

HAIVISION

BROADCAST TRANSFORMATION REPORT

THE STATE OF TECHNOLOGY ADOPTION IN THE BROADCAST INDUSTRY

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Welcome to the 2024 edition of our Broadcast Transformation Report, a milestone that marks five years of gathering invaluable insights from the broadcast industry. With 814 participants contributing to this year's survey – the most respondents to date – we're able to share a snapshot of the state of today's broadcast industry, observing both steady foundations and dynamic transformations.

Since its inception, Haivision's Broadcast Report has witnessed the industry's evolution, tracking changes that range from the establishment of new practices to the rapid evolution of emerging technologies. The report started as an investigation into the adoption of IP-based workflows. Prior reports revealed a number of trends such as the emergence of hybrid workflows during the pandemic, the meteoric rise of the SRT protocol, and the growth of HEVC.

The key insights from this year's report illuminate new trends like the increased use of cellular networks, perspectives on 5G adoption, cloud-based workflows, and the anticipation of AI's influence in the broadcast industry.

We're thrilled to present this fifth edition of the Broadcast Report and we extend our sincere gratitude to all participants whose participation enabled us to produce this industry snapshot. There would be no insights into the state of the industry without your responses.

Here's to the journey of the last five years and the exciting transformations that lie ahead.

KEY BROADCAST TRANSFORMATION TRENDS



SRT IS THE MOST WIDELY ADOPTED TRANSPORT PROTOCOL

68% of respondents use SRT for live video transport, with 67% of those surveyed using the HEVC codec in their broadcast contribution workflows.



5G TAKES HOLD IN BROADCAST PRODUCTION

74% of broadcasters already use or plan to use 5G for broadcast contribution. 46% anticipate using 5G with private networks.



CELLULAR TRANSPORT IS NOW MAINSTREAM

60% of broadcasters currently use 3G, 4G, LTE, or 5G for live video contribution, making cellular the most popular network for transport after the internet (80%).



CLOUD IS EVERYWHERE BUT ON-PREM STILL RULES

84% of broadcasters use at least some cloud-based technology, but only 22% use it for more than half of their current workflow elements.



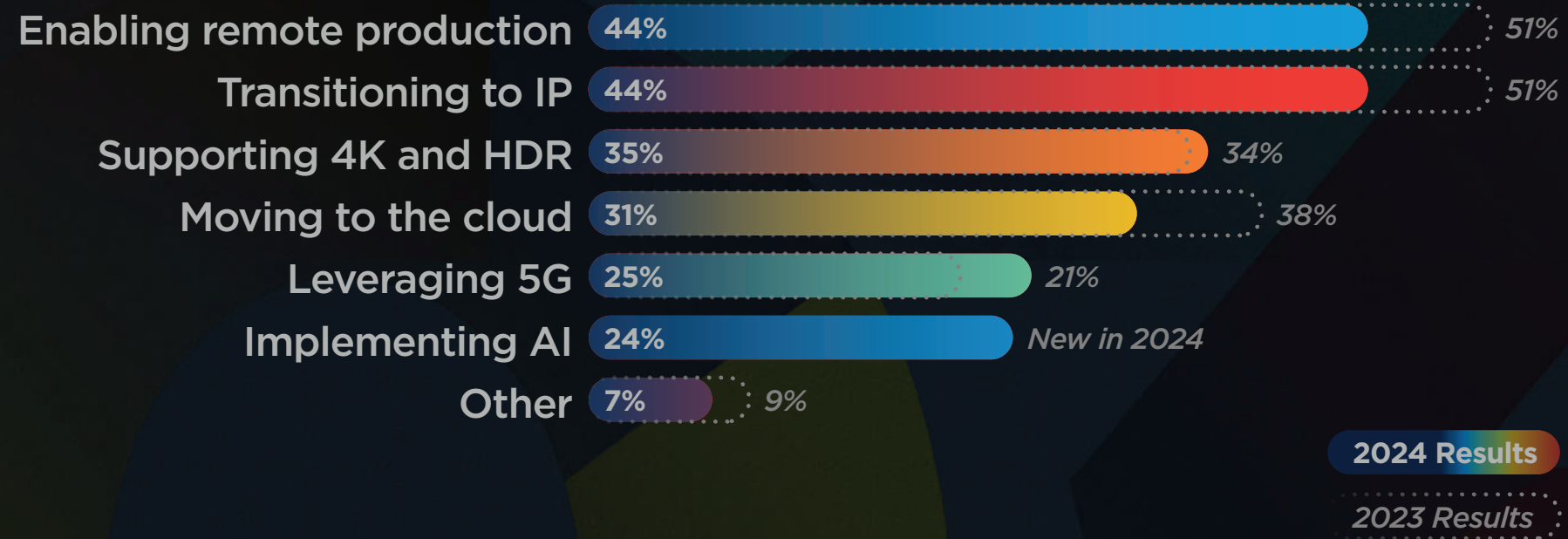
ARTIFICIAL INTELLIGENCE MAKES AN IMPACT

60% predict AI is the technology that will have the biggest impact on the broadcast industry in the next 5 years, with 49% planning to or already using AI in their workflows.

BROADCAST INDUSTRY TOP TECHNOLOGY PRIORITIES

Broadcasters responded that both enabling remote production (44%) and transitioning to IP (44%) are their key technology priorities. Compared to the 2023 report, Enabling Remote Production, Transitioning to IP and Moving to the Cloud all declined by 7% suggesting that many organizations have already executed on these technology priorities.

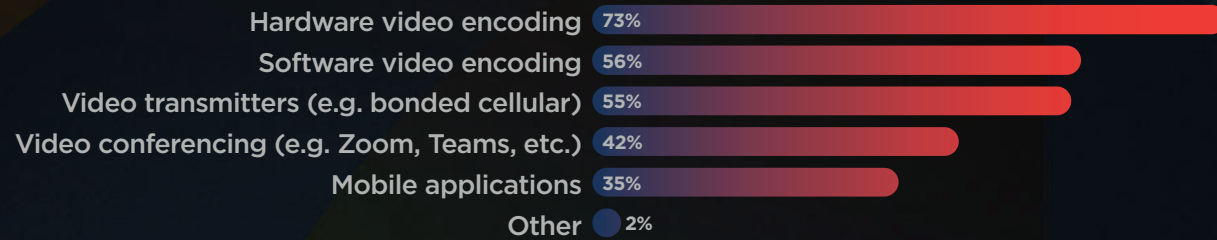
In the next 12 months, what are your organization's top technology priorities?



LIVE VIDEO CONTRIBUTION: ENCODING & CODECS

Live video contribution is the critical first step in remote production workflows, which was cited as a top priority in this year's findings. This year's report highlights broadcasters' mixed approach to contribution, using a blend of hardware encoders, transmitters, and software to contribute video into their live productions. While hardware encoding leads at 73%, approximately half of the respondents opt for software video encoding (56%) and video transmitters (55%), showcasing a reliance on a combination of solutions.

What solutions do you use for broadcast contribution?



73%

*of respondents use **hardware video encoding**, followed by software and video transmitters.*

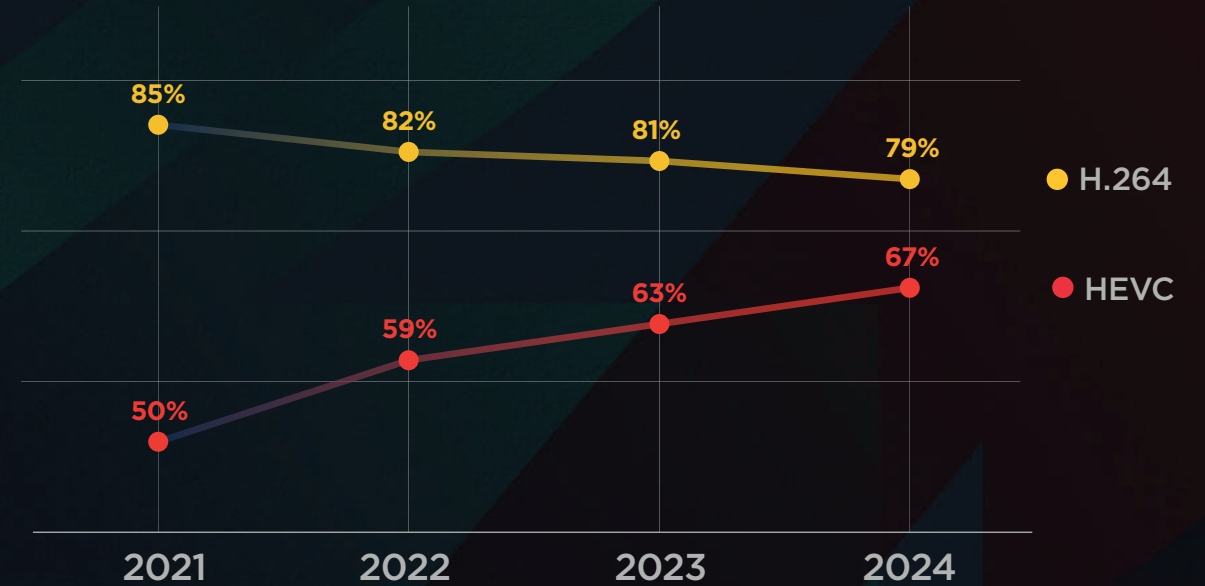
LIVE VIDEO CONTRIBUTION: ENCODING & CODECS

With streaming codecs, H.264 was the most common response, employed by 79% of respondents, with HEVC following at 67% for live video contribution. Examining data spanning the past four surveys, there is a sustained growth in broadcasters' utilization of the HEVC codec, while H.264 is slowly declining.

Which streaming codecs do you currently use for live video?



Year-Over-Year Codec Usage: H.264 and HEVC



HEVC use increased by 17% since 2021, making it an established choice along with H.264.

LIVE VIDEO CONTRIBUTION: TRANSPORT NETWORKS

In 2024, the internet was selected by the respondents as the most popular option for video transport, followed by cellular networks and fiber.

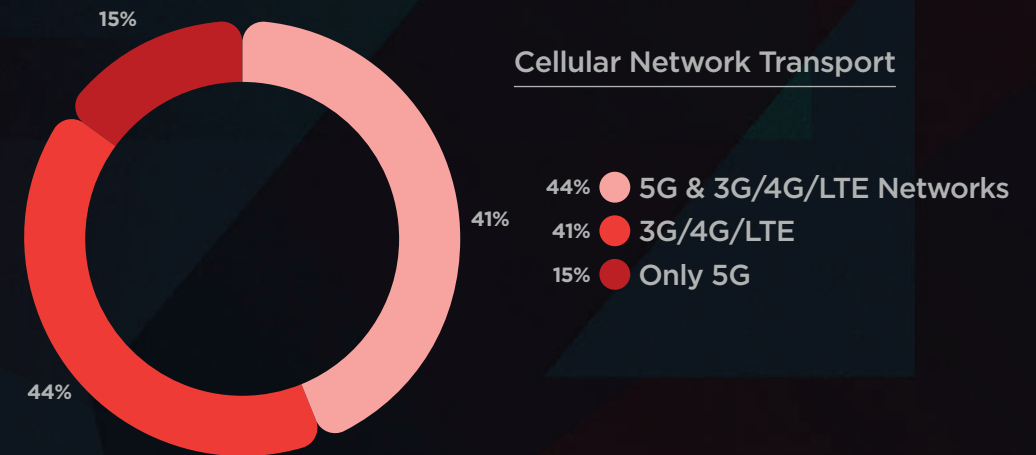
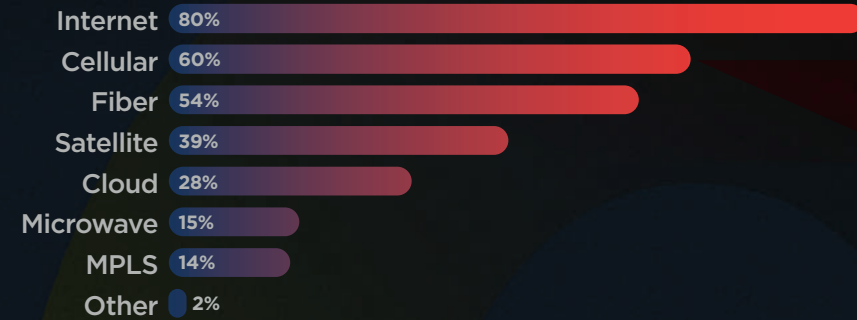
Cellular network usage is a new addition to this year's report which combines all cellular network responses – 5G, 3G, 4G, and LTE. A breakdown of the types of cellular networks our respondents are using shows that most (44%) are leveraging all types, which has increased since last year's report (33%). Additionally, 15% are using 5G only which is an increase of 5% over last year's survey.

Satellite usage remained steady from last year's report, and fiber increased by 4%.

80%

of respondents use **internet** for video transport, followed by **cellular networks** at 60%.

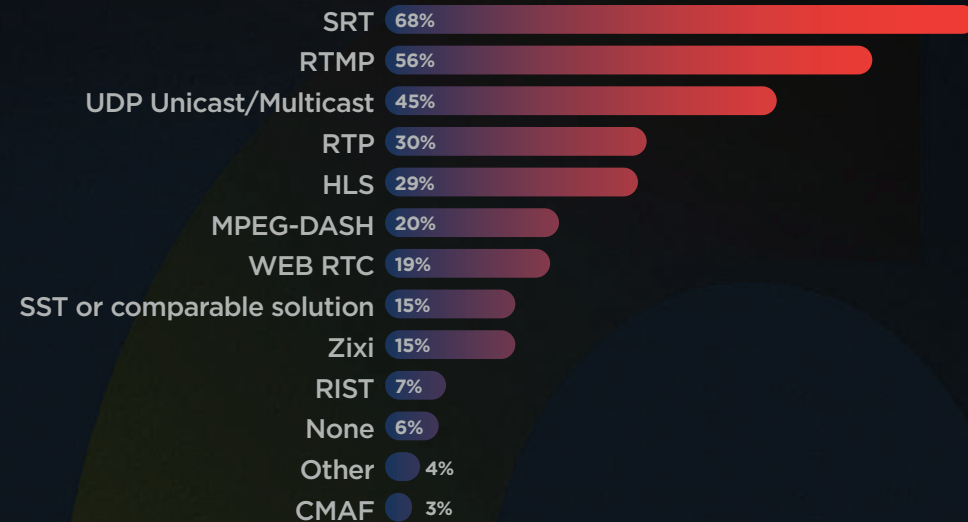
How do you transport live video for contribution?



LIVE VIDEO CONTRIBUTION: TRANSPORT PROTOCOLS

With 80% of respondents choosing the internet for live video transport, it's not surprising that 68% of respondents chose SRT as their live video transport protocol. This preference remains unchanged from last year's figure. Following SRT, RTMP is used by 56% of respondents, while UDP is employed by 45%.

Which video transport protocols do you currently use?



68%

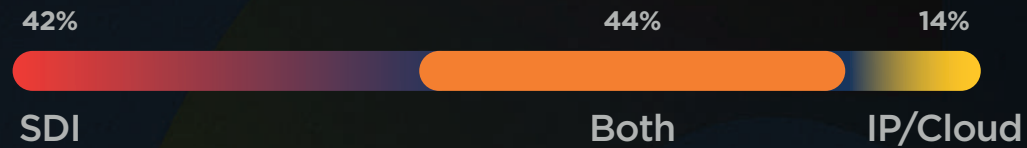
*of respondents use **SRT** for **low latency video** transport – making it the top protocol in our survey for three years in a row.*

IP ADOPTION

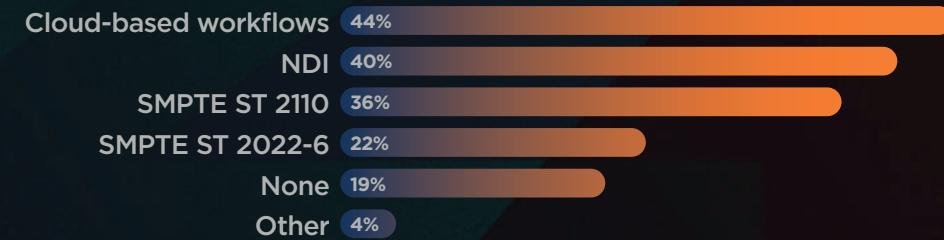
While more than half (58%) of broadcast professionals have implemented IP and cloud-based broadcast infrastructure, a substantial amount (86%) of those surveyed continue to use SDI. As highlighted earlier in this report, 44% of broadcasters identified transitioning to IP as a top technology priority, aligning with the industry's ongoing evolution in broadcast technologies.

A significant portion of this year's respondents employ cloud-based workflows (44%), an increase from 35% in 2023. However, this is not the only IP networking technology broadcasters rely on; besides cloud-based workflows, respondents indicated the use of other IP technologies, mainly NDI (40%) and SMPTE ST 2110 (36%).

What is your video infrastructure based on?



What IP networking technologies do you currently use within your production facilities?



TOP 3

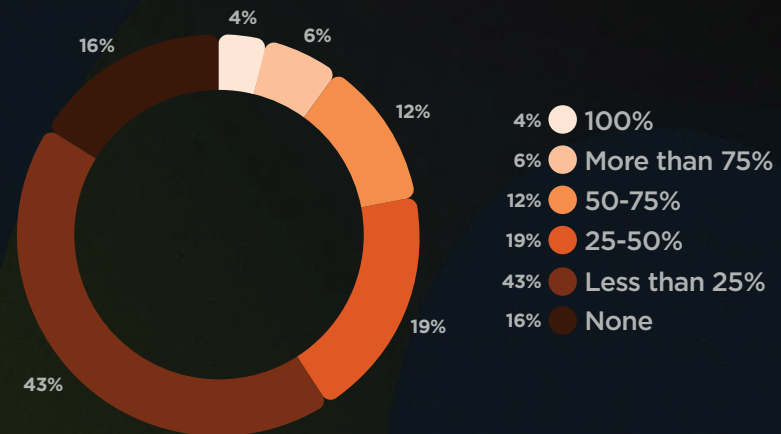
*IP networking technologies in 2024 include **cloud-based workflows**, **NDI**, and **SMPTE ST 2110**.*

CLOUD ADOPTION

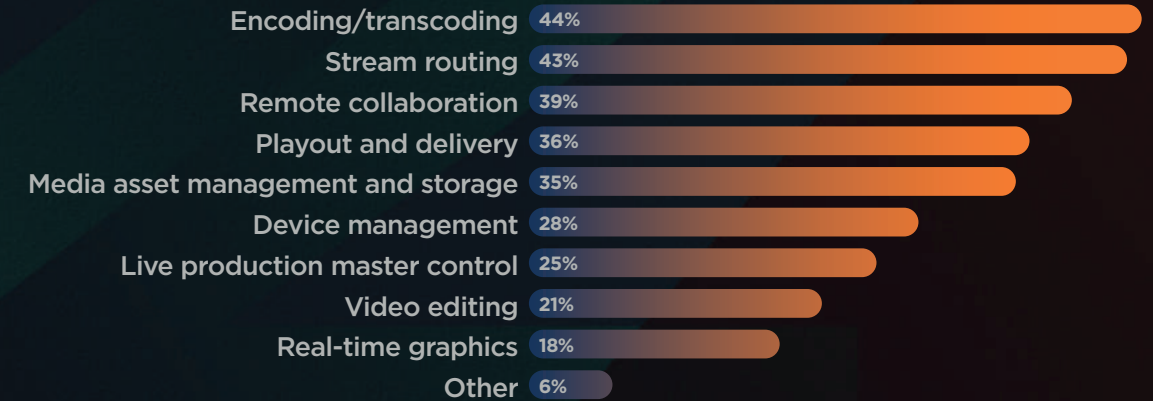
84% of broadcasters use at least some cloud-based technology in their workflows. This year's respondents primarily use cloud-based solutions for encoding/transcoding (44%), stream routing (43%), and remote collaboration (39%).

59% of broadcasters rely on cloud for less than 25% of their workflows, indicating that on-premise technology continues to remain critical to broadcast workflows. This finding, which is consistent with last year's data, suggests that broadcasters expect to leverage both technologies for the foreseeable future.

What percentage of your current workflow elements are cloud-based?



How do cloud-based solutions support your broadcast operations?



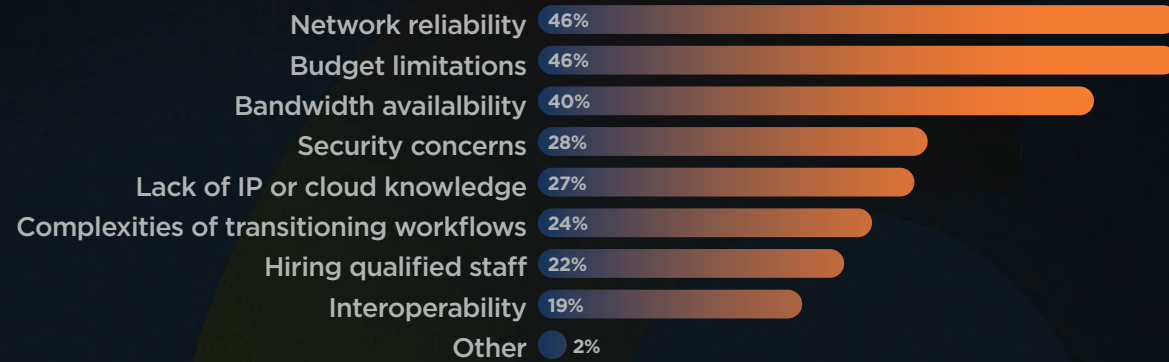
84%
of broadcasters rely on
cloud-based technology
in their current workflows.

IP & CLOUD ADOPTION: CHALLENGES

As organizations consider workflows that include cloud and IP technology, those surveyed indicated network reliability (46%), budget limitations (46%), and bandwidth availability (40%) as the primary challenges in their shift to IP or the cloud.

From 2023 to 2024, each of the following options declined by at least 6%: Lack of IP or Cloud Knowledge, Complexities of Transitioning Workflows, and Hiring Qualified Staff. This points to a general improvement in the industry's comfort level with IP and cloud adoption.

When it comes to transitioning to IP and/or cloud, what are the top challenges your organization faces?



46%

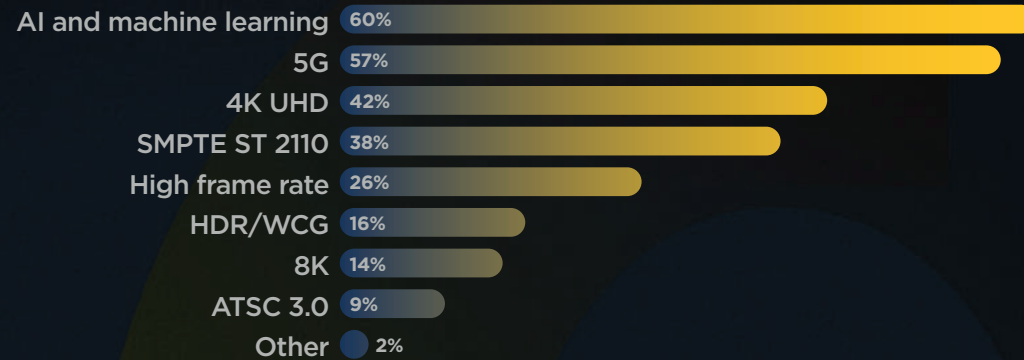
*of respondents indicate **network reliability** and **budget limitations** as the top two challenges in adopting IP and cloud technologies.*

EMERGING TECHNOLOGIES: OVERVIEW

For years now, 5G has led as the technology likely to have the biggest impact on broadcast. New this year, AI and machine learning were chosen as the technology that is most likely to have the biggest impact on broadcast production in the next five years. AI and machine learning grew by 17% to 60% as compared to last year's survey (43% in 2023), while 5G remains as a strong runner-up at 57%.

The other technologies remained steady within a couple of percentage points from last year, however the number of respondents citing HDR dropped by 5% and ATSC 3.0 dropped by 10%.

Which 3 technologies do you think will have the biggest impact on broadcast production in the next 5 years?



60%

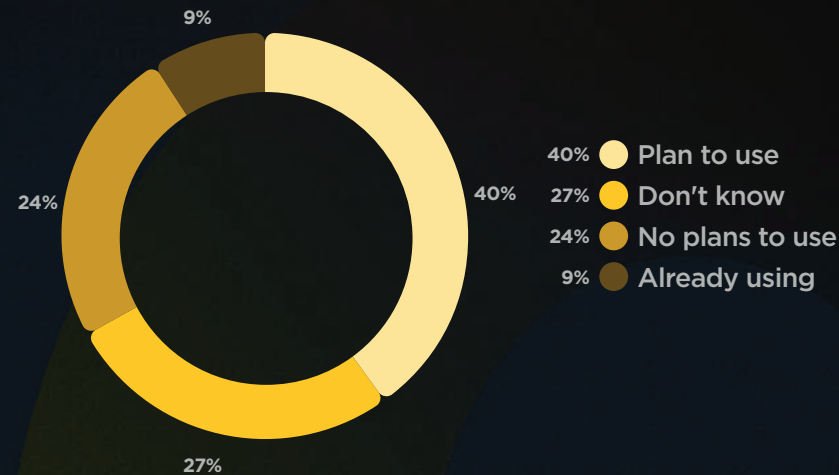
*of broadcasters surveyed anticipate **AI and machine learning** technology to have the biggest impact on broadcast production, closely followed by **5G** at 57%.*

EMERGING TECHNOLOGIES: AI

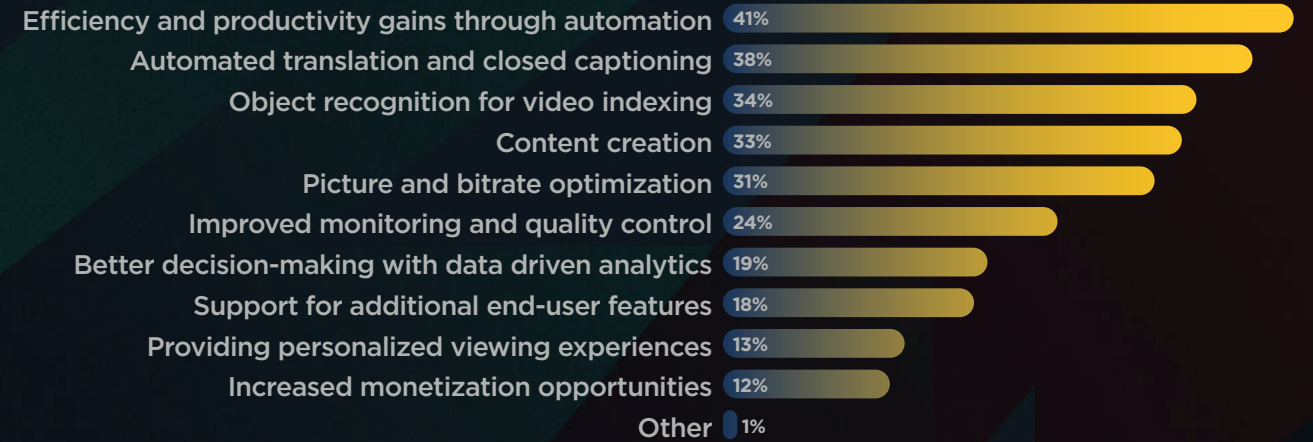
Survey respondents identified how AI has been implemented into their workflows, with only 9% already using the technology, and another 40% planning to use AI in their broadcast workflows.

The 2024 survey saw a mix of responses regarding the benefits AI can have on live production workflows; Efficiency and Productivity Gains Through Automation and Automated Translation and Closed Captioning were the most commonly cited benefits.

Do you plan to implement AI in your broadcast workflows?



What are the top 3 benefits you anticipate AI can offer your live production workflows?



49%

of respondents plan to use or already use AI technology in their broadcast workflows.

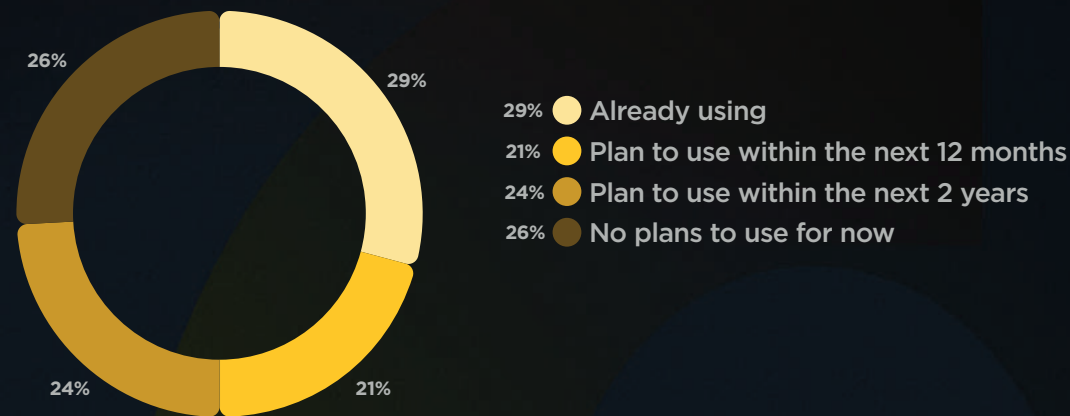
EMERGING TECHNOLOGIES: 5G

Regarding 5G adoption timeframes, 74% of broadcasters already use or plan to use 5G for broadcast contribution within the next two years.

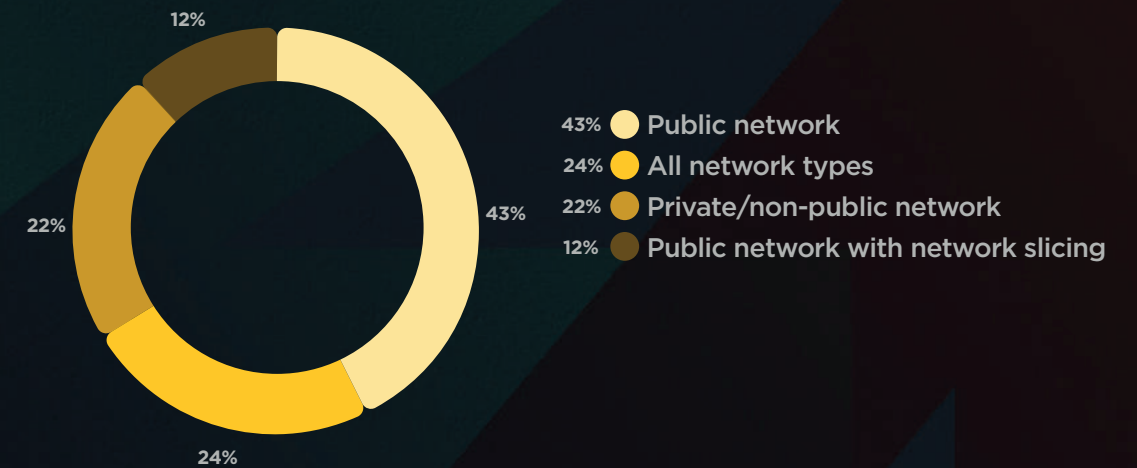
More specifically, 29% of respondents are already using 5G for broadcast contribution, a 9% increase from last year's survey.

Regarding the types of 5G networks respondents use for live video contribution, 43% answered Public Network, 22% cited Private/Non-Public Network, and 12% selected Public Network with Network Slicing. 24% of respondents are using All Network Types for live video contribution over 5G.

What is your timeframe for using 5G for broadcast contribution?



What types of 5G networks are you/do you plan on using for live video contribution?



74%

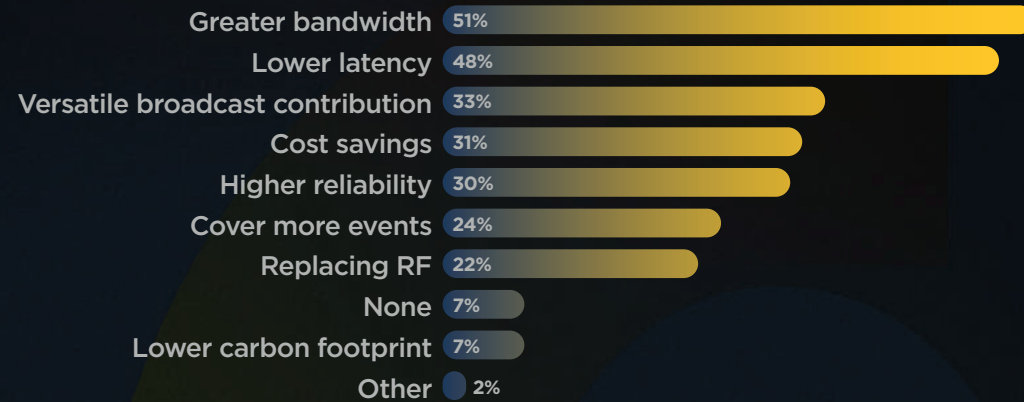
of broadcasters expect to use 5G within the next two years.

EMERGING TECHNOLOGIES: 5G

This year's data indicates that 5G will be one of the most impactful technologies in broadcast production. Greater Bandwidth (51%) and Lower Latency (48%) are both touted as the top benefits 5G can offer within live production workflows. These percentages are relatively unchanged since last year's survey.

The 5G benefits with the biggest change compared to last year were Cost Savings and Covering More Events which each grew by almost 5%.

What are the top 3 benefits you anticipate 5G can offer your live production workflows?



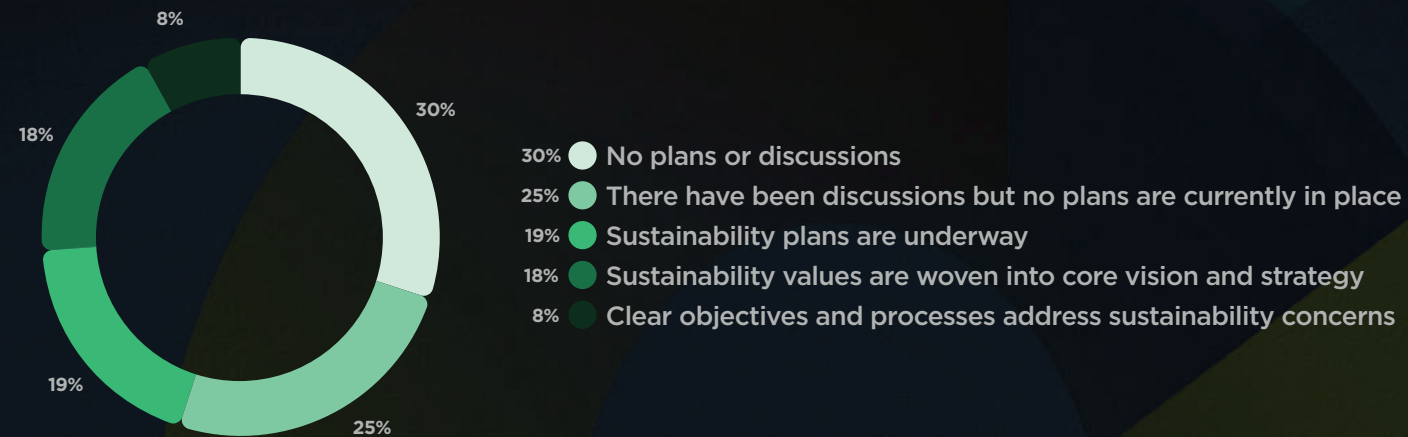
51%
*of broadcasters indicate that the most **impactful benefit** of 5G is **greater bandwidth**; **lower latency** was next at **48%**.*

SUSTAINABILITY TRENDS IN BROADCAST

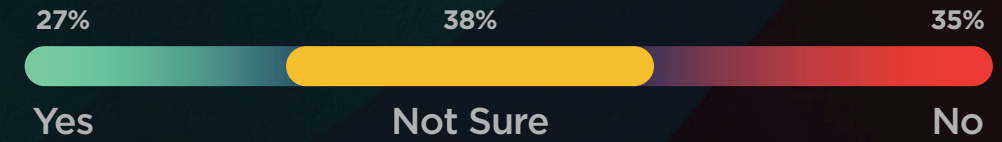
Among those surveyed, 55% do not yet have sustainability plans in place, 26% already have a sustainability plan, and 19% are working on it.

Additionally, there was an 8% decrease in respondents indicating that their company has sustainability requirements for suppliers, and a 14% increase in those who do not have requirements.

To what degree is corporate sustainability integrated into your company's vision & strategy?



Does your company have sustainability requirements for suppliers?



55%

of respondents do not yet have sustainability plans in place, the same as 2023.

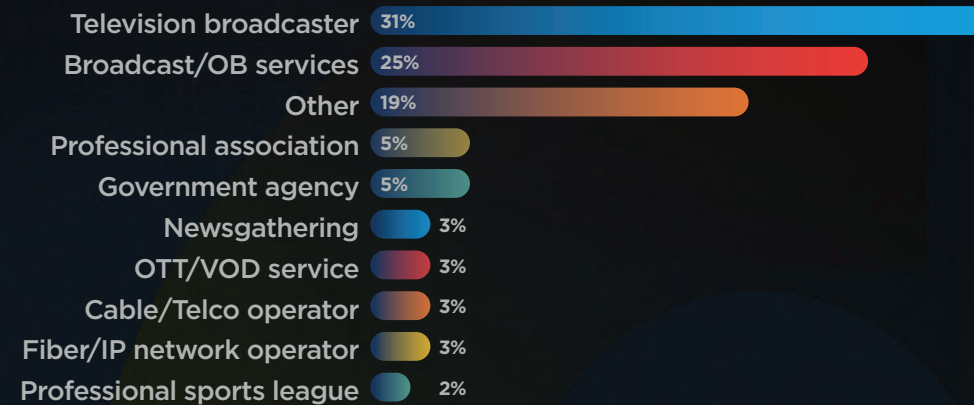
METHODOLOGY & DEMOGRAPHICS

Similar to previous years, our survey was conducted on Haivision.com from October to December 2023, garnering a total of 814 responses from participants worldwide. The findings were contributed by broadcast professionals, including engineers and live content producers, sharing their perspectives on the industry's current state, the challenges they encounter, and their expectations regarding innovations shaping future production activities.

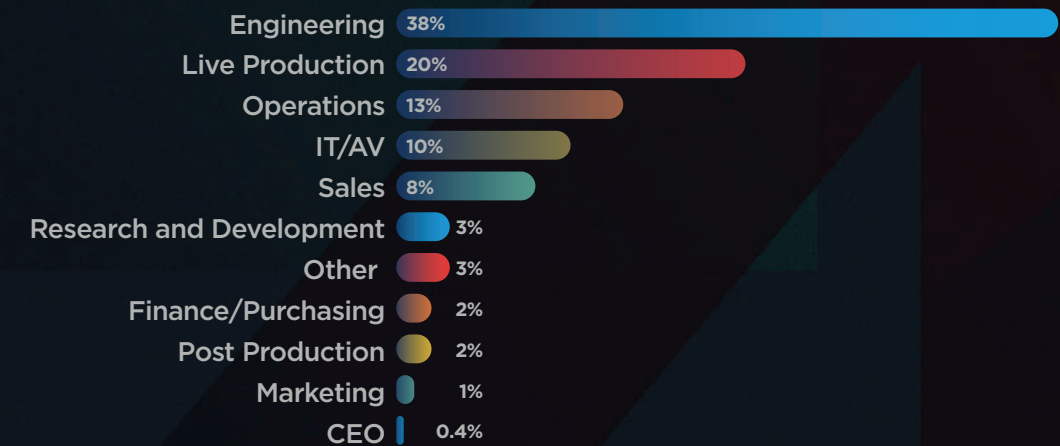
While the survey featured multiple-choice questions, many allowed for multiple answers, resulting in aggregated responses that sometimes exceeded 100%.

Among the respondents, 31% identified their organizations as television broadcasters, while 25% were affiliated with broadcast/OB services organizations. The predominant roles held by survey participants were in engineering (38%) and live production (20%).

Which of the following best describes your organization?



What is your current role within your organization?



CONCLUSION

In this fifth edition of the Broadcast Report, we saw some dramatic shifts in the way broadcasters approach live video production alongside other findings that indicate some technologies probably have reached maturity.

The SRT transport protocol, invented and open-sourced by Haivision, is the preferred choice for live video contribution, supported by 68% of respondents. In addition, cloud-based workflows continue to play an important role, with 84% of broadcasters incorporating some form of cloud in their workflows. Notably, however, 59% of broadcasters rely on the cloud for less than a quarter of their workflows, meaning that on-premise solutions continue to play a central role in their workflows.

This year's report found an increased adoption of cellular networks, with 60% of broadcasters utilizing these networks for transport and 80% of respondents using the internet, showcasing the industry's reliance on diverse network technologies. The findings also underscore the increasing significance of 5G, with 74% of broadcasters either currently using or planning to use 5G for broadcast contribution in the next two years.

As industry professionals anticipate the future, artificial intelligence (AI) emerged as a technology to watch, with 60% predicting its significant impact in the next five years. Nearly half of the respondents (49%) are either planning to use or are already incorporating AI into their workflows. These insights affirm the industry's commitment to embracing cutting-edge technologies for enhanced efficiency and production capabilities.

We're delighted to present the 2024 Broadcast Report during Haivision's 20th year in business. As we reflect upon the past two decades in live broadcast, we're proud to have played an important role in the evolution of the industry and look forward to continue supporting broadcasters with solutions that help solve their live video challenges.

Here's to 20 more years of innovation, partnership, and progress!

ABOUT HAIVISION

GREAT BROADCASTS START WITH HAIVISION

Tried, trusted, and field-tested by the world's leading broadcasters, Haivision's comprehensive portfolio of live video solutions power the highest quality, lowest latency broadcast workflows with maximum reliability. A world leader in live video contribution, Haivision's pioneering video transmitters, encoders, receivers, and cloud solutions enable broadcasters to deliver pristine quality live sports, news, and event productions over any network, from any location.

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