respondents—more than half of those respondents expect their annual revenue to grow by at least 11%–25% between 2020–2022.

Another third of that same group of respondents expect more than a 50% growth during that same time period.

The same trend is true for the group of respondents who have higher-than-average viewership numbers or subscription rates. For those who have more than 10,000 monthly viewers or subscribers, almost three-quarters expect growth of more than 11% between 2020 and 2022, while a third expect growth of 50% or more in that same period (in keeping with those who also have more than $25 million annual OTT-based revenue).

In other words, larger players in the space, especially those who aren't exclusively a live or live-linear OTT play, expect to continue to grow at higher-than-average growth rates in the next 2 years.

This trend bodes well for overall OTT delivery revenues, but one question left unanswered in the survey is how much revenue will be impacted by the higher cost of live production. This is especially pertinent in 2021, when we've seen major sporting events re-emerge, but with significant additional production costs. Worse still, global events like the Olympics, which were delivered from almost-empty venues, are being forced to accommodate significant production costs in terms of maintaining social distancing between athletes, production crew, and venue representatives while still bringing global audiences the intimate and dynamic experiences they expect from coverage of these major events.

Overall projected OTT revenue growth 2020-2022 [Q9]

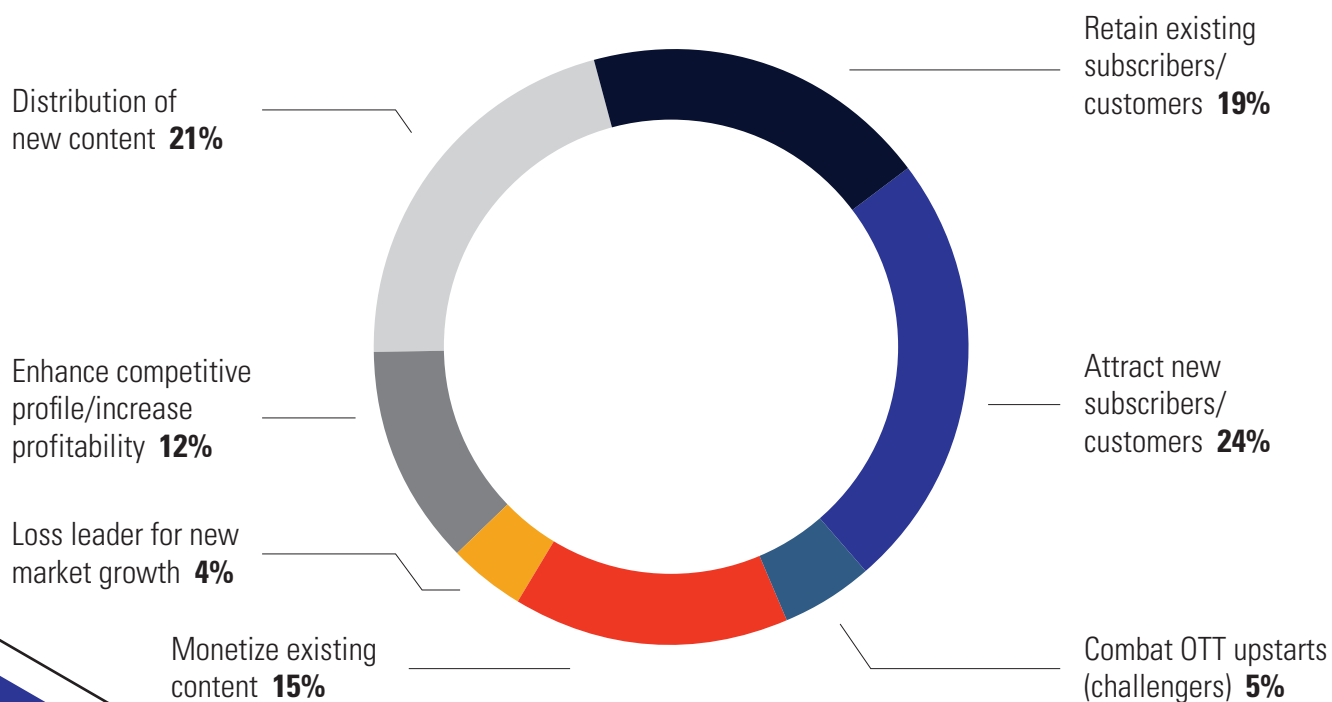| Category	Value
None	14.2%
1%-10%	21.3%
11-25%	23.6%
26%-50%	16.5%
More than 50%	24.4%
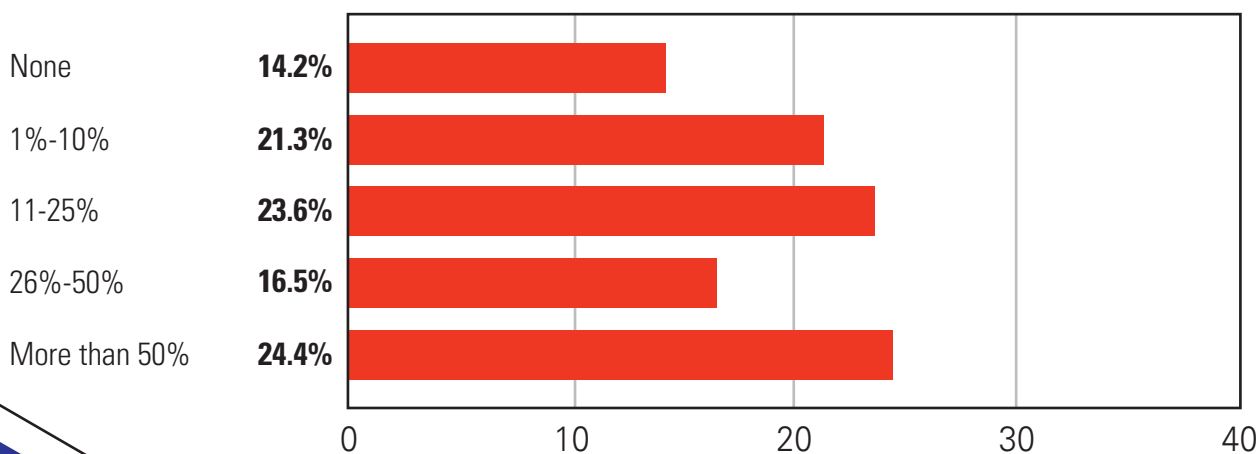
COMPELLING DRIVERS FOR OTT SERVICE OFFERINGS

While OTT growth continues to tick upwards, we were curious as to what compelled our respondents' choice to provide OTT services to viewers. The foremost reason was to attract new subscribers or viewers, but that was followed closely by a reason to continue offering OTT services: to retain existing customers.

Respondents also rated "distribution of new content" very high on their list of compelling reasons to offer OTT services, which is in line with similar surveys we've done that show OTT platforms as one of the major distribution models—and one that even movie studios used during the pandemic to offer new releases online as part of day and date campaigns when theatrical release schedules faltered—at the expense of traditional broadcast and even "direct to TV" distribution models.

Libraries of existing content, which are easier to monetize on an OTT platform than as a re-release into the theaters or even as a series rerun on television, was the fourth most compelling reason to offer OTT services.

A few respondents offered their reasons in the "other" category. Those reasons included "adding SVOD recurring income to our TVOD digital and DVD sales," "testing markets," and "providing online college instruction in ways understandable and acceptable to end-user base (students)."

Compelling Drivers to offer OTT services to viewers [Q14]

Retain existing subscribers/customers **19%**

Distribution of new content **21%**

Enhance competitive profile/increase profitability **12%**

Loss leader for new market growth **4%**

Monetize existing content **15%**

Attract new subscribers/customers **24%**

Combat OTT upstarts (challengers) **5%**

OTT Solutions (current) (overall) [Q12]

Single vendor **43%**

Multiple vendors
(more than 2) **48%**

Two vendors **9%**
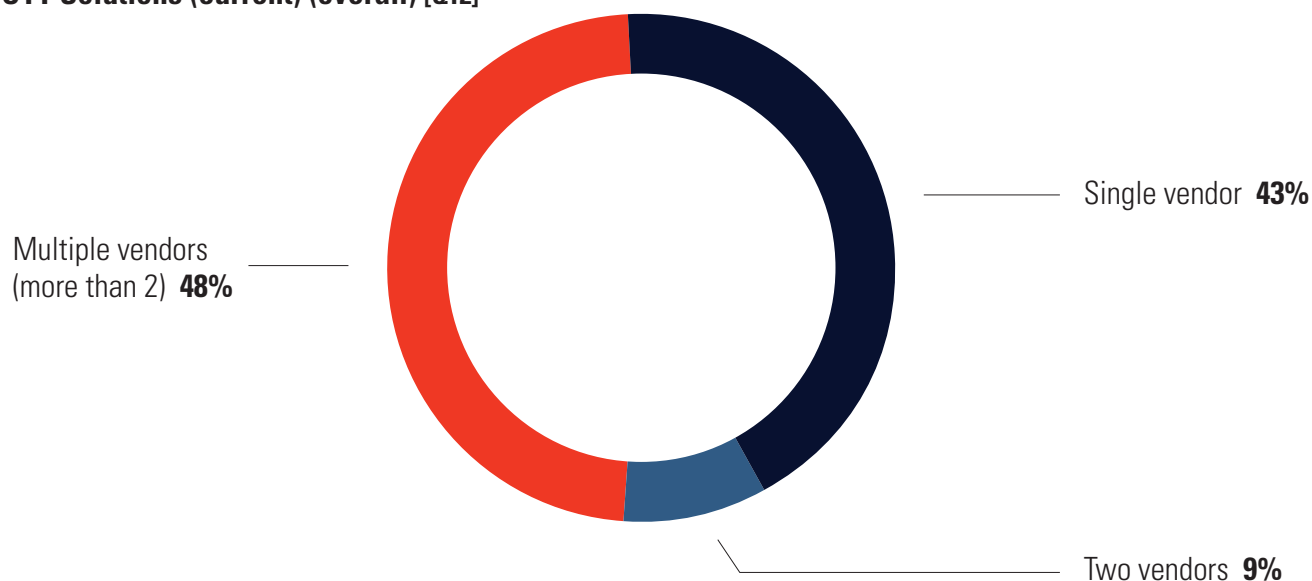
MULTI-VENDOR OTT HOSTING SOLUTIONS

This page's charts might just portend the demise of multi-vendor OTT solutions. The chart above shows the current state of single-vendor OTT solutions versus multi-vendor (more than two) solutions, in which multi-vendor OTT solutions dominate. The chart below, though, shows what respondents prefer: either a single OTT hosting vendor or, at most, two vendors working in unison. More detail is available on the next page.

OTT solutions (preferred) (overall) [Q19]

Multiple vendors
(more than 2) **24%**

Single vendor **57%**

Two vendors **19%**

While overall respondents were fairly evenly split between single-vendor and multi-vendor OTT solutions (43% and 48%, respectively), there were very few respondents overall (9%) that used a two-vendor solution.

Multi-vendor solutions jumped in use, though, as soon as a respondent noted either 1,000 monthly viewers/subscribers or $1 million annual OTT-based revenue: Almost two-thirds of those with 10,000 monthly viewers/subscribers use a multi-vendor solution, and more than 80% of respondents with more than $1 million in revenue use a multi-vendor OTT approach.

In addition, single-vendor solution preference falls off dramatically—almost by half—once a respondent reaches 1,000 monthly viewers/subscribers or $1 million (USB) annual OTT-based revenue (from 57% overall to 28.6% for those with more than $1 million annual OTT-based revenue).

A very interesting note about two-vendor solutions: It appears that between 19% and 29% of respondents would prefer a two-vendor solution rather than a single or multi-vendor (more than 2) solution. Yet the current reality (Q12) is that only 9% at most use a two-vendor solution.

OTT METRICS FOR SUCCESS

The OTT Trends survey responses show significant difference in performance-based metrics (KPIs) between overall respondents and those with higher viewer/subscriber rates or higher annual OTT-based revenues. One area to note, though, is that measurement of video start failures become more important as revenue or viewership increases, while abandonment and engagement fall for that same high-revenue/high-viewership subgroup.

Performance-Based Metrics (overall) [Q13]

Engagement **22%**
Latency/jitter **19%**
Video start failures **11%**
Buffering **19%**
Bitrate (time-weighted) **17%**
Abandonment rate **12%**
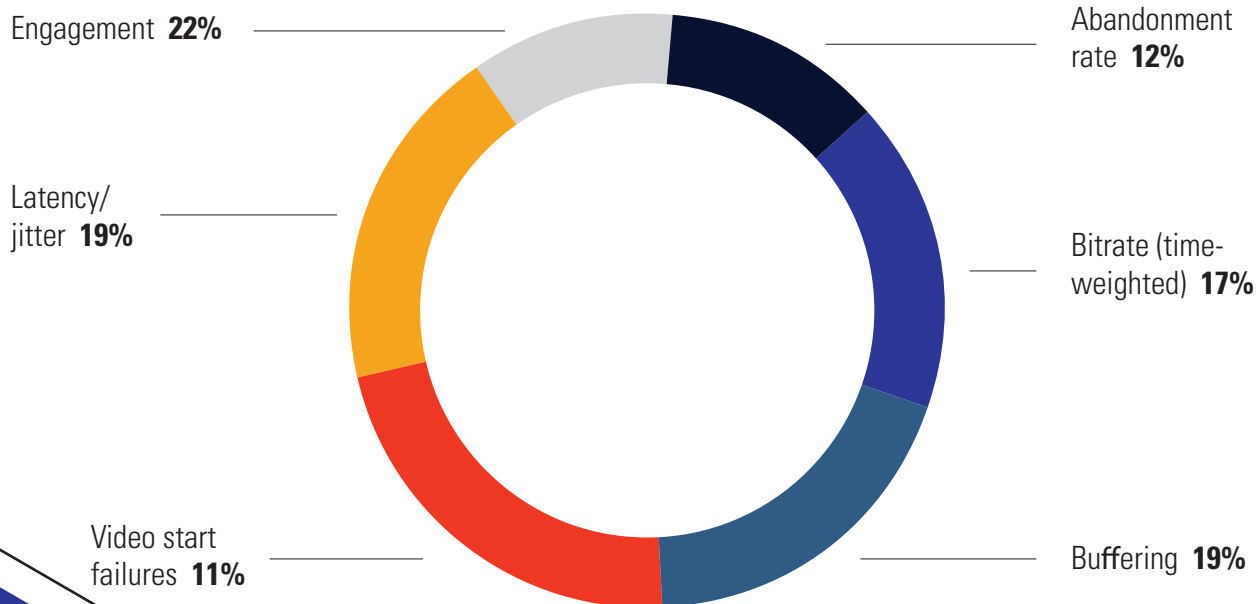
LIVE-LINEAR CHANNELS

We asked respondents if there was interest in creating live-linear OTT channels at a reasonable price per channel. The response was overwhelmingly positive.

For those who may not be familiar with the live-linear concept, it's essentially a playlist that combines prerecorded assets, interspersed with some live events, and is streamed live in much the same way as a traditional broadcast channel. The live-linear approach allows for everything from niche channels for small broadcasters that don't own traditional broadcast infrastructure to additional channels for those broadcasters who want to add additional features such as alternate camera angles or supplemental content (think ESPN3 as a live-linear channel versus ESPN as a traditional channel).

Overall interest was fairly evenly split, but as reported revenues rose, so did interest in creating these channels. For instance, almost three-quarters of respondents who reported annual OTT revenues of more than $1 million were interested in creating live-linear channels at a reasonable price. In fact, on average, six out of 10 respondents that reported more than $1,000 in annual OTT revenue were interested in live-linear channels.

The big question most readers will ask is, "What is a reasonable price?" and the answer is quite telling. The overall average, based on 154 responses, for an expected reasonable price was $4,876 per month.

For those who had very high revenues, a reasonable price was $10,000 or more per channel per month, and some of the responses as to a reasonable price were in the six-figure range. But those higher-end "reasonable price" responses only accounted for 12% of overall responses.

A Tulix representative notes that the company has been able to bring the price lower than the average our survey respondents are comfortable with.

Interest in creating live-linear OTT channels (combine prerecorded playlist assets and some live events) at a reasonable price per channel? [Q16]

Legend: ■ Yes ■ No

	Overall	Greater than $1,000	Greater than $10,000	Greater than $1 million
Yes	45.6%	63.1%	59%	71.4%
No	54.4%	36.9%	41%	28.6%
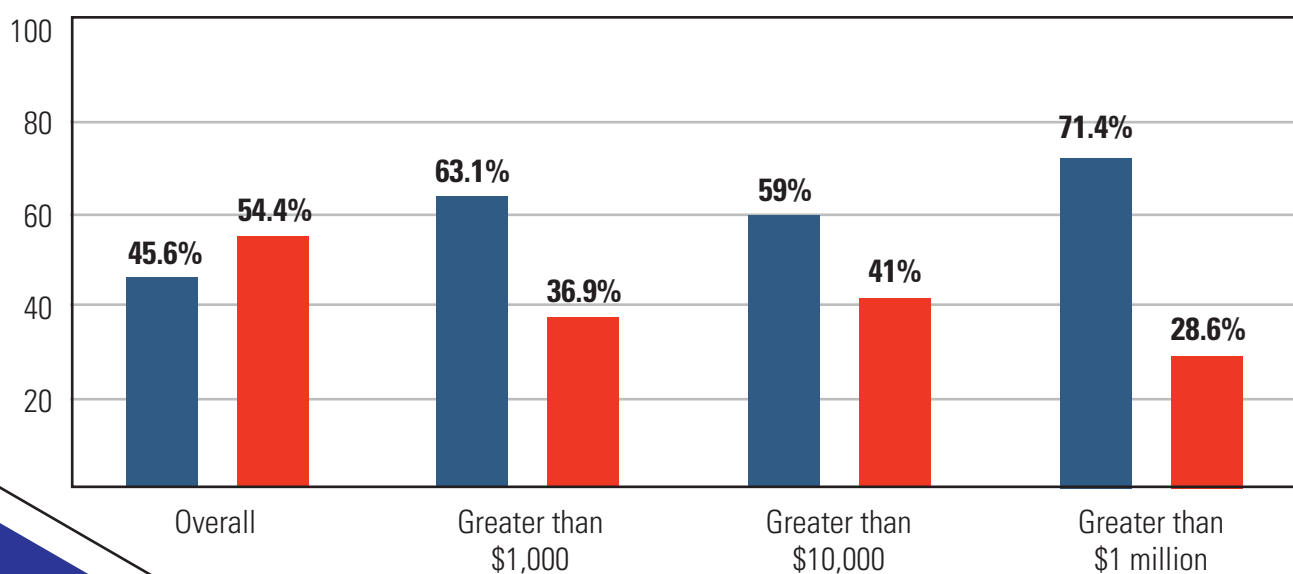
IN THEIR OWN WORDS: BUSINESS OR TECHNICAL CHALLENGES

We asked respondents to tell us about the business or technical challenges they've faced in implementing ad-based monetization for their OTT offerings. Here are just a few excerpts, in their own words, from hundreds of responses:

What technical or business challenges have you faced when implementing and using ad-based monetization? [Q26]

INTEGRATION & INSERTION
Compatibility and player integrations

INTEGRATION & INSERTION
For monetization through advertising, the challenge we face is the latency of internet solutions in the cloud.

INTEGRATION & INSERTION
Infrastructure and cost

INTEGRATION & INSERTION
Compatibility with devices

INTEGRATION & INSERTION
Lack of technology and talent

INTEGRATION & INSERTION
We are not professional broadcasters and need reliable, easy-to-use solutions.

INTEGRATION & INSERTION
We are too small so need a syndicated solution.

INTERRUPTION
Not losing users when the advertising shows up

INTERRUPTION
Create advertising with great impact content in short time transmissions

BUSINESS
Value to the cutomer

BUSINESS
ROI for advertisers; being provided quality commercials; fulfillment obligations

INTERRUPTION
Interference with the actual content

INTERRUPTION
Less attention paid by viewers to ad-based content

BUSINESS
YouTube is a challenge

INTERRUPTION
Not disrupting our own branding

SS BILLING/SALES
Direct sponsorship via corporate subscription

SS BILLING/SALES
Finding ad revenues

IN THEIR OWN WORDS: LIVE-LINEAR OTT CONTENT TYPES (24 MONTHS)

While on-demand OTT continues to grow, it's being outpaced by live and live-linear (e.g., broadcast "television" channels delivered live via OTT) offerings. We asked respondents to tell us what types of live-linear content most interested them over the next 24 months, and the quotes below are grouped based on categories of like-type responses.

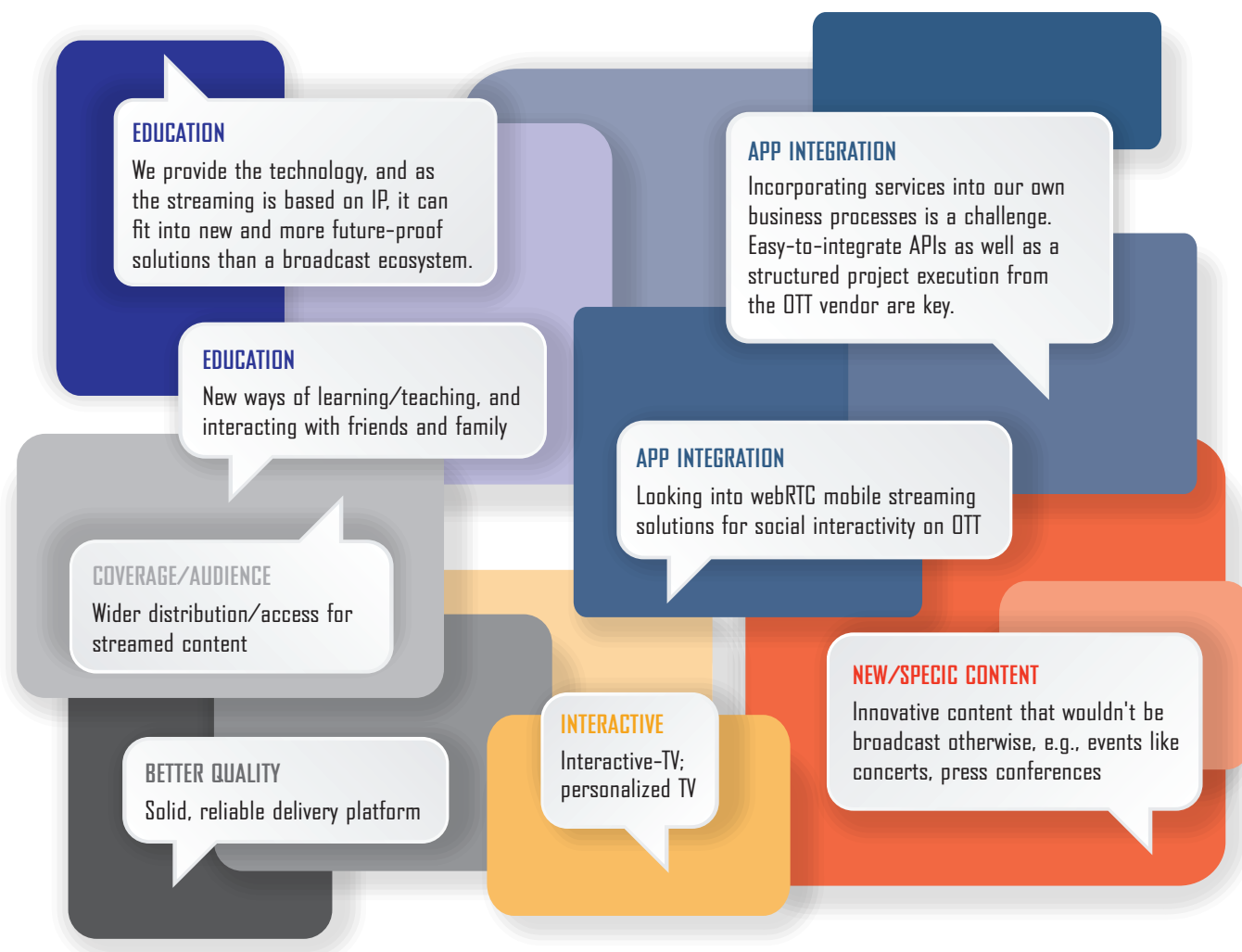**If your organization offers or plans to offer live-linear OTT channels, which of the following types of content would be of most interest to you over the next 24 months? Please select all that apply. [Q21]**

EDUCATION
We are an educational institution. Our OTT activities are strictly event-oriented.

EDUCATION
Executive education and skills development

SPECIAL EVENTS
Film festival

SPECIAL EVENTS
Graduation

EDUCATION
Basic school and university educational programs

EDUCATION
Instructional videos

ARTS (VISUAL & PERFORMING)
Stage performances

TRAINING
Panel discussions

TRAINING
Technology discussions

TRAINING
Thought leadership

ARTS (VISUAL & PERFORMING)
Operas, engaging backstage content

ARTS (VISUAL & PERFORMING)
Museum

FAITH-BASED
Youth group events

FAITH-BASED
Prayer meetings

ARTS (VISUAL & PERFORMING)
Art installations

DOCUMENTARIES
How-to

FAITH-BASED
Church services

DOCUMENTARIES
Historical documentaries

IN THEIR OWN WORDS: OTT TYPES & ADDITIONAL BENEFITS

For this question, we asked respondents to "blue sky" the potential offerings of OTT services, beyond a live-linear replacement for traditional linear broadcast. The question asked respondents to provide insight into ways that OTT could benefit their own daily lives:

Looking beyond OTT's current use as a replacement for traditional linear broadcast, what are some other ways OTT can be used to benefit your own daily life? [Q20]

EDUCATION
We provide the technology, and as the streaming is based on IP, it can fit into new and more future-proof solutions than a broadcast ecosystem.

EDUCATION
New ways of learning/teaching, and interacting with friends and family

APP INTEGRATION
Incorporating services into our own business processes is a challenge. Easy-to-integrate APIs as well as a structured project execution from the OTT vendor are key.

APP INTEGRATION
Looking into webRTC mobile streaming solutions for social interactivity on OTT

COVERAGE/AUDIENCE
Wider distribution/access for streamed content

NEW/SPECIC CONTENT
Innovative content that wouldn't be broadcast otherwise, e.g., events like concerts, press conferences

BETTER QUALITY
Solid, reliable delivery platform

INTERACTIVE
Interactive-TV; personalized TV

CONCLUSION

The OTT landscape is constantly shifting, from new arrivals to consolidation of long-term OTT platforms through mergers and acquisitions.

What remains constant, though, is the fact that—for most content publishers—OTT viewership stays high, but revenues remain stubbornly low. More than one-third of survey respondents say their OTT content has more than 10,000 monthly viewers, but an equal amount say that their annual OTT revenues fall below $100,000.

However, given the continued uncertainty around in-person entertainment and events, it's not surprising that respondents told us that their OTT growth is expected to continue over the next 24 months. More than half of respondents are expecting at least a 26% growth in the next 18 months, and two-thirds of respondents that report higher-end revenue are expecting a growth of over 25%.

Live-linear OTT is also seeing an uptick, alongside the already growing live-event OTT space, which rose considerably over the past 18 months of pandemic-induced lockdowns and social distancing.

Average data rates and resolutions for OTT hover around 5Mbps and 1080p 24/25 frames per second, respectively. There's still a significant amount of 720p content being served up, as well as 1080p60—a good frames-per-second rate for sporting events—but relatively little 4K content. We could chalk up this lack of 4K delivery to a number of factors, including requests by European governments in 2020 to limit the amount of bandwidth consumed by OTT, but this is another area we'll watch closely heading into 2022.

ABOUT TULIX

Tulix is a streaming technology incubator that supports innovators, investors, and enterprises by providing guidance and resources on strategy, infrastructure, technology, and business models across the whole streaming ecosystem.

Tulix's dedicated R&D team strives to always provide the latest streaming technologies and has a number of internet firsts under its belt.

Tulix uses its *own* as well as hybrid infrastructure to provide fully managed streaming solutions that are flexible, cost effective, and customized for its customers.

Working with broadcasters, content owners, startups, and just about anybody who needs streaming, Tulix offers various custom streaming services including fully managed end-to-end OTT, channel origination, live 24/7 worldwide streaming over its own streaming-optimized MultiCDN, security, and monetization.

APPENDIX
STATE OF ENTERPRISE VIDEO 2021
FINAL QUESTIONS

Crafted by Timothy Siglin & Michelle Fore-Siglin,
Help Me Stream Research Foundation

FOR TULIX UNISPHERE RESEARCH HELP ME RESEARCH FOUNDATION STREAM streaming media THE BUSINESS & TECHNOLOGY OF ONLINE VIDEO

Q1. Does your organization create and/or distribute media content?

Q2. What is the average resolution of your content?

Q3. Which of the industries below most closely matches your organization?

Q4. Is your company part of a larger media group?

Q5. Does your company currently offer OTT services to viewers?

Q6. Does your OTT offering include live, on-demand, or both?

Q7. Please indicate the mix of live and on-demand in your streaming business.

Q8. Which of the following is closest to the average bitrate at which your content is served?

Q9. What is your company's overall projected OTT revenue growth from 2020 to 2022?

Q10. What is your organization's typical OTT viewer or subscriber size per month?

Q11. What is your organization's overall OTT-based annual revenue in U.S dollars.

Q12. Is your current hosted OTT solution a single- or multi-vendor solution?

Q13. What performance-based metrics drive your OTT business decisions? Please select all that apply.

Q14. What primary drivers compelled you to offer these OTT services to your viewers? Please select all that apply.

Q15. Does your organization use an internal OTT or IPTV solution?

Q16. Would your organization be interested in creating live-linear OTT channels (via a combination of pre-recorded assets on a playlist and some live events) at a reasonable price per channel?

Q17. What does your organization consider a reasonable price for a hosted single live-linear channel? Please enter, in US dollars, a monthly amount.

Q18. If you are exploring OTT solutions from a service provider, do you prefer single- or multi-vendor solutions?

Q19. Please identify the frequency of events that your organization creates and/or delivers in the Live Events market vertical.

Q20. Looking beyond OTT's current use as a replacement for traditional linear broadcast, what are some other ways OTT can be used to benefit your own daily life?

Q21. If your organization offers or plans to offer live-linear OTT channels, which of the following types of content would be of most interest to you over the next 24 months? Please select all that apply.

Q22. What benefits to do you see to using an hosted OTT solution? Please select all that apply.

Q23. Over the next 18 months, what level of impact will 5G have on your live event video streaming strategy?

Q24. How many of the following revenue types does your organization use to support your consumer-facing streaming business? If a revenue type is not applicable, please click the N/A option.

Q25. Besides video ads (e.g., pre-roll, interstitial) what other types of ads does your organization use to monetize content?

Q26. What technical or business challenges have you faced when implementing and using ad-based monetization?

Q27. Please identify your organization's business and technical concerns, over the next 24 months, from the following list. Choose all that apply.

Q28. Please rank the following organizational goals from top (greatest) to bottom (lowest), over the next 24 months. If a goal is not applicable, please click the N/A option.

Q29. In how many regions does your company offer OTT services?

Q30. For your organization's overall streaming business, please rank the geographies from top (greatest) to bottom (lowest). If you don't do business in a particular geography, please choose the N/A option.

Q31. In which region of the world are you based?

Q32. What is your job title?

Q33. What is your primary job responsibility?

Q34. How many years have you been in the streaming industry? Please type a number between 1 and 25.