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# Big Video 4.0

Evolving video to compete  
in the 2020s



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# Contents

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Executive summary	2
Introduction	3
Global video in the 2020s	11
Transforming into the leading video platform in 2025: The era of Big Video 4.0	14
Realizing the vision of Big Video 4.0	18
Appendix	20

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# Executive summary

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Given changes in audience habits, advances in technology, and the ongoing evolution in networks with the maturation of fixed broadband and the introduction of 5G, video distribution has the potential to evolve dramatically throughout the 2020s. The entertainment video experience has evolved significantly from the original, device-constrained linear model in every way, a wave of innovation and advancement affecting the commercial and technical delivery models required to distribute visual entertainment to large-scale audiences. Pay TV played a significant role in driving the transformation from analogue to digital TV, introducing increasingly sophisticated VOD capabilities and ring-fencing much of the best TV, movie, and sports content behind lucrative subscription models. The emergence of native online video platforms transformed the industry again and represents Big Video 2.0, with easily accessible on-demand services heralding an era of significant disruption and rapidly changing audience habits, which was most pronounced among younger audiences.

Big Video 3.0 introduced multiscreen, high definition (HD) resolutions, and subscription video-on-demand (VOD) platforms while data costs dropped globally, driving usage and spending on over-the-top (OTT) video services and enabling subscription VOD (SVOD) to scale rapidly, giving the leading platforms increasing influence in content production through their massively increased spending power. In the 2020s, Big Video 4.0 will improve the viewer experience by delivering enhanced video and audio, immersive video formats such as augmented reality (AR), virtual reality (VR), and mixed reality (MR), and a raft of improvements in user interfaces (UIs) and the broader user experience, with personalization commonly cited as a key capability to develop.

Big Video 4.0 will also rely on innovations in network technology, artificial intelligence (AI), machine learning (ML), and automation and cloud computing in evolving the operational model and enabling the innovative video platform capabilities, which will offer differentiation not only from the past, but from much of the competition as well.

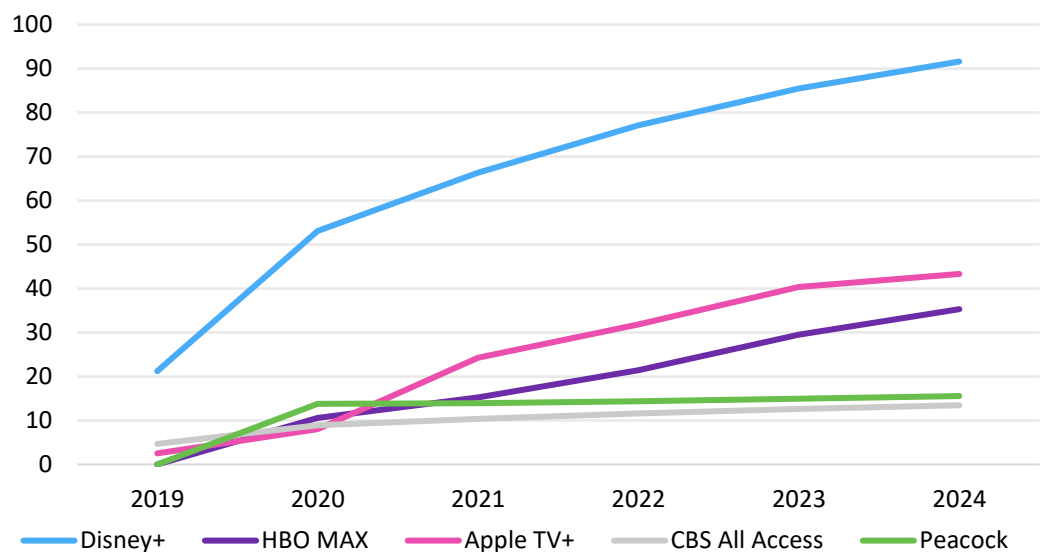
# Introduction

As distribution of video across IP-based networks has scaled and become central to the commercial strategies of entertainment distributors, the industry is entering a new stage regarding the technology and infrastructure that is being deployed to support this growth in audience demand, not just for multiple and frequent content refreshes but also for ongoing improvement of the user experience offered by video platforms and apps. The year 2021 represents a critical inflection point in the evolution of video distribution, which offers opportunity alongside a host of existential threats for the entire entertainment video value chain.

In the 2020s, the competition to scale to become a truly global video platform will be intense: we can already say that the first three are Netflix, YouTube, and Prime Video. In this environment, the space left for competing video platforms is shrinking as traditional TV businesses (commercial broadcast and pay TV) are squeezed for growth and are, in many geographies, in managed and slow decline. In the meantime, the growth segments of OTT subscriptions and OTT and mobile ad-based VOD (AVOD) are comprehensively dominated by native, scaled, global digital platforms.

**Figure 1: Competition for premium viewers intensifies with a proliferation of direct-to-consumer (D2C) video launches**

### New D2C video platform global subscriber forecast (millions)



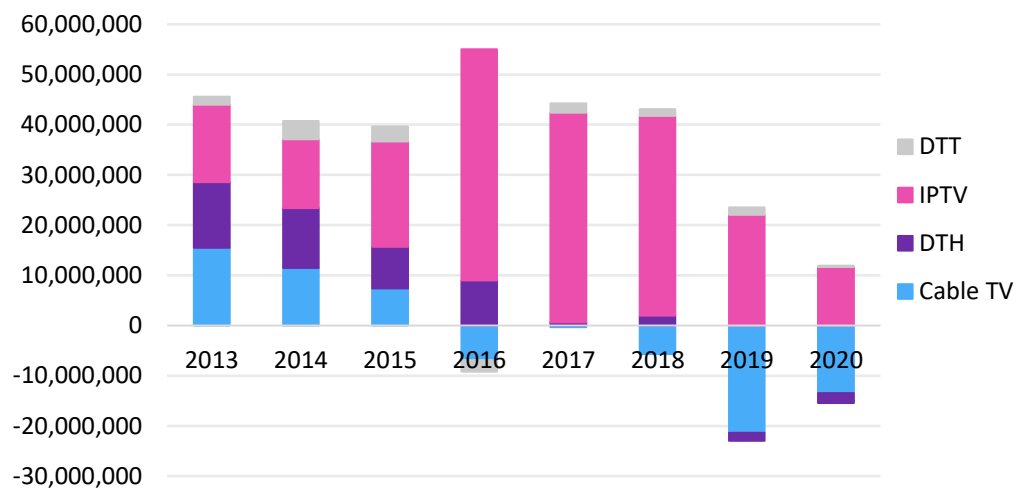
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Source: Omdia

Against this backdrop, pay TV offers growth in increasingly limited parts of the world. The prevailing narrative is of a very low growth or stagnant market where the priorities are churn reduction, driving ARPU from existing subscribers, and reorienting service portfolios away from long-term, high-ARPU TV subscriptions towards accessible and lower-cost OTT services, in particular OTT pay TV ("skinny bundles"). Pay-TV market leaders are using M&A to scale up, increase their territorial footprints, and enhance the effects of economies of scale on technology investment and content investment.

**Figure 2: Traditional pay TV is in secular decline in many markets around the world**

**Global annual pay-TV subscription net additions, split by technology**



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Source: Omdia

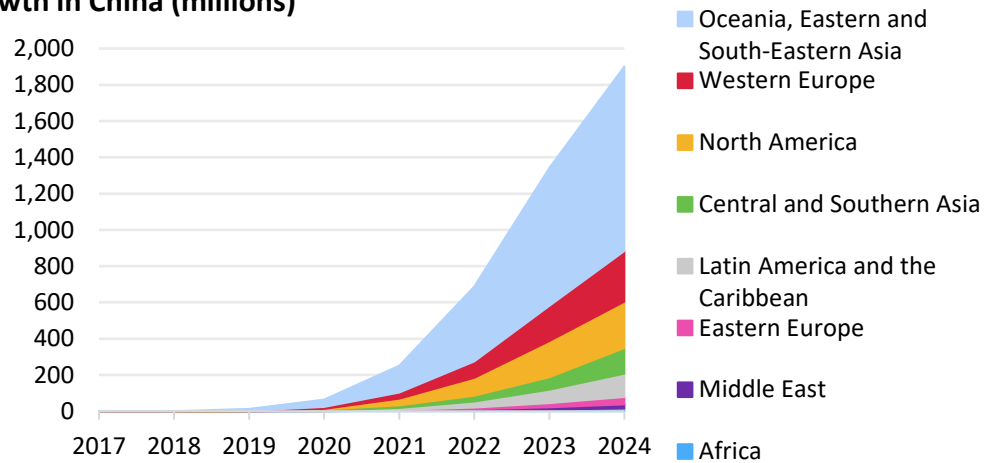
There are likely to be fewer pay-TV services in the 2020s compared with the 2010s: tailored go-to-market strategies acknowledging market realities and a technology investment strategy enabling speed and flexibility in platform evolution will be essential to survive and thrive in a challenging environment.

## The impact of 5G mobile networks and handsets on video

Global adoption of 5G will increase the competition in video from 5G network operators, empowered by networks capable of streaming high-quality video at a much larger scale than historically possible and at a much lower cost. Video offers one of the clearest use cases for operators to demonstrate the short-term benefits of using 5G connectivity and handsets, with numerous operators bundling video services and innovative video formats such as VR. Omdia expects significant global adoption rates of 5G consumer mobile subscriptions, surpassing 1 billion by 2023.

**Figure 3: 5G video consumption constitutes a significant commercial opportunity throughout the 2020s, but adoption levels vary throughout the world**

**Global 5G mobile subscriptions will surpass 1 billion by 2023, driven by growth in China (millions)**

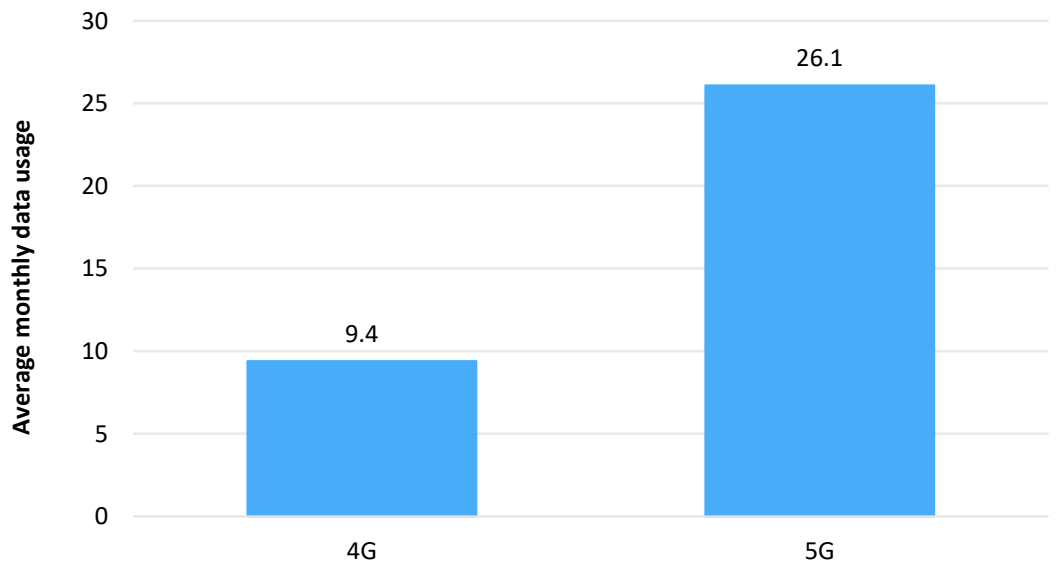


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Source: Omdia 5G Mobile and Fixed Subscription Forecast: 2019–24

5G connections typically offer much larger data allowances than 4G, and the initial usage rates have demonstrated that 5G users consume significantly greater volumes of mobile data, more than trebling 4G monthly data consumption in South Korea.

**Figure 4: Average monthly data usage per user by technology, South Korea, December 2020**



© 2021 Omdia

Source: Omdia 5G in South Korea, December 2020

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Operators are attempting to differentiate their 5G propositions by aggressively supplementing 5G connectivity with bundled content and services intended to leverage the capabilities of 5G networks and handsets. To understand how 5G will affect operators and consumers, South Korea's experience as one of the earliest consumer 5G launches with a relatively enthusiastic population for mobile technology and services makes it a valuable case study for the evolution of 5G consumer ecosystems across the world. South Korea has proved that early 5G adopters, of which there are many, have a huge appetite for 5G content and services, particularly immersive video experiences based on VR, AR, and MR video.

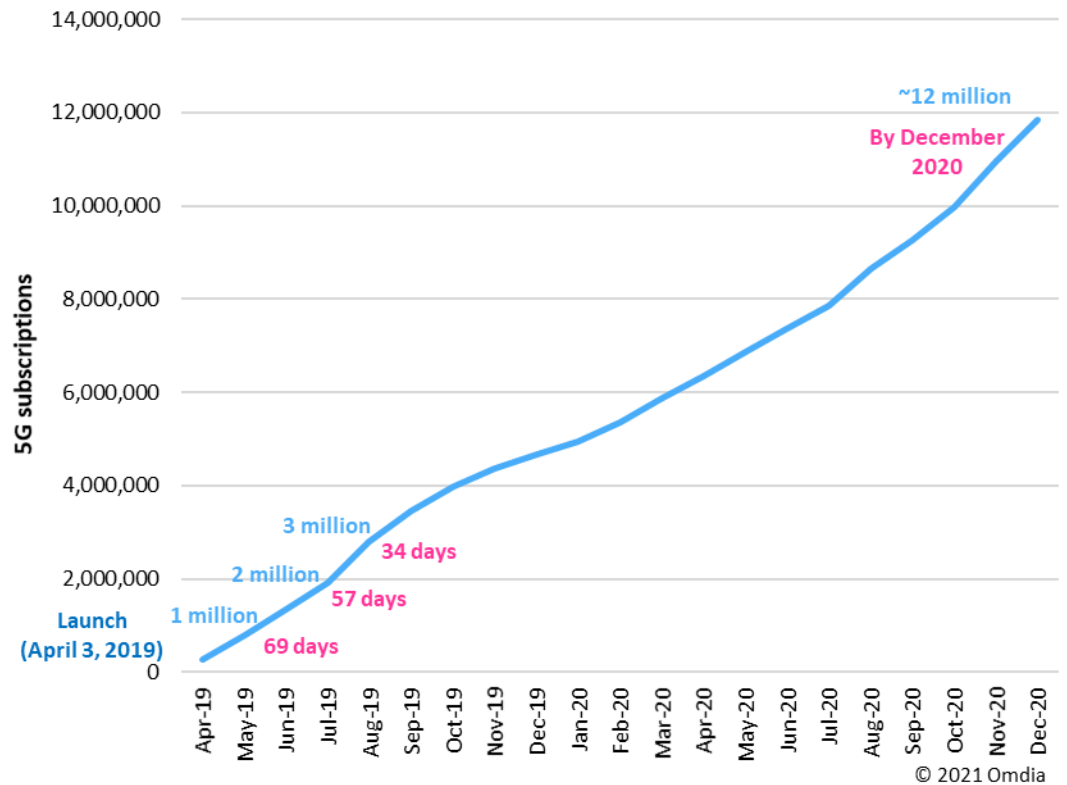
South Korean mobile operators are bundling an array of video-driven services and entertainment with 5G subscriptions. The country's leading operators have demonstrated the breadth and depth of complementary services one can bundle as value added services to 5G connectivity. Across 2019, South Korean operators bundled:

- Innovative baseball and golf live sports viewing applications for 5G, with enhanced interactive functionality
- Band and performer focused video platforms for K-Pop super-fans
- Extensive catalogues of AR and VR entertainment video content, spanning all major genres
- 5G cloud gaming
- 5G AR shopping, e-commerce enhanced by AR to enable shoppers to virtually try on clothes or to virtually position furniture in their apartment

The pace of innovation is likely to be maintained as 5G consumer subscriptions continue to scale and penetrate mass-market consumer demographics, and we expect South Korea and China to command a lot of attention globally as mobile operators and service providers look for examples of what 5G consumer bundling strategies worked.

Since the advent of 5G in South Korea in 2019, the wide-reaching impacts already felt hint at the scale of the transformation yet to come. South Korea's 5G operators have driven rapid adoption of high ARPU 5G subscriptions, effectively alleviating declining mobile consumer ARPU in the country. South Korea has also witnessed huge growth in mobile data volumes as South Korean mobile users took advantage of 5G's improved connectivity, and the broad range of 5G-related consumer services operators bundled with 5G access. South Korean service providers are also focusing on the development of 5G business-to-consumer (B2C) services, enabling a broad range of enterprises to leverage 5G technology in their consumer-facing businesses, demonstrating the importance of mobile network operators in enabling a broader ecosystem of services and companies dependent on 5G technology.

Figure 5: 5G subscriptions, South Korea, from end-April 2019 to end-December 2020



Source: 5G in South Korea, Omdia

## How video leaders compete in the 2020s

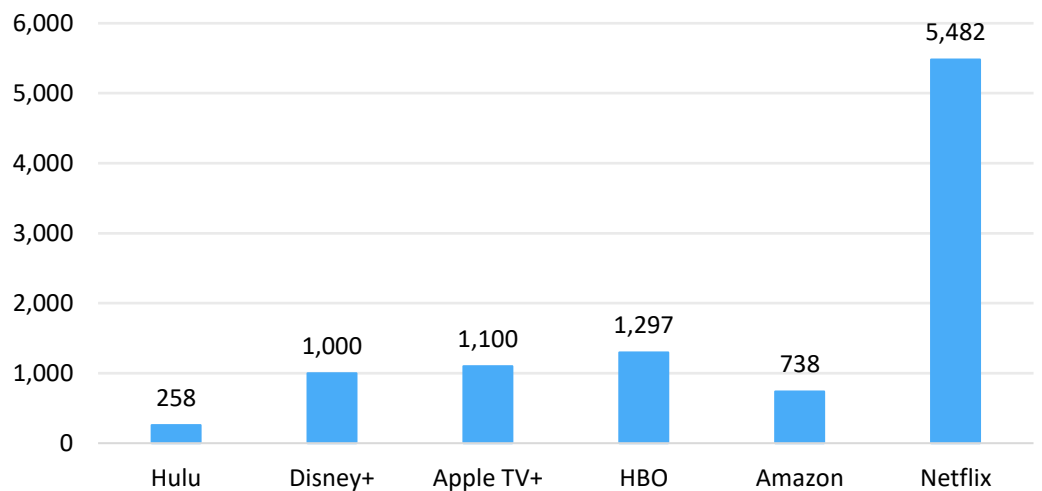
Companies are responding in earnest to the competitive realities of video distribution in the 2020s. Toward the latter part of 2019, a host of major entertainment and technology players launched large-scale, multi-territory D2C video services while the sums spent by the entire industry on content and subscriber acquisition continued to spike upward. The key competitive responses include:

- Pay-TV service providers and broadcasters have **launched OTT D2C video platforms elevating their core content propositions**, the most recent examples being the wave of D2C platforms launching, or recently launched, from Disney (Disney+), HBO (HBO Max, Apple (Apple TV+), and NBC (Peacock).
- **Huge investments in exclusive content to differentiate video services**, and to compete with the scaled production investment of Netflix in particular.



Figure 6: Netflix has changed the game regarding exclusive content investment for SVOD

Estimated D2C original content spend in 2021 (\$m)



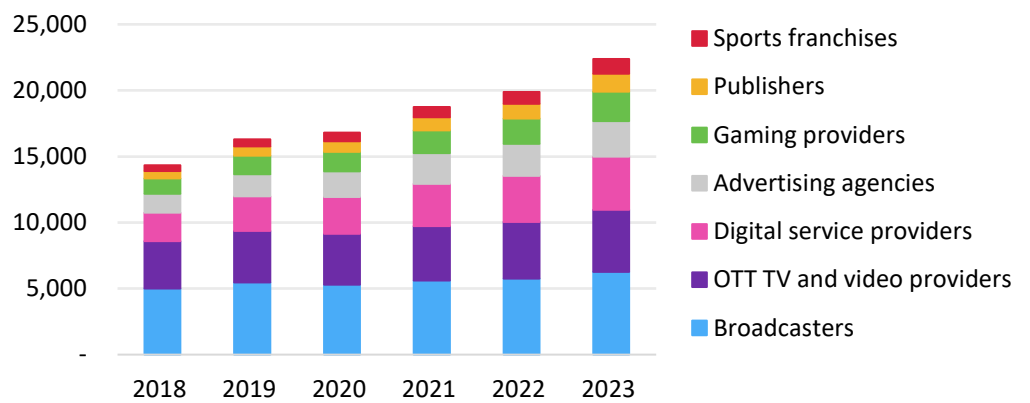
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Source: Omdia

- Significant ongoing investments into developing and improving video distribution and advertising technology and infrastructure**, particularly in cloud-based applications and services as video distributors’ on-premises to cloud infrastructure transformations coalesce. Migrating certain workflows to cloud-based applications and technologies enables video distributors to leverage automation, AI, and ML capabilities in areas such as metadata tagging, audience data analysis, and ad targeting, which might otherwise be prohibitively expensive or complex to deploy. The trend toward D2C distribution means more content owners, from sports federations to production houses, will develop their own capabilities to supply VOD and live streams to global audiences.

Figure 7: Spending on media distribution is being driven by the shift to D2C strategies for content owners

Media distribution spending by company type (\$m)

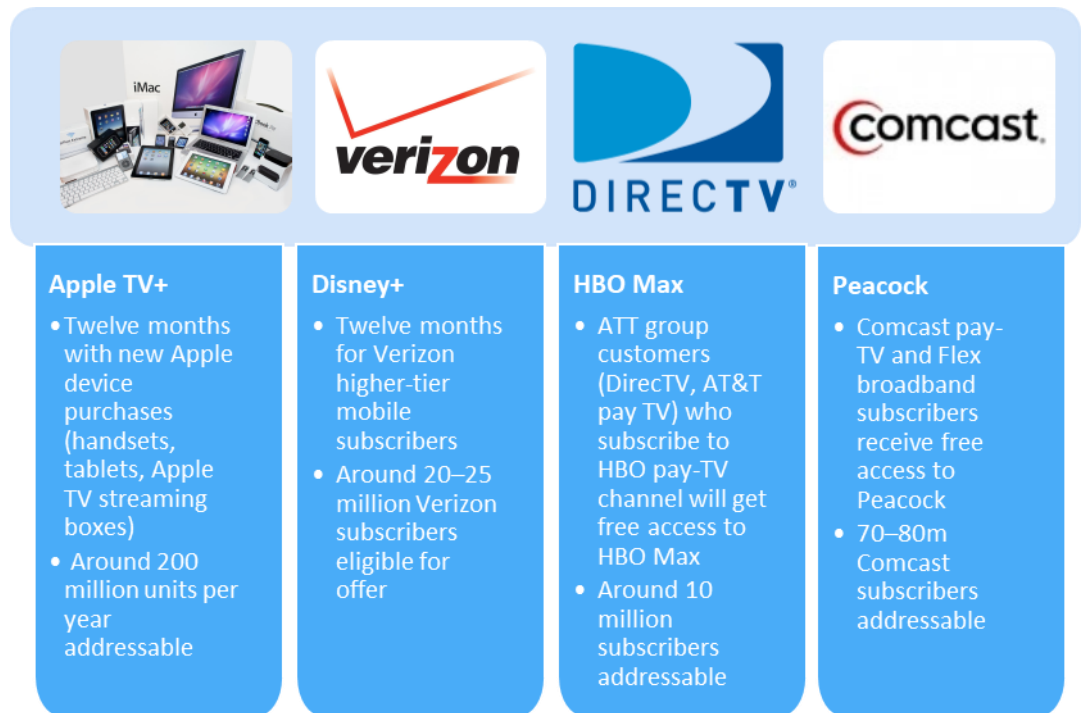


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Source: Omdia Media Distribution Forecast: 2018–23

- Acquiring new subscribers indirectly, from distribution partners, e.g., Verizon Wireless offering mobile subscribers free access to Disney+, enhancing Verizon’s mobile value proposition while delivering new subscribers to Disney+. Huge volumes of new subscribers for these services will be acquired indirectly via mobile subscriptions (Disney+, HBO Max), device sales (Apple TV+), and pay-TV subscriptions (HBO Max, NBC’s Peacock).

**Figure 8: Each D2C launch has a distribution flywheel to help build subscription volume rapidly**



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Source: Omdia *The New Wave of Direct-to-Consumer Video Platforms*, December 2019

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# Global video in the 2020s

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Given the global scaling of OTT video distribution, substantial investments are being made in technology and infrastructure to enable TV and video distributors previously reliant on broadcast TV technologies to distribute over IP, opening the opportunity of addressing many millions of smart TVs, handsets, tablets, consoles, and other screen-based entertainment devices. This has been driven by the impact of native OTT video platforms, such as Netflix and Amazon, whose core expertise is in building, iterating, and improving digital consumer video platforms and who represent the high watermark for quality in consumer video user experiences.

A lot of the major advances in video consumption over the past decade have been driven by native digital platforms including SVOD, AVOD, hybrid monetization models, multiscreen, and content recommendation engines to help audiences navigate large on-demand video catalogues. As these capabilities were introduced, traditional broadcast and pay TV raced to enhance their own technology infrastructures to launch comparable and hopefully competitive services. While the usability and capability gap used to be significant, in the last couple of years this has arguably narrowed significantly.

Heading into the 2020s, a new phase in the technology arms race looks set to define video competition. Widespread commitment to a scaled D2C model nourished by unprecedented levels of content investment, subscriber acquisition, technology spending, and strategic focus from the biggest names in entertainment such as Disney and Warner Bros. means that there will be upward of six major video platforms battling for global hegemony. Native digital video platforms such as Netflix and Hulu look to finally have robust competitors. Given the level of competition and the pace of platform evolution, ensuring one's technology capabilities keep pace with the leading services is a challenging undertaking.

Figure 9: How the capabilities of big video platforms evolve

Big Video 1.0	Big Video 2.0	Big Video 3.0	Big Video 4.0
<ul style="list-style-type: none"> <li>• Network digitization (i.e., IPTV and DVB)</li> <li>• PVR</li> <li>• On-demand video</li> </ul>	<ul style="list-style-type: none"> <li>• Service convergence (i.e., IPTV, DVB and OTT, fixed and mobile video, telco network and TV network, and broadband internet network)</li> <li>• HD</li> <li>• OTT SVOD</li> </ul>	<ul style="list-style-type: none"> <li>• Multiscreen</li> <li>• UHD</li> <li>• OTT aggregation</li> <li>• OTT BVOD</li> <li>• Ease of use and accessibility of UIs substantially improved</li> <li>• Voice UI, digital assistants integrated to video services</li> <li>• Video distributors begin transformation from on-prem to cloud-based infrastructure</li> <li>• Addressable advertising emerges</li> </ul>	<ul style="list-style-type: none"> <li>• Cloud-based AI/ML powering broad range of workflows</li> <li>• Personalization of the video experience</li> <li>• U-UHD</li> <li>• AR, VR, MR, 360-degree video</li> <li>• OTT super-aggregation</li> <li>• Enhanced adtech, next-generation targeting</li> <li>• Hybrid AVOD/SVOD</li> </ul>

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Source: Omdia

## The new wave of D2C video platforms

The year 2021 is the start of a multiyear land grab that will reshape the entertainment industry forever. The key platforms that have recently launched or are about to come to the market are Disney+, Apple TV+, HBO Max, NBC's Peacock, and Paramount+. These launches will intensify competition for online video subscriptions and promise to finally, seriously, challenge the native OTT video platforms, in particular Netflix and Amazon.

These launches are largely motivated by the need to compensate for declines in traditional pay-TV and commercial broadcast revenues. This proliferation of competitive and relatively cheap video services is likely to accelerate declines in pay-TV subscriptions as well as squeezing smaller OTT video platforms. As more exclusive content shifts from linear channels acquired via pay-TV traditional-channel bundles to on-demand OTT services, the cost of linear-channel bundles will stagnate or decline, and audiences will gradually shift viewing and spending to D2C video platforms. D2C video platforms ideally compete on a multinational or even global basis, which is a significant financial, operational, and technical undertaking.

## Consumer video platform capabilities

**Table 1: Video platform capabilities**

	Benchmark	Evaluation criteria
User experience	Vimeo	UI responsiveness
	Netflix	Personalization
	Amazon Prime	
Quality of service (scale), on-demand and live streaming	Live: Amazon Prime	Video delay
	On-demand: YouTube, Netflix	Video start up time
		Video resolution
		Size of audience
		Audio quality
Content recommendation	Netflix	Viewer engagement
		% recommendations used
		% uptake of paid viewing
Audience monetization	Netflix	Charging model flexibility
	Hotstar	Hybrid SVOD/AVOD
	YouTube	Currencies
		Payment processing
Adtech	YouTube	Addressable advertising
	Sky Adsmart	Multiplatform campaigns

Source: Omdia

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# Transforming into the leading video platform in 2025: The era of Big Video 4.0

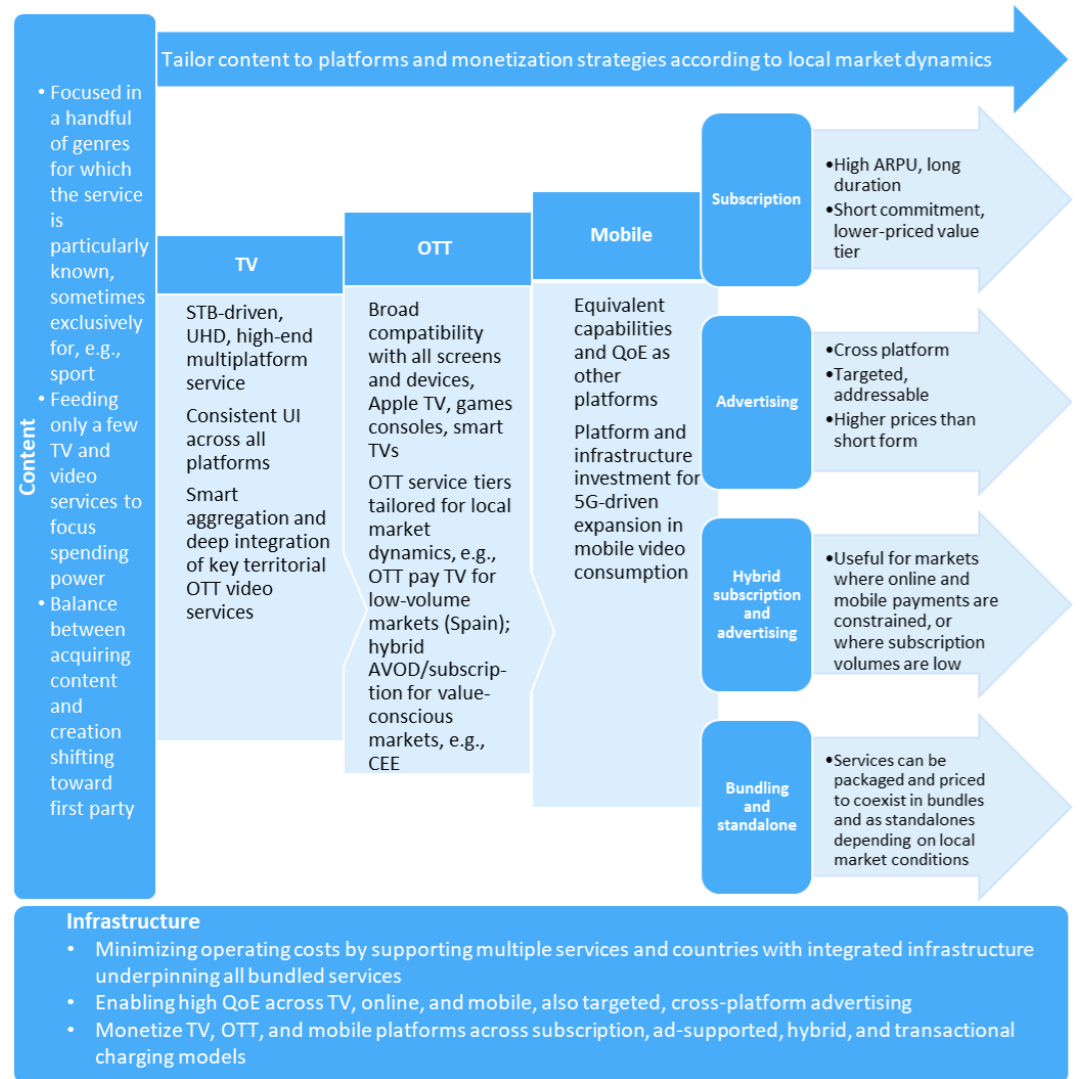
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## What capabilities will the leading video platforms in 2025 offer?

In 2025, the evolution of the leading video platforms will be driven by:

- Infrastructure and technology evolution enabling improved user experiences; enhanced platform capabilities; higher quality livestreaming to larger audiences; improved quality of service (QoS); improved video platform aggregation technology; more effective monetization of back catalogues; viewing format innovations in VR, AR, and MR content; and increasingly flexible monetization strategies incorporating subscriptions, bundling, transactions, micro-transactions, and advertising
- Improvements in network technology and increased consumer penetration, particularly in fiber broadband, 4G, and 5G mobile consumer subscriptions
- Improvements in network distribution capabilities driven by next-generation content delivery networks (CDNs), edge computing, and advances in multicast distribution over IP
- AI, ML, and automation impacts on video workflows, particularly in media archiving, media preparation, distribution and CDN, subtitling, metadata tagging, and audience data analysis

Figure 10: The characteristics of the evolved video distributor in 2025



Source: Omdia

## Telco and operator video strategies

Telcos and operators have a long history with TV and video distribution, by investing heavily in pay TV and, more recently, OTT video. Typically, these have supported a multi-service bundling strategy involving fixed broadband and global telcos now play significant roles in entertainment video distribution globally. Telco pay TV has tended to focus on IPTV services while their recent efforts to bring more OTT video content to their subscribers has tended to focus more on popular, established local and regional OTT video services, as well as global giants such as Netflix and YouTube.

### China Mobile

China Mobile is China's leading mobile operator with enormous scale in consumer and enterprise connectivity; China's regional mobile operations regularly dwarf leading operators in European countries. Given the unique conditions in China for 5G growth—a



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huge consumer base who eagerly adopt innovations in mobile handsets and apps, strong government support for 5G rollout, and a small number of huge and technically capable operators—Omdia believes that the Chinese market is an effective indicator regarding the direction of 5G innovation globally. Certainly, the pace of development across the Chinese mobile ecosystem is relatively fast in global terms.

China Mobile's video strategy is driven by a strong proprietary digital content capability, an aggressive partnership strategy, and prioritization of mobile R&D. It is heavily involved in video production, distribution, and monetization in the following ways:

- **Proprietary:** China Mobile is a significant creator and distributor of video content through its MIGU subsidiary, which specializes in digital content production and distribution. MIGU's output spans video, music, e-books, and games. MIGU offers a huge volume of regularly updated content to China Mobile's customers, including over 6 million videos and 750,000 cartoons. In September 2019, MIGU announced it had launched more than 50 membership services based on a 5G-oriented content and services ecosystem, with video playing a central role in entertainment apps, music, distance learning, sports streaming, social networking, VR video, games, and e-commerce.
- **Partnerships with third parties:** in May 2019, China Mobile invested ¥ 1.6 billion in Mango Excellent Media, which owns Mango TV, one of the most prominent Chinese OTT video platforms with a reputation for high quality video production. In late 2019, MIGU and South Korea's KT announced a collaboration to research advances in ultra-high definition (UHD) video, gaming, and VR video content based on 5G technology. MIGU is also constantly collaborating with other Chinese internet giants such as iQIYI, Tencent, Youku, Mango TV, and Sina Weibo on consumer-facing video apps and services.
- **Video research and development:** MIGU is researching "5G + 4K" live broadcast with China Mobile Beijing. MIGU claims to have successfully conducted the world's first 5G + 4K live broadcast of a sports game, showing a China Basketball Association (CBA) game. China Mobile is also interested in 5G UHD use cases, researching the concept of "5G+UHD" with the objective of delivering a more immersive video experience.

#### [Telkomsel aggregates video to enhance its core connectivity proposition](#)

The Indonesian mobile operator Telkomsel has included access to multiple prominent video services, including CatchPlay, Hooq, Nickelodeon Play, Viu, and Tribe, in its core mobile bundles since 2016. It was a relatively early mover in bundling access to video services with consumer mobile subscriptions in Southeast Asia and Indonesia where mobile video consumption had long been constrained by relatively expensive mobile data costs. Telkomsel's understanding of this constraint led to the strategy that data usage for partnered video services was "zero-rated," meaning usage of these services did not count against a subscriber's data allowance.

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# Evolving core video platform capabilities in 2025

## Innovative video formats

- Content format and video innovation, potentially including AR/VR/MR, 3D video, and 360-degree video
- Dynamically constructed, personalized linear video streams

## User experience

- Video platform innovation: user experience (UX), UI innovation, digital assistant integration
- Personalization of UIs
- Improved content recommendation engines
- Voice-driven UI

## QoS (scale), on-demand and live streaming

- Distribution innovation: next-gen CDN, OTT, and mobile multicast distribution
- 5G connectivity enabling better quality video, VR, and AR

## Audience monetization

- Improved catalogue monetization through archiving and metadata tagging
- Enhanced audience analytics and data analysis, incorporating real-time measurement and querying
- Increased audience engagement through predictive analytics
- Advertising, targeted multiplatform campaigns
- Charging model flexibility, enabling flexibility between subscriptions, transactions, advertising, and integration with loyalty schemes
- Business model innovation, such as video platform super aggregation

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# Realizing the vision of Big Video 4.0

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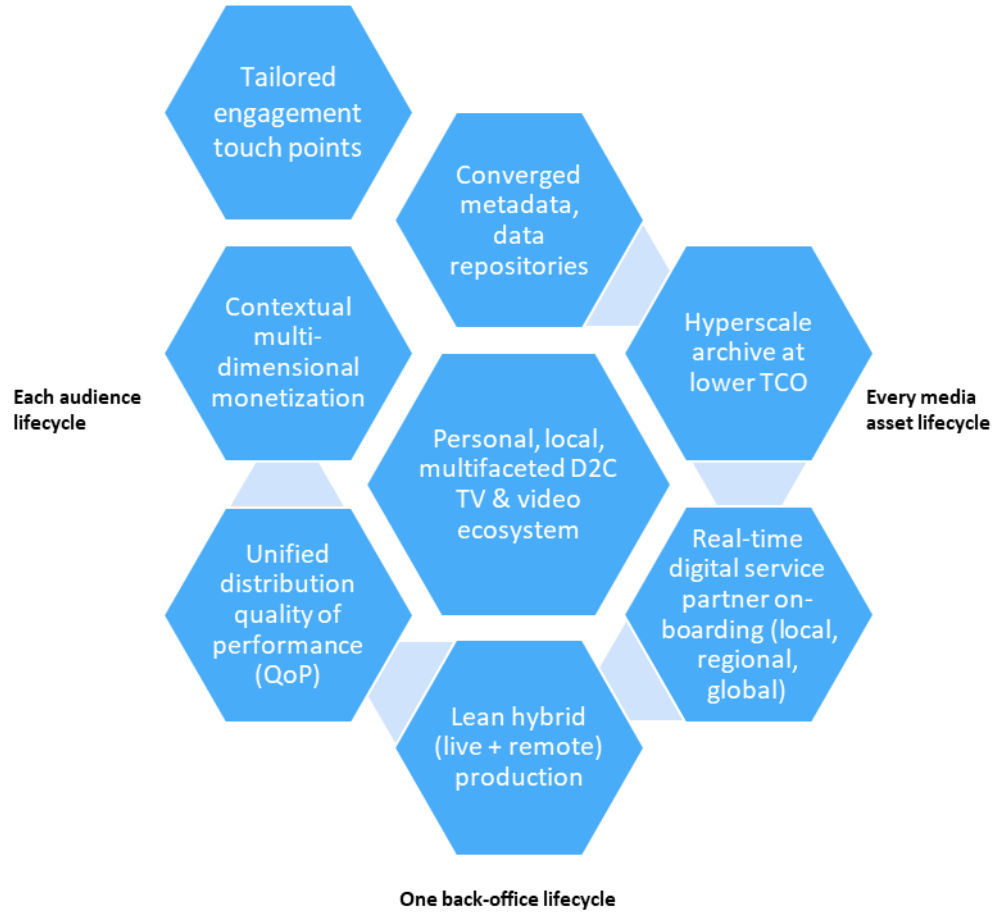
Becoming a video platform that realizes the vision of Big Video 4.0 requires a significant and ongoing transformation in technology and infrastructure, which in turn enables the continuous evolution of workflows across content production, distribution, and monetization. Big Video 4.0 ensures that the video requirements and use cases of each key type of customer are addressed, across consumers, households, enterprises, and governments. Its capabilities are naturally ubiquitous and device agnostic.

Global competitive pressures mean that the user experience must be continually improved and remains competitive against industry benchmarks and market leaders. Video quality is critical, with increased resolutions, audio quality, and personalized UIs improving video UX for all use cases. For consumer and household services, the importance of exclusive and extensive content catalogues, alongside a viable acquisition strategy, remains paramount.

Delivering such capabilities makes significant demands on technology and infrastructure, and leading video platforms and vendors stress the importance of designing flexibility into operational workflows and architecture. The role of cloud-based technology also comes into focus as video distributors increasingly use cloud-based technology and services for workflows previously achieved with proprietary, on-premises infrastructure.

Big Video 4.0 enables cooperation and collaboration with a range of partners through compatibility and straightforward integration capabilities, which in turn significantly broadens the range of applications and services that can be delivered by that platform. Hence video platforms are increasingly offering services in non-core areas, such as gaming, remote health, and e-learning applications.

Figure 11: Big Video 4.0 platform characteristics and capabilities



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Source: Omdia

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# Appendix

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## Further reading

*5G Mobile and Fixed Subscription Forecast: 2019–25* (November 2020)

*5G in South Korea* (March 2020)

*Channel Revenue & Programming Spend Database* (February 2021)

*Media Distribution Forecast: 2018–23* (September 2019)

*The New Wave of Direct-to-Consumer Video Platforms* (December 2019)

*TV & Online Video Intelligence Database* (February 2021)

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