



Charting the uncharted - Plotting the course for the Media Technology industry

#IABMReport



Report Contents



Introduction



Industry at a Glance



Charting Media & Technology Drivers of Change



Charting Content Supply Chain Investment



Charting Media Technology Adoption

This report and all of the accompanying text, graphics, charts and tables is copyright and may not be reproduced in any way either in part or as a whole without the express prior written permission of IABM.



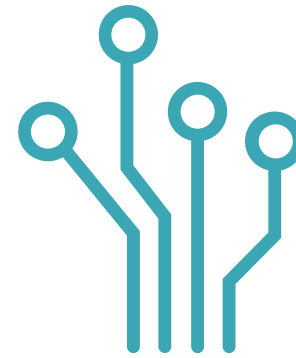
Introduction

Strategic Industry Analysis

This report aims to give users a strategic analysis of the broadcast and media technology industry, identifying the key trends driving change in the sector in this period of enormous disruption due to the Coronavirus pandemic.

We provide a variety of information, including major trends in broadcast and media, financial indicators and technology adoption trackers to give a comprehensive overview of the state of the industry.

The information analyzed in this report is derived from both quantitative and qualitative research carried out by IABM.



”

While I am confident we will get through this challenging period together and emerge even stronger, we must take necessary steps to manage the short- and long-term financial impact on our company

Bob Chapek, CEO, Disney



Introduction

Charting the Uncharted

IABM carried out in-depth industry research to identify long-term industry drivers of change between March and April 2020. We believe that these media and technology drivers of change have all been accelerated by the Coronavirus pandemic, which is why we have decided to report them in this special edition of our Special Reports titled “Charting the Uncharted.” This edition focuses on charting the impact of the pandemic on the industry’s long-term drivers of change, on content supply chain investment and media technology adoption. We have carried out extensive research in the last few months to understand and chart this uncertain impact. Our objective is to provide IABM members and Global Engaged Partners with the most up-to-date market information to understand where the industry is going now and in the future.



Industry at a Glance

Brave New Digital World

The pandemic has dropped a digital bombshell on the media industry. Most companies have had to bite the bullet to defend their positions and accelerate their move to direct-to-consumer models. Only a few digital players have benefited from the effects of pandemic-induced lockdowns, both on the demand and on the supply side of media technology. In the long-term, the expedited move to digital business models may produce a polarization of the sector's already changing fundamentals. The industry-wide acceleration of established technology transitions is also set to change this industry forever, probably for the better. The pandemic has wiped out any concerns related to the adoption of digital tools and skills. It has also cemented the new relational dynamics between users and providers of media technology. Prepare for a brave new digital world to emerge after this pandemic has run its course.

This Special Report is based on hard data obtained and analysed by IABM's Business Intelligence Unit, backed up by quantitative and qualitative information and commentary from key players across broadcast and media industry. It provides authoritative, actionable insights into the way our industry is transforming, as well as pointing the way forward for its continued success.

The IABM Business Intelligence team would like to take this opportunity to wish everyone good health – and a speedy recovery if you are unfortunate enough to be affected by the Coronavirus.

About IABM Business Intelligence Unit

The Team



Lorenzo Zanni, Head of Insight & Analysis



Riikka Koponen, Principal Analyst



Olga Nevinchana, Senior Analyst

Contact us at:

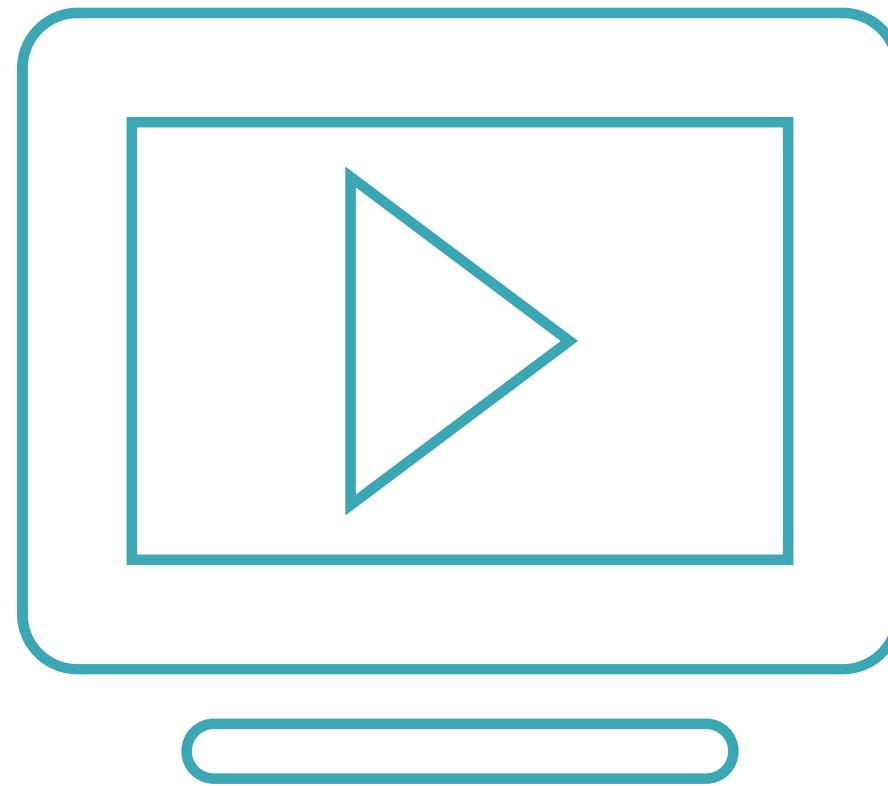
insight@theiabm.org



You can share your feedback on our report using this short [form](#). This will help us understand what we can improve

Charting Media & Technology

Drivers of Change



Comment from IABM CEO

Embracing change

”

It is clear from this report that the coronavirus pandemic has compressed fundamental changes that were already slowly underway in the industry into just months or even weeks. Charting the Uncharted identifies this multi-dimensional change that is impacting Broadcast and Media fueled by the move to direct-to-consumer (DTC) business models across the industry. The propellants include the changing role of technology, the move to as-a-service, insourcing and a new generation of IT and environment-aware talent.

The coronavirus pandemic and ensuing lockdowns have driven digital subscriptions massively upwards, while traditional Pay-TV and advertising-based business models have been hit hard – especially so in relation to cancelled live sports programming. Stay-at-home mandates have also caused a fundamental shift in working patterns – and massively accelerated the industry’s previously pedestrian progress towards dematerialized operations in the cloud, underpinned by as-a-service technologies and business models.

To survive the storm, traditional broadcasters have moved rapidly to supplement their output with DTC offerings, and to search for the necessary scale to compete with the digital giants through acquisition or consolidation as well as increased investment in content. The move to DTC with its thinner margins also requires increased efficiency and agility, producing a greater focus on business models. Technology has become merely an enabler for those business models, and broadcasters are increasingly turning to insourcing for better control and responsiveness. The new skills required are often being recruited from outside the industry, with traditional broadcast engineering skills becoming less and less in demand.



Peter White
CEO
IABM

Comment from IABM CEO

Embracing change (Continued)

”

At a time when we are all working so hard just to keep up with the transformational changes going on all around us, Charting the Uncharted gives us a unique opportunity to stand back and take a look at the bigger picture. But making these fundamental changes to how a business operates to meet the demands of the marketplace and wider ecosystem really comes back to one thing: people - people working together with a like mind and aligned purpose and belief.

If you were used to working in a particular way and your business has been around for some time, then practices and procedures become second nature – ingrained in the company culture. And sometimes it's difficult to move your organization into a new era and a new way of working because of not only just hearts and minds being in a different place, but also legacy practices, familiarity and sheer force of habit. This is why new organizations coming into a market are much more agile and seem to be much more on point, without any legacy - without a tradition of doing things in a particular way.

They say “old habits die hard” but die they must if we are to transform ourselves, make ourselves ready for success and continue to compete. With the industry moving to direct-to-consumer, digital and service-based models, both sides of the industry need to transform themselves in a careful balancing act between legacy and new.

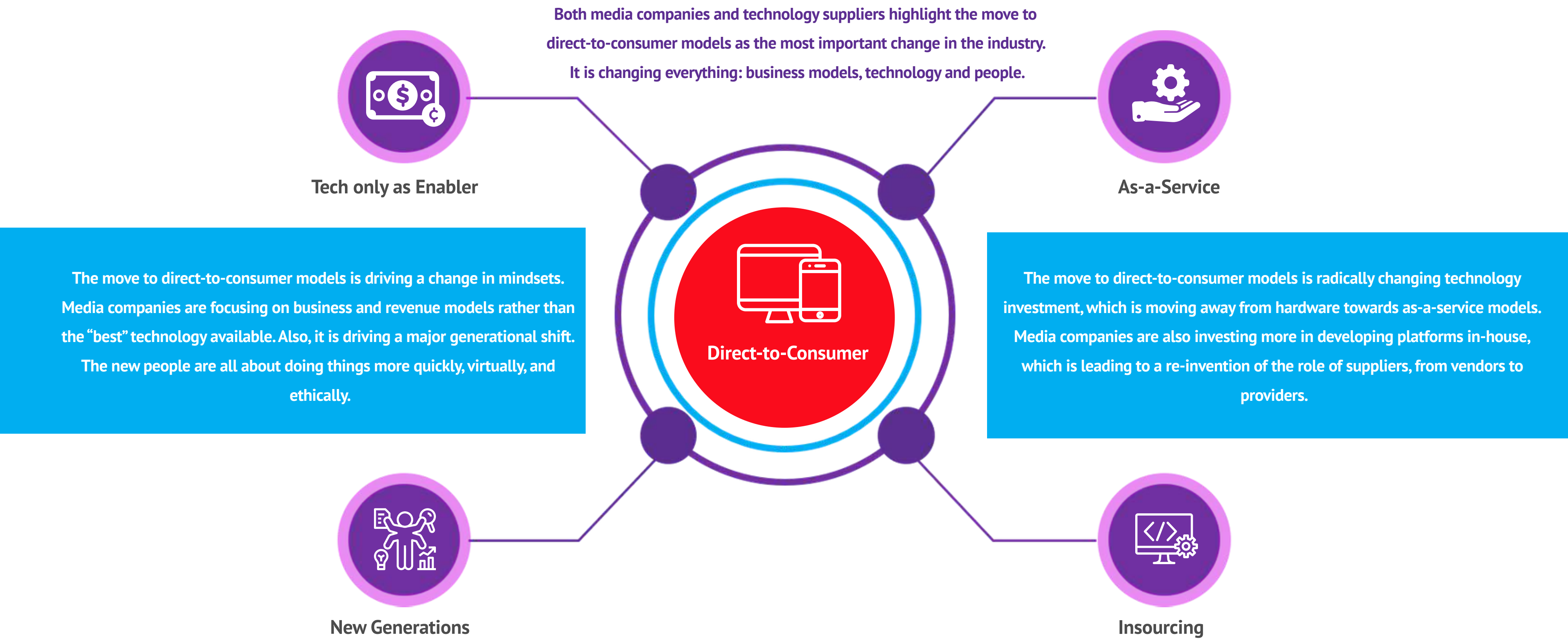
Charting the Uncharted gives us the information we need to measure what are we doing, how we do it, and why are doing it against the whole industry background. It is brim full of fact-based insights and I would say it is essential reading for everyone in the industry.



Peter White
CEO
IABM

Drivers of Change

Forces Disrupting the Media & Technology Industry



Drivers of Change

Forces Disrupting the Media & Technology Industry



Direct-to-Consumer

The pandemic has dropped a digital bombshell on the media industry. Most have had to bite the bullet to defend their positions and accelerate their move to direct-to-consumer models



Tech only as Enabler

The shutdown caused by the pandemic has forced media companies to increasingly see technology only as an enabler of business continuity and future business models



As-a-Service

The pandemic has accelerated media companies and technology suppliers' transition to as-a-service technology business models out of pure necessity



Insourcing

Despite the shutdown caused by the pandemic, media companies still want to control technology roadmaps through insourcing and direct technology investment in suppliers



New Generations

As media companies accelerate their digital transformation, new generations of media and technology professionals are emerging

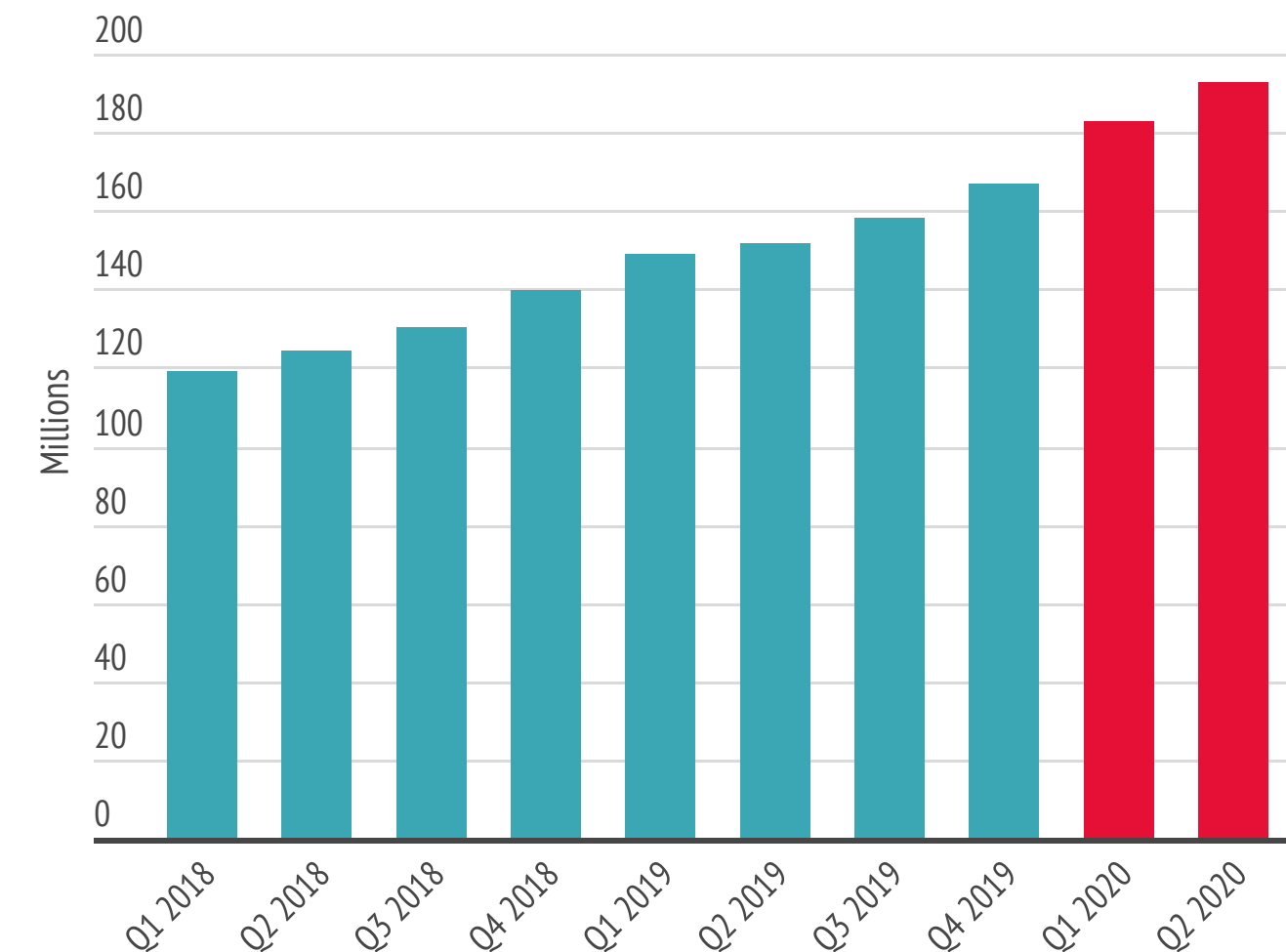
Direct-to-Consumer

Brave new digital world

The lockdowns in the second quarter of the year have driven digital services consumption worldwide while putting the industry's traditional revenue sources under pressure. Netflix added about 26m subscribers in two quarters while Disney signed up almost 30m between March and August. This is a big deal as it is making media companies increasingly focus on their already established move to direct-to-consumer business models. While streaming services reaped what they had sown in recent years, most media organizations were hit hard by pandemic-induced shutdowns. The worst-hit sides of the media business have arguably been sports and commercial broadcasting due to the cancellation of events and the slump in advertising spending, respectively. The common denominator in all these different sectors has been the move to digital workflows and remote working, which has accelerated established technology transitions but may have also produced a long-term polarization of the media industry.



Netflix' Subscribers, Q1 2018 - Q2 2020

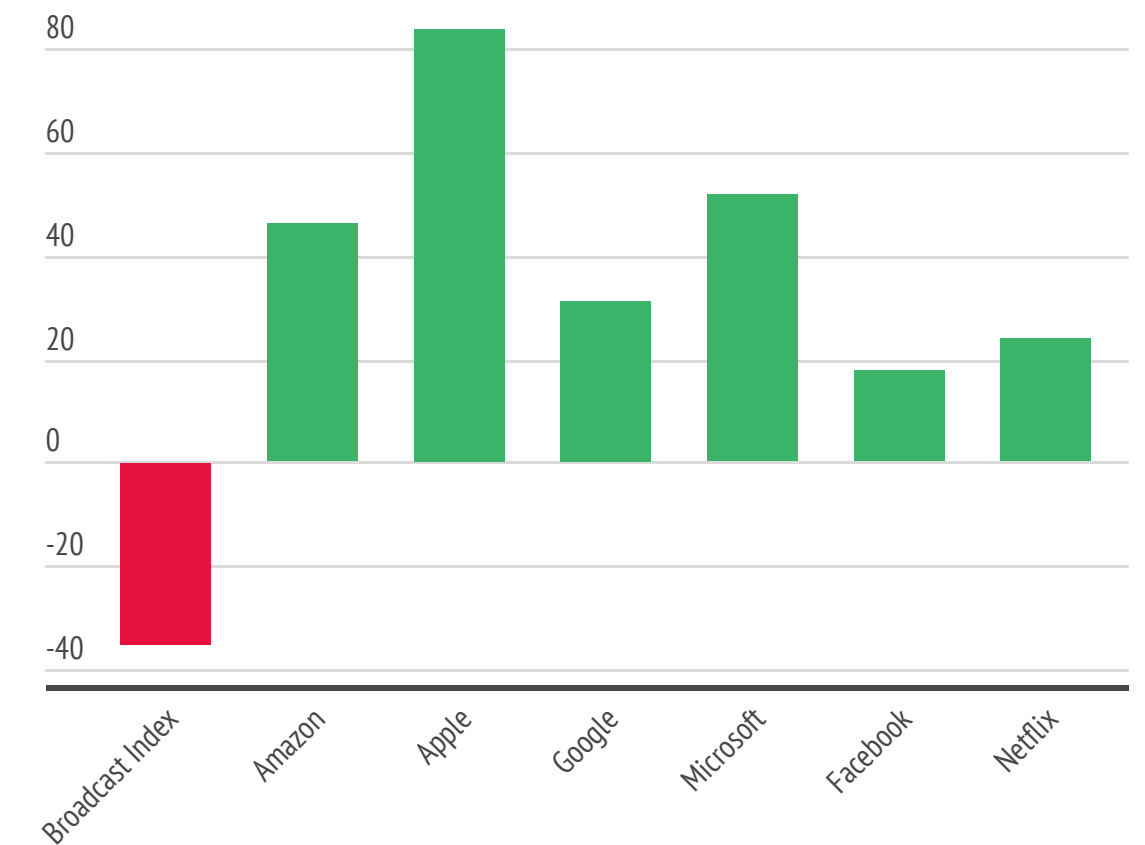


Direct-to-Consumer

Sectoral polarization

The pandemic has exacerbated the divide between large digital businesses and the rest of the pack. The changing perception of large technology giants is indicative of this polarization. Before the pandemic hit the world, their role and actions were being questioned by regulatory bodies worldwide - they still are now. After the pandemic hit, technology giants' digital services were hailed as salvific along with smaller providers' platforms such as Zoom's. This has been reflected by their soaring market valuations vis-à-vis other players in different industries. In the media industry, the pandemic has produced temporary effects – i.e. the different fortunes of the news and sports sectors – but has more importantly accelerated lasting and structural changes. It has rewarded organizations that had invested in digital technology in recent years while acting as a wake-up call for laggards. It has also highlighted the resilience of subscription businesses, both on the demand and supply side of media technology. We see this as just the beginning of an even more turbulent chapter for the media industry.

% Change in Monthly Closing Stock Prices (June 2019-2020)



”

As a commercially funded business, the Covid-19 outbreak has had a severe impact on our advertising revenues. And so we are taking action now to manage our costs appropriately and ensure that we both protect our staff and our ongoing ability to serve our audience

Alex Mahon, CEO, Channel 4

April 2020

Direct-to-Consumer

The calm before the storm

Far from us to say that this has been a calm period, but we do see the recent changes as being precursors of even bigger developments for the media industry in the next few years. Consumers, who have become more digital-savvy in recent months, will increasingly move away from traditional distribution platforms. This will prompt media companies to dedicate even more resources to digital and increasingly search for the scale needed to compete in this arena. Joint streaming and advertising initiatives will continue to act as a collective defense mechanism for small, local broadcasters while consolidation may make a comeback as soon as the financial dust settles. Original content investment, which has been slowed down by the lockdowns, should also make a comeback as it remains a formidable weapon in digital warfare. Finally, from a technology sourcing perspective, most media companies have told us that they will not go back to the way things were pre-pandemic, which will inevitably lead to a drastic re-allocation of technology spending.

Major Joint Streaming Initiatives in Europe



”

There is a strong case and a need for consolidation. I'm convinced that partnerships are more important than ever, especially after the coronavirus, which hurt European TV broadcasters and has helped the US streaming platforms

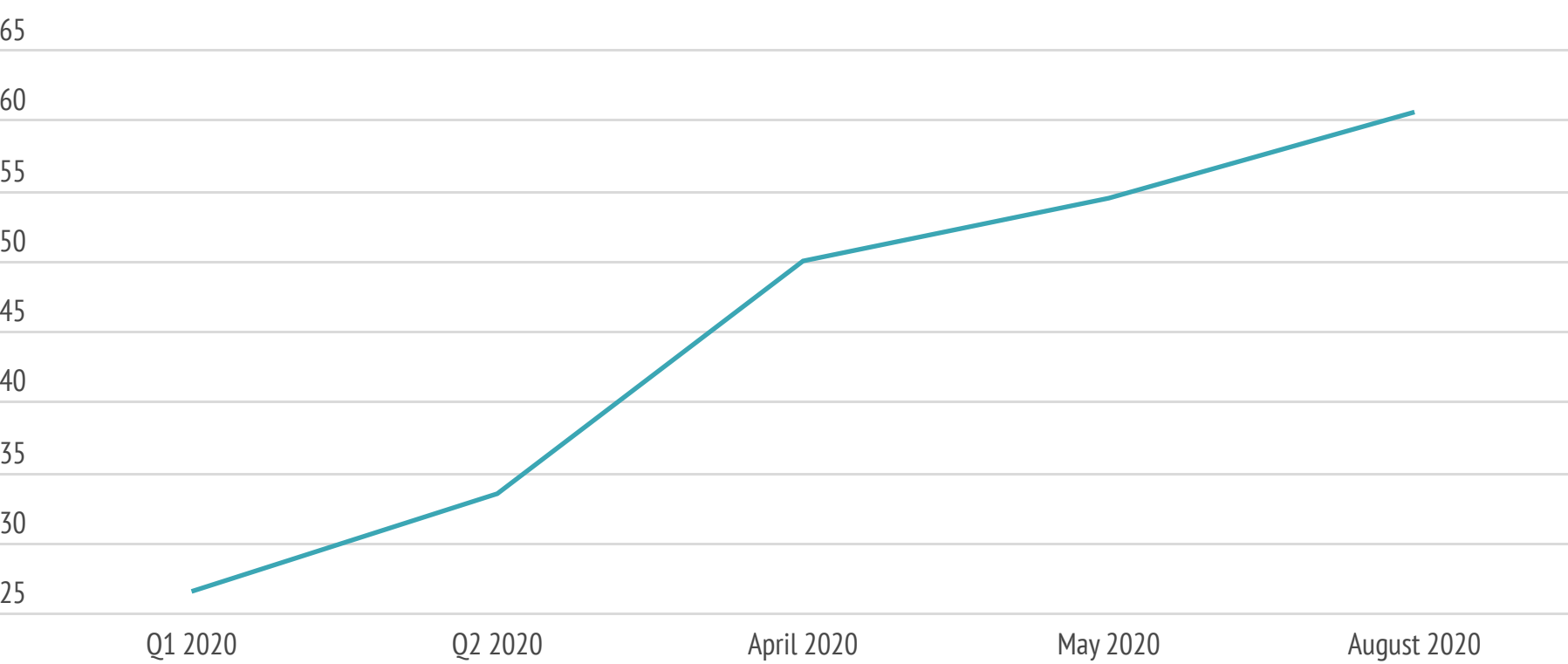
Thomas Rabe, CEO, Bertelsmann

August 2020

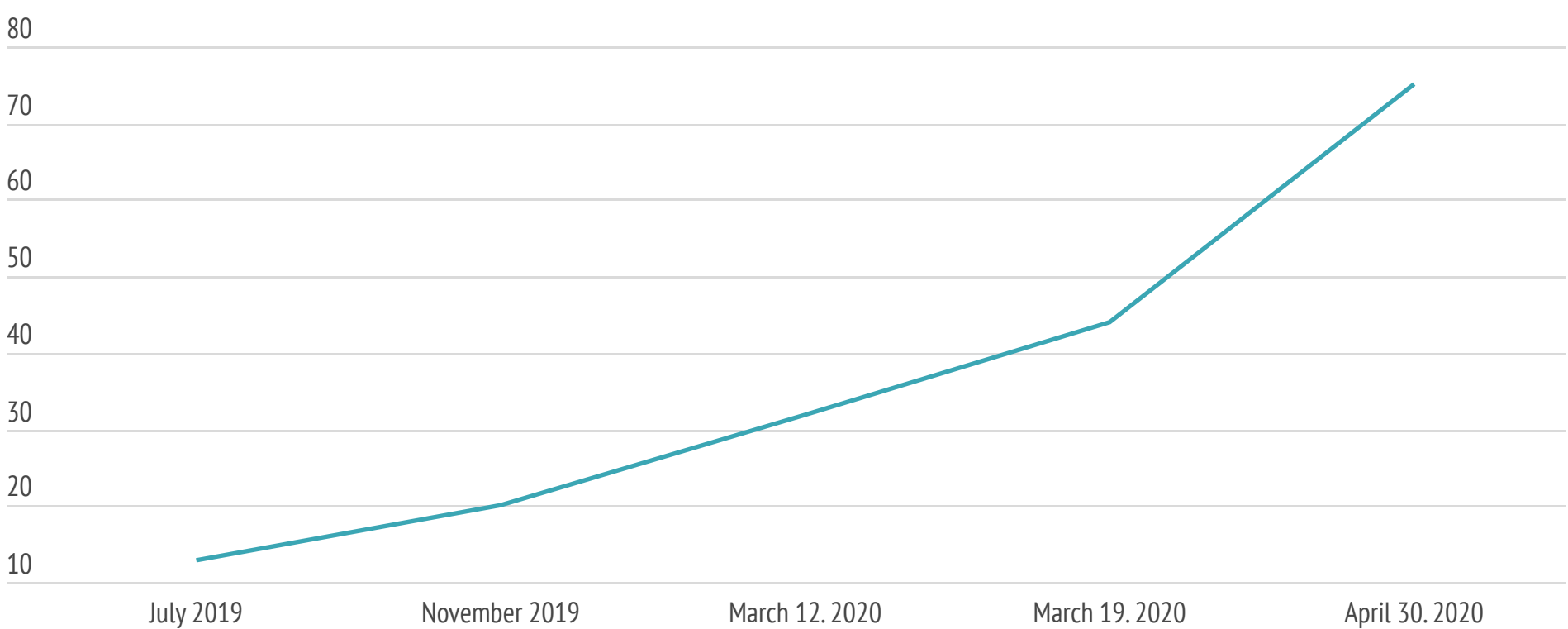
Direct-to-Consumer

Brave new digital world - Data snippets

Subscriber Growth at Disney+ (Millions)



Daily Active Users at Microsoft Teams (Millions)



Growth in OTT Streaming on Connected TVs and Streaming Devices



29%

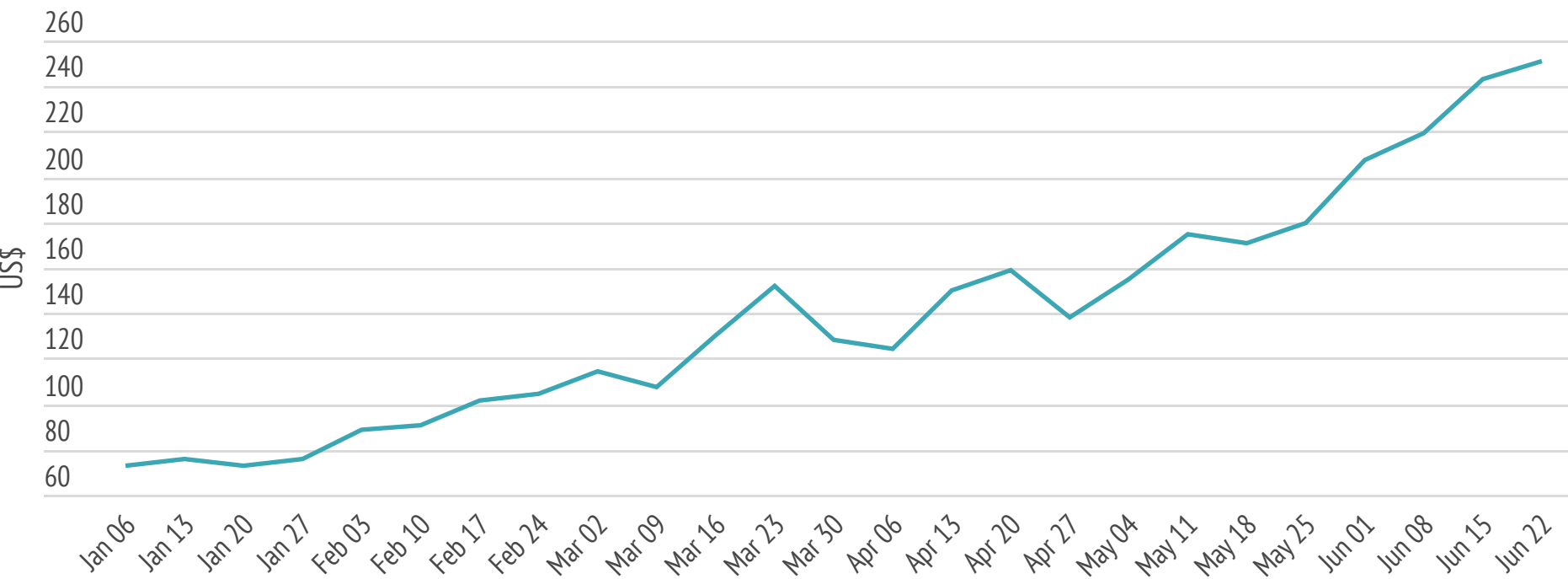
YoY growth in OTT households for connected TVs in March 2020



44%

YoY growth in OTT households for streaming devices in March 2020

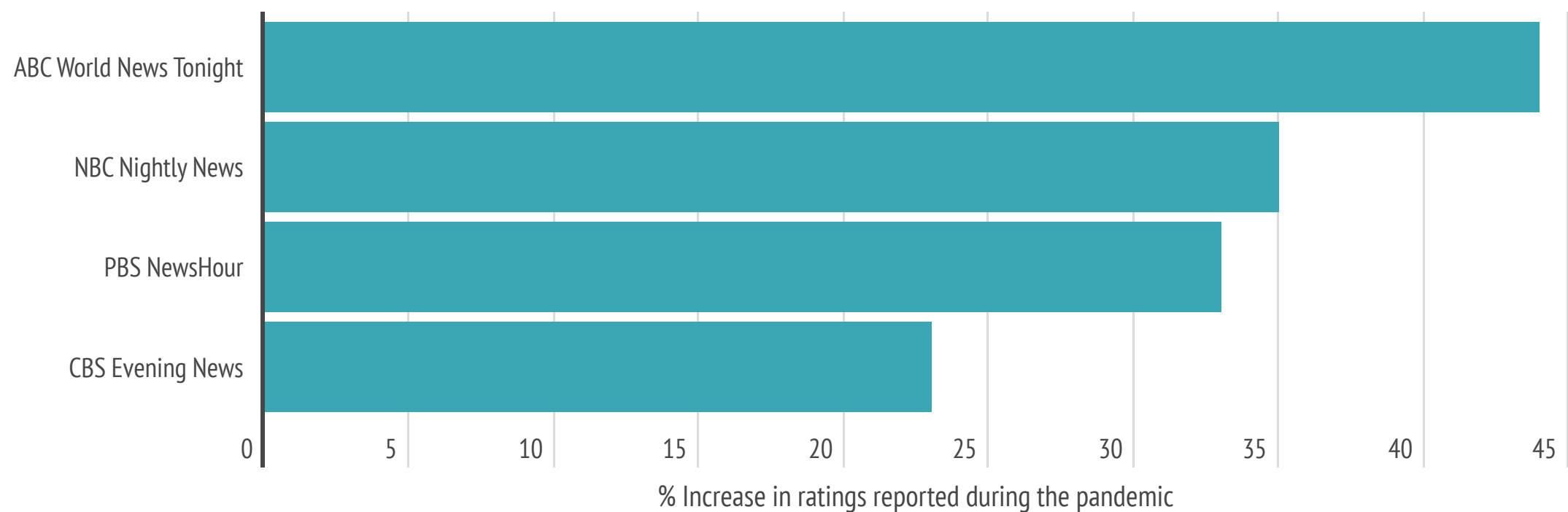
Price of Zoom's Stock, January-June 2020



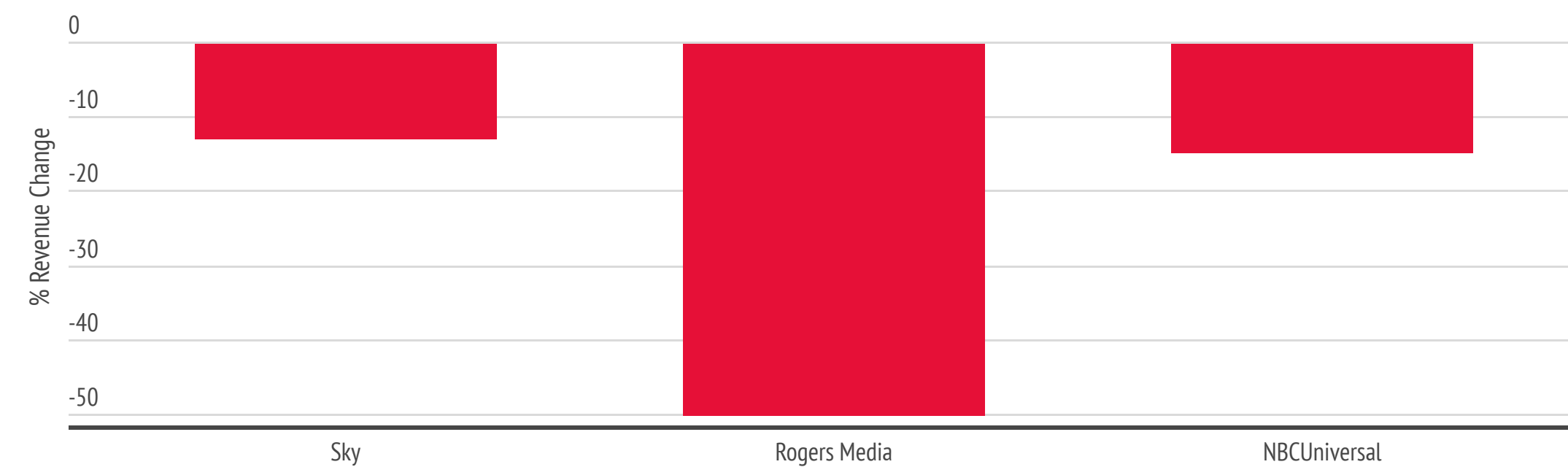
Direct-to-Consumer

Sectoral polarization - Data snippets

Ratings Performance of Selected News Channels in the US



Q2 Revenue Performance at Selected Sports Broadcasters



Traditional Revenue Models in the US



2.1 millions

Total subscribers lost by major Pay-TV operators in the US in Q1



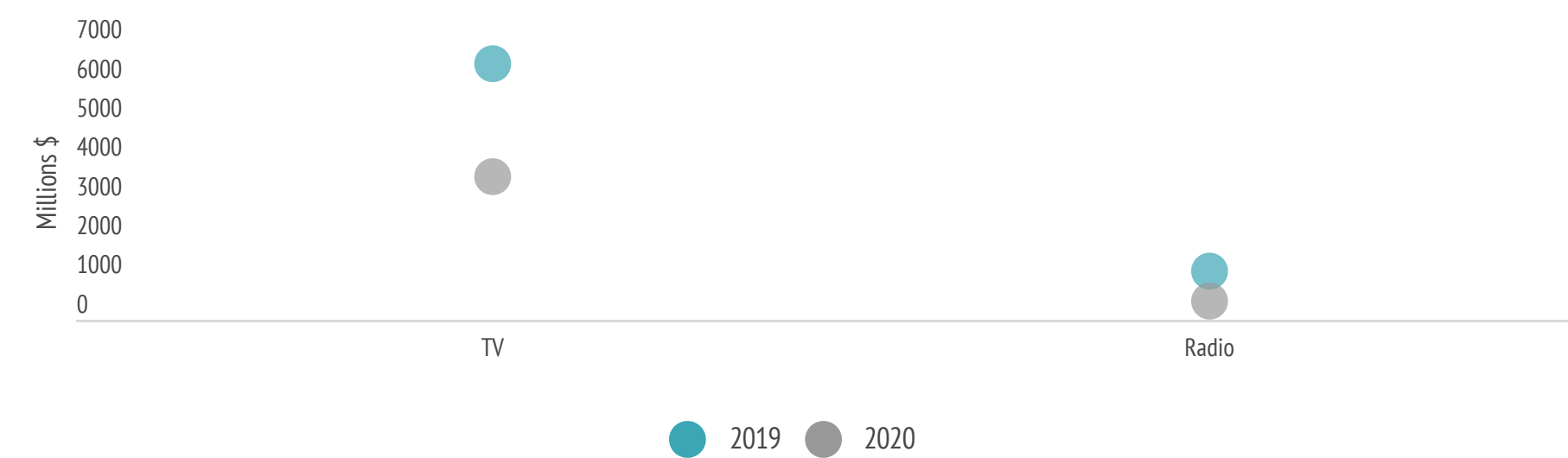
22.3% - 29.3%

Estimated decline in US TV ad spending for H1 2020

Direct-to-Consumer

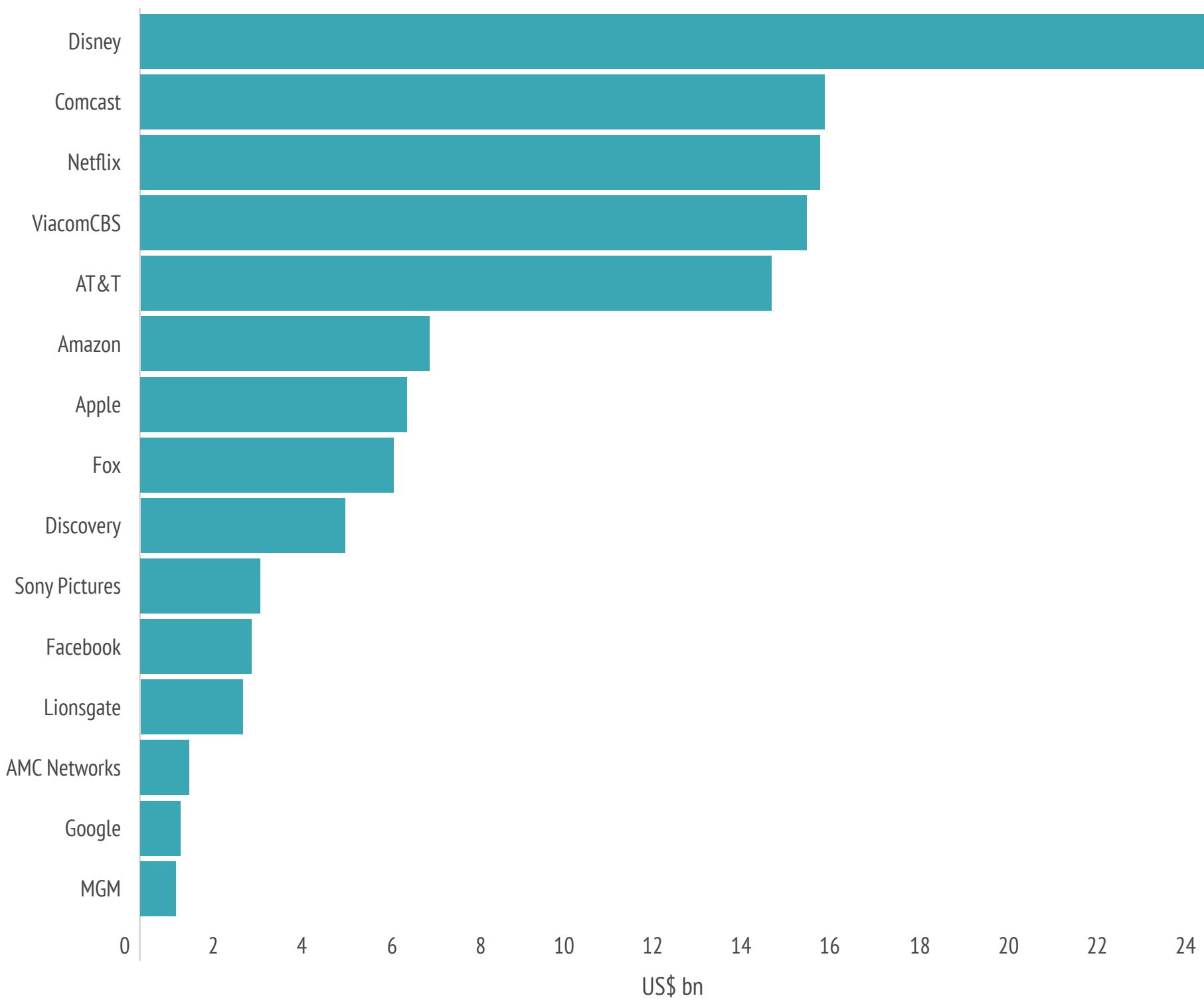
The calm before the storm - Data snippets

US Broadcast Market M&A, 2018-2020 (Top) & Major Media Acquisitions (Bottom)



Year	Acquirer	Target	Deal Value	Acquirer's Region
2016	AT&T	TimeWarner	\$85.4bn	North America
2016	CORUS.	Shaw Media	\$2.6bn	North America
2016	Nexstar	Media General	\$4.6bn	North America
2017	Disney	FOX	\$71bn	North America
2018	COMCAST	sky	\$38bn	North America
2017	Discovery	scrippsnetworks interactive	\$14.6bn	North America
2018	Nexstar	T	\$4.1bn	North America
2019	CANAL+	M7	\$1.1bn	Europe
2018	gray	RAYCOM MEDIA	\$3.6bn	North America
2018	AT&T	otter	\$1bn	North America
2019	CBS	VIACOM	\$11.8bn	North America
2019	SINCLAIR BROADCAST GROUP	FOX Sports	\$10bn	North America

Investment in Original Content in 2019



Exclusive Platinum Comments

Brave new digital world

”

Memories of COVID-19 will be long and it is highly unlikely that any participant in the content delivery chain—not individual creators, not media companies nor vendors—will ever fall back into complacency after feeling such sharp pain. At the same time, the situation has reawakened our industry’s latent appetite for rapid innovation, albeit in the face of unavoidable change in this case.

The upside of this ongoing experience is that it is quickly conditioning even the most comfortable among us to break the bad habits that have held our industry back from truly flourishing even during the best of times. And while some participants may have been better prepared than others, as the research indicates, the pandemic has galvanized the entire community not only to solve the common problem before us, but also heightened our sense of urgency to become better prepared to contend with the external forces that we can’t control.

This is a moment in which the innovators of business and technology—whatever their motivations—are rising up. Exploration, discovery and adaptation have come at a remarkably encouraging pace amid the threat to what is becoming “the way we used to work”. Notably, several TV networks, studios and post houses have remarked on their achievement of standing up remote collaborative editing schemes within days and weeks which, without the heat of the pandemic, might have taken months and years to complete.



Jeff Rosica
CEO
Avid

Exclusive Platinum Comments

Brave new digital world (Continued)

”

Without question, and as the research indicates, this situation is teaching us the deeper value of subscription-based “as-as-service” technologies, especially as media companies look to normalize remote production and accelerate the pipelines that are pumping original content to more consumer platforms. However, we should be careful not to rush to the conclusion that today’s focus on exploiting these relatively new approaches for producing vastly greater amounts of content comes at the long-term expense of other plans and initiatives. We have yet to know how the effects of the pandemic will play out fully for our industry. Further, vendors have long understood that media technology budgets have been under inexorable pressure for years, which has driven some, like Avid, to forge new territory in the cloud. The pandemic simply underscores and hastens the eventual reality of a cloud-based media technology economy.

In fact, Avid’s own response to help media companies pivot to working remotely was aided in part by our early focus in cloud-based content workflows, as well as our transition to providing our creative tools via subscription. This was accomplished by a workforce that’s been defined historically by its expertise in media. Going forward, and to sharpen a crucial point of the IABM findings, it’s incumbent upon the vendor community at large to drive this paradigm shift to a much faster pace by filling the industry’s talent pool with new kinds of talent including cloud/SaaS professionals and digital natives. Overall, as we continue to use this challenging moment to prove to ourselves that we also have an appetite to change and shed our traditional media engineering culture, we’ll also attract the vital new workers who, as the research states, bring an affinity for “risk taking for the sake of experimentation.”



Jeff Rosica
CEO
Avid

Exclusive Platinum Comments

Sectoral polarization

”

Grass Valley has been forecasting and planning for the move of live TV to digital platforms for some time. We have partnered with major DTC streaming providers that are seeking to add more live content to their platforms. Grass Valley brings broadcast quality features and functionality to this space, improving the user experience and automating the curation and distribution of the digital properties.



Tim Shoulders
President
Grass Valley

Exclusive Platinum Comments

The calm before the storm

”

These results tell the same story I am seeing, hearing and feeling. It is my view that the changes brought on by the COVID pandemic have been an accelerant, but not the core driver of the M&E strategic shifts we are observing. Most notably, the industry's push to move to permanently decentralised production models, even prior to COVID, were primarily driven by risk and cost mitigation. In addition to these drivers, other factors include access to talent, reduced on-costs, travel costs, and a younger "digital everywhere" workforce that is seeking flexibility. From a vendor standpoint, COVID accelerated the existing march toward cloud operating models, by leveraging decentralised, and disruptive technology and staffing models.

My firm belief is that content is the new goldrush. This is particularly certain during this extreme economic downturn, as escapism and validation of beliefs are sought, further driving the industrial scale art demand we see before us. The extent of consumer gravity is extraordinary, with unprecedented rapidity of growth in both media demand, and the markets to support it. But as we clearly see in these findings, it's all about the shift towards a direct-to-consumer model.



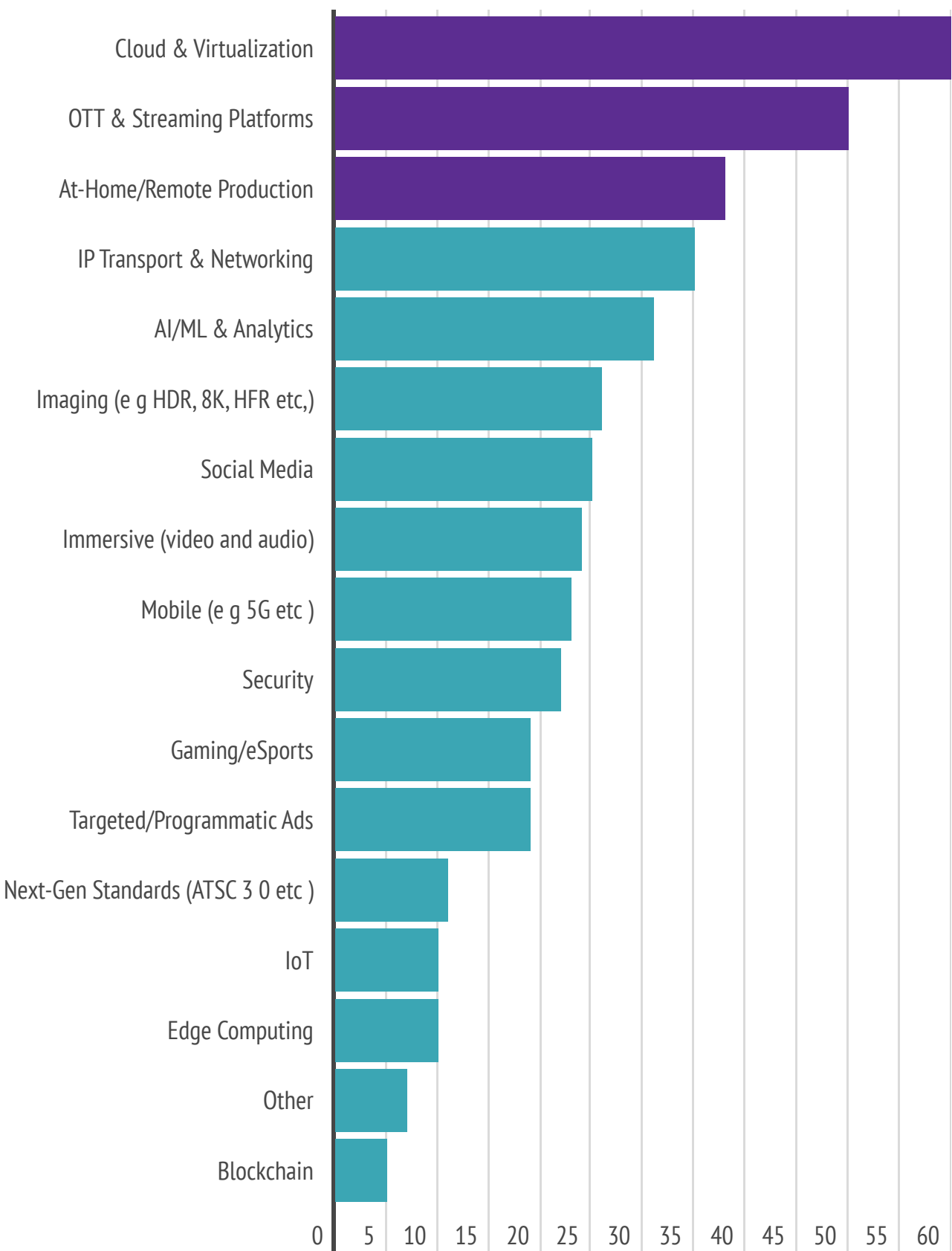
Alex Timbs
Senior Business
Development Manager
Dell Technologies

Tech only as Enabler

Business continuity

According to interviews carried out for this report, the utmost priority of most media companies in this period has been enabling business continuity. This may seem an unsurprising finding though it highlights the changing role of technology in the media industry. Technology is now being seen only as an enabler of business objectives, including business models and continuity. The business continuity crisis produced by the pandemic has taken this paradigm to the extreme as broadcasters have had to prioritize technology solutions that enabled them to continue operations in extraordinary circumstances. In sectors such as sports and news, broadcasters have had to transition to remote production models almost overnight due to the restrictions imposed by the pandemic. This is of course important, as it is enabling media organizations to become more resilient in turbulent times. However, it is less important than the development of digital business models, which remains media companies’ most important long-term priority.

Most Important Priorities in Tech Roadmaps



Tech only as Enabler

Digital money

Our research highlights that the move to direct-to-consumer is making media companies focus on revenue and consumer business models rather than the “best” technology available in the marketplace. This often entails a prioritization of technology solutions that are consumer-centric and have a clear business case. One broadcaster told us this year that, when sourcing a new technology solution: “it is all about revenue, churn and customer loyalty rather than picture quality.” This is frequently leading to the adoption of technology that is “good enough” to unlock new digital revenue streams coupled with a reluctance to invest in non-essential infrastructure upgrades. Although advertising spending has slowed down due to the pandemic, digital advertising remains a strategic priority for media companies. The same applies to other solutions enabling them to make digital money or improve the consumer experience on new platforms. This new mindset does not only apply to consumer-facing platforms but also to the content supply chains supporting them. These are being increasingly streamlined to resemble media factories.



”

If you don't focus on business models, you will not be around a few years from now

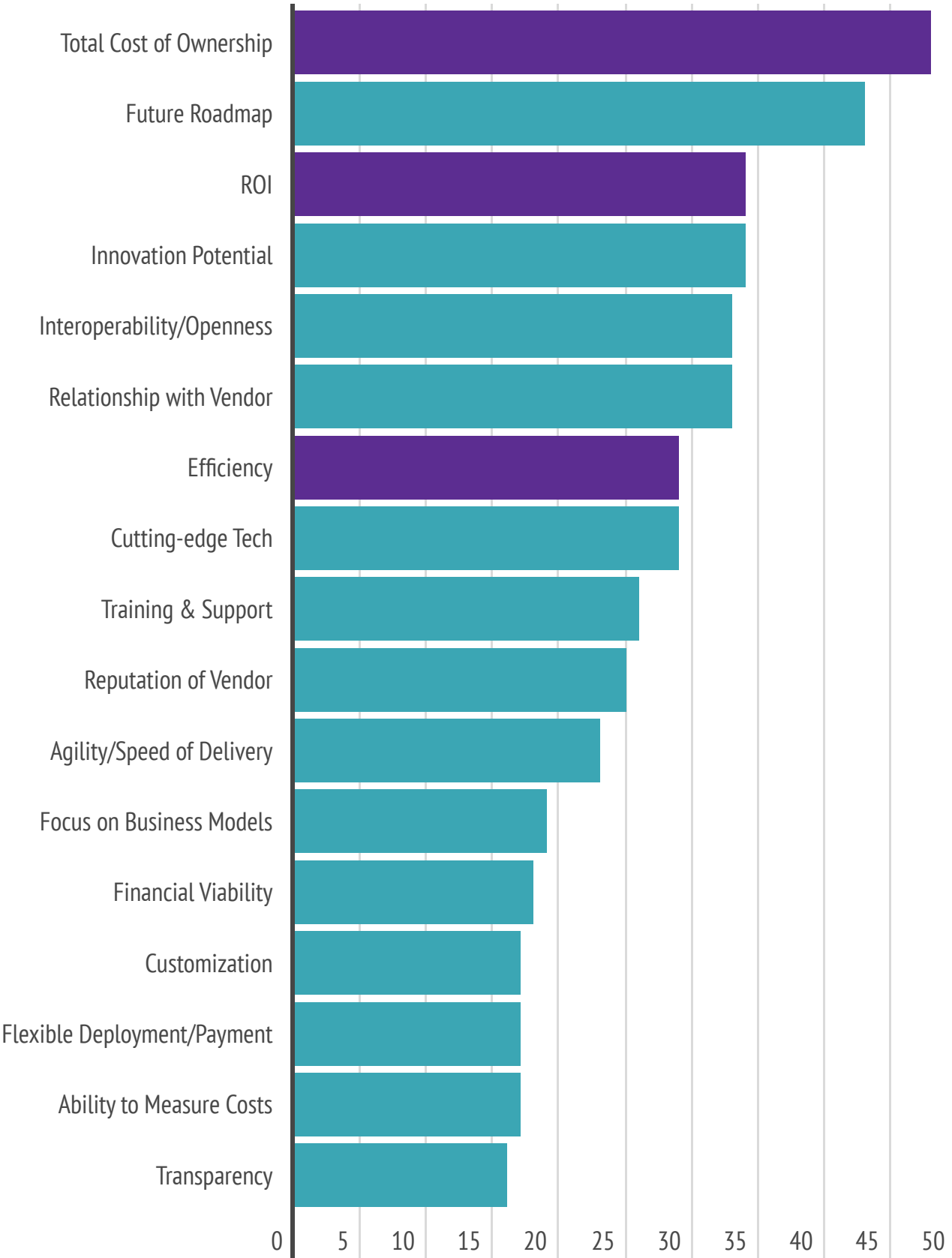
Broadcaster interviewed by IABM in
March 2020

Tech only as Enabler

Media factory

At the end of last year, IABM published a framework for content supply chain maturity that identified major priorities for media companies moving to next-generation content chains. These priorities include an increasing reliance on data to optimize and automate media operations, open platforms to enable access to content and technology tools as well as an increasing focus on managing risk throughout the content supply chain. As the pandemic puts revenues and technology budgets under pressure, media companies are increasingly looking at the economics of their content supply chains to increase the utilization of their resources – both content and technology resources - and improve productivity, particularly as they move to remote working models. These objectives are prompting them to look to the fringes of the industry or even outside of the traditional media sector to find innovation and adopt general-purpose technologies such as cloud and machine learning. As the adoption of these technologies is propelled by the pandemic, the move to as-a-service is in turn accelerating.

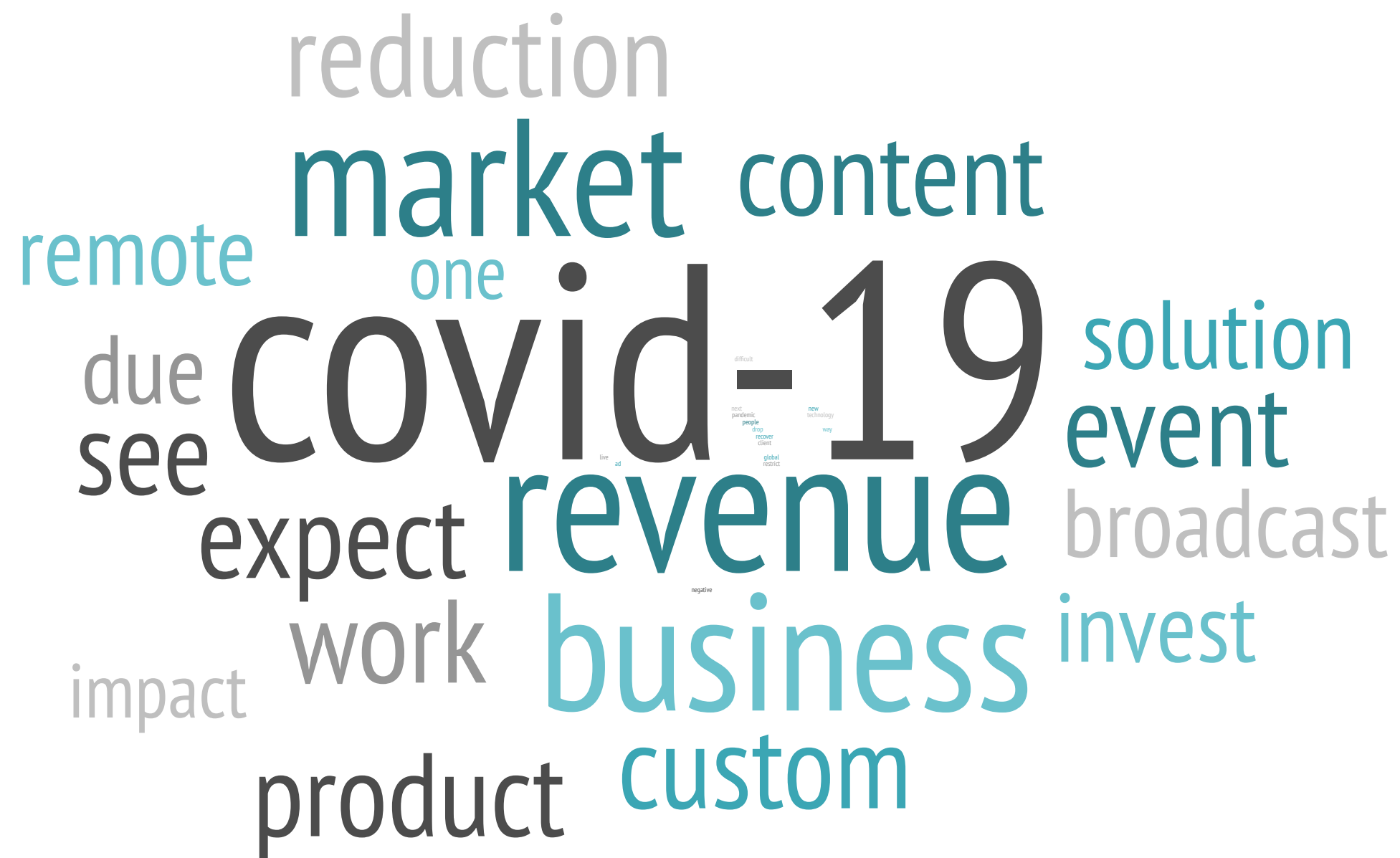
Most Important Factors Affecting Tech Sourcing



Tech only as Enabler

Business continuity - Data snippets

Analysis of Media Tech Vendors' Comments

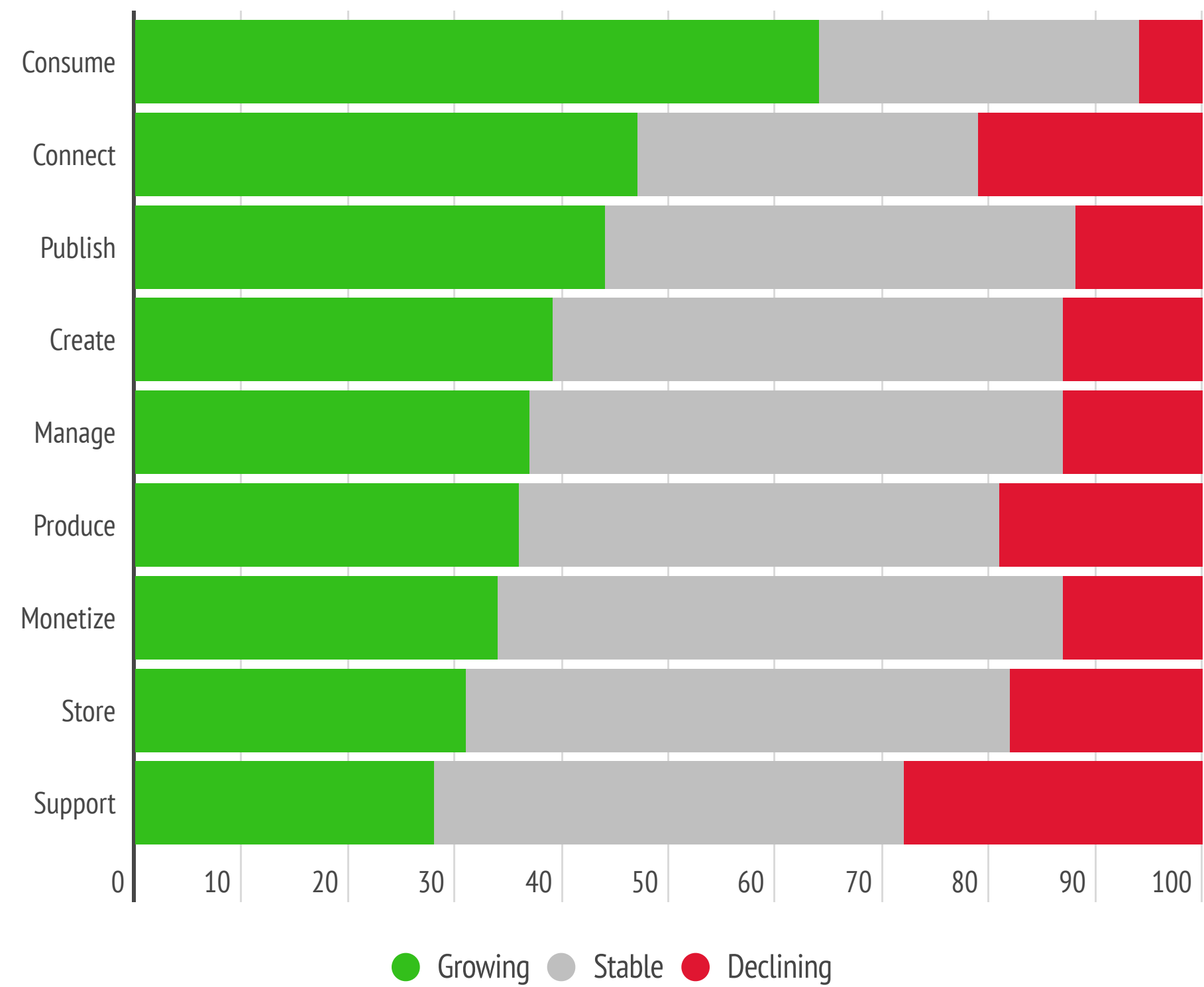


The analysis of the text comments received by IABM in the last month highlighted the severe impact of the pandemic on the industry. For example, the word "Covid-19" appeared in 25% of the comments received from media technology service providers. Negative comments highlighted the impact of the pandemic on revenue streams, mostly through the cancellation of events and the influence on advertising revenues. Positive comments focused on the move to remote workflows creating new opportunities.

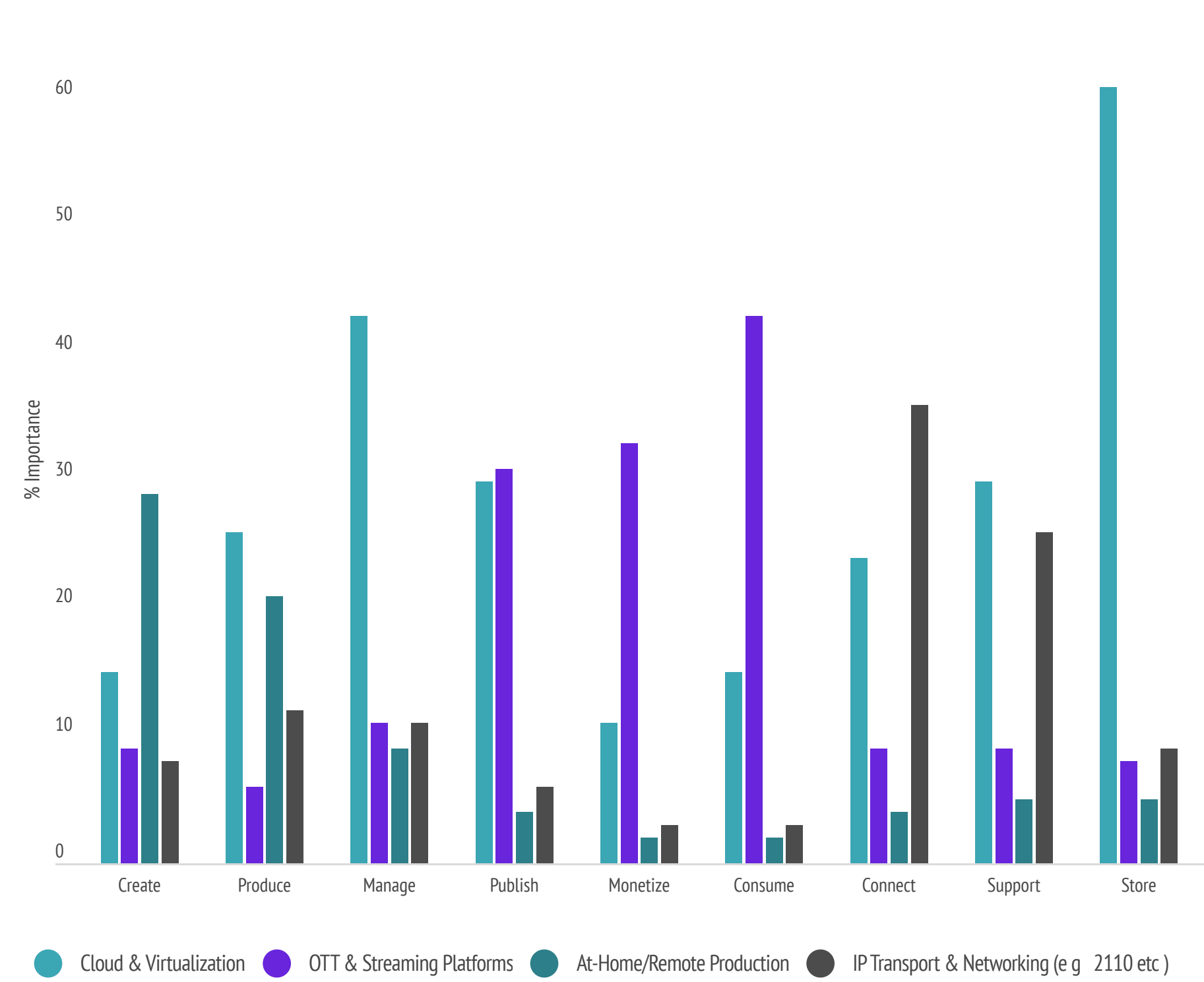
Tech only as Enabler

Digital money - Data snippets

Content Supply Chain Investment Outlook by Media Companies



Major Drivers of Investment by Content Supply Chain Segment



Exclusive Platinum Comments

Business continuity

”

On March 11, the World Health Organization declared the Novel Coronavirus Disease a pandemic. We are now 5 months into this worldwide pandemic and we have all been impacted in one way or another. In particular, businesses (that are able to) have been forced to send workers home with few tools to deal with working remotely. For software companies like Telestream, most work can be accomplished by a combination of a computer, a decent internet connection and the cloud (for applications). For companies that produce and deliver video content, namely our industry, they have seen tremendous challenges with “keeping the lights on”. The challenges are many and very, very real; live events were postponed or shut down entirely eliminating revenue streams, show production was put on hiatus also eliminating revenue streams. Reusing older, archived content is possible but files archived on-site still need to be pulled and prepared for distribution, but no one is on-site to access the content! The good news too is that consumer demand for content has never been higher.

As has happened throughout history, innovative people have stepped up and have come up with solutions to keep businesses working while unable to be physically on-site. A big enabler of these solutions is the rise of high speed internet to the home. With this, customers are able to remotely access equipment that is “internet ready”. And, while these internet pipes are large compared to the past, they still can’t replace the on-premise experience of being directly connected to the storage for editing, QC or just basic review of content. Hence, technology for realtime proxy generation to make editorial decisions enables customers to be at home, while the very large media files can remain on-site. For live production and to handle sports “in the bubble”, few staff can be on-site to produce the show. In comes technology that enables TD’s, EIC’s and more to be at home producing and monitoring events. And with the latest generation of IP-enabled, robotic cameras or camera heads, camera operators can be remote as well. For OTT distribution of content, proactive notification of errors enables remote workers to diagnose and fix network problems remotely. Again, it takes a decent internet connection.

An old saying goes that technology only exists for 2 purposes: to make you money or save you money. As we have seen in the last 5 months, our industry has risen to the challenge and technology has been the enabler to help business to survive. When we exit this current environment, all of our businesses, including Telestream, will look different but will be stronger as a result.



Dan Castles
CEO
Telestream

Exclusive Platinum Comments

Media factory

”

We began using the term “Media Factory” at Grass Valley in early 2019. When you look dispassionately at what a broadcast engineer does you see they are running a factory that captures images and sounds and transforms them into valuable stories and events. The operations to get from start to finish look very much like a traditional factory. We see our role as a technology partner is to bring our workflow expertise to bear to provide technology that is efficient and well-integrated and to eliminate bottlenecks in the production process and help our customers to deliver more media assets at a lower cost per asset.



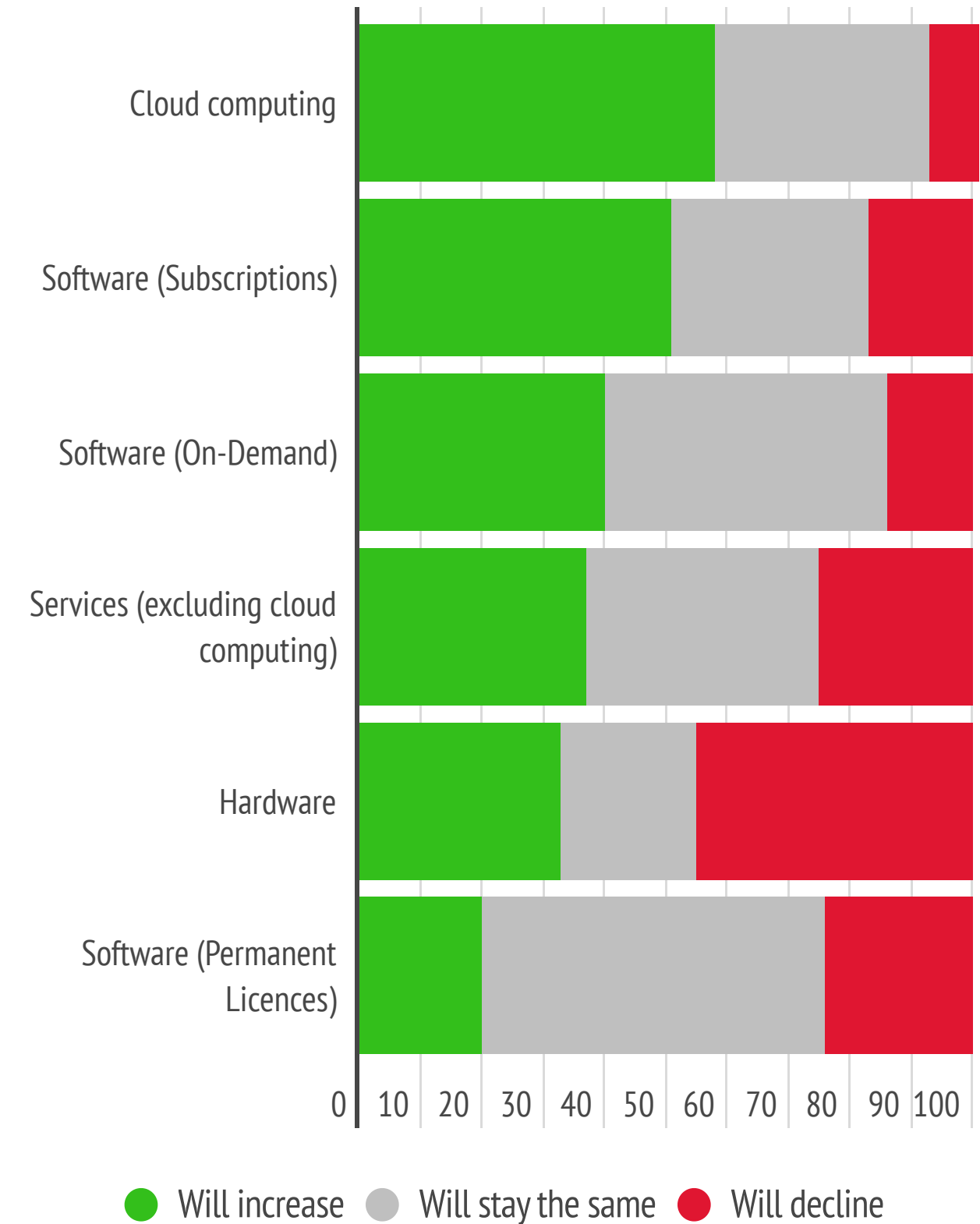
Tim Shoulders
President
Grass Valley

As-a-Service

Acceleration

The business continuity crisis created by the pandemic has accelerated media companies' transition to as-a-service technology models. These include subscription-based and on-demand technology business models. IABM research shows that media companies were already gradually moving towards as-a-service business models before Coronavirus hit. As-a-service is more suited to the unpredictability of modern media markets, which has been taken to an extreme by the pandemic. Media companies have therefore been forced to adopt new technology tools, most of which are provided through as-a-service schemes, to enable remote working. This is evident when looking at IABM data on both sides of the industry. Technology users are moving their budgets away from hardware and legacy software and towards subscriptions, on-demand payment models, and cloud computing services. Our data on supplier revenue sources shows that companies moving to as-a-service are accelerating their transition to subscriptions and on-demand offerings to accommodate increased demand.

Media Technology Sourcing Outlook



As-a-Service

Ripple effects

The transition to as-a-service offerings has well-known financial implications for the supply side of the media technology industry as companies moving from large and infrequent inflows of money to smaller and more regular payments, suffer from a painful and lengthy cashflow crunch. This crunch has been exacerbated by the pandemic-induced shock on technology demand by forcing a move to as-a-service models. Major media technology suppliers such as Avid and Harmonic highlighted this demand shock in their recent earnings calls, pointing to increasing demand in their as-a-service offerings. They also highlighted that their legacy products had suffered from a more pronounced decline in revenues. IABM analysis shows that the pandemic has negatively influenced both software and hardware revenues on aggregate, as media technology budgets have generally declined. However, companies heavily reliant on hardware and legacy software have been impacted disproportionately more by the lockdown restrictions compared to those dependent on subscriptions and on-demand revenues.

Hardware Revenue Outlook



4%

Percentage of companies saying that revenues will Increase



86%

Percentage of companies saying that revenues will Decrease



5%

Average % Increase in revenues for companies predicting a rise in revenues



43%

Average % Decrease in revenues for companies predicting a fall in revenues



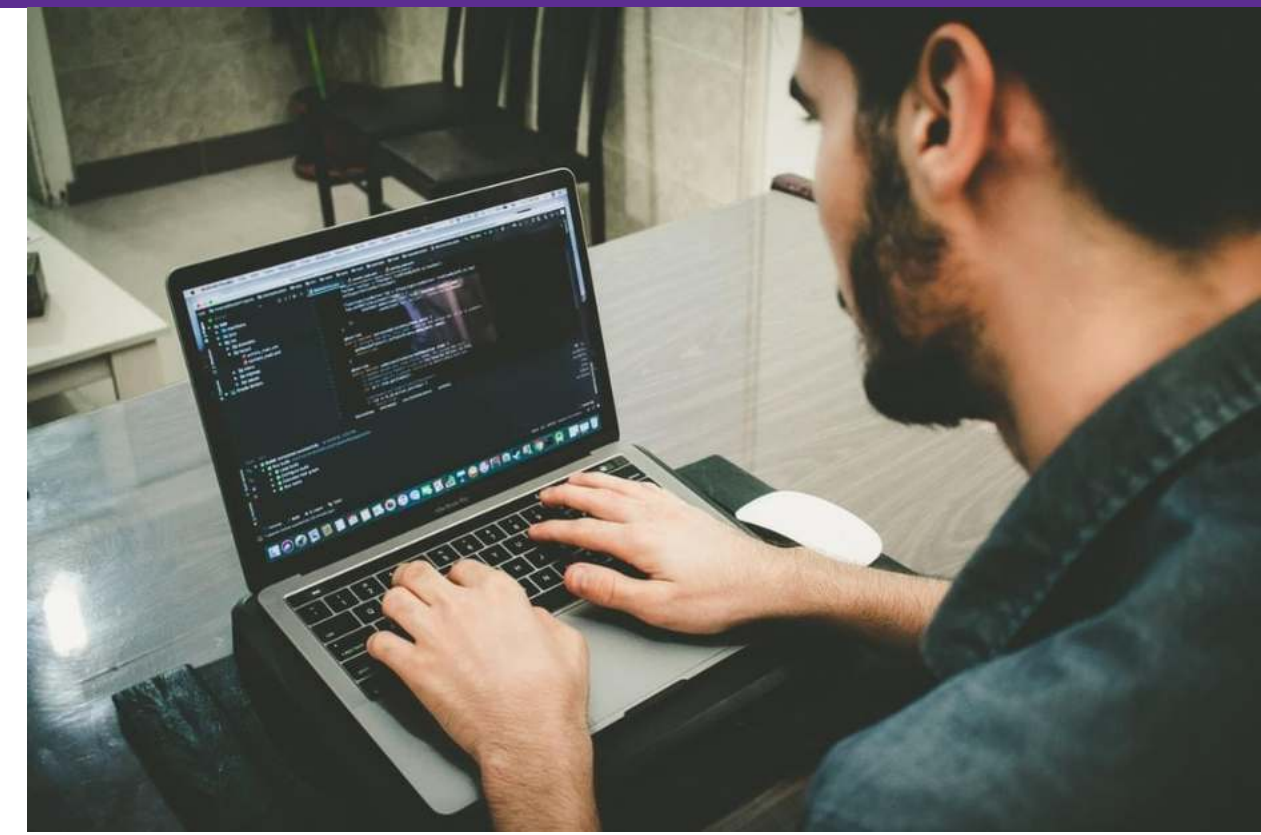
Recurring revenue was strong, with growth in subscription and stable maintenance, while nonrecurring revenue from hardware and perpetual licenses was down sharply due the impact on sales of the COVID-19 pandemic

Ken Gayron,
CFO & EVP,
Avid

As-a-Service

Speed

Both the demand and supply side of media technology are increasingly focusing on speeding up the development of new technology products and platforms. Again, the pandemic has contributed to taking this change in the concept of time to an extreme. Many suppliers have told us in recent months that they have developed new products in a drastically shorter amount of time and on the back of pressing customer feedback. The absence of industry trade shows has also removed important references in the calendar of new product releases, prompting technology suppliers to move to a more continuous delivery of technology solutions. This is a cornerstone of as-a-service models. Aside from the increasing focus on speed, both media companies and technology suppliers have had to rely more on digital tools, another cornerstone of as-a-service models, due to the lack of trade shows. On the demand side, a plethora of companies identified the adoption of internet technologies for collaboration as one of the most important changes for the future of their organizations. Another important change relates to their propensity to insource technology development.



44%

Of suppliers say that R&D investment
will increase

”

**Development times have changed
dramatically**

Supplier responding to our
Media Tech Business Tracker

As-a-Service

As-a-service - Data snippets

Selected Comments from Media Technology Suppliers

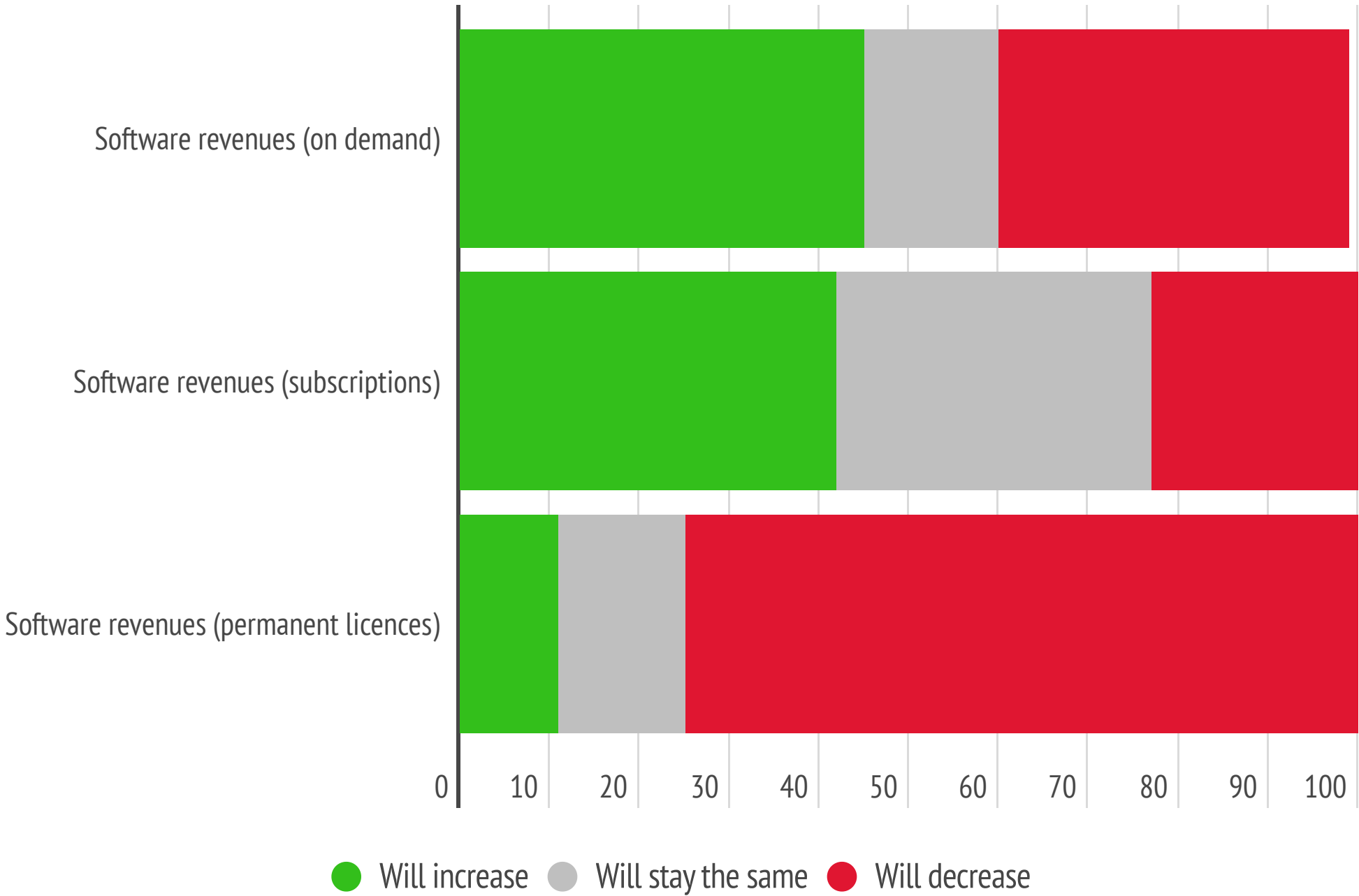
”

Propoportion of subscription and on-demand are increasing so should overtake permanent licenses

”

We are the middle of a transition to SaaS and recurring revenue models. We are moving our hardware product towards virtualization of software on COTS hardware

Impact of Coronavirus on Software Revenue Outlook



Exclusive Platinum Comments

Acceleration

”

We have seen many media companies accelerating the adoption of IP based workflows because of the pandemic. Technology has allowed remote production that would have been impossible 10 years ago by using various SaaS solutions for significant portions of their media workflow along with cloud services for content management and delivery. Naturally, technology suppliers are evolving faster to more “as a service” offerings on COTS platforms, which allows them to better manage their technology platform, product support and user experiencing by reducing bespoke hardware requirements and meeting their customer’s needs.

With the rapid deployment of direct to consumer technologies across the globe, common technology stacks and tools to enable the exploitation of content is **THE SINGLE MOST IMPORTANT** currency that a media customer can have in today’s environment. Successfully designing and deploying this in a thoughtful way will yield tremendous advantages that make even the most bullish CFO excited about the tremendous benefits that will be found.

The nature of media professionals has always been to adapt their skills to match the logical direction technology can take us--from Black and White to color to HD, 4K and onto 8K. Today’s media engineering professionals are challenged by the speed of change and becoming highly specialized software and IT professionals building advanced IP workflows.



Kevin Collins
President
Diversified

Exclusive Platinum Comments

Speed

”

Diversified has seen an uptick in requests for several different facets of assistance to enable the proliferation of media to enable additional direct to consumer opportunities:

- **Workflow:** Media companies have millions of hours of content and the large majority of divisions that own that content are subdivided, making optimization of workflows impossible without changes to the organization, the ownership of process, and the standardization of workflows. We have assisted in each area
- **Technology:** Content owners are burdened with disparate content storage systems, some not always compatible with others based on file format, connectivity, accessibility, and metadata mapping
- **Services:** More than ever, content owners of all sizes are in search of outsourced and assisted services to help mine and manage the “media warehouses” that exist. As capital and Opex has come under enhanced scrutiny around internal spending, leveraging 3rd party services has become more attractive and cost-effective
- **Consulting:** “Have content, build start up”...Many content repository owners are chasing the proverbial pot of gold as they try and capitalize on the direct to consumer trends. We have provided assistance for our clients inclusive of total cost of ownership analysis, technology implementation studies, connectivity mapping recommendations, and programmatic workflow and operations support



Jason Kornweiss
VP & GM,
Emerging Technology and
Solutions
Diversified

Exclusive Platinum Comments

Speed (Continued)

”

Diversified has seen a marked and purposeful departure of capital spending towards physical and infrastructure related “upgrades and end of life refresh” components and systems as media owners are steering working capital and operating expense towards technology enablement strategies and services:

- **Cloud:** Many customers are looking to leverage cloud services to exploit the work from home normality that has hit the industry. On prem vs off prem cloud, public vs private cloud, hosted vs 3rd party cloud...these are all areas that we advise our clients and the solutions vary drastically based on use cases and business model
- **Disaster Recovery:** No one expected this type of virtual disaster, as many DR systems have been built for physical building compromise with failover in mind. Clients are rethinking what disaster recovery means and are more than ever entertaining 3rd party services as one of the means to achieve compliance in a cost effective, agile, and scalable way



Jason Kornweiss
VP & GM,
Emerging Technology and
Solutions
Diversified

Insourcing

Scale and control

Media companies continue to want to control the development of their technology platforms to make them flexible, even after the advent of the pandemic. To find control of and scale in technology development, media companies are increasingly likely to insource it. According to IABM research, the origin of this propensity to insource is a significant disconnect between demand and supply of direct-to-consumer technology when this transition first started. The unpredictability of the direct-to-consumer market led some users to consider existing solutions not fit for purpose and re-allocate investment towards insourcing technology development. IABM research shows that this is continuing now as the market has become even more chaotic and unpredictable due to the pandemic. Scale and control are even trumping “best-of-breed” in some cases with media companies prioritizing solutions that cover several parts of the content supply chain to safeguard integration and consolidate spending in a turbulent time.



48%

Of media companies say that internal technology development investment will increase



70%

Of media companies still prefer “best-of-breed” solutions

Insourcing

Investment

As mentioned earlier, insourcing has focused on the direct-to-consumer technology area where media companies have acquired streaming and advertising technology suppliers to propel the launch of their digital offerings. At the end of April 2020, in the middle of the pandemic, WarnerMedia acquired The Widget Company, a Dutch streaming technology provider, to support the launch of HBO Max in May. Comcast and Fox acquired two ad-supported streaming services (Xumo and Tubi respectively) in the first quarter of 2020 not only to bet on the AVOD market but also - and perhaps more importantly - to acquire the streaming and advertising technologies controlled by these companies. Strategic acquisitions of technology suppliers remain a popular tool to accelerate insourcing inorganically and may rise if financial disruption puts some suppliers in danger. However, most media companies continue to report an increasing investment in organic in-house capabilities to develop technology solutions. This is in turn changing the relationships users have with their suppliers.

Acquisitions of Technology Platforms

Acquirer	Target	Main Area	Year	Value
RTL	SpotX	Ad Tech	2014	\$360m
	Smartclip	Ad Tech	2016	undisclosed
	Yospace	Ad Tech	2019	\$33m
VIACOMCBS	PlutoTV + another new AVOD service	Streaming Platform	2020	\$340m
AT&T	AppNexus	Ad Tech	2018	undisclosed (reportedly \$1.6-2b)
AT&T	Clypd	Ad Tech	2019	undisclosed
AT&T	The Widget Company	Streaming Tech	2020	undisclosed
COMCAST	FreeWheel	Ad Tech	2014	\$360m
COMCAST	Visible World	Ad Tech	2015	undisclosed
COMCAST	Metrological	Streaming Tech	2019	undisclosed
COMCAST	Xumo	Streaming Platform	2020	\$100m
Disney	BAMTech	Streaming Tech	2017	\$2.6b
FOX	TrueX	Ad Tech	2014	\$200m
FOX	Tubi	Streaming Platform	2020	\$440m
AT&T	Canopy	Ad Tech	2020	undisclosed

Insourcing

Relational dynamics

Increased insourcing by technology users translates into a change in the role of suppliers from sellers to partners and service providers, streamlining the backend of the content supply chain and providing technical support for buyers' direct-to-consumer platforms. Interviews conducted for this report highlighted that these relationships are becoming the norm particularly after the advent of Coronavirus. The pandemic has stressed the importance of deep partnerships between the two sides of the industry to deal with difficult times. These partnerships are built on trust and velocity as well as the achievement of specific business objectives, as evidenced earlier in this report. Many media companies told us that they will support their strategic partners through this turbulent period no matter what. As mentioned earlier, this support can also transform into direct investment when a supplier is on thin ice. Increased investment in software development is also leading to a radical change in the skillset of media technology professionals.



”

First and foremost, I look for a culture of full openness and transparency

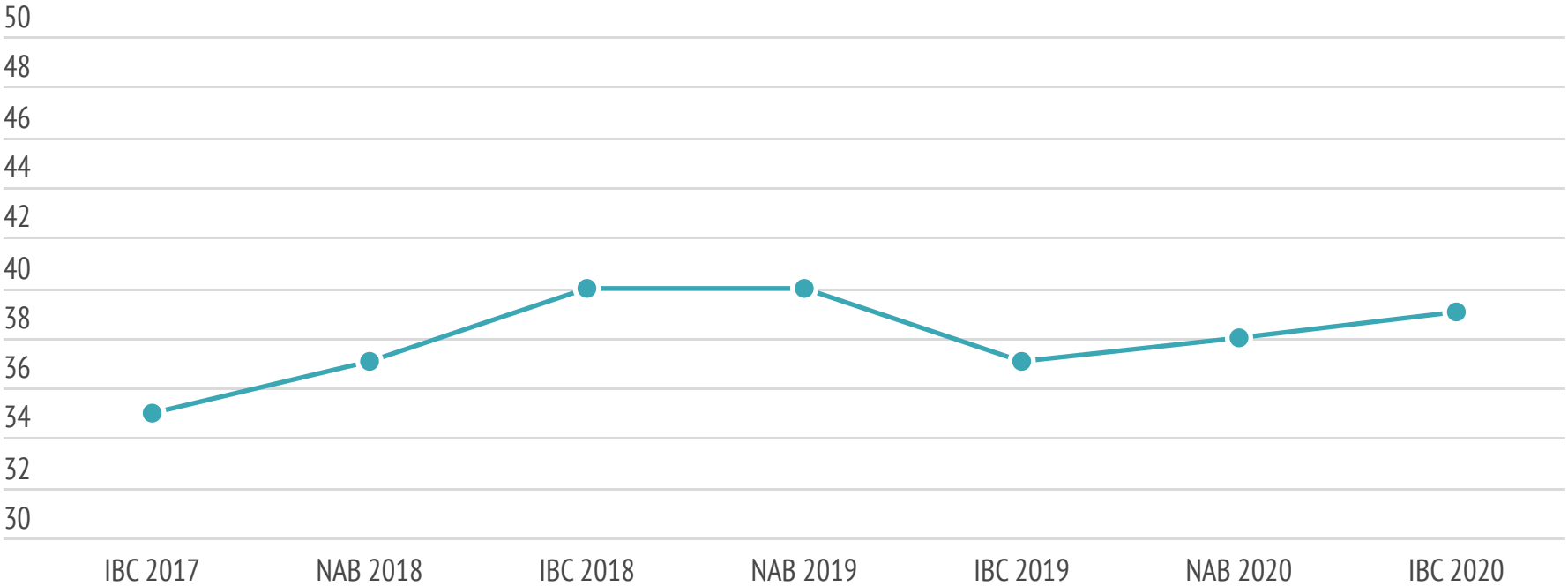
Pierre Fortin,
VP Media Technology and Operations,
Rogers Broadcast & Media
Interview with IABM, April 2020

Watch the full interview at:
<https://theiabm.org/in-conversation-with-rogers-broadcast-media/>

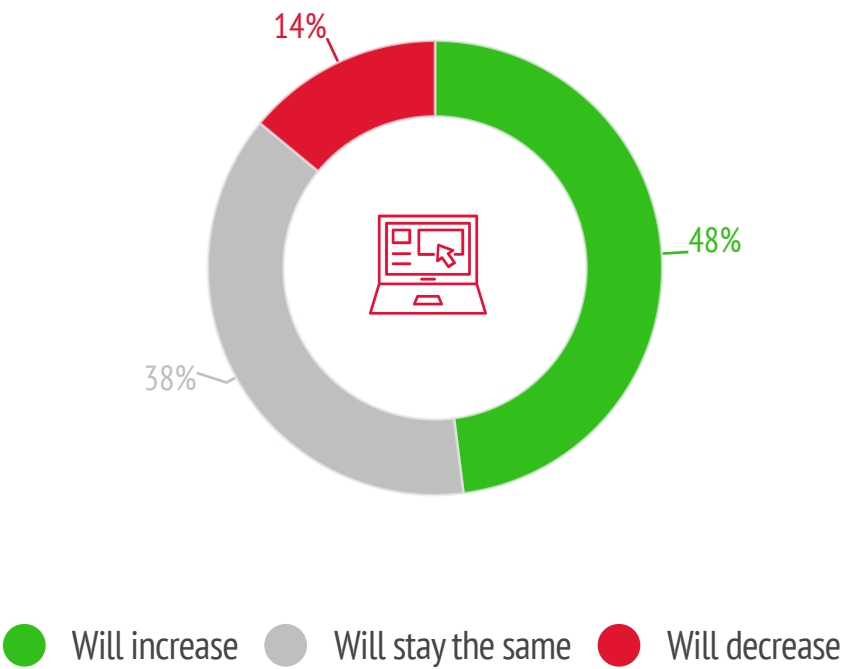
Insourcing

Insourcing - Data snippets

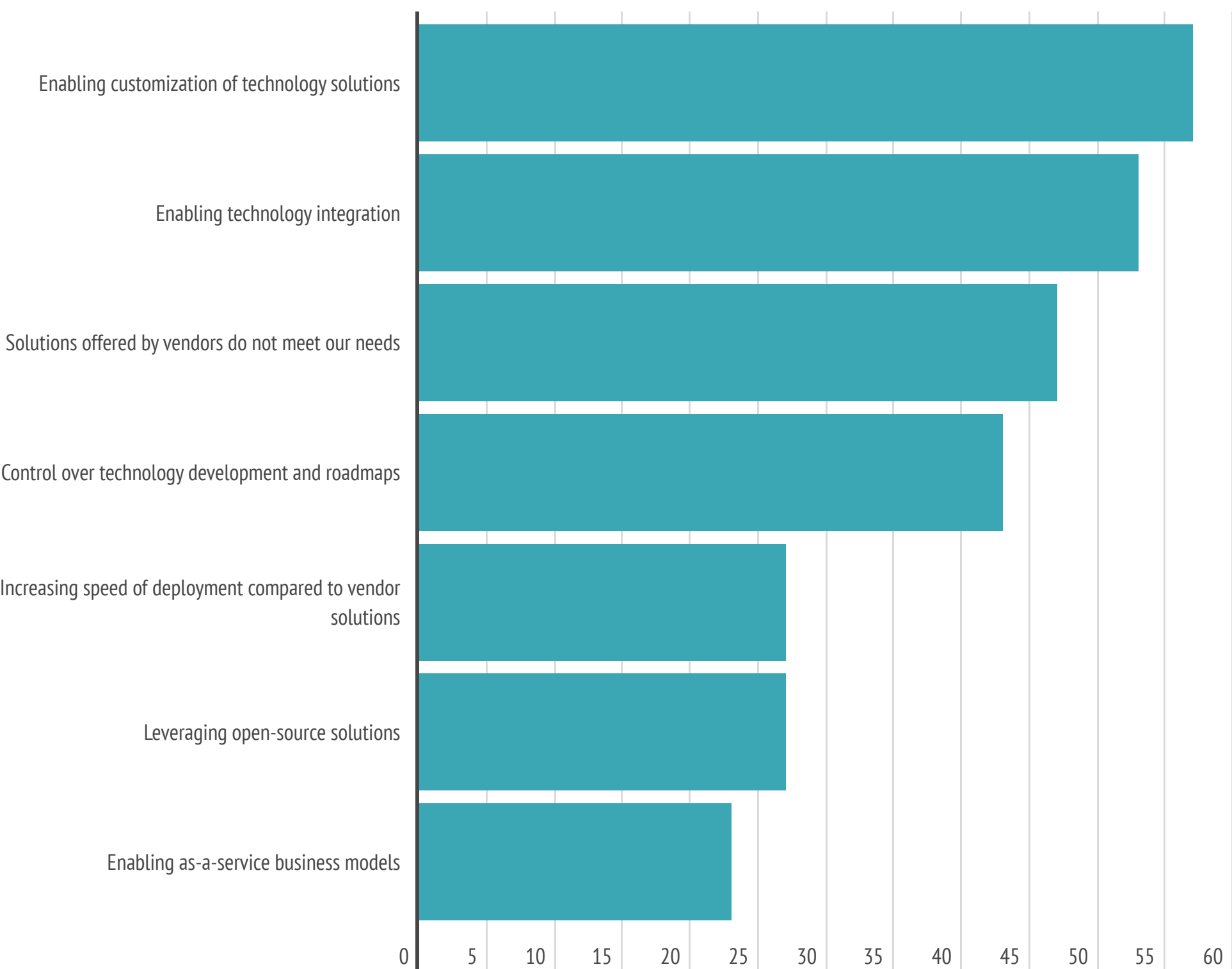
Average % of Solutions Built In-house



Software Development Investment Outlook



Main Reasons to Insource



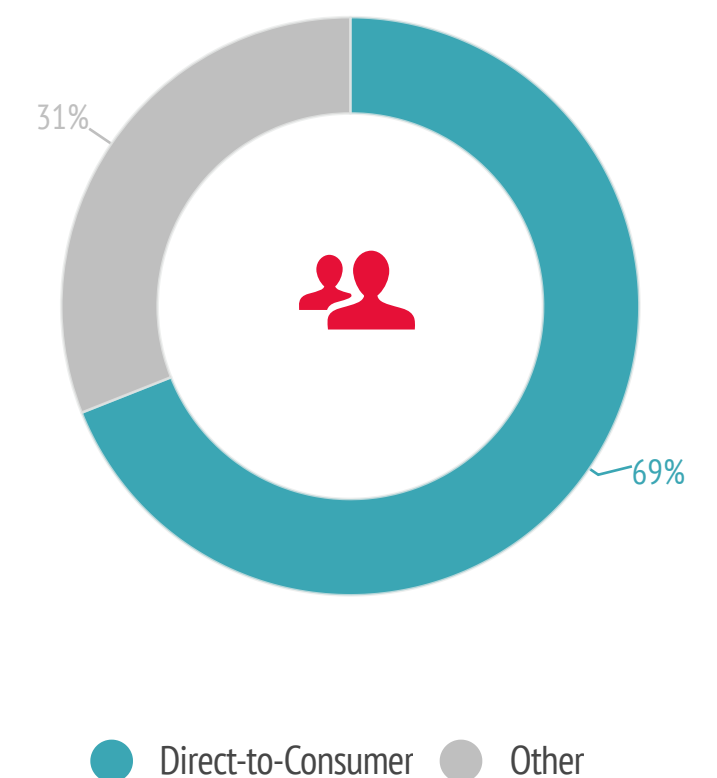
New Generations

Direct

As often argued by IABM research, the move to direct-to-consumer platforms is prompting media companies to radically transform their organizations. This not only includes a change in the business and technology fundamentals of their enterprises but also a change in the fundamentals of their workforce. Interviews conducted for this report highlighted that skills such as software engineering, cloud architecture, UI/UX design and data science are becoming more important for media organizations. This entails the entry of a new generation of media technology professionals into the industry. This generation has wider business and technology skills that are applicable to different sectors, hence making the media industry compete with other verticals for its talent. When moving to direct-to-consumer offerings, media companies are more likely to cut existing staff and acquire new skillsets in this process. This is very relevant as the new generation will make technology sourcing decisions relatively soon. A similar trend is happening on the supply side, which is adapting to the demand-driven transition. The new generation is virtual and focused on ethical business.



Share of Tech Job Openings at
Disney on 3 August 2020



New Generations

Virtual

The pandemic has prompted a radical and possibly irreversible move of workflows to remote working. From a people and technology perspective, this is a big deal. Both people and technology are adapting to the new paradigm together. As argued throughout this report, the forced move to remote working is accelerating an already established transition to digital workflows for media organizations. In this process, the value of digital skills is rising significantly as media companies increasingly rely on professionals capable of building and managing technology that enables remote access. The pandemic has stressed the importance of a digital-first mentality, including the love for risk-taking for the sake of experimentation which would once have been so at odds with the traditional media engineering culture. This is also affecting suppliers as they move to as-a-service business models. In a sense, the once isolated media technology sector is being absorbed by a wider technology industry as the adoption of general-purpose technologies rises. This is in turn making the sector more dependent on macro digital trends.



”

When trying to attract talent in data science and engineering they [the best engineers] are drawn to the new exciting tools [now that ITV has moved toward cloud technology], when we don't have a huge amount of legacy to deal with. It's not quite a clean slate, but they have the chance to come in and shape it themselves

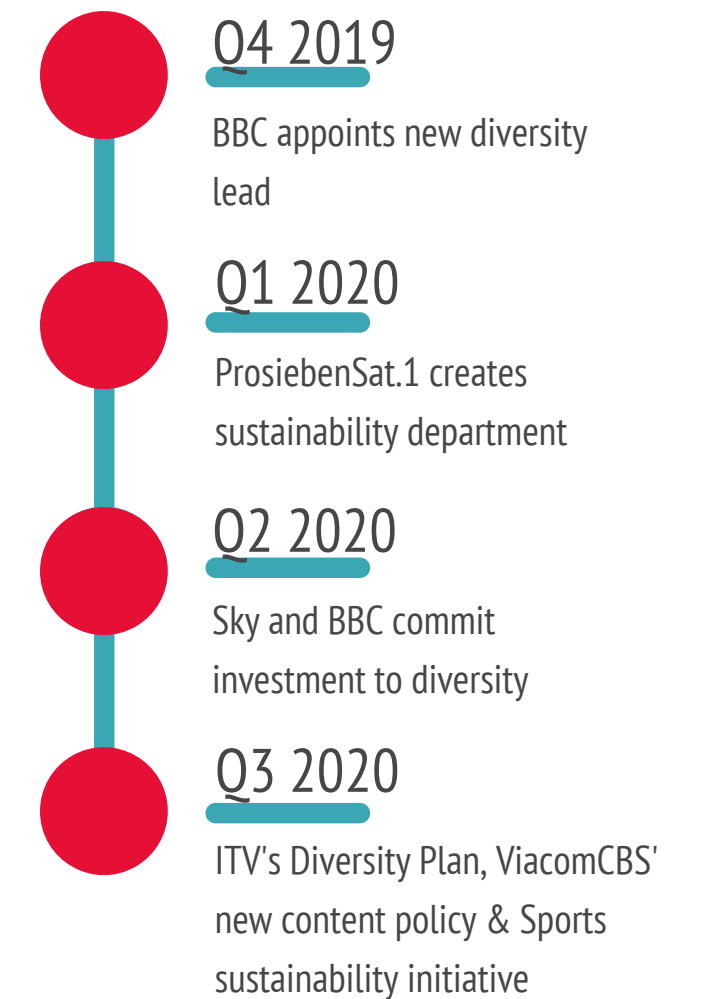
Andy Burnett, Director of Online Technology and Operations, ITV
April 2019

New Generations

Ethical

Last year, Business Roundtable announced the release of a new statement signed by 181 major CEOs which widened the scope of the modern corporation beyond pure shareholder value. In the declaration, the signatory CEOs committed “to lead their companies for the benefit of all stakeholders.” Fast forward one year and ethical issues such as diversity and sustainability have become key corporate values. The pandemic, which may have worsened these issues due to its polarizing nature, has also put a spotlight on safety and contributed to strengthening this trend. Facebook knows this well as hundreds of its employees staged a virtual walkout in June 2020 to protest Trump’s controversial posts on the platform. As new generations enter the industry more quickly, these corporate values are just going to be more relevant than ever before. In the media sector, broadcasters have launched a variety of diversity and sustainability initiatives in the last few years consistent with this trend. Media and technology companies should not disregard ethical issues when planning their future to avoid the risk of falling behind other verticals competing for the same skills.

Recent Diversity & Sustainability Initiatives



Every company depends on the environment, and we have a responsibility to protect it. We are taking action now – because the world can’t wait

Jeremy Darroch, Group CEO, Sky
Sky's 2019 Bigger Picture Report

Charting Content Supply Chain Investment



The BaM Content Chain®

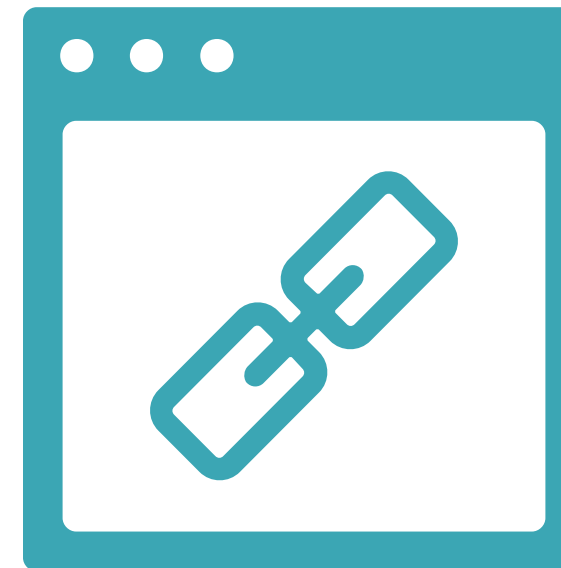
Our Investment Compass

IABM's BaM Content Chain® industry model will guide us in this journey through the content supply chain. In this special analysis, we will present media companies' new priorities and deployments in three macro areas of the content supply chain:

- Creating & Producing Content – Create and Produce trends
- Managing & Moving Content – Manage, Store, Support & Connect trends
- Distributing & Monetizing Content – Publish, Monetize & Consume trends



THE BaM CONTENT CHAIN®
from **Creator** to **Consumer**

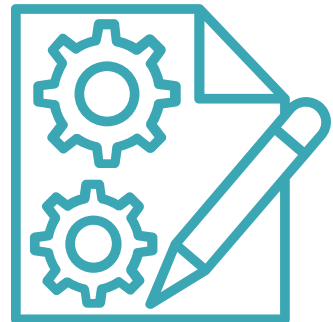


Content Supply Chain Investment

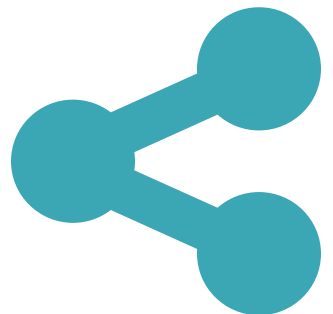
Investment Analysis, from Content Creation to Consumption



This section includes trends in Create and Produce. It discusses investment in technologies for original acquisition and creation of raw content as well as production processes, including post-production



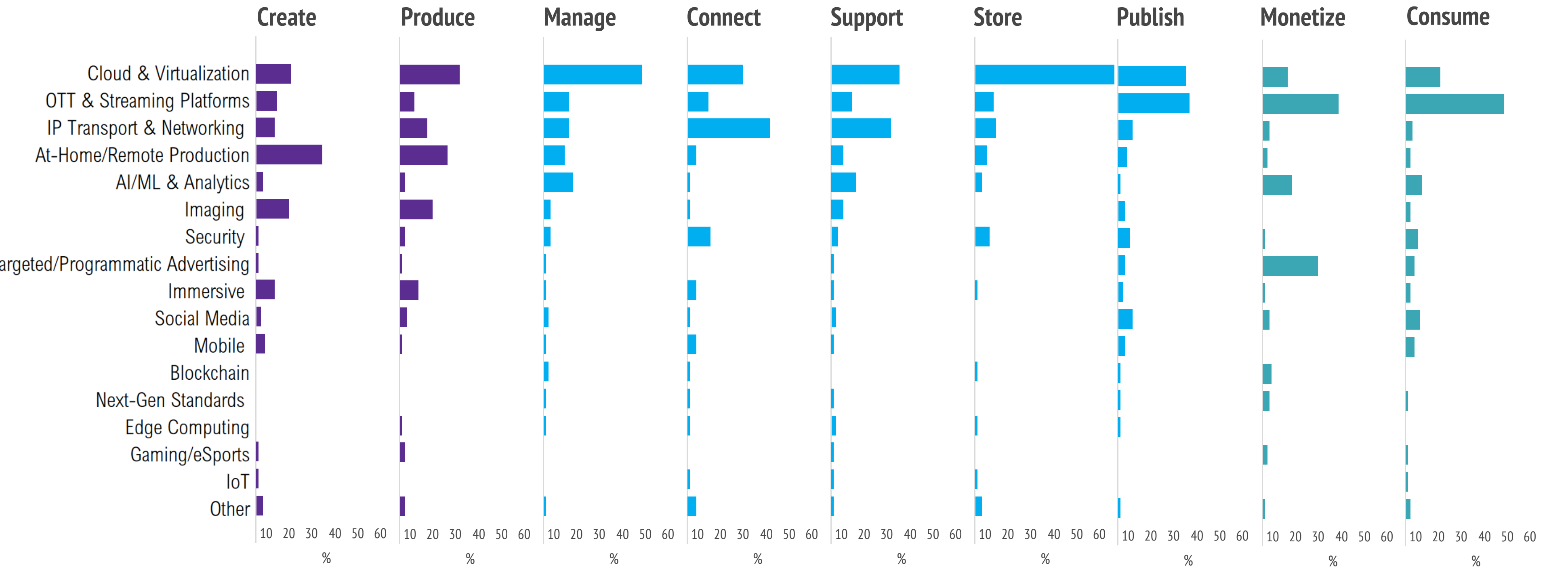
This section includes trends in Manage, Connect, Store, and Support. It discusses investment in technologies for preparing, storing, monitoring, managing and moving content



This section includes trends in Publish, Monetize, and Consume. It discusses investment in technologies for distributing linear and non-linear content as well as managing rights, royalties, advertising and consumer-facing technologies

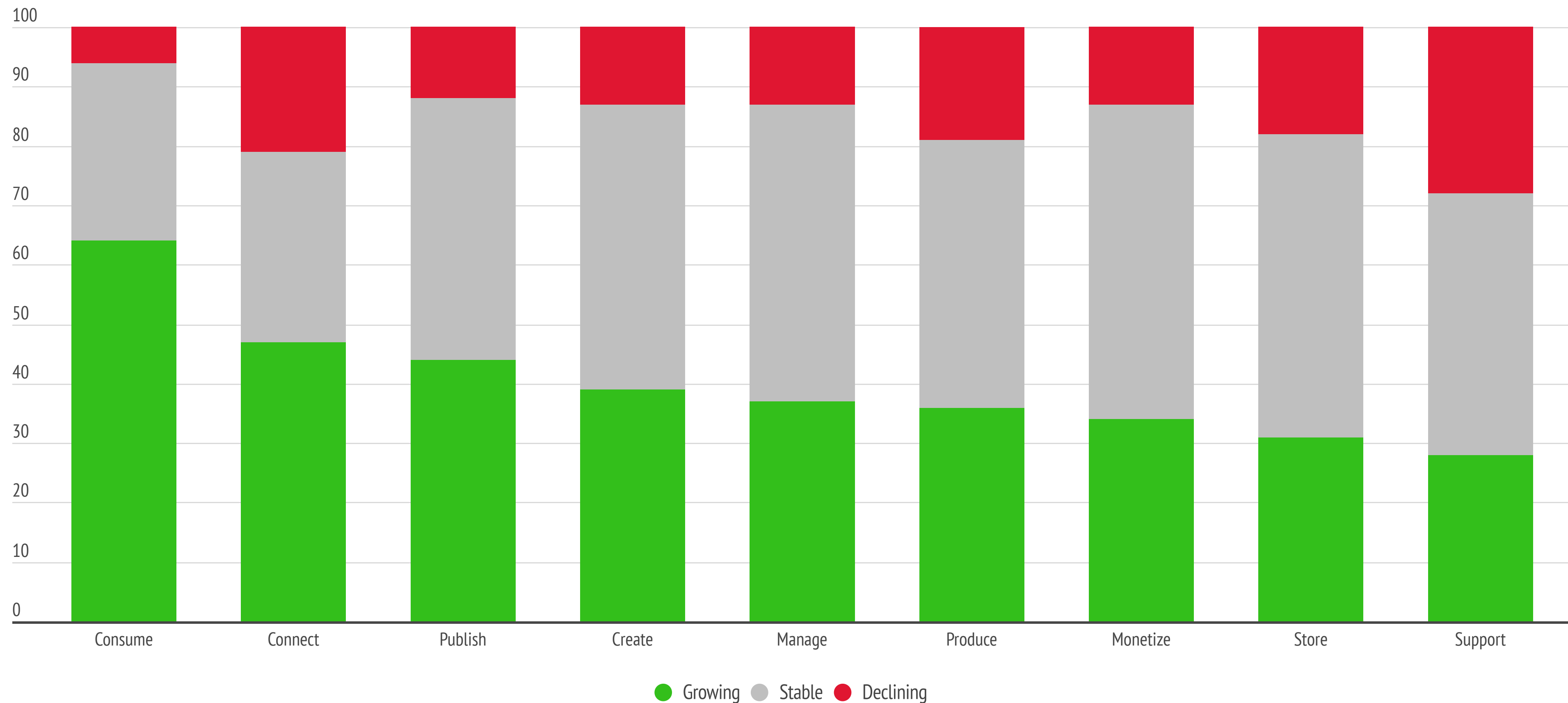
A Content Supply Chain View

Most Important Trends in Technology Roadmaps - By Content Supply Chain Segment



A Content Supply Chain View

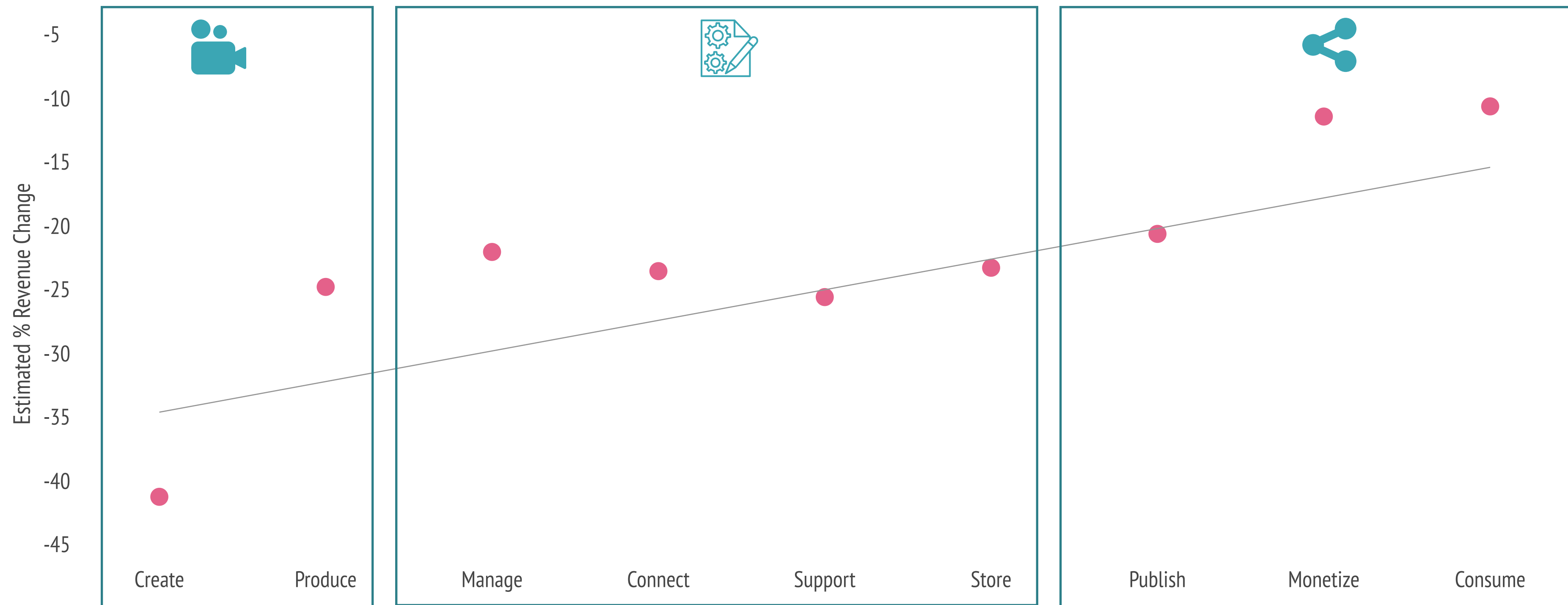
Content Supply Chain Investment Outlook by Technology Buyers



A Content Supply Chain View

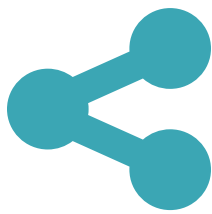
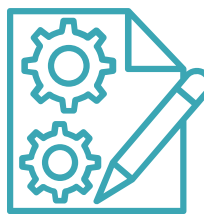
2020 Estimated Average Revenue Change - By Content Supply Chain Segment

IABM has aggregated estimates and feedback from different technology providers to chart average growth for 2020 in different content supply chain segments. Whenever possible, we have provided estimates for specific product and service categories throughout this section. The chart below shows that all parts of the content supply chain have experienced declining revenues but segments closer to consumers such as Consume and Monetize have fared better than others.



A Content Supply Chain View

Highlights



Most hit by events cancellations due to high reliance on hardware. Revenues set to be severely impacted in 2020, particularly for live production services.

Remote production and cloud are driving trends in this part of the content supply chain. Imaging remains third though upgrades have been postponed unless necessary

Investment has focused on remote solutions. Return of live and investment in original content should bring back growth in next years.

Less hit than content creation but still significantly impacted. Manage less impacted due to investment in making operations more efficient.

Cloud & IP are the most important drivers in this part of the content supply chain. AI/ML & Analytics is third in Manage and Support.

Connectivity solutions have benefited from move to remote workflows. Digital archiving has highly influenced demand in Manage and Store.

Demand for traditional means of distribution is down. Ad tech investment has suffered from advertising slump but remains important for media companies.

OTT is by far the most important driver in the part of the content supply chain. It is followed by Cloud in Publish and Consume, and by Targeted/Programmatic Advertising in Monetize

Immense surge in streaming consumption a boon for internet distribution outlets. Acceleration of direct-to-consumer propels growth of Consume

COVID-19
Impact



Severe Impact



Moderate Impact



Moderate to Low Impact

Creating & Producing Content



Dire Straits

Content creation and production have generally been the most affected parts of the content supply chain. The main reason behind this is the effect of the lockdowns on orders – due to the sector's greater reliance on hardware to drive revenues. IABM data shows that the negative impact of the pandemic on hardware is much more pronounced than its impact on software.

In content creation, demand for a major source of spending such as cameras has plummeted due to the Coronavirus pandemic. IABM estimates that the average decline in camera sales in 2020 could be between 30% and 35%. Revenues are forecast to bounce back in the following two years due to major live events and studio productions possibly coming back to drive sales. The cancellation of live events coupled with the general shutdown in other content productions have been the major drivers of the decline in camera revenues according to our Coronavirus Impact Tracker. IABM interviews with technology users also highlighted that most of them have deprioritized hardware for content creation unless absolutely needed for operational continuity. On the positive side, continued investment in original content will help drive increased demand in the longer term.

In the spring of 2020, major camera manufacturers such as Canon and Sony decided not to delay the launch of their new cameras.

Creating & Producing Content



Dire Straits

Some of these products seem to target the increased demand for remote production as well as new users of content creation technology such as e-Sports, consistent with an established diversification strategy of camera manufacturers that aims to offset price compression in content creation equipment.

Demand for hardware equipment used in conjunction with cameras such as batteries and lenses is declining as well due to its high correlation with camera sales. The same applies to other product categories such as lighting and microphones. Although these latter product categories have benefited from a surge in demand from the home studio, this has been largely offset by the decline in spending from large professional studios and sports organizations, for example.

When talking about hardware, it is important to note that supply has also been hit hard by supply chain disruptions and factory closures, particularly in the first half of the year. Ross Video was one of the first companies in the media technology sector to close its factory at the end of March to safeguard the health of its employees - Ross told IABM that it purchased components in bulk to avoid any issues.

Manufacturing for several camera vendors – and for components used in cameras - happens in Asia, which was hit earlier by the pandemic, causing immediate shortages for some suppliers.

Creating & Producing Content



Dire Straits

In the case of Sony, manufacturing plants that are generally dedicated to digital cameras were repurposed to produce ventilators, equipment that hospitals worldwide urgently need to support patients in intensive care. This is important as supply chains could be disrupted again if a second wave of infections forces countries worldwide to reinstate lockdowns in autumn - which is seen as very likely by several infectious disease experts.

The only product category in content creation experiencing a temporary surge in demand is social and user-generated content (UGC) – solutions to acquire video from consumers. The growth in social media content creation and distribution driven by the stringent lockdown measures implemented worldwide between March and April 2020 has facilitated this upward trajectory. This has particularly boosted the usage of video-focused social media platforms such as TikTok as evidenced by recent data. Sectors such as news have particularly embraced these solutions in recent months.

In content production, demand is also being hit hard by Coronavirus, for similar reasons to content creation, although less so due to its greater reliance on software and cloud-based solutions. Content production is a large segment in the broadcast and media technology industry that encompasses everything from outside broadcast services to content editing. The impact of the pandemic on these different categories has been heterogeneous.

Creating & Producing Content



Dire Straits

Production equipment and live services have been hit the most due to the cancellation of live events. IABM estimates that the average decline in live services sales in 2020 could be between 45% and 50% while live production equipment such as switchers should decline less steeply this year. The economics of the live sector are changing significantly as companies move to remote production models.

The move to remote production could have a knock-on effect on investment in the next years as companies that move to remote models rationalize the purchase of equipment historically held in trucks such as production switchers. Media companies have been forced to implement decentralized remote production models though some industry experts expect them to return to a centralized setting whenever they are able to do so. This is far from certain though centralized production models offer undeniable business advantages. Benefits to resource centralization include increased utilization of assets as well as increased employee productivity.

In audio production, IABM research points to a general decrease in revenues between 25% and 30%. Audio technology is heavily used by parallel markets such as live music and theatres, which have been hit hard by the pandemic. Akin to other categories of production technologies, audio revenues are forecast to bounce back between 2021 and 2022.

Creating & Producing Content



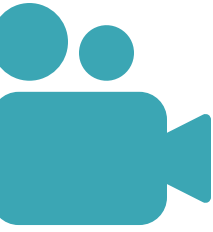
Dire Straits

The software side of content production is generally experiencing an uptick in revenues as technology users have moved to at-home working models. One of the activities experiencing an increase in revenues is remote editing and most technologies related to enabling this type of remote workflows. This includes PC-over-IP technology to enable remote access to corporate systems as well as KVM switches and extenders. Demand for remote editing software has been increasing significantly according to interviews carried out by IABM. In this turbulent period, many technology users have often adopted integrated suites of production software featuring publishing functionalities to post content on social channels, for example. This has been particularly popular in the sports sector, to keep fans engaged during a period of no sports.

IABM research points to increasing use of generic internet technologies to enable remote collaboration. These include generic collaborative solutions such as Teams and Zoom but also products that are specific to the media industry - and help users solve specific problems - such as Frame.io. According to many users, this represents a radical change in their organizational practices.

Our research also points to increasing demand for graphics solutions to augment news broadcasts and archived content as well as produce virtual events.

Creating & Producing Content



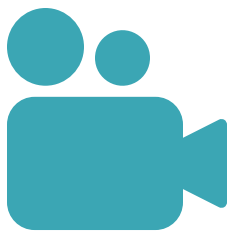
Dire Straits

In news, demand has grown due to consumers keeping up with the latest developments in the pandemic worldwide. As a result of this, CNN has announced its best ratings in 40 years, for example. The pandemic is a data-rich phenomenon which has prompted news broadcasters to rely more on data-driven graphics solutions. CBS News upgraded its news graphics for its Coronavirus coverage in mid-April. Nexstar, Sinclair, and Quincy Media have been working with ChyronHego in the US to aggregate county-level stats on the pandemic. In sports, broadcasters and leagues have turned to graphics to augment old broadcasts with new features. For example, the Caribbean Premier League has added live commentary to old cricket matches using Grabyo's technology. Sports has also moved towards producing more virtual events due to the pandemic, which has contributed to driving more spending towards graphics technology. As an example of this, broadcasters such as ITV and NASCAR have delivered virtual events that attracted record audiences in the first half of the year.

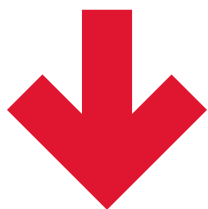
Despite the positive effect on the software side of the creation and production sector, the general effect of the pandemic on this part of the content supply chain has been negative due to the relevance of hardware revenues in this segment. While some product categories should bounce back in 2021 as production and sports events resume, the pandemic has undoubtedly produced some structural changes that should remain in the long-term.

Creating & Producing Content

Data snippets



2020 Estimated Average Revenue Change by Technology Providers

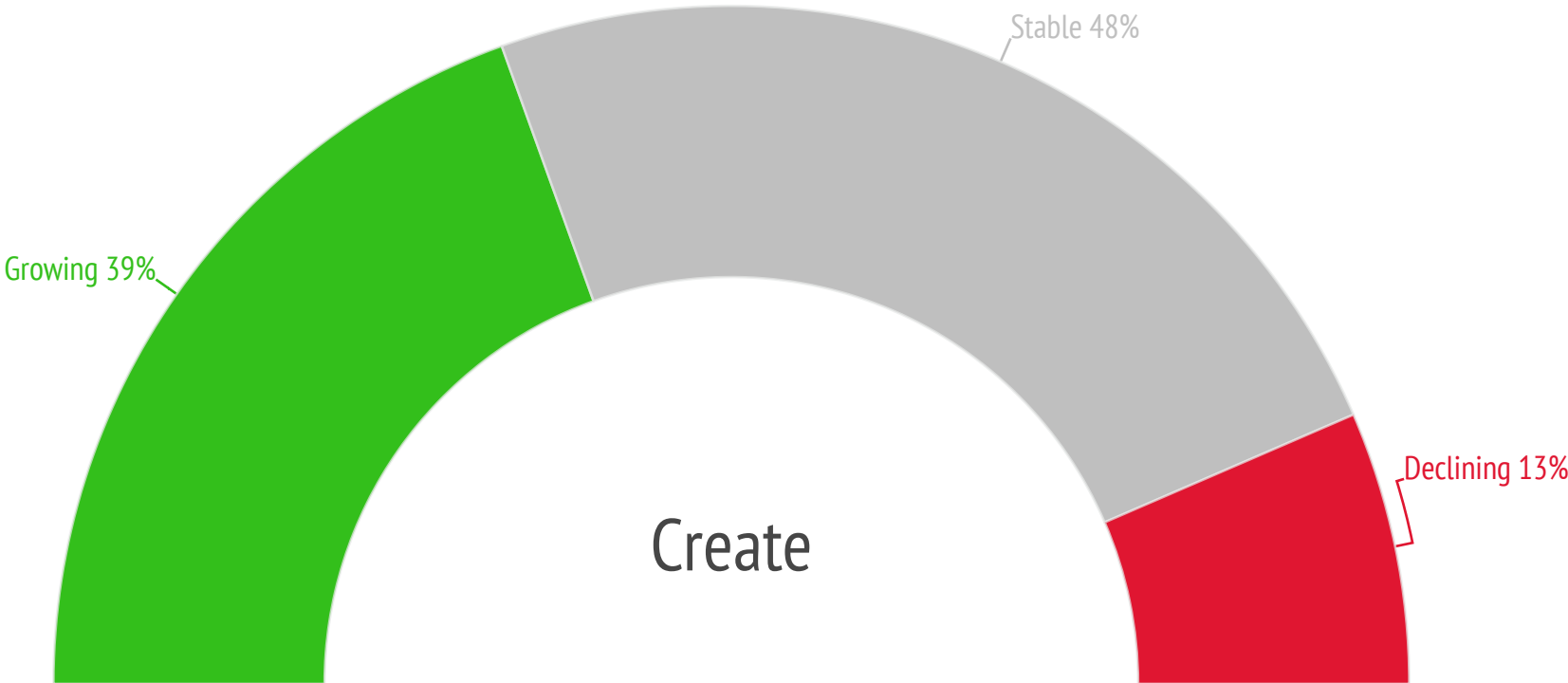


-40.1%

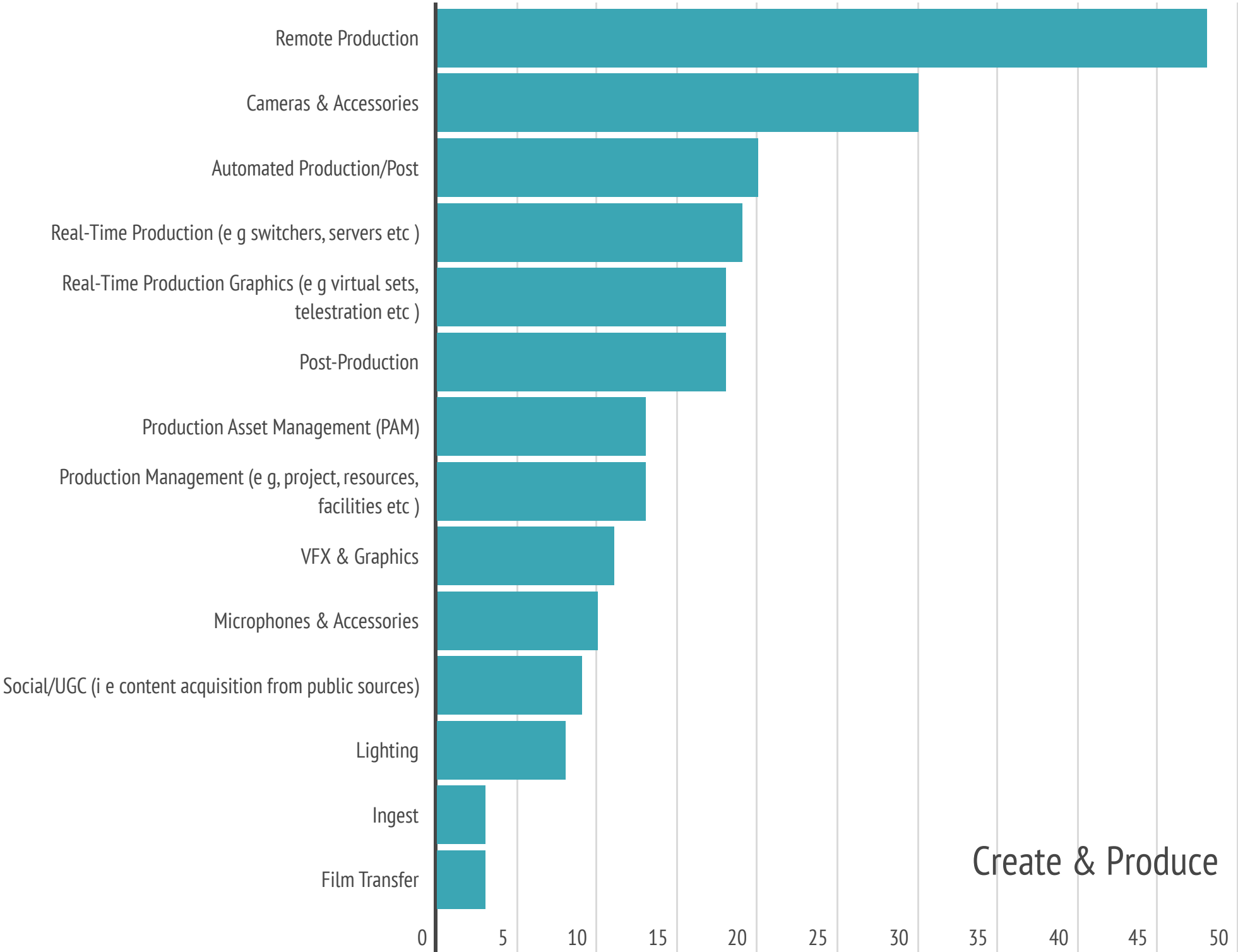
Estimated Average Decrease in Revenues

Create

Investment Outlook by Media Technology Buyers



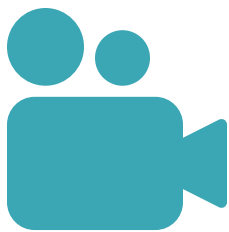
Fastest-Growing Technology Categories and Activities



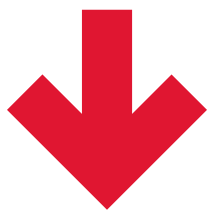
Create & Produce

Creating & Producing Content

Data snippets



2020 Estimated Average Revenue Change by Technology Providers

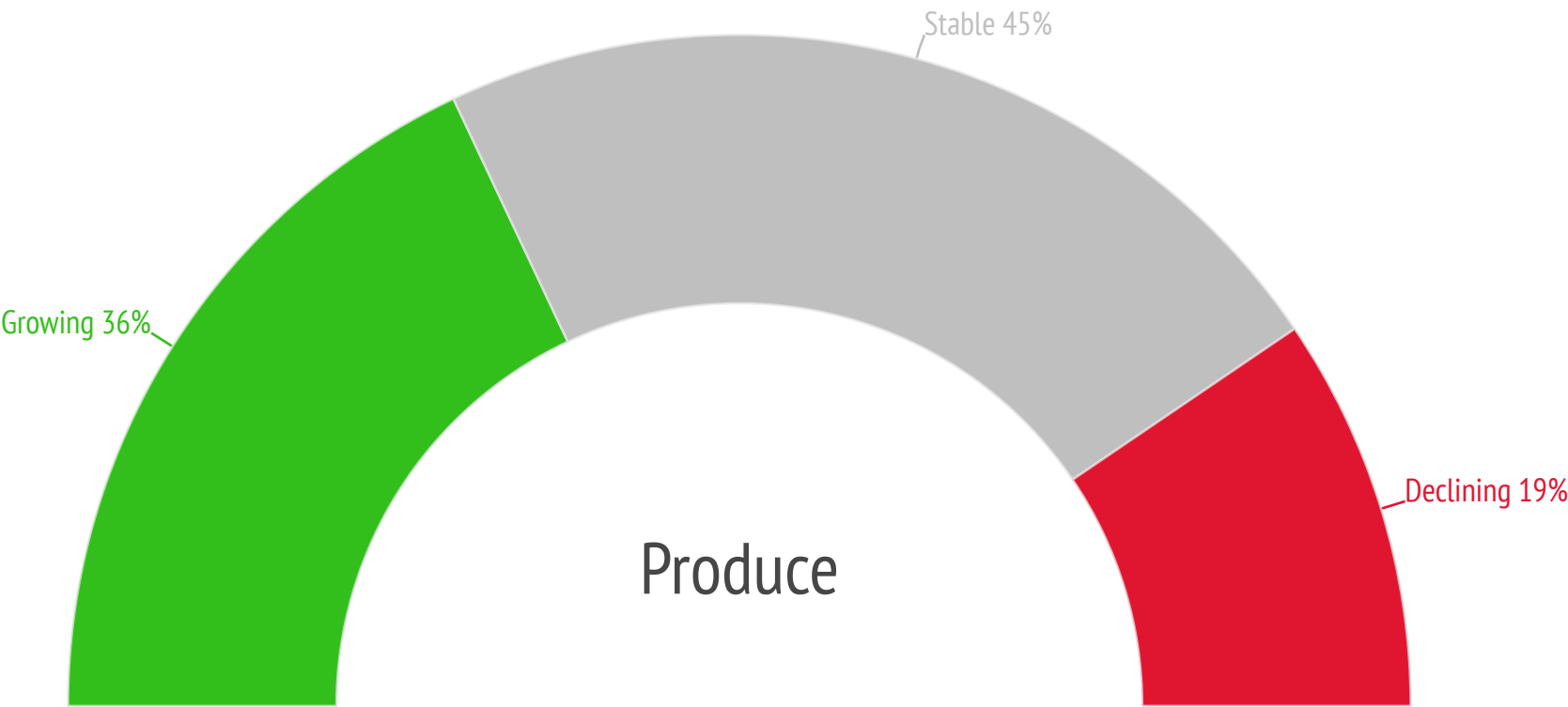


-23.7%

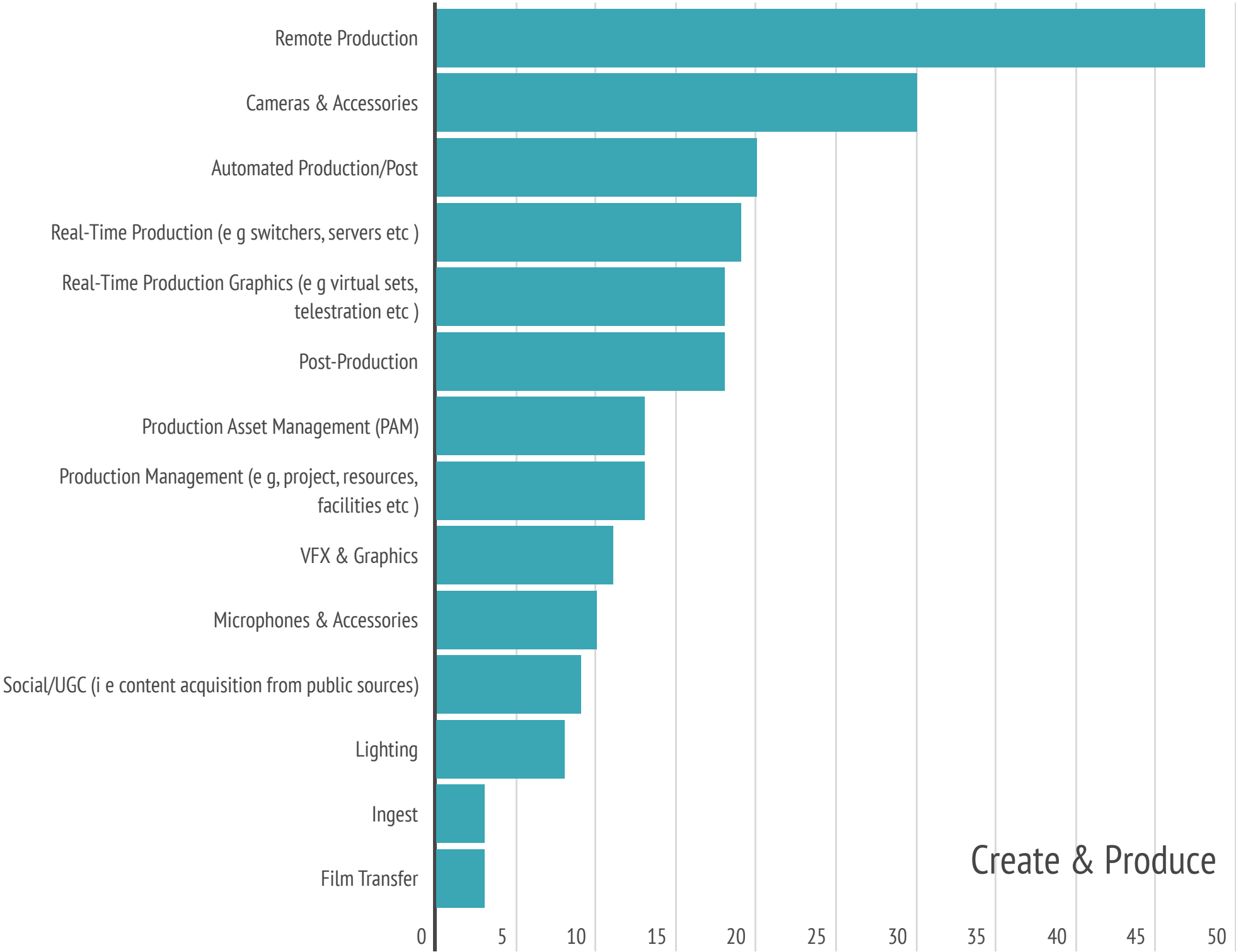
Estimated Average Decrease in Revenues

Produce

Investment Outlook by Media Technology Buyers



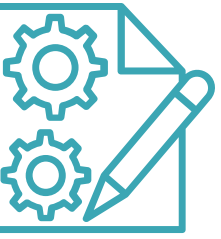
Fastest-Growing Technology Categories and Activities



Create & Produce

Managing & Moving Content

Efficiency & Access



In content management, the pressure on funding models described in this report is prompting media companies to accelerate their plans related to solutions that drive efficiencies within their organizations. According to IABM research, this includes an uptake of content and workflow management solutions that drive process automation. According to IABM research, one of the most important objectives of media companies before the pandemic hit was the maximization of asset utilization. Process automation has often been used to achieve better utilization of resources. Therefore, we should see this accelerating as well before the end of the year. From a technology perspective, more media companies may leapfrog into cloud and machine learning to enable process automation. Large broadcasters such as Fox and ProSieben.Sat had already made major cloud moves in 2019 to enable increased process automation. Cloud service providers posted slower growth in the second quarter of 2020 though spending on cloud technology was still impressive given the times we are in. Despite the focus of media companies on streamlining their operations, IABM estimates that revenues in content management should still decline on average by a range between 5% and 10%.

The most important trend in this part of the content chain has been however the lack of content production vis-à-vis the increasing demand for new content by audiences.

Managing & Moving Content

Efficiency & Access



This has forced media companies to re-evaluate their archive strategies, asking both technology suppliers and service providers to focus on digital archiving to enable remote access to content assets as well as content re-purposing for different distribution outlets. This trend has been particularly relevant to the sports sector, which has had to face a complete shutdown in Q2 2020, and has had a significant impact on demand for live production services, which have been re-purposed accordingly to digital archiving solutions. As an example of this, VISTA Worldlink told IABM that most of its services had been repurposed away from sports production and towards creative digital archiving solutions.

The increased reliance on archives has also prompted media companies to accelerate their plans related to automated metadata extraction, a major area of strategic focus for media organizations even pre-pandemic. In fact, more and better data on existing content assets is seen as a key driver of revenue as well as creative productivity as it enables improved asset search. As programming schedules have been hit by production cancellations, media companies have also increased their focus on content data analysis to better leverage their archives. This is consistent with the trend above and includes solutions that sift through large archives to recommend relevant content.

Managing & Moving Content

Efficiency & Access



According to interviews conducted for this report, this will not substitute editorial decisions but will rather support them. Consistent with this trend, we have seen a significant uptick in investment in both storage and archive management.

From a storage perspective, revenues are declining in multiple categories according to our analysis. This has been mainly driven by production shutdowns. Jamie Lerner, CEO of Quantum, said of his company's performance in June 2020: "Quantum delivered significantly improved performance in fiscal 2020, particularly in terms of profitability, despite a marked slowdown in revenue in mid-March when the outbreak of the COVID-19 pandemic halted professional sporting events and many of our customers in the media and entertainment sectors temporarily ceased filming operations." Consistent with the digital archiving trend mentioned above, media companies have increasingly turned their attention to cloud-based object-based storage deployments for more real-time access, dynamic resource allocation, and better asset search.

From an infrastructure perspective, our data shows that connectivity and bandwidth products and solutions have been some of the most sought after by technology buyers in the first quarter of 2020. This includes IP connectivity, internet connectivity as well as mobile connectivity.

Managing & Moving Content

Efficiency & Access



In news, this is translating into increased use of mobile transmission apps such as Dejero's to transport content from mobile phones to studios or central content repositories. Dejero said they recorded ten times the usual number of live streams from LivePlus in April 2020. Interviews with technology users confirmed this shift to mobile journalism to increase the efficiency of operations. In an interview with TVNewsCheck in May 2020, Tish Graham, VP of OTV technology for ABC said: "We are seeing unbelievable video produced, edited and distributed off of iPhones or small consumer-type cameras." It was an established trend for the news sector which has been accelerated by the pandemic.

The demand for hardware equipment used to connect facilities has instead declined. This also includes IP networking infrastructure which has been in high demand in recent years to support media companies' transition away from SDI operations. Cisco's revenues from switches were down 12% in Q1 2020 compared to the first quarter of 2019, which may also have been driven by supply chain disruptions. Most media companies have told us that the transition to IP-based operations remains a strategic priority going forward although the pandemic has forced some of them to postpone their projects when it comes to next-generation facilities. When this has not happened media companies' budgets have had to soar as a result.

Managing & Moving Content

Efficiency & Access

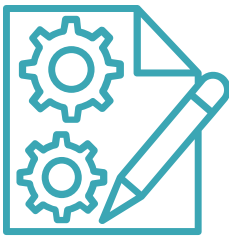


Canadian broadcaster CBC moved to its new SMPTE ST 2110 facility in July 2020 but built most of the site pre-pandemic. As often argued by IABM research, IP upgrades generally coincide with greenfield facilities. We expect spending in networking products to bounce back significantly as soon as social distancing measures cease to affect technology investment. Again, equipment needed to enable remote collaboration has benefited from demand from the home studio although this has been more than offset by the decline of demand from major technology buyers such as broadcast and production facilities.

From a content support perspective, services such as system integration and consulting have significantly suffered from the pandemic. IABM estimates that revenues from these services could decline on average by a range between 25% and 30%. Other categories such as video monitoring, facility hardware, and system monitoring are also expecting a decline in revenue this year. The only category experiencing a significant increase in demand in this segment is cloud computing, consistent with the trend towards virtualization mentioned throughout this report. Media companies have had to ramp up cloud computing demand out of necessity.

Managing & Moving Content

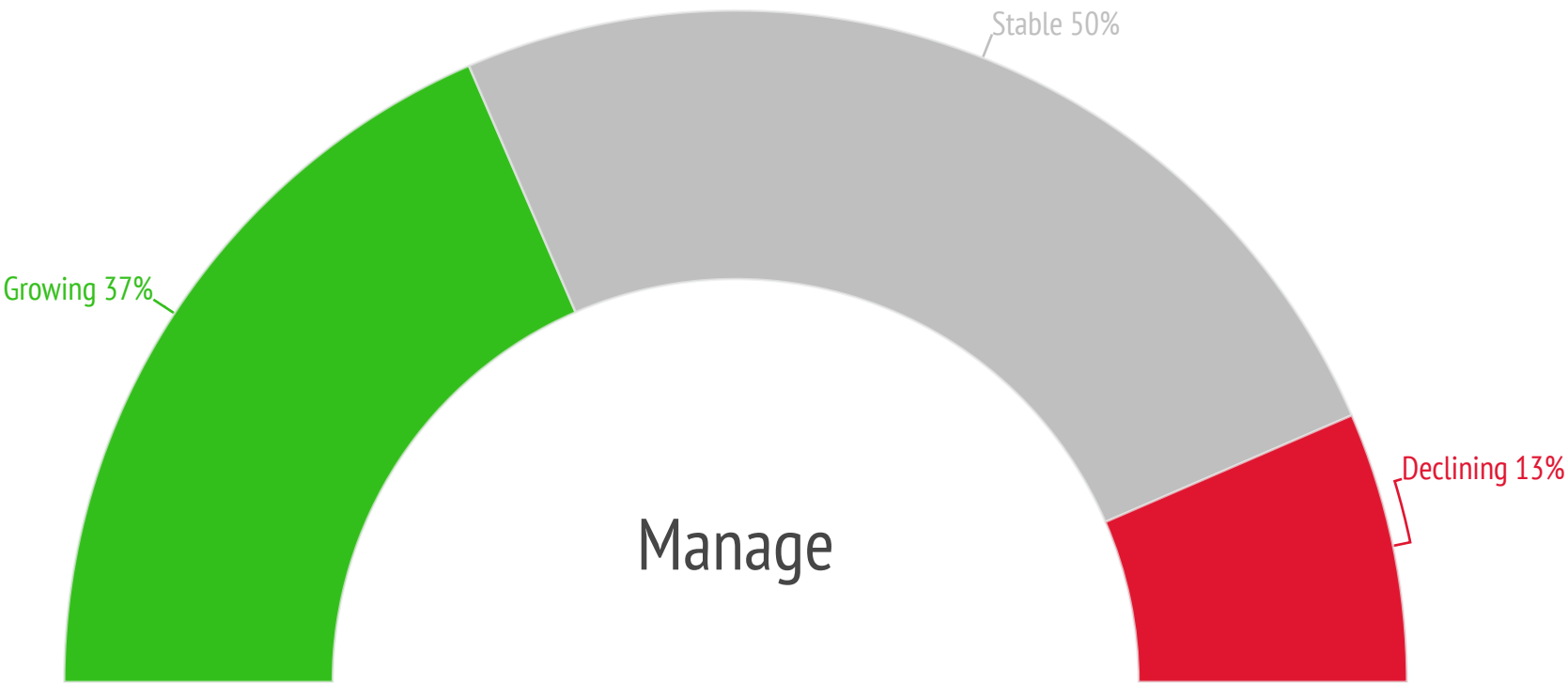
Data snippets



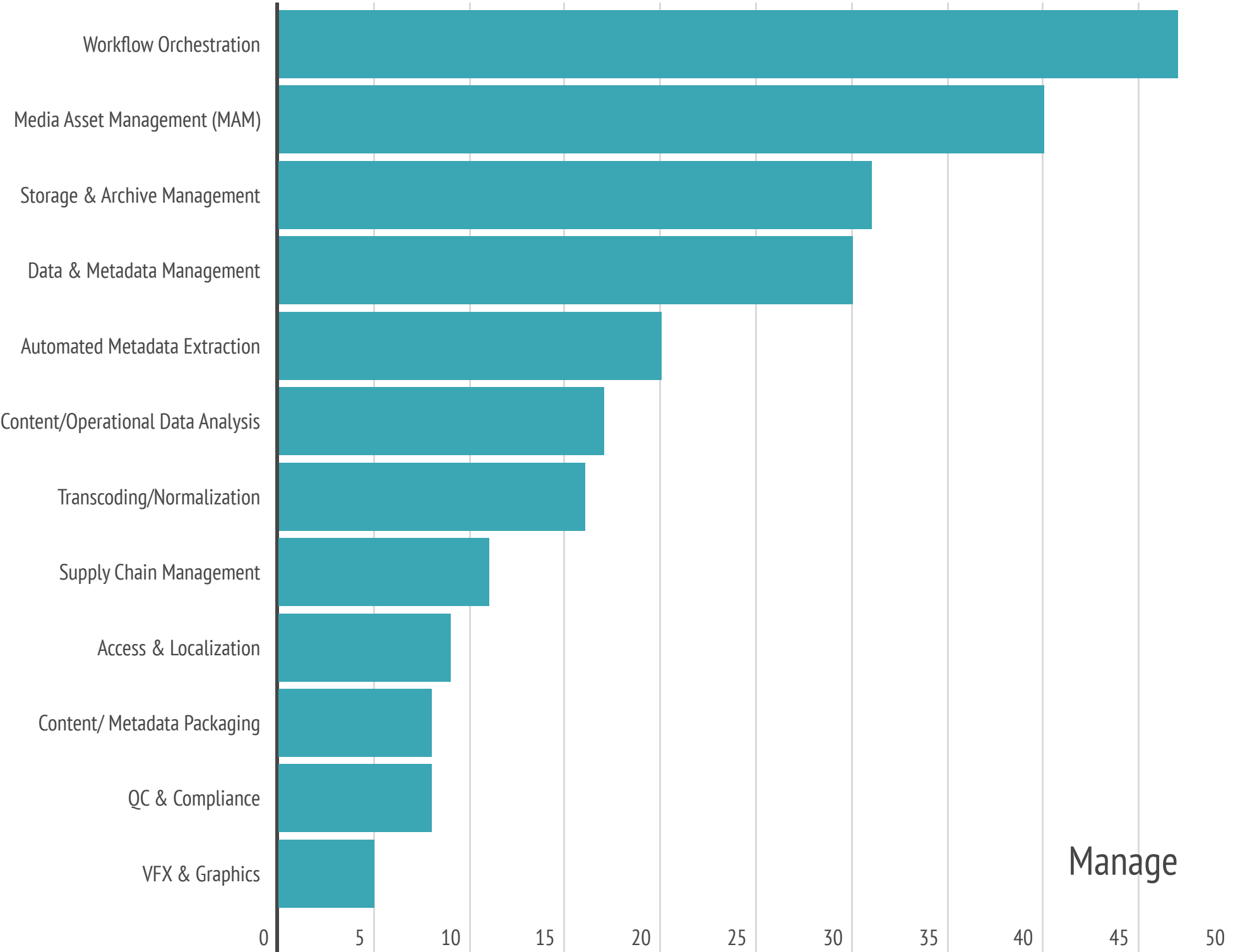
2020 Estimated Average Revenue Change by Technology Providers



Investment Outlook by Media Technology Buyers

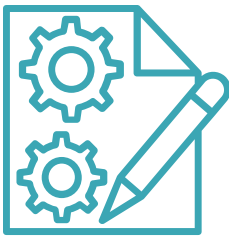


Fastest-Growing Technology Categories and Activities

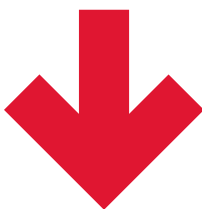


Managing & Moving Content

Data snippets



2020 Estimated Average Revenue Change by Technology Providers

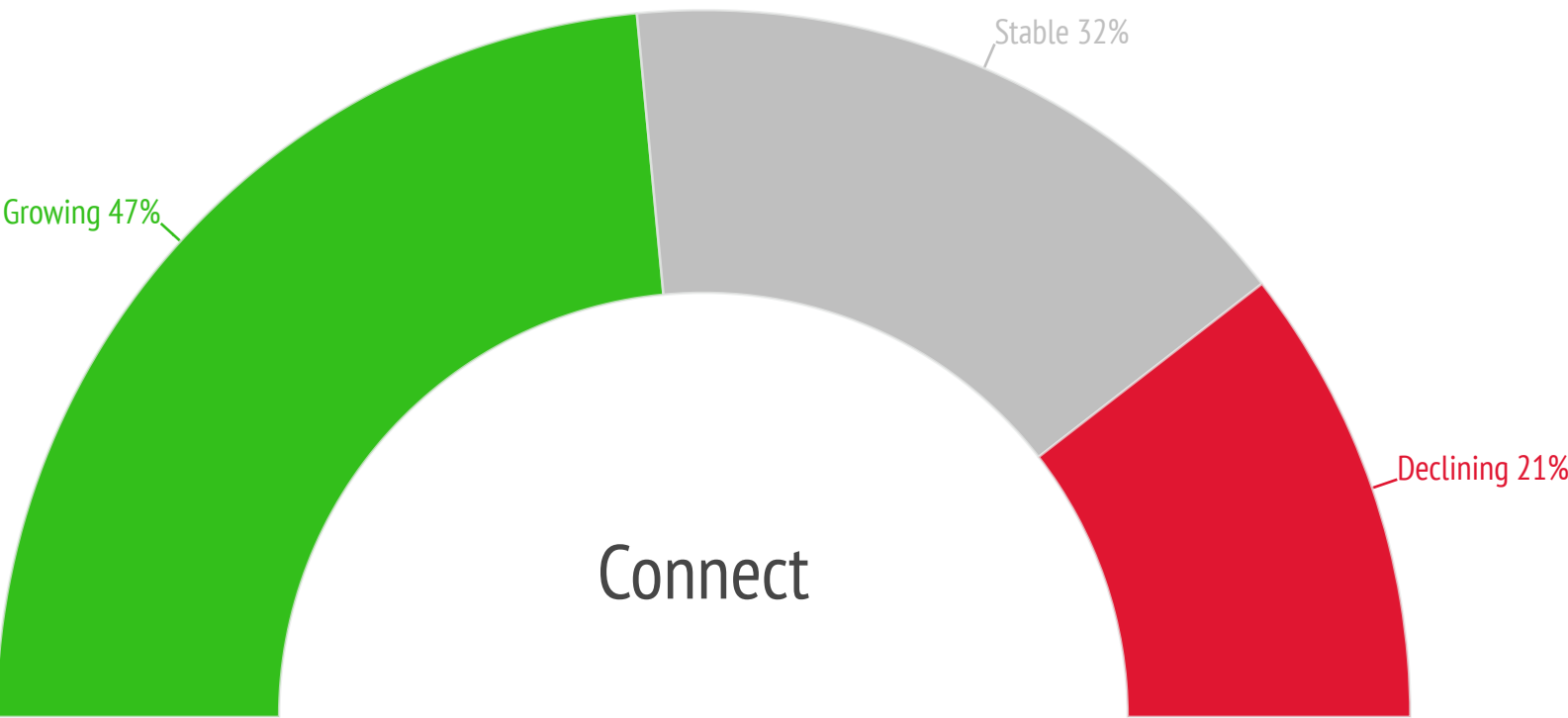


-22.4%

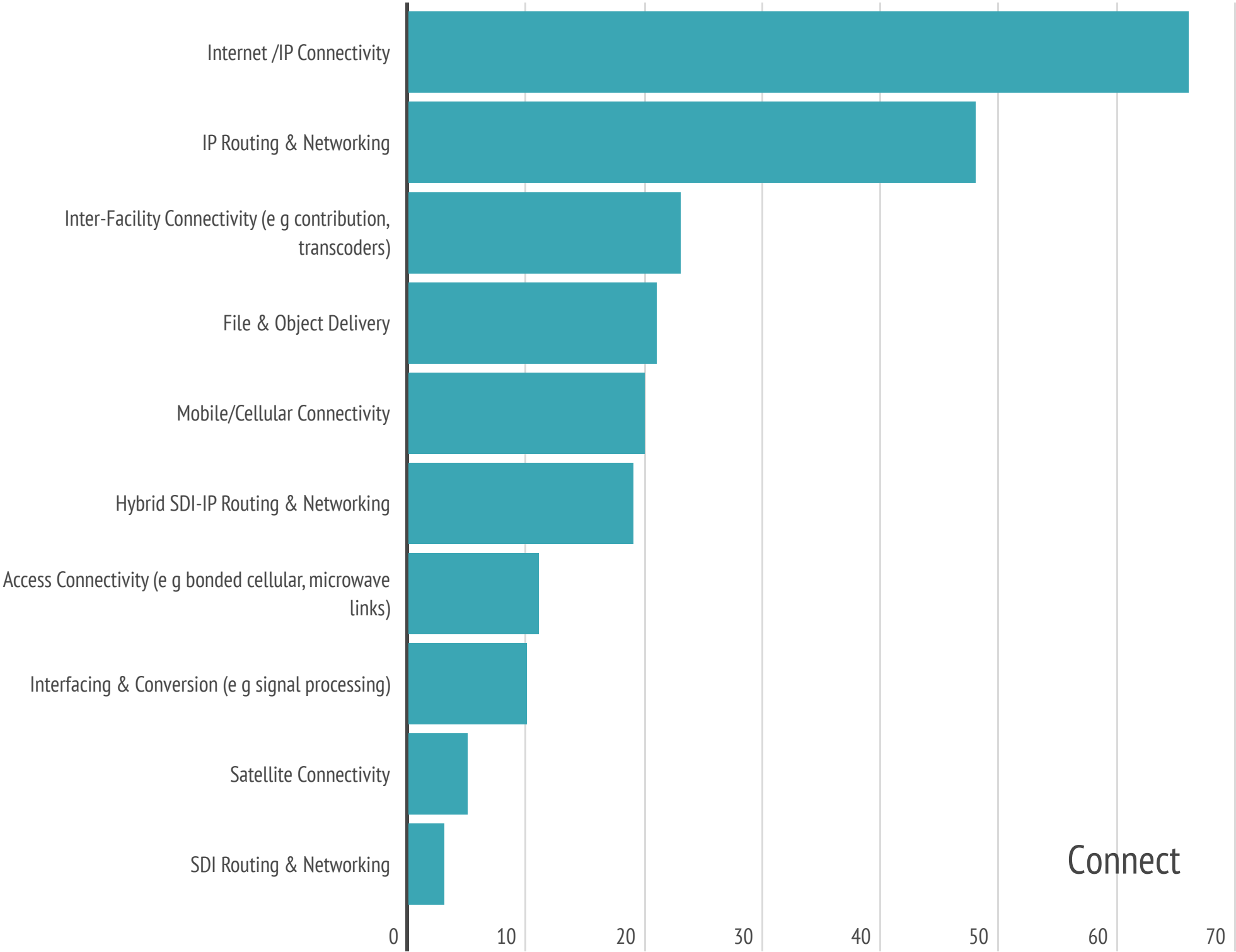
Estimated Average Decrease in Revenues

Connect

Investment Outlook by Media Technology Buyers



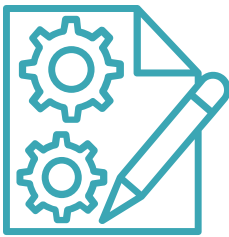
Fastest-Growing Technology Categories and Activities



Connect

Managing & Moving Content

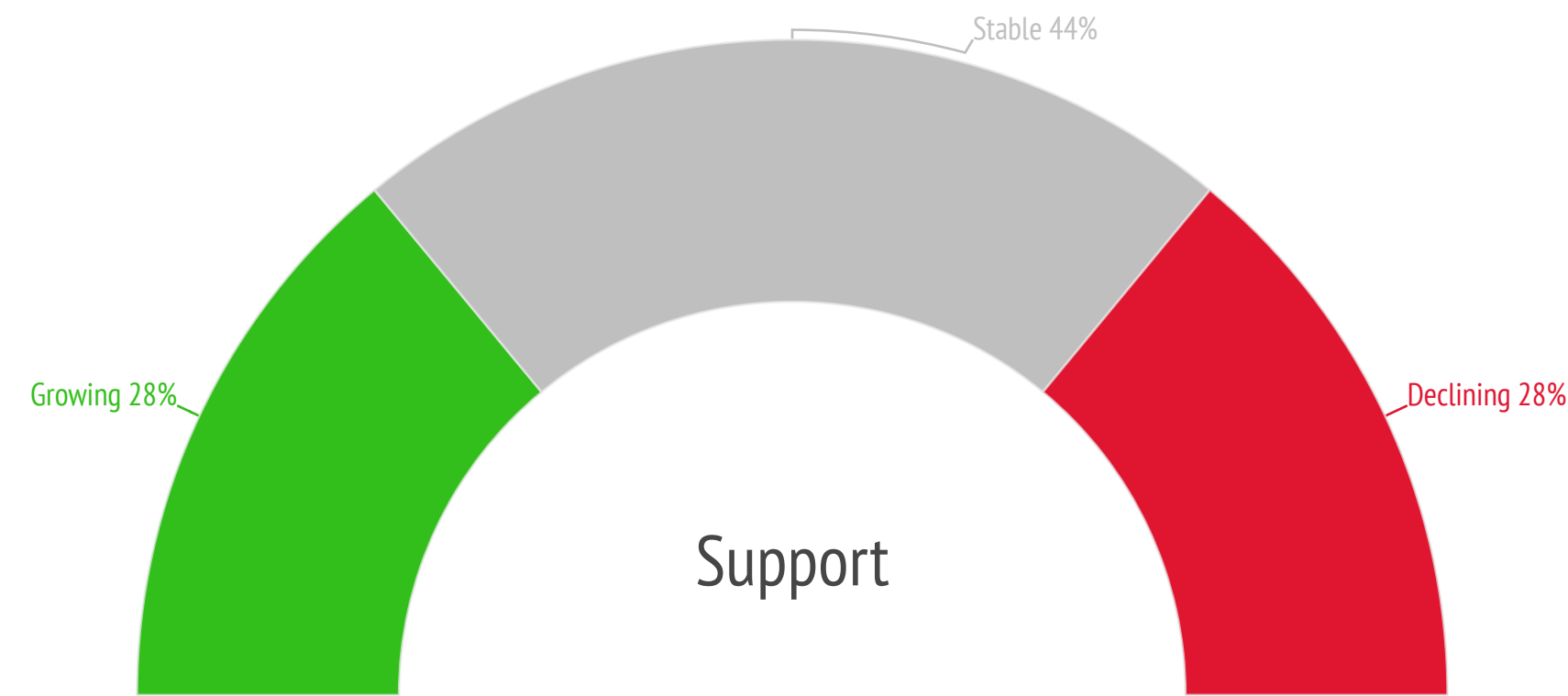
Data snippets



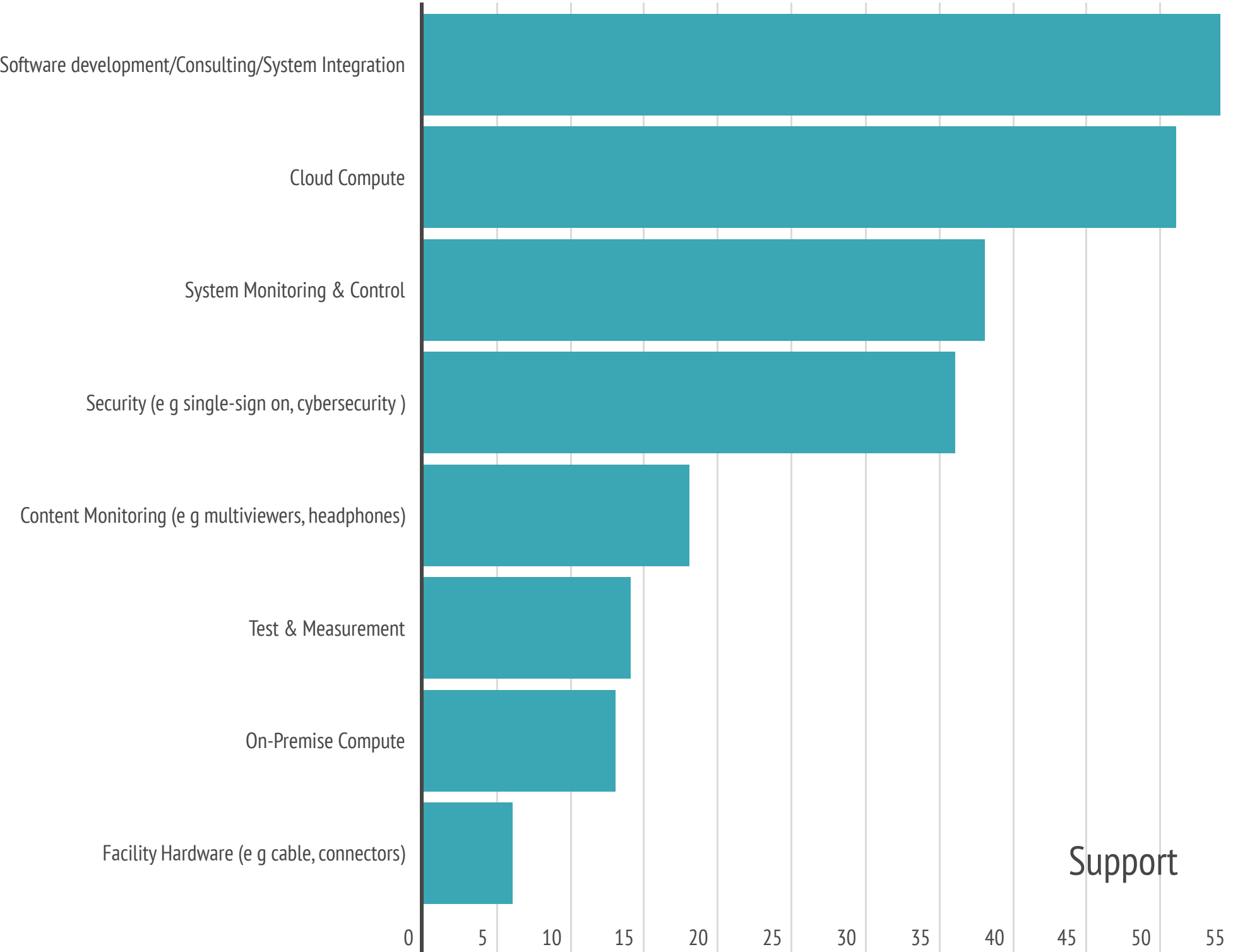
2020 Estimated Average Revenue Change by Technology Providers



Investment Outlook by Media Technology Buyers

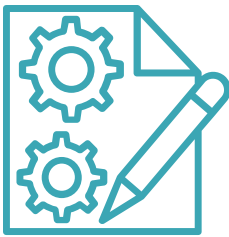


Fastest-Growing Technology Categories and Activities



Managing & Moving Content

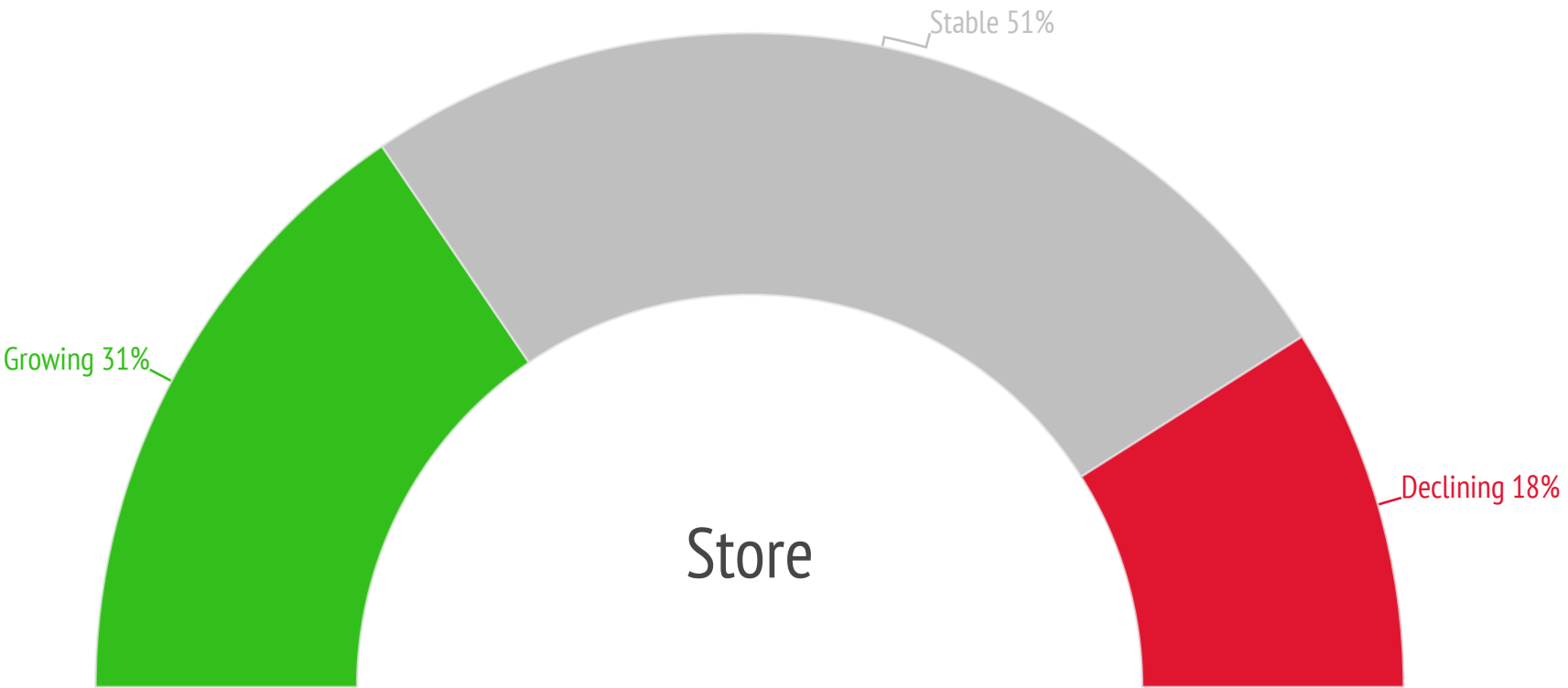
Data snippets



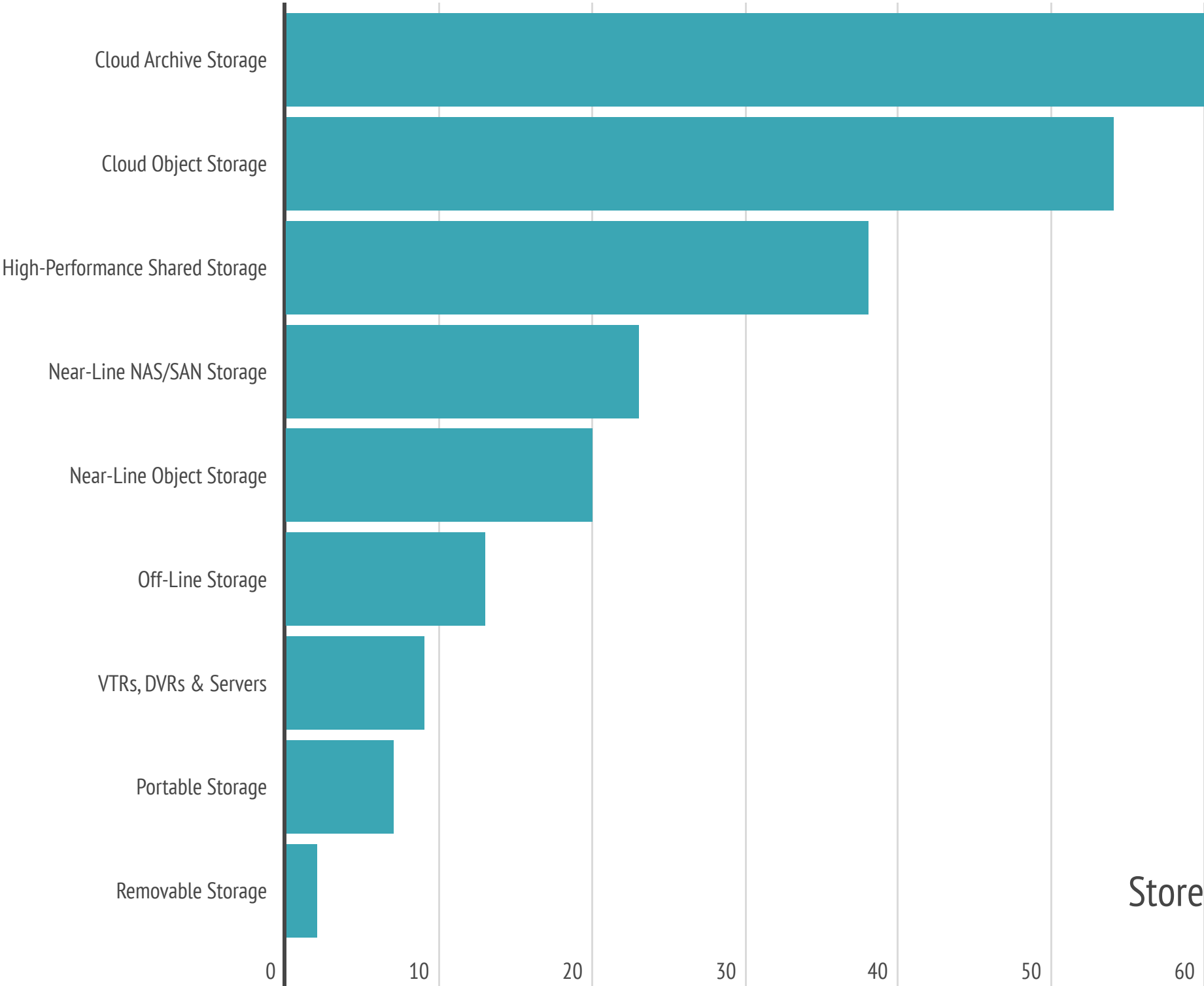
2020 Estimated Average Revenue Change by Technology Providers



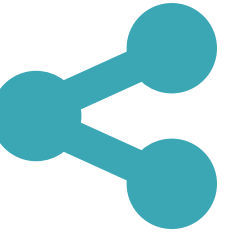
Investment Outlook by Media Technology Buyers



Fastest-Growing Technology Categories and Activities



Distributing & Monetizing Content

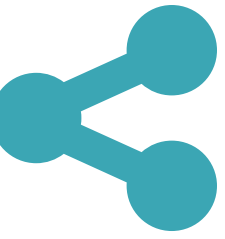


Streaming Surge

The immense surge in streaming consumption driven by lockdown measures has been the most important investment driver in content distribution and monetization. Firstly, this trend has driven media companies to make new investments in infrastructure to sustain the increased demand for streamed content. This has driven revenues at internet distribution platforms and CDNs. Ed McGowan, EVP and CFO of Akamai, said during the company's Q1 2020 earnings call: "With many countries around the world issuing shelter-in-place orders, we have seen a dramatic increase in media traffic across our platform. We expect this elevated traffic to continue to have a positive impact on our Q2 results." Secondly, it has also made them deprioritize on-premise and linear distribution infrastructure aside from the support of current operations. This was a consistent trend across IABM interviews with different media organizations.

Increased streaming consumption has driven revenues for OTT technology providers. IABM estimates that these have experienced an average revenue growth ranging between 20% and 25%. More generally, internet distribution, which was already growing significantly pre-pandemic, has experienced significant demand in this period. Within the internet landscape, IABM research points to a focus on social distribution during this period to better reach consumers.

Distributing & Monetizing Content

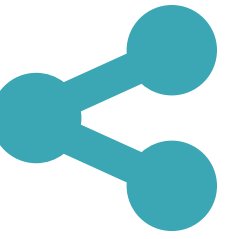


Streaming Surge

Facebook announced at the end of March 2020 that it had shifted its development focus towards streaming to cope with increased demand for this service. The same applies to other internet platforms including YouTube and particularly Twitch, which saw record audiences flocking to its platform. This trend should not be underestimated as it is yet another acceleration of an established change in the media industry.

The growth in streaming consumption coupled with the effects of the pandemic has significantly impaired demand for hardware equipment used in content distribution. This includes transmission equipment, for example. IABM estimates that transmitters have experienced an average revenue decline ranging between 20% and 25%. It also includes traditional playout systems, which are expected to be declining this year at a rate akin to transmission technology, and services, which have also experienced a steep decline in demand. The move to internet distribution is in fact reducing demand for traditional means of delivery, including satellite. Consistent with this, Ferdinand Kayser, CEO of SES, said of the company's video business during the Q1 2020 earnings call: "Given the various developments in the OTT area and the emergence of new players in this industry, some of our broadcast customers are under pressure and are reducing the capacity on the contracts." Satellite revenues at major service providers had declined by 4% in 2019 and we expect this decrease to become more significant this year.

Distributing & Monetizing Content

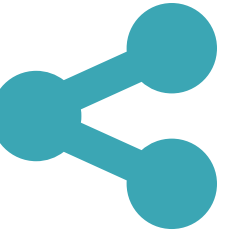


Streaming Surge

As traditional delivery methods decline, we expect technology users to continue to migrate to virtualized and cloud-based playout solutions between 2020 and 2021. Baskar Subramanian, co-founder and CEO of Amagi, told IBC365: “the biggest adoption for cloud-based playout was for dramatic non-live content, but now we are seeing increasing levels of interest in news and sport [playout] going over to the cloud as well.” Subramanian also indicated that the cloud could represent an alternative delivery mechanism in disaster recovery plans. This is an interesting use case for cloud technology that was often highlighted in recent months by technology users. Growth of cloud-based delivery was also evident from the financial results of Harmonic. The company indicated that its SaaS streaming offering had grown significantly in the first quarter of the year. Harmonic CEO Patrick Harshman also said of the pandemic: “In fact, we are seeing an acceleration of demand for our SaaS for video streaming services. During the quarter, we added nine new streaming SaaS customers, up 19% sequentially and 80% year-over-year.”

Advertising technology, a major area of long-term investment for media companies due to their move towards direct-to-consumer models, has been hit hard by the substantial decline in advertising spending. Most media companies have slowed down advertising technology projects, mainly because advertisers have stopped investing or significantly reduced expenditures.

Distributing & Monetizing Content

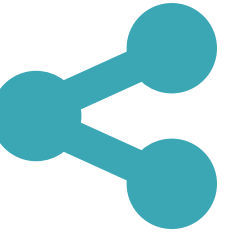


Streaming Surge

They are likely to continue to do so beyond 2020 due to the macroeconomic slump that is affecting the connected world economy. SpotX COO, Sean Buckley, told AdExchanger in April 2020: “Most of our time right now is focused on our existing relationships. New business is going to be quite difficult in this environment for the foreseeable future.” According to interviews conducted by IABM, advertising technology investment is declining across every medium, including digital. An outlier when it comes to digital advertising is Facebook, which reported rising advertising revenues in the second quarter of 2020. Despite the decline in advertising investment, buyers have also told us that new spending is only going into addressable advertising solutions. The industry was already transitioning towards addressable solutions; the pandemic has accelerated the move in this area of the content supply chain as well. A similar logic applies to OTT and streaming, which is seeing a surge in consumption due to lockdown measures.

Other categories in content monetization show a completely different picture. As demand for streaming has surged, operators have focused more on data analytics to maximize recruitment and retention of subscribers. As a result of this, IABM sees demand for subscription management and analytics software growing to better address these needs.

Distributing & Monetizing Content



Streaming Surge

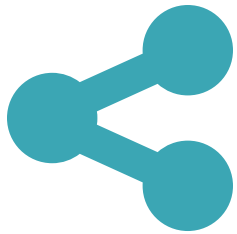
Consistent with the trend towards digital archiving mentioned earlier, media companies are also looking at solutions that enable them to better monetize existing assets. These include machine learning solutions that enable them to identify objects in their content to take advantage of monetization opportunities, including dynamic ad insertion.

When it comes to consumer experience solutions, this is becoming even more important now as consumers spend more time on streaming platforms. As a result of this, buyers are bringing forward their direct-to-consumer projects more quickly. According to interviews carried out by IABM, consumer UI and UX design as well as recommendation engines remain important areas of investment for media companies. IABM estimates that apps and user interface providers are set to experience an average increase in revenues ranging between 5% and 10% this year.

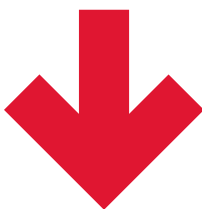
As argued earlier, the distribution and monetization segment has been the most resilient through the crisis. Particularly, Consume and Monetize report the most optimistic outlook compared to other industry segments, which reiterates their importance when it comes to media companies' transition to streaming offerings.

Distributing & Monetizing Content

Data snippets



2020 Estimated Average Revenue Change by Technology Providers

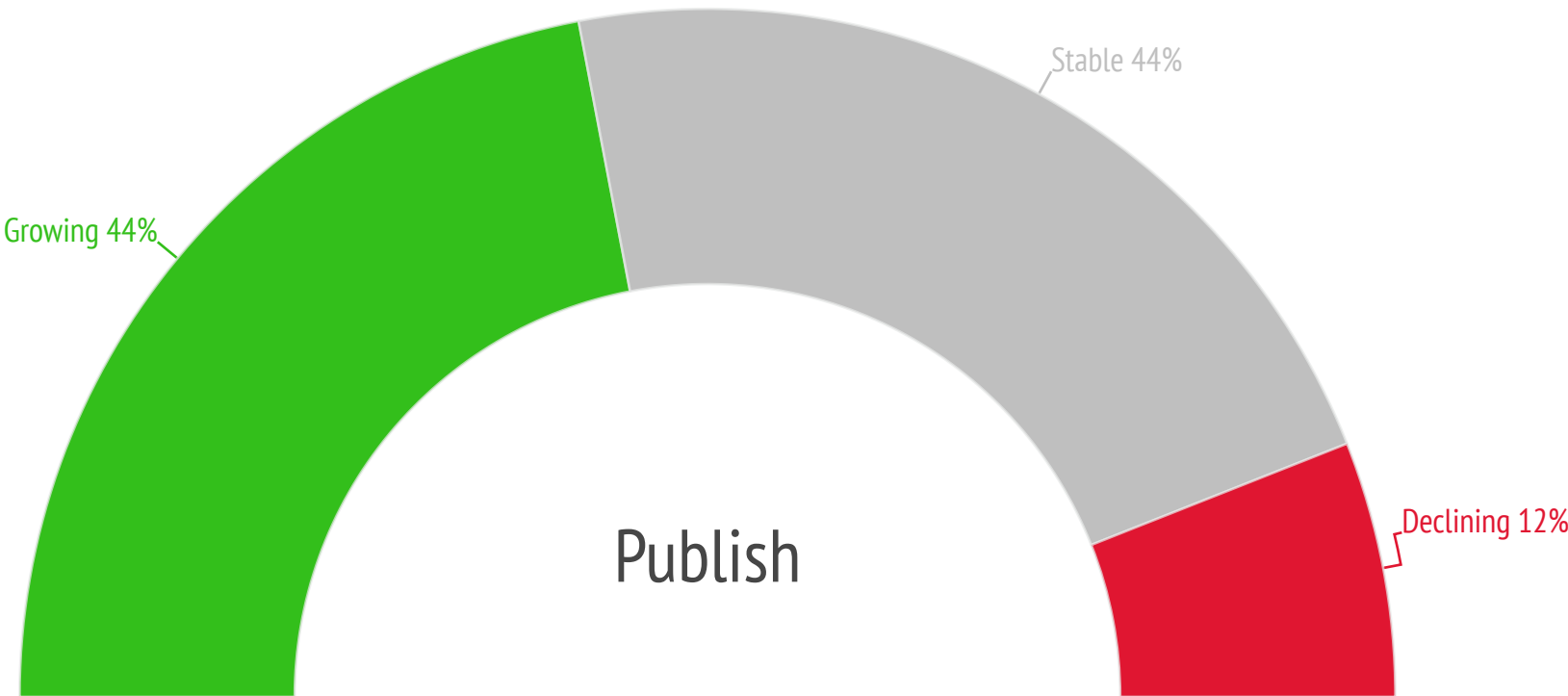


-19.5%

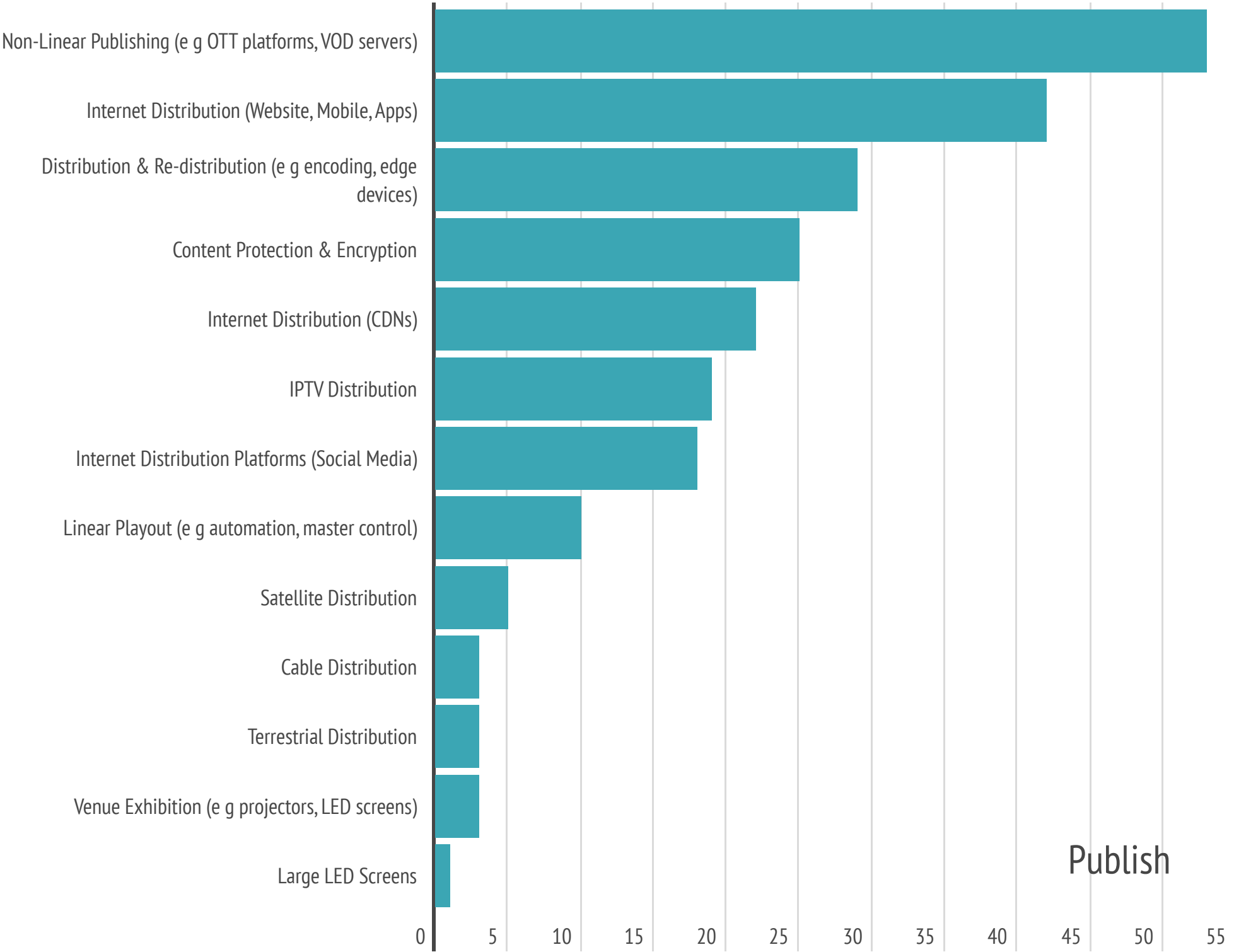
Estimated Average Decrease in Revenues

Publish

Investment Outlook by Media Technology Buyers



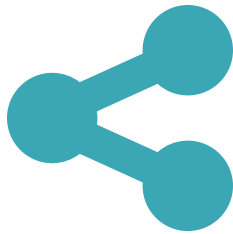
Fastest-Growing Technology Categories and Activities



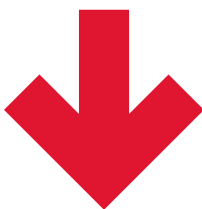
Publish

Distributing & Monetizing Content

Data snippets



2020 Estimated Average Revenue Change by Technology Providers

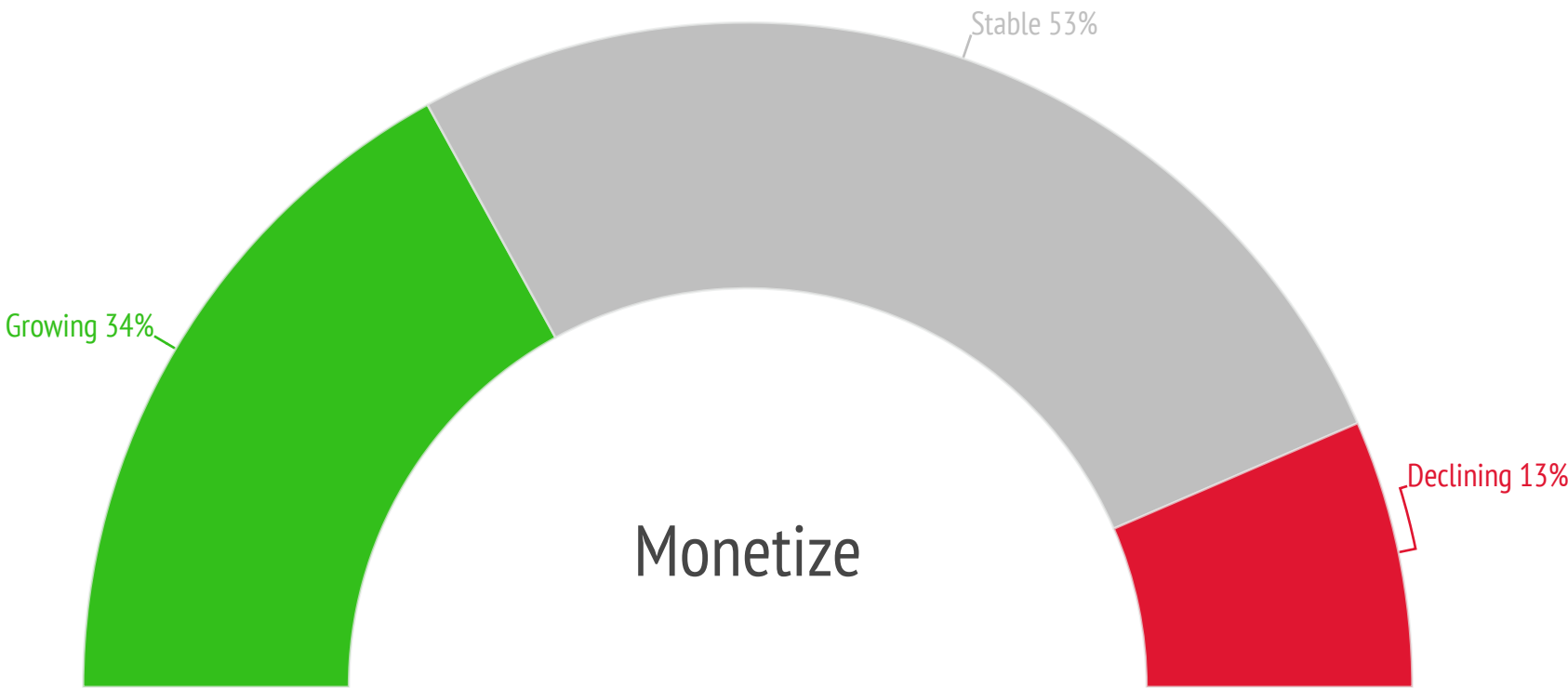


-10.3%

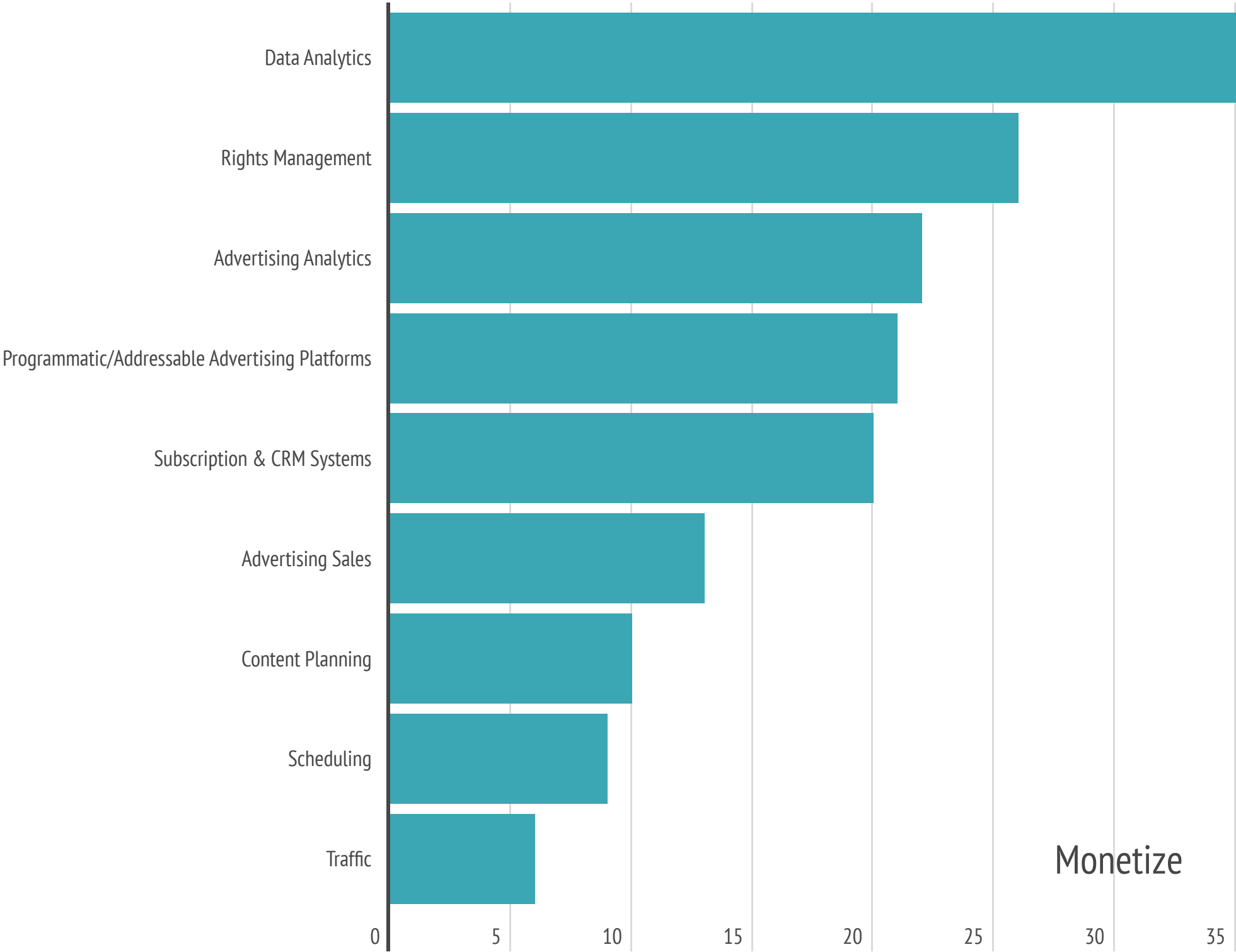
Estimated Average Decrease in Revenues

Monetize

Investment Outlook by Media Technology Buyers



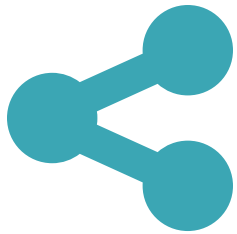
Fastest-Growing Technology Categories and Activities



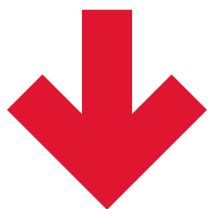
Monetize

Distributing & Monetizing Content

Data snippets



2020 Estimated Average Revenue Change by Technology Providers

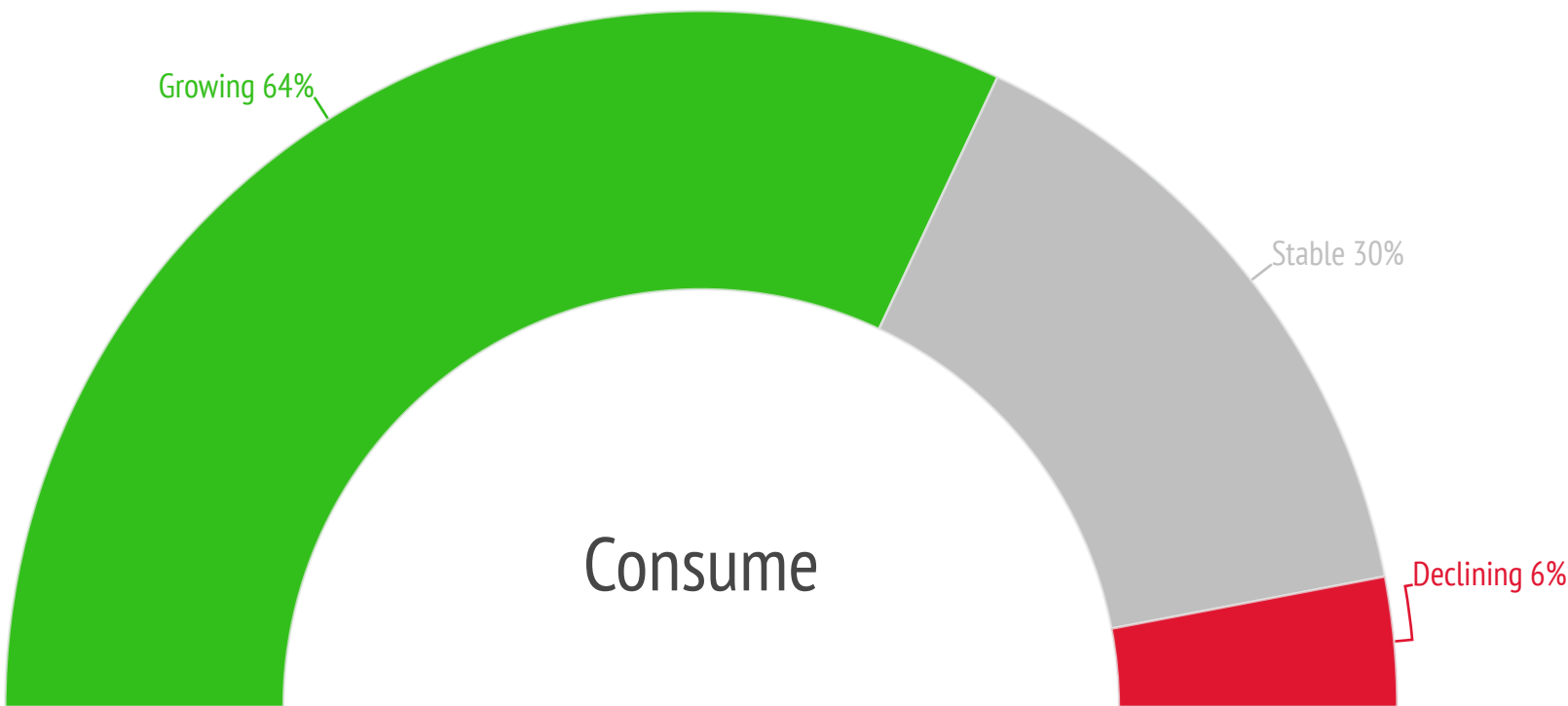


-9.5%

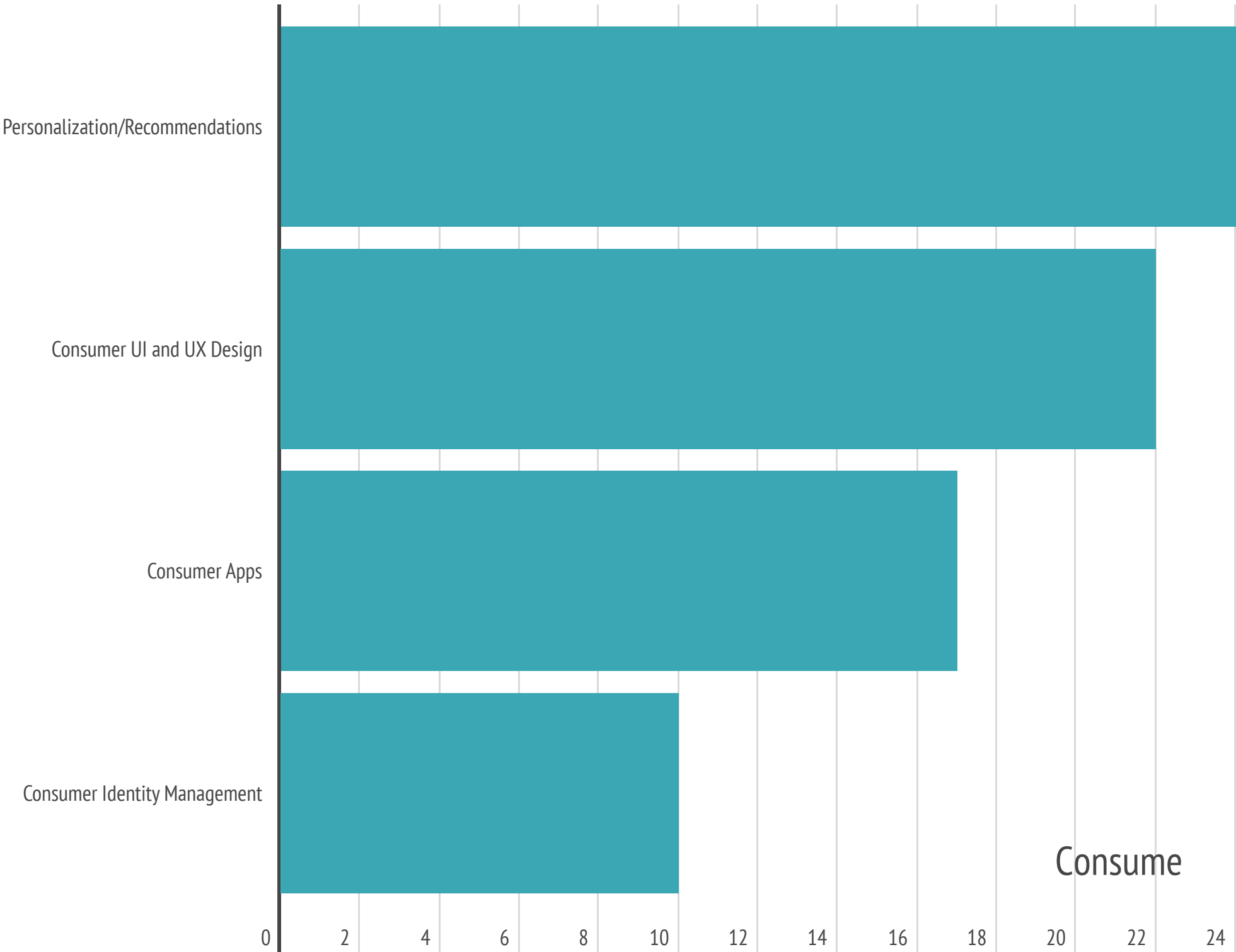
Estimated Average Decrease in Revenues

Consume

Investment Outlook by Media Technology Buyers



Fastest-Growing Technology Categories and Activities

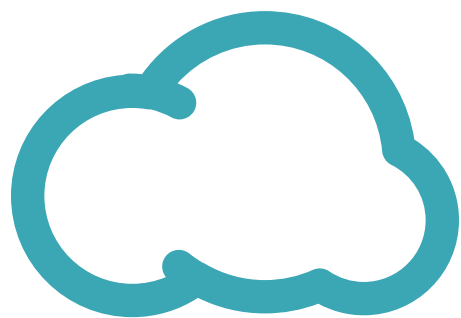
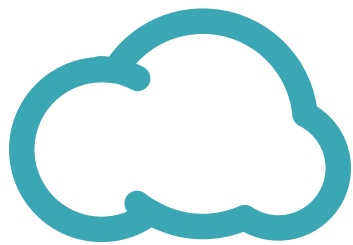


Charting Media Technology Adoption



Technology Adoption Trackers

Emerging Technology Adoption in Broadcast & Media



Cloud



Artificial Intelligence



IP



Imaging



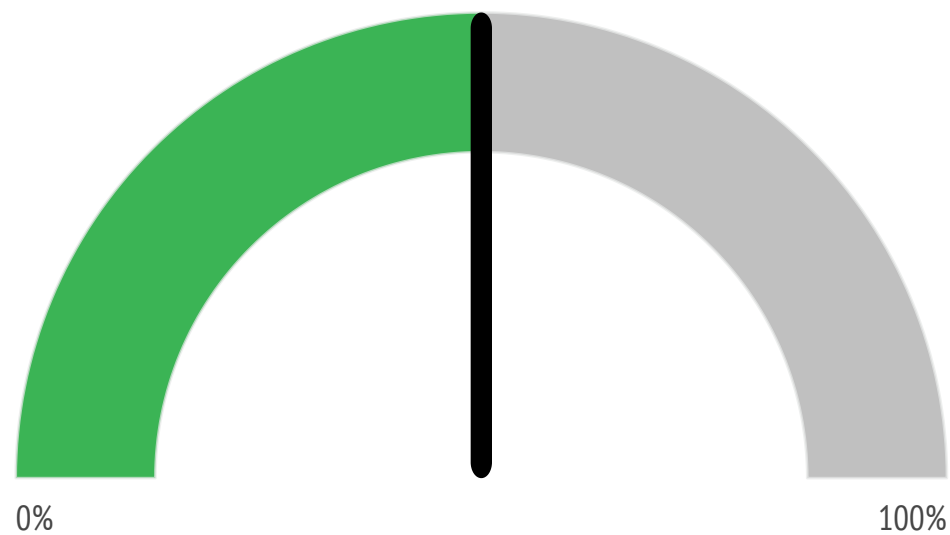
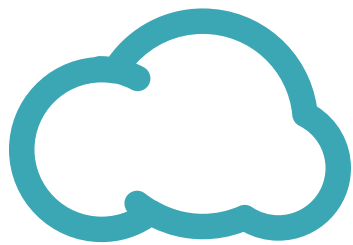
Immersive



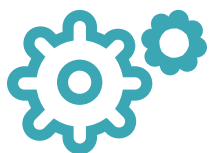
Blockchain

Cloud

Cloud Adoption Tracker



● % of companies that have adopted Cloud



51%

of companies want to apply Cloud to Manage workflows



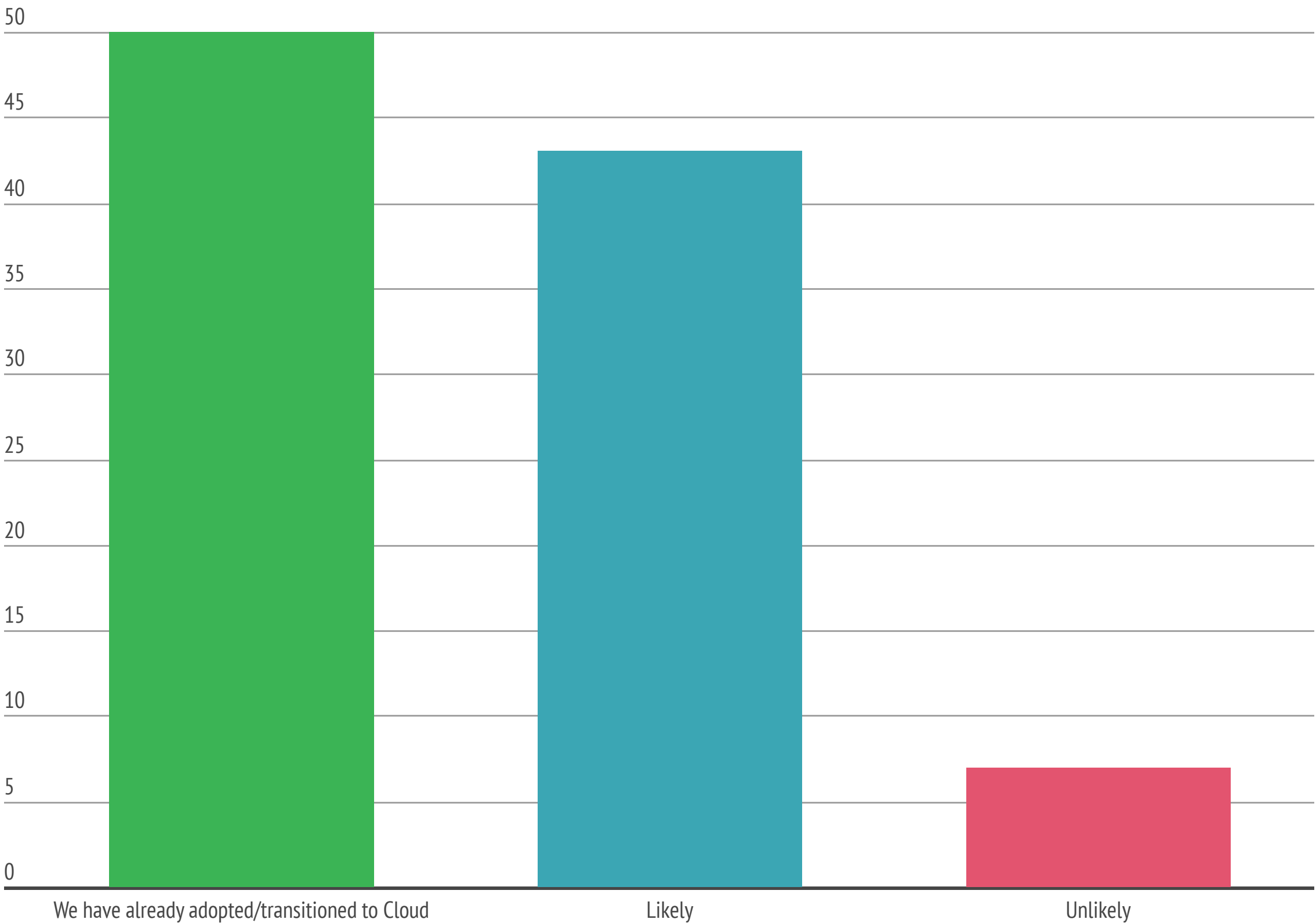
43%

of companies prefer hybrid Cloud deployments



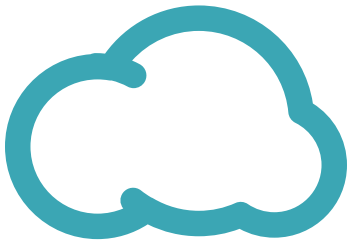
44%

of companies saying rising content storage costs is an important barrier to Cloud adoption



Cloud

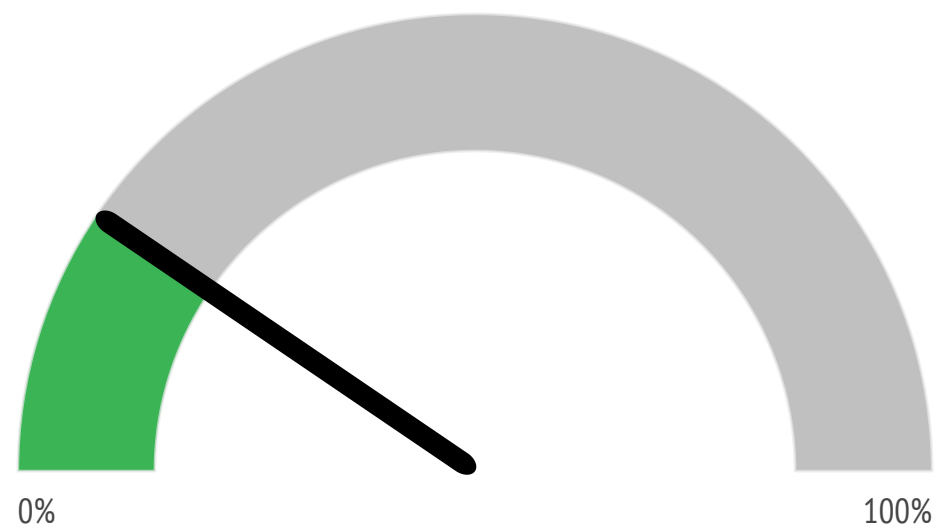
Cloud Outlook



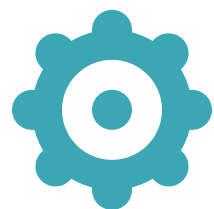
The adoption of cloud-based technology is rising significantly this year due to lockdowns and social distancing measures. Some broadcasters such as RTL Croatia have had to jump into cloud-based workflows almost overnight during the lockdown phase. Others that already had moved a sizable portion of their operations into the cloud were still forced to adopt virtual tools. The growth of cloud technology is evident when looking at historical IABM data as well as other public data points. Large media technology providers such as Avid reported unusual growth in cloud-based subscriptions in the first half of the year. Latakoo, a software supplier of transport and collaboration technology, reported that cloud video usage in June 2020 grew by 293% compared to the same period last year. In sports, suppliers such as Grabyo reported new deals with broadcasters moving to remote working models. Throughout the content chain, technology providers of on-premise software accelerated their plans to launch cloud-based offerings to accommodate user demand. This super-charged demand for cloud has driven more spending towards cloud service providers, which have highlighted this spike from the media industry. Q2 2020 revenue growth at major cloud service providers slowed down, consistent with a historical trend in cloud revenues, but it was still impressive given the recent circumstances. Cloud adoption is set to continue to rise this year as media companies continue to move to remote models. According to IABM research, an important (and underdeveloped) area of focus for media companies going forward is multi-cloud management and integration to enable best-of breed workflows.

AI/ML

AI/ML Adoption Tracker



● % of companies that have adopted AI/ML



38%

of companies want to apply AI to Manage workflows



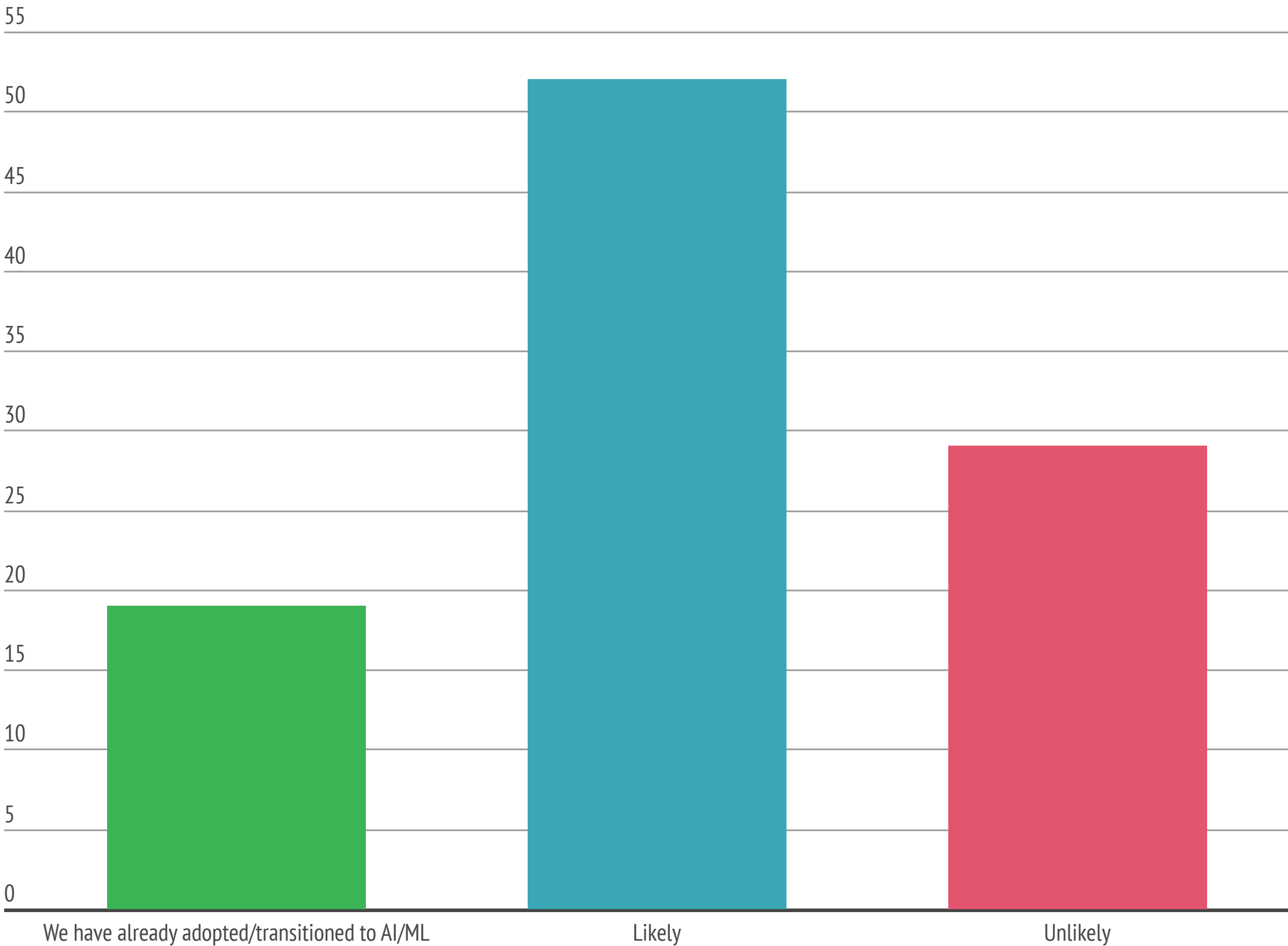
45%

of companies consider high cost of deployment on AI as the main barrier to deploy AI



45%

of companies prefer leveraging cloud service providers' capabilities for AI deployment

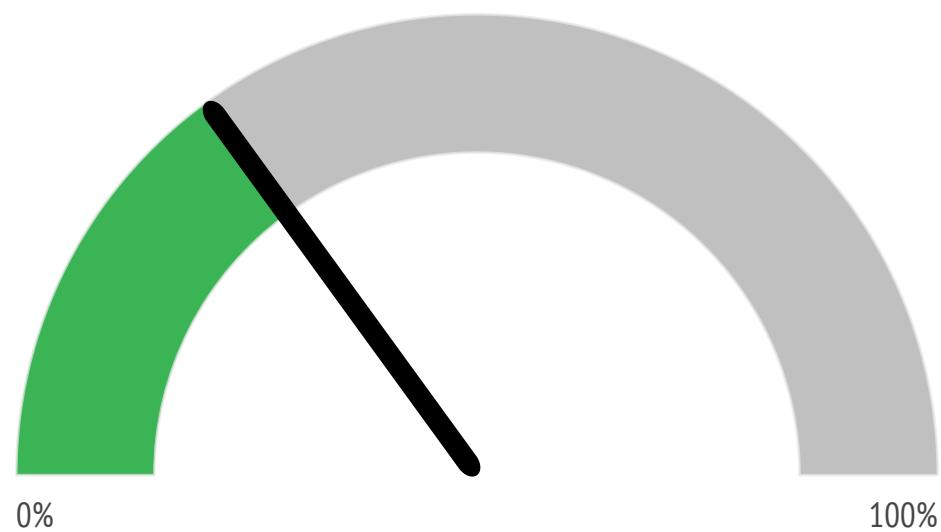




AI/ML adoption in the media industry is also growing as broadcasters seek to improve operational efficiency and content monetization in a difficult time. When it comes to these strategic areas, the focus remains on content management, and, more specifically, on automated metadata extraction - as evidenced by our content supply chain investment analysis as well. This is the low-hanging fruit for AI/ML technology as it enables media companies to better monetize their catalogues and archives through improved data on their assets. Consistent with the increasing focus on digital archiving argued by this report, this is becoming more important. In distribution, the surge in streaming demand and the accelerated move to direct-to-consumer have made broadcasters focus more on data analytics and personalization according to both data gathered and interviews carried out by IABM. According to IABM research, media technology users continue to marry AI/ML with the cloud as cloud service providers' functionalities remain their preferred tool to leverage the technology. Some are adopting basic AI/ML tools such as object recognition to unlock new revenue opportunities in this period - Globo has told us how it is using AWS tools to monetize its archive for example. A specific challenge to AI/ML adoption in this period is the pressure on media companies' budgets undermining the incentives to adopt a new technology. Veritone told IABM that is addressing this issue by providing customers with "barter" options to take over unsold inventory. Akin to cloud, we expect AI/ML to continue to grow in 2020.

IP

IP Adoption Tracker

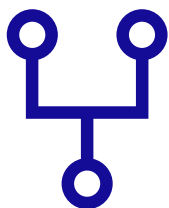


● % of companies that have adopted IP



30%

of companies have already adopted/transitioned to IP



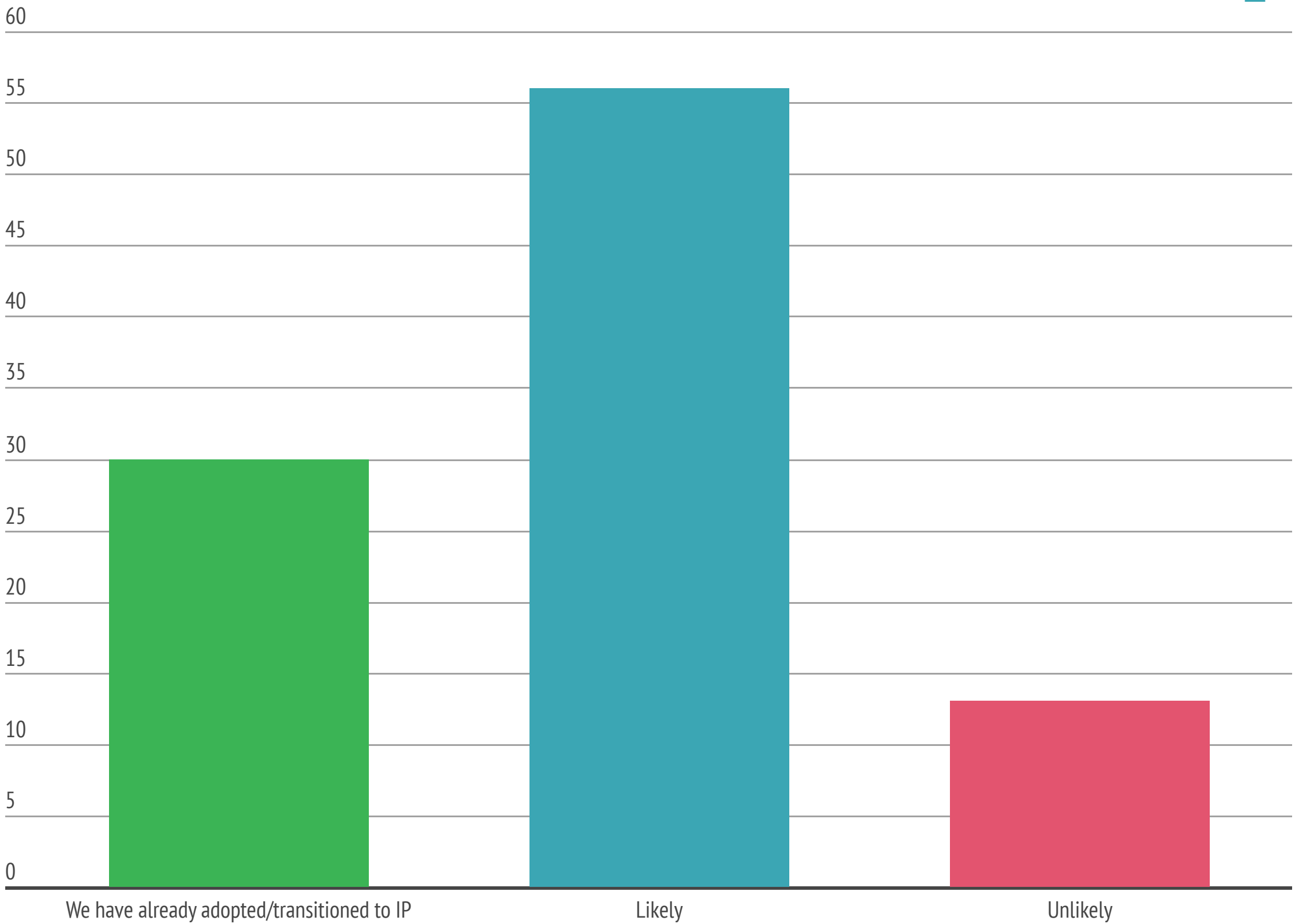
56%

of companies likely to deploy IP



13%

of companies saying they are unlikely to transition to IP

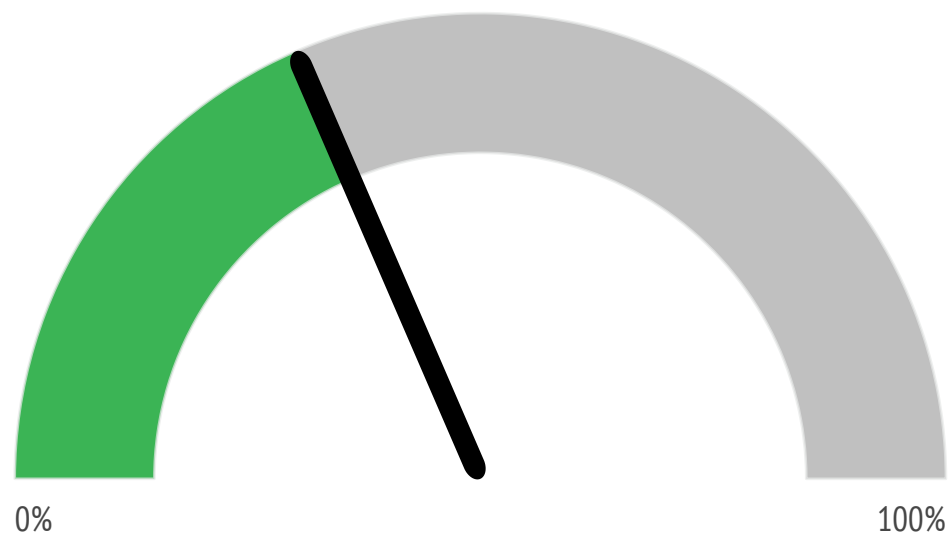




The upgrade from SDI to IP remains a strategic area of focus for broadcasters – it is one of the most important priorities in technology roadmaps - though the pandemic has slowed down investment in IP technology according to IABM research. Upgrading studios to IP remains a complex endeavor which is why most broadcasters continue to make this transition when moving to a greenfield facility. In all other cases, media technology users have preferred a hybrid approach, marrying “islands” of IP technology with SDI due to the complexity mentioned earlier and the reluctance to divest legacy infrastructures. During the lockdown period, most media companies have only invested in IP technology to tackle immediate problems such as video transport. For example, Qatari broadcaster Al Kass invested in Nevion’s VideoIPath and Virtuoso to connect its main facility with three other sites. However, most have postponed big projects related to large facility upgrades. The capacity of better handling UHD content, which is another important incentive to move to IP-based operations, has lost importance compared to before the pandemic due to broadcasters’ reluctance to invest in quality upgrades in this period – see below. Also, it is important to note that some broadcasters have brought forward their cloud plans, which may also deter IP investment. We expect investment in IP technology to slow down this year due to restrictions posed by the pandemic before bouncing back significantly in 2021, when spending in IP-based infrastructures should resume more significantly.

Imaging

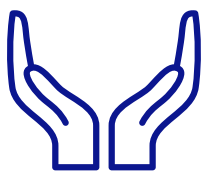
Imaging Outlook



● % of companies that have adopted UHD



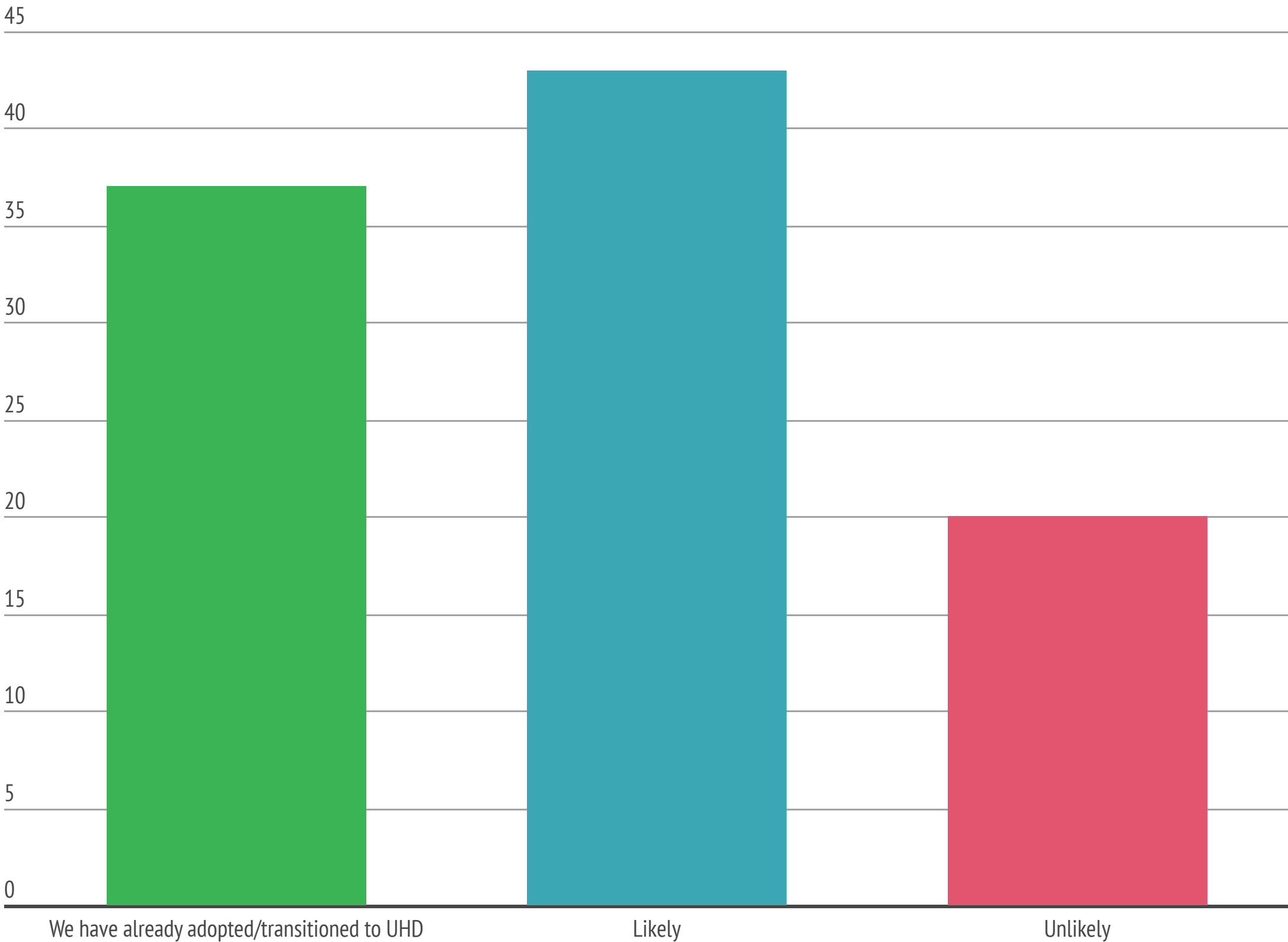
30%
of companies have already adopted/transitioned to HDR technology



55%
of companies are likely to adopt HDR technology



15%
of companies are unlikely to adopt HDR technology

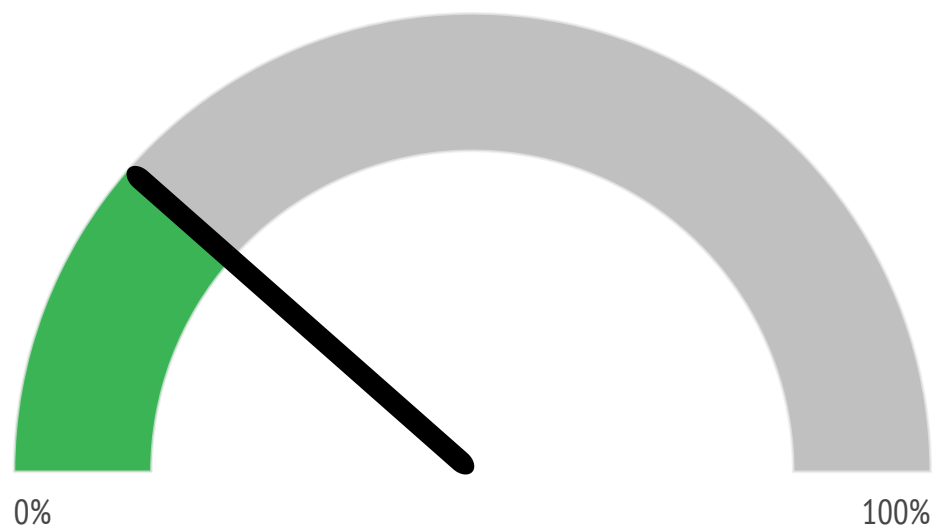




Adoption of next-generation imaging technology has suffered from the pandemic-induced lockdowns due to two main factors. Firstly, media companies have de-prioritized imaging upgrades in favor of technologies enabling business continuity and content monetization. Secondly, the lack of major sporting events has removed the biggest incentive to move to UHD workflows in distribution. UHD Forum data shows that only 2 out of the current 148 UHD channels have been launched in 2020. Despite the effects of the pandemic, most analysts forecast consumer adoption of UHD TV sets to still grow in the next few years. This has been a necessary but not sufficient condition for broadcasters to invest in UHD infrastructures. Most broadcasters have told us that, for distribution, they still prefer to marry HD with enhancements such as HDR. However, when it comes to 4K investment, this has significantly slowed down, hampered by the shutdown in content production as well. According to IABM research, the production industry remains the mainstream adopter of next-generation imaging formats. Investment in 8K remains negligible and has suffered for similar reasons. We expect investment in next-generation imaging to slow down this year and pick up only in 2021, helped by the resurgence of major live sporting events.

Immersive

Immersive Adoption Tracker



● % of companies that have adopted VR



21%

of companies have already adopted/transitioned to AR technology



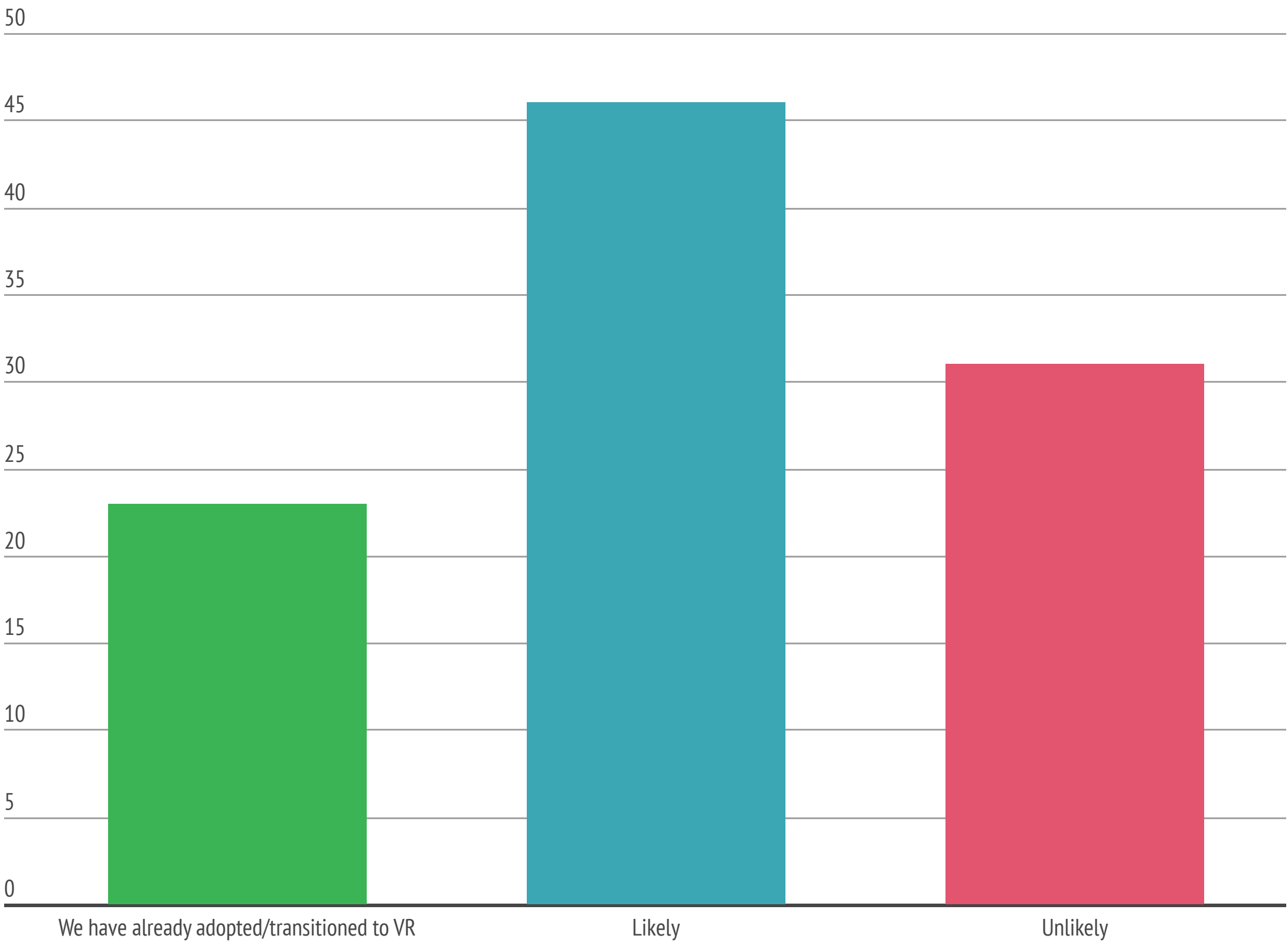
46%

of companies plan to adopt AR



33%

of companies are not planning to adopt AR technology



Immersive

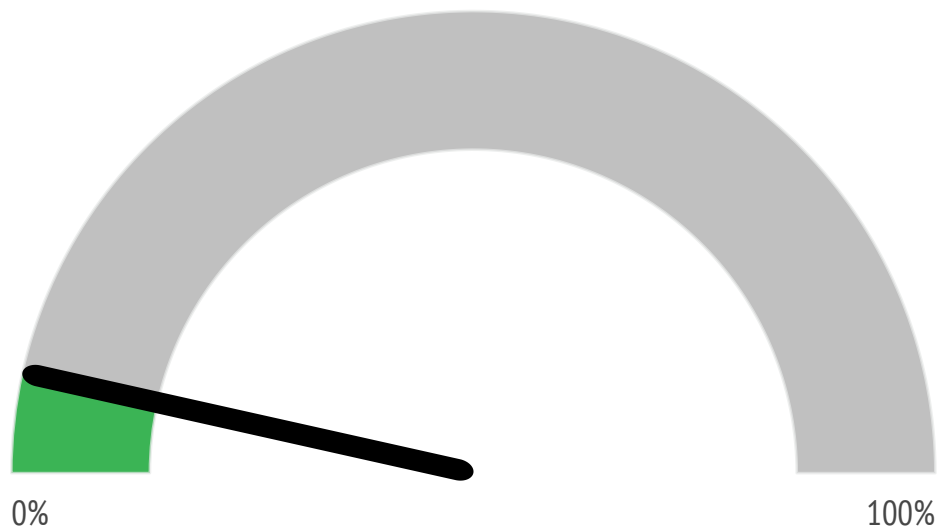
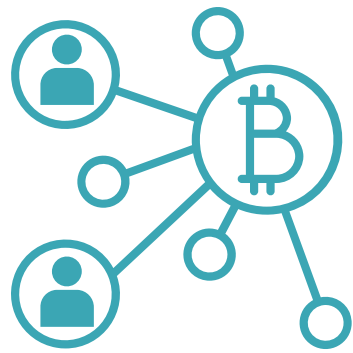
Immersive Adoption Tracker




The outlook for immersive technologies has significantly improved due to the pandemic. More specifically, some organizations, particularly in the music industry, have used VR to address social distancing and marry the live music experience with gaming features. For example, rapper Travis Scott held a concert in Fortnite attracting a record 27.7 million unique visitors in April 2020. More generally, sports broadcasters have used immersive technology to produce virtual simulated events that have also attracted record audiences during lockdown and acted as a surrogate for live sports. This was the case of ITV and NASCAR for example. The interlinkages between gaming and broadcast have been cemented by this crisis, as demonstrated by the extraordinary growth of e-Sports during this period. According to a study by Streamlabs and Stream Hatchet, at the start of 2020, Twitch reached all-time highs for hours watched. Another important development was Apple's acquisition of NextVR for \$100m in May 2020. However, the short-term sweet spot for immersive technology in media remains AR graphics. During the lockdown period, news broadcasters have particularly been proactive in augmenting their graphics with AR to describe the data-driven nature of the pandemic – sports had already invested in the technology pre-pandemic. We expect immersive technology adoption to be propelled by the pandemic this year with a focus on AR graphics and virtual production rather than distribution.

Blockchain

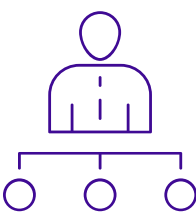
Blockchain Adoption Tracker



 % of companies that have adopted Blockchain



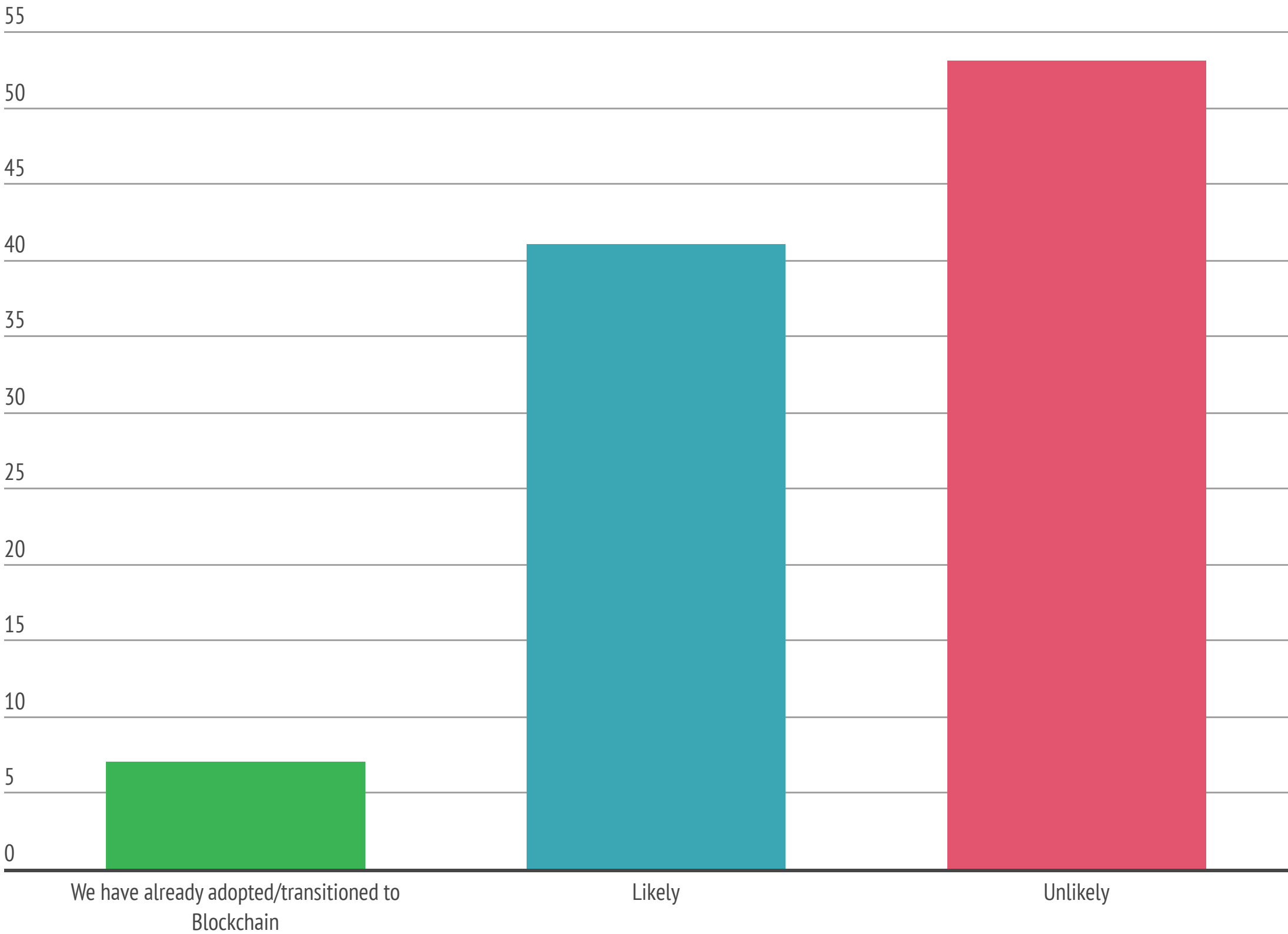
31%
of companies plan to apply Blockchain to Manage



41%
of companies are likely to adopt Blockchain

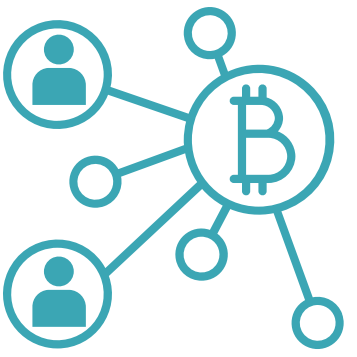


53%
of companies are unlikely to adopt Blockchain



Blockchain

Blockchain Outlook



Blockchain is an emerging technology that holds great promise in broadcast and media, but its adoption remains at a very early stage. In the last three years, adoption of blockchain solutions in the media industry has remained stagnant at around 2% according to IABM data - it has increased to 7% in this survey. This adoption may have further been impaired by Coronavirus exerting pressure on media companies' budgets. As often argued by IABM research, most of the recent real-world applications of blockchain in the media industry have focused on content monetization, and particularly advertising and rights management. However, most of these applications have consisted of trials or experimentations rather than deployments. In April 2020, Dentsu, a Japanese advertising firm, started a blockchain trial to reward secondary content creators for manga animation titles. In May 2020, Comcast, Charter and ViacomCBS took co-ownership of Blockgraph, the blockchain-based advertising platform launched in 2017 by Comcast. Comcast-owned NBCUniversal said it has been working on integrating Blockgraph into its advertising platform. The potential to act as a trust enabler in advertising settings and allow data protection and sharing for broadcasters remains blockchain's most promising, but unproven, use case. We expect investment in blockchain-based solutions to be significantly impaired by the pandemic this year as technology users put aside experimentations. Only media companies at the cutting-edge of the industry will continue to leverage this technology.