Adoption Trends

Cloud

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Introduction

IABM Adoption Trends reports annually track the adoption of specific emerging technologies within the broadcast and media sector. The purpose of these reports is to enable member companies to better understand what is driving the adoption of emerging technologies within customer organizations. This will provide member companies more insight to better address the challenges lying ahead, from new product development to marketing strategy. These reports contain a discussion on the state of adoption of a specific emerging technology in broadcast and media, as well as an analysis of significant customer deployments.

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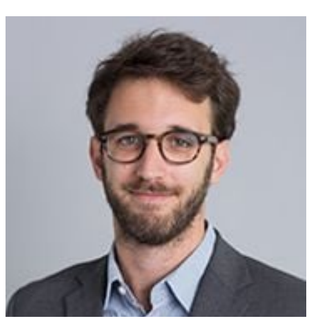

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Cloud Essentials

Cloud Essentials

Classification on the basis of infrastructure ownership

Cloud technology can be defined as a type of computing enabling users to access a variety of IT-based services via the Internet. Cloud-based technology is often classified on the basis of infrastructure ownership:

Private Cloud

The infrastructure is owned by the media organization (daily management can be outsourced to an external provider). It may reside "on-premises" or "off-premises," depending on the organization's preferences. Private cloud deployments are less flexible/scalable compared to public cloud deployments but guarantee the user greater control to suit its industry-specific needs.

Hybrid Cloud

A media organization uses both private and public clouds for different applications.

Public Cloud

Cloud service providers (e.g., AWS, Oracle, Google Cloud) own the underlying infrastructure and are responsible for the maintenance and security of the cloud environment. Public cloud deployments guarantee more flexibility/scalability at the expense of less control for customization to suit industry-specific needs.

Source: IABM

Cloud Essentials

Classification on the basis of the type of service offered

A further classification of cloud technology can be based on the type of service offered:

Cloud Technology

IaaS
Infrastructure as a Service

Provision of computing infrastructure and resources, such as servers, storage and networking

SaaS
Software as a Service

Provision of cloud-based software, where users access applications on a remote cloud network accessed through the web or an API

PaaS
Platform as a Service

Provision of a cloud computing environment where users can develop, deliver and manage applications

Source: IABM

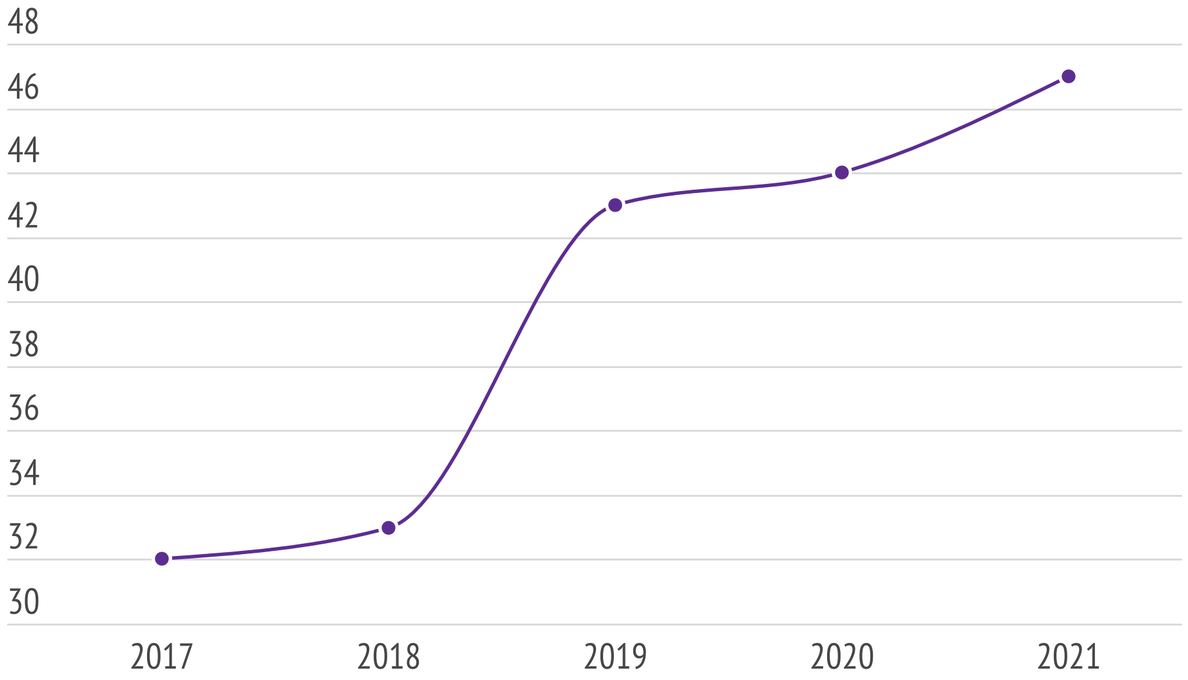
Cloud Adoption Tracker

Cloud Adoption Tracker

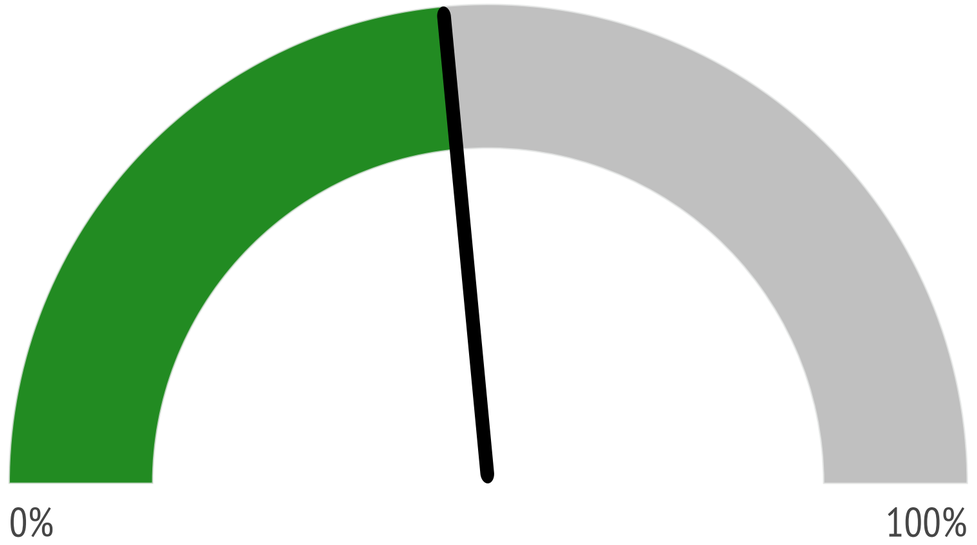
Adoption by Broadcast and Media Industry

According to the IABM Media Tech Business Tracker, cloud adoption in broadcast and media has accelerated even more over the last year; as of the first half of 2021, 47% of respondents have already deployed some sort of cloud technology, while 45% are likely to do so.

Companies that have already adopted cloud technology



Share of Cloud adoption by broadcast and media companies



47% of companies have already adopted UHD

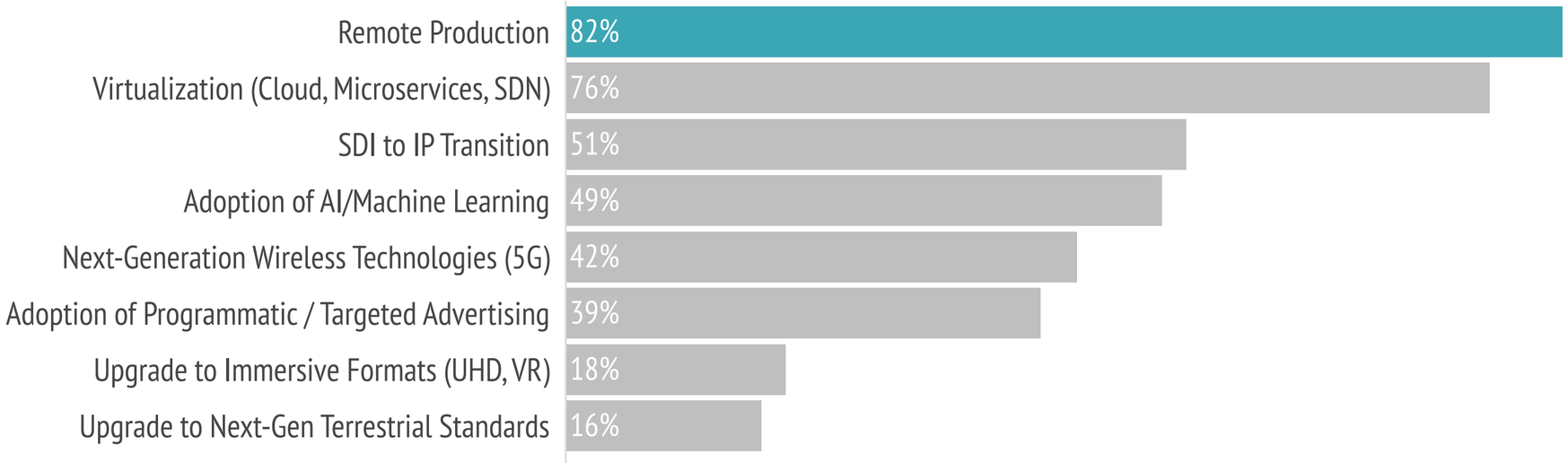
Source: IABM

Cloud Adoption Tracker

COVID-19 impact

COVID-19 accelerated remote production and virtualization, which pushed media companies to adopt cloud-operating models. In normal conditions, technology users were often reluctant to take the risk of adopting new technology, but the pandemic left no choice but to bring in new technologies. As evidenced by the results of the survey IABM Coronavirus Impact Tracker, the pandemic has led to 76% of media and technology companies expecting investment in virtualization – including cloud – to increase.

COVID-19 impact on Media Tech investment



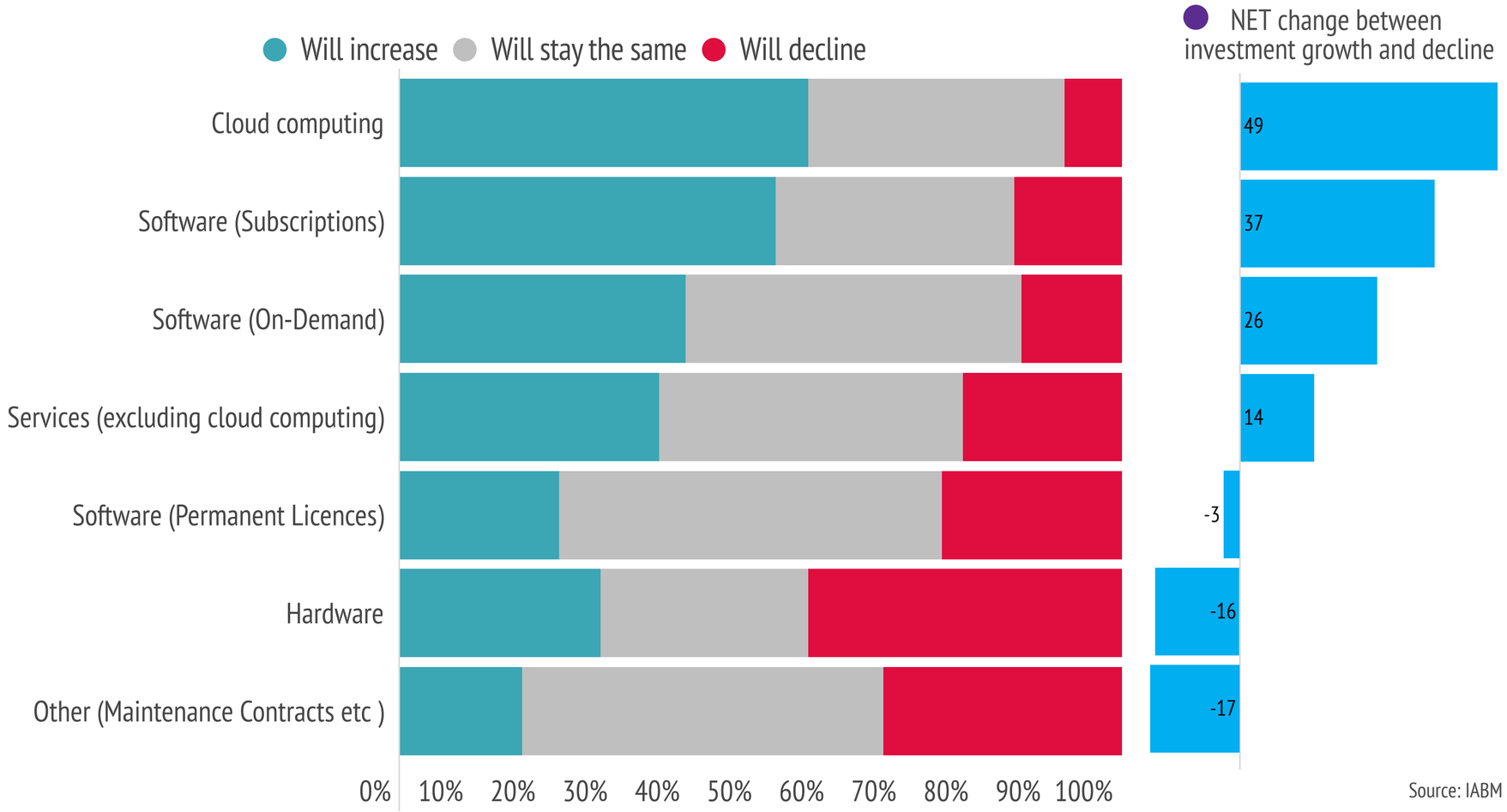
Source: IABM

Cloud Adoption Tracker

Media technology investment outlook

According to IABM's latest data, cloud computing represents the fastest-growing category of investment for media companies; 57% of media companies say that they plan to increase investment in cloud computing resources in the next year, which was followed by software subscriptions and on-demand services often provided as part of cloud infrastructure.

Media Technology Investment Outlook by Category of Products and Services



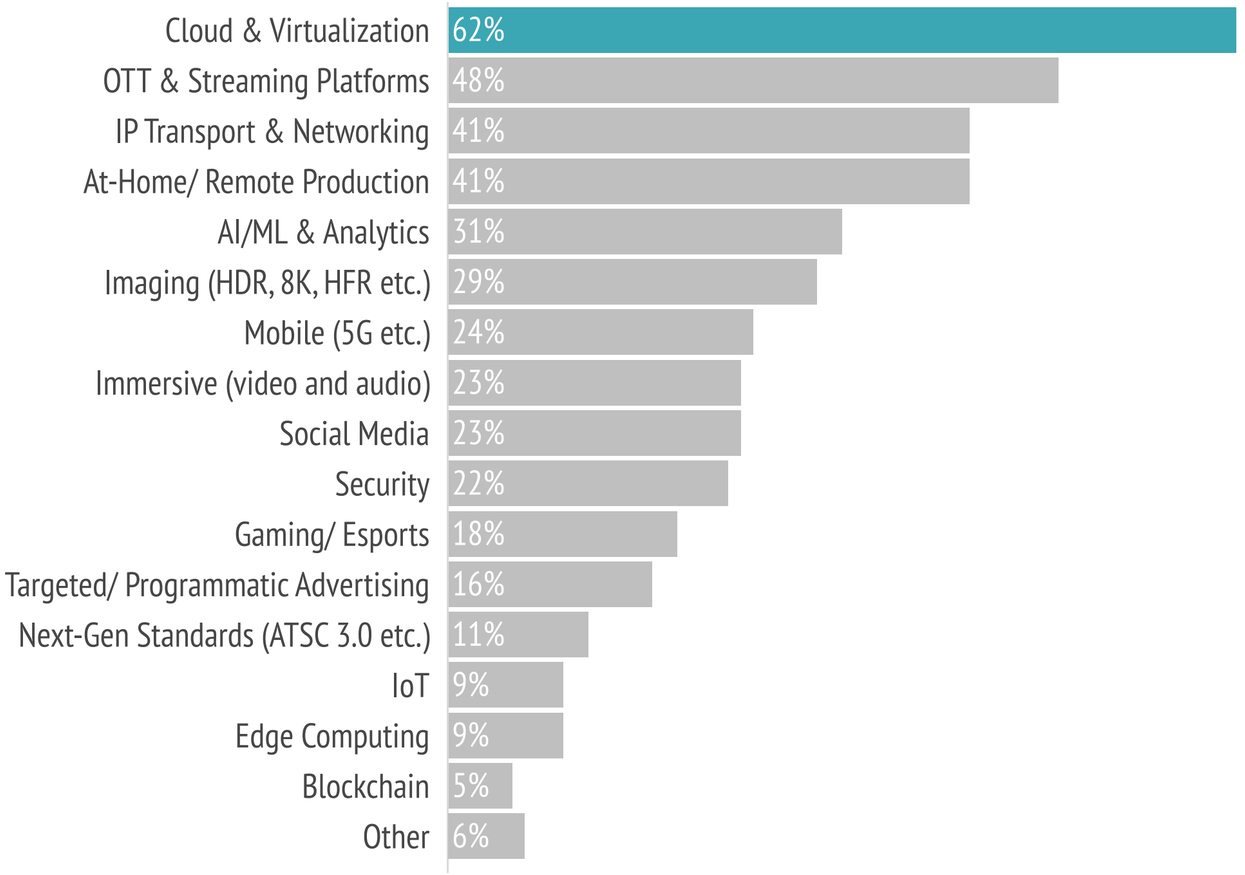
Source: IABM

Cloud Adoption Tracker

Priorities of media technology road

Cloud is also the top-ranking technology within both media companies and technology suppliers' roadmaps, which underlines its importance in the industry's future. Cloud importance within media technology roadmaps rose significantly in the last year.

Media Technology Roadmap



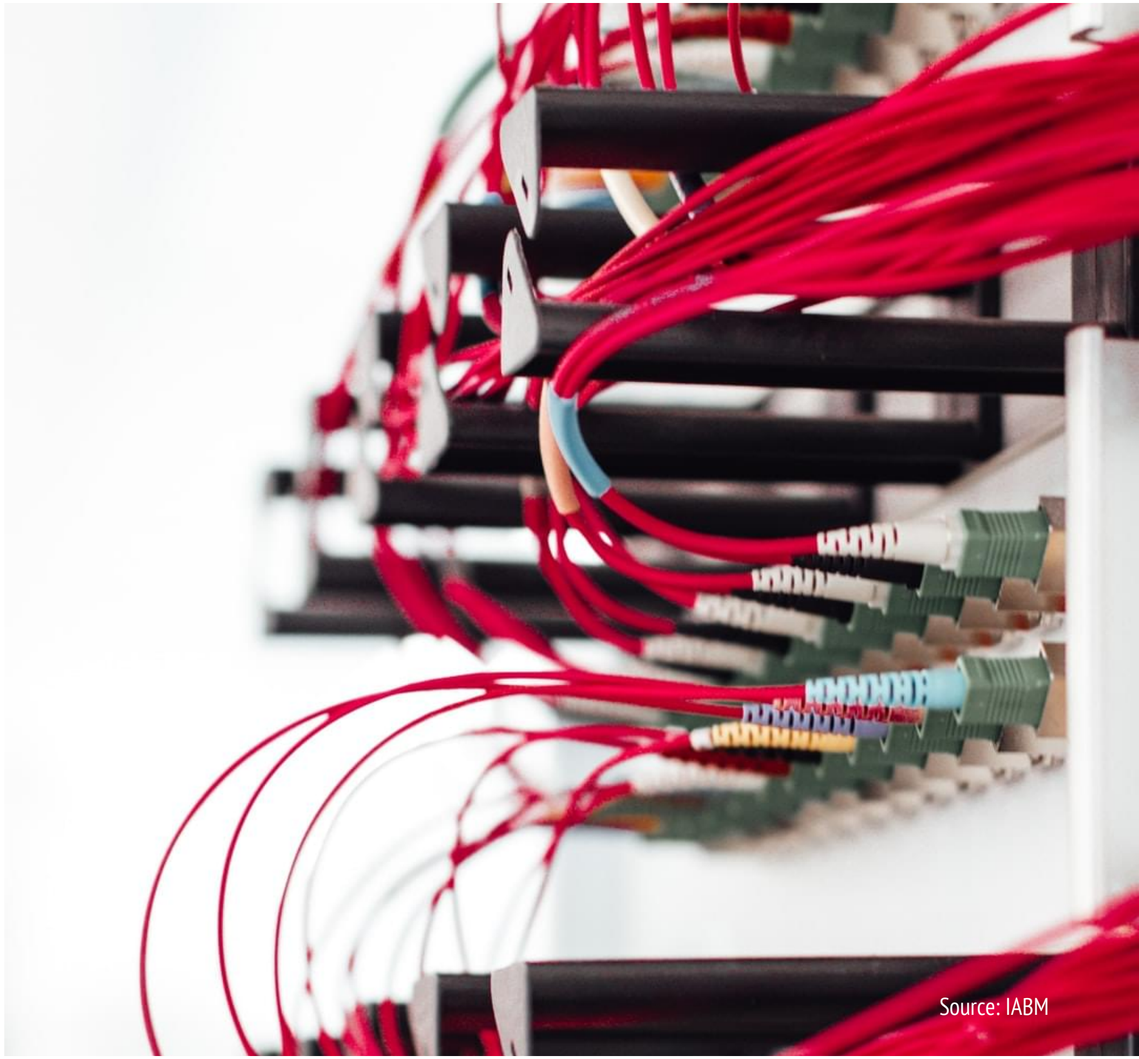
Share of companies that have prioritized Cloud & Virtualization in their technology roadmaps

Source: IABM

Cloud Adoption Tracker

Drivers of cloud technology adoption

Cloud technology has a number of advantages that are driving its deployment. According to IABM Media Tech Business Tracker, costly infrastructure is the top on-premises pain point named by 60% of the companies that have not adopted cloud technology yet. At the same time, companies that have already adopted cloud technology name lower total cost of ownership as the top cloud adoption advantage. This is due to the flexibility that cloud technology provides to calibrate capacity on the basis of demand, thus reducing the total cost of ownership when demand is unpredictable or changing. Robust compliance and security has significantly increased importance – from 23% of respondents that mentioned it last year to 47% in 2021.

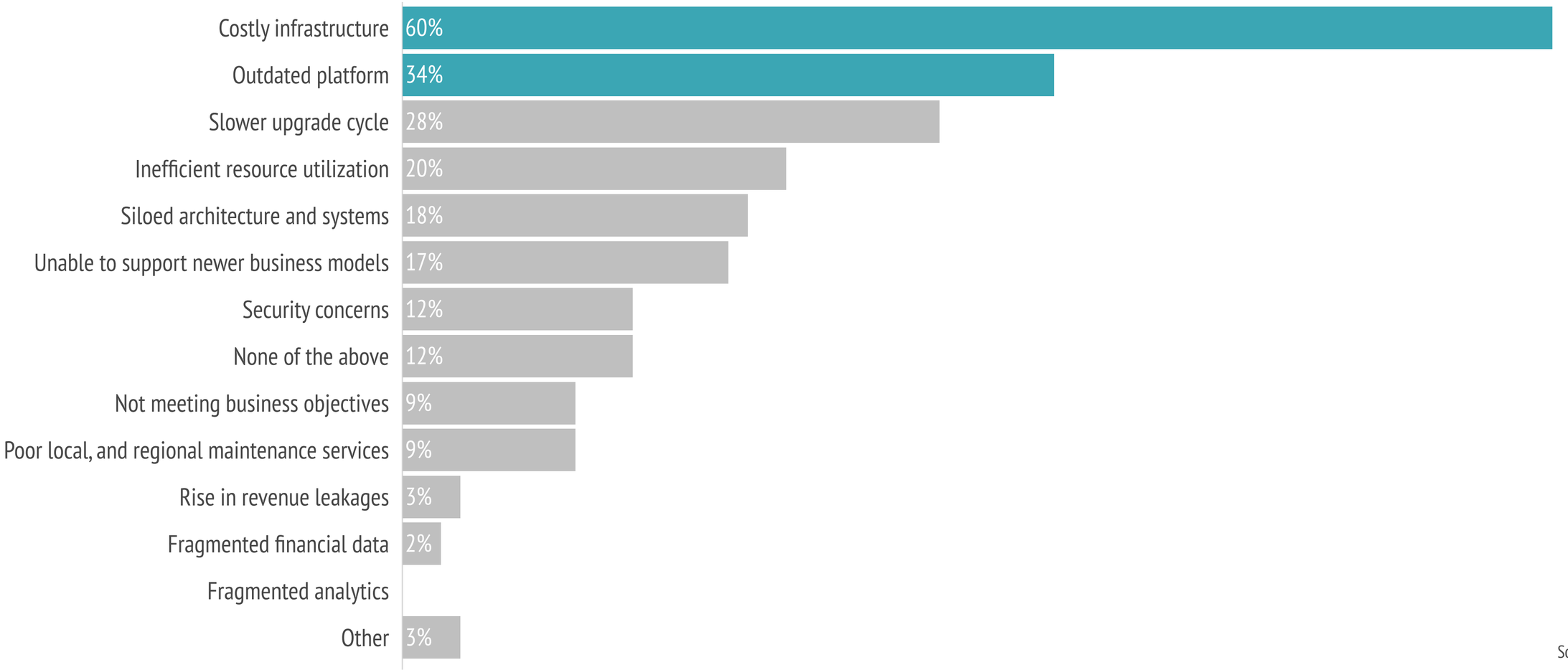


Source: IABM

Cloud Adoption Tracker

Drivers of cloud technology adoption

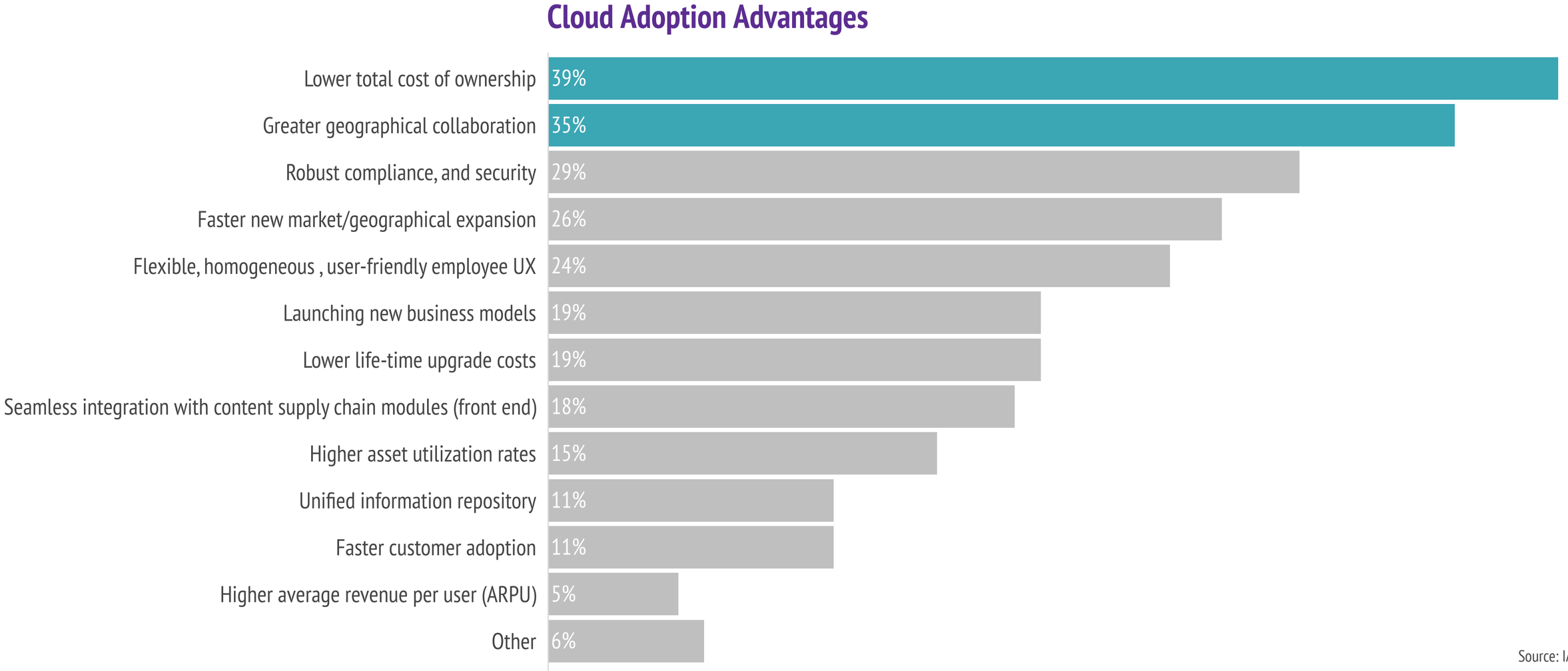
On-premise Pain Points



Source: IABM

Cloud Adoption Tracker

Drivers of cloud technology adoption



Source: IABM

Cloud Adoption Tracker

Total cost of cloud ownership

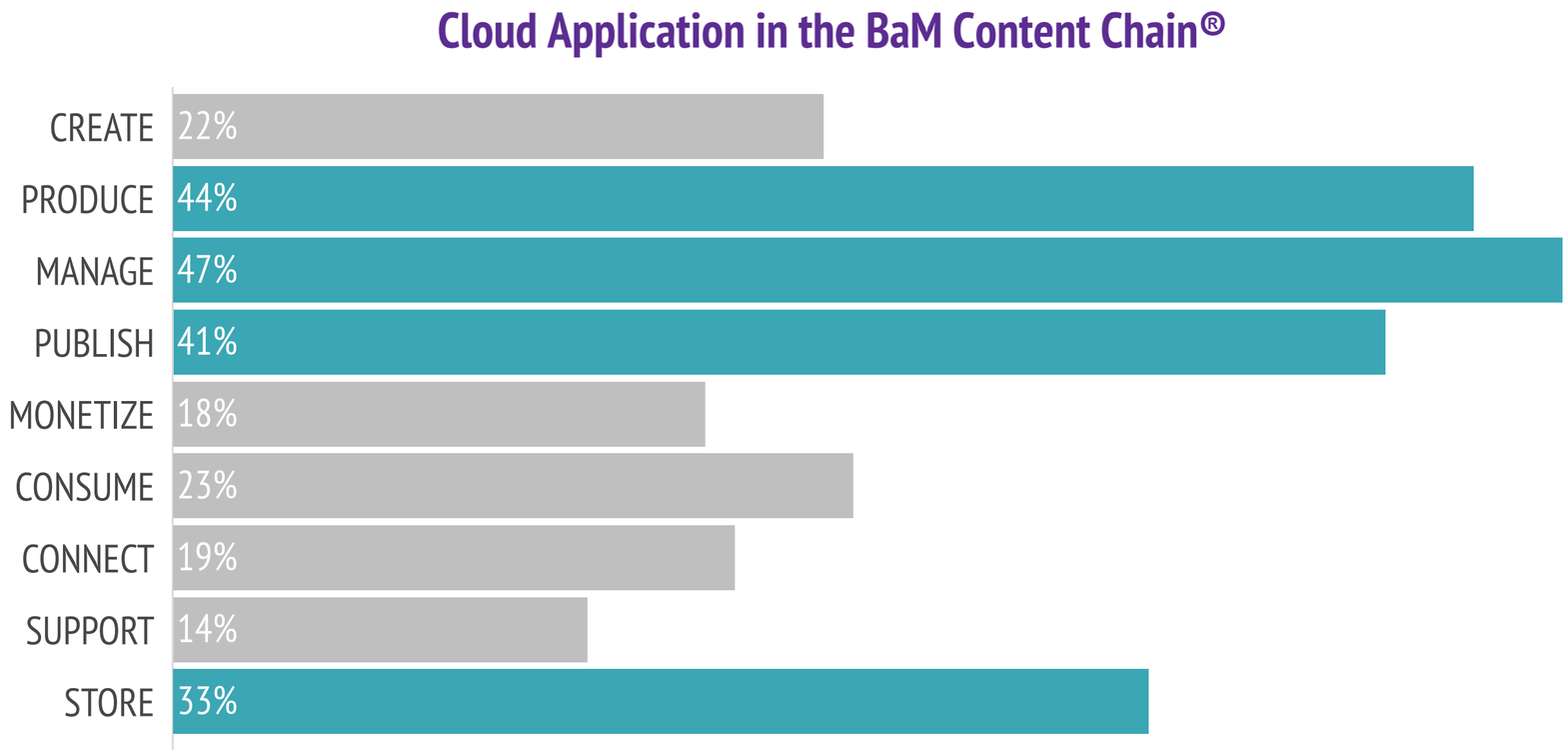
An important factor affecting the total cost of ownership is cloud-based vs. cloud-native type of environment. In a cloud-based environment, users replicate the on-premises environment in the cloud, which lacks scalability, thus making cloud infrastructure more expensive than on-premises deployments. However, if cloud models are designed natively for the cloud, they often lead to significant operational savings. The total cost of ownership (TCO) consists of a range of operational costs and benefits, which differ for cloud and on-premises deployments. Cloud operational models include hard-to-measure new operational elements such as acquiring staff or training for this new skill set, speed of infrastructure support, productivity, etc. Cloud also offers greater geographical collaboration among its key benefits, as well as faster new markets geographical expansion.

Source: IABM

Cloud Adoption Tracker

Cloud adoption by content chain

From the BaM Content Chain® perspective, cloud technology is being implemented predominantly for producing, managing and storing, and distributing content.



Source: IABM

Cloud Adoption Tracker

Cloud Deployment Models

Both private and public cloud deployment models are growing in 2021, as opposed to the hybrid model. Investment in hybrid or private cloud infrastructure is often a stepping-stone for increasing public cloud investment later. This is the case of Eurosport, for example, as Gordon Castle, SVP Technology at Eurosport, said in the fireside chat at BaM Live!™:

> *On our real-life entertainment channels, the ones that don't have very much live content, we today already have hundreds of channels running in the public cloud. They run very successfully, very reliably, at a lower cost of operation with greater resiliency than we've ever had before. In the live spaces, we use what we call a private cloud for live production. We are centralizing our technology into two data centers (...) It's about high-end, real-time live sports production; no latency, ease, immediate access to content for all of our users. And that's truly enabling and needed for sports. But the next transition will be to do that in the public cloud.*

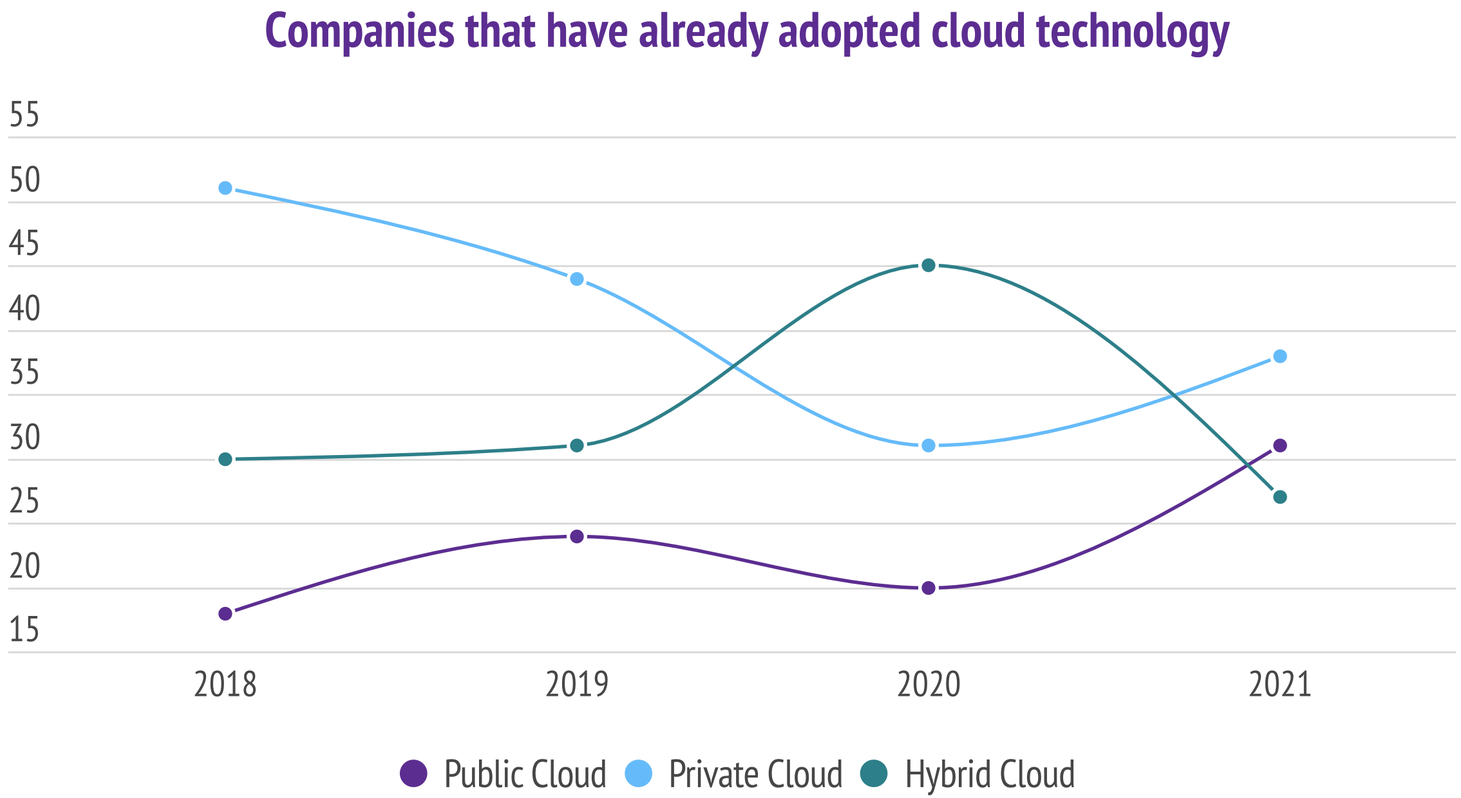
Gordon Castle

SVP Technology, Eurosport

Sources: IABM; Image source: LinkedIn

Cloud Adoption Tracker

Cloud Deployment Models



Public cloud economic models are more suited to media activities characterized by sporadic rather than predictable demand, where flexibility justifies cloud content storage and moving costs.

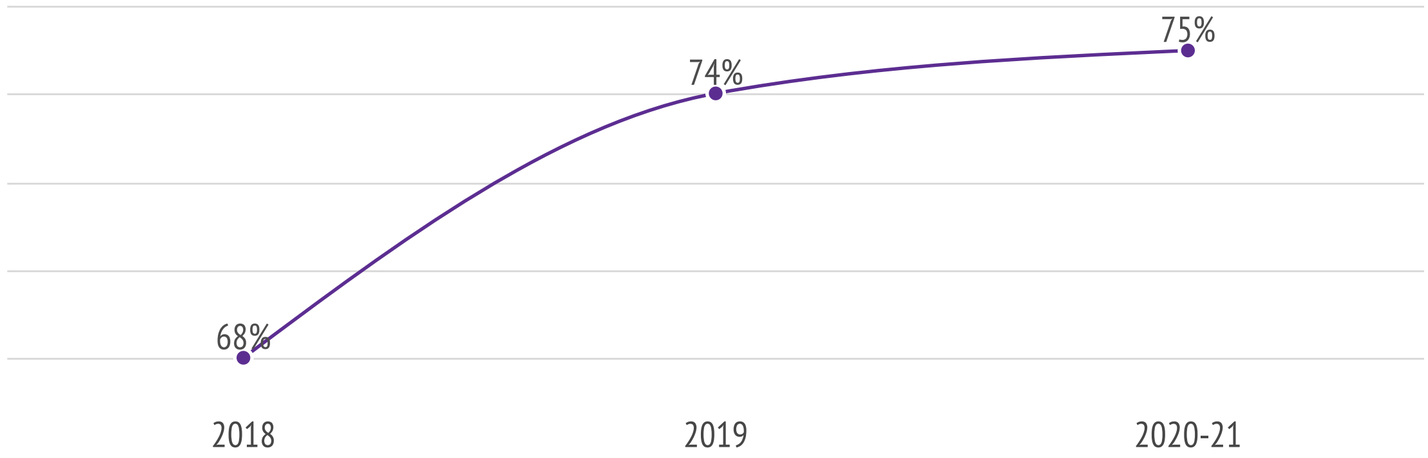
Source: IABM

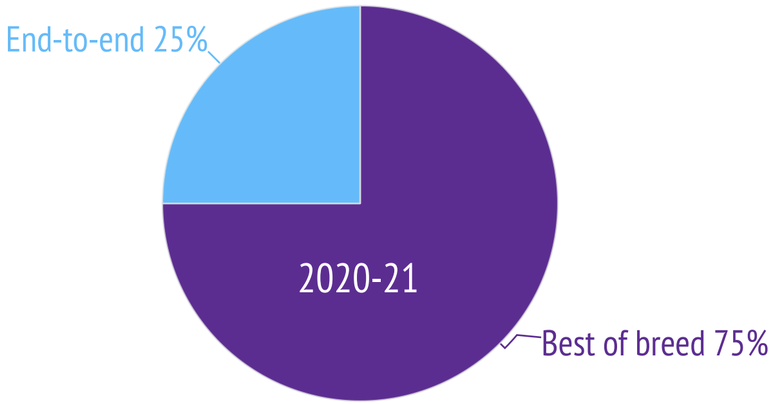
Cloud Adoption Tracker

Media Tech Buying Preferences

According to IABM research, most media companies prefer to avoid dependence on a single cloud provider and choose to build best-of-breed multi-cloud environments. However, the cost of moving content between different cloud service providers' environments and the lack of integration between them makes multi-cloud environments expensive and complex to maintain. To avoid the expensive integration of cloud service providers, some media companies use separate suppliers for different workflows to minimize integration complexity and costs of moving data between cloud vendors.

Share of companies that choose to evaluate multiple suppliers and create "best of breed" over end-to-end solutions





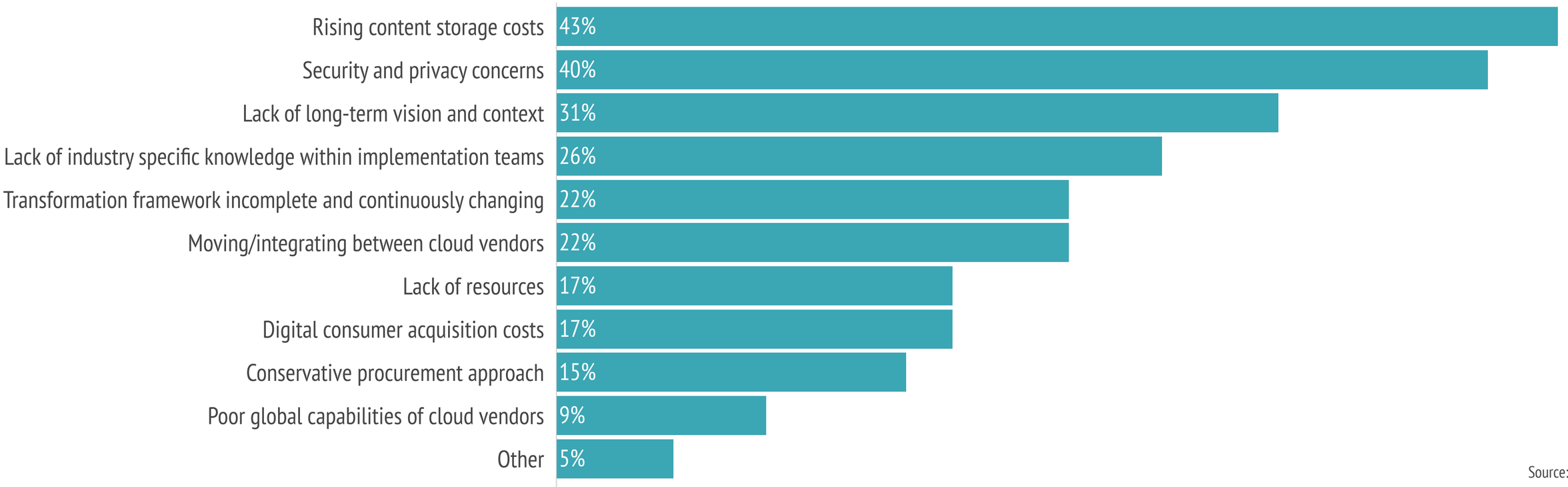
Source: IABM

Cloud Adoption Tracker

Barriers to cloud technology adoption

Both hybrid cloud models and multi-cloud infrastructure lead to increased operational complexity, which contributes to rising costs of cloud deployment due to the fragmented workflows, such as distributed billing systems and technical resources.

Cloud Adoption Barriers



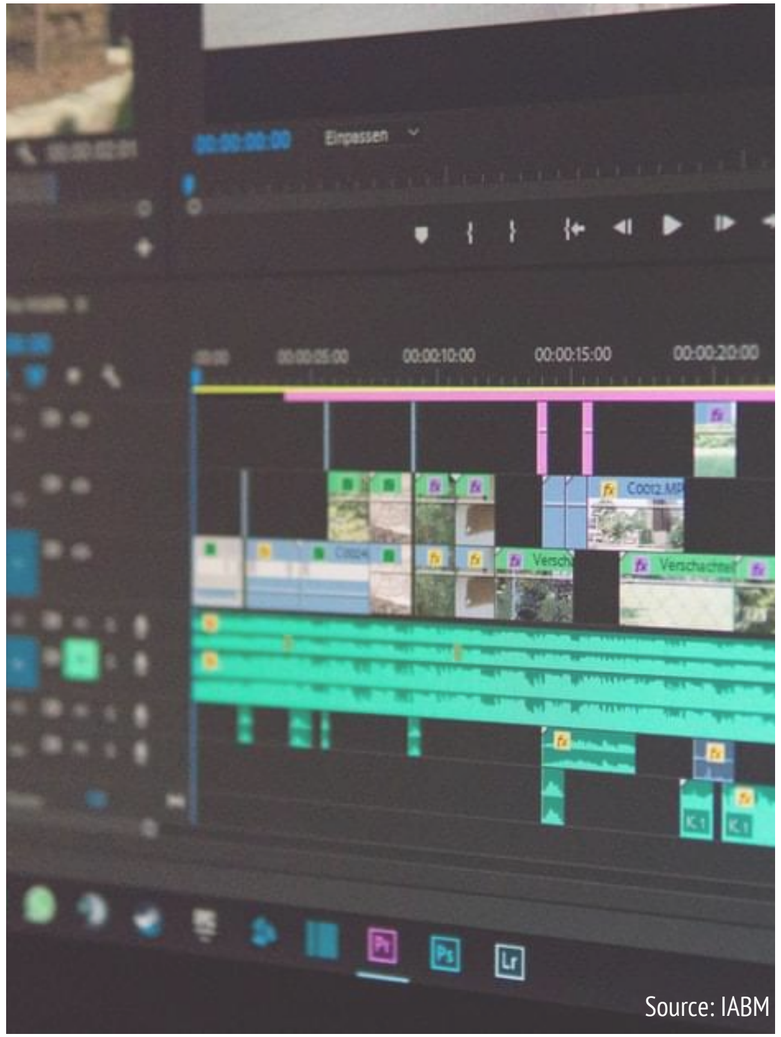
Source: IABM

Cloud Deployments by Content Chain

Cloud Deployments by Content Chain

Cloud in Creating & Producing Content

In Creating & Producing Content, the three main trends for media companies have been the increased reliance on remote editing (often combined with publishing capabilities), the surge of collaborative technologies, and the democratization of professional video production workflows.



Source: IABM

Creating Content

At the beginning of the content supply chain, cloud technology has the potential to streamline production workflows by improving collaboration and decreasing the time to market for content. For example, camera manufacturers have integrated cloud capabilities into their offerings, helping news and sports broadcasters get their content to the market faster. This type of solution allows users to either ingest the content directly from the camera to a cloud-based management system or to stream it live to various platforms like social media and apps.

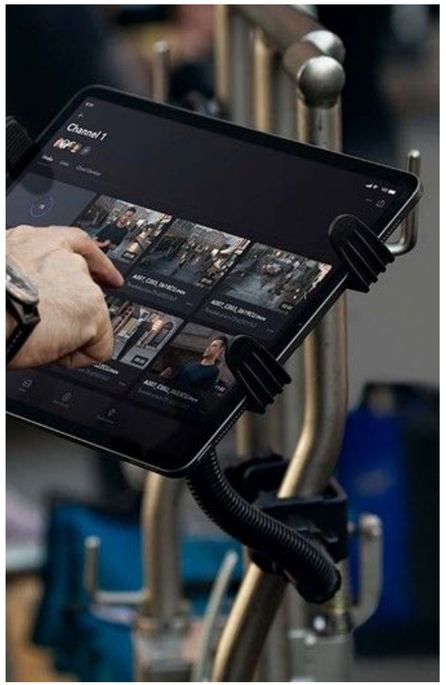
Cloud Deployments by Content Chain

Cloud in Creating & Producing Content

All the major manufacturers have already enabled IP contribution directly from the camera's user interface allowing users to customize parameters in terms of protocols, standards, etc. For example, Panasonic's P2 cameras send low-quality proxies for editing, and then high-quality shots required by the edit decision are transmitted later at higher bandwidth via FTP. Sony's FX9 allows reporters to upload news clips and stream directly from camcorders straight into the studio. In August 2021, cloud-native video editing and publishing platform Blackbird partnered with cloud-based live production platform TVU Networks to simplify camera to cloud workflows along with real-time editing tools.

Frame.io launches video upload technology "Camera to Cloud"

In June 2021, video collaboration start-up Frame.io unveiled a new video upload technology for film production that allows to instantly upload high-quality footage at the speed of consumer video upload by creating "proxy" footage that is much less bandwidth-intensive and can be uploaded via an LTE connection, speeding up production workflows with no delay for the content to be moved on hard drives.



Sources: IABM, frame.io

Cloud Deployments by Content Chain

Cloud in Creating & Producing Content

Cloud has also democratized professional video production workflows and opened new, addressable markets for camera manufacturers.

In news and sports, the cloud, along with smartphones, has enabled broadcasters to crowdsource content from audiences. Video crowdsourcing can be used by a news channel to augment some features of its broadcast or by a sports broadcaster to further engage with fans. The advent of the cloud and smartphones has also allowed the emergence of mobile news journalism. 5G technology is expected to further accelerate remote field production by allowing high-quality content to be transmitted via a single SIM card connection.

Producing Content

COVID-19 has accelerated the move to software and cloud production, which has prompted some suppliers to start offering solutions that cover the end-to-end production workflow – including post-production and content management. For example, in April 2020, the NFL partnered with AWS to produce the NFL Draft remotely. The NFL sent smartphones to participants such as coaches and teams to enable the production. The event reached more than 55 million viewers – a 37% increase YoY.

Source: IABM

Cloud Deployments by Content Chain

Cloud in Creating & Producing Content

Another example is Eurosport, which is currently undergoing a major technology transformation, which includes utilizing cloud and remote technology within a unified production ecosystem to allow it to create and deliver its content to different platforms. Eurosport partnered with Grass Valley for the deployment. Gordon Castle, Eurosport's SVP of Technology, said in the press release: ***"Eurosport's technology transformation is a fundamental part of the evolution of Eurosport business and delivery across both linear and digital platforms, helping us to unify and streamline all our operations. Many of these were previously disparate legacy systems, but now we can leverage content so much more effectively and across the organization, from whichever location our teams operate."***

For the 2020 Tokyo Summer Games, NBC used Avid's cloud technology to produce content both on-site and remotely and to deliver it to various channels, from linear broadcast playout to streaming platforms.

This highlights that one of the main drivers of cloud adoption, even in the sports sector, is moving away from the siloed nature of legacy broadcast infrastructure to a more unified and holistic view of these operations.

Source: IABM

Cloud Deployments by Content Chain

Cloud in Creating & Producing Content

Grabyo partners with AVIWEST to improve remote multi-camera cloud production

In July 2021, Grabyo integrated its cloud video production solution with AVIWEST's video contribution solution to enable content producers to create more live content, deploying less equipment in the field. AVIWEST uses bonded cellular transmitters that combine HEVC coding technology and 5G for live remote production, while Grabyo's platform offers rapid video clipping and editing, browser-based live production, graphics overlays, a configurable multi-viewer, audio mixing, and multi-platform delivery.

Univision partners with Blackbird to increase the efficiency of partner content production

Earlier the same month, Blackbird partnered with Univision to allow their multi-site production team to collaborate using a browser-based Blackbird solution for video editing of large volumes of partner content in the cloud, improving efficiency by saving time and cost.

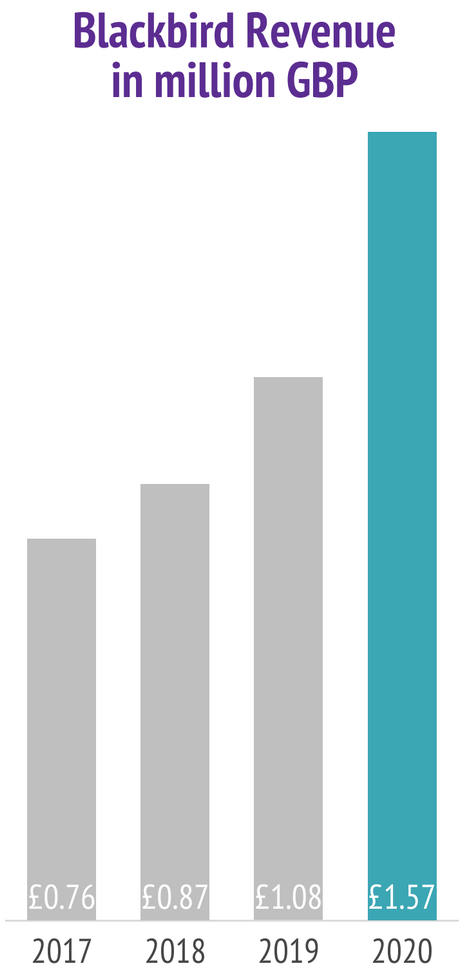
These kinds of solutions democratize professional and remote video production by making these tools available to alternative media technology buyers, who can cover lower-tier events at the same or lower cost.

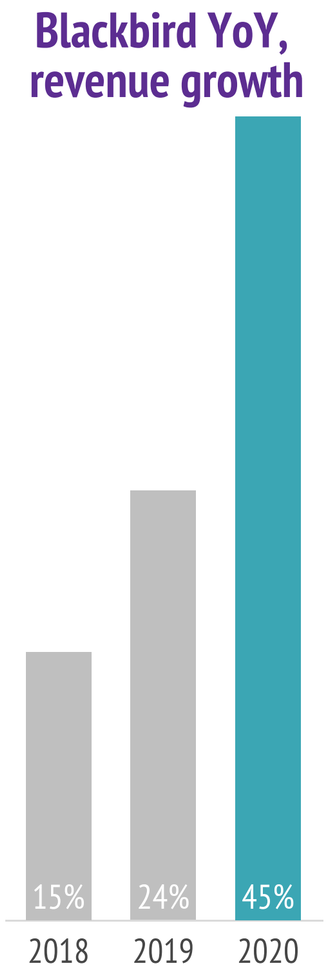
Sources: IABM, Grabyo, Univision

Cloud Deployments by Content Chain

Cloud in Creating & Producing Content

In post-production, the advent of the cloud has been a huge game-changer; it has introduced the possibility to rent resources such as processing power on a “pay-as-you-go” basis without the need to invest in expensive on-prem infrastructure. It has also enabled the rise of remote editing. Some post-production companies have completely relocated from expensive cities and outsourced post-production work to an army of editors available globally. The possibility to collaborate in real-time on the same piece of content has boosted productivity in post-production environments. For example, Blackbird, a supplier of cloud native editing technology, experienced a 45% increase in revenues between 2019 and 2020 despite the difficulties experienced by the sports and production markets, as evidenced by Ian McDonough, CEO of Blackbird. This is an exponential growth, following 15% revenue growth in 2018, followed by 24% growth in 2019. In North America, the growth in 2020 was even steeper, where revenue increased by 107%.





Sources: IABM, Blackbird

Cloud Deployments by Content Chain

Cloud in Creating & Producing Content

At the end of 2020, Blackbird partnered with ObjectMatrix to integrate its MatrixStore cloud storage to address the limited bandwidth available for cloud editing at Blackbird.

Blackbird partners with Athletes Unlimited

Athletes Unlimited, a new women's professional sports league, will deploy Blackbird for video editing of its sports content. The media operations team will have instant access to live and file-based content for editing and publishing of content to different platforms via browser, deployed within an AWS cloud infrastructure.

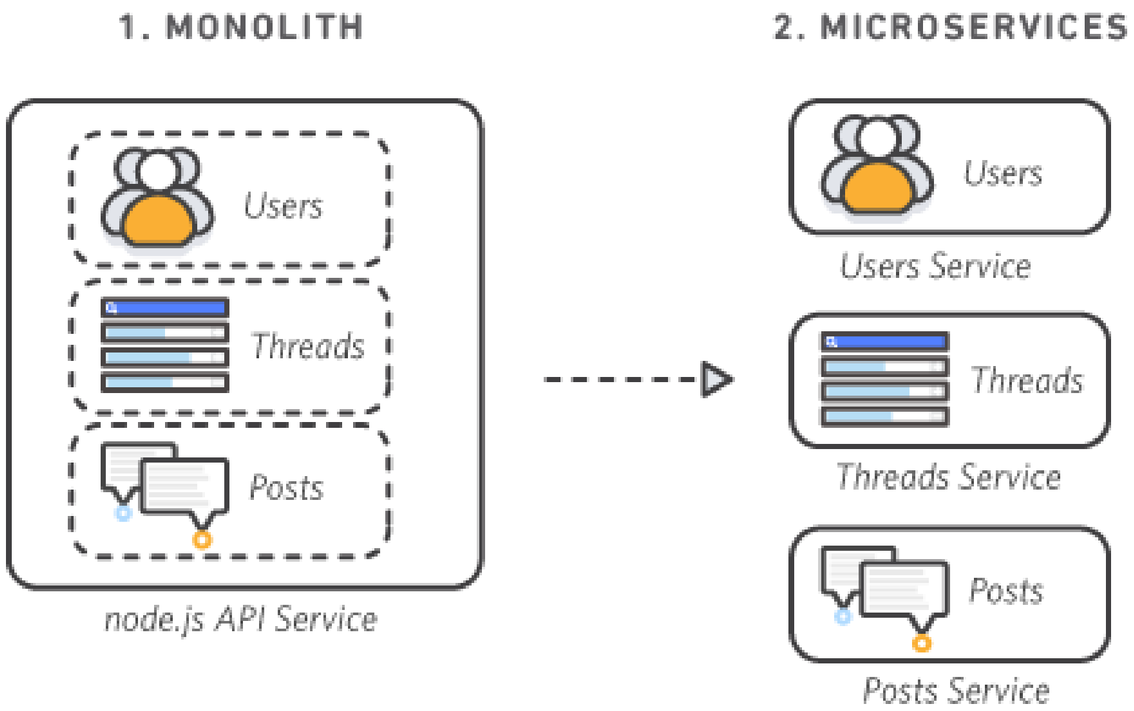
For other technology suppliers in this space such as Avid, cloud-based revenues soared while legacy product offerings shrunk during 2020.

Sources: IABM, Blackbird, Athletes Unlimited

Cloud Deployments by Content Chain

Cloud in Creating & Producing Content

The increasing requirement for customization of these strategic systems has driven a rise in in-house developments (BIY) of media asset management systems. According to IABM Media Tech Business Tracker's latest data, most technology buyers plan to focus their in-house technology investment on the Produce and the Publish part of the BaM Content Chain®. Customization is often achieved through microservices, which allow users to build services as a suite of separate applications, thus guaranteeing operational flexibility and scalability.



Sources: IABM, AWS

Cloud Deployments by Content Chain

Cloud for Managing & Moving Content

In Managing & Moving Content, media companies have mainly focused their investment on an infrastructure that enables remote collaboration and content transport, as well as on digital archiving to enable remote content access and editing to a distributed workforce.

Managing Content

According to IABM data, Manage is the top area of application for cloud technology representing almost half of the companies that have adopted cloud technology, mainly driven by the search for efficiency. Efficiencies gained in media asset management (MAM) systems can translate into widespread savings throughout the content chain. For example, workflow orchestration can drive efficiencies in other functions through business rules that flexibly align costs with demand. Although workflow orchestration and media asset management have been historically separated, there is a trend towards making them work together more closely as the data produced by asset management systems can drive more effective business rules.

Source: IABM

Cloud Deployments by Content Chain

Cloud for Managing & Moving Content

Over the past few years, many suppliers in Manage have rolled out cloud-based, “pay-as-you-go” solutions to guarantee their customers more flexibility compared with fixed price models as well as having increased collaboration. Several MAM suppliers have teamed up with cloud storage and management specialists to offer end-users a combined product. One of the notable examples of such collaborations is the 2021 Bundestag election – the event for which CBC (the production and technology company of Mediengruppe RTL Deutschland) collaborated with LiveU and Blackbird. RTL Deutschland has chosen LiveU Matrix IP cloud-based management and distribution platform for dynamic live news content sharing, as well as cloud-native video editing and publishing platform Blackbird, to cover the 2021 German federal elections in September.

> *On our real-life entertainment channels, the ones that don't have very much live content, we today already have hundreds of channels running in the public cloud. They run very successfully, very reliably, at a lower cost of operation with greater resiliency than we've ever had before. In the live spaces, we use what we call a private cloud for live production. We are centralizing our technology into two data centers (...) It's about high-end, real-time live sports production; no latency, ease, immediate access to content for all of our users. And that's truly enabling and needed for sports. But the next transition will be to do that in the public cloud.*
>
> ***Jens Schilder,***
> *Project Manager CBC*

Sources: IABM, Blackbird, CBC

Cloud Deployments by Content Chain

Cloud for Managing & Moving Content

According to our data, end-users are becoming more willing to connect small pieces together than before when it comes to customization. This is largely due to the fact that technology buyers increasingly want to only pay for what they actually use. Simultaneously, they are concerned about the long-term costs that may come along with huge MAM systems and prefer to invest in lighter solutions like containers and microservices, which also provide end-users with flexibility and independence to move metadata around different media processes. The use of such lighter solutions – containers and microservices – also enables technology buyers to build object storage within a public cloud or archive of their choice. A recent example of microservices deployment is Sony's Media Solutions Toolkit – a new suite of cloud-based microservices that allow media companies to customize technology solutions to their specific production, workflows, and management needs. The product consists of a set of cloud-native services that are independent of each other, leading to greater flexibility and scalability.

Discovery and FOX were among the first end-users that virtualized their infrastructures. For FOX and Globo the move to cloud was accompanied with AI/ML and analytics capabilities of cloud computing.

Source: IABM

Cloud Deployments by Content Chain

Cloud for Managing & Moving Content

2018 - Discovery

*"Move to cloud-based playout was **part of a broader strategy to virtualize Discovery's entire content supply and delivery chain**… The main driver [for on premises] was access to satellites, but the cloud makes geography irrelevant".*

2019 - FOX

Fox's transition to the cloud included the **move of its media supply chain for linear and digital delivery** as well as the **increasing reliance on analytics services.**

2020 - ViacomCBS

ViacomCBS **migrated its entire broadcast infrastructure to the cloud**, including 425 linear TV channels and 40 global data and media centers.

2021 - Globo

Globo's transition to the cloud included the **migration of 100% of its data centers to the cloud** as well as the **increasing use of machine learning** services.

Source: IABM

Cloud Deployments by Content Chain

Cloud for Managing & Moving Content

Moving Content

Media organizations are increasingly adopting a hybrid cloud model, where acceleration technologies from vendors such as IBM Aspera® and Signiant enable workflows to leverage off-site resources. Cloud providers are actively offering solutions that are specifically designed for transferring large video files in hybrid and multi-cloud environments. For example, in November 2018, AWS Elemental launched its MediaConnect service for the secure transport of cloud-based IP content. Early adopters of this service include Discovery, ITV, UK-based infrastructure and broadcast facility Arqiva, and US-based sports network Pac-12. In March 2021, AWS Elemental MediaConnect added support for SRT live video transport protocol, and later in May, it also added support for Cloud Digital Interface (CDI) and JPEG XS technologies.

Network 10 Australia, Video Transport for Remote Production

In November 2019, AWS announced that Network 10 – one of Australia's largest television networks – had adopted AWS Media Services to support its video transport structure for remote production in South Africa for Network 10's upcoming season of a reality TV series and to improve the streaming delivery for its live-streamed sports and shows. According to the broadcaster, deploying AWS's cloud solution will reduce its production turnaround window from overnight to less than two hours – and in some cases to only a few minutes.

"By working with AWS, we have been able to speed up this process [of innovating] and deliver more content, and more importantly, richer content for production and advertisers."

Jason Tuendemann,
Chief Information & Technology Officer, Network 10

Sources: IABM, Network 10 Australia, AWS

Cloud Deployments by Content Chain

Cloud for Managing & Moving Content

According to IABM research, end-users have a strong preference for multi-cloud workflows in order to avoid lock-in to one single cloud vendor and to leverage best-of-breed solutions. A multi-cloud infrastructure also provides a higher degree of storage independence, which is critical for many buyers who need to transfer large data volumes quickly. However, the so-called egress charges represent a constraint to implementing multi-cloud workflows. In broadcast and media, egress charges may be substantial given the large volume of data, particularly as the industry moves to immersive formats. Most end-users are addressing this issue by using separate cloud service providers, side by side, for different sets of workflows (e.g., video and data-driven workflows).

Cloud service providers and cloud-based suppliers have launched an initiative to try to address the issue of egress charges. In September 2018, a group of ten cloud and networking companies launched the Bandwidth Alliance – an initiative to discount or waive data transfer fees for shared customers through a common agreement. The Bandwidth Alliance's members include many of the major cloud service providers such as Google Cloud Platform (GCP), Microsoft Azure, Alibaba Cloud, and Tencent Cloud, with the exception of AWS.

Sources: IABM, The CloudShare Blog

Cloud Deployments by Content Chain

Cloud for Managing & Moving Content

01/2019

AWS acquired a cloud migration tool provider, TSO Logic, which develops analytics tools to optimize cloud migrations and AWS workloads, including cost modeling and total cost of ownership-related data analysis.

02/2019

Google announced that it had acquired cloud migration start-up Alooma, whose data pipeline technology enables buyers to move their data from multiple sources into one data warehouse. According to Google, Alooma's expertise in both open-source and enterprise databases adds new migration capabilities within the Google Cloud Platform

09/2019

Microsoft acquired a cloud migration start-up, Movere. Its platform enables buyers to assess how data center tools are used and then recommends the best options to move into the public cloud. Some media companies like 21st Century Fox are already using Movere's solution to plan and optimize their cloud migrations.

Sources: IABM, AWS, Google, Microsoft

Cloud Deployments by Content Chain

Cloud for Managing & Moving Content

Storing Content

The cloud enables the use of more flexible and efficient hybrid storage infrastructures as well as elasticity to handle fluctuations in media companies' capacity needs. With media assets continually growing bigger, cloud storage is transitioning to a hybrid deployment model, shifting as much as possible of variable capacity to the cloud.

The leading public cloud storage service providers today include AWS, Google Cloud, and Microsoft Azure, and pricing varies by volume, region, and incremental costs for individual operations (e.g., transfer, retrieval). They also offer acceleration solutions to allow buyers to move their data into backup storage buckets during off-hours to keep the network freed up when creative staff is at work, addressing the network latency and congestion that typically occur when moving large data sets to/from cloud storage. This is the key to disaster recovery as well. End-users are becoming increasingly sophisticated in their storage decisions and are looking to have cloud and on-prem storage tied seamlessly together in hybrid architectures.

Source: IABM

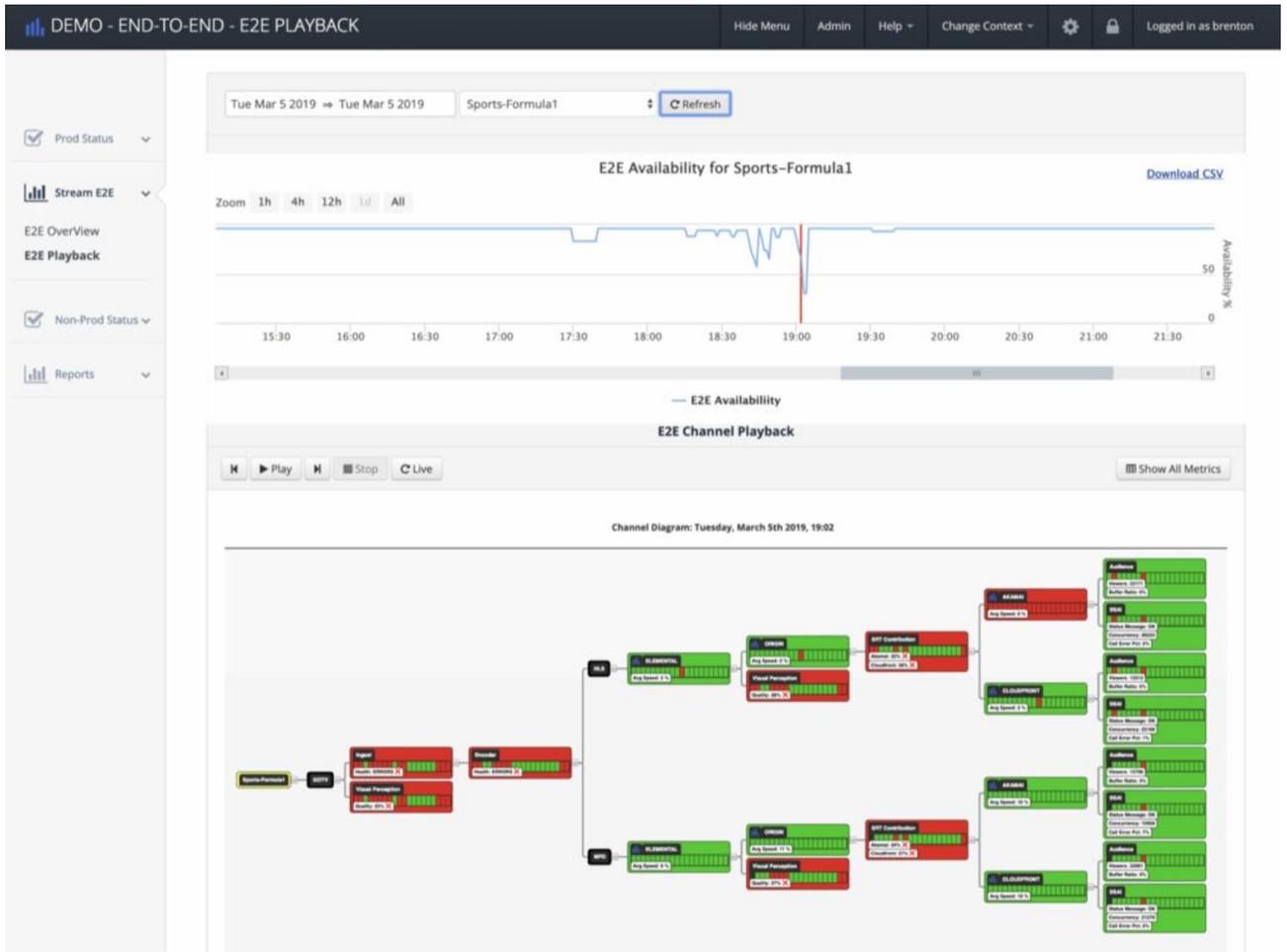
Cloud Deployments by Content Chain

Cloud for Managing & Moving Content

Supporting Content

Cloud-based monitoring and platform management services are increasingly popular among media companies; moving to multi and hybrid cloud environments requires a new type of support due to the sheer complexity of multi-cloud management.

Many OTT providers are adopting cloud-based monitoring services such as Touchstream's StreamE2E end-to-end solution providing a clearer picture of the users' entire workflow, including data from a variety of third-party components. Sky, Comcast, Viaplay, and Seven West Media are already using Touchstream's StreamE2E.



Sources: IABM, cloud.google.com, Touchstream

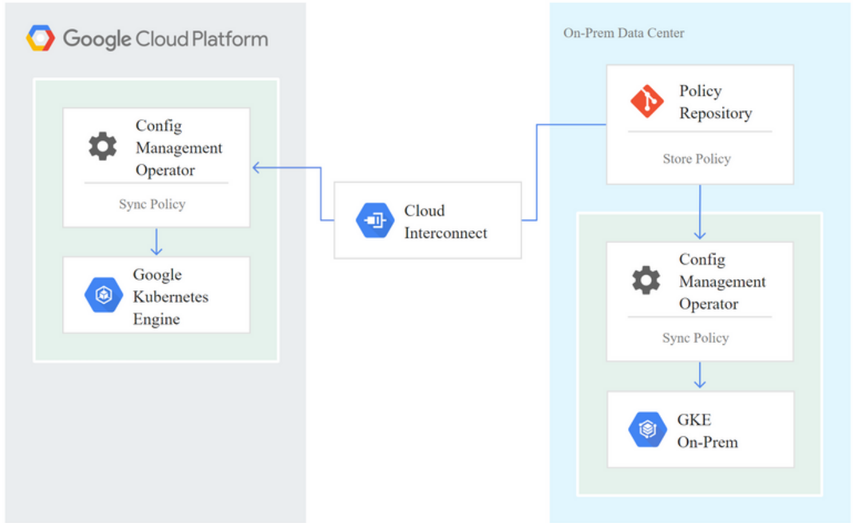
Cloud Deployments by Content Chain

Cloud for Managing & Moving Content

As modern cloud applications are built from containers and microservices, the focus of cloud management is gradually shifting from infrastructure-as-a-service (i.e., IaaS) to containers-as-a-service (i.e., CaaS), led by Kubernetes, an open-source management platform for containerized workloads and services. Google's Anthos – a Kubernetes-based suite of Google Cloud Platform components – is an interesting, recent development in multi-cloud management because it allows end-users to run applications on-prem in Google's public cloud as well as to manage workloads on third-party clouds such as Azure and AWS.

As an alternative to Kubernetes, at the Huawei Developer Conference 2021, Huawei Cloud and other enterprises jointly released the open-source, cloud-native, multi-cloud container orchestration project Karmada.

kubernetes



Sources: IABM, cloud.google.com

Cloud Deployments by Content Chain

Cloud for Managing & Moving Content

In a multi-cloud environment, cyber-security becomes extremely important. The broadcast and media industry suffered 17 billion credential stuffing attacks in 2018-2019, and 20% of the 88 billion total credential stuffing attacks recorded in 2018-2019 were against media companies. These numbers have only been rising throughout 2020 and 2021.

April 2015

TV5MONDE

A fishing cyber-attack on French international channel TV5Monde nearly destroyed its entire infrastructure. It cost $5.6 million initially and $3.4 million every following year for protection.

October 2019

A ransomware attack on one of France's largest multimedia group, M6

August 2019 - January 2020

svt

DDoS attacks experienced by the Swedish public broadcaster SVT, Serbia's independent N1 TV channel, a CNN affiliate, and Ukraine's Black Sea TV among others.

15 July 2020

A spear-phishing attack on Twitter compromised accounts of Barack Obama, Bill Gates and Elon Musk, resulting in stealing over $118,000 worth of bitcoin.

25 April – 5 August 2020

WARNER MUSIC GROUP

Warner Music Group discovered that several of its e-commerce websites had fallen victim to a three-month Magecart skimming attack

August 2020

Canon

Canon had been attacked by Maze ransomware and threat actors stole data from its company servers. Total stolen data was around 10TB.

March 2021

Australian's Channel Nine has been subjected to a cyber-attack

June 2021

COXMEDIA GROUP

Sources: IABM, Akamai Technologies

Cloud Deployments by Content Chain

Cloud for Managing & Moving Content

Cyber-attacks on Australia's Channel Nine and Cox Media Group in 2021, as well as earlier attacks on media companies, including Twitter, Warner Music Group, and France's largest multimedia group M6, among others, have made media companies augment their cyber-security capabilities. However, according to the European Broadcasting Union (EBU), broadcasters are still failing to take adequate measures to mitigate the risk of cyber-attacks.

In 2019 and 2020, M6, Swedish public broadcaster SVT, Serbia's independent N1 TV channel, and Ukraine's Black Sea TV reported that they were the targets of cyber-attacks. While cloud-based platforms enable collaboration from different locations, people working from home and from different regions may end up being potential security threats.

Cloudflare announced in January 2020 that it would collaborate with a non-profit organization, Defending Digital Campaigns (DDC) – accredited by the US Federal Elections Commission – on cyber-security products, services, and information for the 2020 US Presidential campaigns to help different political organizations to better defend against cyber-attacks and election interference.

Sources: IABM, BBC, TV5

Cloud Deployments by Content Chain

Cloud for Distributing Content

In Distributing & Monetizing Content, the main trend has been the surge in streaming consumption, which has forced media companies to invest in infrastructure, including the cloud. Another notable trend is the focus on user interface and data analytics solutions.

Publishing Content

Our data shows that Publish is the third most important supply chain block in terms of cloud-based technology deployments; 41% of respondents say that they are most likely to deploy cloud in Publish-related operations such as publication, playout, and distribution of linear and non-linear content.

The adoption of cloud technology enables end-users to deliver content to hundreds of distribution platforms across traditional broadcast, OTT platforms, and mobile devices. For example, a recent partnership of Amagi and Google Cloud will allow traditional broadcasters and OTT media companies to distribute linear channels on Google Cloud. Cloud playout also allows broadcasters to roll out new channels quickly on an OPEX basis rather than investing in hardware. The ability to implement changes on the go helps broadcasters to react to new market conditions, localize their content better and deliver personalized programming.

Source: IABM

Cloud Deployments by Content Chain

Cloud for Distributing Content

Sinclair Broadcast Group has unveiled a new media operations center for its regional sports networks with cloud-hosted disaster recovery channels and a large-scale SMPTE ST-2110 production facility for its Tennis Channel featuring a cloud-based environment for pop-up live special events, deployed with Imagine Communications infrastructure.

NBC Olympics deploys Amagi CLOUDPORT and the live sports/news automation solution, Amagi LIVE provided UHD playout of the 2020 Tokyo Summer Games with cloud automation. Olympic Broadcasting Services (OBS) partnered with Alibaba Cloud to create a cloud-based sports broadcasting platform to provide remote broadcast services to all broadcast engineers needing support with their on-site activities. Such solutions also reduce costs and enable live coverage of more small-scale sporting events. The OBS Cloud supported the first-ever live coverage of the Olympic Games in UHD/HDR, enriched with sports highlights packages, behind-the-scenes clips, and VR effects.

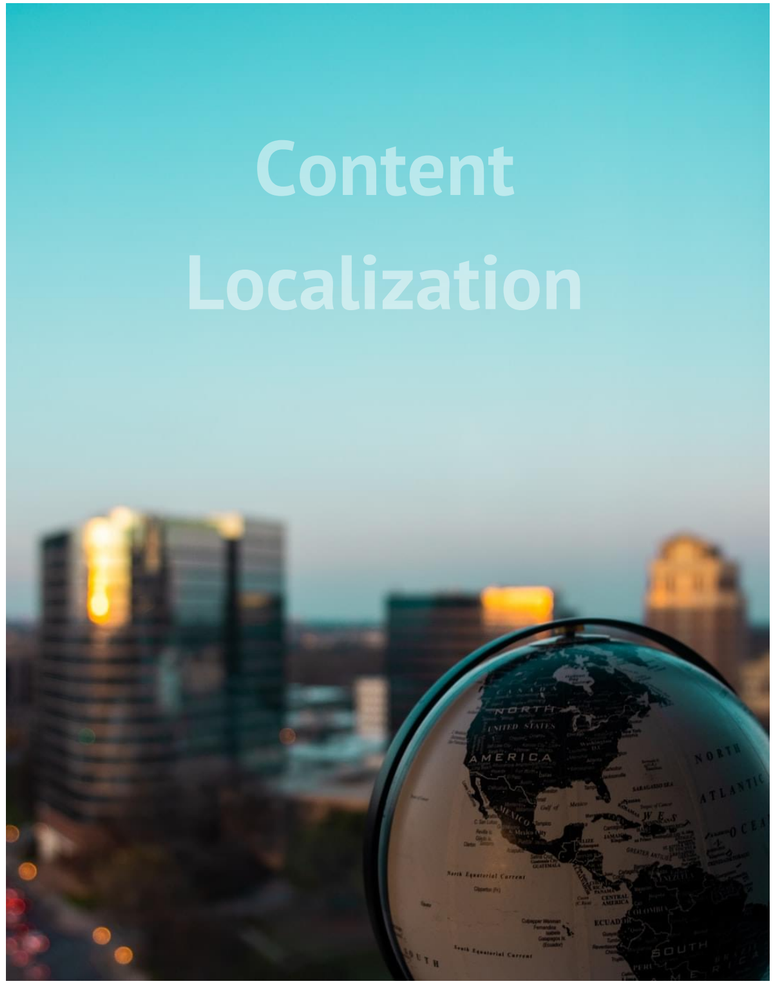
Sources: IABM, OBS

Cloud Deployments by Content Chain

Cloud for Distributing Content

Monetizing Content

Over the past few years, localizing services have become increasingly important as media companies continue to enter new markets. For example, in the OTT space, DAZN and Channel 4 have turned to M2A Media and deployed its AWS Cloud-hosted M2A Live Streaming solution, which allows them to customize a live event for a specific audience based on live audience size, local bandwidth, DRMs, frame rates, and devices. In 2019, DAZN launched a virtual development center in the Netherlands and a virtual production facility in Spain, enabling DAZN to produce more localized content related to its premium sports rights. Even though our data shows that end-users still see Monetize as one of the least likely supply chain areas in which to deploy cloud-based technology, the adoption of cloud can significantly increase monetization opportunities hand in hand with the development of AI/ML offerings allowing personalization of ads.

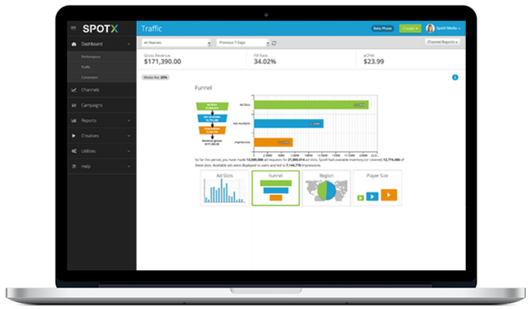


Sources: IABM,

Cloud Deployments by Content Chain

Cloud for Distributing Content

In 2021, RTL sold its programmatic advertising platform **SpotX** to US online advertising group Magnite for $1.17 billion, creating the largest independent company that specializes in programmatic advertising for connected TV.



Amazon launched its first media-specific cloud-based toolbox, AWS Elemental Media Services, in 2017. One of the key services of the toolbox is AWS Media Tailor, a monetization service consisting of dynamic ad insertion, targeted advertising, and viewer behavior analytics.

Netflix has been using the AWS cloud services since 2008, after entering the streaming market in 2007. Today, Netflix uses AWS for nearly all of its computing, monetization, and storage needs, including databases, analytics, and recommendations engines. According to Amazon, Netflix is nowadays using over 100,000 AWS server instances.

Source: IABM

Cloud Deployments by Content Chain

Cloud for Distributing Content

Consuming Content

In Consume, the most interesting cloud deployments relate to consumer-facing interfaces. While broadcasters and media companies continue to adopt cloud services for VOD, OTT, and TV everywhere services, content owners and infrastructure providers are increasingly interested in Cloud TV, which provides a new path to the market on a global scale. Simultaneously, telecom operators (telcos) are increasingly investing in 100% cloud-based services to compete with broadcast and media companies.

Source: IABM

Cloud Deployments by Content Chain

Cloud for Distributing Content

Recently, Pay-TV operators have embraced a cloud-based user interface (UI) model that allows them to quickly respond to changes in viewing habits and deliver to new viewing platforms. The user experience (UX) is delivered by a user interface (UI). A Cloud UI can support the full end-device ecosystem, including tablets and mobiles. The ability to present a different UI for each device gives more options to Pay-TV operators to better suit viewing habits. It provides UX choice for each device or user and the flexibility that brings greater customer satisfaction by providing personalization and content recommendations.

Kaltura Cloud TV Platform, Personalizing UX

The Kaltura Cloud TV Platform – a modular video platform that supports cloud TV services to over 50 million viewers globally – features personalized multi-screen access to linear, on-demand, and time-shifted TV as well as third-party content. In 2018, Viacom18's VOOT Cloud TV service announced that it was using Kaltura to support its growth by boosting engagement and interactivity. In 2019, Kaltura announced that its' Kaltura Cloud TV technology is supporting the launch of Vodafone TV in Greece, Portugal, and Romania. Vodafone claims that in this way, it can launch Vodafone TV in a new country in about seven months. On 21 July 2021, Kaltura became a public company.

Source: IABM, Kaltura