

4<sup>TH</sup> QUARTER 2020

# JOURNAL

115

REPRESENTING THE BROADCAST AND MEDIA TECHNOLOGY INDUSTRY WORLDWIDE



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**The IABM Technology  
and Trends Roadmap**

**What is the Future of  
News Production**

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Services in Asia**

**The brave new world  
of PR and marketing**



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# Brave new world



**Peter White**  
CEO, IABM

Welcome to the final edition of the IABM Journal for 2020. As I write this, we are on the eve of what I am confident will be the ideal event to set everyone on the way to success in 2021 and beyond: BaM Live!™. In creating BaM Live!™, we have drawn on all the experience we have gained in virtual events since we moved early and decisively at the beginning of the pandemic to support our members with a wide range of innovative virtual offerings.

With nearly 1000 delegates registered for BaM Live!™ and a world-class selection of speakers and panelists all concentrating on the topics that really matter whatever part of the industry you are working in, it promises to be a perfect event to gain the knowledge and business insights you need to get ahead early in 2021.

Everyone has sorely missed the face-to-face interactions that exhibitions and events provide. While we can't of course provide the same in-person experience, we have designed BaM Live!™ to give the nearest 'live' engagement experience we can with live chats, engagement hub rooms and the opportunity to interact with speakers immediately after their sessions. The BaM Awards® presentation session on 2nd December will also provide a further opportunity for networking and interaction with the award winners: another unique opportunity to discover new solutions for your business.

Our Special Feature for this issue looks at what's going on in the Store segment of the BaM Content Chain®. With an ever-growing amount of content needing to be stored and then rapidly accessed from anywhere, with ever-higher resolutions only increasing the pressure, Store today means much more than the simple repository its name implies. The article features insightful contributions from 10 IABM member companies covering all the latest developments in this largely unheralded but vital content chain segment.

Our Regional Members' Councils have played a prominent role in supporting members in APAC, the Americas, EMEA, DACH and the UK throughout the pandemic and IABM is determined to continue to further strengthen these regional voices over the coming years. We have just announced the new EMEA Members' Council membership and chair – details on page 29 – a very strong group of industry leaders who, under the chair of Skyline Communications' Thomas Gunkel will deliver, in his words: "The collaboration, technical and strategic partnerships that are essential to provide flexible and future-proof solutions for our customers, and to make their digital transformation endeavor a success."

Thanks to the number and excellence of contributions from IABM members it contains, this is not only the biggest edition of Journal we have ever delivered, but also in my opinion, the best yet. The quality of insights across every activity and segment of the BaM Content Chain® are the perfect complement to BaM Live!™ and will reward time spent reading them.

I will however highlight two articles. Our CTO Stan Moote has overseen a comprehensive update to our Technology and Trends Roadmap®. With the Covid-induced acceleration particularly to remote working and operations, a number of technologies and trends have rapidly moved from early adoption to near-mature trends, and other influences have also come to the fore. The Technology and Trends Roadmap® is used by many companies to

benchmark their plans and strategies; this update will provide a solid platform for the coming year. You can see the updated roadmap on page 4.

The second is Temple Bright's Jeremy Morton's advice on trademark protection on page 42. While this will be most pertinent to UK member companies as they move out of umbrella protection of EU-wide registrations, it also provides a timely reminder that protecting your brands has never been more vital in our global economy.

For all of us, 2020 has been a difficult year on a personal and family level. From a business point of view, some IABM members have struggled while others have thrived as the pandemic and lockdown have massively accelerated industry trends that may otherwise have taken some years to really take hold. With vaccines now on the horizon, there is hope rising that the world will be able to gradually open up again in 2021. What is certain is that we in Broadcast and Media will not be returning to 'normal'; that ship has sailed. It's going to be challenging, but exciting and stimulating too; there will new opportunities to grasp and IABM will continue to support our members in every way we can as we all move positively and confidently into this brave new world.

**Peter White**  
CEO, IABM

# Repositioning for 2021

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The IABM Technology and Trends Roadmap helps us determine our future direction

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**Stan Moote**  
*CTO, IABM*

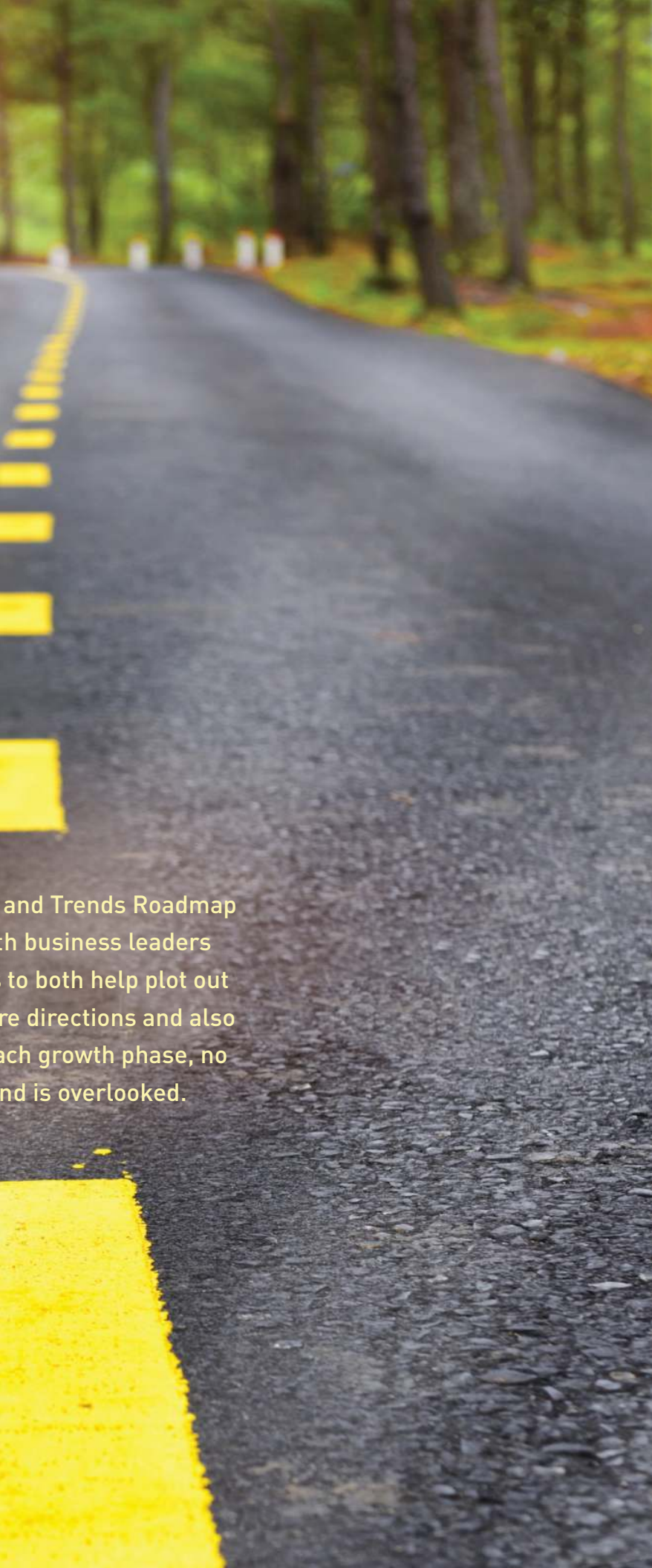
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It goes without saying how embracing newer technologies kept our industry 'on-air' during 2020. So what will be the new norm in 2021? The first step to establishing some sort of direction is to understand the direct affects of COVID over the past year on technology and trends. For example, pretty much everyone jumped into cloud and learned that it isn't as scary for live and remote operations as many were concerned about.

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The IABM Technology and Trends Roadmap is being used by both traditional and technology types to determine their companies' future direction and assure that during each year's technology or trends





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technology or trend is overlooked.

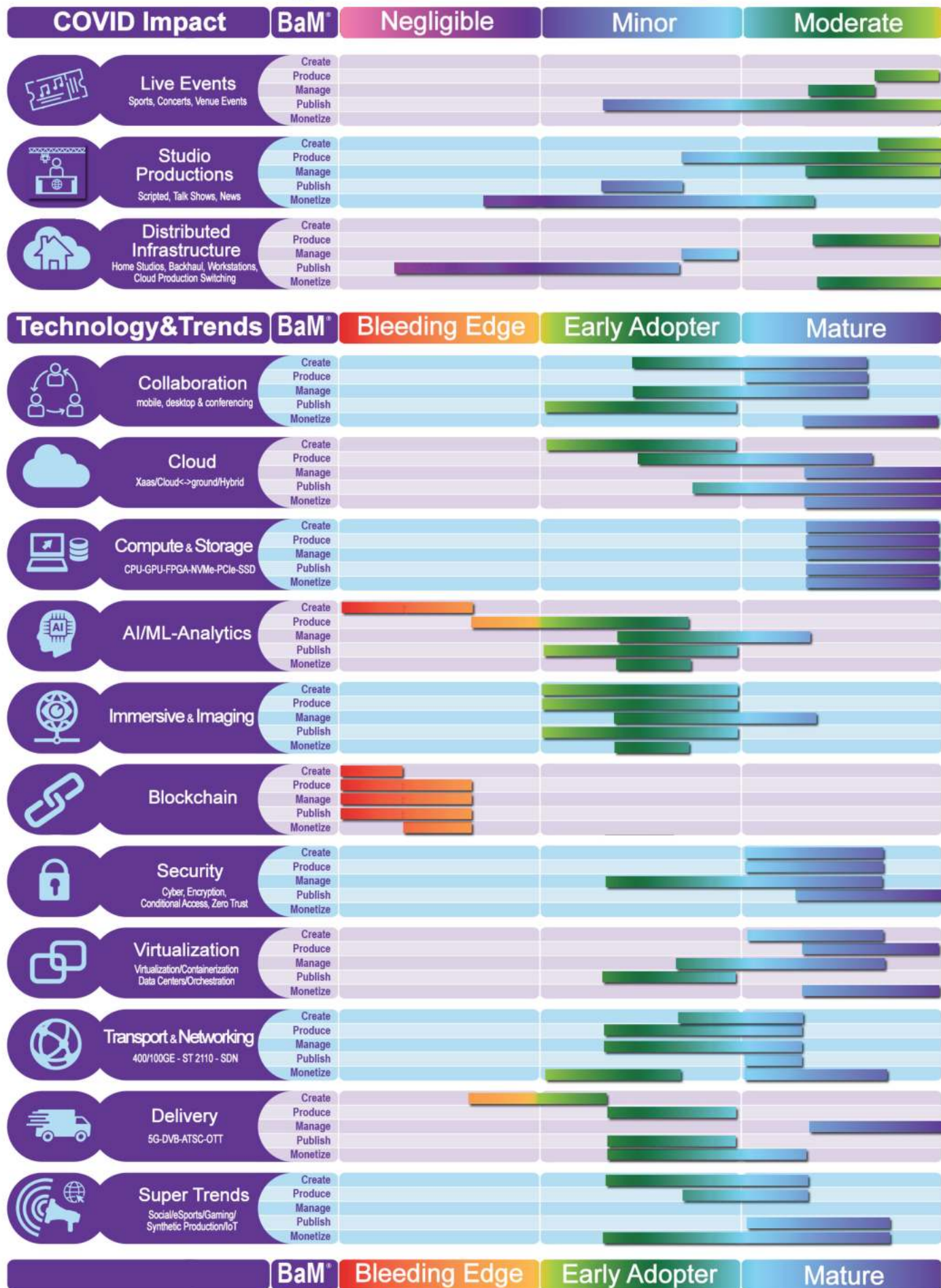
The use of off-the-shelf collaboration tools works – perhaps not ideal, but they keep our media factories running. Business teleconferencing tools, built-in cameras within mobile devices and webcams permitted work from home scenarios, not only for production crew, but also for on-air talent. All this being said, audiences started to accept glitches, streaming issues and for that matter more often than not poor video and audio quality; our expectations for more 4K UHD in 2020 turned into 'COVID Quality'.

The IABM Technology and Trends Roadmap is being used by both business leaders and technology types to both help plot out their companies' future directions and also assure that during each growth phase, no technology or trend is overlooked. I was fortunate to assemble a roadmap team of vendors and end-users covering all aspects of our industry. Although our team didn't agree on every aspect, we did ultimately come to an agreement to produce this roadmap as an industry reference – a jumping-off point for your business.

For the 2020 IABM Technology and Trends Roadmap we felt it was best to understand the aspects of change in 2020, so we started out with a COVID Impact section plotting each area of the content chain over an impact range of negligible to major. As you can see in the graphic, some areas such as Publish had little impact, particularly on general playout and OTT except during a live event; remote delivery suddenly took on a whole new meaning.

Starting with Live Events, large-scale mobilization of production systems for Sports and Venue Events won't return to normal for the immediate future. Concert-like venues with large audiences tend not to be hosting live events, moving toward a live-remote-collaboration model of 'conference call' like technologies to produce and engage spectators. Higher quality audio, utilizing global motion picture editorial/scoring/tracking concepts has seen practical success. The use of Zero Client technologies has enabled segments previously constrained to facility based high-end graphics or special-effects to be done totally remotely.

# IABM Technology and Trends Roadmap





## Major

## Synopsis

Large-scale mobilization of production systems for Live Events won't return to normal for the immediate future. Concert-like venues tend not to be hosting live events, moving toward a live-remote-collaboration model of 'conference call' like technologies. Higher quality audio, utilizing global motion picture editorial/scoring/tracking concepts has seen practical success. Zero Client technologies enable segments previously constrained to facility based high-end graphics or special-effects to be done remotely. Lower-bit-rate compressed production on broadcast-like production components enables small-scale venues.

The industry quickly implemented off-the-shelf scalable, general purpose solutions using tools such as Zoom, Facetime, Teams, Slack, etc. These applications when used in combination with broadcast tools and workflows achieve a surprising level of integration deliver rich workflows including virtual audiences. The acceptance of "COVID Quality" is driving expectations for lower cost solutions.

A year ago our attention was focused on innovative at-home sports production. This year we literally have news staff producing live programs from their homes. Old technologies have taken on new value in current circumstances, and new technologies are accelerating deployment and performance. These include VPN, Zero Trust, cloud-based workstations using PCoIP, and low cost/latency/bandwidth video transmission including consumer-focused tools. However, use of these tools highlights the fundamental need for a robust, diverse, secure IT infrastructure and home UPS systems.

## Commodity

## Synopsis

For years videoconferencing solutions were employed primarily by corporate entities. Proliferation of smartphones, improved mobile networks and VoIP technologies enabled new conferencing apps and improved collaboration tools while broadening user base. The pandemic has created a competitive race to produce the user-friendliest, richest-featured and securest apps. Remote content production and broadcast demands are pushing these technologies further including collaboratively produced live shows from homes.

Cloud and Hybrid Cloud solutions have been increasingly used; this has been dramatically accelerated by the pandemic. It can be argued that this has pushed more areas into the "mature" and "commodity" columns faster than might otherwise have been expected. Organizations previously reticent to consider cloud for storage and processing are now embracing it. Risk factor analysis: rather than moving to the cloud being perceived as risky, it's now perceived as risky not to.

Compute acceleration via GPU and FPGA is now common, from specialized AI workstations and real-time video converters to NICs. Density increases continue in both HDD and SSD, as 3D NAND and MLC packing techniques improve. NVMe is now a common interface to flash storage, and PCIe 4 is in early adoption, providing much more bus bandwidth from NIC to GPU (bypassing CPU memory). Moving NAND to the memory bus eliminates traditional HDD/SSD SAS/PCIe driver & software latency, accelerating databases, metadata analytics and machine learning.

Facial/object recognition is solid. Speech-to-text works in over 100 languages. Bleeding-edge AI-powered sports systems record entire games (panoramic view), while detecting/tagging all movement to create highlights. Intelligent transport architectures use ML to evaluate historical transfer information to choose the optimal number of parallel transport streams and acceleration protocols. AI/ML now augments content production from smart trackers through to sensing emotional reactions assisting content creation as well as remote working.

HDR and WCG are now common delivery formats from OTT services, and select theatrical venues. Immersive audio, rendered in real time from an object-oriented mix is standard in high-end theatrical releases, and HFR continues to dazzle audiences in gaming and location-based entertainment venues, although with mixed results in theatrical releases. Volumetric capture (RGB +Depth) systems continue to improve quality and reduce costs, and when combined with LIDAR-scanned point-cloud environments, drive fine-pitch LED walls.

Blockchain has shifted from 'pie in the sky' or not yet media-relevant to some early implementations. Of note are new mesh-based techniques that have an alternative approach to CDN-based delivery. It's also being seen in the area of rights management being the logical place to take advantage of the inherent advantages of distributing metadata via blockchain. There is hope that blockchain will assist with parsing out deep fakes.

Security should be considered at all stages of product development, deployment and operation, and recent events have accelerated decentralized production and rapidly pushed tools out of the studio and into the homes of staff. This required an intense focus on secure operations in fundamentally insecure, distributed remote contexts. Technologies like VPN, Zero Trust, Endpoint Protection as well as cloud-based security and tools are enabling remote operation and fundamental business continuity across production and business units. The battle against piracy is strengthened with advanced monitoring techniques.

Server virtualization is standard for many workloads, although latency-sensitive & graphics-intensive tasks like color correction are slow to embrace it. Advances in virtual GPU and NIC software stacks improve utilization of shared resources. A newer approach is where containers use the same host OS and the orchestration layer allowing re-use of libraries and other server resources. Network virtualization allows software-defined network functions to be spun up and down. Newer efficient methods like Mesh Networks and SD-WANs are becoming common.

1, 10 and 100 GE networks are commonplace with 25GE interfaces becoming so. 400 GE is emerging with 800 GE in development. The drivers are uncompressed low latency live content, live remote production and collaboration. Interoperable standards and recommendations (SMPTE ST 2110, TR-1001-1) with dropping bandwidth costs have enabled IP WAN-LAN convergence. SDN and new orchestration offerings enable real time remote production and transmission while driving down production costs and facilitate more creative offerings.

Aside from live content, OTT is solid and common. AI/ML techniques are improving compression, however licensing isn't standardized. Having video anywhere, on any device, at any time is commonplace, not just expected but demanded. The push for virtual zero latency continues. ATSC 3.0 and 5G deployments are well underway. Monetization models are still very much in flux.

Smart media devices pioneered Internet-of-Things (IoT) though IABM research shows this is not a priority of media companies currently, despite the growth in connected entertainment. Esports productions are becoming less of a trend; they are now higher end productions. There is a solid blur between the crossover of gaming technology and entertainment productions- i.e. synthetic productions, camera locked LED walls/ceilings. The production of video for Social Media is a must.

## Commodity

## Synopsis

Copyright December 2020

Lower-bit-rate compressed production on broadcast-like production components has permitted small-scale venues.

News and Talk Shows quickly moved away from studio productions and took advantage of off-the-shelf scalable, general purpose solutions using tools such as Zoom, Facetime, Teams, Slack, etc. to keep on-air. Typically news had a huge head-start as they already were using bonded cellular and Internet tools for remotes on a daily basis. With scripted series and talk shows, the off-the-shelf general applications used in combination with broadcast tools and workflows have achieved a surprising level of integration to deliver rich workflows including virtual audiences. Currently with the acceptance of 'COVID Quality' there is an expectation for lower cost solutions. With the bubble concept being used for scripted productions, one group told us they are so efficient having everyone locked away together, no waiting for people, no travel delays etc, on a go forward basis they want to continue using the bubble concept for shoots well into the future.

A year ago our attention was focused on innovative at-home sports production. This year we literally have news staff producing live programs from their homes with Cloud Production Switching. Old technologies have taken on new value in current circumstances, and new technologies are accelerating deployment and performance. These include VPN, Zero Trust, cloud-based workstations using PCoIP, and low cost/latency/bandwidth video transmission including consumer-focused tools. However, use of these tools highlights the fundamental need for a robust,

diverse, secure IT infrastructure and home UPS systems to handle Home Studios, Backhaul and remote Workstations.

Next the roadmap team took forty-plus technologies and trends and put them into similar groupings, plotting on the range from bleeding edge use-cases to commodity products and services.



*Here is a key thought for  
2021 as a risk factor  
analysis: rather than  
moving to the cloud being  
perceived as risky before  
2020, it's now perceived as  
risky not to."*

Stan Moote, IABM

No question, 2020 has been the year for collaboration, so we added this in as a trend as videoconferencing solutions have become indispensable. Proliferation of smartphones, improved mobile networks and VoIP technologies enabled new conferencing apps and improved collaboration tools while broadening user base. The pandemic has created a competitive race to produce the user-friendliest, richest-featured and securest apps. Remote content production and broadcast demands are pushing these technologies further including collaboratively produced live shows from homes.

Cloud and Hybrid Cloud solutions have been increasingly used; this has been dramatically accelerated by the pandemic. It can be argued

that this has pushed more areas into the 'mature' and 'commodity' columns faster than might otherwise have been expected. Organizations previously reticent to consider cloud for storage and processing are now embracing it. Here is a key thought for 2021 as a risk factor analysis: rather than moving to the cloud being perceived as risky before 2020, it's now perceived as risky not to.

Compute acceleration via GPU and FPGA is now common, from specialized AI workstations and real-time video converters to NICs. Storage density continually increases for magnetic hard drives as well as solid state drives, as 3D NAND and MLC packing techniques improve. NVMe is now a common interface to flash storage, and PCIe 4 is in early adoption, providing much more bus bandwidth from NIC to GPU (bypassing CPU memory). By using the new techniques of moving NAND to the memory bus gone is the traditional HDD/SSD SAS/PCIe driver & software latency, hence accelerating databases, metadata analytics and machine learning computations.

Using Artificial Intelligence for facial/object recognition is solid. Speech-to-text now works in over 100 languages and has remarkable natural feel. Bleeding-edge AI-powered sports systems record entire games (panoramic view), while detecting/tagging all movement to create highlights. Intelligent transport architectures use ML to evaluate historical transfer information to choose the optimal number of parallel transport streams and acceleration protocols. AI/ML now augments content production from smart trackers through to sensing emotional



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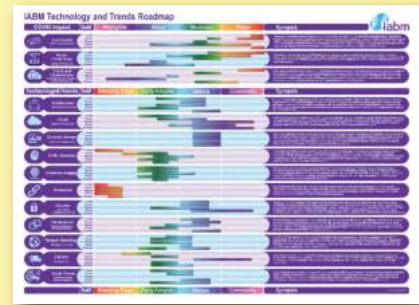
Blockchain has shifted from 'pie in the sky' or not yet media-relevant to some early implementations. Of note are new mesh-based techniques that have an alternative approach to CDN-based delivery. It's also being seen in the area of rights management being the logical place to take advantage of the inherent advantages of distributing metadata via blockchain. There is hope that blockchain will assist with parsing out deep fakes.

I can't emphasize how important it is that **security must be considered at all stages** of product development, deployment and operation. Since recent events have accelerated

decentralized production and rapidly pushed tools out of the studio and into the homes of staff, security concerns are even more imperative to be in strict practice. Technologies like VPN, Zero Trust, Endpoint Protection as well as cloud-based security and tools are enabling remote operation and fundamental business continuity across production and business units. The battle against piracy is strengthened with advanced monitoring and watermarking techniques.

Server virtualization is standard for many workloads, although latency-sensitive & graphics-intensive tasks like color correction have been slow to embrace it. Advances in virtual GPU and NIC software stacks improve utilization of shared resources. A newer approach is where containers use the same host OS and the orchestration layer allowing re-use of libraries and other server resources. Network virtualization allows software-defined network functions to be spun up and down. Newer efficient methods like Mesh Networks and SD-WANs are becoming more common.

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To capture other areas such as Social Media, Esports, Gaming, Synthetic Production and Internet-of-Things (IoT), we group them as Super Trends. Our industry pioneered IoT with smart media devices, although sorrowfully IABM research shows this is not a priority of media companies currently, despite the growth in connected entertainment. Esports productions are becoming less of a trend; they are now higher end productions, the difference being using more networking tools, over traditional broadcast. There is a solid blur between the crossover of gaming technology and entertainment productions- i.e. synthetic productions, camera locked LED walls/ceilings. The production of video for Social Media is a must and COVID has made this abundantly clear.

**Use this industry reference roadmap to best appreciate 2020 has been a vehicle of change for your growth in 2021.**

# What is the Future of News Production?



**Stephane Guez**  
Chief Technology  
Officer & Co-  
Founder, Dalet

To answer this question, we need first to look at where we come from. What Dalet has done in the last ten years is to provide a very distinct approach to news production by combining the Newsroom Computer System and Media Production into a single platform.

The result is one system – essentially an NRCS with a Media Asset Management core – that provides end to end workflows from Ingest to Production and Playout. It is built on a story-centric approach that allows for easy content sharing and re-purposing. A unified interface gives the reporter and the producer a comprehensive set of tools to access and transform the objects managed by the system: scripts, media pieces, wires, feeds, rundowns.

Today, we see a proliferation of digital-only news channels and fierce competition across the board. To compete, news operators must lower their total cost of ownership (TCO). They also must have digital-first workflows. Today, many news operations prepare digital content at the end of the workflow. Content is prepped for TV before other platforms. But now, news has to be everywhere at any time on all screens with the content adapted to what the viewer wants simultaneously. We cannot

accomplish this with rundown-centric workflows.

The old way of shooting news, with a full camera and reporter crew in the field, is gone. Media is expected to be delivered in near real-time with editing and storytelling done on any device from any location. The same goes for developing storylines. There are multiple contributors and thus multiple storylines. They need ways to collaborate and share content beyond the confines of the newsroom.

Audience habits have changed too. They want frequent updates on stories with rich graphics and relevant context that help paint the full picture.

The future newsroom needs to be able to deal with more news sources and have a far greater control over editorial and media sources to prevent the spreading of fake news. They need tools to assist and give timely, contextual recommendations on content use.







The future of news production will be the virtualization of the newsroom. What does that mean? It means that the newsroom is going to become that virtual space, accessible from any device or location, where journalists and producers collaborate in the production of content.

*Stephane Guez, Dalet*



### So, where is this going?

Current news production systems still heavily rely on physical equipment and interfaces with hardware. While Dalet is a software company, the end-to-end solution includes integrations with many other components.

The IT revolution of the last 20 years has been about the digitization of data and content and the virtualization of applications and infrastructure. The future of news production will be the virtualization of the newsroom. What does that mean? It means that the newsroom is going to become that virtual space, accessible from any device or location, where journalists and producers collaborate in the production of content. The newsroom is no longer a physical room but a digitized platform that allows content professionals that may or may not be working together to produce stories and media that will be distributed in a variety of ways.

This is not completely new – a reporter that works in the field today to cover the elections can send their content over the internet and can interact with the systems hosted at the station to produce and post their contributions. Some newsroom functions are already accessible from outside the newsroom. But this notion of a virtual newsroom will bring this experience and content production work practices to a completely new level.

### *We need to invent how media professionals work together in a virtualized environment*

The keywords of that approach are Collaboration and Mobility. The

objective is to provide operational and business flexibility that will allow a distributed workforce to adapt to the fast-changing expectations of the audience. To achieve those goals, are innovative user tools with modern interfaces – that will be the visible part, the applications that the members of that virtual newsroom will use from wherever they are. These systems will be deployed on public, private clouds or hybrid environments to power agile backends and will rely on AI-powered automation to take care of technical and non-creative steps.

*"...systems will be deployed on public, private clouds or hybrid environments to power agile backends and will rely on AI-powered automation to take care of technical and non-creative steps."*

Stéphane Guez, Dalet

At Dalet, we have been working on the next-generation of our Unified News Operations solution that features the NRCS, news production system, media asset management core, all wrapped around a collaborative, digital-first workflow. The brand-new digital editorial and editing tools enable resources to collaborate in a virtualized environment with access to the assets and modern capabilities that enable storytelling across all platforms from a single source. The cross-collaboration enriches storytelling, with many perspectives, angles and formats

to deliver it in. All of the activity is well-managed through a centralized dashboard that simplifies monitoring of resources, assets and stories in progress. This is 360-storytelling: a new story-centric approach that enables teams to collaborate together at the story level.

The virtualized environment leverages cloud, enabling new levels of mobility and service including the extensive use of AI to better manage and utilize millions of assets. Agile SaaS models mean shorter release cycles and transparent upgrades that ensure operators have the very latest capabilities. Combined with the increased usability, operators will be able to lower their TCO.

### Why now?

The COVID-19 pandemic has exposed the need for media organizations and especially news outlets to be more flexible and allow a distributed workforce to continue to be productive and deliver the content expected by the audience, even if they could not be in the same room. This crisis is dramatically accelerating the transformation I am illustrating in this article.

During these last few months, we have helped many of our customers adapt to the new conditions and adopt different work practices to cope with the challenges of lockdowns and social distancing. But it is time now to embrace this approach in a more systematic way: build the platforms and invent the new applications that will allow media organizations to positively transform their business and work practices for the long term. Not just

to address the recent crisis, but explore new work models, and deal with the challenges of an industry that sees rapidly changing news media consumption habits.



### Let's talk about Mobility and Collaboration

These are key aspects of the virtual newsroom of the future. Mobility means that all functions can be accessible from anywhere with web-based interfaces and mobile devices: wires, planning, script editing, audio and video editing, playout and publication. The virtual newsroom is also a collaborative space: whether you are planning, editing the stories of the day or preparing a show's schedule, everything can be worked on by people from the same team at the same time. And, whether you are working from a train, a coffee shop or home, you have all the newsroom capabilities on all your devices.

### Automation and AI

The complexity of producing and distributing news in the modern world is not decreasing but increasing. The news cycle has become a 24x7 cycle for everyone in

the news business – not just the 24-hour news channels – and that means being present on so many platforms at the same time. The technical process of producing and distributing news – whether live playout or multiplatform publishing – requires thousands of small steps. Fortunately, a lot of those can be automated so that reporters and producers spend time on creative tasks and writing compelling stories.

As it is already today, the virtual newsroom is built on the foundation of a Media Asset Management system and is powered by a workflow engine – at the end it is both a creative space and a set of organizational tools that orchestrate human tasks as well as automated technical tasks to optimize news production and distribution.

AI technology can contribute to that revolution: today there is a constant flow of information that comes in – wires, press briefings, recordings from reporters in the field and even user generated content (UGC). Organizations need resources to process, index and catalogue – this can be done automatically, at least in part.

Technology is increasingly improving how to perform these tasks. But more importantly, the data produced by this processing and analysis need to be part of the virtual newsroom platform, the exploitation of this data needs to be part of workflows that effectively help the journalists and other people in the newsrooms to perform their job. For instance, if a journalist works on a political story, finding the recording of a statement or a relevant picture should be automated for the most part.

As we move into the virtualized news world, these automated processes can be enhanced with an abundance of data captured and analyzed in a much more efficient manner. Cloud-based newsrooms allow operators to leverage the power of AI to automate indexing of content and recommend relevant content for story development. AI, as it matures, will also help with fake news detection. This type of agility will expand exponentially as AI models learn and accelerate automation workflows.

### Collaboration Drives the Future

Cloud technologies and SaaS business models enable full experimentation of workflows and allow organizations to benchmark potential ROI and TCO. This changes the way news organizations can onboard enterprise solutions, reducing the need to invest in physical infrastructure and minimizing risks before overhauling their business strategy.

In this environment, vendors need to pivot and refocus internal efforts. They need to employ customer success managers and environment managers to partner with their customers more closely. Combined with a solid DevOps approach, vendors are in a unique position to provide the agility and adaptability that 360-storytelling news operation requires.

**A virtualized newsroom with its ecosystem of tools will change the way journalists work to produce compelling stories: this is what newsmakers and vendors can achieve together.**

# How the media and entertainment industry can protect media asset libraries against ransomware



**David Phillips**  
*Principal Architect,  
M&E Solutions,  
Cloudian*

The media and entertainment industry has quickly developed into a prime target for ransomware. Organizations as large and diverse as Disney, Sony and France's M6 Group have all been affected by cyberattacks in recent years.

Research from Forrester Consulting indicates that more than half of organizations (51%) in the M&E sector experienced three or more cyber-attacks in just 12 months, while Sophos' *'State of Ransomware 2020'* report found that media and entertainment is among the industries most affected by ransomware, with 60% of organizations hit last year.

With the average cost of a TV show on a major network or streaming service at nearly \$6 million dollars per episode, the inability to access even a small portion of key files can be financially disastrous for production companies.

So, what is putting M&E businesses at risk and how can they effectively protect their media assets against the growing ransomware threat?

## Data at risk

Arguably the main reason why M&E companies are so susceptible to ransomware attacks is the large number of people involved in music, movie and TV production. Large scale media productions often involve a considerable amount of people working on a single project, in addition to a plethora of third-party experts employed in

outsourced roles such as music production, special effects, or post-production.

With so many people having access to business-critical systems and content, this creates an extensive array of potential attacks vectors, or inroads, which hackers can potentially exploit. It's virtually impossible for an organization to enforce cyber-hygiene practices across such a wide range of employees and freelancers, and it only takes one security hole for hackers to gain access.

But it's not just about the personnel involved. Factors such as an increasing reliance on technology and the growing number of digital content formats have quickly increased the complexity of production processes, thereby making it harder – not to mention more expensive – to protect against attacks such as ransomware.

This is especially true for small, specialty post-production and visual effects companies that often don't have the resources to employ full-time IT and security staff.

And what's particularly worrying is that ransomware attacks can be disastrous for M&E companies. The phrase 'content is king' is more

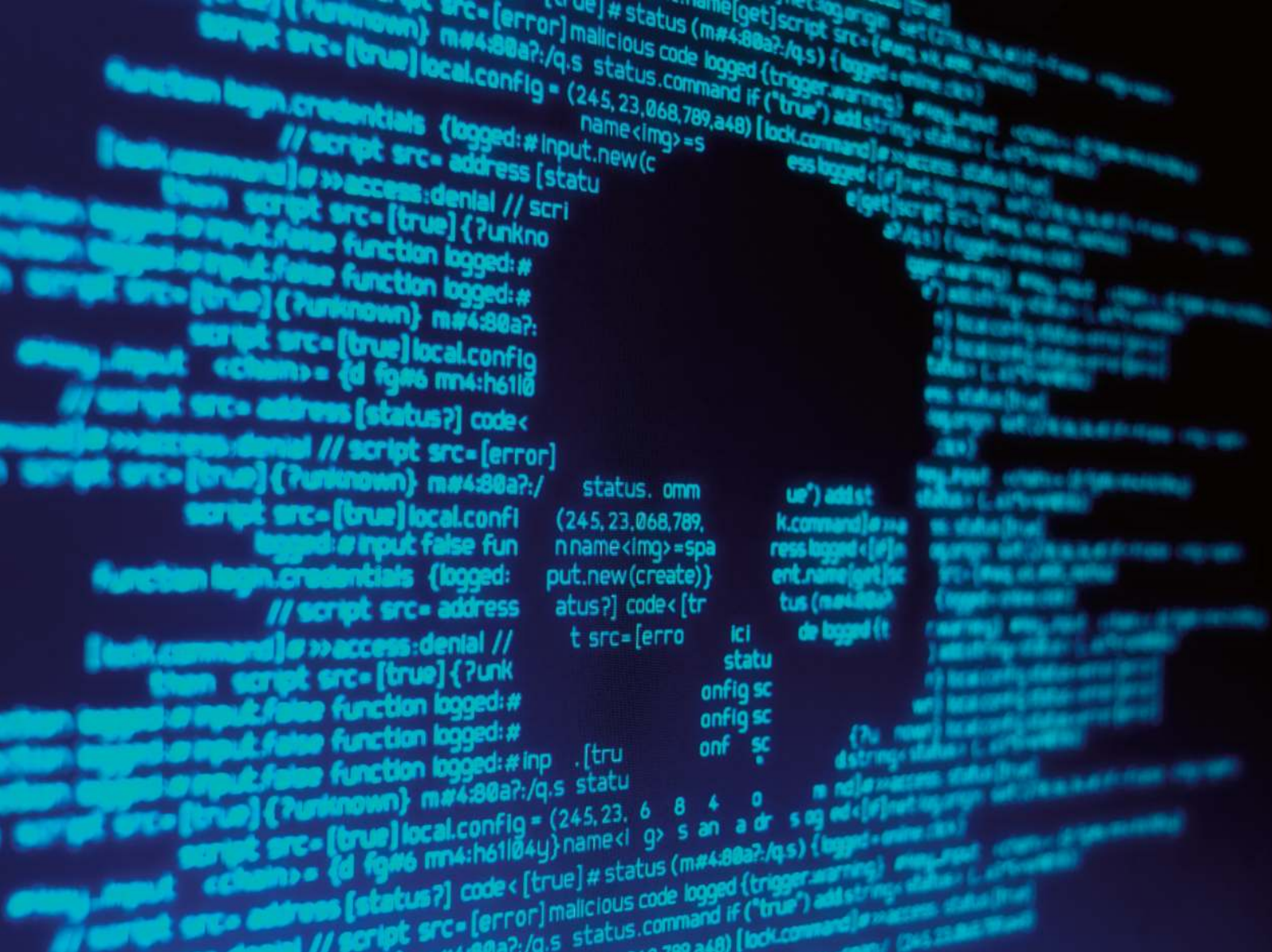
relevant in media and entertainment than in any other sector. Content is the revenue stream, the crown jewels and the key differentiator that distinguishes an M&E organization from its competitors. Losing access to these media assets is therefore a nightmare scenario.

Given that nearly three quarters of ransomware attacks (73%) result in data being successfully encrypted, there is clearly an urgent need for M&E businesses to be more resilient in protecting their valuable media content.

## Responding to ransomware

The first step for media and entertainment companies should be moving beyond established methods of stopping ransomware, as these produce unreliable results. For example, many businesses have traditionally focused on employee training and awareness, but some elements of human error are likely on large content production projects involving numerous third parties. What's more, solutions designed to prevent ransomware or reactively contain an attack's impact rapidly become obsolete as threats and their identifying signatures continue to evolve.





Finally, encrypting data is a common bulwark against ransomware.

However, while this can prove effective where cybercriminals want to access and share the data, with ransomware the data can simply be re-encrypted to prevent the rightful owners from accessing it.

This is where WORM (Write Once, Read Many) and Object Lock storage technology can make all the difference. WORM technology allows media producers to make unchangeable 'locked' backups of their data, giving the media and entertainment industry a viable way of protecting media asset libraries from ransomware.

While these 'locked' copies can still be read, they can't be changed for a

fixed amount of time, even if cybercriminals do manage to slip through the net. Instead of ransomware being able to encrypt the data and lock the victim out, data can be restored through a simple recovery process.

The even better news for M&E businesses is that object storage solutions equipped with new 'Object Lock' functionality have made WORM technology more accessible. Object Lock provides WORM functionality on enterprise storage systems, removing the need for specialised storage solutions and protecting data at the device level instead of requiring an external layer of defence.

Object Lock also enables ransomware protection to be automated for simple management as part of the standard backup workflow. This removes the burden from M&E businesses, delivering a level of security that is comparable to offline storage without the labour-intensive manual steps involved. With the security threats facing the media and entertainment industry continuing to increase, M&E businesses simply can't afford to ignore the importance of comprehensive ransomware protection. Object Lock storage can provide a long-term, reliable solution to stopping the effects of ransomware, protecting the valuable media asset libraries that are the industry's lifeblood.

Creative collaboration

## **Adding Value – the benefits of creative collaboration**



**Debra Slater**  
*Managing Director  
of Three Media*

Across the industry, most implementation and transformation projects have traditionally been collaborative because individual groups of people from different companies and multiple disciplines work together to achieve a common aim. But it is often the case that they are working alongside each other rather than combining their intellect and jointly determining the best solution for a client, even if that means their system or technology is not core or managing some of the key functions as part of the overall solution.



As systems have become diverse there is a real Venn-like overlap of functionality and it is essential that vendors now work side by side, within these common areas, to determine the most optimal solution for that workflow, operation, site or organisation.

Three Media has adopted the approach of intellectual integration as a regular business practice, especially for our latest consultancy engagements, where we have run and architected transformation programmes resulting in wholesale change across a client's organisation. In each, it has been critical to bring all vendors together through a series of workshops to jointly agree which system is the master of the data and the function. The outcome of this approach is that the client benefits from the best possible design with near zero duplication, optimised system use, and a group of vendors that are invested in the final solution.

As part of these type of consultancy projects, we have seen a shift in clients' expectations around vendor selection with the emphasis moving towards delivering business value rather than understanding in depth the underlying system technology. We have also seen that clients are less concerned whether a solution is a single or combined system offering, so long as it is, in total, state-of-the-art. This has opened the doors for more product vendors to offer collaborative partner solutions rather than to develop new functions and extend internally.

We considered this change of focus when re-designing our own product, XEN:Pipeline, a highly automated business content management system. As part of this process we re-defined the technology stack and identified new functional areas. For each, we evaluated if the development should be managed internally or if solutions already existed.

As the XEN:Pipeline product is highly automated with its goal to transform an operation by reducing the cost and time to process, maximise efficiencies and generate new revenue streams across the content supply chain and its associated workflow, it was important that any existing solutions evaluated adhered to these principles.



We investigated potential partnerships and if they could be incorporated into XEN:Pipeline without adding risk and overhead on quality, performance, flexibility, and speed to make changes. One of the commercial drivers was to have a near zero dependency on the vendor selected.

One new feature of the technology stack was the introduction of an orchestration layer. Many broadcast operations today are looking to move away from a segmented/departmental methodology to open, automated workflows that are quick and low cost to change. We are strong advocates for moving as much of the workflow and business logic into its own layer rather than being embedded within vendor systems. This degree of orchestration is not fully achievable within our ESB (enterprise service bus) but needs to be enabled through the introduction and integration of a BPM (business process management).

Given that we have worked closely with the digital business platform specialist Symbox on consultancy projects in the past, and our collaborations resulted in innovative and efficient solutions for the clients, they were a natural fit to be selected for the business process management layer within XEN:Pipeline. The Symbox BPM is an enterprise class solution that is scalable and superior to its main commercial rivals in many respects, but more specifically within the UI where users are able to design, build, view and easily identify failures.

Around 95% of the business logic within XEN:Pipeline is now either within the internal configuration layer or the BPM. This significantly reduces the regression cycles and considerably lowers the cost and time to make a change.





This has created something that is unique in media and broadcast, which would not have been possible without the collaboration between Three Media and Symbox. Not only have we transformed the typical iterative vendor model of develop, regression, deploy, but we have also enabled XEN:Pipeline to extend outside of supply chain management and to introduce the combined force of the ESB and BPM into areas of the organisation that would not otherwise have been considered. Our industry knowledge, combined with Symbox and their experience of driving effective business processes across crucial areas such as finance, IT or HR, has created a unique offering that can be rolled out across a company or an enterprise.

There is also the opportunity for clients to extend and manage workflows and processes within their own suppliers and distribution points, gaining even more control over the end to end supply chain.

This collaboration has resulted in several benefits for both parties and opened new commercial opportunities. The Symbox brand and reputation is gaining recognition across the media and broadcast industry as a trusted vendor. For Three Media, the XEN:Pipeline technology stack is greatly improved and more powerful in its functionality, offering something new to the industry. Looking to the future, and utilising the wider network connections of both companies, we have introduced a joint sales strategy to focus on identifying opportunities that could benefit from our collaboration.

Creative collaborations bring about a renewed energy across teams, motivating the other to push forward to create the most powerful solution for the benefit of the client. This is certainly true of this partnership.

Creative collaboration

# Creative collaboration

## Virtualizing broadcast operations

How A+E Networks UK partnered with Amagi to transition its entire EMEA operations to a cloud-managed service.



A+E Networks® UK, a joint venture between Hearst and Sky, is a leading media network reaching 58 million homes across 100 countries. With its global portfolio of popular, high-performing and creative brands – HISTORY®, Crime+Investigation®, Lifetime®, HISTORY2® and UK free to air BLAZE® – A+E Networks® UK has entertained and inspired audiences for over 20 years; telling the stories that need to be told. They currently partner with over 360 operators broadcasting throughout the Nordics, Benelux, Central Europe, the Middle East and Africa.

In Q4 of 2019, A+E Networks® UK faced a serious business continuity situation with their then existing managed broadcast services provider. This placed the operations of their entire portfolio of 30 channels in Europe at unprecedented risk but without a clear idea of the likely outcome. A typical technical broadcast operations transition of this magnitude is planned and executed over the course of 6 to 9 months. And, it takes nearly 18-24 months in the case of issuing fresh RFPs. The company found itself in a conundrum. “On one hand, we had to build a backup option to ensure business continuity in response to the evolving business situation at our service provider. But, on the other hand, in case the service provider’s business situation improved, we wanted to stay on,” explains Matt Westrup, Vice President of Technology and Operations, A+E Networks® EMEA. The actual business risks and aforesaid constraints meant that A+E Networks® UK needed to be ready for a full-blown playout transition but needed to do this at very low costs to address a business continuity eventuality.



“The unique situation faced by A+E Networks® UK required a solution that was reliable, flexible, quickly scalable, and yet very cost-effective.

It was a challenge that was tailor-made for cloud technologies,” says Srinivasan KA, co-founder at Amagi, a global SaaS leader in broadcast and streaming TV. Amagi is a pioneer in cloud-based broadcast of live linear content. “We are truly cloud-born! We started investing in cloud technologies as early as 2012, and deployed our first cloud playout solution in 2013 for a UK-based equestrian TV network. We have built all our broadcast solutions on the cloud enabling our clients to fully leverage the power of cloud.” Today, the company manages 400+ channels on its cloud platform, with deployments in over 40 countries, working with large TV networks, content owners, new-age digital networks, and streaming TV/OTT platforms.



Teams at A+E Networks® UK and Amagi collaborated and designed a two-phased approach to adequately respond to the evolving business situation. In the first phase, Amagi put together a ‘Cold business continuity playout’. If the situation arose, in the second phase, A+E Networks UK® would undertake a full playout transition. “This way, we would have moved and tested all the basic workflows to the cloud in Phase 1 ready to go if needed. We then would have had to manage minimal transition going into Phase 2. It meant we created a full shadow operation that could go live pretty easily but without the commercial commitment until that point. It was an ideal position to be in and only possible by using the cloud this way,” says Westrup.

## Phase 1: Cold Business Continuity Playout

### Business goals

- **Technical:** Have the basic workflows rapidly ready for a Go Live scenario
- **Commercial:** Limited cost commitment for implementation and ability to step everything back down

### Implementation

- Set up systems and workflow integration and media ingest workflows
- Set up non-redundant playout, test the playout, and make playout dormant to save costs
- Set up public internet (Zixi) based channel delivery, test the delivery, and make delivery dormant to save costs

## Phase 2: Go Live – Full Playout Transition

### Business goals

- **Technical:** Deliver full channel portfolio to affiliates at short notice (in days, rather than months as is the norm) with no interruption to viewers
- **Commercial:** Minimal transition cost from Phase 1 to Phase 2; Meet market-norm for playout and fibre delivery costs

### Implementation

- Start the non-redundant playout and IP delivery immediately
- Setup redundant playout and move to traditional fibre-based delivery in parallel

The Amagi solution included a fully virtualized broadcast infrastructure based on AWS, CLOUDPORT cloud playout platform, dynamic graphics, scheduling, automated monitoring, multi-country distribution across IP, satellite, and fiber deliver models, and a 24x7 managed service to broadcast 30 channels across Europe.

Amagi's innovative cloud-based broadcast infrastructure and adaptable workflows allowed A+E Networks® UK and Amagi to complete Phase 1 in about 6 weeks for all 30 channels. The cloud based on-demand infrastructure on cloud naturally lent itself to meet the technical and business goals in Phase 1. When the business situation demanded, A+E Networks® UK and Amagi triggered Phase 2 of the project. Within 10 days, all pay TV operators were moved to the Amagi solution!

### Solution Highlights

- Over 50K hours of content were ingested into the Amagi cloud instance of AWS demonstrating scalability and stability of solution as part of Phase 1
- Highly localised channel playout supporting subtitles and local language audio for different countries in Europe
- Fully automated process across broadcast workflow – ingest, scheduling, playout, and monitoring with complete control and visibility to A+E Networks® UK

- Multi-redundancy cloud architecture to guarantee uninterrupted broadcast during natural disasters, pandemics or technical downtime
- 24x7 monitoring and managed services aided by comprehensive L1, L2 and L3 support
- Integration with ad-network partners in individual countries and workflows for management of ad schedules from ad-partner

“Now, we are able to access our entire broadcast operations from any remote location through a simple web UI, control and manage all aspects of the workflow. When the pandemic erupted and preventive measures across Europe were put in place, our channel operations continued with no extra risk, while safeguarding health and safety of our personnel allowing them to manage operations from remote locations,” says Westrup.

Through this engagement, A+E Networks® UK and Amagi have demonstrated to the industry that large broadcasters, in spite of their wide scale of operations and complex workflows, can virtualize their entire broadcast operations within a short time, and manage it from any remote location with full visibility and control. This could well usher a new thinking in the European broadcast circles as companies look to innovate adapting to emerging technologies such as cloud.



## Creative collaboration

# ATEME TITAN Powers TVUp OTT

TVUp is a Spain-based company that has created TIVIFY OTT platform, a PayTV as a service with premium channels and content for both Spanish and international markets (B2B2C). TIVIFY runs via an Android TV set-top-box as the main device. The platform is distributed via two commercial models: Tivify (B2C) and Tivify PRO (B2B2C), enabling operators to give the best offer of linear and non-linear TV and to offer viewers the same advanced functionalities such as applications and games that big players in the market can provide.



The TVUp platform offers clients access to its own TV platform and channel bouquet and a wide variety of content through the Play Store, including YouTube, Spotify, Disney +, HBO, Amazon Prime and DAZN.

In setting up this service, TVUp required a partner with considerable OTT delivery expertise to ensure, above all, a premium viewing experience for its customers. As the leader in video delivery solutions for Broadcast, Cable TV, DTH, IPTV and OTT, ATEME's expertise in delivering similar projects and best of breed technology in the form of its TITAN solution made it stand out to TVUp. "We have been closely following the evolution of ATEME and its encoding solutions for some time now.

With a huge amount of experience and a strong local presence in Spain, ATEME was an obvious choice for us," comments Francisco Sáez, CTO, TVUp.



### Delivering flexibility and high quality

In order to obtain the flexibility and high video quality it desired, TVUp has deployed ATEME's TITAN – a high video quality and high density video processing solution which it will use to deliver TV content, premium channels and apps via OTT. Thanks to this, TVUp is able to provide operators and users with myriad benefits, such as more efficient encoding and transcoding, leveraging ATEME's adaptive encoding technology to do so.

With video bitrate impacting storage and delivery, many operators aim for bitrate to be reduced as far as acceptably possible in order to save costs. However, adopting a 'one size fits all' streaming approach to coding profiles lowers the quality of the viewing experience, especially when bandwidths are low. In such a fast-moving competitive environment, operators can't afford this compromise. ATEME's adaptive encoding and profiles optimization provides a solution to this, saving TVUp close to 50% of bandwidth, which has a considerable impact in lowering the CDN cost and the resultant total cost of ownership for live and VOD applications, all whilst ensuring high video quality at lower bitrates.

"Ultimately, the video quality is king for our customers," comments Sáez (TVUp), "The flexibility in the creation of coding profiles for the setup of our live OTT TV channels allows us to provide a line-up of channels at very tight maximum bitrates with a magnificent quality of experience for our clients."

Furthermore, ATEME's dynamic chunking further optimizes the OTT delivery. Instead of the traditional approach of keeping chunks at fixed lengths, enabling the switching between shorter or longer chunks, which improves the playback efficiency and ensures low latency. A smooth viewing experience is critical for the viewer. Therefore, for TVUp, to ensure the lowest latency possible enables it to deliver on its promise of the best possible viewing experience.

### A true partnership

Beyond ATEME's superior technology offering, the two companies also share a common vision for the future of Pay TV, and this synergy has resulted in a close working relationship from the start. "Our work with TVUp is like a partnership," comments Pablo Rodriguez de Tembleque, Director of Solution Engineering EMEA, ATEME, "We began by working closely with TVUP's solutions architects and engineers on the proof of concept, and subsequently the deployment has been an incredibly smooth process."



Sáez (TVUp) adds, "For us, ATEME's expertise is invaluable. As part of the support the team offers us, they have undertaken a profile optimization review, bench marking our OTT layer to recommend which profiles could be removed, and where resolution could be lowered, for example. It is this kind of added value which has set our partnership with ATEME apart."

### Looking to the future

With success already achieved, there are more exciting plans to come from the partnership. Sáez (TVUp) comments, "We are very happy to have TITAN integrated in our ecosystem, it was a very straightforward process with great support from the local technical team. We clearly have a common understanding of the expected evolution of PayTV leveraging OTT technologies, and ATEME is the right partner for this amazing journey."

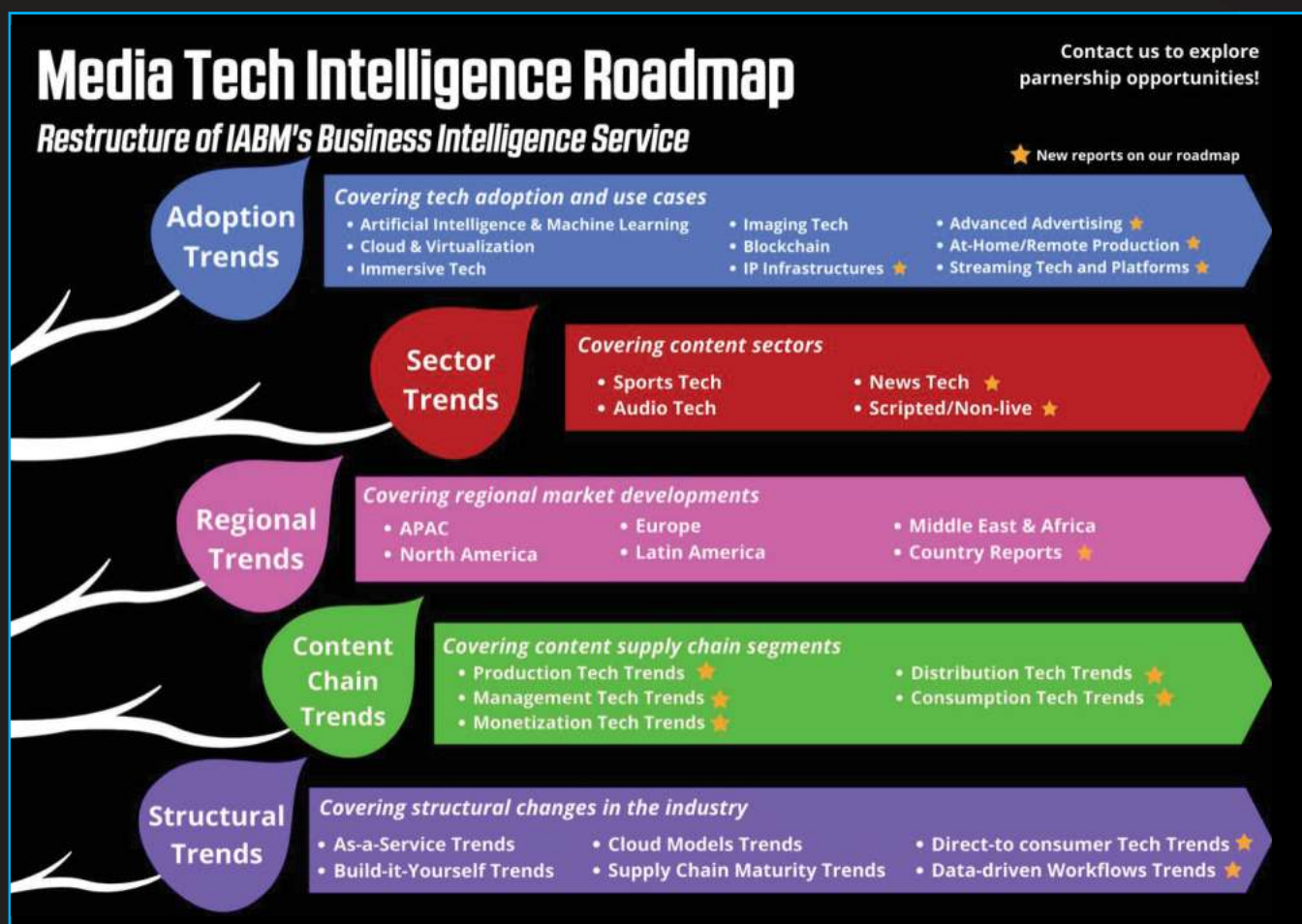
With the platform currently deployed on a private cloud infrastructure, future plans involve a migration to a hybrid cloud solution. This will enable even greater flexibility for TVUp, and ensure it is able to continue delivery best of breed technology to its customers, with a competitive and innovative offering through TIVIFY.

Rodriguez de Tembleque (ATEME), adds, "Providing TVUp with our transcoding solutions demonstrates our capacity to address all opportunities and customers with the same passion and quality of support. Our local teams have been engaging with the TVUp team for a while, defining the best possible solutions to fit both their technical and business model needs. We trust that this is only the beginning of a long-term story and a solid partnership."

# Creative collaboration

# IABM Media Tech Trends Intelligence

**IABM Media Tech Trends Intelligence** is a part of IABM Media Tech Intelligence service. It is based on specific stats from our Media Tech Business Tracker, complemented by ad-hoc qualitative research carried out by IABM. This includes analysis of news and announcements, in-depth interviews with industry insiders and financial metrics among other things.







## Covid success story

# PlayBox Technology

2020 has been like no other – the COVID 19 pandemic has caused unprecedented change for consumers, businesses, and communities alike on a global scale. Despite lockdown measures causing many to remain within their homes, prompting an increase in free time and rising media and TV intake, the broadcast media industry still felt the effects of the pandemic. Advertising revenues declined as consumers tightened their belts, streaming consumption increased as production efforts and live sporting events grinded to a halt and remote working became the new standard for our industry.



**Phillip Neighbour**  
*COO, PlayBox  
Technology*

PlayBox adapted to these changes quickly and effectively, calling upon tried and tested remote working mechanisms to ensure that our team can work safely at home.

For our customers, we recognised their immediate needs for seamless remote transitions. We introduced centralized tools across both the Neo platform and Cosmos for remote configuration, management and monitoring of video links between multiple locations. We also diversified the output options available to users,

The company is proud to announce a 56% increase in sales compared to the same period of the previous year

Covid  
success  
story

with SRT as an available replacement for RTMP. Looking to the future, our development team has been working hard by improving overall codec support for 8K media within our cloud-based Cosmos software. To provide further support for those hosting the new age of virtual events, we enhanced the SocialMediaBox plugin for TitleBox, which provides accurate filtering by utilising a semi-automatic moderator engine – reducing the time needed to moderate featured posts on live events. As a result of customer and industry feedback, we decided that we wanted to rethink our approach to Ecommerce. Amongst the playout automation and broadcast solutions market, it's too often cumbersome and increasingly difficult to get a quick, easy quotation for your project. Furthermore, as a result of COVID-19, we could not visit customers and finalise deals in-person. We knew that we wanted to streamline that process - which led us to create the PlayBox Marketplace. The Marketplace allows our customers to purchase software licenses, full turnkey systems and renew their annual maintenance packages easily via our website.

Our global presence and flexible structure as a company has ensured that the remote working transition has been a smooth one. Our dedicated support team have been delivering exemplary service throughout, hosting free online demonstrations and providing timely 24/7 assistance to our customers.

As Covid-19 lockdowns expanded this year, PlayBox Technology saw both software only and turnkey solution sales of its PlayBox and Cosmos series rise along with the industry interest in remote broadcasting.

The company is proud to announce a 56% increase in sales compared to the same period of the previous year. The

results were fueled by winning an international tender and by the record revenue growth from the company's entry level playout solution, PlayBox Neo, which grew 131% YOY, from its portfolio advanced playout solution, PlayBox Mega, as well as a continued growth of PlayBox SaaS solution, which grew 54% YOY.

Approximately 98% of PlayBox's new business revenue was generated outside of the UK. Both the North American and Far East market constitute PlayBox Technology's largest market, with 78% YOY growth, generating more than one-third of PlayBox's revenue in 2020. Additionally, revenue in the Middle East grew 56% YOY.

"We are very excited and thrilled about our achievements in 2020, including acquiring new customers beyond our estimates," says Phillip Neighbour, PlayBox Technology's COO. "The team also nearly doubled in size in one year, which has allowed us to focus on our cloud solutions, as well as innovation and product development."

August saw us premiere the very first episode of our brand new podcast – In the Hub – onto all major streaming platforms. It's our way of speaking to both up-and-coming entrepreneurs and legendary figures within the broadcast and media industries, discussing their stories and experiences and hearing their predictions for the future of broadcasting. We can't wait to see how our new platform excels and grows into 2021 and beyond.

"It's been an exciting and incredibly insightful process," says Neil Thacker, Go to Market Manager. "It's an honour to be speaking to some legendary figures within the industry and enhancing our digital content offering through our weekly podcast."

We also launched the Knowledge

Base – our platform for FAQs, articles and guides that customers can access directly through our website. It's a constantly evolving support hub, and we're always looking for additional content to add. For the customers who want to know more about our solutions, it's all in the Knowledge Base. PlayBox users can also share ideas and feedback within the Community. We also took time to create some helpful video product tutorials for our solutions, which can be found on our website.

With trade shows and conferences cancelled and postponed, we wondered what the future of large-scale, in-person events would look like. In May, we opened our virtual event stand – highlighting our products, learning materials and hosting interactive product demonstrations, also published on the company website. We saw some incredible traction from new and existing customers alike, and we have built some exciting new partnerships and relationships as we venture into a new age for playout. As much as we tried, it still doesn't beat seeing our customers and partners in a face-to-face capacity and sharing a drink (or two).

Despite 2020 not playing out how any of us expected it to, we're confident that the industry as a whole will emerge stronger for it. The team at PlayBox Technology UK have come to welcome the pressure that such unprecedented times can create. We're innovating at every step of the way and we aren't afraid of change – and our worldwide customer base with over 20,000+ playout systems deployed are reaping the benefits of our flexibility. We can't wait to show you what our development teams have been working on – further enhancements, initiatives and an entirely new product line. Exciting times ahead!



## How to Navigate Today's Bandwidth-Constrained, Multi-Codec World

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**Bart Van Daele**  
*Product Marketing  
Manager, Video  
Network,  
Synamedia*

In many ways, 2020 has forced us to rethink norms we'd previously known to be true. But when it comes to video delivery, the primary concerns and demands from 2019 remain the same, if not elevated by the pandemic: bandwidth is still limited and consumer demand is still growing. And with people continuing to consume increased levels of content at home, the bandwidth challenge remains. As we look ahead to 2021, content distributors and video service providers must ask themselves: How do we deliver high-quality video at scale efficiently, while maintaining a high-quality user experience? The answer is a bit like 2020 – it's complicated.

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According to [research](#) from Conviva, viewers around the world spent 57% more time in Q3 streaming as compared to last year. In fact, every continent saw double to triple-digit increases – including a 104% increase in South America. With consumer demand for content not slowing down, content distributors and video service providers must take a serious look at the technologies and expertise available to help them navigate today's multi-codec world, despite bandwidth constraints. This is a must not just for short-term needs, but for longer term, sustained growth.

Thankfully, both technology and expertise are now more available than ever before to help address such hurdles, particularly related to compression requirements needed to enable efficient and effective video content delivery to existing subscribers, and to help grow a subscriber base. Particularly in terms of software, service providers can leverage unprecedented flexibility in implementing codecs that identify and compress media content and automatically adjust bitrate and target quality level. So, what needs to be done first?

Content distributors and video service providers must ask themselves:

- Are we properly scaling to address the viewer demand?
- How can we scale preemptively? What do we need to take into consideration?
- How can artificial intelligence (AI) help us scale ahead of time?
- What can we do to ease the pressure on our network due to more demanding video applications?

A common denominator to each of these answers is addressing bit rate requirements for high quality video delivery. In the winter/spring of this year, many providers quickly reduced video service bit rates in anticipation of bandwidth concerns. While this took care of the immediate network congestion problem, it was ultimately a band-aid solution to a much deeper problem of scale. Most video services are still searching for the right route to address the bandwidth crunch. Added to this challenge is that new compression standards are emerging every few years, forcing the need for greater agility within a network to support faster reaction times and superior scalability for the ultimate viewing experience.

## Enter the cloud

The cloud offers the scalability and flexibility needed to master the complex compression needs that result from increased viewership. It's a clear case of supply and demand. Consumers want more content where they want it, when they want it. Content distributors and video service providers need the capabilities to help ensure this happens, or risk losing the subscriber.

From a compression technology vendor perspective, the ability to develop and automate the testing of multiple codecs in the cloud – and at scale – is truly game changing. It makes it possible to speed up development and to measure compression efficiency across a wide variety of test cases including different codecs, coding structures, coding tools, bit rates and resolutions.

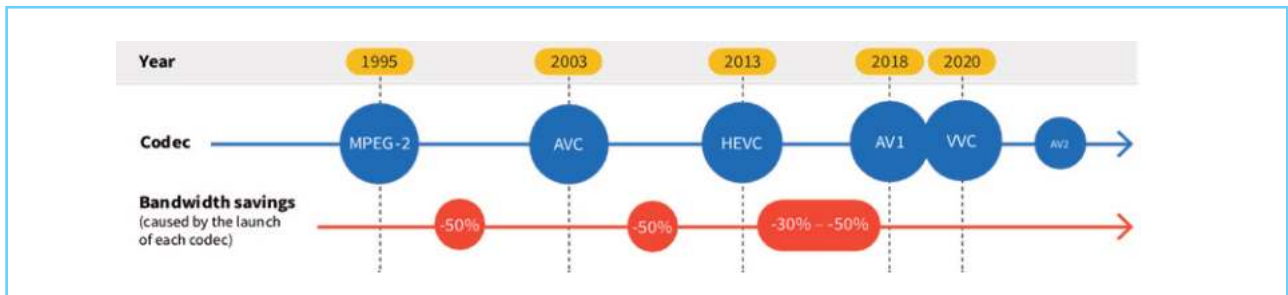
The cloud also gives both compression tech vendors and service providers a huge advantage in scalability without CAPEX investment. However, when it comes to cloud deployment, there is often a perception of unlimited scale. Cloud services are not free, so it's critical that codecs are optimized for efficiency – both in terms of cost and capabilities. Codecs developed for the cloud and in the cloud can allow providers to enjoy the benefits of truly agile cloud deployment.

When it comes to compression, it's pretty simple math: the more you compress, the more you can store and the more you can transmit. But while simple, it is not easy. And that's why content distributors and video service providers should look to partner with outside experts and technology innovators for success.

## Considering Codecs

There's no doubt this multi-codec world puts ultra-high quality, low latency video within reach, at scale. However, as the codec landscape becomes wider and more developed, it also becomes more convoluted as more encoders and decoders must be supported. In terms of encoding and client support, different codecs have different ideal applications – and often, several codecs run in parallel. Advanced Video Coding (AVC) and High Efficiency Video Coding (HEVC), for example, can enable low-latency live streaming for large scale events. But for enhanced compression performance and support for emerging broadcast technologies, added codecs like AOMedia Video 1 (AV1) can make the software stack more robust.

According to research from Conviva, viewers around the world spent 57% more time in Q3 streaming as compared to last year



Several factors come into play when it comes to considering codecs, including delivery requirements, client and device support, footprint cost, OTT or broadcast encoder complexity and more. Not to mention the increasingly complex legal landscape for licensing codecs, and current momentum around royalty-free codecs. And with new displays constantly coming to market promising better and better picture quality, keeping up with the latest and finding the right compression route is no easy feat. Fortunately, there are experts who can help navigate the tumultuous waters of video codecs to enable service providers to take advantage of compression efficiency for the best video experiences.

*Machine learning facilitates decisions both at the rate control algorithm level and encoder level, thereby saving bandwidth costs and strains, and simultaneously speeding up processing. Bart Van Daele, Synamedia*

### How to Navigate

Next-generation video specifications, which are rapidly being brought to market, certainly make video compression more efficient, but also involve significant encoder complexity.

AI and Machine learning (ML) technologies allow compression technology providers to find a balance between bandwidth-efficient video streams and encoder complexity. Using AI-based models, it's possible to enhance compression engines and optimize bandwidth savings based on content while reducing computational complexity. Machine learning facilitates decisions both at the rate control algorithm level and encoder level, thereby saving bandwidth costs and strains, and simultaneously speeding up processing.

Another technology to consider is Content Adaptive Encoding (CAE) by scene. This approach can further lower the bandwidth requirements while also deliver quality that is nearly constant perceptually. There are many expectations today, such as globalization and low latency that can lead to an explosion in the computational requirements of encoders. Those looking to expand into new geographies can benefit from CAE and from working with a technology partner who understands the ins and outs of the various codecs, implementation approaches and scalability requirements to help ensure high quality of experience (QoE) – all of which can be done as the business expands its reach.

The digitization of media has led to a constantly growing market demand. Today, the trend continues with the evolution of technology that offers increasing screen resolutions, frame rates and dynamic ranges – not only on televisions but also on mobile devices – and various modalities such as VR, multi view, 3D and 360 TV. In fact, the Cisco Visual Networking Index found that [by 2022 IP video traffic will be 82% of all video traffic](#). More than ever, finding the right technologies and expertise to help avoid network congestion must be a priority for video service providers. Analyzing what subscribers are looking for, tackling the bandwidth challenge without sacrificing quality and leveraging advanced technologies to improve compression efficiency must all be factored into the equation to achieve both customer retention and acquisition.

We've learned in 2020 that navigating the future while planning for the unexpected is never easy, but it is mandatory. Content distributors and video service providers only see success if their viewers are happy with their experiences. In order to continuously deliver, companies need to leverage the right mix of technology and expertise so that in the end, they and their subscribers reap the benefits of today's multi-codec world.

# New EMEA Members' Council line-up announced – Local relevance, representation and engagement for IABM's many European members

Following recent elections, the new line-up for the EMEA Members' Council and its chair is now confirmed. The EMEA Members' Council members are drawn from companies based in nine European countries to provide a truly representative regional industry body under the new chair, Thomas Gunkel, Market Director Broadcast at Skyline Communications. IABM Members' Councils serve for a term of two years.

Serving on the IABM EMEA Members' Council with Thomas Gunkel are:

**Remi Beaudouin** – *Chief Strategy Officer, ATEME*

**David Alexander** – *Commercial Director, Brainstorm 3D*

**Ole Clausen** – *CEO, Danmon Group*

**Franck Coppola** – *co-Founder and CEO, Hexaglobe*

**Hasan R. Sayed Hasan** – *Managing Director, Master Media*

**Alain Polgar** – *Founder, MediaSTRAT*  
(Chair of DACH Members' Council)

**Martin Paskin** – *Solutions Director, Techex*  
(Chair of UK Members' Council)

**Julian Fernández-Campón** – *CTO, Tedral*

**Muriel Lebellac** – *CEO, Videomenthe*

**Patricia Corral** – *Marketing Director, VSN*

**Matt Loreille** – *CMO, Wildmoka*

More information on all the EMEA Members' Council members can be found [here](#).

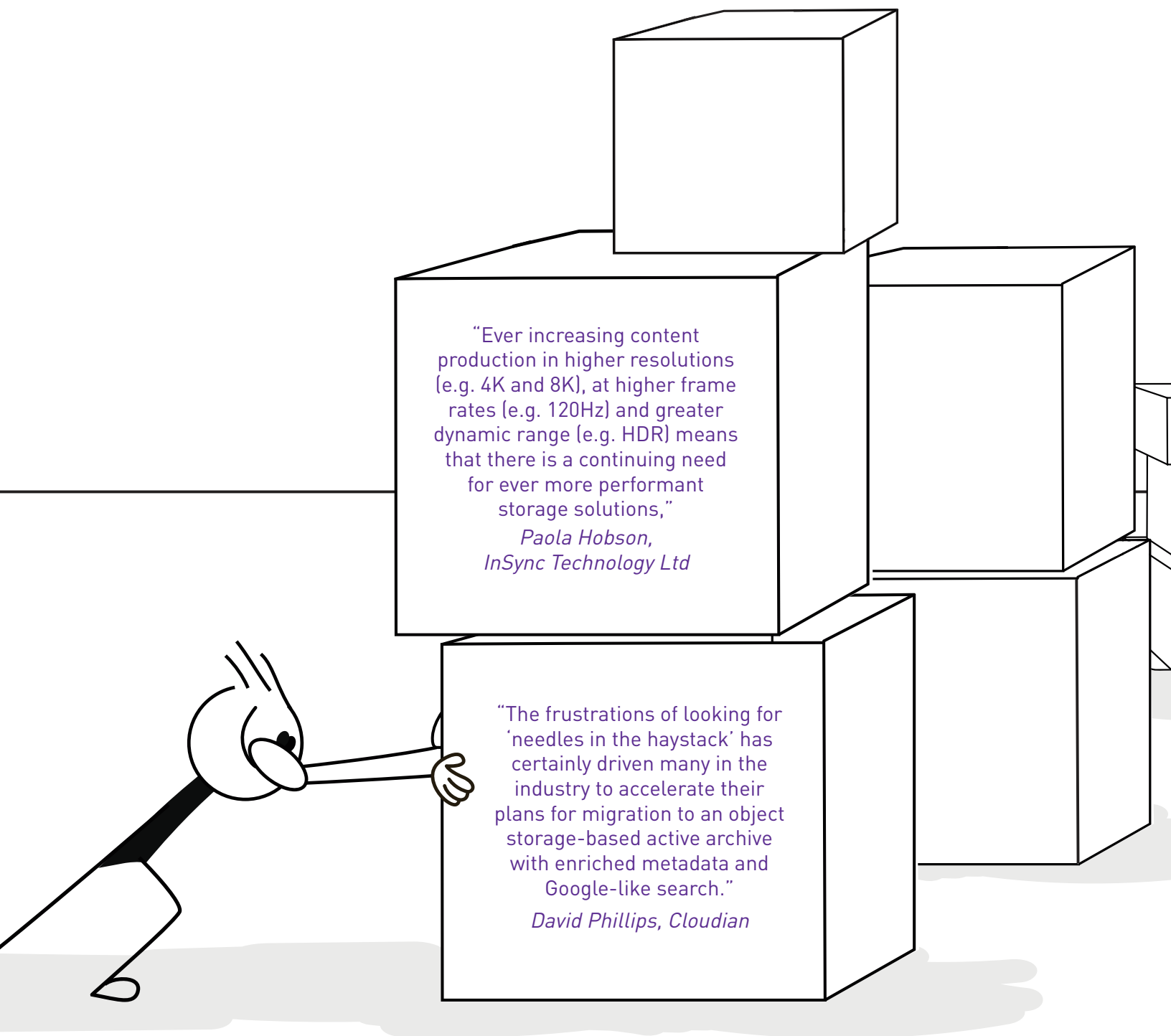
"First of all, I would like to say thank you very much to IABM and its EMEA council members for this exciting opportunity to serve as their Committee Chair for the coming two years," said Thomas Gunkel. "The media industry is facing tremendous challenges: technology changing faster than ever; we see a shift to the cloud, to virtualization and all-IP and at the same time we live in a world of ever more demanding consumers, unexpected changes and at the same time there is a commercial pressure to run our business more efficiently than before.

"In my role at Skyline Communications as Market Director Broadcast, I have the privilege of working in the epicenter of this exciting move towards the agile data-driven media operations and of having existing business relationships with many IABM members already. I am happy to work together closely with the IABM committee to start new initiatives which everybody, IABM members and our customers, will benefit from. Collaboration, technical and strategic partnerships are essential to provide flexible and future-proof solutions for our customers, and to make their digital transformation endeavor a success," Gunkel concluded.

Darren Whitehead, IABM Director of Business Development, said, "The new Council continues to have the broad member and geographical spread of its predecessor to ensure the widest representation possible of all European member views, whatever their location or company size. I am looking forward to working with Council to highlight European views, ideas and initiatives and, as always, I invite any European members to get in contact with me if they wish to table something to Council for consideration."

"The Member Councils play a vital role in the continuing success of IABM," said Lucinda Meek, IABM director. "I am looking forward to working with them to deliver more value and support for all our members."





“Ever increasing content production in higher resolutions (e.g. 4K and 8K), at higher frame rates (e.g. 120Hz) and greater dynamic range (e.g. HDR) means that there is a continuing need for ever more performant storage solutions,”

*Paola Hobson,  
InSync Technology Ltd*

“The frustrations of looking for ‘needles in the haystack’ has certainly driven many in the industry to accelerate their plans for migration to an object storage-based active archive with enriched metadata and Google-like search.”

*David Phillips, Clouidian*

## What's driving change in Store?



**Roger Thornton**  
IABM



The Store segment of the BaM Content Chain® covers the storage of content throughout its lifecycle. This can be on-premise or cloud object storage, SAN and NAS – including disk, SSD, optical and data tape, as well as storage management, archive storage, video servers and VTRs.

With an ever-growing amount of content needing to be stored and then rapidly accessed from anywhere, with ever-higher resolutions only increasing the pressure, Store today means much more than the simple repository its name implies. We spoke to 10 IABM member companies to catch up on all the latest developments in this largely unheralded but vital content chain segment



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

## Access vital

The coronavirus pandemic has shone a spotlight on the Store segment of the BaM content Chain®, with access becoming a key issue. "Lack of live drove broadcasters to the archive but many found it difficult to get timely access to content," says Nick Pearce-Tomenius, Sales and Marketing Director, Object Matrix. "[What's required is] ease of access to all content from anywhere without manual intervention. This was not possible for many during this troubled period."



Adrian J Herrera, VP of Marketing at Caringo also identifies access as a key issue. "The primary driver of change for both end-users and vendors this year has been content accessibility. Early this year, the pandemic restricted access to data centre facilities and offices and, as a result, access to content needed to complete projects. Many organizations accelerated their migration to the cloud and many vendors accelerated their product roadmap features that facilitated migration to the cloud."



## Cost matters

"The issue from the end-user perspective will be the cost associated with cloud storage. When you look at cloud computing, you can spin up and then spin down compute resources when they are no longer needed – reducing costs. However, storage or content is more static and tends to compound. As cloud service bills increase, the only way to reduce costs will be to delete data or to keep the majority of content on premise," Herrera says.

"Cost is never far from the top of concerns and with continued exponential content growth; the storage budget is often stretched to its limit," says Jeff Braunstein, Director of Product Management, Spectra Logic. "It would be easy to say that cost is the main driver of change in Store, but that answer is too simple. The rising cost of storage in media and entertainment is not merely attributable to increased storage procurement costs. In fact, the cost of storage has consistently dropped over the last number of years. The key part of the issue is suboptimal data management. The rising cost of storage is almost always traceable to the hidden costs associated with the improper retention and management of large amounts of digital content, including backup storage capacities that are often a



multiple of actual production data, daunting inventory tasks, complex storage management, shortage of skills and quick data availability requirements. Organizations need a cost-efficient storage lifecycle management tool that brings visibility and analytics to data for proper and intelligent tiering of data relative to its perceived value and access patterns." Braunstein is not the only correspondent calling for structured handling of data.

## Collaboration is key

"In my view, the industry's top priority, even if it's not always clearly defined, hasn't really changed – to me, it's always been fundamentally about collaboration," says Alex Timbs, Sr. Business Development Manager for Media and Entertainment at Dell Technologies. "This means different things in our respective businesses but is likely key to almost all the M&E creation, distribution and consumption strategies that have, and will, succeed. It's about quality, quantity, and efficiency, and now more than ever, about the value technology can deliver. In some cases, this means granularity, i.e. the ability to match resources surgically to the business need, in others it's about consumption models, or flexibility to deal with short, yet very high amplitude waves of infrastructure demand."



Collaboration is key for Studio Network Solutions too. "The drivers of change in storage are all about workflow," says Melanie Ciotti, Marketing Manager. "From speed to security, remote connectivity to NLE integrations, innovations in storage stem from the industry's need to collaborate better, create faster, and work more efficiently. It's all driven by workflow. For example, at SNS, we developed [Nomad](#) and SNS Cloud VPN to help our users work from home at the onset of the COVID-19 pandemic. Foreseeing their workflow challenges drove us into immediate action toward a solution, and we continue to innovate based on our users' current and anticipated workflow and storage needs."



"Of course health and safety for productions is bending the curve towards virtual collaborations and remote workflows for everyone," says Dan Montgomery, CEO of Imagine Products. "One trend we noticed this year is a definite uptick in short-term software leasing. This use model has all but replaced the traditional 'permanent' ownership scenarios."



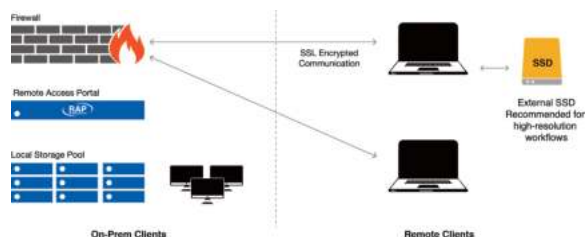


"We have remote personnel driving change on how content is edited and accessed in parts of the workflow, where previously it was done on-premise only." Daryl Heinis, Scale Logic



## Ethernet workflows

For Daryl Heinis, Scale Logic CTO, high performance ethernet-based workflows are top of the list. "Whereas the cost of fiber infrastructure has become prohibitively expensive, we see the cost of 25 and 100Gbit ethernet and NVMe decreasing rapidly. We have applications supporting high performance workflows using ethernet changing how content is edited at high speed. We have AI and other data analytics driving automated workflows, which call for single global namespaces and data movement to cloud. We have remote personnel driving change on how content is edited and accessed in parts of the workflow, where previously it was done on-premise only."



David Phillips, Principal Architect, M&E Solutions at Cloudian, identifies two drivers of change: "The real drivers are at the opposite ends of the Store spectrum. On the one hand the ultra-performance capabilities that NVMe devices and fabrics are introducing to Tier 0/1, and at the other end, the supremacy of WAN accessible S3 object storage as a scalable repository for all unstructured data."



## Tumbling prices, increasing competition – how do Store vendors differentiate themselves?

Cloudian's David Phillips thinks that customer service remains the key differentiator: "I think there will always be a strong market for enterprise storage vendors that bring to market the economic advantages of open-source software and commodity hardware, backed by passionately dedicated engineering and customer support teams. There are many product offerings that offer similar capabilities, often at similar price points. Ultimately what makes customers continue to invest in any product offering is a positive customer experience, and that is why we are very proud to have some of the highest customer satisfaction scores in the industry."

## Workflow and collaboration

Customer satisfaction is also important for Studio Network Solutions. "Our 99% support rating and worldwide reputation for reliability helps differentiate us," says Melanie Ciotti – but there's more to it as well: "Everything we do is designed to improve the workflow of media professionals, and our customers value that attention to their needs. EVO is the leading high-performance shared storage server purpose-built for creative media teams. While our hardware is powerful and reliable enough to speak for itself, EVO is much more than shared storage. It's a complete workflow solution with an included suite of software tools that sets us apart in the Store marketplace."



Workflow and collaboration are at the heart of Caringo's offer too. "At Caringo, we have been following the distributed workflow and the increasing file size trends for a few years now and have focused on enabling efficient collaboration, file protection and file delivery/distribution all from the storage layer," says Adrian J Herrera. "We have features like web-based content management that includes the ability to easily search for, tag and share files. We have also added features like partial file restore and file clipping – all processed on the storage layer. This provides our users with a platform that provides intelligent data management as well as object storage."

## Tools of choice

"We've always been about openness and the ability for customers to connect to the creative tools of their choice," says EditShare CTO, Stephen Tallamy. "There are many vendors that will offer non-media specific storage and that's something that price doesn't get you."



Enabling choice of tools is important for Scale Logic too. "Scale Logic has always had an interoperability lab which differentiates our company as a value for long term investments," says Daryl Heinis. "In this lab, we have 2PB+ of physical storage available, including HDD, SSD & NVMe running all NLEs and most common workflow tools used for ingest, asset management and archive. We constantly test our storage with these NLEs and tools to optimize performance. Not only will our customers feel good about their initial investment: they can also see Scale Logic is there for them for the long-term, as their facility makes changes into the future. Scale Logic is able to finetune value to the workflow. We also differentiate by providing 24/7 enterprise-level support for large companies – instead of calling multiple OEMs about your hardware infrastructures, you can make one call to our team and we take care of everything."

For Nick Pearce-Tomenius at Object Matrix, it's not about price but value: "There will always be battles on price from generic IT vendors but the broadcast technology buyer knows better than to look at \$ alone; as the saying goes, buy cheap buy twice. Object Matrix has focused on providing the media industry with intelligent and cost-effective solutions that not only bring operational savings but also the ability for producers to access content from anywhere meaning they can do more. Every \$1 spent on our product MatrixStore cloud brings at least double that in operational savings and enables our customers to generate more content and thus revenue."

## People matter

Alex Timbs thinks it all comes down to the people factor. "While Dell Technologies has the best, most comprehensive solutions, our most significant differentiation lies in our relationships. While technology is always evolving, human nature is not, so it's businesses that understand this fact and focus on building trust that have enduring relationships. Dell Technologies achieves a true partnership by understanding this universal nature, by hiring and training the right people, and through encouraging behaviours that build trust and integrity." He also puts listening high on the list:

"When you listen, you learn things you would not if you were instead speaking, or pitching your offer without first understanding the need. This also allows our

business to realise when we need to pivot to better align with what our customers need, not what we think they need."

Relationships and customer focus are central for Spectra Logic too, according to Jeff Braunstein. "Spectra Logic firmly believes that collaboration and partnership are a great source of opportunity and improvement in business. In fact, Spectra's business development team works closely with customers and ecosystem and channel partners alike to plan, develop and deliver the company's broad range of digital media storage solutions for media and entertainment. We differentiate our company in the marketplace by keeping that customer focus and delivering solutions that seek to maximize our customer's return on investment (ROI) by optimizing asset management throughout its lifecycle and providing users with the visibility into their data that they need to make intelligent decisions about storage and asset management."

While InSync Technology is not a storage vendor, "We add value within storage solutions through video processing at the point of acquisition or the point of content usage," says Paola Hobson. "For example, a programme maker wanting to use a piece of SD 4:3 archive content in a 1080p project will need deinterlacing, aspect ratio conversion and picture format up-conversion. InSync offers these solutions in both hardware and software so they can be integrated into any storage and archive workflow."



## Monetizing archives

With the growth of VOD, the industry saw a move away from 'dead' archives to on-line storage systems that can be easily accessed for content monetization. This trend accelerated during the Covid pandemic as media companies needed to dip into their archives like never before. But are there cost implications, and if so, are they justified? Unsurprisingly, this question elicited a wide range of opinions from our correspondents.

Melanie Ciotti at Studio Network Solutions agrees that the trend has lasting value. "Keeping an easily-accessible archive of media is more useful now than ever before, particularly when new productions are stalled during the pandemic. While it may be a significant infrastructure upgrade to serve VOD audiences, it's a product of the times. With the amount

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Adrian J Herrera, Caringo



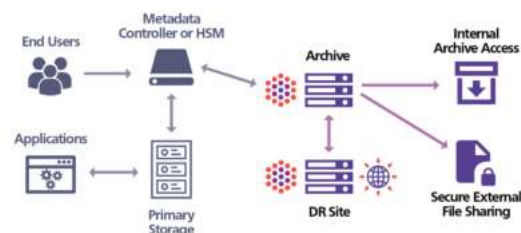
of content being produced, it's important for studios to relaunch and sometimes retool previous projects when an opportunity arises. Creative post-production teams need tools to efficiently access their wealth of media and prevent snags in their workflow. With so much content available, media asset management software like ShareBrowser help users query and filter media libraries, saving critical time that can be reallocated to other jobs."

## Intelligent tiers

For Spectra Logic, it's about structuring storage tiers to reflect business and operational requirements. "Spectra Logic helps users implement a modern storage lifecycle management solution that provides insight, automation and management for the storing, accessing, sharing and preserving of growing asset repositories," says Jeff Braunstein. "This type of solution is capable of aligning the current value of the assets with the proper storage tier, enabling automatic, recurring transfer of inactive or unmanaged content from the expensive Primary Tier, made up of solid state/enterprise disk and NVMe, to the more affordable Perpetual Tier, consisting of Cloud, object storage, NAS and/or tape. Organizations can configure the Perpetual Tier to be as responsive as their workflows demand – creating copies on NAS and disaster recovery copies on cloud or tape. "Repositories like our BlackPearl Object Storage Disk, with spin-down technology that powers down bands of storage when idle, provide low cost disk that scales in capacity like tape with performance that enables digital assets to be available in seconds. At the same time, users can continue to have familiar access to all assets for as long as required. In this manner, companies are able to leverage the cost benefits of technologies traditionally used for archiving, while balancing speed of access."

A tiered approach is also favoured by Caringo. "Keeping all assets online was a trend that started years ago but has accelerated due to the pandemic," says Adrian J Herrera. "If you look at a cost analysis per TB of offline systems like tape and online systems like object storage, then the offline systems will inevitably be cheaper. But, when you factor in the continued ability for monetization through remote workflow enablement and immediate content distribution and delivery, then the conversation moves from a cost discussion to a profit-and-streamlined-operations discussion...it isn't an 'either-or' discussion. There should be a tiered approach to architecting an on-line storage solution that meets an organization's specific requirements with a cold or offline tier available for cost optimization. At Caringo, we have worked strategically to integrate the ability to move data to different storage tiers in a practical way and made it a standard part of our solution. In many instances, there isn't a need to add an additional data mover or HSM application."

## Tape Replacement

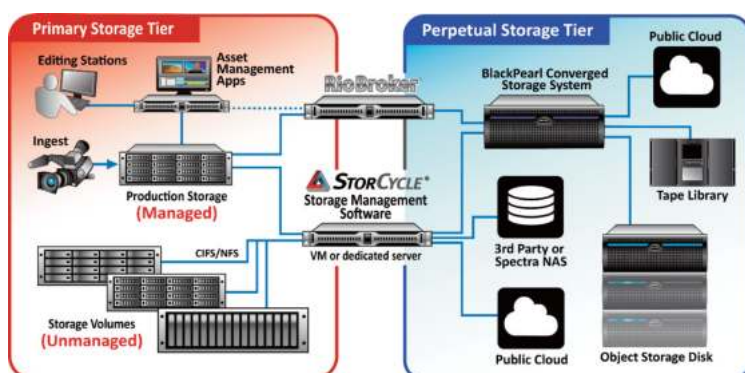


caringo

For Stephen Tallamy, CTO at EditShare, it's about the right tiers too. "Through the use of proxy editing, it has become very cost effective to use deeper tiers of storage for cloud-based editing. The ability to restore relevant portions of media makes this even more efficient. For on-premise systems, intelligent tiers of storage allow users in one location to promote near-line assets in other locations to local, high performance systems for immediate use."

## Monetizing archives

"Dead archives are still there and we completely see the need for the archive to be monetized, which is best done by being able to search the metadata of your archive, and being able to access your content in a reasonable timeframe," says Daryl Heinis at Scale Logic. "The most





"The lack of bandwidth access in remote and rural areas, plus cloud ingest and egress costs, will continue to drive mixed storage solutions for the foreseeable future." Dan Montgomery, Imagine Products

efficient and effective ones deploy MAM and spinning disks with either 100% on-prem or a mix of on-prem and cloud. We help users deal with these increased costs due to our great affordable price point for spinning disk archives, and very high-density rack mount chassis which lower power and cooling requirements and save real estate. Scale Logic has the ability to fit in 1.5PB of storage in an 8U form factor. Scale Logic also offers complete interoperability with multiple MAM partners via our global file system. COVID-19 has impacted a number of users to create an online archive, which removed their direct involvement from a human involvement standpoint. No longer did these companies have someone available to 'fetch a tape'; instead, they had to relocate their archives."

"The scenario of migrating legacy data tapes to an online or 'active' archive can end up being a bit of a catch-22," says David Phillips at Clodian. "If, in an effort to more effectively monetize archived media assets, the assets are migrated to an expensive NAS tier in order to facilitate search and retrieval, any additional monetization revenue can quickly become offset by the additional infrastructure overhead. At the multi-petabyte level, we strive to keep our cost per gigabyte less than the public cloud. From there it is easy to offer a lower TCO because there are no bandwidth or egress fees. In the current climate, with the production of theatrical and live events severely limited, you see many companies scrambling to scour their archives for content to repurpose, only to run into the reality that they have paltry metadata about the exact content of their assets. The frustrations of looking for 'needles in the haystack' has certainly driven many in the industry to accelerate their plans for migration to an object storage-based active archive with enriched metadata and Google-like search."

## Tape v cloud archiving

It's what you can gain from having immediate access to the archive that matters to Object Matrix. "Traditional archive media is indeed cheap to keep on a shelf but you cannot AI a tape, you cannot analyse a tape and you cannot gain instant access to the archive to monetise content on demand," says Nick Pearce-Tomenius. "The question is less about TCO of a platform but more about the TEB (Total Economic Benefit) that a solution can bring to the organisation. Object Matrix customers like BT TV and Orange in France moved away from LTO technologies in their VOD platforms over a decade ago

and have not looked back. They have saved time and effort operationally and all of their archive content is available via APIs integrated into their management systems."



## Tape lives on

Imagine Products has skin in the LTO game, and Dan Montgomery sees tape being relevant long into the future. "While cloud storage for near term use is here to stay, hybrid solutions will continue to combine low cost tapes and network storage alongside cloud options. The key is ultimately being able to index and locate the material regardless of where it resides. The lack of bandwidth access in remote and rural areas, plus cloud ingest and egress costs, will continue to drive mixed storage solutions for the foreseeable future. To this end, affordable indices and proxy sharing options via the cloud will have a place in most workflows. This will add more automation and convenience in content tracking from acquisition through archive, without the overhead of fully storing in a cloud server. People took advantage of the down time earlier this year to get organized and properly archive material. And yes, that meant more LTO tape archiving as a long term, inexpensive asset keeper."

David Phillips at Clodian also sees a bright future for tape. "Data tape is going to continue to play a crucial role in the future as an inexpensive means of storing the increasing deluge of assets that require long-term retention. Object storage on the other hand offers an unbeatable combination of speed and searchability, especially when utilizing automated metadata enrichment. We are seeing organizations adopt a hybrid approach in order to get the best of both technologies."

"The future is bright for cloud storage services, but it's not yet practical for every production house to make the change," adds Studio Network Solutions' Melanie Ciotti. "For studios that archive and retrieve media on a daily basis, tape is still king."



Stephen Tallamy at EditShare sees but a limited future for tape. "Tape archives have purposes for regulatory or financial purposes where access to the content is extremely infrequent. Cloud based archival can be policy driven so that it can serve as a low-cost alternative with faster, cheaper return parameters."

Nick Pearce-Tomenius at Object Matrix too sees little use for data tape beyond deep archive. He'd choose "Cloud. Local, private or hybrid and but not public in isolation. Use public deep cloud archive as part of a multi-cloud approach, for fire and forget content or the 'oops.. absolutely everything thing has gone wrong' strategy. For content you need to frequently access neither LTO nor public cloud archive platforms make sense."

Spectra Logic's Jeff Braunstein has a more pragmatic approach: "In today's media storage workflows there's no longer a question of whether to use tape or cloud, but where to use tape and where to use cloud. Organizations that require high access to digital assets over time should consider aspects such as the high cost of cloud egress fees and connectivity bandwidth; in such cases, maintaining additional on-premise copies of data is often the best solution. And if talking about large volumes of data, that means tape. With a modern approach to storage lifecycle management, organizations can ensure digital assets are located on the right place at the right time, be it tape or cloud, delivering affordable long-term protection and access to content while helping organizations to become more effective by efficiently using new technologies at what they are best."

## Extracting value

"Archiving to private object storage is the best bet," says Dell Technologies' Alex Timbs. "TCO is less than public Cloud, access times are faster, and there is no LTO migration to worry about. It gives organisations full access to their archives without having to worry about incurring extra fees for a busy time period. Anything on tape is essentially stagnant content, with no ability to abstract value. However, the cost to store it is relatively inexpensive. Depending what tier you are using in the Cloud, the same issues exist. However, if it's sitting on an active tier in the Cloud or on-premise, it does allow you to extract more value, offsetting the extra cost to store the content in an active manner. The other benefit of Cloud is currently there are readily available services

you can run against the content that is there. However, we are seeing more customers look to extract this value locally on-premise, with reasons ranging from the cost of data movement to data gravity."

## Is cost hindering cloud adoption?

We have seen the adoption of Cloud focusing on collaborative workflows but is the cost of moving content in and out of the Cloud hindering adoption? Or will on-premise storage continue to be a better economic and/or operational proposition in some applications? This question also provoked a range of opinions.

"Moving data is still a challenging, expensive proposition," says Dell Technologies' Alex Timbs. "This is unlikely to significantly change in the near future. In fact, this is an issue that will likely get worse before it gets better as data volumes are increasing much faster than the evolution of new technologies to move that data around. There are two insights that are driving how organisations and workflows adapt to this reality. First: data only gets moved when value is added by moving it. This requires careful examination of workflow steps and a deep understanding of data sets and their worth. Second, moving applications to be close to data is cheaper/easier/better than going the other way around. An understanding of those points should guide any adoption of any remote collaborative technologies."

## A matter of scale

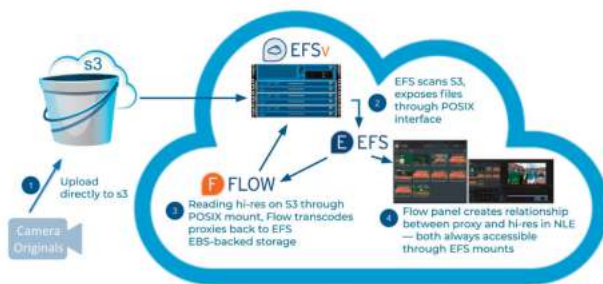
"The true cost of the cloud depends on utilization; that is, if it costs them money then it will cost you money," says Caringo's Adrian J Herrera. "From a business-model perspective, these costs are recurring in perpetuity. What this means is that you will always pay for what is used. With this in mind, you need to understand where the true value of cloud is for you. From a compute perspective, it is usually the ability to enable a burst of infrastructure, processing power or bandwidth in a way that can be scaled down when not needed. The value for storage, however, is a bit different. You rarely scale your storage needs down. What we see more often than not is, from a storage perspective, once you hit the 100 TB+ threshold and you are able to predict your growth needs, it is always more cost effective to keep content on-prem in a way that is still accessible by native-cloud workflows."

"It's beneficial to work in the most efficient codecs in the cloud when the need to egress is required in order to minimize costs." Stephen Tallamy, EditShare

## Hybrid strategies

"I think you are going to see the increasing adoption of a hybrid cloud strategy," says David Phillips at Clodian. "There is no question that storing large hi-res assets in the public cloud is much more expensive over the long term than storing on-prem, and the cloud pricing trends don't seem to point to that changing anytime soon. There is also no question that the public cloud is a great place to host proxy-based collaboration workflows, which is why you see so many MAM vendors adopting S3 storage as a primary asset repository. Once the edit is locked and approved, the EDL can link to the hi-res assets living in on-prem S3 storage for final output."

EditShare also sees the cloud as the ultimate destination, but for now keeping hi-res media on-prem is the answer. "It's beneficial to work in the most efficient codecs in the cloud when the need to egress is required in order to minimize costs," says Stephen Tallamy. "However, there are very efficient proxy based workflows that allow you to keep your original materials on-premise but provide access to editors around the globe – this allows collaboration without incurring the costs to take your final product to the customer. Ultimately, we are heading to a future where the content arrives in the cloud and doesn't egress until it's being delivered to a consumer. In the meantime, hybrid workflows that allow the high resolution and proxy forms of media to sit in different storage locations allows creatives to build a flexible workflow at the right price point."



Object Matrix's Nick Pearce-Tomenius sees cost as the key issue, and points to a hybrid future. "Public cloud storage companies make their money on data services and customers retrieving the content they own. Some might call that the ultimate in ransomware. Not me though. The immediate future for some will be cloud first if their business models can support the cost and performance profile those platforms bring. Others are

looking at a hybrid approach utilizing the power of on-prem workflows with the elasticity and data services that public cloud brings. We are also seeing a surge in interest in private cloud storage or managed services like MatrixStore Cloud that offer the same level of commercials as the public cloud providers but with no egress fees, predictable long terms financials and the ability to access all content from anywhere without penalties."

Spectra Logic also envisages a hybrid outlook. "For the foreseeable future, hybrid storage solutions will enable organizations to reduce data storage costs while optimizing data protection by storing some data in the cloud and some using on-premise disk and tape solutions," says Jeff Braunstein. "When implemented with a modern approach to storage lifecycle management, hybrid cloud solutions effectively deliver affordable long-term protection and access for data by ensuring data is located in the right place at the right time throughout its lifecycle. With modern storage lifecycle management in place, users can reap the benefits of cloud and on-premise storage technologies, balancing cost and access and adapting to changing workflow needs as technology evolves."



Storage Network Solutions agrees. "Who says it has to be one or the other? We have many users that enjoy a hybrid on-prem and cloud storage workflow," says Melanie Ciotti. "The problem with cloud-only storage workflows is that it isn't built for the massive footage transfers common in creative media. It isn't ready for the collaboration and speed that media workflows demand. Cloud storage can be an integrated part of a user's shared storage workflow – serving an important role in backup and replication, file sharing with clients, etc. – but I believe on-premise shared storage will continue to offer a better solution to the media production community for the foreseeable future."

"The cost of collaborative workflows in the cloud is hindering adoption and will continue to do so," says



"I think the other big change is using object storage clouds to extend the capacity of Tier 1 SAN and NAS volumes and thereby 'right-size' storage allocations according to performance and capacity needs"  
David Phillips, Cloudian



Daryl Heinis at Scale Logic. "In-and-out fees are the main concern, and tracking the costs is also an issue. To effectively contain these two main concerns, companies must adopt a proxy workflow or a complete 100% cloud solution that aims to limit the back-and-forth of data movement. Scale Logic continues to look at the value of all our solutions – including our Remote Access Portal (RAP) economical shared storage and archive solutions – to continue to pay for themselves within three years' time and, in some cases, a lot sooner. Investment and ROI continually plays into our product development. No longer does shared storage have to be in the same building as you."

## How is cloud changing store workflows?

For Object Matrix, the answer is simple. "The cloud, be that local, hybrid or private, is enabling content to be liberated in many ways from single workflow silos or 'content jails' as some call them. If content is in a shared cloud storage bucket and available on the network via APIs or standard protocols then more can be done with it by internal or external teams," says Nick Pearce-Tomenius.

Caringo's Adrian J Herrera agrees. "The cloud, or specifically the ability to support cloud-based workflows, is becoming a checkbox item for storage workflows. What this often means from the storage perspective is support for cloud APIs and interfaces like Azure or the de facto standard Amazon S3 API."

## No way back

"Cloud-based workflows have introduced production teams to the experience of 'accessing all our assets from anywhere' and once they get a taste of that, it is difficult to get them to go back to legacy workflows based on LAN shared storage," Cloudian's David Phillips adds. "I think the other big change is using object storage clouds to extend the capacity of Tier 1 SAN and NAS volumes and thereby 'right-size' storage allocations according to performance and capacity needs."

EditShare's Stephen Tallamy welcomes the speed and responsiveness of cloud workflows. "Full systems can be set up at a very rapid pace. This immediate access to unlimited storage capacity reduces the overhead of trying to plan your storage capacity up-front. If you

need more storage, you can have it within minutes. If you need more throughput for different codecs or more editors, again you can scale out to meet this need, then contract when finished."

"Cloud will eventually change Store workflows for everyone but as of today, it is not an economically viable option for the average user, as transcoding fees can get prohibitively expensive," says Daryl Heinis at Scale Logic. "If facilities are looking to use the cloud just because accessing content is impossible during the pandemic lockdown, Scale Logic offers a Remote Access Portal that can allow remote edit clients to access on-prem storage content very securely over HTTPS. RAP will then seamlessly sync the edited content back to the on-prem storage."

Jeff Braunstein of Spectra Logic again emphasises the importance of the right content on the right storage: "Cloud has become a ubiquitous part of many media storage workflows, but leveraging it to its fullest value requires a modern approach to storage lifecycle management that brings users the visibility and insight into storage they need to better manage digital assets by enabling intelligent tiering and migration, while maintaining transparent search and seamless access to migrated assets."

Melanie Ciotti at Storage Network Solutions has seen cloud workflows blossom during lockdown. "We're seeing many users opt to backup project files, exported media, and more to cloud storage. This has been an incredibly useful workflow for many creators working from home who don't have remote access to their on-prem storage server. By automating the file transfer and backup process with Slingshot (EVO's built-in automations GUI and API), teams can spend less time manually transferring their media to cloud storage, and more time creating and editing it. Of course, there are many teams that still need remote access to their on-prem storage. Our newest service, SNS Cloud VPN, gives users a secure connection to their EVO shared storage from wherever they need to be."

Final word in this section goes to Alex Timbs at Dell Technologies, who has some searching questions to ask – and thinks anyone thinking of moving to the cloud should answer for themselves. "While most M&E businesses need to embrace cloud on some level for aspects of their pipeline, I don't think the value proposition has changed that much in an M&E context

in the last ten years; it's just more accessible, has a richer ecosystem, and is more competitive than it was. Customers still need to ensure they answer the 'Why' before committing to a strategy.

"The cloud has immense value, but it isn't the answer to everything, particularly in media workflows. I raise this, as I have seen so many businesses fail to ask and answer the 'Why' in relation to their cloud strategy, resulting in overwhelming complexity, slower pipelines and bill shock. When I refer to answering the 'Why', I mean customers need to answer a few fundamental questions, some examples I might want to answer for myself are below:

- The Cloud isn't cheaper for sustained activity in almost every use case, but it's excellent for peaks, so where will you use it in your workflow to best take advantage of this?
- Cloud often increases complexity, particularly in hybrid workflows, so do I have enough subject matter experts and clarity of outcomes?
- You need to get a lot more prescriptive with your data,
  - a) because every GB per minute costs you, and
  - b) because you need to ensure its where the compute, user or process is. So you need to know where your data is currently, and where does it need to be throughout your workflow?
- How will you manage cost controls and who will approve them?
- How do you intend to migrate your technical debt (if you have any), and have you factored that into your budget?
- Can your intended workflow be containerised, and will it be more efficient in doing so?
- Will you have the resources you expect when you need them? As an example, some large media customers may find they need to use all access zones in order to secure enough resource at the right price, and need to move data and /or cache across them, with massive associated financial and time costs due to data movement.
- Beyond being able to address short-term resource demands, how will Cloud improve speed, number of iterations, or reduce costs?
- In most businesses, innovation comes from testing a new idea or questioning the status quo. This generally requires a little risk-taking to prove out.

When using cloud resources, every tested idea comes at a cost, so the risk is that innovation is stemmed, due to cost aversion."

## What's coming next in content storage technology and workflows?

We asked our correspondents what they are working on right now to further enhance storage technology and workflows over the coming months and years.

For content storage specifically, we will continue to increase the functionality of what can be done on the storage layer. We already have functionality like partial file restore, video clipping, file sharing and file searching built into the storage layer," Caringo's Adrian J Herrera reveals.

Cloudian's David Phillips maps out ambitious plans: "Our initial product focus from our founding in 2011 was on delivering scale-out distributed storage clusters, accessed via the S3 API. In the past couple of years, we have really focused on security, as you can't offer storage to governmental agencies much less media enterprises without very rigorous tech stack auditing and security certification. This also led to the introduction of our S3 Object Lock feature for ransomware protection. Now, with the increasing commoditization of NVMe technologies, we are seeing a demand for not just higher performance storage but high-performance storage that is API-addressable and can scale out to serve enormous data sets. To address this demand, Cloudian recently introduced flash-optimized object storage software that also provides 3X better price/performance than competitive offerings. In a nutshell, our aim is to offer highly-scalable storage that is performant, secure, and accessible everywhere."

"At EditShare we are planning on more and more 3rd party/partner integrations to allow for better customization of the larger ecosystems," says Stephen Tallamy. "We recognize that storage is just one piece of the puzzle and that by providing open APIs customers can buy only the software they need in order to unlock their creative resources. On-premise, across multiple locations, and in the cloud-media needs to be available intelligently and leverage AI to maximize its use."

InSync's Paola Hobson is looking to ensure that its customers can readily access every piece of content. "It's clear that broadcasters and media companies need to have well-stocked archives to be ready for any



situation where production of new material gets interrupted (e.g. as we have seen recently with the covid-19 pandemic). Archive content also helps fill schedules so helps cut costs. It's important for content owners to be confident that they can re-use their stored assets, so frame rate and format conversion solutions, such as those offered by InSync Technology, will continue to be critical tools in monetisation of content. When 8K production in HDR becomes the norm and content producers are already experimenting with the next new trend, content owners will continue to happily use their conversion tools (from InSync Technology of course!), confident that they can monetise their material long into the future."

Daryl Heinis at Scale Logic: "One of our main aims is to integrate seamlessly and natively to S3 compliant cloud. We are also actively progressing client and server-side performance with RoCE RDMA technologies, as our clients request zippier metadata performance and higher top end throughput. Single global file systems above 20GB/sec are also on the roadmap, as well as actively researching and planning into 200 and 400Gb ethernet."

"Most organizations are now generating and utilizing content in both in multiple clouds and at multiple on-premise locations," says Spectra Logic's Jeff Braunstein. "These organizations are also moving content between these cloud and on-premise locations. Data management solutions must account for these hybrid workflows. Spectra Logic continues to focus on tighter integration and management of content in these locations."

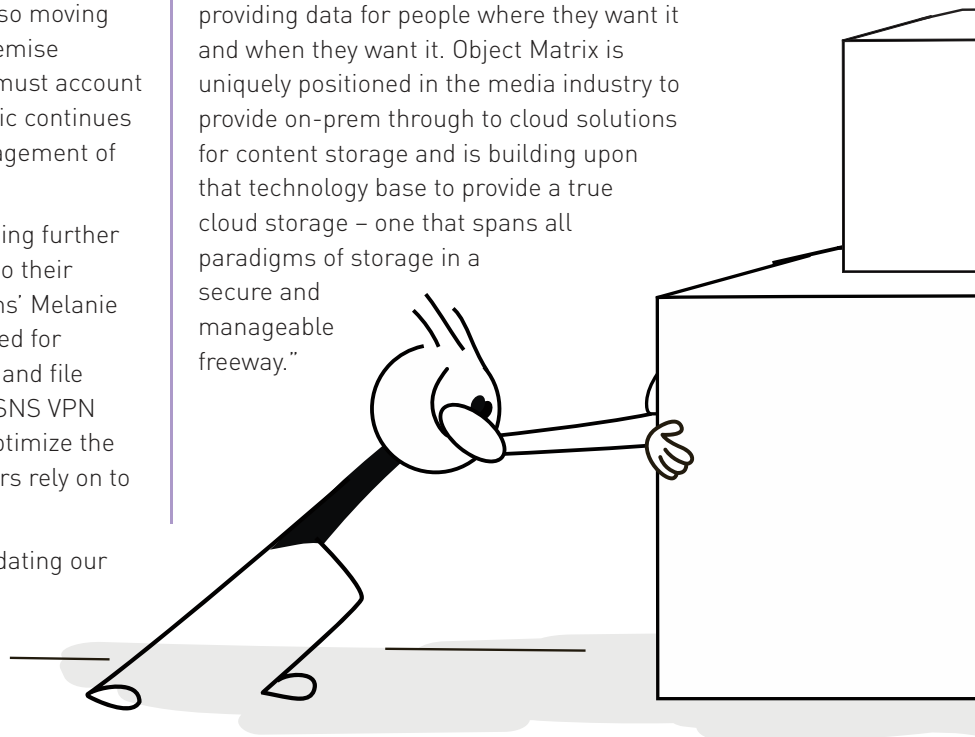
"It's no secret that many studios are eyeing further implementation of remote workflows into their business," says Studio Network Solutions' Melanie Ciotti. "In 2020, we've addressed this need for remote connectivity to on-prem storage and file portability with our proxy workflow and SNS VPN solutions. In 2021, we will continue to optimize the remote workflow solutions our customers rely on to keep creating from anywhere."

"Outside of remote workflows, we're updating our EVO GUI with a brand-new EVO OS v.7, bringing new features to our MAM system with ShareBrowser v.6.0.1, and keeping our engineers and

product specialists busy with exciting new ideas in development. SNS has doubled down on what we already knew: the media production industry is not homogeneous. We're committed to creating a storage environment that's as flexible as the industry we serve, giving content creators the choice to make their projects in a way that works best for them," Ciotti concludes.

For Dell Technologies, it's "Highly performant, small footprint 'edge' storage with optimised data orchestration built-in. Companies are centralising IT and archive resources, but for the foreseeable future, there is still demand for fast storage in multiple locations near to where talent is working. This precisely aligns with the PowerScale roadmap and Dell Technologies vision," Alex Timbs concludes.

Final word goes to Nick Pearce-Tomenius at Object Matrix. "It's all well and good categorising storage as 'on prem' or 'cloud', but in the end, these are layers of abstraction that interest IT nerds and not the users of those systems. The users just want their data available quickly and securely wherever they happen to be working from. So from a content storage technology perspective it's about providing data for people where they want it and when they want it. Object Matrix is uniquely positioned in the media industry to provide on-prem through to cloud solutions for content storage and is building upon that technology base to provide a true cloud storage – one that spans all paradigms of storage in a secure and manageable freeway."





# A Brand New You in the EU



**Jeremy Morton**  
Partner, Temple  
Bright LLP

## How to secure, protect and defend your brand in Europe, and what's changing in 2021.

Jeremy advises international business clients on brand protection, intellectual property disputes, and data protection law, at UK law firm Temple Bright.

Among the new opportunities and challenges coming up in 2021, the UK will emerge from the Brexit transition period ending on 31 December 2020, resulting in a raft of legal changes. There will be many action points that businesses around the world will already be focused on. Have you included a review of your brand protection?

This article will explain the different ways to protect brands in Europe as part of your international brand strategy, including what you need to do in light of Brexit and why.

### Why Register Trade Marks?

The advantages of registered brand protection include:

- Easier enforcement against infringers;
- Block competitors from registering your brand; and
- Create a valuable, easily transferable asset.

A registration gives you protection even before you have used the brand. This is essential when launching a start-up or new product. Whilst it is true that 'unfair competition' laws also protect unregistered brands against copycats, this usually only applies if you can prove substantial use of your brand over an extensive period. Even if you can, the legal costs involved in proving it through evidence to the required standard will often be high – usually far more than the cost of securing and maintaining a more easily enforceable trade mark registration.

With physical goods, registered rights can also be notified to Customs authorities, to block counterfeits at the border cost-effectively. Unregistered brands cannot be relied upon for Customs detentions.

Investment in trade mark protection is not just for multinationals. According to the EU Intellectual

Property Office 'SME Scoreboard' Report 2019, commissioned from KPMG, 54% of SME owners of registered IP "claimed a positive impact. The main impacts identified were an increase in reputation (52 %), turnover (39 %) and ability to access new markets (37 %)". SMEs rated trade marks as by far the most important right, the report noting that "the main reasons that IPR-owning SMEs gave for registering IPRs were to prevent copying (59 %), to increase legal certainty (58 %) and to improve the image and value of the company (36 %)".

Whatever the size of your business, best practice involves integrating IP policy into research, product development and marketing. This includes your trade marks, beginning with brand clearance, through to registration and enforcement. Bear in mind that trade marks can include not only names and logos, but also shapes, colours, sounds and more.

### Trade Mark Basics in Europe

A mark must be capable of distinguishing one trader's products from another, so a purely descriptive term is unlikely to be accepted, unless there is a distinctive design element. For example, 'FASTLINK' for computer software and telecommunication services is likely to be rejected.

Your application must list your chosen goods or services, divided into different 'classes' according to an international convention. Drafting the list involves careful judgment. A broad list will be more powerful against infringers. But if you don't use it for a period of five years, the registration risks invalidity. Recent litigation involving Sky Plc has also determined that overly broad lists of goods or services could be attacked on grounds of 'bad faith'.

In a recent major European dispute, which is currently under appeal, Sky sued over the defendant's use of the mark 'SkyKick' for cloud migration services. In response, the defendant challenged Sky's registration for broad terms such as 'computer software' and 'telecommunications', on grounds of bad faith. The English Court of Appeal agreed that Sky had pursued "a deliberate strategy of seeking very broad protection of the Trade Marks regardless of whether it was commercially justified. Sky thus applied for the Trade Marks with the intention of obtaining an exclusive right for purposes other than those falling within the functions of a trade mark, namely purely as a legal weapon against third parties...". It was found that Sky did not genuinely intend to use the mark for every type of 'computer software' in general, and the court limited the scope of registration to specific kinds of software for specific purposes.

Once you have identified an appropriate brand and the goods or services that you want the registration to cover, it may be sensible to carry out some preliminary clearance searches. These can identify obvious barrier marks already on the register. More extensive searches can also identify unregistered trade marks that could be an obstacle based on use.

### Routes to Protection

Trade marks are registered territory-by-territory, and the costs, timescales and procedures differ accordingly. For example, the USPTO is notoriously picky about the description of goods and services, and the Canadian registry is terribly slow. Usually a business will apply first in its home country, followed by international filings in key markets. China is also often included so as to reduce the risk of brand appropriation there. If international applications are filed within six months, they can claim the earlier filing date of the 'home' application, giving them priority over applications filed in the interim. Where appropriate, a single international application process can be used so as to reduce initial costs, compared to filing in each country separately.

The UK procedure is among the quickest and lowest cost routes to registration. Current registry fees are just £170 to register in one class of goods, plus the attorney's fees to draft, file and manage the application. The registration must be renewed every 10 years. Whilst it is also possible to file nationally in any European country, most international businesses opt for the single, EU-wide registration, which until the end of 2020 includes the UK. From January 2021 onwards, however, EU registrations will no longer cover the UK.

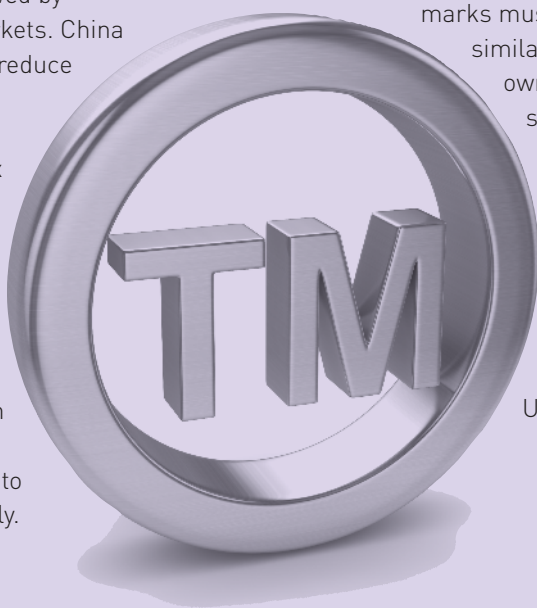
### Brand New in 2021

The consequences of Brexit for European trade marks are set out in the Withdrawal Agreement, and take effect from January 2021. Briefly:

- EU trade marks will no longer provide any protection in the UK or provide a basis for objecting to a UK trade mark application, and UK marks will no longer provide a basis for objection to an EU trade mark application;
- However, the UK registry will automatically issue a UK equivalent registration in respect of any currently registered EU trade mark;
- Even if that mark has never been used in the UK, it cannot be attacked on grounds of non-use for five years, as long as it has been used in the EU;
- Owners of currently pending applications for EU trade marks will have nine months to file a new UK application, which will benefit from the same filing date.

In addition, professional representatives for EU marks must now be based in the EU, and similarly the UK registry is likely to require owners to give a UK address for service.

If you currently own trade marks in Europe, these changes mean that you may need to take action. That action includes considering whether you have EU-based attorneys for your EU marks and UK-based representatives for your UK marks, where necessary.



KNR creates 1000 hours of unique television each year, along with 2600 hours of radio – no mean achievement for an organisation with only around 85 employees

# Bringing the highest production standards to Greenland

Despite being physically one of the largest countries in the world, Greenland has a small, and typically isolated, population. Despite this, it supports a national broadcaster, Kalaallit Nunaata Radioa (KNR). The broadcaster is government funded but remains decisively independent.

It broadcasts largely in Kalaallisut, the Greenland native language, along with Danish (Greenland is a self-governing part of Denmark), and there are ambitions to add English as well. Remarkably, KNR creates 1000 hours of unique television each year, along with 2600 hours of radio – no mean achievement for an organisation with only around 85 employees.

Alongside radio and television, KNR has a strong online presence. All this adds up to the need for comprehensive news production management, ensuring that all three portals are fed with timely and accurate stories, in at least two languages.

KNR had a content management system but it was very much under strain, demanding a lot of technical resources simply to keep it going. It was time to look for something that would deliver productivity but could be implemented simply and quickly. "We were in a crisis," said Kim Larsen, head of TV production at KNR. "Everything was too old – but we did not have the money to buy a traditional system."

"We are very keen on open-source technology," said Martin Chemnitz, new media manager at KNR. "Proprietary software locks you in, limiting you in what you can develop. Open source allows you to customise on a larger scale."

KNR's requirements were slightly paradoxical. On the one hand, they wanted a single system for radio, television and the web, avoiding silos and gaining benefits from working together. On the other hand, by the standards of many vendors this was a small system, because KNR is a small – albeit very efficient – organisation.

Kim and his team developed an action plan, which was discussed first with the operational team and then with the board. Armed with a set of requirements, they looked for what was possible. A Danish technology consultant suggested they look at nxtedition.

Ola Malmgren, creator of nxtedition explained "when we founded nxtedition, we brought together experienced broadcasters with advanced thinkers in software and IT.

Our goal was to create a solution which was smart, innovative, productive and future resistant."

Central to the design concept was that the software should be open source, microservices-based for inherent virtualisation, and controlled through web services for simple customisation and development. On this platform, the company has built a complete set of tools for journalists, producers and engineers, covering every aspect of production management from origination to playout.

"It was hard to believe at first that it could do all this," Larsen said. "But boy was it a good idea."

"Their approach is radically different," he continued. "They asked, 'what do you want to do?' and 'how do you want to do it?'. They asked us to think differently, to see what could be automated." They worked together to develop an easy way of working.

An important issue was the fact that, while the production management system was largely life-expired and in need of replacement, the web content management system (based on



Comprehensive training for a journalist takes just two hours; a nxtpert (nxtedition expert) can learn everything about nxtedition in 24 hours

Drupal) was meeting KNR's requirements and changing it would be a resource demand they could happily live without.

"When you create a website based on a content management system, the software sets goals," according to Chemnitz. "We quickly found that we are able to customise nxtedition to get what we want, and Drupal and nxtedition readily scale alongside each other."



Larsen added "it made a paradigm shift in producing television and radio, which has come from the web. nxtedition puts the user at the centre and allows each member of the team to work intuitively. When you have journalists and producers excitedly saying 'hey – I have the opportunity to work the way I want to!', that is not normal.

"Usually, in any multi-user system, you are stuck with compromises and workarounds – someone else decides how you should work," he said. "When you can decide how to work, to set up your own workflows,

then you are moving something culturally. That is what nxtedition gives us."

They described it as a "process of discovery", developing their own best ways of working. Immediately, though, there was a clear increase in productivity, not least because it is intuitive in the extreme.

Comprehensive training for a journalist takes just two hours; a nxtpert (nxtedition expert) can learn everything about nxtedition in 24 hours.

One of the ways in which KNR developed their approach to the system is that they started with the philosophy that "everything is in nxt". But they quickly realised that it did not need to work that way, if there was a better way of doing things. Craft editing is a great example: nxtedition makes it simple to hand files over to an external editor and take finished packages back in.

The single system approach means that, whatever sort of file you have in nxtedition, anyone can see and use it. So, television producers can look into the radio newsroom to see if there is content they can use; web editors can draw the best of the content into the online offering. "It's another example of the cultural change," Larsen reflected. "Now our approach is not 'let's make me look good', it's 'let's make everybody good'."

In a country with few roads, where most population centres can only be

reached by boat or plane, the capabilities for remote working are always a top priority. So, the coronavirus lockdown was simple to accommodate. "It was no problem at all to go over to working from home," Larsen said. "We can run the studio from anywhere. We have got to the point where everything is down to connections – if you have broadband you can do anything."

For KNR, nxtedition provides pre-production, planning and calendars, content ingest, media management, script writing and editing, graphics, prompting, live studio automation and social media. User interfaces are customised by the individual and by the task to keep things clean and simple.

Continuing collaboration between KNR and nxtedition means that the system continues to grow. "They are very good at handling the management of development," Larsen concluded. "They understand the difference between customisation and development of the product base.

"And they helped us to understand that we should keep looking for ways to do things better, in a more productive way. In a well thought-out software system, you are not implementing something, you are continuing development."



Asia has the world's largest internet user base with over 850 million in China alone – almost three times of that of the US

# Next Gen CDN Services in Asia



**Angel Chin**  
*Senior Director of  
Products & Solutions  
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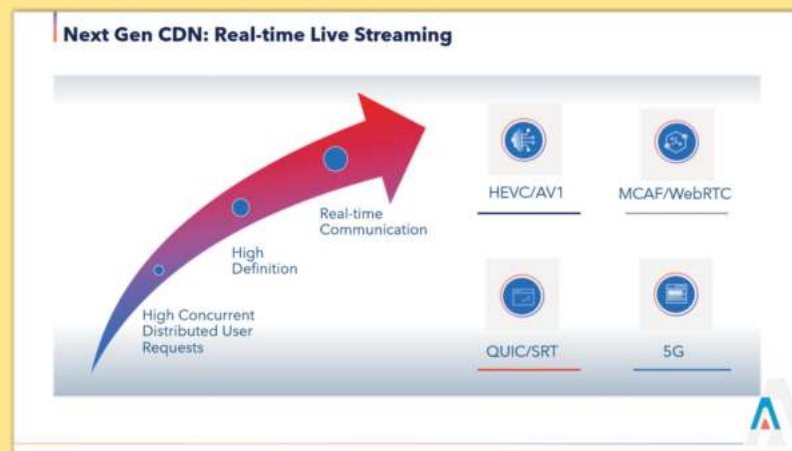
The next 5-10 years could be a prime time for the global content delivery network (CDN) market, thanks to high speed network rollouts, reduced data costs, rising demand for video/OTT services and surging internet consumption in all formats during and post the pandemic.

While North America still dominates with the largest market share, the Asia Pacific region is showing the strongest growth momentum with a CAGR at 33%. The disruptive growth is due to the growing number of internet subscribers, massive mobile internet consumption and the thriving of eCommerce, live gaming and online education in Asia – especially in India, China and Southeast Asia. As such, we see all major global CDN vendors investing in the region to cater to the rising demands. Meanwhile, a wider spectrum of local players is adding content delivery solutions into their service offerings, including local telcos, hosting service providers, and all kinds of specialty-focused technology platforms.

However, not everyone can truly capitalize on this opportunity. Global providers need to understand what's unique in the region and develop their service roadmap accordingly to compete in the Asia market. Now let's take a close look at the unique attributes of the Asia market and how they're driving the evolution of CDN services.

## Serverless Edge Platform

Asia has the world's largest internet user base with over 850 million in China alone – almost three times of that of the US. Southeast Asia, as another example, is home to more than 350 million internet users; its internet market size is expected to triple in five years, reaching \$300 billion in 2025 and making it the fastest growing internet economy in the world. The huge volume of internet consumption has made a massive number of online content services blossom in the area; Tiktok is a great example. The byproduct of this, however, is fierce competition between content providers across industry verticals. As end users continue to raise their expectation of user experience, content providers are



forced to seek out effective ways to reduce cost while providing personalized and interactive content to their users in as real time as possible. As this cascades down to the content delivery network underneath, the CDN is required to evolve from 'delivering' and doing basic caching and routing logics to becoming a full-set programmable edge. The market is expecting to integrate CDN functions as an extension of their overall development cycle to run codes on the edge as close to the end user as possible to maximize performance. Even though this is a technology gap between the US-based providers and Asia-based providers, Asia-based providers are transforming to a serverless edge platform at a much greater speed because of the massive growth in market size.

## Mobile-focused

The second market attribute that drives CDN evolution in Asia is the highly developed mobile ecosystem. Asia is one of the world's fastest growing regions for mobile subscriptions and home to over half of total global subscribers. Internet users in these regions, more than

anywhere else, have formed strong mobile internet habits. The mobile-focused ecosystem has made e-commerce, gaming, short-videos, and social entertainment quickly thrive. This is another driver behind the transformation of CDN providers to enable computing power on the edge. Mobile-focused optimizations such as device detection and network detection are being shifted to the edge to serve the most suitable content to users across different mobile devices in the shortest amount of time. CDN providers, when building edge nodes, are required to have direct connectivity with mobile ISPs. This is a unique challenge in China and Southeast Asia as local ISPs have very minimum peering with each other. Also, because all major local ISPs (including mobile) are government-owned, they have strict regulations on working with foreign entities. This has made deploying edge nodes in those countries an extremely strategic task for all edge providers.

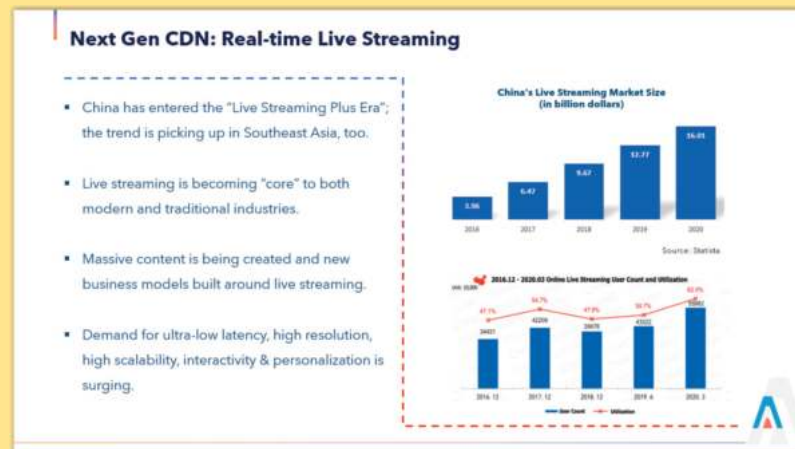
### Edge computing in the 5G/IoT era

From an infrastructure perspective, the development of 5G will have a major impact on what CDN services will look like in this area in the coming decade. Asia Pacific is home to some of the most advanced 5G markets, with South Korea, Australia, Japan and China leading the way. China alone expects to have 460 million 5G users by 2025. With the 5G features eMBB and uRLLC rolling out, we will see more content in AR, VR and omnidirectional communication; there will be massive consumption of ultra HD videos in industrial scenarios such as intelligent security for manufacturing and remote medication; Cloud gaming and unmanned driving will demand more stringent requirements for network latency and reliability. These use case scenarios will require the edge to possess advanced capabilities in compute, storage and load-balancing to powerfully offload traffic from central networks. The content delivery technologies also need to be more specialized and customized for specific services and applications. When we reach the stage of mMTC, as a gigantic amount of devices are connected to the internet, the edge will have to handle a massive amount of computing and storage to enable IoT application scenarios such as oil and gas transmission, temperature monitor and humidity control, etc; the edge nodes will have to be placed in higher density as well to achieve better accuracy, making the network structure different from what we have today.

### Real-time Live Streaming

Additionally, content is also driving CDN and CDN-related technologies to evolve in Asia. With the world's largest live streaming user base, China's live streaming industry has grown rapidly during the past decade. In 2019, China officially started this 'Live Streaming Plus Era' where live streaming platforms are no longer just focused on entertainment. Instead, they have become the foundation of any online content across almost every industry; a massive amount of content is being transformed into live streaming format and new business models are being built around it. Traditional industries such as government, enterprises, and education are all using live streaming in one way or another to reach broader audiences and to increase user engagement. 'Live-e-commerce', the fastest growing live streaming sector, generated \$61 billion in 2019 and is expected to double in 2020. The COVID-19 pandemic has only accelerated this trend.

As such, the surging demand for interactive content with real-time latency, high resolution, and personalization is forcing live streaming platforms to seek solutions throughout the whole workflow to optimize viewing experiences. A few key areas where we see changes are around the streaming protocols, the codec, and the edge network.



For protocols, as the content is becoming more real-time, live streaming platforms are starting to experiment with RTP like WebRTC, SRT, and other UDP-based private protocols for real time communications. For codecs, companies are exploring newer codecs such as AV1 for higher efficiency. China also formed an Audio and Video coding standard workgroup which developed AVS based on international standards. The second



## Next Gen CDN: Edge computing in the 5G Era

### Drivers:

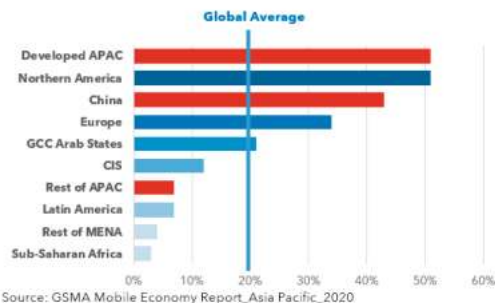
- Asia is home to some of the most advanced 5G markets in the world (China, Japan, Australia, South Korea).
- Under 5G, edge network is required to support advanced use case scenarios with strict requirement for network latency and reliability
- 11.5 billion “things” to be connected to internet by 2025 for IoT applications

### Outcomes:

- Advanced edge computing, storage, load balancing capabilities
- Specialized content delivery technology customized for services and applications
- Edge network structure of higher density



5G Adoption in 2025 by Region (% of total connections)



generation, AVS2, is focusing on HDTV and 4K video, and the newest release of AVS3 is focusing on 8K and omnidirectional 360 degree video. CDN providers in Asia are required to support a wide range of streaming technologies from RTMP to RTP, push video processing such as watermarking, transcoding to the edge, etc. The delivery architecture for live streaming platforms is also changing as users are more distributed and content is more interactive. Live streaming platforms need to deploy multiple origins across the country to reduce the middle mile latency and partner with Asian providers like BaishanCloud which has extensive coverage from tier 1 to tier 3 cities in most countries in Asia, so the broadcaster can push the stream to the closest ingest point and the viewers can pull the stream from the closest edge.

With unparalleled needs for live streaming content and the more mature live streaming ecosystem in Asia, live streaming could be one technology to be dominated by Asia-based CDN providers in the future.

### Secure Access Service Edge

Lastly, like other parts of the world, Asia is seeing the trend of network and security converging in the cloud, in line with what Gartner describes through the concept of SASE – Secure Access Service Edge. As traditional networks and network security architectures are becoming increasingly ineffective and an increasing amount of users, devices, applications, services and data are located outside of an enterprise rather than inside, the need to combine network-as-a-service capabilities

(CDN, SD-WAN, WAN optimization, etc.) with the Security-as-a-Service (SWG, CASB, FWaaS, etc.) to support dynamic secure access at the edge is emerging. Content delivery service providers, well positioned to provide a secure compliance gate for identity and access management for SaaS or IaaS end-points with their distributed edge architecture, are looking into a new architecture not centered around data centers, but the cloud edge. While the goal is integrated network security service and access control delivered from, and managed on, a single cloud platform, the industry is still exploring the best path to achieve this.

### Summary

The Asia market is different from Europe and the Americas in many ways, especially in terms of user behaviors and internet environment. CDN providers need to deal with many nuances to succeed and capitalize on the market opportunity. Hence, a wide range of industry players choose to partner with expert like BaishanCloud to collaboratively meet the evolving needs of this market. As a leading edge cloud service provider, BaishanCloud is committed to building a secure, agile and scalable edge cloud platform that continuously empowers a connected world.

To access more content related to cross-border content delivery, streaming best practices, edge security and tech trends in Asia, please visit [www.baishancloud.com](http://www.baishancloud.com) for more information.



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# Overcoming the remote fear factor to deliver live productions from anywhere



**Sébastien Verlaïne**  
*Head of  
Marketing &  
Communications,  
EVS*

Before the outbreak of Covid-19, transitioning to remote workflows was generally perceived as a desirable yet intimidating process for many broadcasters, and one that could be best addressed again later in the future. Those that did produce content remotely tended to focus on either lower tier sports where the audiences and expectations were smaller, or supplement traditional broadcasts of top tier or primetime events. However, the pandemic we've faced in 2020 has changed everything. The way live sports are produced has had to be completely rethought during the lockdown, and we're seeing very different production models appear as we prepare to hopefully return to some semblance of normality in 2021

Remote production workflows have therefore quickly become an absolute necessity. While many technologies have emerged in recent years to facilitate these, questions still remain about how best to develop, deploy, and manage them in a reproducible, flexible, scalable and secure fashion.

Creating more efficient ways to capture live events and enhancing collaboration between production crews working together in multiple locations have become top priorities. And, with much of the world still facing tight restrictions, this will only increase as we head into next year.

## The remote model

Those who have implemented remote workflows have reported positive experiences. Indeed, recent feedback to EVS has shown that our customers don't appear to be worried about working with remote team members, proving the resilience of the industry in adapting to this new landscape and also suggesting that remote working isn't as daunting as many expected.

Reduced costs, less travel, greater scope of events to cover, the ability to do more with less and delivering more consistent high-quality programming are all cited as benefits that this new approach can bring about.

The travel restrictions and social distancing measures brought on by Covid-19 meant crews needed to be relocated from studios and centralised production facilities where possible. Despite the limited window they had to do this, many broadcasters found new and creative ways to adapt their existing setups so that some of their production crews could work from the safety of their own homes, ensuring essential social distancing measures were followed. These distributed remote workflows enabled organisations to carry on producing and delivering content while protecting their staff and helping to reduce the chances of the virus spreading. The result was that almost overnight, this 'operator at home' production model became the prevalent form of remote production, ensuring that

programmes could get back on air as quickly as possible.

Unlike sports productions, which have been among the most severely hit by the pandemic with live events ceasing for a prolonged period, it has proved easier for the creators of news programming and talk shows to adapt and find workarounds to continue operating with less disruption. The absence of live games however, has given those who oversee live sports broadcasting the opportunity to take a step back and rethink their production models for the future.

## A 'new normal' for live productions

Transitioning to remote production models doesn't necessarily mean having to perform a complete overhaul of existing infrastructures. The good news for broadcasters is that the main elements that are already in place today will allow them to easily adapt their own production setups to accommodate and support remote workflows – while still being able to extract a



return on their current technology investments.

By leveraging IP-based toolsets, software-defined technologies, and cloud-based solutions, broadcasters can switch to production models where location is no longer a bottleneck. Whether it's REMI, GREMI, centralised, at home or distant remote, broadcasters are all looking for a way of doing live production anywhere.

As an example, the delivery of live replays usually involves multiple operators working together in a compact environment. But, with new replay systems that now exist and a secure IP connection, operators can work in low-latency from literally any location. It's now quick and easy to set up a replay controller and a multiviewer either in the broadcast centre, or from the comfort of their own homes, connect to a server deployed at the event location, and begin working immediately. They can build their replay and highlights packages from a distance, sometimes even thousands of miles away, in a similar way to how they would normally do back at the venue.

Producing a live event is a collaborative process. The dispersal of crews now means that it's critical to find ways to facilitate the exchange of content between remote sites. This ensures that the same level of efficiency in the production process is maintained. File accelerators and cloud integrations let users access content from anywhere for real-time collaboration and contribution. And, by adding a layer of monitoring that provides complete control and visibility of exchanged content, a streamlined distributed workflow can be ensured.



### Looking to the future

Covid-19 has shown the entire industry that working remotely is now not only a viable option, but also likely to be central to the future of live production. Once we emerge from this pandemic, broadcasters must ensure they make the right technology choices to further enable this, while keeping business continuity in mind.

There are still a lot of unknowns out there. But as we head into 2021, we should anticipate an acceleration in innovation that will further enhance the remote production experience, enabling crews to collaborate in real-time no matter where they are located.



# Media Distillery – one year on from winning Dragons' Den



**Geert Vos**  
*Founder and CTO,  
Media Distillery*

One year on from winning at the Dragons' Den session at the IABM Annual International Business Conference in 2019, we followed up with Geert Vos, Founder and CTO at Media Distillery, to see how things are going. Its winning proposition was a solution that guarantees deep content understanding in real time at large scale using AI.

**The COVID-19 pandemic has brought tremendous challenges to our industry, but also accelerated the move to cloud/virtualization and remote operations. You said at Conference that you were planning to double or even treble your staffing in 2020 to cope with your growth. How has Media Distillery fared in the face of the pandemic?**

For Media Distillery, the COVID-19 pandemic has brought a lot of changes and challenges, but it worked out really well. Due to local government regulations, we have closed our office twice already, and we work totally remotely. For a scale-up company such as Media Distillery, it was a simple switch, and now I am happy to say that all of our employees are used to it. The biggest challenge is probably in reaching out to our customers. All the industry events have been cancelled or organised online now. That meant we had to adjust our commercial strategy as well.

**With virtually no live events since March, media companies have been exploiting their archives to provide entertainment. Has Media Distillery helped any media companies with this?**

We see that there is a lot of attention for media companies and that translates directly to more interest in our solutions. Indeed, many new conversations with global TV operators and

broadcasters have started this year and especially about our solutions that help to improve the viewing experience on TV platforms, such as EPG Correction™, and Episodic Images™.

**You talked about developing technology to underpin the Next Generation Replay Experience for TV operators to be able to compete with the native digital giants. What progress have you made on this?**

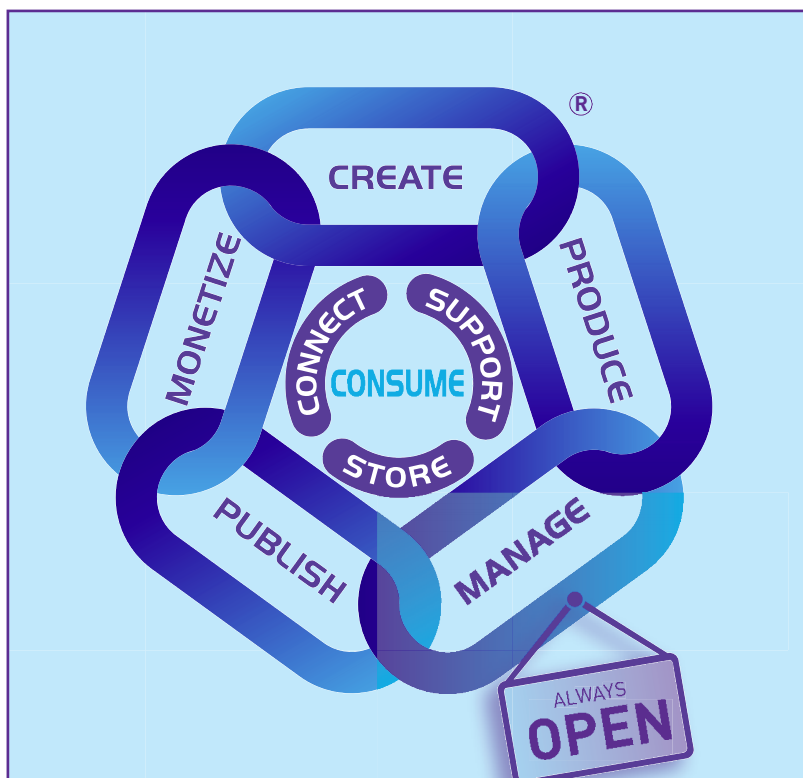
We believe that the next generation replay experience is based on a deep understanding of what's inside video. Our latest developments are exciting AI solutions for advanced topic detection on video. Not only the entire videos but also small parts or sections of a video. It allows us to automatically fill the home screen of a user with the content of his liking. Topics can be a favourite soccer club or more complex like the COVID pandemic in Europe or the elections in the US. We are now testing this technology with different large TV operators to perfect the algorithms and train them for specific user groups. This deep content tagging technology can be used in different ways to improve the user experience. For instance, it can be by populating the home screen with relevant content, it can be used also for targeted advertising and viewer profile collection or to solve the 'zero results found' problem in the search engine.

**What new capabilities have you added to your platform this year, and how are these benefiting your customers?**

We have extended our platform in multiple ways. First of all, we have connected numerous customers all over the world to our cloud solution, enabling them to leverage all our products. And this year, we have developed our unique Episodic Images solution which, as a part of the Next Generation replay experience, allows to provide a better content discovery experience with a real-time personalisation of the user interface. Finally, our EPG Correction star solution is now able to analyse 20 000 hours of content per day, which means that this solution saves 4,796,802 seconds of our viewers' precious time per week! These impressive figures show how we can impact the user experience on TV platforms and on a large scale.

**Your solutions leverage AI. Have there been any marquee advances in AI in the last year that you will be tapping in future products/services?**

OpenAI recently demonstrated the power of a new algorithm called GPT-3. This algorithm has a deep understanding of the text and can answer simple questions, write emails for you and even tell you a story. Media Distillery is working on integrating algorithms as such in the platform to offer a similar level of understanding for videos. For example, you will be able to talk to your remote, ask a question and get a smart response with matching videos so the viewer can start watching.



## The BaM Shop Window™

### The one-stop portal for technology buyers

The BaM Shop Window™ aims to bring all of the products and services available across the industry together into a single portal to enable all solutions and alternatives to be quickly discovered by technology buyers.

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# The brave new world of PR and marketing

In August this year, we convened a panel of marketing and PR agency leaders to ask them about their experience of the pandemic and lockdown. What effect did it have on their businesses? How did they rise to the challenges? What changes have they made – and what are the likely longer-term effects of the massive shake-up everyone has been through? On the panel were: Sadie Groom, MD of Bubble Agency; Jennie Marwick-Evans, MD of Manor Marketing; Rob Ettridge, COO of Red Lorry Yellow Lorry; and David Lawrence, MD of Platform Communications.

## Could you briefly tell us how the last 6 months has impacted your business and your customers?

Sadie Groom has seen positives and negatives: "It's been an interesting time; there's no manual for this, but we would sum it up as react, recover, reimagine. And that's the way that we've gone through the whole process." She reported some inevitable clients putting things on hold in sports, and had also signed the lease on new premises in December – which her team had yet to move into. "But lots of positives – from our side and from our clients'. My clients are having to really think about their business – what data they've got, what content they've got, what processes, how they look after their team and how they can use our additional services we offer. For us and the industry that we love I think everyone has opened up a lot more. For example we organised a call with all the PR agencies just before NAB got canned; I don't think that would have happened before. So lots of sharing, helping people out and a feeling of all being in this together."

Rob Ettridge also reported clients pausing campaigns in



the live events and live sport sectors, but he has also seen "lots of positives. As a broader tech agency, our AI, blockchain and cybersecurity clients have been really prospering, and certainly for Q4 and into 2021, it's looking a lot more positive for our new business pipeline. The cancellation of shows has driven clients to ask for different kinds of marketing support – lead gen campaigns, content marketing campaigns, support with managing customer communications, etc. We're all having to be a bit more creative, think a little bit differently, and be a bit more flexible for our clients. We've also spent more time on our CSR initiatives to continue to give something back to the industry during these weird times – for example our partnership with ACCESS:VFX to promote inclusivity and diversity in the VFX, animation and games industries."

Jennie Marwick-Evans also reported doing different kinds of work for her clients: "We've put the emphasis on business continuity. We're very fortunate – we've actually gained some clients during these challenging times as well. But it's



not traditional PR – it's far more commercial marketing and sales." Jennie's team has also been working more closely with clients to help them move from marketing not just the technology itself, but to the use and application. The real benefits and ROI. "We've completely switched how we actually work with clients." While Jennie has missed face-to-face, "The last few months has been a good reset for everybody in a way – in what we do, how we do it – in our lives as well as our companies. I think it has been an opportunity; you've got to know way more about your clients and their customers than you would ever have known before."

David Lawrence of Platform Communications said, "We've focused on supporting our clients and our team in the best possible way. I'm



very proud of how our team has come together and really been supportive of each other and our clients. We've been very keen to keep training going; I think that's especially important when people are working remotely. I think the strength of our team is reflected in the fact we've won six new clients in

the past few months. Our clients have had to, in many cases, face up to a total shift in business priorities, the market's shifted massively in all sorts of ways. But I think in all of this, communications have been shown to be more vital than ever. Every company needs to ensure visibility and continue to drive sales conversations. We're really proud to have been part of helping our clients move forward."

### How did you adapt during remote working and what tools did you use to keep the creative juices flowing?

"With a global team we have always had to work remotely but we have had to get used to being creative on yet another Zoom call which can be difficult." Sadie Groom reflected, "so we would spend a bit of time outside going for a walk around somewhere, share different people's music to try and inspire things and yes we did a lot of quizzes! What we found was one of the best ways is being part of different business and industry groups. We've got a business coach that we work with, and he got together his clients very quickly, and every Friday we were able to share learnings and talk creatively about what we're doing – our business and our clients. In the past, people would have said "I'm not going to tell you that". They're all in different sectors – the PR and marketing sector, Facebook groups or things like forums have just been amazing. And I think that's really helped inspire other creative thoughts. That's been the key to it for us."

The lorries were already very used to working and collaborating remotely.



"We have teams in Boston, LA, Berlin, Paris and London, plus our global [Convoy](#) partner agency network, so a lot of our work is virtual collaboration anyway – using tools such as Slack. It's what we do to come up with global creative campaigns for new business pitches and for client campaigns," Rob Ettridge explained. "It's more important than ever to involve and engage our teams, and help get them thinking beyond the day-to-day. We have our weekly get-togethers – lorry breakfasts, lunches, quizzes, socials, etc – all types of activities to encourage the teams to engage, collaborate and think differently."

Like the lorries, Platform already encouraged flexible, remote working pre-pandemic, though "We'd never want to be an entirely virtual agency long term," David Lawrence added. "But there's no doubt that brainstorming is much easier to do in person. It's important to bear in mind though that the secret of good brainstorm is actually much more about having a good brief to start with and preparing a good brief for the people that are going to be in that brainstorm. And to do that, you have to make sure that you've got a genuine strategy and genuine insight that you want ideas to support, rather than just getting a bunch of people together just to shoot the breeze about a topic; you'll get much better results from any brainstorm if you do the prep time."

"We've invested in many tools including a dynamic whiteboard where you can actually collaborate together in a virtual world," said Jennie Marwick-Evans. "We also did picnics and other events – everybody had to bring a certain thing, a certain colour or whatever else it

was type of food. When we started lockdown we used to do twice a day Zoom meetings, but I soon lost the will to live on that, and it went down to one a day. And then it, well, stopped, basically because it was too hard to actually chat about different things in this environment rather than face-to-face." Jennie also put priority on offering training for her staff and their wellbeing and is proud of how they stayed and grew #TeamManor.

### In the absence of trade shows what are the ways your customers are re-focusing their efforts to generate new leads?

Sadie Groom has been working with the Bubbles' clients to identify what leads came from trade shows and what were the other sources. "How they can work their partner community better, especially when there is no choice and you're not going to meet your representative from the Philippines at certain show for example. We've been trying to look at the best bits of shows. Not just what people like and don't like, but what works, what doesn't work; what can be recreated really well, and what can't – 'not another virtual demo!' I think there's some real basics like LinkedIn – using that massive network to actually get sales, that people can tap into."

"One positive is that it's made everything a lot more measurable," said Rob Ettridge. "You can track the buyer journey from the moment you find them through to how they're engaging with you, when they visit your website, engage with your content, sign up for an event – whatever they're doing. Customers are rightly looking much more closely at their return on investment rather than just having a huge stand



and hoping that someone passes by and wants to buy the latest product. We've been doing this content marketing based engagement for a while now. Our Brands to Business approach helps track the journey from when a company interacts with a brand to when they actually buy from that brand – and makes sure that the right content reaches the right audience on the right channel at the right time. That's where our campaigns are increasingly shifting with our clients."

"People buy from people," said Jennie Marwick-Evans, "that's what, as an industry, we've relied on and thrived on. People have LinkedIn but don't use it. We give our clients assets to put on their personal LinkedIn and they are really shocked at the level of engagement they get. It's about educating them on alternatives to shows. It's taking them out of their comfort zones, and it can be proved through tools like Lead Forensics – watching a journey over a website and seeing what people hovered on and what they didn't and then look at why – is it because it's written or a video or whatever else. And it might be somebody who was never going to walk past your stand at a show, and now you've got access to them. If you maximise every single opportunity that you're being given right now, you're going to be streets ahead of your competition."

"The disruption to trade shows and conferences has been a huge change because those events are such a massive part of the industry," said David Lawrence, "We conducted a major survey report called 'The new world of tech communications' that showed clearly that the future of events is a hybrid of physical and digital. Nearly

three quarters of the journalists and analysts we spoke to said that virtual events can sometimes be more useful than physical events. When events do happen again, 90% of those we spoke to said that they want more content from physical events to be available online. There's no doubt that digital marketing will continue to grow, driven by the shift toward technology sales on a monthly recurring basis. This means marketing needs to keep solutions in front of potential buyers all year round. There's going to be much more focus on brand, much more focus on the audience, much more focus on 'what is our purpose in this market?' To be successful, technology companies need strategic marketing that drives real conversations with potential buyers on an ongoing basis."

**In this new virtual world, have you had to shift your internal team's efforts to support your clients' needs and are there any new services that you are offering as a result of this?**

"As a company we have always offered marketing services but not all of the team were skilled in it so we've invested a lot in training – every conversation I'm having at the moment is around digital marketing," said Sadie Groom. "We've also gone out and found some amazing partners for where we can't be specialists – I can't suddenly get in a team of 12 people that are all PPC experts. We also widened our PR network called The Big Bubble; a lot of our clients are looking into new sectors and territories, and we've also brought in staff with expertise in those areas to support them."

The lorries have been offering a wider range of marketing, customer

and employee communications and lead-generation services for some time – and now clients are tapping into them more. "What's really come to the fore is the mantra of how you deal with the client – doing the right thing, getting the teams to think above and beyond and not thinking too rigidly," said Rob Ettridge. "We need to be sensitive to clients' challenges as well: you can't just say no, that's the scope of work, those are the payment terms etc. You can't hold them hostage to those sorts of things during these times. Instead where needed we've pivoted our campaigns to support our clients with managing difficult customer or employee communications, and getting sensitive messages across in the right way. That's been invaluable to them."

"One of the biggest things is to challenge clients in some respects, and their partners and their customers. I am looking at it from the commercial angle and achieving a purchase order at the end of the day," said Jennie Marwick-Evans. She helps her customers by challenging why and what they have always done in these changed times. "How you actually get technology to market these days is really crucial. We now understand our clients' pain points a lot more, and help them manage and prioritize those pain points; this is a big part of what we can do. And it can be something really obscure that they would have never thought is a priority and suddenly it becomes a real priority."

"One thing that we've offered before has become even more relevant now is social influencer campaigns," said David Lawrence. "In B2B tech, people buy from people who they

see as being credible sources of trusted insight. This is an incredibly sociable industry – people getting together to discuss things and find out things from each other is what this industry is all about. But right now, it's harder than ever for that to happen. And certainly without shows and events, there's really limited opportunities for people to network in the same way that they would before. So, with a social influencer campaign, we help our clients be seen as the experts. And not just the brand as the expert but individuals within that company. We help connect them to the right conversations digitally. Our clients have told us this is a real game changer in terms of creating deeper connections with prospects. We help them open up all sorts of business opportunities by allowing them to, in effect, network digitally."

#### **What does the future hold for our industry and how are we going to have to adapt from a Marketing & PR perspective?**

"None of us really know what the long-term impact of this pandemic will be," said Rob Ettridge, "except that it will be a catalyst for long-term change. From a client and marketing point of view, it may be the wake-up call to think about how they need to measure the success of their marketing programmes. And clearly the move to lead-gen marketing will be a part of that. We'll see a lot more personalised campaigns directly targeting individual buyers or engineers within organisations, rather than just going for the big catch-all campaign. But I sincerely hope that face-to-face interaction doesn't go away completely. While we're all talking about digital as the future and being able to target people



directly, we still want to meet in the pub, we still want to go to the shows and events. Whatever happens, the M&E industry is pretty resilient, and we'll find a way to adapt."

"You could argue there's potential for genuinely innovative technologies to take off more quickly than might have happened pre-pandemic," David Lawrence added. "We've already seen that with cloud technologies for remote production. Marketing has got a huge role to play in making these new ways of working visible to the right people. And making sure that's done in a way that's truly audience focused, integrated and digital."

"I believe there is no substitute for face-to-face," said Jennie Marwick-Evans. "Digital is great, but actually seeing the whites of their eyes and being able to react to behaviour and the body language gets missed. So I think shows and networking will come back, but maybe a lot smaller and probably more intimate. Marketing will be much more personal – talking to the right people in the right language. If you make things far more targeted, people feel all warm and fuzzy – you've made an effort for them individually, and if you do that then

they'll actually make the effort to invest in you as well. We're working with our clients to be more targeted, focused, regional and relevant. And maintain your relationships with your clients, their partners and customers, you built through this pandemic – don't lose that; people buy from and remember those relationships and how supportive you were, so the rapport you have with them and you've built up over these months is vital to maintain."

"Strong companies are going to get stronger, and we're going to see a lot of consolidation and more focus on budgets," said Sadie Groom. "People that have reacted have been agile and will take that mentality forward and benefit out of this. I also think there is going to be a wider focus on diversity and inclusion; corporate purpose and social responsibility will be more important. It's going to be interesting – it's been a challenge that I don't want to happen again for the rest of my life but I think we've all learned a lot – every day has been a school day on so many levels. Everyone we're talking to has got their own version of build back bigger and better and that is how the industry we love will survive."

# Driving the consolidation of media transport and enterprise services into a single WAN



**Angus Stewart**  
*Business Development  
Executive – Media,  
ANZ, Telstra  
Broadcast Services*

While the industry was already increasingly moving towards models of remote and distributed working in all aspects of the workflow, the events of 2020 have provided a dramatic accelerant to this trend. The requirements of Covid-mandated social distancing protocols have added to the already compelling economic arguments for remote work, and meant that media organisations are looking for solutions that can accommodate the data flows of the new IP-based broadcast ecosystem reliably and securely with the high performance criteria that broadcast video – especially live broadcast video – requires.

We are moving towards a new era of hyper-efficient and cloud-enabled media production and what is required are systems that offer the following criteria:

- **Reliability.** The system must be bullet-proof and offered with the SLAs that the broadcast industry is used to working with.
- **Performance.** Any network aimed at the broadcast market needs to be high-bandwidth, high-performance, low latency, and virtually zero delay variation.
- **Coverage.** Depending on the market being served, reach needs to be genuinely national and/or international.
- **Standards.** Any network needs to support SMPTE standards for delivery of media over IP and the consolidation of data network payloads.
- **Security.** Assuring the integrity of content and content providers' Intellectual Property is a must.
- **Control.** Media organisations have a requirement to manage the network to reflect their own business needs, for example SMPTE media streams with enterprise data traffic.

Our contention is that MediaWAN, a brand-new service from Telstra Broadcast Services, exemplifies the new breed of network that is required and will serve as an enabling technology of the new remotised broadcast methodologies. Currently specific to Australia, it delivers a single country-wide core network for IP contribution on a national basis, managing both enterprise data and video with premium SLAs. It allows the customer to

transport real-time video, audio and data between geographically diverse facilities and consolidate their networks, cost-effectively blending Enterprise and Media Network functions and resources.

Built from best-of-breed components that are sourced as part of our established relationships with leading global technology providers, as well as the strong support of local channels and partners, it allows for the transmission of real-time video, audio and enterprise data between critical media hubs at 10Gps to 100Gbps on dedicated bandwidth. This is delivered as IP data flows with granular control over connectivity; frames are encapsulated and transported across the network transparently and delivered in native form. In keeping with the level of SLAs expected within the industry it also features end-to-end management and 24/7 support from dedicated teams using advanced management systems.

## Benefits of a media-specific WAN

There are multiple benefits to the usage of such a network for media companies.

From the outset, it allows for the consolidation of multiple networks into one, single network. Multiple networks are an unfortunate fact of life in modern broadcast production and can even feature in single productions, with the problem exacerbated as they proliferate across media companies. By coalescing these into a single network, this dramatically reduces complexity within a company and lowers the costs of dealing with a wide range of network issues.



This has benefits that reverberate through the chain. Level 1 service assurance is also guaranteed by the fact that a single network results in a single point of contact for broadcast customers. Many media companies' network operations have been built up in an unplanned manner over time, and separating these multiple connections into their core components can be difficult, especially, for example, when there are issues involving live contribution and the top of the hour is rapidly approaching. A single point of contact helps give media organisations the confidence that when problems occur, they can be identified and fixed swiftly with nominal disruption and in a response time that is consistent with the SLAs of the project

This is worth expanding upon as the network is also maintained at a broadcast-level SLA. This is a point that can be overlooked in many negotiations regarding network cost. The delay of data in many IP-based industries is often considered inconvenient rather than mission critical, and total data loss is not unheard of. To be truly robust enough for broadcast operation the data in the network streams must be treated with as much care and attention to redundancy as real-time SDI video signals were in the pre-IP era.

Cost savings can be impressive using such a system too. The use of a single network not only consolidates all of an organisation's disparate network operations into a single supplier and point of contact from an external point of view, from an internal one it sees the consolidation of the various internal teams that have been called on to manage a wide brief that covers potentially many different companies. Again, this

speaks to minimising complexity within an organisation and at the very minimum the removal of duplication of effort. Furthermore, it effectively enables companies to outsource many of the day-to-day tasks of maintenance, lifecycle management, third-party vendor management, monitoring, notification, and network restoration that are attendant with the management of multiple networks.

Such cost-effectiveness is an important attribute of a managed media WAN. While the business benefits of remote workflows are well documented, the costs that lurk in the details of the movement of data around multiple high-speed networks can be surprising and commercially difficult to justify. The consolidation of multiple networks into one can not only provide multiple benefits such as enhanced control over IP data flows and enhanced SLAs, it can do it whilst maintaining a cost-effective price point that is typically significantly more economical than an ad hoc system consisting of competing suppliers.

The specifics of any individual network will vary. The Telstra MediaWAN provides national coverage based on one of the largest fibre footprints in Australia providing speed options of up to 100Gbps on Government-grade infrastructure. In other countries the specifics may well change, but the philosophy remains the same; a dedicated fully managed network with high-performance SLAs is going to reliably outperform any of the alternatives, for example, dark fibre which typically features reactive support and un-managed service. Perhaps more to the point, the hyper-efficient media factories of the future will demand it.



# Realizing the potential of the cloud for live video production



**Robert Szabo-Rowe**  
VP Engineering and  
Sales, The Switch

The appetite for compelling live content is soaring, particularly live sports programming. Rethink TV has estimated that global sports rights will grow by up to 75 percent between 2020 and 2024, making it clear that live content remains king. This trend is particularly evident among younger audiences, with Nielsen figures showing that two-thirds of 18-34-year-olds watching linear TV preferred to watch live content.

According to the Interactive Advertising Bureau, the same proportion of all consumers worldwide is now streaming online coverage of live events. This demand is, in turn, putting pressure on broadcasters and other rightsholders to adapt their workflows to meet greater and more varied needs for high-quality live content.

The fact is the way in which consumers engage with live content is evolving and, as a result, the media landscape is rapidly fragmenting. Even before the lockdown and restrictions posed by the global health crisis, streaming services witnessed a surge in popularity. COVID-19 has only accelerated this trend, as audiences under shelter-in-place orders have turned to streaming platforms as their source of news and entertainment. Twitch, the leading esports streaming service, recorded an historic 83% year-on-year jump in viewing during the second quarter, according to a report from StreamLabs and Stream Hatchet. Social media is also emerging as a primary source of live content – 22 percent of fans now seek live sports via social media platforms, research from GlobalWebIndex shows.

The upshot of this media fragmentation is that broadcasters and other live content producers now face a fresh challenge: finding cost-effective ways to produce and deliver more content in increasingly dynamic formats – from shoulder programming to coverage of smaller and niche events. Efficiently filling the growing number of programming hours across an increasing array of platforms, while still meeting audience expectations for high production values, is the tough task content providers face today. In light of these developments, cloud-based production models have emerged as a compelling option.

## Embracing a new era of content

Media organizations must move towards a future in which they can leverage new approaches and technologies to produce and deliver more live programming than ever to an increasingly diverse audience – and achieve this without overstressing resources. Cloud-based production answers the call to this need, enabling media players of all types and sizes – across all geographies – to remain competitive in an industry that is more dynamic than ever.

Basic cloud production tools enable workflow processes to be implemented via a hosted platform. To meet more comprehensive needs, cloud-based 'Production-as-a-Service' offerings, such as The Switch's MIMiC platform, can deliver an end-to-end service that includes everything from remote IP video contribution and production to clipping and distribution. The on-demand production model enables the entire production workflow – including editing, graphics creation and comms – to be handled within the cloud. Then distribution via private fiber networks or over-the-top (OTT) services ensures that produced feeds can be delivered to viewers in any country on any platform.

The cloud approach to production offers clear cost advantages, but other benefits can be equally important to content producers. Next to cost, flexibility can be a critical benefit. With a cloud solution in place, content producers can quickly adapt to any circumstance, regardless of the event's location, crew members whereabouts, distribution method and target content. IP-based networks are increasingly becoming the dominant means of distributing new content, making it easier to adapt existing workflows to cloud-based technologies



and software-defined architectures without making physical changes to the hardware.

During the COVID-19 pandemic, we have seen just how important adaptability has become. With crews forced to operate within lockdown conditions, social distancing guidelines and other safety restrictions, many editors have needed to be able to operate from remote locations – often using just a browser to tap into cloud production capabilities. Bringing together video, IP networks, and cloud-based tools on the same platform provides a powerful combination that allows production staff to support a range of content outputs, each with its own specific requirements.



### Optimizing efficiency, speed and reliability

Cloud-based production delivers a quick pace and level of efficiency that is critical to successfully producing live or even virtual event coverage today. The cloud approach ensures proficiency by taking the complexity out of live event coverage. It makes it easier to staff crews and sort other logistics regardless of location, all while minimizing the need for travel, freight and extra resourcing on the ground.

The quick turnaround of highlights, replays and social media posts is another major advantage of the cloud approach. Near real-time production capability is becoming increasingly important as consumer habits evolve. For instance, 75 million sports fans in the United States regularly watch highlight packages, according to Ring Digital's 2020 Future of TV Survey, with many fans

looking for instant summaries of the best action when they don't have time to view whole games. Fans demand for packaged clips across all platforms for sports, and even other live events such as awards shows, means that a delay of minutes – or even seconds – opens rightsholders to the risk of losing out to rivals and pirated content sources. A cloud approach helps minimize such threats.

Reliability is also crucial for live TV. A cloud-based production environment can run transparently, securely and independently of the main broadcast feed from a major event, allowing existing workflows to run as usual. In cases where the cloud workflow is the primary production and distribution method, its highly virtualized and microservices-based architectures eliminate the risk of a single point of failure. Cloud production can also be architected to offer a pass-through backup that can go straight from contribution to encoding, then CDN distribution. This feature acts like an override switch to avoid a 'black screen' situation.

### Kick-starting the industry transition

Broadcasters, rights holders and other content producers face many challenges in today's live production landscape where new approaches are essential. In a world where consumers expect richer, more varied content experiences, cloud-based production has come into its own. It offers a cost-effective, flexible, efficient, fast and dependable way of enabling content producers of all types to meet consumer demand for professional quality across multiple platforms. Innovative broadcasters and production companies are already leveraging cloud-based production benefits as they seek to grow their content offerings quickly and efficiently.

Cloud production, like many internet-driven innovations, is easy to deploy and provides a technical architecture that works alongside existing broadcast workflows, without putting well-established processes at risk. With remote production emerging as the workflow of the future across a whole spectrum of live TV, streaming, and social media events, cloud-based production and services will play a growing role in transforming an industry moving progressively to an all-IP future.

# Going remote: enhancing production workflows with cloud-native technologies



**James Wilson**  
*Head of Engineering,  
IBM Aspera*

It's probably an understatement to say that 2020 has been a year of change for media companies. Faced with the widespread disruption caused by the Covid-19 pandemic, they've quickly embraced remote production to cater to a fully work-from-home environment and ensure business continuity.

Production teams of all sizes have been challenged to adapt to a new operational reality that centres around being as agile as possible. As well as collaborating on projects remotely and seamlessly sharing content and assets between disparate team members, they've had to find ways to quickly roll out different services to different sites and significantly reduce their dependence on physical data centers.

While many trends have been accelerated by this shift, one that has stood out is the growing interest in cloud-native technologies and container-based deployments. Container orchestration platforms based-on Kubernetes, such as OpenShift, offer reproducible, high-availability, fault-tolerant infrastructure solutions that allow media businesses to move their workflows to or from any public or private cloud environment without having to rearchitect the infrastructure.

The rise of remote working is also shining a spotlight on high-quality IP-based streaming and cloud security. With production teams working on assets remotely, it's now more important than ever for media companies to secure their workflows to protect their content and revenues. When it comes to operating effectively and efficiently amid the 'new normal' that we now find ourselves in, media companies have a huge amount to consider.

## Containers take center stage


Containers are a virtualisation technology that enable users to package and isolate discrete application components with the precise dependencies and configurations required to run, thereby providing a streamlined way to build, test, deploy and redeploy applications on multiple environments. This offers many benefits for media organizations. For example, containers provide the flexibility to efficiently manage

new remote workflows and infrastructures consistently across all applications, such as encoding, transcoding, graphics rendering and video transport.

Most importantly, they allow businesses to very quickly scale up workflows automatically and on-demand to meet fluctuating requirements and leverage the power of the cloud to apply additional resources when needed. Although there are costs associated, the flexibility means workflows can be scaled up and down to meet spikes or dips in demand for production traffic. Media businesses haven't traditionally had access to software-based autoscaling solutions that allow them to run a lean IT environment, but also scale when needed. This is now increasingly being offered thanks to containers and the orchestration platforms that manage them, most of which are based on the open source Kubernetes project.

Containers and their orchestration platforms also have a key role to play in ensuring availability within the media industry. Media workflows are highly time sensitive, meaning the availability of services is a key concern for production teams in terms of delivering content to tight deadlines. Kubernetes offers a consistent way to ensure an ultra-high level of availability, while removing the complexity associated with traditional, vendor-specific approaches.

In the past, businesses had to engage with all their technology vendors independently when developing a strategy for high availability. This required additional resources for infrastructure management, as businesses would have to learn the nuances of each product when monitoring for availability. Evolving to a container-based model streamlines and consolidates the monitoring of critical workflow resources, thereby reducing both complexity and cost. Critical workflow resources are always available and are monitored in the same way.



*Containers are a virtualisation technology that enable users to package and isolate discrete application components with the precise dependencies and configurations required to run, thereby providing a streamlined way to build, test, deploy and redeploy applications on multiple environments.*

James Wilson, IBM Aspera

The key for businesses is to make sure that they don't end up with a bespoke set of tools that's harder and more complex to manage. This can be avoided by embracing the communities around platforms such as OpenShift. These communities often spearhead new innovations, so staying abreast of the latest trends in the community when building a container-based environment – especially one that comprises different technology vendors and providers – can help guide the process. As a result, businesses will be more likely to adopt a standard toolset that makes it easier to manage the lifecycle of the tools and service in their workflows.

### **Workflows for a remote world**

With all these factors in mind, it's no surprise to see more media businesses dedicating a growing amount of effort and investment towards Kubernetes and the consolidation of media offerings onto a single platform powered by containers. Although the media industry is usually at the forefront of technological innovation, it has actually been relatively slow to adopt containers compared to other sectors. This is now changing. There is a growing interest in working with external partners to evolve public cloud resources – which continue to be the most strategic aspect of modern workflows – into container-based environments.

But container technology isn't the only innovation enhancing remote production workflows. IP-based streaming is also taking on a growing importance, particularly in the current climate where remote productions have fewer office-based IT support staff than ever before. Media businesses are operating on skeleton crews, and IP-based streaming offers a flexible and cost-

efficient way of operating remote production sites without requiring a full IT staff, while also ensuring a more streamlined workflow.

Finally, the issue of security can't be overlooked. While security has long been considered as a central part of any end-to-end workflow, the emergence of increasingly remote productions with employees working from different locations means it is more important than ever. For example, there is now a growing need to integrate technologies such as intelligent authentication, credentials encryption and secure key management integration with BYOK (bring your own key) capabilities in order to ensure proper identity management.

BYOK enables businesses to easily and cost-efficiently rotate their encryption keys, and can be supplemented with other cloud security innovations such as forensic watermarking-as-a-service to counter piracy. This all can help businesses ensure security by following the principles of zero-trust environments when auditing key workflows, providing a high level of control and protecting valuable content in the most effective way possible.

**It might have taken a while for the media industry to catch up, but container-based deployments are now quickly becoming the dominant infrastructure solution in a remote and hybrid cloud world. These cloud-native technologies are vital to supporting agile and secure operations. Amidst uncertainty and change, they can empower media businesses to enhance their remote production workflows, while providing the flexibility to quickly adapt to any future disruption.**



# Sony NMS: Successful Digital Supply Chains Scale as You Grow



**Kunal Shah**  
*VP of software engineering  
and architecture at Sony  
New Media Solutions*

When it comes to a media organization's digital supply chain, scalability is one of the keys to success, according to Kunal Shah, VP of software engineering and architecture at Sony New Media Solutions.

A successful digital supply chain will not only meet demands, but scale as you grow – keeping pace with increased distribution volumes, delivery deadlines and satisfying the requirements of all the different streaming platforms, all while ensuring content is securely stored and readily accessible, as the Sony division learned first-hand during its own journey to the cloud.

Sony has “been able to massively scale our digital supply chain by leveraging cloud technologies and meeting the clients’ needs,” Shah said during a May 27 presentation at the Hollywood Innovation and Transformation Summit (HITS) Live event.

There are various challenges and opportunities that media companies face when it comes to their supply chains, and “the first challenge that we see is [the] ever-evolving landscape,” he said during the presentation “Turbo Charge Your Digital Supply Chain to Scale.”

During the session, he explained how the Sony division transformed

its platform using cloud technologies, allowing it to quickly adapt to evolving market demands, and also discussed what the company discovered throughout its journey and the path forward.

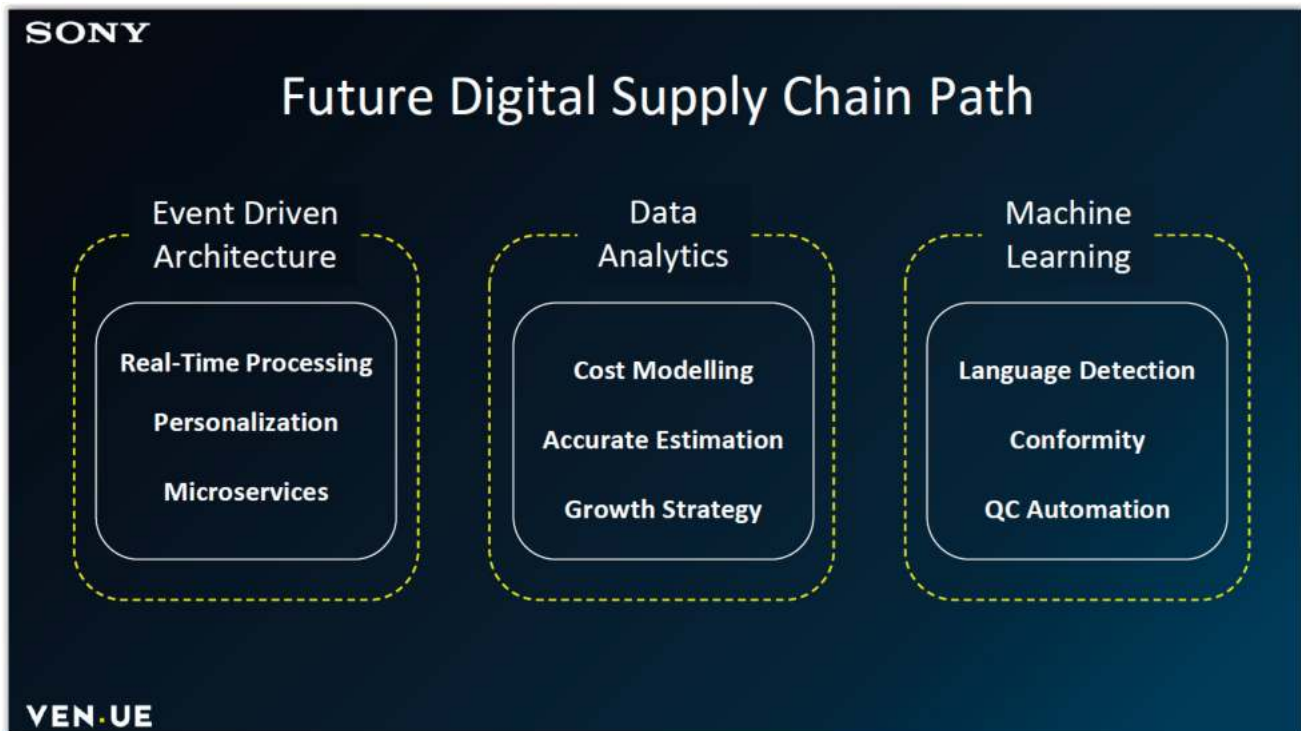
Media organizations are experiencing “tremendous growth in... end users,” according to Shah, adding that, as a result, “there is more demand for custom experiences.”

What is ‘very critical’ for the core supply chain business and clients is “how we can be efficiently operating” and, at the same time, be scalable, he said. Cost control is “definitely something we need to keep in mind,” he noted.

Another major challenge facing the industry, “across the board,” is the fact that “we have different standards” – or a lack of standards, he said.

It made complete sense for the Sony division to move to the cloud, he said, referring to it as a “natural progression.” One “key factor [was] our ability to monitor and do some

At this point, we have been in [the] cloud for about three years and we have been able to massively scale and successfully meet all our demands



analytics," he said, pointing to the significance of machine learning also. However, the ability to gain "dynamic scaling was one of the biggest reasons" to shift to the cloud, he told viewers.

While making that journey to the cloud, Sony "made a conscious decision that we will go slow and we will try to think fast because we want to stay ahead of the curve," he told viewers, explaining it was important to "evaluate our designs and make meaningful progress." That was "why the path we chose is we started with the lift and shift and we completed our entire migration," he said, adding the company then entered the "phase of redesign/refactor, where we refactored a bunch of legacy code as well as started... some of our services and then finally we are in this phase where we are starting to be cloud native."

Meanwhile, "one of the things that we firmly believe in terms of scalability" is that being cloud native "can not be a goal – it has to be like a journey because you need to constantly evaluate the needs and the demands," he said.

He went on to tell viewers: "At this point, we have been in [the] cloud for about three years and we have been able to massively scale and successfully meet all our demands, as well as requests for our clients and, at the same time, we have provided some recommendations which would help everyone in the supply chain."

However, noting how short the presentation was, he conceded he was "barely scratching the surface" on this subject.

Click [here](#) for the presentation slide deck.

The May 27 HITS Live event tackled the quickly shifting IT needs of studios, networks and media service providers, along with how M&E vendors are stepping up to meet those needs. The all-live, virtual, global conference allowed for real-time Q&A, one-on-one chats with other attendees, and more.

HITS Live was presented by Microsoft Azure, with sponsorship by RSG Media, Signiant, Tape Ark, Whip Media Group, Zendesk, Eluvio, Sony, AvanaDe, 5th Kind, Tamr, EIDR and the Trusted Partner Network (TPN).

The event is produced by the Media & Entertainment Services Alliance (MESA) and the Hollywood IT Society (HITS), in association with the Content Delivery & Security Association (CDSA) and the Smart Content Council.

# Member Speak – Genelec: four decades of sustainable innovation



**Howard Jones**  
*PR Director,  
Genelec*

Genelec was founded in Finland back in 1978, by childhood friends Ilpo Martikainen and Topi Partanen, who shared a love of music and then a passion for acoustics.



The catalyst for the formation of the company was an acoustician called Juhani Borenus, who worked for the Finnish national broadcaster YLE, and in 1976 was searching for an active monitoring loudspeaker for their new radio house. Juhani had a very clear idea of what YLE needed from a speaker, which included consistent performance, total reliability, easy serviceability, and the ability to adapt to the acoustic environment they were placed in.

Students Ilpo and Topi accepted Juhani's challenge, produced a prototype, and after two years of intense R&D, launched Genelec with the S30, the company's first monitoring loudspeaker. Juhani's very demanding technical brief really set the scene for the way we would approach our designs, and that close connection with the world of broadcast has remained to this day – it's in the very DNA of the company!

The first decade was undoubtedly a very tough period, but with the arrival of the 1035A main monitor in 1989 and the now-legendary 1031A nearfield model in 1991, Genelec really made its mark on the industry, with a string of technically innovative monitors and a brilliant design team. Ilpo and Topi brought talented designer Ari Varla on board, and the genial Lars-Olof Janflod headed up the international sales team and became a familiar face to audio professionals around the world. So in parallel with the R&D team always pushing the boundaries of what a studio monitor could do, Genelec's distribution network grew and strengthened, culminating in our current representation in over 70 countries and regional offices in the US, Japan, China and Sweden.

Ilpo and Topi had set a clear goal of designing monitors that would as much as possible compensate for a room's negative acoustic influences. What you hear from a studio monitor is a combination of the performance of the monitor itself, its interaction with the room, and your listening skills. By designing monitors that could be tailored to the acoustic properties of the room itself, Genelec monitors could help audio engineers compensate for any unwanted room effects and produce

mixes that they could truly rely on. This method of room compensation appeared on the original S30 monitor – via a simple set of room EQ controls – and has gradually developed into the very sophisticated set of room correction tools available in our GLM loudspeaker manager software. GLM enables the user to optimise the playback level, frequency

response and distance delays of every Genelec Smart Active Monitor in the system – thereby achieving performance that is totally optimised for the room.

The benefits of this approach have become really important for broadcasters – who often are having to work quickly in pressurised studio environments that may not always have the finest acoustic properties. The OB truck is a classic example of an environment that is often cramped and compromised in terms of acoustics, yet this is an environment where Genelec can thrive due to the compact nature of the monitors and their ability to adapt. And as more complex immersive formats become increasingly popular, the accuracy of the monitor becomes even more essential for delivering consistent, reliable mixes. The unfortunate pandemic situation has also made GLM a godsend for those who are currently working remotely in ad-hoc home studio environments.





Hand-in-hand with technical innovation has been a total company commitment to sustainability, that was rooted in Ilpo's experiences growing up on a farm in Finland. He was familiar with the annual cycle of seeding, fertilising, weeding and harvesting, and he saw first-hand how the country's huge timber industry constantly replenished its forests to ensure that the business was sustainable. Additionally, that tree cover absorbs huge amounts of CO<sub>2</sub> from the atmosphere, so maintaining it was not only sensible business but was also kind to the environment. Ilpo himself became actively involved in tree planting programs each year and his understanding of running a company in a holistic, sustainable way became embedded in his thinking.

And so it was that all Genelec monitoring products from the original S30 onwards are built to provide longevity and reliability, even in tough, demanding professional environments – and coupled with a commitment to long term technical and spare parts support, we are still able to service and repair monitors after many decades of use.

Fast forwarding to 2008, we entered a previously unwritten part of the company's philosophy and heritage directly into our strategy, namely that environmental issues are just as important as profitability.

Since then, our efforts to follow this path have been unwavering. The heating of the Genelec factory transitioned from oil to renewable energy some years ago, and our most recent factory expansion in 2019 now brings solar energy to the mix courtesy of over 450 roof-mounted solar panels which will supply 30% of our annual power. This decision to continue developing and manufacturing all of our products under the same roof in Iisalmi means we can guarantee the use of environmentally efficient solutions. In our own factory, we can ensure that the highest quality thresholds are

maintained in terms of operations and products, and that spare parts are available to support our users for the long-term. Ultimately, our choice has helped us to view productivity from a new and far more healthy perspective.

The use of recycled materials in our monitors has also been a long term commitment. More than 80% of our professional two-way monitors use recycled aluminium, saving 95% of the energy required to produce the material compared with virgin aluminium, and after much research into the use of composites in injection moulding, we started a program in 2009 to develop monitor enclosures which comprised of at least 50% mouldable wood fibres – which are recyclable and do not require painting.

We believe that the secret of our success is in really recognising our customer's challenges and designing technology that allows them to do their job better, be more creative, and brings joy to their daily lives. That very first interaction with YLE back in 1976 really was a blueprint for Genelec's future – 'what problem does the customer have, and how do we solve it?'. Certainly in the broadcast world, which demands precision tools with total accuracy and reliability, Genelec is a natural fit. That kind of demanding use has always been a benchmark for us, and it has helped us to raise our game to match.

We've been long time IABM supporters, and we're pleased to have upgraded our membership to Platinum status this year. This is a recognition that with the rapid changes in modern broadcasting, understanding our customers and their challenges has never been more important – so we look forward to the role that IABM can play in helping us continue our very close relationship with this key market segment.



# Member Speak – Prime Focus Technologies – Making AI work for M&E



**Muralidhar Sridhar**  
*Vice President, AI/ML  
Products, Prime  
Focus Technologies*

The initial euphoria over AI/ML seems to have died down in the M&E industry. Our research shows that many M&E players have run AI initiatives with different vendors but have not achieved anything substantial enough to solve their business problems. Though the demo was impressive, the project hit a wall at the Proof of Concept (PoC) stage because the AI solution did not work for their content! When the cycle was repeated with multiple vendors, they concluded that AI models are not available or mature enough to solve specific M&E business challenges.

The fact is, no M&E client's business problems in their entirety can be solved effectively by any one AI engine or solution provider in the market. Also, the heavy lifting involving trial and evaluation of multiple vendors rests on the client's overburdened shoulders. But do they have the required data science talent in-house to tweak the AI/ML engine for their enterprise's data model and ensure accuracy and actionability? The lack of adequate expertise also scuttles any in-house project which attempts to build an AI/ML model.

To crack the impasse, what is needed is a media recognition AI/ML platform that brings the best-of-breed AI models and home-grown niche models to address the issues of accuracy and actionability. Plus, to tackle the talent gaps, consulting expertise in deep learning AI with computer vision knowledge is critical. For AI/ML to deliver for M&E organizations, no cookie-cutter approach will work; what is required is a tailored, bespoke model that embraces the unique data nuances of the client enterprise.

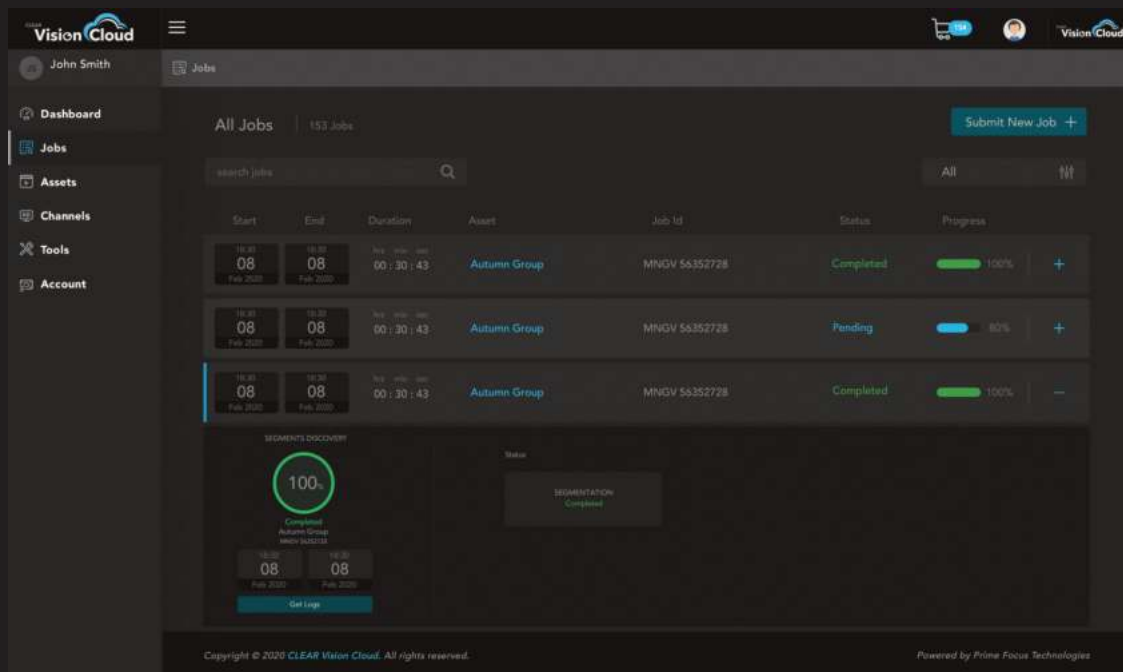
At Prime Focus Technologies (PFT), we believe that if AI is to work for M&E players, then it has to deliver accurate and actionable data which can solve unique business challenges. For this to happen, solution providers have to be open and committed to work with any AI/ML engine, have the data science talent pool to interpret the data and its subtle nuances, and tweak it to suit the needs of the enterprise's content.

While the expectation from AI right now is to solve for accuracy alone, PFT has gone a step further and tried to solve for actionability as well. We offer a combination of Technology and Consulting to deliver accurate and actionable data that can solve specific M&E challenges seamlessly. This is how we make AI work for you!

PFT's native media recognition AI platform CLEAR Vision Cloud helps solve real world business problems of TV Networks, Studios and OTT platforms because of its perfect combination of both technology and consulting. It integrates best-of-

breed AI engines like Microsoft, Google, Amazon Web Services, IBM Watson, and home-grown AI models along with a unique Machine Wisdom layer that is focused on harnessing the best quality data. Along with Technology, PFT's bespoke strategic Consulting services ensure AI works for the customer, taking into consideration their specific business challenges and unique content.

CLEAR Vision Cloud offers AI data at 3 levels (Basic, Advanced, Premium), along with additional data packs including Compliance, Comparison and Transcript. It also provides a set of powerful Action Toolkits that makes the AI harvested data actionable. Action Toolkits, as the name suggests, are ready-to-use to address specific M&E use cases. The Action Toolkits include – Discovery, Segmentation, Video Comparator, Content Moderator and Language Tools. These are enveloped by PFT's unique Machine Wisdom layer that imparts cognitive benefits to CLEAR Vision Cloud. Think of it as an AI platform with a human brain!



CLEAR Vision Cloud AI Data Pack for Basic Metadata helps identify physical video segments (blacks, color bars, slates, pre-caps, re-caps, montages, essence); text & textless segments; specific captioned segments; and custom segments based on customer need across long form and short form content with 100% accuracy & 100% frame accuracy.

The Segmentation Action toolkit allows review & QC automatically identified segments; filter out content segments & export EDLs; and generate a video of the custom segment by stripping out the rest of the physical segments. Substantial reduction of time and cost of segment marking, and content segment extraction is achieved. Automatic learning of segment signatures based on QC input is an industry first and a key enabler in workflow automation. While we have built a basic toolkit for segmentation, there are many requirements that can be addressed and many use cases one can think of. We believe AI has the capability to address all of these effectively. PFT's AI model is home grown and customized to solve specific M&E

use cases to make AI work for you.

For example, a leading TV Station Group in the US was manually identifying and marking segments like color bars, blacks, slates, and content segments in the ads they receive for broadcasting in their network. This dependency on operators was time-consuming and adding workforce costs to them. There was always a possibility of error due to manual intervention.

Though there are a few technology solutions available, they have limited capabilities and cannot handle the vagaries and noise in the content. Solutions that identify blacks using an image or signal processing cannot tolerate black and color bar variations from various sources. Detection of more sophisticated segments like slates needs deeper cognition and interpretation of the content, missing in the available tools.

The Station Group needed a solution that could precisely, and frame accurately identify these segments every time to ensure complete automation of the workflow. PFT provided its powerful AI platform, Vision Cloud combined with

Consulting Services to address these challenges. Vision Cloud is a sophisticated AI platform that recognizes these segments precisely as well as frame accurately in the ad spots. Vision Cloud employs several computer vision and deep learning technologies trained with huge amount of past data to natively develop this solution. Machine Wisdom, PFT's patented technology is used to make sense of the cognition delivered by underlying AI & ML models. As a result, Vision Cloud can identify and detect color bars, slates, and black screens accurately, even if they are from different sources and come with variations and noise. After performing a QC, the spots are sent for playback.

PFT's Vision Cloud has brought the power of AI to the customer and ushered in complete automation of the workflow with no manual intervention. The effort and cost saved as a result of this automation can be invested towards creative pursuits aimed at making the content more compelling and engaging.

# Member Speak – Never.no



**Scott Davies**  
*CEO, Never.no*

## **Tell us about the company – when it was founded, by whom and with what objective**

Never.no was founded in 1999, by Lar Laurizson, a Norwegian creative genius. The company was originally a technology solutions business, with a crack-team of coders providing software for flows and managing data. Some of this would go into traditional development, such as website build, but in essence the approach was about how to improve digital delivery in general.

The company slowly evolved into the broadcast sector, where the initial ideas of what our content management platform, Bee-On, is now – focusing on audience engaged formats. Never.no were the creators of the very first automated music jukeboxes, people could pick up the phone and send an SMS to vote for a music track, which would influence the end result, in real-time. It's a precursor to where we are now in terms of developing an easy-to-use platform for data management, particularly social, and publishing into or changing broadcast graphics in real-time.

## **Fill us in with how the company has developed and grown to the present day**

Skipping ahead, Never.no has certainly been through a series of changes over the years, to the point where the team are using their long-established experience and expertise in audience engaged services to create a platform launched six years ago, originally called STORY, and now Bee-On, following the brand-change last year.

Our team have specifically grown off the back of a range of world leading projects. Manipulating real-time graphics with data and live broadcasting – driving interactive jukeboxes and games well before mainstream social media

interaction – enabling us to understand what audiences want and how the broadcast industry works. We're proud of the latest development, Bee-On, which gives content providers the tools to manage rafts of social data, including live content, polling, trends, pictures, videos, and competitions to moderate and publish into real-time graphics, across multiple platforms, via traditional broadcast or digital.

To-date, our staff spans across the globe, managed from our base in Manchester, supported very closely by our development team in Oslo, Norway, and reaching to Sydney, Australia and North America. One of the most notable milestones is seeing the established broadcasters, such as Viacom, BBC, SBS, Sky, Al Jazeera and many others across Asia, and the Middle East, working with our platform – that's a true seal of approval from the industry.

## **What is your secret sauce – why do your customers choose you over your competitors?**

It's quite a mix of ingredients, the tools and the people behind it are the main factor. The feedback we get from clients is firstly the second to none support, but also the robustness of the Bee-On platform, which is needed in such a demanding sector, where there's no room for downtime, not even a split second! The dedicated development team keep their fingers on the pulse and constantly update API's to ensure connectivity with social media platforms, and frequently offer new tools such as Chrome extensions, Twitter Trends and more integrated messaging features. It's important to offer an end-to-end service alongside a SaaS solution; our team have a mix of experience from broadcast, sports, brand marketing, and everything in between, so they have an understanding of what viewers want and can support with a content-based, and technical background.



### **What have been your biggest successes and challenges in 2020?**

We can safely say – ‘wow, what a year’! It’s been difficult for all, but we’ve adapted as an industry and seem to be going into 2021 with a positive outlook. Both viewing trends and production workflows have changed exponentially, so we’ve all had to be proactive and create new ways of working. As a cloud-based solution we’ve enabled content providers and brands across multiple platforms work remotely to create high-quality, captivating content.

It’s been a proud moment for us, helping traditional broadcasters and streamers bridge the gap between content and the audience stuck at home, supporting shows like ITV’s The Martin Lewis Money Show, developing an innovative front-end interactive interface for Telemundo’s US election coverage, and enhancing streamed content for Sky’s weekly Portrait Artist of the Week show on Facebook Live. We’ve also expanded our client-base within sports, as Premier League and A League football clubs have captured the power of fan engagement and produced match-day shows streamed on social, reaching fans globally beyond standard broadcasting, featuring cloud graphics, audience generated content and real-time polls!

### **What are the company’s goals for 2021?**

By December 2021 we expect to be way-past the pandemic and working within a new progressive and open-minded industry. As mentioned, we’ve had to adapt in so many new and innovative ways and meet rapidly evolving trends with media workflows, content creation and media consumption. We have exciting plans for our cloud-based content management platform Bee-On, that will continue to support broadcasters, digital content providers and brands’ needs to

enhance audience engagement like never before. 2020 was the catalyst for the adoption of cloud-based solutions, so we expect to see an almost fully virtualised and connected industry, this time next year. As a business, we’re looking to make strides in the US, and consolidate our work with traditional broadcasters, plus build on the success of supporting content providers using digital platforms.

### **What trends should we look out for next year?**

We’ll soon see audiences back in the studios and fans in stadiums, but the last eight months will have shown producers how they can connect with them on a global scale. We expect to see audience engaged content becoming more prevalent in live and pre-recorded programming, across platforms – all powered by cloud-based solutions. Content will evolve to include complementary technologies such as Augmented Reality; add social and real-time data to that mix, then it becomes a fabric of the show, rather than just a bolt-on and you’ll see more interactive and immersive socially-led content. Furthermore, 5G will immediately enhance acquisition and delivery of content beyond the primary screen, enhancing viewer experience more than ever.

### **As an IABM member, what services do you most value and why?**

We took the decision to join the IABM in the wake of lock down, with the cancellation of global industry-wide events; it was important for us to stay connected and ensure we had the opportunities to network and collaborate. IABM have given us the platform to do exactly that, stepping up and driving worthwhile virtual events suitable for everyone! We’re looking forward to sponsoring December’s BaM Live!™ event and building our relationship with IABM and fellow members in 2021.



# Member Success – Strength under pressure



A new global OTT managed service launched on time under remote working restrictions validates the strength of Red Bee Media's relationship with client TV5MONDE, the resilience of its team and the flexibility of the platform's architecture.



Red Bee Media, one of the industry's leading managed services providers, was instrumental in the launch of TV5MONDEplus, the new global video-on-demand platform serving French language series, films, documentaries and children's content in full HD quality to 193 countries. A project of this scale and profile would be worthy of note under any circumstance but is even more remarkable given it was successfully launched on deadline during this most challenging of years.

Extending the reach of French language programming to audiences across the globe is a central mission of TV5MONDE. The global TV network, which is supported by the governments of France, Canada, Switzerland, Wallonia-Brussels and Quebec, conceived of a new streaming service to deliver high quality and free French speaking content to users worldwide.

Specifically, TV5MONDEplus is intended to promote French-speaking content and the programs of its partner channels, TV5MONDE's own productions, as well as co-productions and programs acquired all over the world over multiple device platforms.

The project was greenlit in the autumn of 2019, assigned a launch date of 09 September 2020, and put out to public tender.

## Strength in depth

Red Bee Media's relationship with TV5MONDE goes back several years stemming from the integration of the broadcaster's facility to today, providing staff to operate and engineer its playout, production and post facility. Red Bee Media has also concluded several projects for the broadcaster.

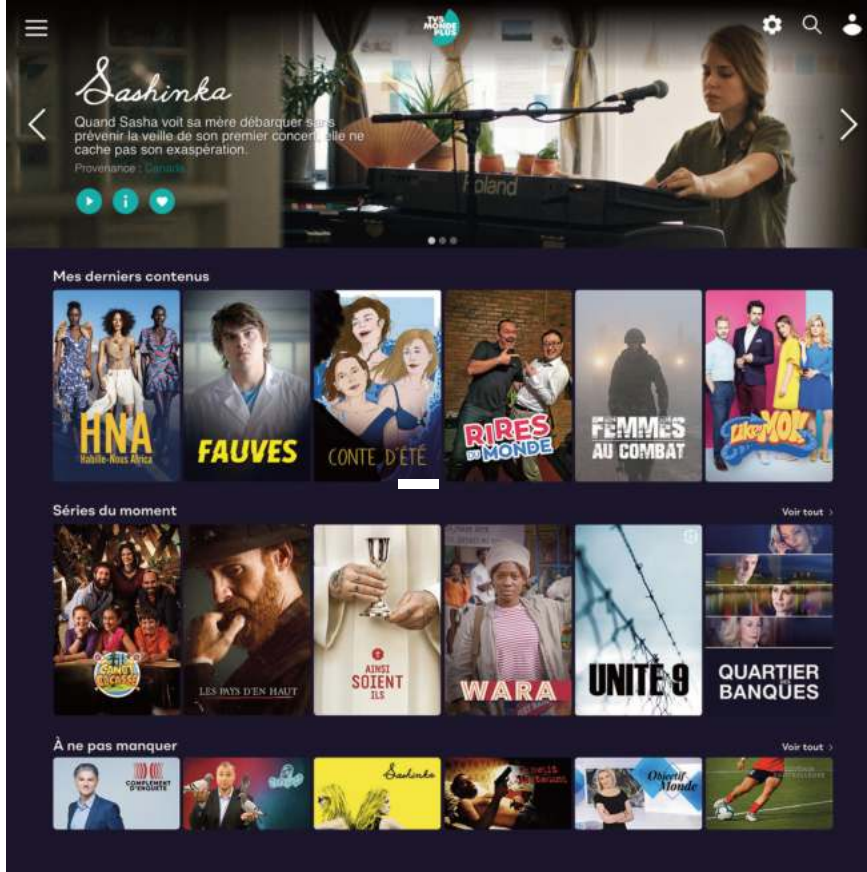
"We have a long term and strong relationship with TV5MONDE but that was no guarantee that they would select us for their streaming service," says Cong Thanh Nguyen, Key Account Manager for TV5MONDE at Red Bee. "We applied to the RFP as we would any other public tender process and with four competitors were invited to proceed to the next stage. It was a strict process which included making several demonstrations of our proposed solution."

TV5MONDE stipulated several criteria in the RFP. A key one was to be fast to market. "They had a strict deadline and they didn't want to spend 18 months or more to get the service up and running from

scratch. They were looking for a managed service provider."

Secondly, TV5MONDE did not want a phased deployment. They required availability of the service in every region from day one. "One of their essential requirements was visibility into the management of rights to assets published by region or by country," says Nguyen.





In addition, the platform needed to be available on multiple devices including the web and set top boxes and with a strong focus on mobile to cater for audiences in territories where mobile is a major or primary means of streaming video.

Red Bee Media won the business at the beginning of 2020, and immediately set to work.

"They were looking for a partner that could provide a managed service end to end including back end and front-end apps and to meet several device types," says Olivier Braun, Technical Product Manager for OTT at Red Bee. "Red Bee's managed OTT platform has been developing over five years and contains several cutting-edge technologies. One of its core features is that it is very modular meaning we can tailor solutions for each client from multiple building blocks."

### The building blocks of successful OTT

One of those building blocks is an entitlement engine which is able to

manage the rights for each individual TV5MONDEplus asset per region and per country.

Adherence to the highest standards of content security, protection and digital rights management (DRM) was also mandatory. All TV5MONDEplus assets are protected according to content owner rights. Red Bee Media's solution defines both a MPEG-DASH and HLS source with Google Widevine, Microsoft Playready and Apple Fairplay DRM technologies.

TV5MONDEplus is a free to view advertiser-funded model which required integration of an ad serving solution. At RFP stage it wasn't decided if this were to be server-side side or client side. In the event, they chose a client-side solution with partner France Télévisions Publicité as provider of inventory using FreeWheel (a Comcast company) for video ads and Google for banner and in-app ads. The back-end integration into Red Bee's platform was straightforward.

The service was to allow users to pause programming on one platform and continue seamlessly on another device. This required Red Bee to build in authentication and cross device synchronisation of content to the user's account. Localisation is enabled with subtitles of French language content available in French, Spanish, English, German and Arabic. The user interface is also localised in five languages.

An absolutely vital ingredient for TV5MONDE was video quality which had to remain consistently broadcast standard even as bandwidth and devices varied country to country. Red Bee used per title encoding to analyse the complexity of individual assets for TV5MONDE in order to optimise the bitrate ladder and produce the best quality to bitrate ratio.

"The quality of video is extremely important to the client," says Braun. "When we ingest content we use Adaptive Bitrate streaming (ABR) to provide multiple bitrates which the video player can adapt based on the best available bandwidth. All assets are available in full HD."

On the distribution side, the service taps into the network of TV5MONDE's existing partner, Akamai. Since Red Bee Media's platform is CDN agnostic the integration of the service with Akamai's CDN presented no problems.

The end-user applications for the platform were built by Dotscreen using Red Bee's standard Software Development Kit (SDK – available in iOS, Android, Smart TVs and Javascript), which allows for seamless connections with Red Bee's services for content display, playback, entitlement, analytics, security and streaming.

### Deadline delivery under Covid conditions

The delivery date was immovable – global pandemic or not. Despite a six-week period from March when virtually the whole of Europe was in lockdown, Red Bee's team kept the project on track.

"There's no doubt that Covid-19 made everything a lot more challenging but we were fortunate in already operating a fairly dispersed team," says Braun. "We have key team members in France, the UK, Sweden and Romania so we are used to collaborating on projects remotely.

"The most severe period of lockdown happened during the specification phase of the project when we were nailing down issues around the front-end UX and the app's look and feel. Those sorts of conversations are much easier when everyone's in the same room but on all sides we pulled together and just got on with it." Another advantage to maintaining business continuity is that Red Bee's platform is entirely cloud-based with no need for local deployment in Paris.

TV5MONDEplus continues to evolve both technically and editorially. New features are planned by the end of the year, to improve the user experience on the web as well as on the IOS and Google applications. Distribution will be extended with the TV5MONDEplus application being made available on LG and Samsung connected TVs, then in 2021 on some American cable operators via Adobe Prime.

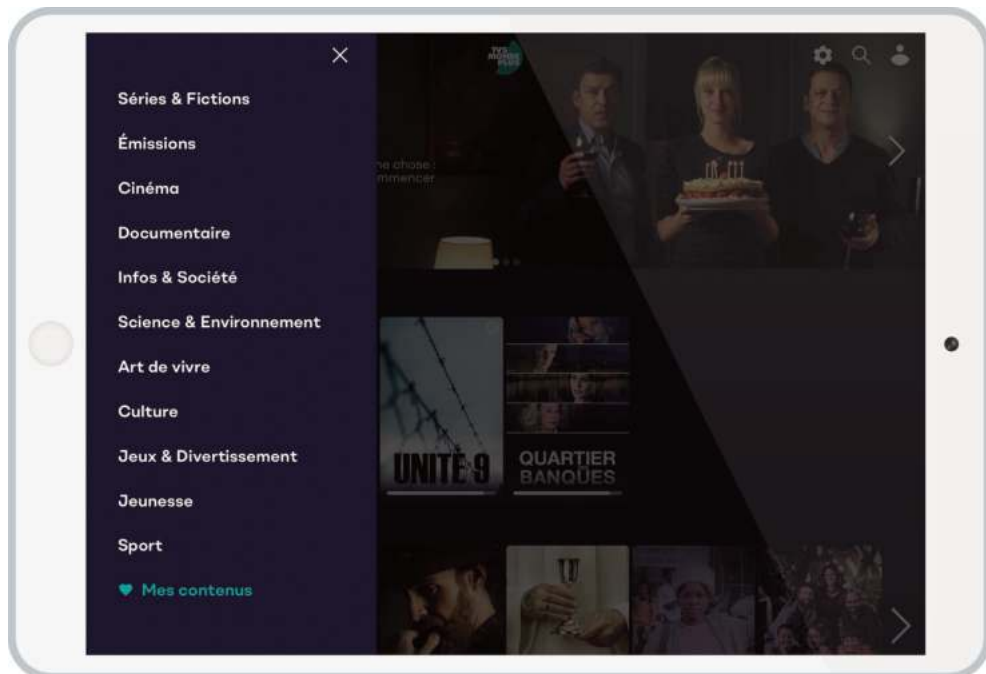
Hélène Zemmour Digital Director, TV5MONDE says "Press and user

feedback since launch has been very positive. Our Francophone and Francophile audiences appreciate this rich and free offer, in French and subtitled in 5 languages. The catalog of more than 5,000 hours of cinema, series, documentaries, magazines and youth programs has enabled Internet and mobile users from all over the world to discover the diversity of French-speaking creation in Quebec, Canada, Switzerland, Belgium, French or Africa."

Zemmour adds, "With Red Bee Media's OTT-platform, we got access to first-class streaming and broadcasting expertise, as well as crucial features such as advanced ad tech and geo-blocking functionality. This, in combination with Dotscreen's design expertise, allows us to offer a high-end user-

experience comparable to the biggest streaming services available. We are looking forward to continuing this cooperation, developing TVMONDEplus for the benefit of global audiences." Stéphane Grandvarlet, Head of Market Area Southern Europe and Managing Director Red Bee France adds: "We are very proud and excited to have been a part of this unique launch for TV5MONDE. By delivering a competitive global streaming service, in a very short period of time and in less than ideal circumstances, we have showed the strength of our OTT platform and our team."

TV5MONDEplus is available on [www.tv5mondeplus.com](http://www.tv5mondeplus.com) as well as on free apps on Apple Appstore and Google Play





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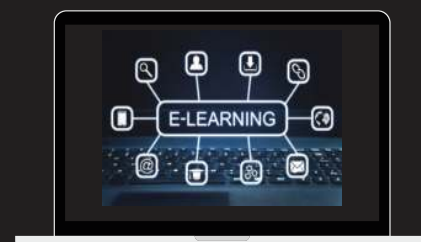
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## IABM Honorary Member 2020:

### Graham Pitman –

## Golden years, gold...whop...whop...whop, golden years!



Graham Pitman stood down after nine years serving IABM with great distinction as Vice Chair earlier this year. He is a natural choice for IABM Honorary Membership this year, and joins an exclusive club that is a veritable 'Who's Who' of people who have made a major impact on the broadcast industry as it has grown and developed over the last 40+ years. We asked him to reflect on his long and distinguished career; here's what he told us.

"I didn't set out to have a career in the Media and Broadcast Technology sector. Someone once said, "everything happens for a reason, the hard part is waiting for the reason to show up!" Well, if there was a reason it certainly hasn't shown up yet, but I can say it is not a career I regret. I cannot say 'choice of career' because it was 'happenstance' more than choice. Two students, who were a year ahead of me at Kingston Polytechnic (now Kingston University) had joined BBC engineering. When they advised our mutual course tutor that the BBC was recruiting I, and a friend, were very strongly encouraged to apply. I have clear memories of the day. The interview process was running two hours late so at 6:45pm I entered a smoke-filled room to face four weary men who were the interview panel. I remarked, "it looks as though you have had a long day gentlemen." They concurred, gloomily adding, "we still have four more candidates to see." At the end of a fairly demanding interview I left the room, tightly clutching the pencil I had used to draw the circuit of a "long tailed pair". Recognising my blunder I re-entered the interview room, "I have thought of something else to ask". The chair of the panel looked down his candidate list, "yes, Mr...er...ah...Pitman." I held up the pencil, "Do you want your pencil back?" I already had job offers from Hewlett Packard and from PyeTVT but when an offer came from the BBC my acceptance was in the return mail. I remain convinced that in the blur of candidates interviewed I was memorable, but not for my skill at drawing circuits. How often do our careers and lives hinge upon such inconsequential matters. I subsequently learnt it was then said, you either did work for the BBC, had worked for the BBC or wished to work for the BBC.

The industry was in one of its 'transitions', this one was colourisation – yes I know, no need to rub it in! My first role was in RF and my task was to set up re-broadcast receivers using a Rohde & Schwartz Polyscop. These receivers were being installed by TCPD (Transmission Capital Projects Department) to expand the transmission reach for colourisation. It all seemed to be going wonderfully well and I proudly set up a dozen during my first two weeks of employment and then set off for my summer holiday. When I returned I was invited for a chat with Ken Morris my manager. Part of the test routine was setting up the 'adjacent channel filters' and I had very carefully set them to accept rather than reject the adjacent channel. This was only noticed after installation and had caused some mayhem. In my defence, I pointed out that the test schedule said peak and that most people assumed peak meant just that, not trough. It would have been wise to have checked beforehand who the author of the test schedule was! I was expecting a roasting, but what I got was a masterclass in people management.

I am blessed to have been able to spend my life engaged in doing something I thoroughly enjoy and been well paid for doing so. If I reflect upon my career and upon what I am proudest of, it is not jointly founding Pro-Bel when I was 27, nor is it the MBO that retrieved Pro-Bel from Chyron and put it back on its feet. It is not initiating the subsequent merger of Pro-Bel with Snell & Wilcox, although that did win the 'Private Equity deal of the year' award. It isn't the business turnarounds. It isn't helping early stage companies through to successful exits or the excitement of successful M&A deals. Nor is it being the

Note. David Bowie's 'Golden Years' was released in November 1975. Reaching 8th in the UK charts

catalyst causing the IABM to develop from a UK centric trade show "discount club" to the International Association that is the primary industry resource for research and analysis that it is today – although that does figure high on my list. I have had a long and varied career and as long as my skills and experience are of value to the organisations I work with I have no intention of retiring or slowing down. Yes, I am proud to have played my part in all of these achievements but they are not what I am proudest of.

I am proudest of the people whose lives and careers I have touched upon my journey. I hope that for many I have provided for them a masterclass in people management. I look around the industry and see them all, and rather quaintly and paternally think of them as "my people". They have started businesses, have ascended to senior roles and have careers that are

fulfilling. Many have stayed in the sector, some have moved to other sectors and to other countries. With the benefit of social media I keep in touch, from time to time congratulating them on a promotion or a new role. I hope that I have helped them develop and grow, they have certainly all helped me on my journey and I have definitely learnt much from them.

The world of Media and Broadcast continues to change, another wave of transition, perhaps technical or perhaps commercial. These waves roll in and we all adapt our businesses and our lives to go with that flow. In very many ways I have been fortunate, but perhaps most fortunate to have had a career in the Media and Broadcast Industry, and to borrow from David Bowie, in its Golden years, gold...whop...whop...whop, golden years."



*Pitman family sports day!*

## NEW IABM MEMBERS DURING 2020



## IABM PLATINUM MEMBERS







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