

2<sup>ND</sup> QUARTER 2018

# JOURNAL

105

REPRESENTING BROADCAST AND MEDIA TECHNOLOGY SUPPLIERS WORLDWIDE

## The cloud – are we there yet?

Also featuring

**Paul Wan on BroadcastAsia**

**Are platforms the future?**

**Exhibiting in the United States**

**BaM™ Awards – the cream of  
innovation at NAB Show**



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## IABM – Platinum Members

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# Welcome to another bumper edition as we approach BroadcastAsia 2018



**Peter White**  
CEO, IABM

Summer 2018 IABM Journal is packed with topical articles and opinion pieces to keep you up to date with what's going in the industry and with IABM and its members around the world.

Fittingly, our executive interview is with Paul Wan, Managing Director of UBM, Singapore, the organizer of BroadcastAsia. Paul gives us a rundown of what's new at this year's show. Highlights include hosting the first Ultimate Gaming Championship (UGC) (Asia Edition) at the new Esports Arena Studio, with a chance to look behind the scenes of this rapidly growing area, a full day's conference on the future of radio broadcasting under the banner 'Radio's New Wave', and TveXchange – a three-day event on non-linear broadcasting and alternate content platforms.

IABM is out in force supporting members at BroadcastAsia. As well as a member lounge on the show floor, we are holding a pre-show networking event on 25th June, our regular Industry Update breakfast session on the 27th, a technical breakfast looking into the reality of AI on the 28th, and on the 26th, we have a full afternoon session with a number of experts letting us into what's coming next and how to be ready for it under the banner 'Tomorrow's Media Toolbox – Today' –

taking place in the IABM Theatre located in the BroadcastAsia Innovation Hub.

Following the excellent reception to the Artificial Intelligence special feature we ran in the NAB Journal, in this edition we are focusing on the cloud. We spoke in depth with IABM members to find out what their end-user customers are actually doing now in the cloud, what they're not, whether it's public, private or hybrid, and where the future will take us. Are we truly heading towards a dematerialized industry, and if so, what's holding us back today? The feature ranges across the full gamut of the content chain, and provides some revealing insights on the state of cloud adoption now and what's coming down the road.

The regular Business and Commercial Updates section continues to provide topical analysis and advice on a range of issues. In this edition we are looking at cyber liability insurance and the potential effects of the new data protection regulations on contracts in the cloud.

Our new BaM™ Awards attracted record entries at NAB Show, and we asked each of the shortlisted companies to tell us a bit about their innovations. The resulting article gives an authoritative view of what's driving our industry forward – the cream of innovation at this year's show.

IABM strongly believes in the future of our industry and success will come through creative collaboration between our members and technology buyers, which is why we are launching regional Industry Advisory Boards this year and so creating a mechanism

whereby our members and their customers can plan the future together. Our industry and our members are facing unprecedented change and for them to rise to this challenge will involve a transformational approach.

A successful reinvention must start with the customer, and work backwards through every aspect of your organization. We are committed to helping members navigate change, and you can expect to hear more on the subject over the coming months. In the meantime, you can read about an excellent example of the fruits of creative collaboration in the article about how Wazee Digital got together with SafeStream to solve a major Hollywood studio's security conundrum.

We asked Ian Sharpe of Promethean – one of our new Start-Up members – to let us in on the secrets of getting a new company off the ground successfully. That he replied with his insightful answers within just one hour speaks volumes; as he said, "You don't start-up by sitting on your hands!".

That's just a taster of what you'll find in this edition of the IABM Journal. Enjoy reading it and remember: we are here to support and promote our members in every way we can; if you have a great story to share, let us know!

A handwritten signature in black ink, appearing to read 'Peter White'.

**Peter White**  
CEO, IABM



# Executive viewpoint



**Paul Wan**  
*Managing Director,  
UBM Singapore,  
organiser of  
BroadcastAsia*

BroadcastAsia2018 is Asia's must-attend international event for the pro-audio, film, digital media and broadcasting industries. Capture the future together with professionals from the industries that are reshaping the broadcast value chain.

**Please explain the relationship between CommunicAsia, NXTAsia and BroadcastAsia. What is the thinking behind co-locating these three events under a single, overarching ConnecTechAsia banner?**

ConnecTechAsia, comprising BroadcastAsia, CommunicAsia and NXTAsia, represents the converging industries of broadcasting, info-communications and emerging technologies.

We are in an age of digital convergence where the lines between telecoms, media and technology (TMT) have blurred. Tech companies such as Amazon and Netflix have disrupted the broadcast and media landscapes, M&As of telecom and media companies will continue, and new technologies such as IoT, AI, VR and robotics will continue to bring meaningful improvements to every facet of these landscapes.

As this phenomenon permeates Asia, the overlap of industries becomes greater and the region undergoes rapid digital transformation, it is therefore timely to connect all three exhibitions under one mega technology platform – ConnecTechAsia.

Together, ConnecTechAsia presents a holistic view of infrastructure, innovation, services, and thought-leadership, to help businesses and governments in Asia navigate and adapt to this new era of digital convergence.

**What's new at BroadcastAsia this year in terms of exhibition and summit focus/ features/ awards? What are the key technology areas the show is focusing on?**

There is so much to see on the show floor! Covering all aspects of the broadcasting value chain, BroadcastAsia2018 will showcase anchor technologies for UHD/HDR, IP Broadcasting, Live Production, Content Media Security, and OTT. This includes latest 4K and 8K cameras, lighting, and jigs from the cluster of cinematography film and production equipment manufacturers, non-linear workflow solutions housed at the TV Everywhere! Zone, and all the equipment and solutions needed by sound professionals at the ProAudio Tech Zone.

The three-day BroadcastMedia track at the ConnecTechAsia Summit will feature a great line up of topics and speakers that table all the latest trends and emerging

industry developments. This year, new topics will spotlight the application of frontier technologies such as blockchain and AI to enhance existing industry business models, as well as the role social media plays in broadcasting. Notable topics include Fielding AI Solutions in the Media Supply Chain, Successful Implementation of AI in Broadcast Industry, Creating the New Broadcast Content Economy on the Blockchain and Live Broadcasting via Social Media.

Overall, the conference will deliver thought-leadership and an avenue for industry discourse aimed at helping companies be future ready and equipped to meet the next wave of broadcasting.

BroadcastAsia2018 will also unveil new features aimed at enhancing attendees' experience and heighten overall show buzz. I am delighted to share that, in partnership with WeOne, a blockchain-based esports tournament and gaming platform, and esports organiser Cresmos, BroadcastAsia2018 will host the first Ultimate Gaming Championship (UGC) (Asia Edition) at the new Esports Arena Studio. For the very first time, attendees will learn what transpires behind-the-scenes at esports events.



2017 had 40,000 attendees.  
Visitors come from more than  
70 countries and regions



Featuring a three-day live streamed Hearthstone tournament, the Esports Arena Studio will allow attendees to interact with acclaimed esports personalities, players, commentators as well as get to witness real-time production, graphics, audio, encoding, and transmission of the esports tournament.

The esports theme will also spill over to Producers Connect. Back for the second year, this seminar will examine how esports is touted as a sport of the 21st century, the role of tech in this arena, and how brands are getting their game in esports.

Another new feature area is Radio's New Wave, a full-day seminar dedicated to the future of radio broadcasting. The seminar will drive discussions on trends and behaviours of listeners, the impact of streaming services such as Spotify, Apply Music and Amazon, podcasting, use of audience and data insights to enhance and engage listeners, and the developments of DAB+ digital radio in Asia Pacific.

For those seeking to further understand non-linear broadcasting and alternate content platforms, the new TVeXchange is the place to check out. Held across three days, the seminar will see leading players such as Brightcove, Accedo, TiVo and Verimatrix share knowledge and solutions across multiple topics, from monetisation and analytics, billing and subscription management, to content management, workflow and artificial intelligence and IoT.

Other feature areas include the Innovation Hub – where attendees can learn about the new technologies disrupting the broadcasting and multimedia industry. The Innovation Hub will host 'Tomorrow's Media Tool Box – Today', a session run by IABM highlighting the knowledge and

tools that can help attendees dovetail tomorrow's media into their day-to-day projects and workflows. This includes discussions on real-time video over IP, the reality of VR, how to capitalise on social media interactions, and a clear understanding of microservices.

I also encourage exhibitors to participate in the daily technology tours of the exhibition; there are five different themed tour routes to suit the needs of all visitors!

**How many visitors are you expecting, will this be an increase on 2017, and from what countries within the region will the visitors mainly come? Why is it essential for broadcast and media executives in the region to attend BroadcastAsia – what will they learn – and what will they miss by not attending?**

The event's previous edition drew about 40,000 attendees globally and we expect a higher turnout in this year. Our visitors come from more than 70 countries and regions. The top 10 overseas visitor groups are from Australia, China, India, Indonesia, Malaysia, Myanmar, Philippines, Sri Lanka, Thailand and Vietnam.

Asia's broadcast and media landscapes are changing rapidly, the rising number of digital channels, coupled with viewers' demand for fast and high quality content is accelerating the upgrading of equipment and technology, to help broadcasters as well as digital media providers manage, secure and transmit high quality, continuous streams of information and content.

Industry executives will benefit from navigating the showcases from BroadcastAsia's 600 global exhibitors and 13 international group pavilions. They can see and experience first-hand the new and improved technologies in UHD/HDR, IP Broadcasting, Live Production, Content Media Security, OTT and Alternative Content Platforms.

On the business front, emerging tech such as AI, blockchain, and VR are giving rise to new business models and revenue streams. The convergence of telecoms, media and technology within Asia will also

continue. Therefore as part of ConneCTechAsia, the only business platform in the region that covers the entire spectrum of communication, broadcast and emerging technologies, BroadcastAsia attendees will get to explore the intersection of these three industries on one stage.

**BroadcastAsia is a strategic partner of IABM. What extra value has that relationship delivered to the show?**

We see a lot of value in partnering IABM. As the only international association for broadcast and media technology, our visions, audiences are aligned, and IABM's expert industry insight has brought incredible value to enhance BroadcastAsia's technology showcase and programme content.

Not only are we able to provide visitors with a more holistic technology showcase by tapping IABM's global network of members, IABM has also played a pivotal role in curating relevant and meaningful knowledge-based experiences across various platforms at the event.

In developing the BroadcastMedia track for the ConneCTechAsia Summit, and programme for the Innovation Hub, IABM's market insights and industry connections were critical to programme development and speaker recommendations.

Additionally, we are also leveraging on IABM's vast network and resources to promote BroadcastAsia; the IABM Journal is a great example!

**What advice would you give to exhibitors to help them get the most out of the show?**

The high speed of change in how viewers consume content, the explosion of emerging tech, and the merger of telecoms and broadcasting that is instigating change in traditional business models, in my opinion are key areas topping the list of concerns of business leaders in recent times.

BroadcastAsia, as part of the mega technology event ConneCTechAsia that covers the converging TMT ecosystems, enjoys one of the greatest benefits that is the breadth and depth of visitors from other industries that will cross over to visit the BroadcastAsia exhibition.

In the lead up to opening day, we offer all exhibitors a comprehensive suite of content marketing, media promotion, digital outreach, and business matching opportunities that can help them communicate their message and tell their story. It is easy to get lost in the crowd at an event of this scale and we therefore encourage all exhibitors to invest in getting their message out and be heard by the correct audience.

Exhibitors can also visit the UBM booth at the event to find out more about our global portfolio of events that serve more than 50 different sectors.

**Anything else you'd like to add that we haven't covered above?**

Lastly I hope all exhibitors will pick up a copy of the ConneCTechAsia white paper we've partnered with InBroadcast, an IABM member, to produce. Titled 'Asia Pacific poised to Lead the Era of Hyper-connectivity', this white paper will outline independent research on issues specific to the industry landscape in Asia Pacific.

# The IABM theaters – go beyond IP



**Stan Moote**  
CTO, IABM

This whole transition to IP had the industry on pause. Many expansion plans, technology refreshes and budgets were postponed, suspended or put in a 'wait and see' holding pattern. Not only was this dreadful for IABM members' top line, it also hurt the industry as a whole by permitting competitors to come in and steal eye-balls from long-established facilities.

IABM decided to take on a mandate to help get things back on track through educating the industry on the realities of real-time video and audio over IP at major trade events and online. "The fear of the unknown about real-time video over IP, cyber-security and the survival of SDI put the industry on-hold. To dispel this apprehension, we started up IABM Theaters – they are all about education for all levels of individuals across vendors, installation experts and strategy professionals," says Peter White, IABM CEO.

Starting out at the NAB Show 2017, in conjunction with the IP Showcase, the IABM theater played to standing-room-only show attendees and covered the foundations of real-time IP, details about the SMPTE ST 2110 Professional Media Over Managed IP Networks suite of standards along with the practical benefits, challenges and details of how SDI actually fits within the current and future scope of the business.

Presentations on IP continued at BroadcastAsia 2017, specifically tailored for the APAC area. With IBC 2017 as the next major event, the IBC execs provided a great conference room location for the IABM Theater and the IP Showcase demos. Additionally IBC marketed this as a key event including posting the presentation schedule online and on the IBC app. So what was the interest level like? I typically open the theater with a presentation called 'What is IP Showcase all about?'. Starting only 30 minutes after IBC opened its doors, the theater area was overflowing into the hallway, waiting for the

sessions to start. It was clear attendees wanted to know the real story about IP.

IABM curated short, concise, non-commercial sessions to arm IBC attendees with the enthusiasm to jump into IP. Each presentation ran for 20 minutes and they were grouped into tracks to match different skill levels and professional positions, assuring each and every attendee received an appropriate glimpse, detail or report on actual current use cases that are installed and up and running.

The theater was so successful at IBC that SMPTE asked IABM to do a mini-version for their ATC conference held in Hollywood. For the NAB Show 2018, NAB provided a great location on the exhibition floor along with significant marketing of the presentation schedule so show attendees could see the sessions of interest to them. Our presentation selection committee was so overwhelmed with submissions that we didn't have enough presentation slots to accommodate everyone. Since I have the opportunity to be heavily involved with vendors, system integrators and end-users, we could see some subject gaps in the sessions, so I asked people like Thomas Edwards from Fox and Merrick Ackermans, chair of the ST 2110 working group, to kick-in to round out the program.

We also decided to switch it up a little at NAB Show 2018 by adding in some panels. This provided a chance for the attendees to ask some questions and get views between suppliers and end-users. The well-trained panel moderators kept the topics flowing to assure much ground was covered with





each industry expert in the allotted time. Over 50 speakers and panellists talked at the IABM Theater, and all kindly made themselves available to answer one-on-one questions after their sessions. All the presentations were shot and produced with the IP Showcase real-time studio on the exhibit floor and are available on-line thanks to IABM-TV for the whole industry to see. They were also live streamed for those who couldn't attend the NAB Show.

So what is on the horizon for the IABM Theater beyond IP? IP is a very important aspect of the industry, but there are also many other topics that are affecting the industry. It is one thing to discuss and predict the unknown future of media, however IABM members have knowledge and tools available today that will help our colleagues dovetail tomorrow's media into their day-to-day projects and workflows. To this end, we went out to IABM members to speak at the IABM Theater during BroadcastAsia 2018. Again, we were over-subscribed with member submissions.

On the exhibition floor at Suntec we are calling the sessions 'Tomorrow's Media Tool Box – Today' and covering topics from Blockchain to Artificial Intelligence to Real-time IP.

IABM is fortunate to have Matthew Goldman, who is the President of SMPTE and Senior Vice President of Technology at Ericsson Media Solutions, present at BroadcastAsia 'Broadcaster Migration to All-IP – the tools are here now!' Mr. Goldman will discuss the benefits of transforming to 'All-IP' and give a high-level overview of what exactly is meant by 'All-IP' including details about the new SMPTE ST 2110 suite of standards for Professional Media over IP. Marc Segar from NEP Australia details out NEP's implementations in the real world with four new all-IP broadcast trucks, seven upgraded existing trucks, and two new IP production centers, all connected in real-time to 29 tier one sports arenas.

Blockchain technology isn't only about currency, and there is lots of anxiety how it will affect our industry. Petr Peterka, CTO at Verimatrix, keeps everyone on top of blockchain capabilities by

Through the IABM theaters, we are endeavouring to get these new technologies messages out to help professionals understand and embrace change by providing venues for non-commercial, informative presentations

presenting 'Streamlining Content Distribution with Blockchain' so attendees can understand the tools and be prepared for the future.

Hans Massart from Newtec will explain how to achieve high network and service availability to cover live news events. James Gilbert from Pixel Power shows you how to deploy an automated workflow system, across all your playout platforms.

OTA is a topic largely gone from many forums. Nevertheless OTA is still a primary method of distribution and our theater selection committee knows that to keep RF distribution strong, scrutinizing digital feeds for quality is tremendously important. GatesAir and Qligent get together to discuss 'Transformative Monitoring Strategies for Next-Gen OTA Networks.'

**For advertisers, is 2018 the year for OTT digital advertising?** Greg Armshaw from Brightcove reviews the toolsets available to launch, manage and monetise OTT services.

Artificial Intelligence (AI) and Machine Learning (ML) are not going away, so the real question that comes up is how to understand the toolsets and employ them suitably to match your business and technical needs. Tommaso Cesano, Head of Business Development and Strategy at start-up Metaliquid, introduces how AI video analysis can support broadcasters and media companies. This ties directly into how AI and ML can leverage object based storage detailed out by Dell EMC's presentation Uncovering Object Platform for The Modern Media Archives.

IABM members have so many tools available to accelerate the industry to new heights. Through the IABM theaters, we are endeavouring to get these new technologies messages out to help professionals understand and embrace change by providing venues for non-commercial, informative presentations. Furthermore, we tailor short educational content with a local regional flavor towards attendees without competing with the trade show conference sessions. No question that industry professionals are anxious to get on with business growth plans and the IABM Theaters are helping them to define their future direction.



## PROMOTE YOUR COMPANY

### **IABM provides a wide range of opportunities to promote your company across the broadcast and media industry**

- Send us your press releases for our news pages
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# Are platforms the future?

No this is not a piece about railways, but it does raise the question of which tracks we are on and where they will lead. So much talk about the transition to IP and IT infrastructures but like so many others in this industry, I come from a legacy of standalone point products and interoperability through well-defined hardware interfaces. This is not a good place to start because it constrains our thinking about future infrastructures. We are at the beginning of a journey that is likely to lead to far more radical changes than many envisage.



Networks of the future will radically change how production and distribution pipelines are created and managed. The availability of multiple programs on one computer running under an operating system is familiar territory. In many cases, this means that users decide to align with one of two, or perhaps three, leading operating systems. This in turn constrains the choice of applications and how the future is mapped. The operating system is a platform choice that must be made. This philosophy will in future be increasingly applicable at the media enterprise level.

Platforms will be an important part of future infrastructure decisions and as it is today with IT systems, they can be proprietary and 'lock in' an organization to specific options and limit choice. Like the operating system, the 'platform' will be the host infrastructure for the operational solutions end-users wish to install.

Through this change there are risks for traditional suppliers. Legacy support and legacy thinking will hold back the changes needed to adapt to the new environment. A company built upon foundations of hardware products will not have the right mindset, skillset, business vision or even perhaps the best physical location to re-invent itself. Fortunately, change is often more gradual than discussion and enthusiasm initially indicates. Gartner captured this famously well with the Hype Cycle graph for emerging technologies which identified five phases:

- Innovation trigger
- Peak of inflated expectation
- Trough of disillusionment
- Slope of enlightenment
- Plateau of productivity

One issue I have with this view of the world is the situation where a concept takes longer to mature but exceeds the original expectations. In the case of platforms, the long-term implications

will almost certainly exceed current expectations and will make today's 'advanced' concepts look grossly outdated.

If we take the two major industry categories of production and distribution, it's worth remembering that technology is a means to an end and not a destination. It plays a prominent role right now because of its limitations and because achieving the ambitions of the creatives and businesses is a tough call. Most company CEOs invest in specialist technology because they have no choice, but guess what – choice is arriving soon, and the destination is platforms.

In production the magic comes from the visualization and implementation skills of the creatives. In distribution there is still a creative element anticipating the enthusiasm of consumers for innovative services and turning those into winning business models.

Technology should be an invisible enabler of these objectives, but currently it is more of a driver and gatekeeper to what creatives can achieve. Businesses will invest in areas that make them unique – the talent of their people – and divest themselves of areas which increasingly become commodity – technology. Important too is the requirement to flex processing power and storage in line with short-term demands.

Platforms change all this and take us a step further than current thoughts about Cloud and Virtual Machines, though these are a vital component of the platform future.

As an industry we are no longer 'special'; once we give up expensive and unique technologies such as the Serial Digital Interface and replace them with IP and Ethernet networking, we enter a new world of platforms. Signs of this are already emerging with large organizations testing the environment and gradually positioning themselves to



**John Ive**  
*Director Strategic  
Insight, IABM*

be the next leaders of the renewed media industry.

Having proprietary and expensive technology kept the broadcast and media industry an exclusive and relatively small club. If we turn it around to the media and broadcast industry, that changes everything. Suddenly it creates a market that we have already seen emerging, much larger than the 'exclusive club' could aspire to. It's this transition that has caught the attention of the IT industry and media, specifically video, becomes the new currency travelling across the world's networks.

Enter the growth and growth of platforms as the current and newly-emerging major organizations compete to capture the action that the growth in media triggers. Sadly, there is still a long way to reach the destination and our 'train' will make a first stop at the trough of disillusionment. For many, especially in production, doing things the 'old way' using the new technology will prove of limited value and therefore easily dismissed. IT systems were never intended to replicate SDI infrastructures and to think that way would be a mistake. Added to this challenge are the ongoing real limitations of bandwidth for top end applications. To overcome this, we may have to let several 'trains' pass until eventually one takes us to where we want to go, but it will arrive – just don't ask me when!

But why are platforms so important? They have been a major battleground in the IT, business and consumer world for decades, the obvious example being Apple and

Microsoft. Aligning with one or other is a major decision for many and we may be heading for a similar situation in professional media. The battleground is likely to include well known players and new faces primarily based around Cloud technology, as it grows in its ability to offer processing power in addition to storage.

There are several established players with Google, Amazon, Microsoft as examples; apologies to those not listed – this is not intended to be an exhaustive list. One of the many unanswered questions is, whether they will be the operators that media organizations deal with directly, or be fronted by others offering the essential specialized tools as a further layer, such as those offered by Avid and its Strategic Cloud Alliance with Microsoft.

*"The platform battleground is likely to include well known players and new faces primarily based around Cloud technology, as it grows in its ability to offer processing power in addition to storage."*



What does this mean for technology suppliers? Today we are an industry with a surprising number of companies – small, medium and large – for the size of the market. There may well be consolidation but those that make it through and the new companies will be increasingly developing software for the popular platforms, whatever they may be. One indicator of this change over the coming years could be the major exhibitions. Gradually we are seeing the major platforms increasing their presence at these shows and hosting solution providers on their booths. Perhaps we will see the emergence of a smaller number of large booths and today's disparate group of technology suppliers presenting their solutions, sat by a keyboard and a display screen on the company booth and platform of choice.

Clearly there still will be a place for specialized hardware, especially in production arena where hands-on operation and studio installations are required, but less so as the Cloud platforms take over. Human operational interfaces will also be required but these become super-sophisticated versions of peripherals that we are familiar with today.

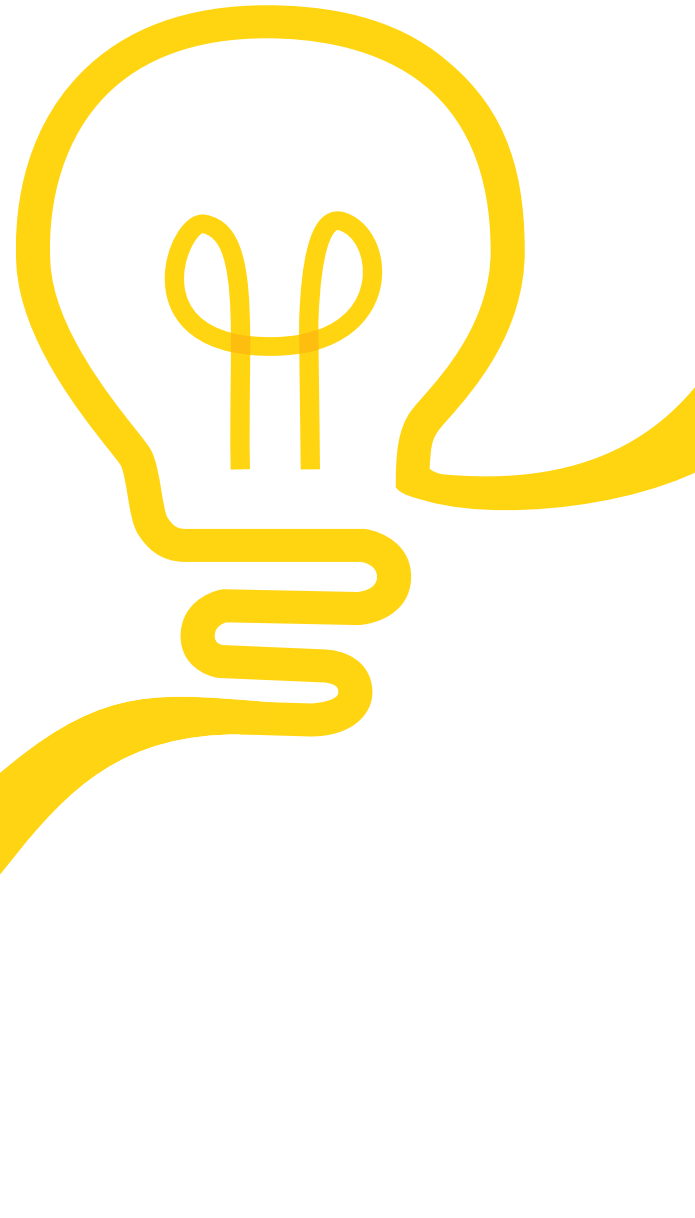
So, slipping back to the original metaphor, the future may be primarily about choosing the right platform to take your business where you want to go. The decision will be critical because changing your mind or transferring between platforms may be expensive and difficult, as it is today in the world of computing.



# IBC EXHIBITION


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AND IDEAS  
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We see no major technical obstacles at this time; the ground-breaking companies in this industry, services suppliers and content producers and broadcasters, have proven that the entire supply chain can be achieved with a cloud-centric approach.

*Andrew McGettigan, Píksel*



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# The cloud – are we there yet?

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**Roger Thornton**  
IABM

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Cloud is undoubtedly one of the hottest topics in the broadcast and media industry at present, and if you were to judge the state of cloud adoption by the huge volume of noise around the subject, you could be forgiven for feeling like a dinosaur if you haven't already fully embraced it.

But what's the real state of play? We spoke to eight IABM members to find out what their end-user customers are actually doing now in the cloud, what they're not, whether it's public, private or hybrid, and where the future will take us. Are we truly heading towards a dematerialized industry, and if so, what's holding us back today?

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The economic advantage of cloud usage is mainly around efficient on-demand scaling, both up and down

### Where first?

Flexibility, speed, efficiency, cost savings and the ability instantly to scale operations as a result of operating in the cloud are common themes, with some activities and workflows seemingly better suited than others. "When selecting which ones to start with, focus on the ones that deliver on the core value propositions of cloud – utilization, elasticity and efficiency – as some use cases are better suited than others," says Simon Eldridge, Chief Product Officer at SDVI, whose cloud platform, including Rally, Access and Gateway were all conceived in the cloud and are cloud-native applications.



"For example, linear distribution is typically a 24x7 operation, meaning utilization and elasticity are not things you need, whereas content validation and transformation for distribution and delivery can be a very spiky workload, so could present bigger returns," Eldridge adds. "We recently published data showing the very real returns of migrating media supply chains to the cloud, highlighting the efficiency and agility gains measured by our customers. They are significant, and got a lot of attention, not only because of the size of the savings, but the fact that customers can now measure and report on the savings they are seeing with consumption-based services."

SDVI has plenty of evidence to back up these claims. "We have very large media customers running production workloads at scale in public cloud environments, and have had for over three years. As an example, Discovery use the SDVI Rally platform to automatically validate, normalize and process incoming content from their network of +600 producers, and Fox uses Rally to automatically create distribution content across its family of networks."

### On-demand scaling

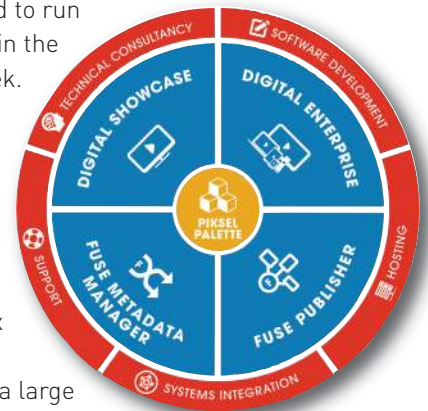
Andrew McGettigan, VP Professional Services at Píksel, whose Píksel Palette application covers the entire media and metadata supply chain, agrees, and highlights savings realized on physical infrastructure. "The economic advantage of cloud usage is mainly around efficient on-demand scaling, both up and down. Using infrastructure as code on a Cloud platform means that meeting on-demand peaks for process intensive processing (e.g. transcoding, QC) no longer implies having to own and manage enough infrastructure to meet a weekly peak that only lasts a few hours.



"From a consumer facing side, the necessary infrastructure profile to run the Payout services to support the live football game on Sunday is vastly different from the profile required to run the OTT service at 4am in the morning during the week.

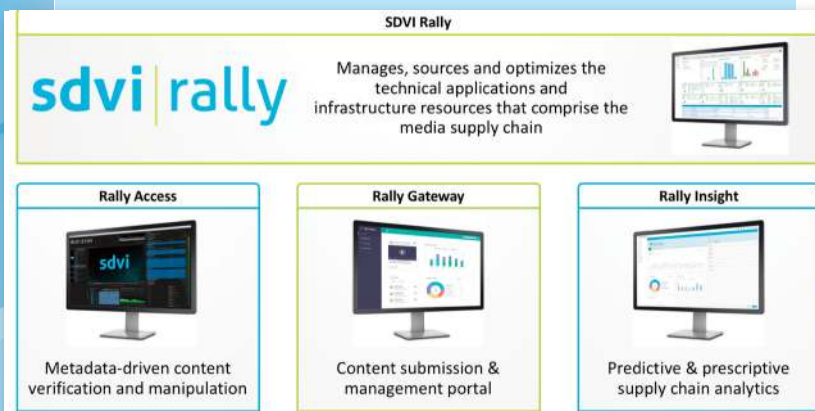
This infrastructure scaling provides massive efficiency gains, flexibility and speed and also moves the goalposts from a Capex model to an Opex model. The days of budgeting next year for a large infrastructure refresh are long gone.

When done right this also enables more accurate infrastructure and service Opex costs to be attributed to individual business services – making business case validation and ROI verification more accurate and so improving commercial-based decision making," McGettigan continues.



### Focusing on core business

Moving to the cloud also enables broadcasters and media companies to focus more sharply on their core business, according to McGettigan. "Our customers can focus on their expertise and not on supporting functions; do you need to employ technical resource to learn, install, manage and troubleshoot infrastructure and applications, when your expertise is Content production? A greater understanding of Opex costs for your business service is imperative to successfully managing that service. This model also reduces the cost of entry; using cloud based Opex services means that launching new business services or propositions no longer requires a costly and

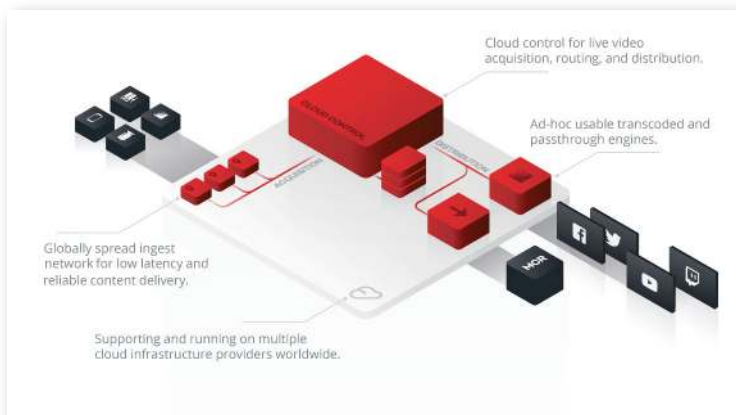


Live Video Cloud allows broadcasters and producers to acquire an infinite number of live video feeds from all types of sources and curate them in a single view for playout across broadcast networks and social media platforms

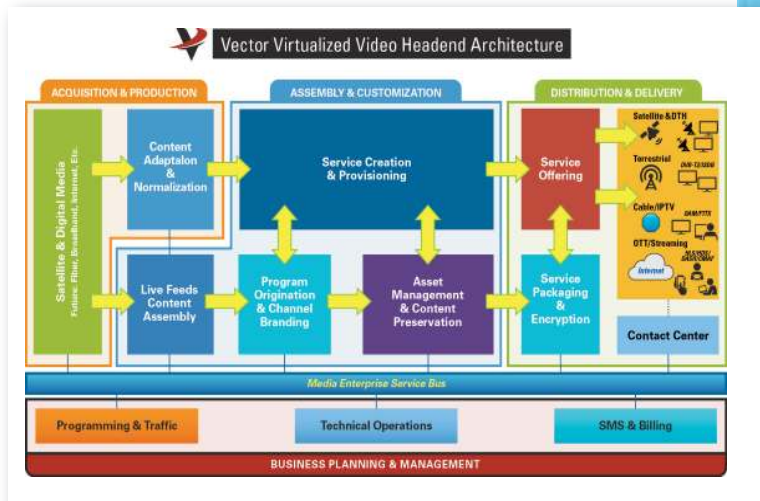
long build out of data centre and applications. In a positive way, 'failing fast' enables better decisions; try something out, if it does not fly or the landscape changes then its far less to write off. This ethos then brings about a more entrepreneurial approach to business growth decision making."

Make.TV has an extensive client base across esports, sports, news and entertainment that leverage its Live Video Cloud and Cloud Playout solutions. Live Video Cloud allows broadcasters and producers to acquire an infinite number of live video feeds from all types of sources and curate them in a single view for playout across broadcast networks and social media platforms. Cloud Playout allows publishers, influencers and online publishers to extend their audience reach by delivering video across platforms and monetize them with automatic ad-breaks. "Used well, cloud migration can improve the workflow of any company in the broadcast and media industry," says Andreas Jacobi, CEO and Founder at Make.TV. "However, from our experience, the main beneficiaries are content producers and broadcasters, who can easily utilize the cloud to collect and curate content best suited to their needs without compromising on quality. The cloud helps reduce infrastructure costs and speeds up content preparation."

Make.TV has an impressive client list to prove it. "Our solutions are used by Major League Baseball/BAMTech, ESL/Turtle Entertainment, Bayerischer Rundfunk, SRF/TPC, SWR, FOX Sports Brasil, NBCUniversal, MTV/Viacom, Warner Brothers, DreamHack and more to help them harness the power of the cloud," Jacobi continues. "This includes spreading their ingest network for low latency and reliable content delivery, controlling live video acquisition, routing and distribution; since our solutions can run on multiple cloud infrastructure providers worldwide, they



immediately adjust to each of our clients' needs, while our ad-hoc usable transcoded and passthrough engines simplify content distribution so they can get content to their viewers faster, more easily and across more platforms, including social media."



## Bandwidth still dictates cloud economics

Globecomm's Vector is a virtual broadcast infrastructure that is evolving physical box processes into virtual microservice functions across encoding, transcoding, multiplexing, compression, post-production processing and output format management. James Brown, Product Manager – Media Platforms at Globecomm, sees IP as a key enabler in the move to the cloud, but suggests that not every process is yet economically viable. "We're finding that IP is the common communication standard, allowing ingest, conversion, and distribution workflow manipulations that could not have been configured a few years ago. Editing, channel package creation, and quality assurance are all activities that work well in the cloud environment using these techniques; however, the economic downside comes from the increasing amount of data, enhanced presentation quality (i.e., high dynamic range, high frame rate, and 4K image processing), and the requirement to move larger files in a timely manner and at a lower cost. Delivering larger files is going to be the engineering challenge of the broadcast world in the future."



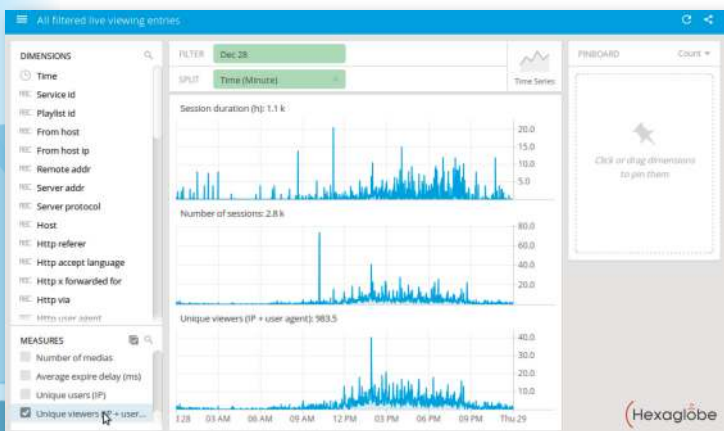
Hexaglobe CEO, Franck Coppola, also sees large file sizes as a current limitation. "Theoretically, any type of operations could be moved to the cloud, but the size of video assets does matter. So, while the cloud is ideal for all OTT activities, it is not that





It provides our customers more business agility, in terms of being able to quickly turn on and off services, as needed, and try new service ideas

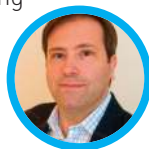
convenient to send an SMPTE 2110 to the cloud right now. The ability to get reliable and affordable IP connectivity for the size of the video assets you work with is the main factor that makes cloud economic or not.” Hexaglobe specializes in content management, monetization, distribution and delivery in the OTT realm, and offers solutions for both on-premise and in the cloud. “For event production, not having to setup everything onsite is of course a huge benefit. Buildup schedules are usually very tight, so having a large part of the infrastructure deployed in the cloud really offers peace of mind.



### Operational flexibility

“For delivery and OTT activities, it’s the flexibility that matters most,” Coppola continues. “Knowing that you are not constrained by hardware resources and that you can get the power you need when you need it in seconds and without having to overcommit is a huge plus. News customers, for example, always have to deal with the unexpected. Knowing that you’ll have the ability to cope with the load in any circumstances is very reassuring for them. And when the event is expected, like a royal wedding or a big sports tournament, not having to invest in gear you’ll use only for a day or a few weeks is also a source of relief for cost-constrained managers.”

Harmonic also sees such flexibility as a key benefit for customers of its VOS cloud media processing family. Elie Sadler, Director, Product Management, VOS at Harmonic explains: “Cloud-based media processing is perfect for content and service providers that need to launch temporary channels and/or channels centered around events, such as major sports competitions. In these instances, relying on a cloud-based solution



speeds up the time to market for new services without requiring a pre-existing engineering team or datacenter, both of which can be expensive. Using the cloud is also advantageous for channels that would not necessarily have a clear ROI if fixed infrastructure were to be used. It provides our customers more business agility, in terms of being able to quickly turn on and off services, as needed, and try new service ideas. Finally, if you are a new startup company without a pre-existing engineering or operations team, and no datacenter, then a public cloud SaaS is exactly what you would be looking for.”

Sadler illustrates this with a recent project undertaken by Harmonic which played to all the speed, scalability and flexibility benefits claimed for moving to the cloud. “We recently helped Indonesian sports aggregator SuperSoccer boost the efficiency of its video streaming workflow, increase scalability and improve video quality for its OTT subscription service, SuperSoccer TV,” Sadler continues. “Being a relatively new OTT operator, SuperSoccer needed a video infrastructure solution with low risk and little to no Capex investment. The provider also wanted to launch SuperSoccer TV quickly to ensure that viewers did not miss any of the live football games, including Serie A Italian League and World Cup qualifying matches, which are streamed to connected devices like mobile phones and tablets. Relying on Harmonic’s VOS 360 SaaS the provider was able to launch in weeks, rather than months. As a result, SuperSoccer has attracted new subscribers and amplified its revenue.

“In the second phase of the project, we added playout to the toolbox of VOS 360 to enable a new creative workflow for SuperSoccer. The key was to leverage existing program assets already available in the library as time-



shifted assets (slices or the live event that was defined to be used for catch-up or live-to-VOD workflows). VOS 360 is able to play these out and create a linear 24/7 highlights channel. Suddenly, what started as a live event service became an enhanced full-time premium content channel,” Sadler concludes.

### Enhanced localization and distribution

Well-illustrated by Netflix’s drive to tailor its output for each market’s different needs, giving content local relevance is another area where the cloud can provide streamlined answers and boost revenues. As a provider of cloud-based subtitling, captioning, localization and distribution services, ZOO Digital is one of the companies leading the charge in this area. “ZOO’s localization and distribution services are all powered by our own cloud technology; we use our cloud-powered services across post-production, distribution and delivery,” says Gordon Doran, President ZOO Digital.

Doran goes on to detail the benefits for ZOO clients: “The ability for global teams to work in real-time in a shared online environment from anywhere in the world; the ability to track project progress in real-time from wherever you are working from – this also replaces the deluge of emails and spreadsheets with live data; all assets stored in one, centralized and ultra-secure environment in the cloud rather than distributed between individual studios and post-production facilities; efficient change management where changes flow seamlessly through our processes and services – so script changes flow into both subtitling and dubbing workflows, reducing errors and greatly assisting version control; and streamlined processes where automation



handles repetitive, administrative tasks and enables faster delivery.”

ZOO Digital recently launched the entertainment industry’s first cloud dubbing service and according to Doran, “It’s been a real eye-opener. Cloud dubbing powered by ZOOdubs encapsulates the entire dubbing process from script localization and adaptation to casting, auditioning, recording and editing. The cloud-powered service acts as an online dubbing studio for voice artists and directors, addressing a wide range of challenges with the way the dubbing process has traditionally been managed. It gives dubbing directors and voice talent the flexibility to work remotely from anywhere in the world for casting and recording. Free from the constraints of studio locations, this opens up a far wider pool of dubbing talent.

“It also gives content owners the flexibility to choose where they want their dubbing projects to be recorded, and it has made it financially viable to dub a wider variety of TV content including factual, drama and unscripted content. For content owners, this opens up new revenue streams. All this adds up to a more cost-efficient way of working – with clients now taking on projects that would have been price-prohibitive,” Doran concludes.

### Public, private or hybrid?

According to IABM’s recent Buying Trends report, most end-users seem more inclined to make use of private or hybrid cloud deployments, arguably to safeguard sensitive applications and retain control of the underlying infrastructure.

According to Simon Eldridge, though, SDVI’s customers are very much in favor of the public cloud. “We believed when we started that customers would start with private clouds, and migrate to hybrid over time for elasticity. The problem with that approach is without being able to measure their utilization, they didn’t know how big their private cloud should be, and by building a private cloud, they are still in the infrastructure business, distracting from their core content business. Our customers are overwhelmingly adopting public cloud as their primary platforms.”





## Mix and match

In contrast, Object Matrix builds its MatrixStore platform on private or hybrid cloud. "Typically, MatrixStore is used in nearline, media library or archive workflows across the industry," says Nick Pearce-Tomenius, Sales & Marketing Director, Object Matrix. "MatrixStore uniquely enables hybrid cloud workflows. Because, under the hood, MatrixStore stores data and metadata inside of objects, the product perfectly dovetails with the cloud. Objects can be easily transportable between on-prem and off-prem, from nearline to cloud, without having to rebuild databases or restructure the indexes. Because of the hybrid on-prem/off-prem workflows we can offer together, Object Matrix recently become an AWS partner. This joined up solution is beneficial for all of the different parts of the media workflow; allowing data to be both protected and made available wherever it is best situated."



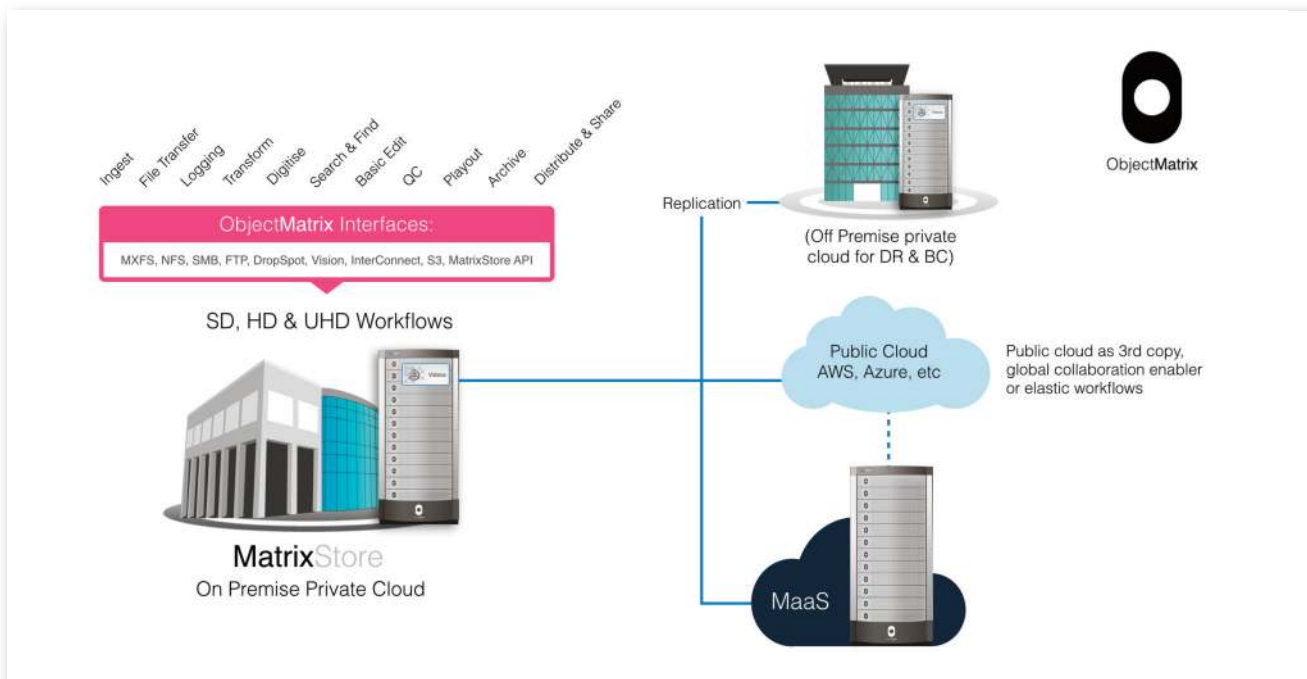
"The hybrid storage architecture enables customers to utilize their existing investment into on premise software packages that link into MatrixStore, as well as taking advantage of as-a-service software packages that link into cloud storage. Because MatrixStore is a tightly integrated hybrid solution, it works as a seamless experience, enabling customers to access and move items from one simple interface, no matter where the actual data is physically stored," Pearce-Tomenius continues.

"The majority of end-users are adopting hybrid approaches, storing some content on-premise and other content in the cloud. For organizations that manage digital video content it enables them to benefit from both on-cloud and on-premise, delivering greater flexibility, more content processing, protection and wider sharing options. For storage, implementing a 'private cloud' is perfectly suited to providing high speeds of access for users and for integrating into existing and future workflows," Pearce-Tomenius concludes.

Make.TV also espouses different cloud model solutions depending on the area of operation, leveraging existing infrastructure investment alongside the cloud.

"Reaching audiences that are used to multiple screens at once has been the main challenge of sports broadcasters and rights holders for a long time," says Andreas Jacobi. "By combining the cloud with their existing infrastructure, they can maximize their investment and create more interactive content that will resonate with a fragmented audience. In addition, using the cloud can help them easily acquire footage from remote locations and work with remote production teams to prepare it for distribution."

Harmonic too sees demand for hybrid solutions alongside its purely SaaS cloud-based offerings. "Only the largest service providers or telcos can easily absorb the effort and complexity of setting up private clouds because they have the engineering skill set readily



available. For other content and service providers, maintaining racks of servers and performing complex networking is less core to their business. Using a SaaS that is hosted on a public cloud reduces the media processing to configuring a simple intent-driven user interface, thus they can focus on being more creative in monetizing their content rights,” says Olivier Karra, Director, OTT and IPTV Solutions at Harmonic.

“One of the strengths and unique differentiators we bring to the market is that that we also offer hybrid solutions, including on-premises appliances and cloud-based systems. To address the growing demand for OTT services, our VOS cloud media processing family can be leveraged by video content and service providers for ingest, playout, graphics, transcoding, encryption and delivery. Using VOS, service providers can launch new IPTV and OTT services fast and scale seamlessly, reduce Capex and improve operational efficiency, delivering superior video quality on every screen. The family includes VOS 360, an award-winning SaaS that is hosted, maintained and monitored by Harmonic and the VOS SW Cluster solution, a comprehensive software application that supports both cloud and bare metal compute environments.

“For example, a hybrid cloud solution has been deployed by one of our largest OTT customers, a Tier 1 telco in the United States. During a premium live sports event, the on-premises platform was protected with a temporary disaster recovery system running in a public cloud. In this scenario, the telco also leveraged the hybrid cloud solution to do channel variants (unique branding with graphics overlay) and load balancing on the CDN side,” Karra concludes.

### Keeping assets secure

Globecomm’s James Brown sees a mix of private/public/hybrid requirements, with security often driving decisions. “A big trend we’re seeing is pay-as-you-go cloud service models, which allow businesses to find the right mix of service delivery at the right cost point. Broadcasters can decide on whether to use a public, private, or a hybrid cloud service at fixed or on-demand costs. Another trend we’re seeing is security-conscious businesses relying on private cloud. There’s a comfort level with knowing where your content resides and who has access to it.” Which leads us naturally on to security – is this more of a worry in the cloud or does it remain a major concern wherever assets are stored?

### Cyber security – the elephant in the cloud?

Just a few years ago, the idea of putting valuable media assets in the cloud was anathema to many

broadcasters, and was often quoted as an overriding reason to keep it all on-prem. That sentiment has been changing as companies have realized (often painfully) that hackers can and will get in anywhere if you leave a door open, and attention has been refocusing on better cyber security awareness and procedures – wherever the assets are located. In fact, because of the huge resources that the major cloud backbone providers throw at security, some feel the cloud is now inherently more secure than on-prem infrastructure.

Harmonic’s Elie Sader certainly thinks so: “The cloud generally provides much more stringent and secure policies than on-premises infrastructure because it was designed for cyber-security first. In addition, for example, European public cloud providers offer insurance for local players to ensure that all their requirements are met (e.g., GDPR).

"In the case of SaaS (e.g., our VOS 360 offering), Harmonic leverages the highest level of public cloud security offered by IaaS. In the end, this results in a safer solution. With VOS Hub, Harmonic also has solutions for central repository of backups, applicable to both private and public cloud. Finally, our VOS offering portfolio includes native 24/7/365 monitoring, and in the case of VOS 360 SaaS, it relies upon dedicated operations by Harmonic," Sader concludes.

"Per se, on-prem or in the cloud we do not believe there is a security 'magic bullet', nor is one system evidentially better than the other," says Nick Pearce-Tomenius of Object Matrix. "There are well documented security breaches, or just human errors, that have happened on premises and ones that have happened in the cloud. The fact is that most systems provide the tools to protect your data and used correctly a good level of security can be achieved; however, used incorrectly doors will be left open to be exploited.

"MatrixStore helps the customer to achieve the highest levels of security and to perform good data security practice in multiple ways. For a start 'digital content governance' is built into the heart of the product; that means in part that a storage area is automatically created with a high level of security, firewall protection, auditing and automated backup from the get-go. Secondly, because MatrixStore has the different elements of security built into a single package, our customers don't end up with a mish-mash of security across multiple disparate systems and architectures," Pearce-Tomenius concludes.

### More secure in the cloud?

"Security is critical, but customers have realized that cloud-native applications built on best-practice principles provide a more secure environment than traditional on-premise solutions," says SDVI's Simon Eldridge. "As a SaaS provider, we've also implemented techniques to further ensure content security. For example, we deploy as private SaaS for each customer, within a VPC they control that can connect directly to their VPNs. We also make sure all user security and permissions are managed directly by the customers, using Single Sign-On solutions like Okta."

Piksel is also confident that its cloud solutions are as secure as is possible to be. "The main cloud vendors have great expertise and process around cyber security,

more so than most companies who run and manage their own data centers. However, as a solution provider we must also ensure that our platform is secure. The toolsets and features from the cloud vendors enable us to implement the same high standard of security control as we have been doing with our own data centers for the last 25 years," says Piksel's Andrew McGettigan.

"Security compromises often are as a weak link in the human chain. We have security processes in place that are reviewed and tested by third parties. From this we obtain security accreditations from various bodies such as ISO standards, FACT and DPP. We also have our platform accredited by AWS as Well Architected. A part of these accreditations concerns the application of security controls in both our technical setup and human processes."

Hexaglobe sees moving to the cloud as potentially enabling greater – not reduced – security; according to Franck Coppola, "Cyber Security is a major concern, but this is also true with on premises installation. In fact, switching to the cloud can free up resources in the IT department, allowing the company to better cope with cyber security related tasks. This means that for some organizations, moving to the cloud can indeed increase security rather than decrease it. Moreover, the shift is also a good time to examine your organization's security policies and to improve what used to be overlooked before."

Like Hexaglobe – but for a different reason – ZOO Digital also sees the cloud as enhancing security. "Because much of our work involves the creation of localized content, our customers actually see a move to cloud-based processing as a step-up in security. In the past they have been forced to widely distribute files, often via insecure mechanisms like email or FTP. Once these files have been sent out, they lose all control of them and can't vouch for how they are stored or disposed of. With our cloud services, our customers know that we are storing their assets securely. We never send local copies out to the territories; everything is done in the browser and access is only granted for as long as it is needed. Our systems are designed from the ground up to be as secure as possible. Everything is logged, and all assets are tracked and watermarked. We are happy to have our systems audited by our customers, so they can have confidence in the processes we have put in place," says ZOO's Gordon Doran.

### What still needs to happen to enable universal cloud adoption?

According to the IABM Buying Trends survey quoted earlier, so far only 26% of broadcast and media technology buyers have already deployed cloud technology, with another 31% saying they are likely to do so within the next 2-3 years. We asked our vendors what the roadblocks to universal adoption are – and received a range of answers which suggest that there is some way to go yet before cloud becomes a ‘no-brainer’ for all media technology buyers.

“As our existing customers have proven, there aren’t any technical or commercial barriers to adoption at this point, so the remaining roadblock is primarily cultural,” says SDVI’s Simon Eldridge. “Any technology transition comes with fear and resistance, and the adoption of cloud technologies can have a significant impact on the skillsets a media company requires to run their operation. But ultimately, they need to decide if they are content companies, or technology companies. Infrastructure is required to run their operation, but doesn’t provide unique value or differentiation on the content side of the business.”

Hexaglobe’s Franck Coppola sees three hurdles that need to be overcome – one of which may take some time. “Reliability concerns: Everything that goes in a master control room or live production site must be extremely reliable even by strict IT standards. In case of breakdown, the ability to understand the problem and to repair it quickly is also paramount. All the major public cloud services have a history



of severe outages that will prevent adoption for the most mission critical applications. But for a lot of other applications, cloud solutions are already more reliable than what most internal IT services do provide. And with a multi-cloud approach and proper engineering, it is indeed possible to achieve reliability in the cloud.

“Bandwidth / QoS concerns: FullHD or 4K streams are not light in bandwidth! So of course, the ability of standard Internet infrastructure to transport it is a major brake on cloud adoption. Proper engineering is very important here.

“Security concerns: Outsourcing mission critical infrastructure is always frightening no matter what engineering and legal precautions have been undertaken to mitigate the risks. In time, most managers will come to realize that cloud technology can offer a very high level of security for a controllable cost.

“I expect the security and reliability roadblocks to be cleared shortly as they are already solved for a lot of usages. On the contrary, the bandwidth problem still requires a lot of engineering work to be solved,” Coppola concludes.

Security again comes up as a roadblock for Globecomm, according to James Brown: “The largest roadblock for any controlled

content broadcast system is end-to-end security. Broadcasters want to assure content is being consumed by the intended user, whether it’s over-the-air, single use or subscription-based OTT device delivery. The level of security that is progressing within digital workflows for all devices that enable content consumption will support greater conversions to the cloud within the next five years.”

Piksel’s Andrew McGettigan identifies a number of issues that still need to be dealt with for universal cloud adoption. “Cloud migration for large companies with their own data centers running multiple systems, some home grown and others from vendors, is not easy. Some vendor products are not cloud native, not easily scaled and may not have cloud friendly pricing models – i.e. scalable usage-based vs licensing-based.

“We also see internal organizational and political roadblocks – whole departments may see their role at threat. On a technical side there are still challenges. The migration to an all-IP based environment has been a major roadblock; this is being tackled by on-ramp and off-ramp approaches to bridging the gap between legacy and IP-based transport. Likewise moving large mezzanine files around from on-premise to cloud and back still needs to be considered when migrating step-wise to cloud. The issue of security concerns, as well as providing disaster recovery is still on the table in many discussions. However, all these issues/risks can be overcome or mitigated by defining a step-wise migration strategy,” McGettigan continues.



"What we mean by this is to look at a problem from an architectural perspective and define a roadmap of cloud services that can be migrated to over time, rather than a big bang approach. A recent client of ours migrated from on-premise to cloud-based edit suites, whilst retaining their on-premise MAM for a later migration phase. Another example we have been involved in is to migrate to cloud native metadata, rights and contract management services as a first step before migrating the more process-heavy services later."

According to Make.TV's Andreas Jacobi, "The roadblocks vary from one type of customer to another. If we look specifically at the broadcast industry, the main challenge is moving away from a hardware-centric infrastructure that is managed on-premise. Today, most of these companies see the cloud as virtualized storage, and do not yet harness its full potential, which encompasses content acquisition, curation, preparation and asset management. By using the cloud's full capabilities, linear TV broadcasters can deliver broadcast-quality video in real-time, while speeding up the acquisition and preparation phases. This is particularly well suited to news segments, where immediacy is key."

"News and sports are two areas where the barriers to adoption of cloud solutions are disappearing fast: for these, content acquisition and preparation has to happen quickly, be of high quality and made available to viewers in a heartbeat. News organizations and sports specialists have been known to turn to social media for content acquisition. However, this can prove difficult if they need to acquire content over IP, transcode it for production and preparation, and for distribution to multiple platforms. By using the cloud, they can speed up these processes without picture quality drops. This gives them an advantage over their competitors: the ability to report on breaking news faster than their competitors, even in Full HD," Jacobi continues.

"However, our experience shows that these roadblocks aren't so prominent in other areas of the industry. Esports, which often relies on live streaming platforms, is naturally attuned to the potential of the cloud. Since this industry is open to acquiring content from fans directly, the quality of each video can vary a lot, and Esports service providers need solutions that enable them to easily and effectively curate the best user generated content to show them live to a wide audience."

For us, all of the cloud's capabilities are available today, and the move towards full-IP has become much clearer at

NAB Show in April. We think we will see more developments at IBC this year, where we will be able to gauge how wide the adoption of the cloud really is," Jacobi concludes.

Harmonic identifies workflows, the move from broadcast engineering to IT, proven reliability and new business models as being the areas that need work yet for the cloud to become the automatic first choice for media. "The industry needs to become more accepting of cloud native workflows rather than focus on reproducing what is done on-premises exactly in the same manner in the cloud, especially the complex waterfall type workflows," says Olivier Karra.

"In addition, there needs to be a refocus on the media application layer. Media engineering teams used to have full control of their platform, including infrastructure. In many cases, migration to the cloud means that part or all of the infrastructure is under the control of the IT department (scalability and consolidation savings) or to an IaaS provider (e.g., public cloud). This transformation impacts organizations and the way the existing team needs to think (refocus on media application layer). Once this roadblock is overcome, cloud adoption will be greatly facilitated."

"Furthermore, decision makers with large responsibilities still need to be convinced and reassured that cloud-based solutions are now deployed, reliable and field proven, at least for certain applications. Once CxO level executives understand the unique benefits of cloud, and how it can apply to their business, internal initiatives and adoption will gain a much stronger momentum," Karra continues.

"The typical investment model used by operators is Capex (i.e., one-off investments for the duration of the platform life cycle). Transitioning to the cloud means adopting either usage-based or subscription-based business models. Understanding the benefits brought by those new consumption models and the fact that they can be aligned with traditional investment cycles is part of the transformation."

"And finally, for some public broadcasters or operators, making sure that data, applications or infrastructure does not go outside of nationwide borders can be a regulatory constraint. Public cloud providers that offer global IaaS are conscious of this sensitive concern and are putting virtual private cloud or geo-localized IaaS offerings in place," Karra concludes.

### **And finally...will we ever be fully dematerialized?**

There has been increasing talk about the dematerialized facility over the last year or two. Is this just a dream – or will it come to pass? Our team of vendors are getting ready for it now.

Hexaglobe's Franck Coppola sees the demand for bandwidth as the limiting factor – at least, for the foreseeable future: "Having a reliable and high-bandwidth connection everywhere can sometimes be difficult and being able to guarantee speeds of 10 Gbps and more on transatlantic links still remains a real challenge. For this reason, in some cases, the costs and complications of offering reliable and fast connectivity will outweigh the benefits of the cloud."

While ZOO Digital has already eliminated the need for on-premise infrastructure, Gordon Doran also sees bandwidth as an issue – at least for now: "There are certain parts of the post-production process where the size of assets, or the complexity of the tasks to be performed make it hard to move in a cloud environment, but the direction of the industry is clear. As bandwidth and increases and tools improve, the range of tasks that will require dedicated hardware in dedicated facilities is going to continue to shrink."

Harmonic also identifies bandwidth as a barrier, but is optimistic that change is coming, and soon: "On the technical side, complex playout or uncompressed IP workflows could still be seen as challenging use cases. However, media applications running in the cloud are now benefiting from IT technology cycles and are making very rapid progress," says Elie Sadler.

"As demonstrated at NAB, demanding workflows such as OTT delivery of UHD HDR with low latency are now available with SaaS offerings such as Harmonic's VOS 360. Most obstacles are non-technical and often relate to either organizational, investment approach or confidence considerations. As

early adopters take the lead and grow their business in a more agile way, players having a more traditional approach will have to react and rethink the way they see cloud," Sadler concludes.

For Piksel, the only remaining barrier is caution. "We see no major technical obstacles at this time," says Andrew McGettigan. "The ground-breaking companies in this industry, services suppliers and content producers and broadcasters, have proven that the entire supply chain can be achieved with a cloud-centric approach. The main obstacle we see now is that of a willingness to decide to make the move. It can be a daunting decision, a step into the unknown involving a transition for the core of the business. However, careful planning and the foresight to partner with experts goes a long way to achieving some level of peace of mind. Or looking from another point of view, if companies do not take the first step, where does that lead to?"

SDVI's Simon Eldridge sees no physical barriers – just "Time and education. History dictated that to run media factories in the past, organizations would require a large physical infrastructure to support it. Based on the huge technology companies who they now find themselves competing with (Amazon, Netflix, etc.), there is a pressing need to invest their capital in content, not compute."

In conclusion, it is evident that the move to the cloud is definitely gaining momentum as more and more broadcast and media companies are progressively moving major parts of their content workflows to the cloud. However, from our conversations with our members here, there are a number of factors presently limiting the transition – ranging from amortizing investments in on-prem infrastructure, bandwidth limitations and security concerns to cultural issues and the need to completely change workflows and working practices to take full advantage of the promise of the cloud.

# Protecting businesses from online attacks

*By Les Anderson, Chief Security Officer at BT*



Technology is part of every aspect of life. It has transformed our economies, created new ways of doing business and revolutionised how we live our lives. With so much of our lives connected online, our security on the web is top of the agenda, personally and in business. In my role, I look at everything from ethical hacking to threat intelligence and our digital lines of defence. Here's how we're managing risks at BT in an increasingly dangerous cyber world.

## Being prepared in a complex, digital world

Systems have never been more global and digitalisation is creating completely new business models for companies around the world. In the broadcast industry, the move towards Software Defined Networks (SDN) and remote production is an exciting, but complex challenge.

As a key player in the media and broadcast industry, we know that end-to-end IP transport, virtual media functions and automated services via API are giving companies greater flexibility and opportunities. But it also means different systems from multiple entities being connected, something that can make workflows more complicated and therefore insecure. While digital transformation is helping to create operational efficiencies and improving customer service, it's also ushering in an era of unprecedented uncertainty and risk.

## Cyber security is everyone's responsibility

Cyber security isn't just a 'necessary evil', done well it's a potential business differentiator. That's why it's everyone's responsibility to protect their company online. Anyone can unwittingly open the door to a cyber-criminal. If you

have a team who's aware of good security measures, and exhibits the right behaviours, then you're off to a good start.

A good example of this approach can be found in retail banking, where good cyber security for online banking is an important element in consumers choosing where to keep their money.

## Know your enemy, and your ally

How you protect yourself online doesn't have to be tiresome. Here's a few simple tips:

- Don't leave USBs lying around
- Make sure passwords are sufficiently complex
- Plan for potential threats that you face by making sure your security toolbox is ready to go

And to go further than that, we're happy to share cyber security information with Interpol, Europol, the Government and the UK National Cyber Security Centre. Our head of threat intelligence, Melanie Johnstone says: "the role of intelligence is at the heart of everything – it adds context".



I also encourage our worldwide network of ethical hackers to share their latest insights and expertise with each other. They're security experts who use their skills to find holes in customers' defences by thinking and acting like a cyber-criminal. An ethical hacker who discovers a potential weakness can also work in a university network could easily help a colleague working in the retail sector to identify a similar problem.

### Expect the unexpected

As well as sharing information and being thoroughly prepared to meet known potential threats, it's also vital that your organisation is ready for those unexpected threats. And that's the really difficult part. Running Black Swan scenarios, with your operational teams and CEO is key preparation to mitigate this type of attack.

It's important to be aware that cyber criminals have practiced, thought about their attack strategy and how they can mutate any attacks to maximum effect. That's why it's vital that to have the right processes, competence and expertise to move faster than the attackers.

No one can afford to become complacent about the serious threat that cyber crime brings. Insurance provider Hiscox has estimated that it cost the global economy more than \$450 billion, just in 2017. To give a sense of scale, at BT we detect more than 100,000 malware samples everyday — more than one a second. As well as more than 4,000 cyber attacks daily.

### Every organisation is vulnerable

Attacks like WannaCry and Petya remind us that cyber security poses a



threat to every industry. Like these high-profile examples, most attacks don't target a single entity. Organised criminal groups carry out campaigns against hundreds, even thousands of companies and organisations. These attacks also remind us that such threats don't necessarily require high-tech tools, they can cause significant damage just by exploiting a company's weakness.

Looking across the different parts of BT, it's clear that different assets are targeted in very different ways. For example:

- The acquisition of EE changed our risk by adding large volumes of bank account and credit card data. We've had to look in even greater detail at mobile threats since EE joined the family.
- BT Sport is typically targeted for content theft or fraud.
- And our network increasingly faces threats from nation-state actors and hackers seeking to disrupt service.

### Building strong cyber defences

Facing such a range of threats, here's what we've been doing to make sure our cyber defences are as strong as possible:

- Controlling who has access to what to limit the spread of attacks
- Improving our strategic defences

against Denial of Service (DoS) attacks which limits the disruption from high volumes of malicious traffic and from slower, more sophisticated attacks that mimic legitimate data flow.

- Deploying more scanning, monitoring and logging tools to identify intrusions and to detect strange data traffic as early as possible.
- Investing in training our people in cybersecurity skills.
- More proactive penetration testing and ethical hacking.
- Adopting a more rigorous approach to auditing our suppliers' security, like making sure our suppliers provide evidence that they comply with our security policies and contract terms.

It's clear that regardless of an organisation's size or sector, cyber attacks are a real and ever-present threat. With the right intelligence, policies and tools in place, it's possible to not only stay safe, but to turn cyber security into a differentiator — setting your organisation apart from the competition.





27% of end-users are already transitioning to IP technology while 64% plan to do so in the next 2-3 years

# IABM Buying Trends Report – pressured financials & shifting demand



**Lorenzo Zanni**  
Lead Analyst,  
IABM

IABM has recently released the first edition of its new Buying Trends Report, a biannual study tracking financial performance and trends in the media sector. This report draws on financial and survey evidence gathered by IABM as well as secondary sources to provide members a comprehensive account of demand-side trends and performance.

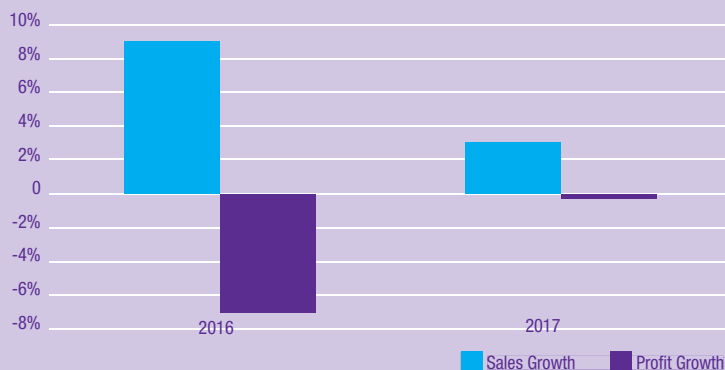


This study can be downloaded as PDF or viewed as an interactive report on the IABM website – the interactive report enables viewers to drill down into the data.

## Under Pressure

Revenue growth in the media sector worsened while profits improved compared to the figures reported a year ago – profits are still declining, albeit slightly. With regards to revenues, the impact of declining advertising sales was a significant driver of performance. Although profits generally improved, our profit margins analysis revealed that there's much more behind the overall market figures. More companies went from profit to loss while a significant number of companies moved to lower margin groups – margins declined only slightly on average.

Sales and Profit Growth, last 12 months



Source: IABM Insight & Analysis © Copyright IABM 2018

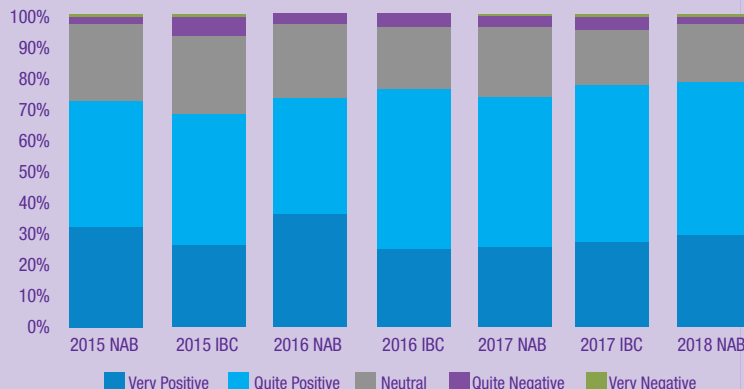
The traditional business models of this industry – advertising and subscriptions – continue to be under the competitive pressure of new media. However, our data shows that this is influencing the advertising business model more markedly than Pay-TV's.

## Positive Thinking

The continued pressure on financials did not influence optimism on the demand-side. Despite the enormous changes affecting the industry, buyers remain confident that they can successfully counter increased competition by relying on their core strengths.

This is in stark contrast with the situation on the supply-side, where negative financial performance indeed had an impact on suppliers' confidence.

Outlook for the overall business environment over the next 2-3 years?



Source: IABM Insight & Analysis © Copyright IABM 2018

60% of end-users already provide OTT offerings to their customers

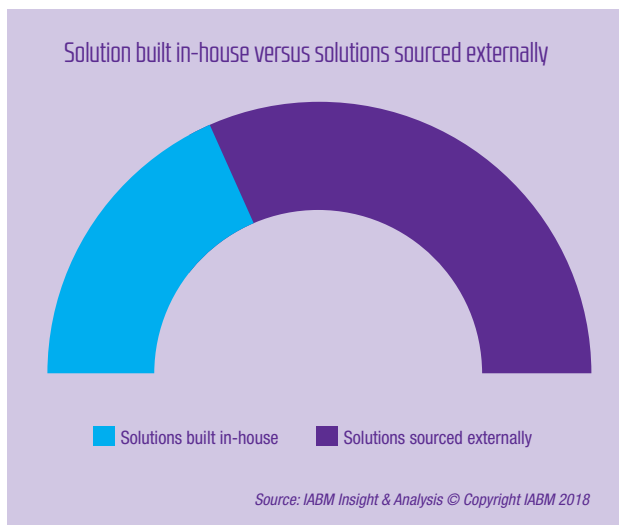
## Shifting Priorities

Multi-platform content delivery continues to be the main priority driving media companies' technology purchasing strategy. With stretched budgets and shortened timescales, the workings of media companies are starting to resemble those of a factory, where efficiency and speed are paramount – efficiency remains the main strategic driver of technology purchase for buyers according to our data.

Changing priorities have translated into a shift in technology spending that prioritizes Opex over Capex. Our data demonstrates that, although general media technology spending is growing, Capex spending is down according to an analysis published by IABM ahead of NAB Show 2018. Media companies are requiring their suppliers to move to new business models centered on the flexible provision of software. However, demand for more traditional products such as cameras and editing tools is also strong showing that not everything will succumb to software and IT.

## Connected Supply-Chains

Modern media supply chains are characterized by a high reliance on IT technology to connect operations. Our data shows how IT technology already makes up more than half the Capex budget that end-users dedicate to media technology. This reliance on IT, which has grown in recent years, presents media companies with some challenges. One challenge is cyber security – almost a quarter of end-users told us that they have suffered at least one attack in the last three years. Another challenge is interoperability. With regards to this,



end-users are increasingly developing technologies in-house to suit their custom needs – most of them still report a preference for best-of-breed solutions. Although buyers are still looking for the dedication, support and flexibility provided by specialist suppliers, 98% of technology users demand interoperable solutions.

## Emerging Technologies

Our analysis of technology adoption has various implications, which are reinforced by the data on technology priorities cited earlier:

- The outlook for UHD has significantly improved as buyers look at launching higher resolution channels ahead of big sporting events such as the upcoming FIFA World Cup
- IP adoption is strong according to our tracker: 27% of end-users are already transitioning to IP technology while 64% plan to do so in the next 2-3 years
- Cloud adoption is also strong although recent data shows that it is flat compared to previous surveys
- AI and blockchain adoption remains at an early stage – at 2% and 1% respectively – despite increased interest by end-users
- While VR adoption has improved – particularly in sports broadcasting – it remains a low priority for most end-users
- 60% of end-users already provide OTT offerings to their customers

## Looking Forward

The industry remains positive about the future despite the increased financial pressure exerted by new media competition. Although technology priorities have shifted to new paradigms, technology continues to be at the center of media businesses' strategies going forward.

This is highlighted by several of our findings, including media companies' increased propensity to build technology in-house, which is achieved through software development investment and/or targeted acquisitions. Suppliers are going through a profound business transformation to stay relevant to their customers.

What was utterly unanimous was the importance of getting onto all platforms. And they are all questioning if the better way to go was to have a direct relationship with the consumer via apps and internet pay per view platforms

# APAC region update



**Peter Bruce**  
*Director, APAC*  
*IABM*

## For Asia, is UHD the most important thing or is it OTT?

Fresh back from the KOBA show in Seoul, you could be forgiven if you thought that the only issue facing the broadcast and media industry is the move to UHD; North Asia (S. Korea, PR China and Japan) is all focused on the production, transmission and distribution of 4K content. It seems that the move to IP is just a side issue – particularly when the main four TV stations in South Korea went on air with Quad 3G or 12G SDI UHD systems.

In March, I visited the SportelAsia conference, which was held in Singapore. The event is a content conference with small booths selling coverage of sporting events such as LaLiga, Bundesliga, NBA etc. I headed to the conference with a mission to understand how many sporting events are being covered in UHD now, and what plans there are for wider roll-out in the future.

You may ask yourself, why go to a content sales conference to understand a technical roll-out? The answer to the question is integral to the new IABM BaM™ Content Chain, in which a key component to the broadcast and media content chain is the 'Monetize' segment; the roll out of any technology must follow a business model that makes sense, and the commercial guys are ultimately going to make the call on UHD. The nature of the conversations at the booths resulted in a change of direction for my research. Only two said that they were already running UHD programming, such as UFC on select fights with the pay per view offering. Most of the other programmers explained that they have no plans at present and will react to the

demand when it comes. However, what was utterly unanimous was the importance of getting onto all platforms. And they are all questioning if the better way to go was to have a direct relationship with the consumer via apps and internet pay per view platforms – effectively cutting out the cable and TV networks altogether. This is a difficult issue for those events that already have commercial contracts in place via those networks.

The conference had some great speakers, but for me the highlight was the keynote speech by Chatri Sityodtong, CEO of ONE Championship. The title was 'How ONE Championship became Asia's largest global sports media property in history'. Mr Sityodtong's presentation was about his life journey – how he "escaped the clutches of extreme poverty growing up as a young boy in Thailand" and is now running the fastest growing martial arts channel, which is expected to outgrow viewership from incumbents such as WWE and AFC. His story was compelling, however the technology take-away was that he set up at a time when OTT services were coming of age. He could bypass the established cable networks and have a direct relationship with consumers through sign up and viewing via the internet and Apps; this has enabled phenomenal growth within South East Asia in particular. In an interview with me he expressed that "the timing was perfect when I started up. The ability to view on any device has allowed us to become a global broadcaster to over 1 billion homes across 118 countries around the world" – importantly without having those complicated contracts with established TV stations and cable networks.

Consumers in Southeast Asia spend more time on the mobile internet than in any other market



*Chatri Sityodtong, CEO of ONE Championship*

It is clear that broadcast and media companies' operating and business models have been changing for years. As we enter BroadcastAsia 2018, there will be many end-users attending from South East Asia to review the technologies on show and set budgets for not only this year, but for the following years too. Even the state broadcasters across the region are feeling the pinch as the old advertising model is no longer the rock-solid proposition it once was. If terrestrial broadcasters want to survive, they will have to rapidly be on all devices to keep the eyeballs. Across the region, the take up of smart devices is still escalating as the growth of the middle class continues, while devices from Chinese suppliers are getting more affordable. This is combined with the growth of Internet penetration within South East Asia, enabling the escalation in the change in viewing habits away from terrestrial TV to mobile devices.

South East Asia is poised to be a leader in mobile internet usage in 2018, according to a report by Google and Temasek. From the report the two focused take-aways are that:

- Consumers in Southeast Asia spend more time on the mobile internet than in any other market; on average, consumers in Southeast Asia spend 3.6 hours per day on mobile internet. Thailand leads the pack with 4.2 hours per day, followed by Indonesia at 3.9 hours per day. For context, consumers in the US spend an average of two hours per day on the mobile internet.

- Southeast Asia is one of the fastest-growing emerging smartphone markets. The region is poised to reach 480 million internet users by 2020, according to TechCrunch. And smartphones make up the lion's share of South East Asia's internet population – roughly 90% of South East Asia's internet users are smartphone users.

It is clear that UHD is coming. However, the business model has to make sense first – especially where consumers are wanting to view on mobile devices. The survivors will be those that can get their content to those devices. As we know, business models will need to change from Capex to Opex, but in the South East Asia region it is clearly a higher priority to address OTT than the drive to UHD we are seeing in North Asia.



*Angela Lee & Bruno Pucci (Mixed Martial Arts)*



This year's theme was 'Media Connected Everywhere'; for sure, the industry is converging and both the conference and exhibits reflected this

## KOBA 2018

The 28th annual KOBA exhibition – Korea International Broadcast, Audio and Lighting Equipment Show – was held between the 15 and 18 May at COEX in Seoul, South Korea. The attendance this year was 41,616, which is slightly up from last year. The organizers reported 927 exhibiting companies from 32 countries.



Attendance at KOBA has leveled out in the last few years at just above 40,000. This is mainly a Korean event, with local South Korean vendors and dealers with their own stands and most overseas vendors located on their local dealers' stands. As many principal companies have been merged or acquired over the years, several dealers/resellers are now representing the same brands, creating more competition. There were also new companies such as Brightcove and Ooyala attending the exhibition and conference.

KOBA includes both a conference and exhibition and is a joint event co-organized by Korea E & EX and KOBETA (The Korea Broadcasting Engineers & Technicians Association). This year's theme was "Media Connected Everywhere"; for sure, the industry is converging and both the conference and exhibits reflected this.

The exhibit area was spread across three of COEX's four halls and covered just under 28,000 square meters. The exhibition is organized on two levels, with the Pro Audio and lighting equipment on Level 1 in Hall A, and Halls C and D on Level 3 housing the production and broadcast equipment exhibits. There appeared to be less LED screens in Hall A, with the space mostly filled with audio and lighting solutions.

In 2017, South Korea rolled out UHD transmission via ATSC 3.0; not surprising then that all the booths in

Halls C and D were exhibiting UHD solutions. Local company K2E exhibited its 12Gig SDI transmission solution, of which they have an impressive reference list of over 15 such switchers being delivered. There was a feeling around the show that TV stations will need to invest in UHD. However, this will take time – unlike the previous big move from Standard Definition to High Definition. It was clear that the larger broadcasters such as KBS and MBC had plans for UHD investment, although this will be a trickle. Of course, the road to IP workflows was also being reviewed by many attendees. KBS is currently installing an IP system, so it is clear that, although South Korea has SDI UHD systems out there already, IP workflows are on the way.

KOBETA held a conference under the theme of "Media Connected Everywhere", which was well attended. Main broadcasters (SBS and MBC) gave case studies that showed the practical moves to 4K. There were also sessions on new media, IP, cloud computing and OTT workflows from AWS.

We should not forget that, to match the higher quality UHD video transmissions, audio also needs to up its game, and the Pro Audio Zone in Hall A was thus showing improved audio solutions from member companies such as Yamaha and Sennheiser. Hall A continues to grow from strength to strength. The area also included lighting and screens for the events sector, which was well attended.

Although some of the booths from the more traditional broadcast suppliers appeared smaller, exhibitors could see real investment in the broadcast sector as the industry moves to 4K and IP.



# MEA region update



**Hassan Ghoul**  
*Director of MEA,  
IABM*

IABM has organized and/or attended a number of events in the MEA region over the last few months. While broadcast and media development in the region is still hindered by low broadband quality and poor payment infrastructure, multi-platform delivery and OTT are nonetheless on the rise, following the worldwide trend towards a direct-to-consumer model.

IABM participated in the 19th edition of the ASBU TV & Radio Festival and convention which took place in Tunis between 26 and 29 April 2018.

## RTS Intercom Systems launch event

RTS Intercom Systems held an official product launch event for its ODIN OMNEO digital matrix in Dubai Media City on 8 May 2018. During the event, IABM presented an overview of the latest updates in the migration to IP technology, highlighting some of the benefits of this migration, including efficiency, cost-effectiveness, total cost of ownership and interoperability. The presentation also underscored the importance of standards for audio over IP, namely AES 67 and AES 70, easing the route to IP-based workflows.



## ASBU

IABM participated in the 19th edition of the ASBU TV & Radio Festival and convention which took place in Tunis between 26 and 29 April 2018.

ASBU (Arab States Broadcasting Union) has moved the festival to a new venue in the capital Tunis. The new location, Culture City, is a more convenient and better organized location for the event. This shows ASBU's interest in supporting and strengthening this event for future years. Speaking about the event, Abdelrahim Suleiman, Director General of ASBU said: "The annual festival aims to contribute to the development of Arab radio and TV production and improving its quality so as



to meet the needs of member corporations. The festival aims also to identify and encourage innovative and meaningful trends in radio and television production in order to develop Arab creative energies in this field."

The Festival included TV and radio awards programs to recognize and celebrate creativity in the region, together with technical and creative workshops and a TV and radio equipment exhibition with 90 participant companies.

On 26 April, ASBU held three panel discussions. The first session, entitled IP Live Studio, covered the IP Protocols and the deployment of IP technology in live studio operations. The second session covered UHD and HDR. The last session was about Digital Radio Broadcasting. IABM delivered a presentation during the first panel about IP in live and remote video production and highlighted several projects which have been implemented using IP technology in live productions.

A number of IABM members participated in the convention including Arabsat, BSS, UBMS, INC, Dolby, Grass Valley, RTS Intercoms, Master Media, Newtec, Rohde & Schwarz, Red Bee Media and S3 Satcom.

## **OTT Conference**

### **OTT: are all the tools available for the right viewer experience?**

*Dubai, 9 May 2018*

#### **Overview**

As media consumption is steadily shifting from conventional linear TV to the Internet, OTT and multi-platform delivery continue to disrupt traditional broadcasting. OTT offerings are on the rise as broadcasters and media companies are increasingly launching direct-to-consumer services worldwide.

In the MEA region, OTT penetration is still at a low level due to limitations in broadband quality and poor payment infrastructure. It is however clear that OTT will grow in the region both as a standalone offering and as part of a Pay-TV platform.

IABM organized an OTT conference on 9 May 2018 in Dubai, to examine the tools currently available to provide the viewer experience that will accelerate the growth of OTT in the MEA region. The conference was sponsored by IABM members ATEME, Dolby and Interra Systems.

#### **Presentations**

The conference included a number of presentations which were followed by an interview with a regional media company which has recently launched an OTT platform. The presentations were delivered by IABM, ATEME, Interra Systems and Dolby.

IABM presented an update of the latest market data covering consumer viewing trends, media business trends and buying trends from IABM's most recent survey conducted prior to the NAB Show. The IABM presentation concluded with data about OTT offerings worldwide.

ATEME's presentation, delivered by Ali Amazouz, Head of Solution Engineering, MEA, covered the application of Artificial Intelligence & Machine Learning to optimize OTT delivery. ATEME has developed its own video quality assessment which led to the definition of a perceptual video quality metric called the AQI or ATEME Quality Index, based on machine learning. The information collected by the system is used by the machine-learning engine to predict and analyse data.

Interra Systems presented guidelines for ensuring accurate, reliable and quantifiable QoE for OTT services. Market data clearly indicate that, for OTT services, a high-quality experience is a key factor for success - crucial to growing the number of subscribers and encouraging loyalty. The quality of content should be monitored at every stage of its lifecycle from acquisition, to preparation, to distribution and finally to consumption by the viewer. Interra's presentation was delivered by Kanishka Tongya, Sales Director, MEA & APAC.

Nayla Nassar, Sr. Manager – Commercial Partnerships, MENA & Pakistan at Dolby, presented the company's approach to enabling new consumer experiences over OTT. Mrs Nassar highlighted the Dolby Vision and Dolby Atmos technologies which are embedded in consumer devices including TVs, smart phones, tablets, game consoles, etc.

The final part of the event included an interview with Tony Saab, VP Products & Content, Intigral. Intigral

has recently launched an OTT service called Jawwy TV across the MENA region. Tony outlined the main reasons for Intigral starting its OTT service as a platform which will allow content from various providers to be streamed on the service. Intigral currently has a large number of subscribers through its association with STC, the Saudi Telecom provider, and it intends to use the new service to reach viewers in other countries of the GCC and MENA region.

Tony pointed out the generational differences between the viewers of traditional broadcast services and the viewers of OTT services. Young viewers are watching more media on the internet than on conventional broadcast TV and most of these viewers don't even own televisions. It's hard to keep up with the many devices and apps people now use to watch shows and OTT platforms are the best way to reach these young viewers.

Tony explained the solution chosen by Intigral and the business model they will apply to generate revenue.

#### **Conclusion**

More than 50 delegates attended the OTT conference. The feedback received from the delegates, as well as the sponsors, was very positive. The event was interactive and created a good opportunity for the members to network with the customers. In particular, the interview with Tony Saab was very interesting and resulted in several follow up questions from the audience.

# Europe & UK region update



**Darren Whitehead**  
*Director of Business Development, IABM*

The business landscape across Europe and the UK remains challenging for many IABM members. It was particularly gratifying then that all of the members I spoke to at NAB Show in Las Vegas said that the show was very good for them, both in terms of quantity and quality of attendees.

This usually bodes well for an equally positive and beneficial IBC show in Amsterdam and I, for one, am looking forward to it!

In the UK, the Members' Council wanted to tackle the issue of Cyber Security, which has been a growing concern among content owners for the last few years. The Council members felt that there was a lot of catching up to do on this subject matter and that an event should offer a unique and different insight from experts outside of the broadcast & media industry. Hence the concept of the latest UK Members' Council event came into being – Preventing Cyber Crime at the Network level.

Hosted by BT in the BT Tower, for once the view from the top wasn't the main talking point!

The event was opened with a terrific keynote session by Les Anderson, VP Cyber Security and BT Global CSO. His perspective of a risk-based approach to cyber security and his unique formula to deal with the many issues faced by a high-profile network owning target, whilst also staying flexible and customer focused, was truly eye-opening!

This was followed by a presentation from John Dyer, Director of IT security specialist company Darktrace. Darktrace has a unique machine learning appliance-based security system designed to work across on-



premise and cloud-based infrastructure, constantly monitoring for intrusion, viruses and threats based upon unusual behavior. This approach significantly reduces detection and reaction times – essential for fast-paced media workflows.

The event finished with a panel session curated by IABM's own expert John Ive, with panellists from Akamai Technologies (Steve Miller-Jones, Senior Director Product Management) and Limelight Networks (Jay Coley, Senior Director Security Planning & Strategy). These two experienced executives brought the event back to the world of broadcast & media, talking about their own experiences of implementing cyber security measures across networks and how they interact and interface with their customers' own security policies and protocols.

Feedback on the event has been very positive and once again validates the progressive nature of IABM by resourcing and facilitating activities initiated by the members themselves. Any member that wishes to get

involved with future UK Members' Council events please feel free to get in touch.

The EMEA Members' Council is ramping up its activity as the first member elections approach in Q4 of this year.

In the planning stages right now is a raft of new – segmented by geography and local language – newsletters, for both members and member prospects. If any member has any news please do contact me for consideration to be included in the next newsletter; there are currently four covering Europe – the Dach region (Germany, Austria, Switzerland), the Benelux region (Belgium, the Netherlands, Luxembourg), the Nordic region (Norway, Sweden, Denmark, Iceland, Finland) and Spain.

The EMEA Members' Council is also planning a member and member prospect event at IBC2018 in September. This promises to be a unique event, offering superb networking opportunities. For an exclusive invite please contact me directly.



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# Business and commercial updates

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**Lucinda Meek**  
IABM Finance  
Director

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Talking with members at various shows and events, it became clear to me that they would find it useful if IABM could provide briefings on topical, general business operational concerns alongside the wide range of broadcast and media industry-specific information we already offer members. That's why we've introduced the new Business and Commercial Updates section to the Journal and in this edition, we are looking at cyber liability insurance, the potential effects of the new data protection regulations on contracts in the cloud, and an integrated approach to marketing.

I would welcome suggestions from members for future topics, and will myself continue to search out relevant, authoritative analysis and guidance on topical business issues. Things continue to change at such a pace that I am certain there will be no shortage of new subjects to examine!

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Under the GDPR, businesses risk fines of up to €20 million or 4% of annual turnover (whichever is higher) if they suffer a data breach

# Why cyber liability insurance makes good sense



## MILES SMITH INSURANCE GROUP

The continued rise in the amount of information stored and transferred electronically has resulted in an increase in the potential exposures facing businesses. Regulations, such as the General Data Protection Regulation (GDPR), must also be considered, because a loss of sensitive personal information may subject you to fines and sanctions from your National Data Protection Authority.

Under the GDPR, businesses risk fines of up to €20 million or 4% of annual turnover (whichever is higher) if they suffer a data breach.

We live in an age where a stolen laptop or hacked account can instantly compromise the personal data of thousands of customers. Therefore, it is just as important for a business to protect itself from cyber liabilities, as it is from the more traditional exposures that are covered under a general commercial liability policy.

### Why cyber liability insurance?

A traditional commercial insurance policy is extremely unlikely to protect against most cyber exposures. Standard commercial policies are written to insure against injury or physical loss and will do little, if anything, to shield you from electronic damages and the associated costs they may incur. Exposures are vast, ranging from the content you put on your website to stored customer data. Awareness of the potential cyber exposures your business faces is essential to managing risk through appropriate cover.

Possible exposures covered by a typical cyber liability policy may include:

**Data breaches** – Increased online consumer spending has placed more responsibility on companies to protect clients' personal information.

**Business/network interruption** – If your primary business operations require the use of computer systems, a disaster that cripples your ability to transmit data could cause you, or a third party that depends on your services, to lose potential revenue. From a server failure to a data breach, such an incident can affect your day-to-day operations. Time and resources that normally would have gone elsewhere will need to be directed towards the problem which could result in further losses.

This is especially important as denial of service attacks by hackers have been on the rise. Such attacks block access to certain websites by either rerouting traffic to a different site or overloading an organization's server.

**Intellectual property rights** – Your company's online presence, whether it be through a corporate website, blogs or social media, opens you up to some of the same exposures faced by publishers. This can include libel, copyright or trademark infringement and defamation, among other things.

**Damages to a third-party system** – If an email sent from your server has a virus that crashes the system of a customer or the software your company distributes fails, resulting in a loss for a third party, you could be held liable for the damages.

**System failure** – A natural disaster, malicious activity or fire could all cause physical damage that could result in data or code loss.

**Cyber extortion** – Hackers can hijack websites, networks and stored data, denying access to you or your customers. They often demand money to restore your systems to working order. This can cause a temporary loss of revenue plus generate costs associated with paying the hacker's demands or rebuilding if damage is done.

Cyber liability insurance is specifically designed to address the risks that come with using modern technology; risks that other types of business liability insurance will not cover. The level of cover your business needs is based on your individual operations and can vary depending on your range of exposure.

It is extremely important to work with a broker that can identify your areas of risk, so a policy can be tailored to fit your unique situation.



### How can you protect your business?

As well as purchasing cyber liability insurance, there are other ways that you can protect your business from a cyber-attack or data breach:

#### 1. Back up your data

All businesses, regardless of their size, should undertake regular backups of all important data. Firstly, you need to identify what data is essential in keeping your business running. The type of data you should back up can include: customer details, quotes, important documents, emails, and so on.

It is important to remember to keep your backups separate to your computer and ensure that they have restricted access. This will protect your essential data from the potential threat of natural disasters, physical damage or theft.

#### 2. Be vigilant with smartphones and laptops

Employees are more likely to lose/ have their phone or laptop stolen when they are away from the office. You should ensure that all company-owned electronic devices have software that allows them to be tracked, monitored and wiped – if stolen.

You can also encourage your employees not to store work-related emails and documents on their personal devices, and to not work on laptops when using public transport.

#### 3. Use strong passwords to protect your data

In accordance with the previous point, protecting your business' electronic data can also be done effectively with password protection. A password, pin, or face/finger recognition are all good examples of strong password protection. You could also utilize "two-factor authentication" for important data, which

can include setting up security questions, or sending an authentication code to another device.

Passwords should contain a mixture of upper and lower-case letters, numbers and symbols. Remind employees to avoid 'predictable' words and to vary passwords between different systems/programs. Alternatively, you can regularly request employees to change their passwords on a monthly/quarterly basis.

#### 4. Recognize, and avoid, phishing emails

A 'phishing email' is typically a fake email sent by hackers with the purpose of asking for sensitive information (e.g. bank details), or with links containing bad viruses. Check who the email has come from, if the email is personalized to the receiver and if there are any spelling/grammar mistakes. Many companies now state that they do not ask for sensitive information over the phone/email.

Email filtering systems should filter these emails into your junk/spam inbox automatically, however you should always be vigilant when opening emails on a work device and report all attacks if they do occur.

#### 5. Train your staff

Many organizations provide free online training courses to help businesses protect themselves against cyber threats and online fraud. You can also discuss best practice with your employees when setting up new passwords, backing up documents and data, and how to avoid phishing emails.

As reliance on technology continues to increase, new exposures continue to emerge. As your business grows, make sure your cyber liability cover grows with it.



GDPR states that if you have a breach, you only have 72 hours to report details of the breach to the regulator

# Contracts in the Cloud: are you GDPR compliant?



**Michael Griffin**  
Paralegal, Harrison  
Clark Rickerbys

From start-ups to multi-nationals and everything in-between, in the last few years we've all become dependent on cloud services helping us to deliver cost savings and efficiencies across our businesses. The cloud is not just present in our work place though; cloud services permeate aspects of our lives from the way we engage with our friends to the way we buy our car insurance and how we shop for food.

## What's yours is mine – who's processing your personal data?

In nearly all cases, cloud services to you or your customers will be provided by a third party. They will hold your data and they will process it for you. But do you really know what they are doing with it and what risks that presents to you, your customers and your business? In this article, we explore some of the key issues you need to consider when using cloud services to limit your exposure to risk, with a particular focus on the new General Data Protection Regulation (GDPR) that came into force in May 2018.

## High standards – even greater fines

The GDPR fundamentally changes the way in which businesses are able to process Personal Data, setting the compliance bar significantly higher than the previous legislation.

And if you get it wrong the potential fines for a serious breach are €20 million or 4% of your global annual turnover!

So if you outsource any part of your business operation to a cloud provider who processes Personal Data (from your payroll to your hosting) you need to make sure that both you and your cloud services provider are compliant. If not, you could well be liable in the event of a breach.

To limit your risk of a cloud provider putting you in breach of the GDPR you will need to ensure you have a contract in place with them and that they have adequate (and compliant) data protection provisions and security standards in place.

The actual level of these standards will depend on the type of data being processed and the type of software or service required – the more sensitive the data they process for you the higher the standards of control need

to be – but at the very least you will want to ensure some baseline expectations. This should ideally include provisions that require your cloud supplier to employ at least basic physical, administrative, and technical safeguards to protect confidential information and personal data.

## There's been a breach!

The new GDPR states that if you have a breach, you only have 72 hours to report details of the breach to the regulator. Breaches can come from all sorts of places, and whilst they mostly come from carelessness and human error, they also come from external attacks to your systems (and attacks to the people that host your systems).

So that you don't lose time in assessing the risks caused by the breach and how you should address it, it's crucial that they are part of your solution when things go wrong. In the event of a breach you may need to quickly call on them to help you to investigate that breach, what happened and what went wrong. If you can't contact them at 11pm on a Friday night and have to wait until Monday morning you've already lost a significant amount of time. Your contract with them needs to fit into your internal breach management plan and how you are going to remedy the breach. They also have to take responsibility for their own compliance.

The damages incurred by a data breach can be catastrophic for both your business finances and its reputation. The GDPR places a much more stringent obligation on data handlers, so making sure that your technology contracts are up to date with the new law, before it comes in, should be a business-critical consideration.



### Location location

Doing business in the Cloud presents a unique problem around where your data (and Personal Data) is stored. Cloud services will often use servers based outside the EEA and even where Cloud service providers (and their servers) are based in the EEA, their support services and call centres (all of whom have access to your Personal Data) are serviced remotely – often out of UK hours support – in the US, India or further afield. Under the GDPR in all of these cases the processing of Personal Data needs to comply with the GDPR and you must know where Personal Data you are responsible for is stored or processed.

There are many solutions provided by large cloud services providers which guarantee that processing will only be within the EEA. Does your cloud provider offer this? Even if it does, is its support team, in and out of hours, based inside the EEA? Does your cloud provider outsource its customer support? If it does, does the business they outsource to (who could be processing Personal Data for you) have a contract in place which ensures that it complies with the GDPR?

### T&C's: not as easy as 123

Chances are that if you are signed up to any cloud services, you are likely to have done this on the basis of their standard terms and conditions.

You will need to revisit these terms in light of the GDPR as they are highly unlikely to meet the much more stringent GDPR requirements.

The GDPR requires you as a data controller to ensure that you have a 'data processing agreement' in place

with your cloud provider to ensure its compliance – easier said than done! This agreement needs to impose a number of new obligations on your cloud provider to make sure it complies with the GDPR and will work with you if anything goes wrong.

Whilst cloud providers are increasingly becoming savvy to the benefit of amending their standard terms to reflect a need from their customers for GDPR compliance, the pick up is slow. In practice you will find it difficult to negotiate specific terms with your cloud provider, so you will need to think carefully about who you pick as a service provider to make sure you remain GDPR compliant.

### Termination + transition services

The technology behind Cloud services is still advancing at breakneck speed but the market is starting to mature. As a result, it is highly likely that at some point in time you or your service provider will move to a new Cloud supplier. When this happens, you will want the move to be as seamless as possible and not lead to any interruption or downtime for you or your customers.

To make sure you can be nimble when you need to move and ensure a smooth transition, you should make sure that any Cloud contract you agree to allows you to move service providers easily (along with all of your data). During any transition at the very least you will want to make sure your current Cloud provider provides continuous services and transition support until your migration is completed. And again, in all of this you will want to make sure that your service provider complies with their obligations under the GDPR.

Don't just look at the positive data.  
A run of forum complaints could  
help with product development

# Integrate your marketing for better ROI



**Rob Ettridge**

Partner at PR agency,  
Red Lorry Yellow Lorry.

Don't rely on a single marketing channel.  
For ROI, M&E companies need to move  
beyond press to engage and target potential  
customers

On my recent (24th!) trip to NAB Show, it struck me that the industry hasn't moved on from a traditional model of marketing through trade shows and press releases to get news out to the world.

Of course, the media is still a hugely important channel for the M&E sector. And it continues to play a vital role in building brand awareness. But it's just one channel in a sea of opportunity – and if you don't adopt a more integrated approach to marketing, you will miss out.

## Target your content

In the past, the media used to be the only influencer. You took a journalist out for lunch; they wrote a nice story. Job done. But today that's not necessarily going to ensure you reach everyone you need to.

Buyers will have researched your business before a salesperson has even picked up the phone. Digital gives us the opportunity to identify and engage potential customers and influencers directly. Who are your potential buyers? Where are they, what are they reading, and what's the best way to reach them? A good place to start is by speaking to your customers/ex-customers or your sales teams. But also listen by tapping into data. Free tools like Followerwonk, combined with b2b tools like Oktopost and LinkedIn Sales Navigator can help.

When you've pinpointed your audience, produce content that speaks to each of them in the right way. For example, an engineer will need very different information to a general manager. Think beyond the static press release to tell your story. Consider other more dynamic activities such as video demonstrations and case studies, blogs, VR experiences, social media or infographics. Include comments from others like customers and industry experts in your content – if an influencer contributes it builds credibility and expands your reach.

## Market your content

Next, think about how to promote your content and get people to read it.

As part of our 'brands to business' philosophy, we create integrated marketing campaigns to attract potential customers to landing pages using a mix of SEO, media, social media, marketing automation and targeted paid campaigns. Once a prospect lands on your page, they will stay longer if the content is curated, targeted and informative. So add whitepapers or blogs on similar subjects. The key here is to think about how you can nurture prospects further down your sales funnel by driving them to an event, trapping emails or getting more content to them.

## Measure the success of your content

Make sure you track what matters to gain insights from data like website visits, sources of traffic, leads, engagement and social followers. It's almost a crime if you don't use free tools like Google Analytics but equally paid tools like Hootsuite, Trendkite and Brandwatch can help. This takes time and experience. Don't just look at the positive data. A run of forum complaints could help with product development.

What's clear is marketing professionals need to encourage companies to embrace the new. Do keep working with the media as they are enormously influential in our industry. But use media as part of a wider, more integrated marketing strategy, and you'll get so much more out of it. PR and marketing moves on, and sticking with the same tired approach won't always yield the best results. Surely it's time for a change?

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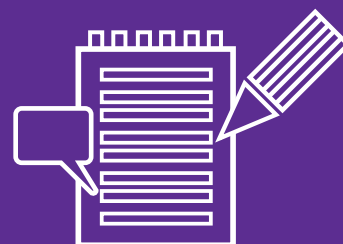
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# Exhibiting in the United States:

## Understand and navigate the major differences



**Caryn Cohen**  
Director, North  
America, IABM

Exhibiting in the United States is different than exhibiting in Europe; however, the U. S. market is extremely large and lucrative; therefore, understanding and overcoming the differences is well worth the effort. More than 50% of exhibitors who exhibit at IBC have already found great benefit in also exhibiting at the NAB Show in Las Vegas.

I am pleased to share a guide to help you navigate some of the differences between exhibiting in Europe and exhibiting in the U. S. that has been kindly been provided by the organizers of NAB Show.

And for those already familiar with exhibiting at NAB Show, Las Vegas, there's some great news on a new initiative on drayage charges – so do please read on!

### The stand (booth)

One difference you'll note right away is that the size of the stand (booth) is calculated based upon square feet rather than square meters. Additionally, space is sold in 10' x 10' blocks, which are equivalent to 100 square feet (9.29 square meters), whereas, in Europe, the stands are sold in square meters and the stand spaces are different configurations.

Pay special attention to the rules and regulations about stand (booth) construction, which vary from those in Europe. As an example, a 10' linear booths is restricted to an 8' high backwall.

At the NAB Show, each year there are new features and attractions on the show floor, which keeps the content fresh and exciting for the more than 100,000 attendees who come every year. As a result, exhibitors tend to be in new locations each year rather than always being in the same space.

U. S. exhibitors typically exhibit in many shows annually; therefore, the stands tend to be reused, so they are constructed of durable materials and designed by an exhibit designer/builder. The stands (displays) are typically constructed to last 3-5 years with most of the components built in advance of the event to allow for easy and cost-effective installation in a relatively short period of time

during move-in onsite. In the U. S., very little actual construction or painting is actually done onsite.

While raised floors are common for exhibits around the world, you might consider rethinking them in the U.S.. Raised floors can be beautifully designed and are not prohibited in the U. S., but because they're less common, Americans often complain about them due to accidental loss of balance.

Also, remember that, while union electricians will lay cables under flooring and install monitors and lights, any extraneous devices you have will need to be 120v (or you will need to have appropriate adaptors), which is the voltage used in the U. S.

### The players and their roles

Following is a description of the different contractors and the roles they perform in the U. S. exhibition market:

**Show organizer** – owns and produces the show, creates the content, and invites attendees and exhibitors to participate.

**General service contractor** – is selected by the show organizer for each U. S. event. For the NAB Show, the general contractor is the Freeman Company. The general contractor offers all the services an exhibitor would need to participate in the event. Services include everything from custom exhibit rentals, to flooring, labor, shipping and even marketing and experience design. The general contractor operates an exhibitor service center onsite where exhibitors can get help and arrange for any of their last-minute needs.



**Exhibit designer/builder** – is contracted by the exhibitor. The exhibit designer builds and stores the exhibit components. Additionally, the exhibit builder may be contracted by an exhibitor to manage their display and associated services for the many shows in which they participate throughout the year.

**Exhibitor appointed contractor (EAC)** – is selected by the exhibitor and or the exhibit builder. ECAS's are typically hired to provide the labor to supervise, install and dismantle the exhibit and associated services onsite. ECAS's can also provide furniture, rental displays, carpeting, audiovisual, and other services an exhibitor may need. All EAC's must be approved by the convention center and show organizer to protect them from any accidents that may occur during booth setup.

**Union labor** – the workers who perform the different aspects of labor required at a show. Union jurisdictions vary from state to state and even venue to venue.

### Show services

Some of the services which are provided at U.S. shows are 'exclusive', which means that exhibitors are required to use the sole official provider for that service. Services which are typically exclusive are drayage/material handling (see more about drayage below), electrical, plumbing, hanging signs/rigging, internet, and catering. These services are typically provided either by the convention facility or by the selected general service contractor.

All other services (furniture, tables, carpeting, rental displays) are optional, and exhibitors have a wide choice of very experienced vendors. They can order these services through the general service contractor, or they can arrange for these services through their choice of vendor.

### The process

In the U. S., the process is typically as follows:

1. The exhibit designer/builder fabricates and packs the stand (display) material.
2. The freight company (carrier) transports the stand components to and from the convention center or exhibition venue.
3. Material handling (drayage) is charged by official general contractor (read more about material handling/drayage below).
4. The exhibitor has three choices to set up their stand (display):
  - Exhibitors set up the displays and arrange for and manage the services themselves
  - Exhibitors arrange for set up and services through the general service contractor
  - Exhibitors hire an exhibitor appointed contractor to set up the display and manage services

The exhibitor may decide to supervise the installation of the exhibit and all the services required, or he may hire the general contractor or an ECAS to manage the entire process.

### Material handling (drayage)

Material handling is the unloading of materials at the dock, delivery to the booth, storage of empty containers, and reloading of those materials back onto the outbound carrier (freight company) or personally owned vehicle. Different than in Europe, material handling is an exclusive service that is performed by the general service contractor. In the U. S., this is an expense which cannot be overlooked. On average exhibitors can expect to spend as much as 15% of your final tradeshow cost on the transportation of booth items from a carrier's delivery vehicle to the booth space and back again.

For a rate of just \$3.85 per square foot – nearly a 40% saving – NAB exhibitors now enjoy UNLIMITED material handling

Material handling/drayage fees are based on CWT (which is weight per 100 pounds). In the U. S., basic drayage rates can range between \$85 per CWT to about \$125 per CWT. There can be up to 24 different material handling categories and additional surcharges, and these can vary from show to show. Most trade shows process each loose item separately and calculate drayage fees using whole CWTs. This means, if you ship an item that weighs 409 pounds, you will be charged as though it weighed 500 pounds. So, be careful when packing items.

#### **NAB launches revolutionary unlimited material handling rate plan**

In a study conducted by Tradeshow Logic, NAB learned that exhibitors at the NAB Show were paying on average more than \$6.35 per square foot for material handling /drayage. According to the same study, material handling/drayage accounted for approximately 13% of the exhibitors' total spend services at the NAB Show. Though a detailed rate analysis revealed that the NAB Show rates for material handling were amongst the very lowest in Las Vegas, exhibitors still identified drayage as their biggest challenge due to the high cost and unpredictability of the expense. Furthermore, NAB learned that exhibitors were bringing less product and less desirable displays to the show in order to avoid the excessive material handling fees.

In response, NAB introduced a revolutionary new program. For a rate of just \$3.85 per square foot – nearly a 40% saving – NAB exhibitors now enjoy UNLIMITED material handling. This new, simple, flat rate plan covers all items an exhibitor brings into the show – regardless of quantity, weight or volume. This new material handling model is a big shift intended to drive big results. It makes it infinitely easier for all exhibitors, domestic and international, to budget for this particular expense and participate in the NAB Show.

#### **Summary**

While exhibiting in the U. S. is different, the massive size and volume of the market makes understanding and navigating the differences well worth the effort. NAB is making transformational change to make exhibiting at the NAB Show easier and more cost effective.

If you would like more information about the differences and the costs of exhibiting at the NAB Show, take advantage of NAB Cares, a complimentary consulting service provided by NAB to help exhibitors evaluate their spending and exhibiting plans to not only help reduce expenses but also share best practices on how to maximize exhibiting ROI. Contact [NABCares@nab.org](mailto:NABCares@nab.org).



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# The future of the LED – more than just lighting



**Rod Aaron Gammons**  
*MD of Rotolight*

The broadcast industry is in a constant state of evolution, with changes driven by technology and the ever-increasing demand from consumers. This has led to an overhaul of the whole industry, from production through to content delivery. In the last few years we've been bombarded with a number of new trends in the broadcast industry like the adoption of cloud-based solutions and increased use of IP across workflows. From a consumer point of view there's been the introduction of HD, the short-lived but much-touted 3D TV, 4K/UHD and even 8K.

One of these changes behind the scenes includes the evolution of the humble LED. Since its introduction to the lighting market there is no denying the dramatic impact it has had. From cinematographers and DOPs, through to photographers and videographers, the move away from traditional tungsten lighting and adoption of a more agile lighting solution has signalled a step-change; a focus on improving efficiency and flexibility.

That's not to say things have stagnated. Indeed, when the LED was first introduced it wasn't adopted. In fact, there were some serious concerns about light quality, colour accuracy and manufacturing quality. These teething problems were overcome – just like in any new technology adoption cycle – and now LED lighting delivers the high standard that many studios, broadcast operations and professionals across the broadcast, media and entertainment sector demand.

LED lighting has brought about a number of benefits; cooler temperatures in confined studios, increased energy efficiency, longer bulb lifespans and colour accuracy – all resulting in huge cost savings from studio air conditioning no longer required, reduced electricity costs and less time spent in post-production. But given all of these benefits already on offer, where can the LED go next?

## Looking back to understand moving forward

Lighting used to be an area almost untouched by change with traditional tungsten studio lights appearing to fulfil the needs of the industry. Seen as a veritable art form in itself, lighting is a key component in creating the

right atmosphere, portraying the mood of a scene and drawing audiences into the story. However, that all changed with the introduction of LED lighting with its key differentiator of energy efficiency. Compared to tungsten, the LED uses a lot less energy – up to 96% less. The lights also produce less heat which makes the studio environment more comfortable (no air-conditioning is needed, again saving costs) and are kinder on the talent who have to sit underneath them. They also have a greater lifespan, making them more cost-effective in the long-run.

As the lights became more widely adopted and cinematographers, gaffers and lighting technicians became comfortable using them and enjoying the benefits, innovation stepped in again and changed the playing field. From materials used to manufacture the lights, to the potential applications for use, advances in lighting technology are helping to shape the broadcast, media and entertainment landscape and ultimately make the lives of DoPs and lighting gaffers easier.

## Taking the next step

However, looking at the traditional benefits of LED lighting is no longer enough. In order to flourish in a fast-changing environment, the LED (and LED manufacturers) need to take that next step. Just consider colour accuracy.

When choosing an LED light for broadcast or filming, one of the key elements to consider is colour rendition. In the past, benchmark for assessing colour accuracy was the Colour Rendering Index (CRI). However, as it was

originally developed to evaluate tungsten lighting, CRI is not the most accurate indicator of colour accuracy as it focuses more on how the human eye perceives colour. It is also easily manipulated and therefore difficult to directly compare the relative scores of light sources.

Indeed, many manufacturers only quote a single CRI number known as 'Ra', which is an average of typically eight colours. But this can mask problems in the colour spectrum in a particular colour band, and importantly does not include Red (known as 'R9'), a particular problem area for the majority of LED light sources, nor does it include skin tone accuracy (R15).

To combat this subjectivity, a new standard of measurement – the Television Lighting Consistency Index (TLCI) – is now being widely adopted and is even used by the European Broadcast Union (EBU). TLCI was developed by colour science expert Alan Roberts and has a distinct advantage over CRI as it focuses specifically on the colour gamut of television cameras, and provides advice on how much work a colourist would need to do in post-production to achieve a suitable standard for television.

But LED advances can't stop there. Colour accuracy, energy efficiency and performance will always be important for users, but going forward, it will be additional functionality in a single lighting unit that will add value to users. Ultimately DoPs, lighting gaffers and cinematographers – even photographers – want a multitude of creative options and technical solutions in a single piece of kit, to save them time, money and effort, while enabling and enhancing their creativity.



*Gillian Anderson - X-Files by Mark Mann for Deadline Hollywood*

### **It's all about innovation**

Adding functionality to the LED is critical. The more functions an LED can perform, the more useful it is to users. A prime example is the incorporation of High Speed Sync (HSS) into an LED, enabling a single light to be used as a continuous light and a flash. This functionality makes the light ideal for those users who do both photography and video, and have the need to switch between the two options. Previously this meant two different lights. Now, they can use one light for both jobs, saving time and effort.

Rotolight, the first company to incorporate HSS into a bi-colour LED, has taken this idea of functionality even further by building special effects into its lights.

The CineSFX™ suite simulate lighting conditions, including lightning, emergency lights, paparazzi, firelight and more. The result is that cinematographers, DoPs and lighting gaffers have the tools at their fingertips to create the atmosphere and look they need, without hiring in additional equipment such as a flicker box. A flicker box is costly, complicated to use and requires hiring pre-shoot, meaning that when the director suddenly demands a lightning strike to add drama to the production,

cinematographers, DoPs or lighting gaffers are left stranded, having to find DIY solutions which look unprofessional and unrealistic.

The company's other lighting innovations include Designer Fade™ which allows users to create custom fade up or down transitions, which is otherwise only achievable with expensive high-end broadcast cameras, or added later in post-production. For photographers, True Aperture Dimming™ calculates and displays the correct aperture (F-Stop) for subjects at a given distance – eliminating the need for a light meter.

### **The future is bright**

The broadcast, media and entertainment industry will continue its evolution and so it's vital that the equipment used within it keeps pace in terms of innovation. Looking to the future, there will be more crossover between disciplines, film, photography, video, and professionals will look for equipment that is functional, enables their creativity, and allows them to do more without paying more. For the LED manufacturer, that means continually developing lights with enhanced functionality and features, agility and of course performance, from energy efficiency to colour accuracy.

Why should you spend all of your resources developing specific hardware solutions when you can just virtualize it?"

# Transformation and data capital



**Thomas Burns**  
*CTO Media &  
Entertainment, Dell  
EMC*

We spoke to Dell EMC's Thomas Burns at the recent NAB Show about current opportunities and challenges in the industry and what the future holds.

## What stood out as new or different at NAB Show – the trends and technologies that will have a major impact in the future of M&E?

The trend towards virtualization of server-based applications, so they can run on a converged compute stack anywhere – cloud or on-prem – is well established. Another is the migration from serial digital to IP networks. Whether in an on-prem data center, a colocation data center, or a private media cloud for high value content creation, the interesting new trend we are seeing is the adoption of enterprise IT workflows and infrastructure by media and entertainment facilities.

There have been cultural issues between broadcast engineers and IT guys, and like a lot of cultural change, sometimes it's easy and sometimes it's a real fight. What we are finding is that there are advantages of scale, advantages of cost, and advantages of flexibility to adopting the infrastructure and workflows of enterprise IT. As an example, implementing the kind of change management techniques that enterprise IT has used for years is necessary for broadcasters as they move to a scale-out 'entertainment services delivery' model.

## Where does Dell EMC sit in Dell Technologies, and where are you focusing the business right now?

Dell EMC is one of seven strategically aligned businesses within Dell Technologies, alongside Dell, Pivotal, RSA, SecureWorks, Virtustream and VMware. The first overarching theme across all the businesses is transformation; that covers every aspect of operations across the four pillars: workforce, data center, security and digital transformation. The second is data capital, which we'll get to later.

At Dell EMC, we are focused on core IT infrastructure – storage, servers and networking, and in terms of digital transformation, the M&E industry is already there. By virtualizing a broadcast playout application for instance,

we are bringing the rest of the overarching Dell Technologies themes into play – data center transformation, workforce transformation, and security transformation.

Workforce transformation has major implications within M&E. A typical situation for a visual effects company when they are awarded the contract for the next 300 shots on a summer blockbuster picture is that they need to add 100 artists as quickly as possible. It's a facility issue, a logistics issue, and a financial issue because they need to purchase and configure 100 workstations and find a place to put them. It's an HR issue, because you need to get the artists aligned with their work visas, help them relocate, etc. In short, the data center transformation may largely be done in M&E, but the workforce transformation is ongoing.

We know how to virtualize broadcast playout and other server-based apps, and already do this via OEM agreements with most of the broadcast ISVs in this space. In fact, one of the happiest moments for me personally was at NAB Show this year, when a company that's not currently a customer, with a large portfolio of applications, came by our booth at the end of the show and said, "Hey! We heard you are the guys we should do a deal with if we don't want to be in the hardware business anymore."

I just loved that because it meant that we were getting our messaging across at NAB Show, and the message was: "Why should you spend all of your resources developing specific hardware solutions when you can just virtualize it?" What I mean is – leave the hardware to us. That means broadcast application developers can focus on what they're good at – applications – and not have to worry about upgrading somebody's storage in five years, when the company that you originally spec'd for the storage is out of business.



The new focus of virtualization is the artists' workstations. The cutting edge right now is people figuring out how to virtualize an Avid seat, an Adobe seat, etc. Some applications that are tightly tied to the hardware are more difficult to virtualize, and many of those companies are starting to offer subscription-based versions of their software, so you don't have to capitalize, upgrade and maintain turnkey workstations.

Within Dell Technologies, we have the VMware expertise to fully virtualize graphics workstations – it's an interesting challenge because it's not just about the technology but other aspects too – for example, the licensing architecture and the plug-in ecosystem. But despite the challenges, workforce transformation by virtualizing or remoting the artists' workstation is important in M&E because the industry is moving to globally collaborative production. Workforce transformation is one of the most important things happening in M&E, simply as a response to the dispersed nature of the labor force, and this is particularly so in VFX, animation, gaming and VR/AR.

The final pillar is security transformation, and I think we all know how important security is in this globally networked world. Broadcasters used to rely on physical security; only engineering had access to the central equipment room where the VTRs were, so we didn't

Workforce transformation by virtualizing or remoting the artists' workstation is important in M&E because the industry is moving to globally collaborative production

have to worry about unauthorized duplication as much. Nowadays we need a layered, prioritized approach to security. Implementing tightly firewalled media networks won't help if a bad actor penetrates the control networks and maliciously turns off the AC, because that'll shut down a broadcast plant faster than anything.

**Dell EMC talks about exploiting data capital to underpin the delivery of compelling content to audiences anytime, anywhere and on any device. Can you explain what data capital is and why it is so important?**

Data capital is our major theme for 2018 into 2019. How that works in M&E, however, isn't so different from what we have been telling people before this. Your data capital is the monetization value of what lies in your asset library. In broadcast especially, we have been working to implement that for several years, now that object storage is becoming cost-competitive with a tape library.

The idea is that data has mass, just like gravity; the larger your data, the more attraction it has. And you need to get your data out of silos – data locked up in silos is very difficult to do anything with. The first thing we have to do is understand that putting all of your data in a data lake, and bringing the applications to the data, is the way to monetize it. Otherwise, moving these gigantic assets that have so much mass would take weeks to migrate out of one silo and into another, e.g. for analytics. Put media in a central data lake, get it out of the silos, and you can bring the applications to the data. Video data has so much mass that it actually attracts applications, and facilities are realizing that it's financially ruinous to do it the other way around.

I don't like to see people idle just because they are copying a file from one silo to another. When you have assets in a data lake, you can use search tools, add metadata, and unlock the value of the capital assets that you own. That may be a new message for enterprise IT, but adding metadata to your existing library so you can better monetize it is something that a number of rights holders and service providers in the M&E space have been trying to do for a while. There have been a lot of early indicators, but no one has the gold ring, yet. Everybody is working on it because they are realizing that is the way they want to go.





Artificial intelligence – which was very buzzy at NAB Show this year – shows incredible potential, but at present the only thing that I can see AI/ML/DL being used for is dividing the entire internet into ‘this is a picture of a cat, this is not a picture of a cat.’ That may be where we are at today, but things are moving fast; I have seen demonstrations that have automated facial recognition, recognition of team numbers on players’ jerseys, creating synthetic camera angles within a video volume; it is poised to go incredibly fluid, and there will be outcomes that we can’t yet fathom.

Have you ever heard the quote that whenever we try and predict the future, we overestimate the short-term impact, and vastly underestimate what is going to change in the long run? I think we are at that stage with AI. But using AI to scan and tag the contents of your library holds enormous promise: to unlock capital assets from your film and tape library and add metadata to them. Then we can start to realize the value, or potential value, of the data capital.

Of course, there are companies that are promising much, much better than ‘this is a cat, this is not a cat.’ We are talking to companies who are taking this technology that exists at the algorithm level, and turning it into a product that we can bundle with a bunch of GPUs in a Dell server and give people a turnkey appliance which can scan through their library and produce actionable valuations on their media assets. We are close but not quite there yet.

**According to your NAB Show presentation, on-premise storage is still the most common in M&E. Will the cloud ever take over and if so, what needs to happen, or will local storage always have a place to play?**

We are going to need on-premise storage for content creation because the applications aren’t yet object-native. Object storage isn’t really a performance technology to begin with, plus you need a file-to-object gateway of some kind, which increases latency. I think that you’re going to have on-prem storage for all the high-throughput, low latency workloads such as editing, visual effects, gaming – things where you need high-throughput single-stream performance. You know, if you’re in the color grading suite working on the latest blockbuster feature, full aperture DPX 4K at 24fps, you’re looking at over 1 GB/s sustained and that is difficult to achieve from the cloud.

In reality you need both on-prem and cloud storage – this was an important part of our NAB announcements this year. We’ve completed a reorganization of Isilon and ECS, putting both our file and object teams together as one product line. We call the new team ‘Unstructured Data Solutions’ – FYI anything that is not ‘block’ storage is ‘unstructured’, which by the way is the fastest-growing segment of the storage market. The product teams, engineering teams and the sales teams are all together, so that way we are working with a unified file and object solution. That differentiates us from every other storage vendor on the floor at NAB Show, in that

Dell is also very strong in networking – it has a huge practice in software-defined networking and spine and leaf architectures from its telco practice, and we will be looking to leverage this

we develop, sell, support and work with files and objects as two ends of the spectrum. Until all of the applications are object native, and until the various network protocols are more performance-oriented, I am certain that we will need at one end of the spectrum, on-prem file, to work seamlessly with the other end of the spectrum which is a private media cloud for, or a hybrid cloud which many of our larger customers are implementing.

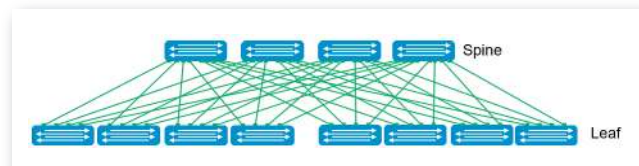
### So putting it all in the cloud is not always the best solution then?

We are seeing that, once people have figured out their workflow, once they have six months of historical data, and they can accurately predict the spikes and troughs, then it's about bringing that workflow back on-prem for cost control; we are seeing large household names bringing their data back on-prem. The public cloud is great when you need to rapidly gin up a workflow, and try out a business model, and play around with things, and you don't know where the data is going to spike, so you don't know what infrastructure you need to buy – and even if you did know when to buy, it's going to be 3-4 weeks before you can get it on-prem. The ability to just start something right now is fantastic, and that's why I love the public cloud. But once you have a known workflow, and you have six months' worth of data analysis on your traffic pattern, then you can crunch the numbers and figure out that it's much less than the cost

of public cloud to bring that same workflow on-prem – and that's total cost of ownership.

### Without giving away any trade secrets, what else is on Dell EMC's to do list for the next 2-5 years - what should we be preparing for that isn't much talked about yet?

First of all, given the fact that we are now part of Dell we can take advantage of Dell's market-leading servers. Dell is also very strong in networking – it has a huge practice in software-defined networking and spine and leaf architectures from its telco practice, and we will be looking to leverage this. Spine and leaf is one of the most exciting things that is coming down the pipeline partly because the market is ripe for us to take advantage of it, and partly because there is all this expertise on the Dell side that we can leverage.



And then, we're looking at integrating search, integrating file to object, and object to file, making sure that there are no bottlenecks in that continuum all the way from on-prem high-throughput applications, to archive and disaster recovery and collaboration that we get from the private cloud or the object store.



# Autoscript – 30 years of continued success



**Robin Brown**  
Product Manager,  
Autoscript

**Autoscript has been in business for more than 30 years now; in that time a lot of vendors in broadcast and media have come, shone brightly for a short time, and then disappeared. Can you let us into the secrets of Autoscript's continued success?**

We believe success comes from the ability to listen to customers and develop products that fit their needs, and that has been our driving force from the beginning. In addition to equipment sales, we operate a full-service hire department for any type of shoot, which puts us in even closer proximity to our customers and their real-world requirements. That direct and immediate relationship with end-users gives us fast and accurate feedback.

Also, our status as a Vitec Group brand gives us the global perspective of a company with offices in six locations around the world. This enables us to draw on the experience of engineers in other Vitec brands such as Vinten, some of whom have been designing broadcast products for 30-plus years. Through these relationships, we can ensure that Autoscript products are more seamlessly integrated with equipment from the other brands and therefore offer our joint customers more comprehensive solutions.

**Autoscript has what some would regard as a direct competitor to you also within the Vitec group – Autocue. Please explain how the relationship works.**

The Vitec Group acquired Autocue in 2014. As a brand, Autocue does serve some of the same markets but has a broader reach, with solutions for smaller productions and independent content creators. By leveraging the strengths of both Autoscript and Autocue, the Vitec Group is able to address the entire spectrum of prompting requirements across applications of any size and scope.

**As you've said, Autoscript runs a rental service as well as direct sales to customers around the world. What's the cut-off point between renting and buying – how do you advise your customers on this?**

The rent-vs.-buy threshold depends highly on individual customers and their needs. Factors include rental costs and frequency of use, as well as each individual's desired return on investment. One trend we're seeing is that teleprompters are now being adopted more frequently outside of the realm of traditional broadcasting, and a greater number of those customers are realising the benefits of owning their own equipment.

**You've recently introduced a new product range under the name 'intelligent prompting'. Can you tell us what you mean by this and what makes it different – and better! – than alternative prompting solutions?**

At Autoscript, we identified a growing need for a seamless teleprompting solution that could support our broadcast customers in their continued migration to all-IP operations. We wanted to develop a modern prompting system that could deliver on all the promised benefits of IP as the new standard for all communication and distribution – namely, complete flexibility of content transportation, reductions in operational and capital expenses, and widespread availability.

The result is Intelligent Prompting, which we're proud to say is the first completely IP-enabled teleprompting system. For the first time, broadcasters are able to adopt a fully IP-based prompting solution, with a scalable architecture that can support them at any stage in their transition to IP operations.

With every component designed from the ground up around an end-to-end IP workflow, Intelligent Prompting delivers the connectivity, flexibility, ease of use, and redundancy critical for our customers' live broadcast operations into the future. To give a key example, Intelligent Prompting ensures that much less data is sent over the IP network by placing the intelligence needed to generate the script inside each prompting monitor. In this manner, the monitor is able to produce the video output directly, while remaining in



Moving forward, we'll continue pushing the boundaries as we've done for intelligent prompting.

constant communication with the master application to ensure perfect ongoing synchronization and easier operation.

**You're in a sector of the market that is unlikely to move to full virtualisation any time soon, but the market continues to move fast. What's next for Autoscript?**

Things definitely move fast in this business. As recently as March 2017, there was no such thing as a fully IP-enabled prompting workflow anywhere in the world. Fast-forward to now, and the IP promoting workflow enabled by Intelligent Prompting is already becoming expected by many broadcasters. Even more exciting is the customers that are now using Intelligent Prompting to its fullest advantage; for example, one U.S. broadcaster has chosen the solution for remote prompting over an IP network from its American headquarters to Sochi for this year's World Cup.

Moving forward, we'll continue pushing the boundaries as we've done for Intelligent Prompting. Virtualisation might not be in the cards just yet, but we do have some exciting things in the works. To give a few examples, how can we better incorporate iPads for convenient remote prompting? Can the teleprompter hardware become more intelligent? And can the cloud help our customers manage their infrastructure more efficiently? You'll have to wait and see!

**You've been members of IABM for many years now. What are the member benefits that you find most valuable?**

IABM's Global Market Valuation & Strategy Report is a critical tool because it supplies data to help us make calculated decisions for the future, as do the regular trend reports. The exhibitions and interactive sessions with customers in the different regions of the world are extremely valuable, and IABM gives us ample opportunities to meet with other manufacturers. These interactions keep us in touch with future technical developments, help us identify common trends, and confirm our views on market direction. Also, since we're deeply involved in the broader market for newsroom solutions, our membership helps us stay in touch with groups and standards efforts in that realm. Plus, as a Gold member, we have the added benefit of IABM training programmes for our staff.





# Flowtech tripods causing a stir



**Tobias Keuthen**  
*Director, Global Product  
Marketing Management,  
The Vitec Group*

## **I haven't seen such excitement in years over what many regard as just a 'must-have' piece of everyday equipment. Why has flowtech caused such a stir?**

We believe flowtech is so popular because it fills a niche for a professional tripod that is lightweight and extremely easy to carry and set up, but is also strong, stiff, and rugged in any type of terrain or environment. We went to great lengths to develop a solution that really supports the way camera operators want to work in the field, with unique features that accelerate their workflows. And the industry accolades are an indication that we've succeeded! Since flowtech's launch last autumn, it's won many awards – including IABM's own BAM™ Award at the 2018 NAB Show.

## **What makes flowtech so different from all the many alternatives on the market?**

There are many high-quality tripods out there – but flowtech is the first to combine speed of use with exceptional torsional stiffness while being extremely lightweight and easy to carry and use just about anywhere, even on a beach, in the sea, or on top of a mountain. With the world's fastest-deploying legs and a highly versatile height range, flowtech is easier and quicker to set up and adjust than any other tripod. One unique feature is the quick-release brakes located at the top of the tripod that enable all the legs to be deployed simultaneously and adjust automatically to the ground's surface. Instead of fussing over the tripod, camera operators are able to get to work immediately to capture the big shot.

## **How did the idea for flowtech come about? – was it driven by customers or the brainchild of one of your engineers?**

The short answer is that it was a bit of both, overlaid by a lot of teamwork. At Sachtler and Vinten, we work hard to build products that mirror customers' requirements.

That means getting out into the field with filmmakers and videographers and experiencing their workflows and environments, to truly understand their day-to-day needs. From there, our designers and engineers apply their skill and creativity to build something that is truly customer-driven. With flowtech, we weren't just looking to design a new tripod but to give camera operators a new way of working. Customers were asking for a tripod that not only offers great shot stability but is also lightweight, easy to transport and fast to set up. Carbon-fibre offered the perfect solution not only for reducing weight and making flowtech much easier to carry, whether in your hand or on your shoulder, but also for delivering a tripod that is extremely stiff and beautifully balanced.

## **Have sales matched the level of excitement generated by flowtech? – and do you have any customer feedback from use in the field yet?**

Sales have greatly exceeded our expectations – so much so that we've had to expand to a 24-hour manufacturing schedule just to keep up with the demand. And yes, we have received significant feedback from the field, including early testers of the tripod as well as current end users. One of them, world-renowned filmmaker Phillip Bloom, loves flowtech so much that he named it "Best Tripod of 2017" on his annual gear roundup. He said, "flowtech instantly became my favourite video tripod the first time I used it. The ability to change the height from the three top latches has speeded my ability to get the perfect angle for shots. flowtech also saves my grumbling back from constantly bending down to change the height, as with the traditional tripod adjustments."





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# Starting a new business: How Promethean is cutting through



**Ian Sharpe**  
*CEO, Promethean*

IABM introduced a new 'Start-Up' membership category in January this year. As its name suggests, the new membership category is designed to cater for new companies that have been incorporated for less than two years, enabling them to benefit from the full range of IABM membership services to support them at a critical time in their growth and development, all at a manageable price for what are typically cash-poor, ideas-rich businesses.

We asked Ian Sharpe, CEO of Promethean – one of the new Start-Up members – to let us in on the secrets of getting a new company off the ground successfully. That he replied with his insightful answers within just one hour speaks volumes; as he said, "You don't start-up by sitting on your hands!".

## **Give us a brief overview of the idea that inspired you to set up your own company – where do you see the opportunity in the market, and why?**

The future of online is video. Cord cutters, binge watchers, content connoisseurs, sometime streamers – we spend more time on screens than ever before. If a picture is worth a thousand words, then a video is worth a million. But ROMI has proven elusive.

The Promethean founding team previously ran Azubu, an LA-based live streaming company. We witnessed first-hand how broadcasters are unable to monetize effectively through video, and how brands are unable to drive ROI due to a lack of in-line engagement. We developed our platform to address this gap in the market.

Powered by Promethean, any broadcaster can serve intelligent commerce and engagement opportunities to viewers in real-time, so the audience can watch, click, and buy while never leaving their screen. Imagine watching your favorite sports team, ordering pizza, getting live fantasy updates, buying your favorite player's jersey...all while never missing a moment of live action.

Informa Telecoms & Media reports that with advertising, subscriptions and transactions, online video is already a \$37 billion market globally. Mobile video is now the fastest growing U.S. digital ad segment per PwC research; it's expected to be a \$13 billion market by 2020.

In broadcasting, over-the-top content (OTT) is the audio, video, and other media content delivered over the Internet without the involvement of a multiple-system operator (MSO) in the control or distribution of the content. At the start of 2018, the broadcast industry is stepping into an 'OTT 2.0' era: companies in the space are harnessing the hard-earned OTT lessons learned over the past few years of experimentation and rising competition. They're evolving to meet new business demands and opportunities with more original digital content, more direct offerings to consumers, more data, and more advanced technologies.

But click fraud and ad blocking continue to be thorns in the industry's side, on web and mobile and particularly among Millennials. According to Pagefair's latest report, worldwide online ad blocking rates have risen to 11% of global internet users; Asia-Pacific mobile ad block rates increased 40% in 2016, and nearly 75% of American ad blocking users said they quit sites that prevent ad blocking.

The broadcasting industry needs creative ways to address this problem (estimated to cost \$35 billion in lost revenue by 2020) to keep viewers from tuning out



and keep advertisers tuning in. The 30-second spot, auto-play ads and pre-rolls are losing their impact in the online world, as shorter formats and less intrusive placement types are gaining favor among traditionally ad-intolerant audiences.

The sector is still growing: Technavio's analysts forecast the global online video platforms market to grow at a CAGR of 16.43% during the period 2017-2021. But this paradigm shift in advertising is spurring more innovation around digital video ad formats, better user experiences and advertising environments – which in turn drives them to Promethean.

### The Promethean Digital Video Platform

Our platform delivers measurable, engaging, contextual overlays for video:

- Direct selling of relevant and contextualised products, overlaid on any video
- Deals and discounts to be published live immediately, real-time and in-broadcast, to all concurrent viewers
- Enhanced advertising offerings that deliver a much higher return via CPA
- Driving subscriptions and downloads with a single click at opportune moments
- Interactive social media campaigns that create immediate engagement with the audience
- Quickly adding future content to your calendar, increasing viewership for any series
- Direct engagement in real-time, minimizing channel surfing

### What are the most rewarding aspects of launching a new company and product/service?

Undoubtedly, seeing it all go live and make a difference. Traditional advertising often peaks at only 1 or 2% CTR, but we routinely see 5-10%. In fact, we've seen a peak of

56% CTR with clear, contextual, and relevant messages with a clear call to action on live streams – where the broadcaster speaks to the message he pushes live, and supports it online with chat.

That level of interactivity is the future – Amazon/Twitch knows it and has created an open framework called Extensions to harness it.

### What challenges did you face in getting started?

The most challenging aspect of getting started is getting traction. We had proven the concept in the live esports streaming space but have found the traditional broadcaster space to be slower to embrace the future. Luckily, we have an excellent beachhead customer in Thai Telco giant, True.

True is Thailand's largest cable TV and internet services provider, as well as one of the country's largest mobile operators. Although a telecoms company first, True isn't comfortable sitting still and is constantly pushing the boundaries to deliver the services that tomorrow's customers demand. Reed Anderson, CTO, is keen for the company to think several steps ahead of the competition.

"Just like in the music industry, the business models for telecoms and content producers will be turned upside down by new technology in the next ten years. People's viewing habits are changing, and they want the right content, on demand, on their favorite device. The lines between content producer, distributor, and exhibitor are blurring too. You have to stay innovative to stay ahead of the game and keep your customers."

True engaged Promethean to deliver a video platform to power True apps, while offering viewers a premium interactive experience. Built by Promethean, the True Video player is an HTML 5, low latency, stream



Ask yourself, who is going to trust you to deliver for their business? Who understands your passion for innovation?



redundant media player with an IMA SDK3 for easy ad server integration. The player provides the foundation, while the Promethean platform delivers innovation.

One such innovative service is Privilege, a loyalty platform True has built with the support of Thailand's leading retailers. True customers can earn points by visiting partner retailers like 7/11, and points can be redeemed on more items or watching movies on the True network.

"When we launched Privilege, it was about offering our customers that next-generation television experience. Our customers won't always want to passively watch television, they'll want to actively be involved. That's why we decided to partner with Promethean TV to bring Privilege to life. There was no-one else doing overlays in the same way as Promethean TV," said Anderson. "After the success of our initial partnership, we trusted Promethean TV to deliver that extra level of innovation we were looking for. The overlays provided the whole package – interactivity as well as new commerce opportunities."

### **With over 1500 vendors jostling for attention at major shows and in the press, how have you set about getting noticed by potential customers?**

You have to be surgical rather than scatter-gun. Potential customers have a problem they need solving: perhaps they have anaemic digital revenue, perhaps they need new ways to engage customers, or better ways to measure ROMI. Perhaps they've decided that pre-roll and mid-roll advertising just doesn't deliver.

Someone in that organization will have been tasked with finding a solution. Those are the customers who are

most likely to engage with a start up like Promethean and plan a pilot. People who intrinsically understand that which is measured, improves.

As a specific example: we've recently integrated with Brightcove and partnered with them at their PLAY event in Boston (21-22 May) to present to a new swathe of customers. Existing Brightcove customers can very quickly and inexpensively try out our overlays.

### **Based on your experience, what key pieces of advice would you give to someone considering starting their own company in the media technology business?**

Leverage your network. Building a business requires trust, and ultimately, it's not what you know, it's who you know. Ask yourself, who is going to trust you to deliver for their business? Who understands your passion for innovation? Your early partners need to share the enthusiasm for the future and to be willing to experiment. If you stand still in the digital space, you'll lose your audience to the likes of Amazon and Facebook.

### **You have taken advantage of IABM's Start-Up membership package. Which are the most useful services to you, and how have they helped you?**

It's early days, but we see IABM membership as a means of creating awareness – both for our business and the potential of our technology, but also how audience trends are shaping the evolution of the broadcast industry.

That means interviews like this, call outs at trade shows, and other opportunities to engage with strategic thinkers across the space.

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With OTT becoming the norm, the industry witnessed prime price-drops. These trends bring opportunities for PBT; interoperability, future-proofing and adaptability are essential

# IABM members speak – PBTEU



**Vladimir Stanic**  
GM, PBT EU

## What is PBT EU's fundamental business strategy?

PBT EU is a global systems integrator and solutions-provider for the broadcast industry offering first-rate solutions to local partners and customers. Armed with long-term industry experience, combined with service excellence, PBT is supplier of choice to multiple television stations, media organisations, production companies, post-production studios and teleports such as STN, Kinopolska, Telia Eesti, Doli Media Studio, IT Pros and HD Media to name but a few.

The team established EXEcutor as its own-brand symbol of quality providing end-to-end solutions that are easy to install, operate and support. The range consists of EXEcutor Broadcast Servers, EXEcutor Virtual Control Panel, EXEcutor Sync Master and EXEcutor Media Integrator.

Profuz Digital is PBT's technology counterpart focusing on developing software, operating in the Americas. PBT is also a proud technology partner of PlayBox Technology, and other world-renowned premium manufacturers including Blackmagic Design, ISID, SGO, CSE, S4M, and Chaos Group.

We adopt a customer-driven, personalised approach; we aim to support customers today with tomorrow's challenges in mind. This is vital in our outlook, as trying to embrace something new at the last minute is not the way to operate effectively.

With customers at the forefront, PBT accommodates demand for time-sensitive projects and turnaround expectancy. Our modest-sized organisation serves as an advantage, enabling us to be highly responsive to customer needs, even on a global scale. By responding swiftly, listening well, providing consistency, high-quality solutions, flexibility, and agility, we have earned the respect and trust of customers. We deliver comprehensive solutions designed to adapt to our

clients' growing needs such as training and 24-hour support, accommodating pricing models and educational versions.

## What geographical markets does PBT EU presently operate in? Any plans for further expansion?

PBT shaped its business in the CEE region (Central and Eastern Europe) and has an established customer base across Europe and MENA regions, enjoying the benefits of being part of the EU which provides security to those outside of the stable trading zone. New projections for 2018/2019 will be on EMEA and expansion to APAC in the future.

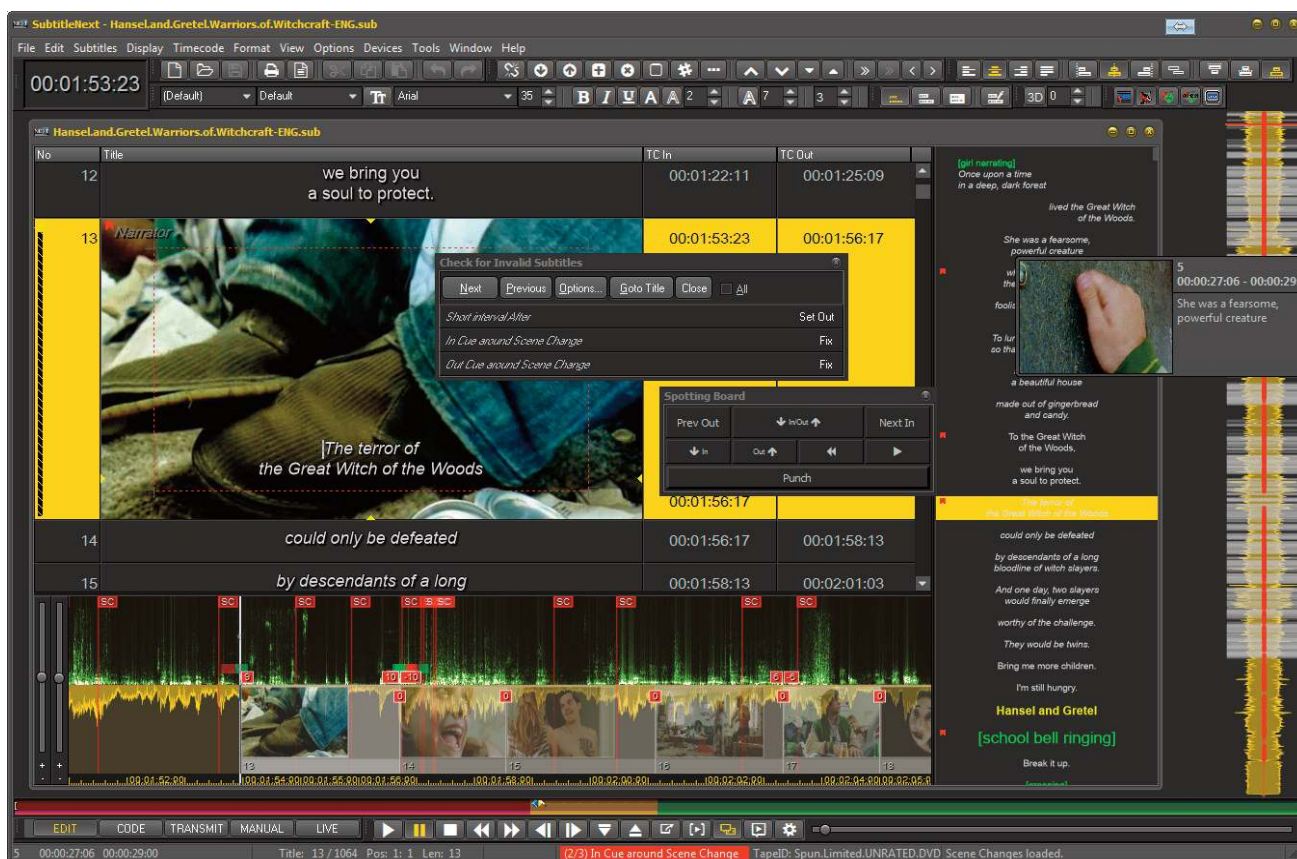
## Tell us about PBT EU's principal product and service offerings – what problems are you solving for your customers?

We are passionate and motivated to solve customer challenges. We take a long-term view, carefully nurturing customers' business needs by advising on formats, and new methods of bringing greater efficiency and increased speed. We ensure our solutions adapt to the customer's current workflows, to deliver successful services to their clients. The solutions we provide ultimately help increase their revenue.

Our main services and solutions are extensive, covering areas such as business and technical consultancy, multilingual pre-sales support, project design, system integration and commissioning, system maintenance, training, SLA, Channel-in-a-Box solutions with full functionality for ingest, playout automation, interactive graphics, subtitling, playlist preparation/scheduling, local video storage and in some cases, remote management, and monitoring.

Another exciting solution PBT provides is SubtitleNEXT - a timed-text subtitling and caption software application. With government legislation requiring broadcasters to deliver subtitling and closed captioning services to linear TV, OTT, and online channels, the pressure's on for broadcasters to migrate to time-efficient, cost-effective timed-text technologies. With so many subtitling platforms around, it's crucial to find solutions that have real impact and meet specific needs within budget.





SubtitleNEXT fits the bill perfectly for all levels of expertise and efficiently prepares and delivers various timed-text services such as subtitles, captions, annotations and descriptions that can be used in television programmes, films, opera and rock concerts, conferences, exhibitions, festivals, universities and even karaoke.

SubtitleNEXT displays a customisable UI to adapt to individual working environments whether on the desktop or in the Cloud. Users can rest assured that assets access, collaboration and protection are under control and therefore, problems with NDAs and contract rules are no longer an issue. Layouts and formatting are agnostic from delivery, formats, and standards.

**PBT EU is unique and versatile in its approach and seems to develop and offer individual products of its own, complete systems solutions and even systems integration – the whole package. What is the thinking behind this approach – and what is the mix in importance of these three areas in your business – and how do you combine them all into a seamless offering?**

We decided to combine our product, solutions, and systems integration (SI) offering, as they are interconnected. Our products are available to end-users

as standalone, including to other SI's, without overlapping with PBT's SI business. Furthermore, having our own SI business helps us to continuously improve product development at the same time. Most of the SI projects require additional upgrades, therefore, having it in-house is more efficient and gives us a competitive edge.

### What are your thoughts concerning IP workflows?

2017 was one of broadcasting's most challenging years with linear TV declining as traditional broadcasting is making a significant shift to IP-based content delivery. Radio channel distribution over satellite, the upsurge in mobile data, IP connectivity and internet requirements have all caused ripple effects. With OTT becoming the norm, the industry witnessed prime price-drops. These trends bring opportunities for PBT; interoperability, future-proofing and adaptability are essential, specifically where IP solutions currently fall short of delivering and solving current issues such as exacting requirements of broadcasters.

### What formats do your systems and solutions support?

We're here to make life easier for customers and readily support widespread industry formats. We understand



the importance of being 'future-ready' and its implications for the industry and therefore we create our own agnostic universal formats that are designed to unify systems that can be transcoded across systems and networks with ease. We're all geared-up for emerging technologies, formats, and resolutions such as HD, 4K, 8K, VR/AR and AI.

**Broadcasters and media companies are increasingly moving not only their playout but also their production workflows to the cloud – working towards the dematerialized facility. What role will PBT EU technology play in this?**

PBT's EXEcuter Channel-in-a-Box systems are revolutionary: they provide simplified, cost-effective solutions, with fast deployment time and lower total cost of ownership through reduced CAPEX and OPEX expenditure. The many advantages of PBT's CiaB include built-in automation, interactive graphics features, on-air CG capability, unlimited layering, dynamic data sources, slide sequencers, advanced scripting engine, API functions, and a wide range of input and output standards.

Sales Director Alexander Stoyanov expands, "Whatever is deemed beneficial in a traditional setting is also what clients seek to use in the Cloud at a virtual level. It's not always possible to meet every requirement. Managing expectations is important, remaining flexible and responsive to all ideas based on what set resources can yield. Common playout processes include many transformations, format transcoding, repacking, rendering, including procedures requiring high-level usage of computing power 24/7 year-round. The chances that a playout request can reach a resource peak and stay there for quite some time, are really high. In a perfect world, if limitless resources are available, I rest my case. In reality, this situation often means prioritisation of power. Cloud/virtual storage or post-production company structures could survive accidental glitches in system stability. In playout terms though, this could cause damage and downtime. The cloud/virtual dilemma answer is not definitive, we address it on a case-by-case basis."



**Your launch of the EXEcuter range of broadcast servers in 2016 seems to buck the move-to-the-cloud trend in the industry. How successful has it been in sales terms (i.e. meeting actual present broadcast needs) – are we getting ahead of ourselves with all this talk of 'everything cloud'?**

EXEcuter Broadcast Servers meet customer demand for more performance from less equipment. We also wanted a single point of contact for technical resolutions, and the ability to be faster to market with new and improved services appeals to technical decision makers. Meanwhile, reduced power consumption, more attractive initial purchase prices, and lower total lifecycle costs satisfy financial overheads. COO Ivanka Vassileva: "We've seen that Cloud services are not cheaper when we talk about the same level of functionality as that offered by traditional playout. This is especially relevant when the service is required for a time-period exceeding three months."

**At IBC last year, there were around 1800 companies exhibiting – that's an awful lot of competition in a relatively small market. What is PBT EU's 'special sauce'? Why do your customers choose you from the plethora of competitors?**

PBT stands out as a well-respected SI, delivering quality customised service solutions such as playout, OTT, encryption, multicast, and localisation, providing channels with a host of options. We are a professional team that understands and identifies the needs of customers by getting involved in their journey, making their priorities our own too.

**As an example of this 'special sauce', what made award-winning teleport STN choose PBT EU's EXEcuters above other manufacturers?**

Customers are quickly realising PBT's EXEcuter range can do considerably more than just cater for individual channels – it can also operate larger systems for multichannel customers. STN is a testament to the success of its recently adopted EXEcuter Broadcast Servers in fitting into its technical infrastructure. Already familiar with PBT as a well-established company in the region, the STN team felt comfortable with them carrying out



the installation. The ease and flexibility of the solution enabled STN to easily cater for their customers' constant expansion demands.

EXEcutor Broadcast Servers offer STN flexibility, allowing them to deliver custom-tailored solutions to their customers. The solutions range from simple non-redundant SD to highly complex playout including full control web interface with an easily configurable 'hybrid cloud', that makes the system easily accessible, reliable, and secure.

#### **What's next for PBT EU? – both in terms of products and business.**

SubtitleNEXT! Engaging younger generations. People viewing video footage without sound, via mobiles, tablets, laptops, or other screens outnumber traditional viewers, creating demand for timed-text. The software's not just limited to subtitling but can be used in various other settings – it has vast capabilities especially when combined with business process management system LAPIS to create a hybrid platform. With toolsets that provide real-time capability, we are also exploring VR/Game Development – there's huge demand with YouTube, Facebook, and other live transmission. We have already introduced a web-electronic

payment system with demo.

[shop.profuzdigital.com/](http://shop.profuzdigital.com/) - (For more info visit [pbteu.com/products/subtitlenext/](http://pbteu.com/products/subtitlenext/))

In addition, as the satellite, broadcast and M&E industries continue to reshape, customisation further drives demand for tailored development. Being a flexible global provider has allowed us to re-focus in other regions with partners and strong alliances.

#### **You've recently become IABM members. What drove this decision, and what do you think will be the most valuable member benefits for PBT EU?**

PBT's steady growth, key investments, and action-packed development projects indicated time was ripe to be part of a professional community where we can thrive and contribute. We're delighted to be associated with IABM. Member lounges, exhibition discounts and insights gained from an environment that celebrates excellence is invaluable to help promote our reputation as a serious player in SI, bringing added value to customers and partners.

# Creative collaboration: the way forward



**Andy Hurt**  
*Senior vice president of  
marketing and business  
development, Wazee  
Digital*

## How AWS cloud partners and a Hollywood heavy hitter broke the mold on prerelease content and watermarking

The cloud is an epic place.

By now it is well-known that moving media and entertainment operations to the cloud – all or in part – can yield big benefits in terms of cost, accessibility, and scalability, but there's another big reason the cloud is so great: It's the perfect environment for collaboration.

As media and entertainment technology grows ever more capable and complex, so do the workflows. And that means there's always some new problem that needs solving. These days, the best solutions arise when vendors and end users work closely together to determine exactly what's needed. Then, instead of going to the trouble and expense of creating a one-off solution in a vacuum, organizations and their end users can turn to other tech companies in the cloud to assemble just the right combination of best-of-breed solutions. The best part is, with hundreds of potential solutions within the Amazon Web Services (AWS) cloud ecosystem alone, they can work creatively in different ways at different times as needs arise, thereby solving problems in every part of the workflow and creating solutions that are easy for others to use. This process allows vendors to focus on doing what they do best. Meanwhile, their customers – the end users – appreciate the flexibility of choosing what works best for the problem at hand without having to pay for custom development. Creative collaboration is where the market is headed. Why? Because everybody wins.

### Case in point: Protecting assets at a Hollywood powerhouse

A major Hollywood production company responsible for countless blockbusters over the years recently decided to upgrade how it stores and shares its prerelease assets. Those assets could be things like approved movie trailers, trailers that have been customized by region, poster art, scripts, logos, legal documents –

anything associated with the marketing of an upcoming feature film. As part of the upgrade, the production company is making all its prerelease assets available to its hundreds of global partners through its instance of Wazee Digital's Digital Media Hub, effectively a centralized, cloud-native, white-label DAM portal that houses all the prerelease content. Instead of a push model, which is what the company was doing before, partners now go to one centralized location to search and download the content that's right for their market.

The content in question is extremely sensitive, confidential material that only gets shared with global partners prior to a feature film being released. The production company can't risk any of that material being leaked before the movie comes out.

To combat this security issue, the production company had a firm requirement to incorporate on-the-fly dynamic watermarking with a username and organization name for every asset. Traditional watermarking methods are not nearly secure enough. Overlays are not burnt in to the source file and can be easily removed. Visible watermarking serves as a deterrent, but won't necessarily identify the source of a leak.

Think of it. If you illegally shared an image or video containing a typical watermark (say, a logo), and the content owner wanted to take legal action, there would be no way to prove that you were the one who leaked it ... unless it had your name and organization embedded in the image from the moment you started viewing it. That's dynamic watermarking. Forensic watermarking takes the process a step further by embedding your personally identifiable information into the asset's code like an invisible digital fingerprint. That way, even if you somehow mask the visible watermark, you would still leave a unique identifier behind without even knowing it.



Wazee Digital didn't support dynamic and forensic watermarking because traditional watermarking is enough for most of its clients. But this case was special.

"Rather than go down the path of developing our own dynamic and forensic watermarking technology, we looked for other tech companies within the AWS cloud ecosystem that could do exactly that," said Andy Hurt, senior vice president of marketing and business development, Wazee Digital. "After all, collaborating with another AWS partner through open APIs that are easy to consume was just a no-brainer. That's when we brought in SafeStream. That's the beauty of the cloud."

Leveraging Amazon's cloud infrastructure and scalability, SafeStream can re-encode a watermarked video file at the same speed it takes to play or download a video file that isn't watermarked. The result is a customizable watermark embedded into the file itself, which can be visible, forensic, or both. And unlike with a linear re-encode – a costly, time-consuming process that creates latency and makes for a poor user experience – the global partners who are searching for assets barely know it's happening.

Consider the earlier example, but this time with dynamic watermarking in place. When you log in to the production company's prerelease asset portal using credentials you've been granted, you can stream or download the assets you need, and those assets will be watermarked on the fly with your name and organization. Now if you distribute that content illegally (but you'd never do that, would you?), the production company will know exactly who to pursue. Imagine the wrath for leaking a blockbuster movie. Yikes!

Thanks to creative collaboration among Wazee Digital and SafeStream, the Hollywood heavy hitter now gets the benefit of having an embedded visible watermark, embedded forensic watermark, and virtually no wait time in the process. In other words, it gets the high level of security it demands without financial or technical challenges and without slowing down the experience for its partners.

### Why is this collaboration so creative, anyway?

What makes this collaboration especially creative is the idea of combining an online, on-demand forensic watermarking tool with a cloud-native digital asset management platform – something that has never been done before.



"Watermarking by itself is wonderful, but watermarking within a sales and marketing or dynamic archive platform completes the circle and adds a lot of value," said Matt Thomas, vice president of sales for SHIFT, creators of the SafeStream technology. "Being a turnkey part of the digital asset management workflow takes the onus off the customer to have to cobble together all of these different solutions, and allows them just to say, 'Yep, I want security. Plugged in. Done.'"



It also goes back to the user experience. This solution is so different from anything else out there because there's virtually no latency from the user's perspective. When downloading assets out of Digital Media Hub, users have no idea of all the complexity going on behind the scenes in terms of dynamic watermarking.

### The takeaway

This collaboration solved a problem for one end user, the production company, but now it has broad application for many other content owners and rights holders. Being able to apply a dynamic watermark so quickly without any friction has allowed people to put watermarking into other workflows and other areas of the supply chain — places where they would have liked to have had it before but couldn't because it was too time-consuming or expensive.

For example, just about anywhere there's video content upstream of release, or even postrelease in one territory but prerelease in another, there's an opportunity for watermarking. Think sales screeners or press screeners. The solution could also work in the production phase of the workflow for sharing things like pre-vis or dailies or rough cuts. Essentially, anytime you need to share a piece of prerelease video outside the firewalls, there's an opportunity for watermarking to make sure you're protecting it at every step of the supply chain.

The secret sauce in this collaboration was the cloud ecosystem. It would have been difficult for the production company to solve this problem on its own without investing in development. But because the company is working directly with one cloud partner (Wazee Digital), by extension it got the benefit of the entire cloud ecosystem (in this case, SafeStream). The cloud enables these best-of-breed collaborations that companies like our production powerhouse would be hard-pressed to develop on their own.





# April 2018 BaM™ Awards – the cream of innovation at this year's NAB Show



**Peter White**  
CEO, IABM

This year, IABM launched the Broadcast and Media Awards (BaMs™) – a unified technology awards program that is designed to be the gold standard for broadcast and media innovators. The BaMs™ are presented at NAB Show, Las Vegas and IBC in Amsterdam every year to recognize outstanding technological innovations that deliver real business and creative benefits.

**BaM™**  
AWARDS 2018

Judging is carried out by a panel of 40 non-affiliated, expert judges, making the BaMs™ the only truly independent technology awards in the industry.

The BaM™ Awards are made to innovations in the nine categories that make up the new BaM™ Content Chain: from Creator to Consumer – accurately modeling the structure of the industry today. A tenth category recognises an outstanding collaborative project. For the first edition of the BaM™ Awards at NAB Show 2018, there were an incredible 100+ initial submissions which were shortlisted to four entries per category.

For John Ive, IABM Director Strategic Insight, and chair of the judging panel, the entries represented the cream of technology innovation at NAB Show 2018. "The quality and breadth of innovation embodied in the entries was quite simply outstanding; innovation is still clearly at the heart of what drives this industry forward. Many of the disruptive changes facing our industry are represented by the wide-ranging applications. If you weren't at NAB Show this year, the following summaries of the shortlisted and winning entries will give you an authoritative overview of what is driving our industry forward."



# BaM™

## AWARDS 2018

### Create

Winner

#### Sachtler and Vinten

flowtech Camera Tripod Technology

Shortlist

**ARRI** ALEXA Large Format System

**Chrosziel** Chrosziel Zoom Servo Drive CDM-MK-Z

**Rotolight** Anova PRO 2 Professional LED lighting

**Sachtler and Vinten** flowtech Camera Tripod Technology

### Produce

Winner

#### Vizrt

Viz Libero AR augmented reality sports analysis

Shortlist

**NEP Group** NEP Andrews Hubs

**Ross Video** Ross Graphite All-in-One Production System

**Tedial** SMARTLIVE Automated LIVE Sports Solution

**Vizrt** Viz Libero AR augmented reality sports analysis

### Manage

Winner

#### Prime Focus Technologies

Secure Subtitling Tool for Pre-release content

Shortlist

**Amagi Media Labs** Cognitive playout infrastructure with ML-augmented content preparation

**Ooyala** New Ooyala Flex Media Platform simplifies video operation

**Prime Focus Technologies** Secure Subtitling Tool for Pre-release content

**Skyline Communications** DataMiner flow and service orchestration for all-IP media infrastructures

### Publish

Winner

#### ZOO Digital

ZOOdubs cloud dubbing service

Shortlist

#### Edgware

Edgware enables server-side dynamic ad insertion for Android devices

**Simplestream** VOD-in-a-Box

**Wowza Media Systems** Wowza

ClearCaster: Improving the Success of Facebook Live Broadcasts

**ZOO Digital** ZOOdubs cloud dubbing service

### Monetize

Winner

**NPAW** (Nice People At Work)

YOUBORA AI 2018

Shortlist

**Deluxe Entertainment Services Group**

Deluxe One

**NAGRA** OpenTV Signature Edition

**NPAW** (Nice People At Work) – YOUBORA AI 2018

**Simplestream** VOD-in-a-Box

### Consume

Winner

#### NeuLion

NeuLion Digital Platform Advanced Mobile Experience

Shortlist

**Eutelsat** Sat.tv: smart programme guide

**Massive Interactive** Massive AXIS: how Telecine Play Grew its OTT Traffic by 75%

**NAGRA** OpenTV Signature Edition

**NeuLion** NeuLion Digital Platform Advanced Mobile Experience

### Connect

Winner

#### Dejero

Dejero CellSat: Connectivity when you need it, where you need it

Shortlist

**Artel Video Systems** SMART Media Delivery Platform

**Dejero** Dejero CellSat: Connectivity when you need it, where you need it

**GatesAir** GatesAir IPConnect: Reliable Data Transport and Protection over IP Networks

### MuxLab

SDI over IP Uncompressed Extender

### Store

Winner

#### Object Matrix

MatrixStore: storage re-imagined

Winner

**Avid** Avid NEXIS I E5 NL

**Imagine Products and StorageDNA**

dnaLTFS with myLTodna and PrimeTranscoder

**Object Matrix** MatrixStore: storage re-imagined

**Western Digital** G-SPEED Shuttle: Capture and Transfer Creative Content in the Most Demanding Production Environments

### Support

Winner

#### Sonifex Ltd

AVN-PXH12, AES67 Stream Mix Monitor

Shortlist

**Sonifex Ltd** AVN-PXH12, Rackmount AES67 Stream Mix Monitor

**SpectraCal / Portrait Displays** CalMAN 3D LUT Auto Calibration for LG OLED Displays

**TAG V.S.** MCM-9000U: IP-based, software-only multiviewer/monitoring solution

**Telos Alliance TV Solutions Group** Telos Infinity IP Intercom

### Project, collaboration or event

Winner

**NEP Group & Discovery Networks**

Cloud-Based MAM System for the Olympic Games

Shortlist

**DAVID Systems** Pop-Up Radio

**NEP Group & Discovery Networks**

Cloud-Based MAM System for the Olympic Games

**Nevion** Norway's TV 2 chooses Nevion for intra- and inter-facility IP media transport

**Zhejiang Radio&TV Group / Sobey** China Blue Cloud

# BaM™

## AWARDS 2018

## FLOWTECH TRIPOD wins coveted IABM BaM Award in 'CREATE' category

**flowtech™**

**Sachtler® and Vinten®, both Vitec Group brands and global industry leaders in camera supports for over 100 years, received a coveted IABM Broadcast and Media (BaM™) award at the 2018 NAB Show for their new flowtech™ camera tripod technology.**

Winning top honours in the BaM™ 'Create' category, flowtech is based on an all-new carbon fibre technology that includes the world's fastest-deploying legs, unique quick-release brakes, and easily adjustable levers for quick and easy setup in any type of remote production environment.

flowtech features a set of two-stage legs with an easy-to-remove midlevel spreader, rubber feet, and a payload capacity of 20 kilograms (44 pounds). The quick-release brakes enable legs to be deployed simultaneously and adjust automatically to the ground's surface, saving operators from bending over and manually adjusting multiple brakes on each leg. A unique hinge-lock mechanism allows users to capture extremely low, ground-level shots, removing the need for extra 'baby legs.' The exceptional torsional stiffness of flowtech ensures that the tripod will not twist during camera-panning movements, an extremely important consideration in all motion picture productions.

At the 2018 NAB Show, Sachtler and Vinten showcased flowtech technology with the flowtech 75 tripod, compatible with all major 75-millimetre fluid heads. flowtech 75 is an ideal companion for digital cinema cameras such as the Sony PXW-FS7, Blackmagic URSA Mini, and the Canon Mark II. Lightweight and easy to transport, flowtech 75 can be carried comfortably on the camera operator's shoulder, with magnetic locks keeping the legs stable during transport. Plus, flowtech now features two optional accessories – a detachable carry handle and a compact and lightweight dolly.



"We are tremendously honoured to be an inaugural winner of an IABM BaM™ award. With flowtech, we set out to redefine the professional tripod and create a device that truly transforms the way camera operators work – and if the industry accolades we've already received are any indication, we've succeeded," said Karen Walker, vice president of product management, Vitec Production Solutions. "With flowtech, we've thought of every detail of the camera operator's workflow, and we've created a tripod solution that is far easier to use and more versatile than ever before, accelerating camera operators' workflows on any type of broadcast, film, or video project."

More information on flowtech is available at [www.flowtech-tripod.com](http://www.flowtech-tripod.com).





**ARRI has been making movie cameras for more than a hundred years, and our equipment and services are used by some of the most creative and successful filmmakers in the world.**



**The ALEXA LF system comprises our Large Format Camera, Signature Prime Lenses, an LPL lens mount, and PL to LPL lens adapter.**

The ALEXA LF has the largest sensor of any full-frame cinema camera on the market. The sensor is slightly larger than full frame, and the camera records native 4.5K with ARRI's best overall image quality. This allows filmmakers to explore an immersive large-format aesthetic, while retaining the sensor's natural, pleasing skin tones and stunning capability for HDR and WCG workflows. Versatile recording formats, including efficient ProRes and uncompressed, unencrypted ARRIRAW up to 150 fps, satisfy all on-set workflow requirements.

Our new Signature Prime lenses are complex pieces of precision-engineered mechanical hardware that combine up to 27 pieces of glass with a unique magnesium casing which is 20% lighter than aluminum. The hardened aluminum gear rings are less prone to wear from friction and don't have magnesium's flammability. The section between the rings is wider than on other lenses. This allows for easier handling, and gives more space for lens motors to be fitted down one side, leaving scales visible.

A crucial element of this new system is the LPL lens mount, optimized for large-format sensors. A wider diameter and shorter flange focal depth

allows the ARRI Signature Prime lenses and all future large-format optics to be small and lightweight, with a fast T-stop and pleasing bokeh – a combination of features that would not be possible within the confines of the PL lens mount.

The LPL mount will also be available for other ARRI cameras such as the ALEXA Mini, and is being licensed to third-party lens and camera manufacturers. Although the camera, lens mount and lenses are new, full compatibility with existing PL mount lenses and ALEXA accessories is a cornerstone of the system's design. This is part of ARRI's commitment to customers, ensuring their investment is 'future-proof'.

A PL-to-LPL adapter offers backwards compatibility with all PL mount lenses, be they Super 35 or full frame. The adapter attaches securely to the LPL lens mount without tools, allowing crews to rapidly switch between PL and LPL lenses on set. Cinematographers are therefore offered an unlimited lens choice, with complete lens metadata accessible from LDS-2, LDS-1 or /i lenses.

The system – the camera, the lenses and the mounts – is an industrial tool designed to help the world's finest cinematographers capture unforgettable images that exude feeling, emotion, and warmth. But alongside that functionality, we think we have created something with classic good looks which brings with it a timeless aesthetic.



## Chrosziel – CDM-MZ-Z zoom servo drive



**For decades working broadcast for ENG/EB camera operators was challenging: leaving the left hand on the focus ring all times – while making focal length corrections with the zoom rocker controlled by the right hand.**

Also, 35mm reasonably priced cameras entered the ENG/EB production for a while now offering benefits of a large format sensor, while shooting on the go creating the need for cine style lenses for high quality shots. With the MK 18-55mm and MK 50-135mm zoom lenses Fujinon offers competitive lightweight cine lenses for 35mm cameras, but without a zoom motor. So, Chrosziel decided to fill this gap and developed the zoom servo drive CDM-MZ-Z. The challenge was to get it reasonably priced, because no one who bought a MK lens is willing to pay the same price for just one accessory. Finally, Chrosziel did it.

The motor with gear and a PCB with CPU is fully integrated in one small housing that weighs only 130g (0.29 lbs.) and is as small as just a few AA batteries in a row. It is mounted within a few seconds with two captive screws. Combined with the Fujinon MK lens it makes an easy to work and carry combination – ideal for TV run & gun.

The unit is powered via D-Tap – so any V-Mount battery or 'better' in-camera batteries (BP-U style) can power it. For users with full Sony workflow Chrosziel offers a power cable with Hirose 4-Pin connector. As soon as the camera (and the unit) powers up it starts calibrating offering

four different user designed zoom behaviors including soft ramping for smooth zooming. That sorts out even LANC shortcomings.

The CDM-MK-Z is not just a simple motor, since it hooks up to the FS7/FS5 LANC protocol, and simply uses the Sony standard zoom grip/rocker combination, takes the rocker data and translates it to the zoom motor. All other control commands are still working, the zoom servo drive forwards the LANC data also back into the camera, so it sits in the middle between Sony handgrip and the camera's body.

But the LANC protocol and the Sony handgrip offer only eight speed levels in total: there is a need for sophisticated options. With the help of professional camera operators, feasible zoom curves were developed: One mode is meant to be 'EB/Documentary' (fast, but not too fast, crawl speed zooms possible, too), others are much quieter (Silent Mode) or much faster for live production or hard-cut work like rock concerts, where a fast focal length change is essential. Overall, Chrosziel brings back beloved EB/ENG workflows (zoom in – focus – zoom out) into lightweight, low-priced cine zoom lenses, too.

Chrosziel innovates and manufactures fine precision mechanical, optical and electronic products with more than 40 years of experience. Chrosziel Professional Camera Accessories, Lens Control Systems and Lens Testing Instruments are widely used and respected in broadcast, cine, and lens service. The products are available in more than 50 countries worldwide.



## Anova PRO 2: setting the standard for professional LED lighting



**The newly launched Rotolight Anova PRO 2 is taking the broadcast, media and entertainment industry by storm. Following on from being named Best of Show during the 2018 NAB Show in Las Vegas, the pioneering LED is already a firm favourite in TV studios and on film sets around the world.**

The LED is a revolutionary continuous light and High Speed Sync (HSS) flash developed for creative image makers and designed for use on-set and on location. With outstanding colour reproduction, a built-in suite of patented special effects (CineSFX<sup>TM</sup>), and the best power to consumption ratio in the industry, the Anova PRO 2 is setting the new standard for professional LED lighting.

### The ultimate LED

The Anova PRO 2 delivers best-in-class colour reproduction (CRI>96, TLCI 91), due to Rotolight's own AccuColour<sup>TM</sup> LED phosphor technology. This ensures filmmakers can get the right shot first time, with the right colour, eliminating the need for expensive and time-consuming post-production work. The LED is also the first light in the industry to feature electronically adjustable colour temperature in both flash and continuous modes, which enables users to adjust it to match the ambient light in any surrounding or achieve a range of specific effects.

The Anova PRO 2's suite of CineSFX enables on-the-spot creativity in filmmaking, allowing users to simulate various effects environments, including lightning, gunshots and paparazzi. This feature cuts out the need for a conventional flicker box, avoiding additional costs and hours of set-up time.

Its reputation as one of the most energy efficient lights on the market is reinforced with just 72 watt consumption, which helps users save on operating costs in studios and means fewer batteries are needed when the Anova PRO 2 is taken on location.

### A firm favourite

The Anova PRO 2 is already being used by DOPs, lighting gaffers and cinematographers all over the world, including in London's first fully 4K television studio Celebro.

Rotolight is the lighting provider of choice for Celebro Media Group, a studio regularly used by global broadcasters such as the BBC, MTV, and the Discovery Channel. As an existing Rotolight customer, Celebro Media was keen to be the first in the world to get its hands on the company's latest lighting innovation.

"The Rotolight Anova PRO 2 is the perfect light for working in the live television environment. We are able to light people accurately, very quickly, saving us time, mistakes on air and a lot of money," says Wesley Dodd, CEO Celebro Media. "We will be using 200 of the Anova PRO 2 lights in our new studios in Washington, Moscow and Los Angeles."

### A lighting pioneer

The LED is the flagship product of British LED manufacturer Rotolight. The company is a pioneer in the lighting industry and specialises in creating award-winning LED lighting solutions for broadcasters, filmmakers and photographers. Rotolight has quickly established itself as a leading innovator, that strives to create products that provide unique tools to image makers, allowing them to realise their creative vision and aspirations.





## NEP Andrews Hubs: Connecting Anyone, Anywhere to Bring Live TV to Air



**In late 2017, NEP Australia, the country's leading provider of outside broadcast and studio solutions, delivered the world's first live-to-air, uncompressed HD remote production using SMPTE 2110 through NEP's new permanent centralised production facility, The Andrews Hub. Under the direction of technology director and 25-year industry veteran Marc Segar, NEP used state-of-the-art, all-IP (internet protocol) facilities to allow NEP's engineers, cameramen and talent producers to broadcast a Hyundai A-League match from Brisbane while all production staff, including the director, vision switcher, audio director, graphics and replay operators, worked from the Andrews Hub Sydney control room, 932km away.**

A year in the making, the Andrews Hubs project has now expanded to include multiple productions in both its Sydney and Melbourne Hubs. NEP Australia and Telstra Broadcast Services recently partnered to achieve a major milestone in broadcast television by delivering the world's first remote production across the Pacific. The successful trial was conducted over four days between NEP's centralised, IP and multi-format production facility at the Sydney Andrews Hub and Telstra's Los Angeles datacentre – more than 7500 miles (12,000+ km) apart – using ultra-low-latency compression technology and Telstra's Distributed Production Network (DPN).

The successful trans-Pacific trial confirmed that the Andrews Hub control rooms can efficiently produce broadcast events around the world, and is just the start of NEP's extensive trial program to other locations, including Japan and the UK.

Before the Andrews Hubs project began, most of the technology used had not yet been built. However, several manufacturers brought forward plans

or developed devices for NEP to help bring this project – and industry milestone – to completion. The entire ecosystem is SMPTE 2110 for capture, contribution, production and distribution. IP was chosen for several reasons; one of the most compelling was the “anyone, anywhere” concept. In other words, there are no longer boundaries where people must be physically together to work; they can now work across many locations and use modern communication tools to maintain a team approach.

NEP Australia's Director of Technology, Marc Segar, says, “This is a game-changer for broadcast television, proving anyone can work from anywhere while connected to our network, whether in Australia or on the other side of the planet. It's exciting to think of the options and flexibility our technology offers to the industry.”

### About NEP

For over 30 years, NEP has been a worldwide outsourced technical production partner supporting premier content producers of live sports, entertainment, music and corporate events. Our services include remote production, studio production, audio visual solutions, host broadcast support, premium playout, post production and innovative software-based media management solutions. NEP's 3,000+ employees are driven by a passion for superior service and a focus on technical innovation. Together, we have supported productions in over 85 countries on all seven continents.

NEP is headquartered in the United States and has offices in 24 countries. Learn more at [nepgroup.com](http://nepgroup.com).





## Tedial's New SMARTLIVE marries AI to MAMs for elevated storytelling and increased fan engagement in sports production



**With over 18 years' experience, Tedial has earned an impeccable reputation as a MAM visionary and innovator. Tedial provides international broadcasters and global media companies with an intelligently engineered platform that enables users to take full advantage of file-based workflows, cloud computing and other technologies such as IMF and AI with maximum benefits and minimum risk.**

The Company's proven track record is supported by over 80 high-profile reference sites around the world, including some of the most complex and largest MAM systems in the broadcast and media industry. Solutions are third party and hardware independent, releasing customers from proprietary constraints and enabling them to maximize operational efficiency and increase return on investment.

Tedial continued its pioneering leadership role at NAB 2018 by introducing SMARTLIVE, the world's most comprehensive live event support tool and a major breakthrough in sports production. SMARTLIVE dramatically transforms the way Sports and Live Events are staged, cataloged and content delivered across numerous platforms, including Social Media. Tightly integrated with AI tools, SMARTLIVE can automatically generate an increased number of highlight clips during or after an event and deliver this advanced story-telling to a very targeted audience increasing the potential for significant growth in fan engagement while reducing production costs.

### **What makes SMARTLIVE unique in the industry?**

Before any action happens, SMARTLIVE ingests event data feeds and automatically prepares the broadcast event inside its metadata engine. Simultaneously SMARTLIVE automatically creates the corresponding log

sheets, the player grids and a schedule of the event for human assisted logging. All these preparations are linked and organized by collections, so an entire season of sports events can be prepared in advance.

During an event, AI generated metadata, like 'speech to text', is ingested and applied to the program feed, and the system is configured to automatically create clips based on actions, keywords or manually logged occurrences. SMARTLIVE automatically pushes content to AI engines; video and audio recognition can be leveraged to generate additional locator data and annotate the media proxies. And the system can automatically publish clips and/or push content to social media platforms.

SMARTLIVE is agnostic to any sports or data providers. Its powerful metadata engine can be easily configured to create an automatic metadata ingest process addressing demanding and complex sport workflows. SMARTLIVE dramatically increases the utility of the MAM GUI interface, bringing MAM much closer to LIVE production than ever before.

SMARTLIVE is 100% compatible with PAM providers such as SAM or EVS, making it the perfect tool to orchestrate all business processes on top of an existing PAM. Thanks to Tedial's award-winning AST storage management system, SMARTLIVE can manage the media life-cycle and all media movements between different locations, or simply manage historical sport archives. Multilevel search functionality allows the program producer to include timely historical archive footage for inclusion in the broadcasts or highlight clips.

SMARTLIVE also provide substantial financial benefits by reducing preparation time and creating more highlights with minimal staff. More content published means more fan engagement and more revenues.

**IABM ANNUAL INTERNATIONAL  
BUSINESS CONFERENCE  
AND AWARDS – 2018**



**SAVE THE DATE:- 6-7th December 2018**

## Leveraging Cloud Technologies in Subtitling

**PRIME FOCUS TECHNOLOGIES**

**Across the United States and around the world, the number of viewing options for both conventional television and cinema programming continues to expand and diversify. Along with new viewing options, consumers have come to expect programming to include enhanced features such as subtitles to accommodate the hard of hearing, or people looking to view programs without audio in a noise-sensitive or noisy environment, as well as viewers watching content in a foreign language.**

Creating subtitles has conventionally been a manually-intensive task with desktop-based applications such as Subtitle Edit, Subtitle Workshop, EZTitles and Cavena being widely used. With increased globalization and the exploding volume of available media, subtitles for an asset now need to be created in more languages than ever before, making the availability of skilled resources for different genres and/or languages a potentially limiting factor.

To meet this growing demand in an efficient, scalable, and cost-effective manner, organizations are turning to smart, cloud-based solutions for subtitling tasks. The benefits of these cloud-based technologies fall under three categories – Work Order Management, Multi-Layered Security, and Subtitling on the Cloud.

### Work Order Management

A smart, cloud-based MAM integrated with work order management can effectively handle the complexities of the subtitling workflow by auto-assigning tasks to resources based on key parameters like skillset, availability, cost, and ratings, thus freeing up managerial time. The manager can view progress of each asset as it goes through the workflow in a single dashboard, eliminating the need for tedious spreadsheets and multiple follow-up calls and emails.

Automating these processes means professionals can spend more of their time where they add the most value – in turn, increasing efficiency and decreasing turnaround time.

### Multi-Layered Security

In the media and entertainment industry, security is paramount, especially when operations involve pre-release content. For example, there are typically numerous copies of a 90-minute movie being downloaded for pre-distribution content operations onto various forms of media and servers. This increases the chances of a security breach, which is of particular concern to protect unauthorized viewing or even worse, bootlegging. Cloud-based subtitling eliminates the need to make multiple copies of an asset for this process, and ensures foolproof security for pre-release content through features like in-stream watermarking, encryption, watermarked essences, 'just-in-time' access, and OKTA integration.

### Subtitling on the Cloud

Technical advances in Artificial Intelligence (AI) hold the potential to change the way businesses execute subtitling operations. A subtitling tool empowered with AI can pass qualified genres of content to an AI engine to generate subtitles that can immediately be sent for quality checks. Further, such tools enable faster QC by highlighting points of low AI-accuracy to assist language experts. A SaaS pricing model also allows businesses to pay for only what they use – reducing upfront Capex, and focusing on Opex as they scale.

Smart, cloud-enabled subtitling tools, like PFT's Secure Subtitling Tool, have immense potential to revolutionize subtitling workflows in the M&E industry by providing an innovative way to enhance efficiencies, improve security and deliver high quality output at a much lower cost.

# Heralding an era of cognitive playout infrastructure with machine learning-augmented content preparation services

amagi

**Over the last three years, broadcast industry trends are signaling a few important directives for TV networks.**

1. The rise of individualism is creating an unprecedented demand for multi-screen content consumption
2. The millennial generation's attitude of 'here and now' is pushing the innovation boundaries in content discovery and delivery
3. The changing audience loyalty is further impacting subscription and advertising revenues

In such an evolving scenario, TV networks, content owners, and digital first networks are creatively trying to grab the piece of the action by building their presence across multiple content delivery platforms. For example, traditional TV networks are now adding linear OTT streams to their portfolio. Whereas, digital first networks are vying against traditional networks by delivering their feeds to more traditional cable distribution platforms. Also, content owners are leveraging their vast libraries to set up their own linear channels and delivering to VOD platforms. While the midstream activities of playout, and downstream activities of delivery have witnessed significant innovation with the emergence of cloud as a reliable broadcast technology option, upstream workflow activities of content preparation have remained manually intensive.

Traditional content preparation modules involve large physical infrastructure to store content and accommodate armies of video specialists to review content assets. This process is not only expensive, but is very time-consuming. As most of the work in this phase is routine and repeatable, it becomes an ideal candidate for automation saving precious man-hours, and more importantly scale rapidly.

Amagi TORNADO is a first-of-its-kind, cloud-based machine learning-augmented content preparation service that addresses requirements of efficiency and scale with equal ease. It is game-changing because of its applicability to a wide variety of content preparation activities catering to the unique needs of TV networks, content owners, vMVPD platforms, and digital first networks. Amagi TORNADO is conceptualized as a family of machine learning-based content preparation services whose scope can be expanded with increase in machines learning more about each segment of a video asset as they process higher volumes of content.

At the moment, Amagi TORNADO focuses on three high impact areas that can deliver both top-line revenue growth, and bottom-line savings.

## Factory-scaling of VOD segment creation

Linear broadcast model is highly reliant on sophisticated processing of video for ad break points identification, credits, color bars and blacks. Using Amagi TORNADO, video assets can be uploaded on to an Amagi-supported public cloud infrastructure such as AWS and Microsoft Azure. Amagi TORNADO synthesizes each segment in a video, intelligently learns from the inputs of human content preparation specialists and prepare segments for playout with rapid turnaround time. This is accomplished by training the platform to identify

logical break-points through understanding of scene change and audio levels. The entire workflow of uploading content assets, scheduling assets for preparation, segmenting, and status reporting can be controlled from any remote location using a web-based UI.

While taking a traditional approach to VOD segmentation, the rule of thumb allocates one man-hour effort to segment one hour of content. With Amagi TORNADO, this time is drastically reduced to less than 10 minutes per hour of content. Amagi TORNADO targets a 1:6 efficiency ratio vis-a-viz 1:1 ratio of manual VOD segmentation. As a result, by using Amagi TORNADO, TV networks can spin up large number of servers on the cloud to process high volumes of content simultaneously, increasing speed while reducing cost of VOD segmentation.



## Near real-time live to VOD conversion

One of the use cases that Amagi TORNADO can potentially address is the near real-time creation of VOD content from live broadcast. For example, in case of sports broadcast, using machine learning Amagi TORNADO can create a highlights package from a fresh off-the-air sports match, capturing key moments of the game – start, goals, player injury, referee decisions, final whistle and so on, and deliver it to OTT platforms in just minutes to enable immediate post-match binging through VOD. It can also reduce subscriber churn dramatically and lend scale to VOD creation from 100s of concurrent live channels, without deploying manual support.

## Auto ad detection of mid-roll ads

OTT today presents the biggest revenue generation opportunity in term of mid-roll ad insertion. In case of vMVPD platforms who are aggregating feeds for further distribution, very few broadcasters provide them feeds with ad markers. As a result, vMVPD platforms are unable to identify mid-roll ads and replace them locally. This leads to loss of additional ad revenues. Using machine learning techniques, the Amagi service can automatically detect ads in linear broadcast streams by comparing video segments with an active ad library. With repeated exposure to volumes of ads, the accuracy and speed of detection can attain efficiency levels in excess of 80 percent. The service can be integrated with Amagi's server-side ad insertion platform to dynamically replace detected ads with targeted ads and deliver it as a unified stream. Using such machine learning techniques, vMVPDs can now build a scalable ad revenue model by preparing for mid-roll ad insertions in input content streams.

By deploying Amagi TORNADO, TV networks and content creators can effectively complement the growth of cognitive playout infrastructure, delivering a truly innovative, factory-scale model of content preparation for broadcast.

## DataMiner: NMS & OSS innovation spreading across the globe



**Skyline Communications, the global leader in end-to-end multi-vendor network management solutions and BaM™ finalist in the 'Manage' category, proved to be one of the most innovative companies during the NAB Show 2018.**

The firm was shortlisted for its unsurpassed "DataMiner Media Flow and Service Orchestration" solution for uncompressed media-over-IP infrastructures. This acknowledgement emphasizes the leading position of Skyline's flagship DataMiner as a Network Management and Operational Support System, deployed by leading operators around the world.

The DataMiner system is the only one for scheduled and ad-hoc switching of end-to-end uncompressed media flows that interfaces with any vendor and any technology. Moreover, it is not limited to mere media flow orchestration. The platform also has the ability to interact with the operations and business management layer, including ticketing, billing and scheduling systems.

"DataMiner offers an unmatched level of reliability and visibility into your operations. We take pride in the fact that it provides full monitoring and control of facilities and environmental conditions in order to maintain complete supervision over your operations," comments Thomas Gunkel, Market Director Broadcast. "The latest release features a built-in Service and Resource Management (SRM) solution suite, which enhances DataMiner's capabilities towards a fully integrated solution to manage IP workflows and media services end to end, truly orchestrating SMPTE 2022-6 and SMPTE 2110 IP streams, even in a blocking switch fabric."

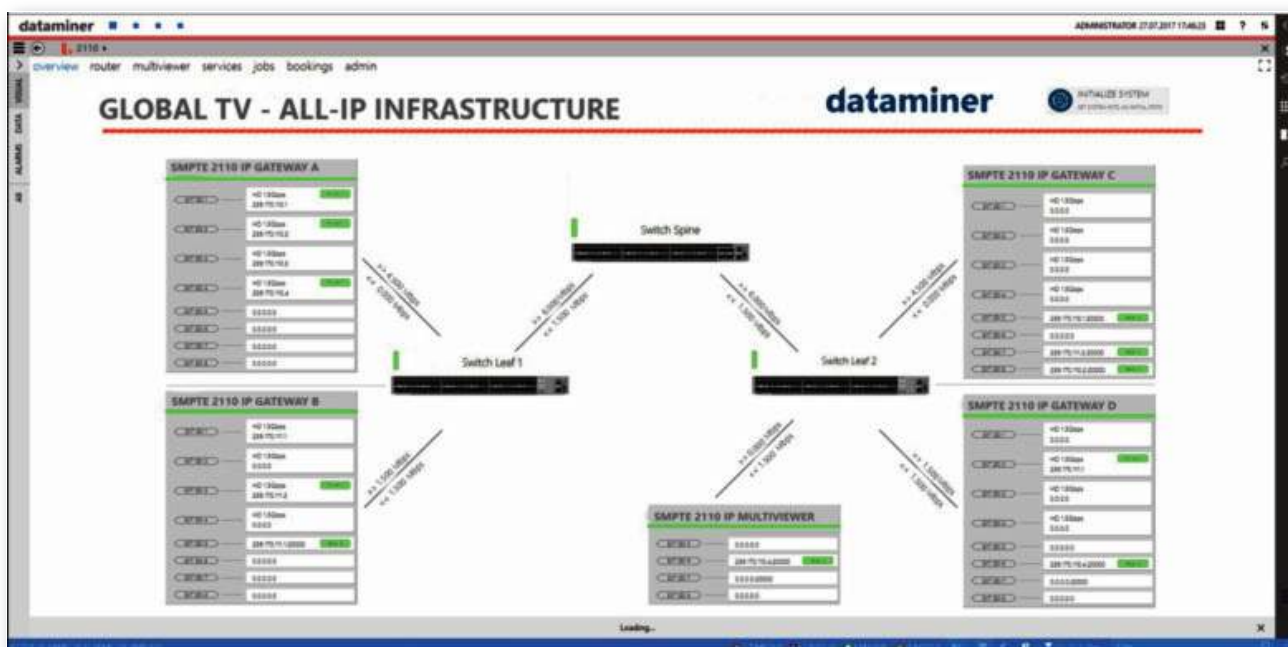
DataMiner not only gives the operator a detailed view on all active video, audio and metadata streams, it also proactively detects issues and warns

operators in case of service degradation or outages. It explores the full potential of a media-over-IP facility, down to each individual physical and virtual resource, with the aforementioned SRM playing a central role.

DataMiner SRM consists of 7 highly integrated modules, forming a cutting-edge, multi-vendor service orchestration platform. As a result of that, DataMiner interfaces with all IP edge devices and switch vendors, independent of the vendor, technology or protocols. Switch commands can be scheduled ahead of time or executed as quickly as possible.

Destination-timed, source-timed and switch-timed switching is supported. At any time, an operator can only book network resources and capacity that are effectively available for use. DataMiner offers end-to-end orchestration from a single pane of glass, across legacy SDI and IP-based infrastructure, on-premises and off-premises. Overall, SRM allows the customer to continuously increase operational excellence, to integrate new technology on the fly, and to evolve their service portfolio along with market demands.

"There simply is no other system like DataMiner that can handle the full stack management of your production media data center. This is the result of continued strategic innovation on the platform in areas of advanced analytics, end-to-end orchestration and automation, and gateway functions to broadcast OSS/BSS systems," adds Thomas Gunkel. "While technology vendors focus on bringing data and control plane solutions to the market, DataMiner fills a huge gap for media companies that desperately need solutions to deploy a consolidated, flexible, predictable and reliable management plane across their entire infrastructure. Our DataMiner platform is an effective response to all key challenges any broadcast and media operation is facing."





## ZOO Digital – Cloud dubbing service powered by ZOOdubs



**Thanks to the boom in popularity of OTT services, feature films and TV series are being delivered to more platforms and localized into more languages every day.**

Localization service provider, ZOO Digital has developed a cloud dubbing service that overcomes a number of industry challenges – including capacity, voice talent diversity, quality and time-to-market for dubbed entertainment content.

The platform behind the service, ZOOdubs, works like an online recording studio. Unlike the traditional approach to dubbing in which those involved are required to attend sessions in one central studio, ZOO's cloud dubbing service makes use of purpose-made software to manage the entire process remotely over the internet.

### Giving Content Owners Choice

In the traditional dubbing workflow, voice actors, dubbing directors, recording engineers and other participants assemble in the same physical location, presenting significant challenges for coordinating diaries and travel. Most traditional dubbing studios draw on a relatively limited pool of voice talent living nearby in order to minimize travel and subsistence expenses. This leads to the same voices being heard repeatedly for dubbed soundtracks across multiple titles.

In contrast, cloud technology provides a way for participants to collaborate efficiently online and scale up operations with a distributed team.

The potential for using general recording spaces, vocal booths and even home recording is significant. Subject to adequate acoustic treatment and the availability of a suitable microphone, such spaces give almost limitless capacity for voice capture – and more options for content owners.

### Innovative Cloud Technology

ZOO is adopting new ways of working, powered by cloud computing, to boost volume, quality and turnaround. Rather than using technically-complex generalist audio tools, the localization service provider has created purpose-made, cloud-based platform that is designed to be used by the voice actors themselves, thereby reducing costs and accelerating production.

Crucially for the entertainment industry, ZOO's cloud dubbing service affords higher levels of content security. In traditional workflows, reference video materials are delivered to each dubbing studio. Watermarks and spoilers are applied to protect content from the risk of leaks and piracy. However, cloud computing offers technical innovations with far greater protection – watermarks are personalized for individual voice actors; two-factor authentication is employed and user interactions with original content can be tracked and audited.

### Implementation and Performance

Since the launch of the cloud dubbing service in 2017, it has proved to achieve greater results for clients. Content owners are seeing the productivity of cloud dubbing projects increase by up to ten-times the traditional model – while maintaining quality standards.

Adopted by major OTT operators, studios and broadcasters, the service is now delivering over 300 hours of dubbed content every month.

For voice talent and dubbing directors, the platform is user friendly without requiring extensive training. Subject to their chosen recording environment meeting ZOO's stringent qualification tests, new voice artists can be on-boarded for projects quickly regardless of their location around the world.

### New Opportunities

Improved efficiency leads to shorter time to market for global launches. Reduced costs open up the potential to dub a wider range of content for more territories. By removing the requirement for a central recording studio per country, content owners have access to a larger pool of voice talent – offering greater variation and expertise.

Cloud dubbing is already transforming the localization process for TV and movie content owners – the next step for ZOO Digital is building on this growth.



## Edgeware enables server-side dynamic ad insertion for Android devices

**edgeware**

**Edgeware, the pioneer of TV CDN technology, has introduced Ad Enabler – a brand new product that segments the content stream in an extremely accurate manner to make sure the ad comes on exactly when it is supposed to.**

Ad Enabler provides frame-accurate segmentation that prevents fractions of old ads being shown or parts of content to be lost, both causing glitches to the end-viewer. Edgeware's Ad Enabler is one of the first to support live OTT ad insertion on the MPEG-DASH standard, which is the native format for Android devices.

### The advertising problem

Adverts play a crucial financial role when it comes to the business models of media companies. However, if the delivery of ads is fractured, they can disrupt the user experience and result in viewers tuning out. In 2017, the broadcasters of Hulu's *The Handmaid's Tale* were in hot water when the violent dystopian drama was interrupted mid-sentence with adverts.

Content providers like SBS in Australia had viewers reporting ads popping up mid-sentence. This created a Twitter storm because the adverts were killing tension and ruining the viewing experience.

Problems with buffering and the misplacement of ads drastically lowers the quality of experience broadcasters have carefully worked hard to put in place. PageFair's 2017 report *The state of the blocked web* reported that there were over 600 million devices running adblock software globally in December 2016, with 94% of global mobile adblock usage in Asia-Pacific. Content providers need the revenue from adverts to support

their productions. And with the rising costs of producing high quality content in new formats like 4K, ads shouldn't be the final straw pushing audiences towards piracy.

### Why Android?

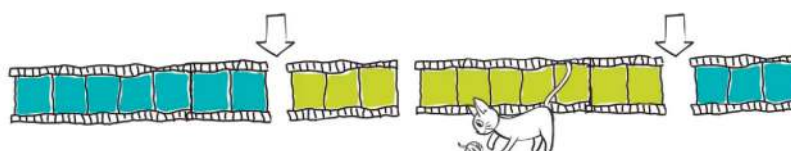
The Google-developed OS currently represents a 63.2% market share for smartphones in the US and 64% in Great Britain, according to recent figures from Kantar WorldPanel. As there is such a large proportion of the market that uses Android and requires advertising content with frame-accurate segmentation in MPEG-DASH format. Edgeware's new Ad Enabler allows its customers to offer personalised ads with a glitch-free viewing experience to Android users. This delivery capability represents a significant new revenue opportunity.

The Ad Enabler uses a proven integration with leading ad-stitching technology vendor, Yospace, for server-side dynamic ad insertion (SSAI). The insertion of ads server-side results in a seamless, TV-like user experience and vastly reduces the threat to advertising caused by ad blocking applications. It gives advertisers the confidence that their adverts will be seen by users – which is what they are paying for. The Ad Enabler also supports client-side ad insertion (CSAI).

This integration is significant as it allows broadcasters and customers to monetise live simulcasts natively across the widest range of connected devices. It simplifies broadcasters' multiscreen workflows and reduces the amount of development time needed to support player updates across multiple platforms by natively supported DASH.



### Frame-accurate server-side ad insertion



for any device  
HLS, MPEG-DASH

## The answer to creating a 'Netflix-style' video service



**The Subscription Video on Demand (SVoD) market has traditionally been skewed in favour of large, global players – such as Netflix and Amazon – that have the capital investment, infrastructure and personnel to deploy and manage such services. However, there is now the opportunity for smaller, niche content owners to break into the market, scale-up, and reach their intended audiences with meaningful and relevant content.**

Simplestream has helped make this possible with their VOD-in-a-Box solution: an end-to-end, white label service that enables the rapid launch of next-generation TV Everywhere services across multiple screens and territories. This fast to market, cross-platform solution can be deployed in under six weeks and is designed to be a low maintenance, cost effective option for content owners and distributors. Centralised control of all content and metadata through one portal, flexible monetisation options, powerful user interface (UI) frameworks, and flexible commercial models are the backbone differentiators that VOD-in-a-Box offers.

VOD-in-a-Box has been optimised and future proofed to cater to content owners and rights holders in the entertainment (broadcasters, OTT providers, media networks, live entertainment producers, telecommunications providers), sports, music and news sectors. Since September 2017, Simplestream has used VOD-in-a-Box to design, build and launch five new services – and is currently in a period of significant growth with a host of more services in the development and launch pipeline for 2018. Among the diverse, niche video services that VOD-in-a-Box powers include Real Stories for Little Dot Studios and HistoryHit.TV.

### Real Stories for Little Dot Studios

The BAFTA and Emmy award-winning content producer and broadcaster chose Simplestream in December 2017 to build an international VoD service for its Real Stories channel. Launched originally as a YouTube channel, Real Stories has grown to include over 300 high quality licensed and original documentary titles – from true crime and human-interest stories through to hard-hitting current affairs – with over one million subscribers and 700,000 views per day. More recently, the channel has extended across Instagram, Facebook and Twitter. The new service is SVoD in all markets except the UK where it will be funded by advertising. Developed with VOD-in-a-Box, Real Stories launched in January 2018 and is available on iOS mobile and tablet, Android mobile and tablet, desktop, Roku, Amazon Fire and Apple TV worldwide.

### HistoryHit.TV

Dan Snow had been making history documentaries for the past 15 years, and his shows have garnered hundreds of millions of views across the world on channels such as the BBC, PBS, History Channel, Discovery and National Geographic. Dan started the popular HistoryHit Podcast in 2015, and after finding success, the next step was to migrate to an SVoD service. Launched in December 2017, HistoryHit.TV is a global SVOD channel that provides history fans with original programmes, an extensive library of licensed shows and rich assets – including maps, timelines and detailed explanations of key moments in world history – which is available on iOS mobile and tablets, Android mobile and tablets, and Apple TV.



**Dan Finch**  
*Chief Commercial  
Officer of Simplestream*

About the author: Dan has nearly 20 years' experience working in the broadcast space, starting in the early days at Carlton Digital and ITV, before moving to A+E Networks in the UK gaining valuable experience working across multiple disciplines including marketing, ad sales, sponsorship and channel distribution in Scandinavia and Benelux. Dan has led the commercial development for Simplestream from a start up to where it has successfully got to today, as well as co-founding the popular UK online TV service TVPlayer and negotiating the channel carriage deals and forming key third party partnerships. Dan's extensive knowledge of broadcasting, marketing, ad sales and channel distribution has enabled both Simplestream and TVPlayer to accelerate their success in the broadcast and media sectors.

## Wowza Media Systems™ is the recognized gold standard of streaming, with more than 22,000 customers in 170+ countries.



**By reducing the complexities of video and audio delivery to any device, Wowza™ enables organizations to expand their reach and more deeply engage their audiences, in industries ranging from education to broadcasting. Service providers, direct customers and partners worldwide trust Wowza products to provide robust, customizable and scalable streaming solutions – with powerful APIs and SDKs to meet organizations' evolving streaming needs. Wowza was founded in 2005, is privately held, and is headquartered in Colorado. For more information, please visit [www.wowza.com](http://www.wowza.com).**

About ClearCaster: Wowza ClearCaster™: an appliance built for professional broadcasters and streamers seeking an easy way to improve reliability for streaming on Facebook Live. Designed in collaboration with Facebook (NASDAQ: FB), the ClearCaster appliance is built from the ground up to ensure the most successful broadcasts and engaging conversations on Facebook Live, from any workflow.

Wowza ClearCaster™ appliance is aimed at meeting demands for today's professional broadcasters. ClearCaster provides automated redundancy setup, ensuring unparalleled reliability on Facebook Live, as well as the ability to simulcast streams through the Wowza Streaming Cloud™ service.

ClearCaster's built-in redundancy capabilities allow broadcasters to run multiple devices, and failover or toggle between two or more paired machines. Broadcasters can also remotely manage ClearCaster through Wowza ClearCaster Manager (available at <http://clearcaster.wowza.com>): a user interface where users can start and stop streams, adjust settings, configure redundancy and many other features.

To help broadcasters deliver to audiences beyond Facebook Live, ClearCaster can simulcast broadcast-quality streams

through Wowza Streaming Cloud. Users simply pre-set a stream target in Wowza Streaming Cloud, then provide the connection code in ClearCaster Manager when setting up the stream to select their simulcast destination.

ClearCaster also offers several new native publishing features to increase audience reach and engagement. This includes the ability to restrict viewing audiences based on location, age or gender to aid with audience targeting and limit the viewership area for posts. Furthermore, ClearCaster supports embedded 608 captions, helping public broadcasters and news organizations satisfy FCC closed-captioning requirements for social audiences.

To increase the overall engagement of Facebook Live viewing on mobile devices, ClearCaster offers broadcast 1:1 aspect video options. Broadcasters simply select the Mobile Video Optimization checkbox in their ClearCaster settings, and the video is immediately cropped to fit, with the live preview of the cropped feed available on the Talent View display.

Wowza has further updated the pricing and core functionality of the ClearCaster appliance, introducing a new version: ClearCaster 1080. Priced at \$2,995, ClearCaster 1080 delivers crisp HD-quality video to Facebook, and allows for redundancy and simulcasting to multiple destinations. ClearCaster 4K, priced at \$6,495, will support UHD ingest and deliver in 4K to Facebook Live when supported; it also comes with a free one-year subscription to Wowza Streaming Cloud, as well as advanced comment moderation features

The scalable solution runs on off-the-shelf hardware, making it easy to implement, and minimizes the overall cost of initial ownership. Everything the customer needs, including the OS, a bootable product image and license, is delivered in its entirety on a Flash drive.





## It's time to defragment the fragmented pay-TV landscape



**OTT has become the mainstream go-to for the industry, but the subsequent disaggregation of TV programming has created a frustrating and complex issue for viewers who just want to relax in front of the TV.**

But it's never that simple. Viewers are invariably confronted with lots of different services and interfaces – the issue of too many remote controls isn't going away.

Disaggregation is, as it turns out, multiplying the complications of TV viewing.

What's the solution? How can pay-TV operators address the fragmentation and disintermediation in the TV marketplace?

What's more, how can both TV traditionalists and younger generations be offered a system that has the comfort of the easy-to-use experience we once had, while offering a sophisticated, modern solution?

Many pay-TV services have responded by becoming the aggregator of aggregators, onboarding the most popular SVOD apps.

But in reality, the broader solution entails looking at the entire video-consumption landscape with fresh eyes.

The solution must also place all generations of viewers at the heart of the equation, rather than focusing on just millennials or the latest crop of cord-cutters.

It must also reduce system complexity for the pay-TV operator, ensuring that they too benefit from a simpler yet comprehensive, secure, packaged and robust solution – one that delivers operational advantages of deployment speed, performance, and scalability.

We need a fresh, exciting and intuitive user experience, simplifying content navigation and discovery for all generations of TV consumers by

delivering targeted packages based on viewer dynamics, usage preferences, and ever-increasing content options.

With this in place, pay-TV operators could fully monetize their content and services portfolio, plus their network across all secured connected devices.

In response to this increasing need, NAGRA has developed Open TV Signature Edition.

An ecosystem designed to help pay-TV operators build a better video business, Open TV Signature Edition's key features include a ready-to-deploy and feature-rich platform for BYOD app-based plays and operator-controlled devices (Android TV & Linux); intuitive multi-journey UEX enabling both traditional and modern paths to content, and an operator console powered by AI-driven analytics to enable targeted content, real-time promotions and recommendations.

And, as each user's preferences are understood, the system updates promotions and recommendations accordingly, populating a novel timeline feature, a discover location and adding programming into the virtual linearized EPG channels.

While new consumer habits, emerging new content, and technological innovations can easily alter the pay-TV ecosystem dynamic, the key for now is to ensure that consumers are kept satisfied today, and that possibilities are kept open for tomorrow. That entails flexibility and agility. But how to keep consumers satisfied today? Give them an easy ride. We must always remember they want a simple, enjoyable experience when they switch on their TV. And NAGRA's Open TV Signature Edition may well be the key to that.

## NeuLion is a leading OTT technology and services provider



**NeuLion specializes in the broadcasting, distribution and monetization of live and on-demand content to internet-connected devices. As the de facto leader in streaming, NeuLion delivers over 63,000 live events annually. NeuLion works with top sports and entertainment brands such as the NBA, English Football League, Sky Sports, NFL, UFC, National Geographic and many more to deliver their content directly to viewers over the internet and create engaging, interactive viewing experiences for their audience in global markets.**

NeuLion works with media companies to optimize video delivery for mobile devices and to create new technologies and features designed to create unique, personalized experiences for viewers.

Personalized content delivery and interfaces, mobile-adapted camera angles, interactive on-screen graphics and more help differentiate the mobile experience and improve engagement. Content owners are increasingly relying on unique mobile experiences to capture new viewers, particularly younger viewers, and retain existing subscribers to drive revenue.

NeuLion's work with the NBA in redesigning the mobile app for NBA League Pass International, the league's subscription video product for live and on-demand basketball content, demonstrates how forward-thinking content owners can use NeuLion's technology to enhance the mobile viewing experience. Shortly after the NBA noticed year-over-year increases

in mobile content consumption, they responded by working with NeuLion to create brand new mobile-specific content and features, only available on the NBA League Pass mobile app.

As part of that, this past season saw the introduction of NBA Mobile View, a unique zoomed-in camera feed adapted for viewing on smaller screens. Mobile View includes interactive on-screen graphics that let fans view player profiles, stats, and live scores right "on top" of live and on-demand games. The interactive graphics create a rich viewing experience and provide new opportunities for media companies to engage directly with audiences.

NeuLion and the NBA also collaborated to develop and support new mobile-specific content that helps the league's international fans to watch whenever and wherever they want. NBA Rapid Replay publishes live trending highlights from around the league each night. Rapid Replay is enabled by NeuLion's content recommendation engine, which uses a combination of profile settings and viewing data to curate content libraries as well as provide the ability to filter the videos by team, player, type of video and more.

The NBA has seen several key benefits that reinforce their decision to invest in creating fun, unique mobile experiences for fans. Viewer engagement has increased this season, helping the league to improve audience retention and acquisition. This ultimately proves that delivering a superb mobile video experience helps drive new and expanded revenues.



## Blending cellular and satellite for flexible remote broadcasting with Dejero CellSat

# Dejero

**When remote news crews go live from a breaking news scene or a major event, they want to be ahead of the competition at every step.**

Reliability, flexibility and convenience are key transmission requirements when covering a story. When the location is on challenging terrain, or if the crowds are overloading the cellular networks, or in adverse weather conditions – or sometimes all three at once – reliable transmission paths are critical to ensuring that high quality video gets back to the station or direct to the viewer.

Field crews cannot spend their precious time worrying about the constantly changing conditions of cellular network connectivity. They don't want to have to book satellite slots or have to cut a live shot short because an allotted satellite window has been exceeded.

Although cellular connectivity is fast to deploy and cost effective, it is also reliant on coverage provided by mobile network providers. Metropolitan areas typically provide the best coverage, but cellular networks can get congested as many production crews vie for the same bandwidth and when the public starts streaming video from their smartphones.

Broadcast satellite technology is consistent and often relied upon for critical live coverage of major events, but comes with increased costs, complexity and administration tasks. It takes valuable time to establish a link. Satellites also lack flexibility, especially if a booked slot needs to be extended at the last minute.

Dejero, in partnership with Intelsat, has addressed these challenges by combining the best attributes of cellular and satellite technology, giving remote broadcasters the benefit of their respective strengths. CellSat allows broadcasters to seamlessly blend cellular connectivity from multiple carriers with Ku-band IP satellite. The result is the best of both cellular and satellite connectivity: a highly reliable, flexible and convenient transmission path even in the most demanding locations.

CellSat works by applying smart network blending technologies that are used to send out video and data, and to optimise the routing to achieve a reliable, low latency stream. A receiver located at the broadcast facility then recombines the packets, ready for playout.

CellSat constantly analyses the characteristics of up to six cellular connections, as well as the Intelsat Ku-band IP connection, in real

time, dynamically managing the transmission path to ensure that broadcast quality video is maintained. It also simplifies the satellite connection process. Since the satellite capacity provided by Intelsat is dedicated to Dejero, CellSat customers don't have to worry about booking satellite time.

This unique ability to blend cellular and satellite transmission paths has allowed broadcasters to experience the strengths that both technologies have to offer: taking advantage of the convenience and cost savings of cellular networks whilst enjoying the reliability and ubiquity of satellite networks.

Dejero's approach removes complexity, so field crews can focus on capturing great content while reducing the need to have technical staff in the field to support satellite communications.

CellSat ensures that broadcasters can access the bandwidth they need to reliably and conveniently cover an event and deliver broadcast-quality video, no matter where they are.



*Todd Schneider and Yvonne Monteresso receiving their Award from IABM's Stan Moote*



## Artel Video Systems – SMART Media Delivery Platform™



**Artel's SMART Media Delivery Platform™ is the conduit to simplifying the convergence of IT and broadcast ecosystems. As a base platform supporting native IP media delivery, the SMART platform's architecture provides feature flexibility and future functional expandability via software download.**

By using the latest networking and processor technology the SMART Media Delivery Platform has achieved a high level of integration and the agility to navigate media through next-generation networks

- **Integrated Switching Capability** – A non-blocking layer 2/3 switching and routing engine has been incorporated into the SMART platform to interface with the network eliminating the need for an external switch or router. The integrated switching capability allows for deep packet inspection, traffic management, flow control, protection switching, and link aggregation that can be easily configured through an SNMP interface.
- **Control and Management** – Simplifying the migration to an IP infrastructure, the SMART platform's control and management interface allows the ease of integration, operation, problem detection and isolation.
- **Designed for Service Provider and Broadcast Networks** – The SMART platform is designed to support transport and data services, and broadcast network video, audio, and IT network applications. With a single module, multiple ports of media may be aggregated and injected into the network without the need for different physical elements. The SMART supports SMPTE ST 2022-7 hitless switching, VLAN tagging, QoS, and traffic management. These functions along with greater port density drastically reduces power consumption, size and cost.
- **Software Defined Functionality** – The migration to IP has increase the need for more agile solutions. The SMART platform is designed to update functionality and add new applications via software download providing a solution to manage multi-platform content delivery and advertising revenues

The SMART Media Delivery Platform's small footprint, true data networking and transport versatility, software-defined functionality, and high density opens up new opportunities for media transport and broadcast applications and allows for a seamless transition as IP networks evolve.



The SMART ST2022 is a four-channel auto-sense 3G/HD/SD-SDI-over-IP multifunction gateway. This single double-high module can be configured as a video to IP transmitter or IP to video receiver; offers fully transparent carriage of 3G/HD/SD-SDI, and ASI including audio and ancillary data, four GigE data ports bridged to 10G interface and supports SMPTE standards-based IP Encapsulation, Forward Error Correction, and Seamless Protection Switching. Additional information about the SMART Media Delivery Platform is available at [www.artel.com/SMART](http://www.artel.com/SMART) Artel Video Systems Receives IABM Design & Innovation Awards 2017 in the Content and Communication Infrastructure category for the SMART Media Delivery Platform™.

### About Artel Video Systems

Artel Video Systems is a world-class provider of innovative real-time multimedia delivery solutions serving global markets. Today, most live events in the U.S. traverse Artel products to support their mission-critical workflows. Artel's expertise in IP- and fiber-based technologies spans more than 30 years and has established Artel as a trusted partner in the development of reliable, standards-based IP infrastructures. Artel's integrated solutions include fiber- and IP-based multimedia delivery, data networking, IP streaming, and precision timing. Artel is an employee-owned business. More information is available at [www.artel.com](http://www.artel.com).



## Connecting Data in the IP Audio Stream GatesAir paves a new foundation for secure, reliable data transport over IP networks



**At the 2018 NAB Show in April, GatesAir introduced Intraplex IPConnect, a standalone hardware device with integrated award-winning IPConnect software for reliable, secure data transport. Previously available only as an option for IP Link audio codecs, the new device provides reliability and security for virtually types of IP data, including those from IP audio codecs, HD Radio streams and Web or SNMP-based remote-control applications. The device can be used as an IP Gateway or a LAN bridge to provide point-to-point and point-to-multipoint connections.**

As broadcasters gradually transition from legacy TDM networking solutions and toward IP, there is a greater urgency to strengthen transport reliability and network security as new digital services are launched and managed over the network. These new services are accompanied by sizeable data payloads that must be effectively managed and protected to ensure proper delivery and playout.

The Intraplex IPConnect content transport solution is a standalone half-rack hardware device built to enhance that data protection capability across audio contribution and distribution networks. Acting as an IP Gateway or a local area network bridge device, IPConnect can support point-to-point applications (STL, studio-to-studio, remote contribution) as well as multipoint distribution (SFNs, DAB/DAB+ networks, content syndication).

IPConnect fortifies data transport across IP networks by minimizing data loss associated with dropped packets, employing a combination of packet protection schemes with network/time diversity and packet-level forward error correction. This includes the incorporation of Dynamic Stream Splicing (DSS) software, a unique GatesAir technology that sends multiple identical streams over the same network, or two separate paths via

specialized, divergent routing. With DSS, each stream borrows data from companion streams to avoid artifacts and service interruptions from packet loss.

IPConnect can accept data from any external source, and is considered application-agnostic since it transports data at the IP layer. This gives the broadcaster tremendous peace of mind to reliably tunnel any IP data between one or more sites, without concern of packet loss or outside interference.

For network protection, IPConnect enhances security through packet encapsulation, which encloses the external IP data packets in a GatesAir protocol wrapper as it moves across IP networks. IPConnect uniquely provides this protection for studio-generated data, as well as IP data from external sources. While the former might include RDS data or SNMP control signals to trigger a command at the transmitter site, the latter may incorporate program or control data coming from a network operations center, satellite feed or advertising service.

In addition to strengthening data transport, the new IPConnect device adds new built-in monitoring features such as SafeIP to manage redundancy for external IP sources and bandwidth measurement capability tools to help broadcasters confirm network health and capacity before launching an application. This will be especially useful in HD Radio architectures, where broadcasters can install a redundant pair of HD Radio Exporters with automatic failover support via IPConnect and its SafeIP application.

With other emerging applications that includes reliable and secure network connections to the control elements of TV transmitters and excitors, IPConnect represents the latest evolution of intelligent IP networking solutions from the industry's leading supplier of wireless content delivery solutions.



## MuxLab's new IP-Based Extender supports ST-2110 and NMOS API



**MuxLab's new 3G-SDI/ST2110 over IP Uncompressed Extender (model 500767) provides two methods of signal extension: one riding on an IP-infrastructure running 4K AV through a 10GB Ethernet switch; and another allowing a more traditional point-to-point extension using CAT5/6 or fiber cable. In both scenarios, uncompressed resolutions up to 4K/30 are supported.**

When riding on an Ethernet network, this new solution interconnects and delivers nearly unlimited combinations of HD-SDI and 3G-SDI cameras other video sources plus displays in point-to-multipoint and multipoint-to-multipoint configurations. When used in combination with cabling, it can send SDI up to 30 meters when using CAT5/6 cable and up to 400 meters when using multimode fiber cable in more traditional point-to-point scenarios.

A 1Gig Ethernet Switch port is provided for the connection of additional network devices; an RS232 port allows for the remote control of end devices. The 3G-SDI/ST2110 over IP Uncompressed Extender supports SMPTE ST-2110 and the NMOS API for convenient third-party management. It is designed for use in all commercial broadcast AV systems including news, sports and TV stations.

This new Extender joins MuxLab's growing family of uncompressed extension solutions supporting the higher resolutions in play today. MuxLab is a leading designer of connectivity and distribution solutions for commercial and residential installations of all sizes. Though specializing in the professional AV and broadcast markets,

MuxLab products have been implemented on countless, high quality AV installations in every major market around the world. Since its inception in 1984, the company continues to be a forerunner of technological advances in signal distribution and connectivity.

In addition to this solution supporting the uncompressed delivery of SDI, MuxLab also offers another version that supports systems using HDMI. The HDMI 2.0/ST2110 over IP Uncompressed Extender allows HDMI 2.0 equipment to be extended either using duplex multimode OM4 fiber with LC connectors at up to 4K resolution @ 60Hz uncompressed in a point-to-point configuration or via a 10GB Ethernet network. When IP-based, point-to-multipoint and multipoint-to-multipoint configurations are possible by connecting all devices to the Ethernet network.

While keeping up with emerging technologies such as ST-2110 in broadcasting, MuxLab's mission has remained the same: provide easy to use and affordable solutions that deliver all forms of AV anywhere. MuxLab's extensive, flagship line of AV over IP solutions covers all major compression technologies including H.264 /H.265, MPEG and JPG2000, as well as uncompressed signal delivery up to 4K/60 resolution and many audio options, offering solutions for HDMI, DVI, DisplayPort, SDI, KVM and Audio applications. A forerunner of the AV over IP evolution, MuxLab continues to deliver comprehensive, game changing IP-enabled systems for both commercial and residential installations.

## Matrixstore, from Object Matrix is a Digital Content Governance and object storage platform that protects and preserves content through its lifespan



**The broadcast industry has found itself in a new landscape, where all content is desirable on all platforms, and at all times. This means that not only are broadcasters finding themselves with thousands of hours of content but thousands of hours of content that needs to be available at any given time. Storage for content needs to be functional so that it is capable of storing content that can be easily ingested, logged, distributed and archived.**

Matrixstore, from Object Matrix is a Digital Content Governance and object storage platform that protects and preserves content through its lifespan. This enables the user to know where their data is, who has access to it, how they have access and how it is protected. MatrixStore integrates easily with a number of third party tools and applications thus enables bespoke automated workflows. MatrixStore also has Vision, the intuitive web-based interface for search, browse and sharing of media assets.

Many broadcasters are looking to benefit from cloud, but avoid high egress fees that amount from storing all content in the cloud, therefore they are adopting hybrid workflows.

That is why Object Matrix has introduced hybrid workflows, enabling customers to utilise their existing investment into on premise software packages that link into Matrixstore as well as taking advantage of as-a-service software packages that link into cloud storage. This creates operational efficiencies, provides content distribution flexibility, as well as the ability to share assets across multiple geographic regions. This allows for economic efficiencies, by placing assets that are commonly required in the on-prem Nearline solution to avoid egress fees whilst only paying for as-a-service applications that are frequently required in the cloud.

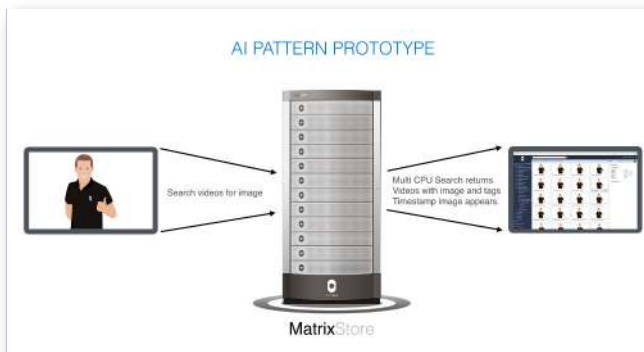
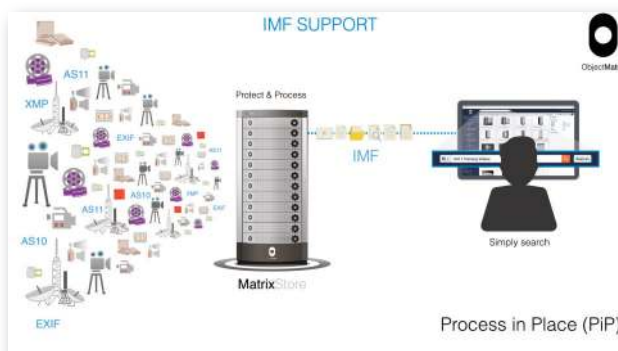
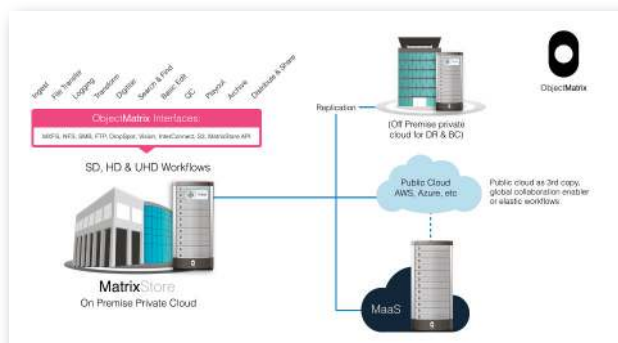
MatrixStore ensures that assets are fully searchable across the entire hybrid platform, making them available for instant sharing, re-use, and distribution. This makes it much easier to monetise assets within the storage. At the same time, users get the benefit of the scalability and data distribution provided by the cloud.

AI is another buzz word in the industry that has the potential to revolutionise storage. Because MatrixStore is now AI enabled, it can support image searching, semantic tagging and video clip searching within the storage platform. This has obvious advantages to broadcasters as it makes finding footage in the expanding video libraries easier and more efficient. Furthermore, the semantic tagging enables videos to be tagged with their subject matters without the need to employ manual loggers.

To further combat the challenges facing broadcasters as a result of the expanding video libraries, the latest version of MatrixStore enables IMF

workflows. When IMF assets are loaded into MatrixStore the metadata can be both viewed and searched on items such as the CPL files, thus enabling the user to control their IMF projects whilst also knowing content is secure, instantly accessible and discoverable in the entire archive.

Ultimately, these updates mean MatrixStore is able to deliver more operational & financial benefits to users, as well as making it easier than ever to discover and share assets within storage.



## Avid NEXIS | E5 NL delivers unrivalled nearline media storage



**In today's fast-moving media landscape, broadcasters require scalable and reliable storage solutions to grow collaboration between teams and facilities, optimise the value of their media assets and create high-quality media quicker and easier than thought possible.**

Avid NEXIS is the world's first software-defined storage platform that enables true storage virtualisation for any media application. Powered by MediaCentral, the most open, tightly integrated and efficient platform designed for media, Avid NEXIS delivers unrivalled media storage flexibility, scalability and control for both Avid-based and third-party workflows.

The latest addition to Avid NEXIS is Avid NEXIS | E5 NL – a high-density on-premises nearline storage solution. Avid NEXIS | E5 NL enables media organisations to seamlessly and efficiently manage media across online, nearline and archive storage.

By extending the Avid file system Avid NEXIS | FS to a secondary storage tier, Avid NEXIS | E5 NL eliminates the need for third-party tools to search for, find and import media. And instead of having to search for media in multiple pools of storage, users see only one pool of storage – from their high-performance storage to their archive storage-enabling them to find content much more quickly and efficiently.

Ideally suited for project parking, staging workflows and proxy archive, Avid NEXIS | E5 NL can be easily and tightly integrated into any media workflow. As it is managed under MediaCentral, Avid NEXIS | E5 NL can be easily integrated with MediaCentral | Cloud UX or Media Composer,

and is supported by MediaCentral | Production, MediaCentral | Asset Management, and Shared Library to facilitate collaboration.

In contrast with commodity IT nearline storage solutions, Avid NEXIS | E5 NL is optimised for media storage. With Avid NEXIS' hallmark redundancy and reliability, it's built for 24x7 operation. A new HTML-5 Administration UI enables access from any device, with improved security and usability.

Avid NEXIS | E5 NL provides a cost-effective way to scale storage capacity with a media organization's changing needs. It provides more than 7 Petabytes per system and enables nearline workflows to be expanded to the cloud. Its flexible storage infrastructure can be provisioned with required performance, capacity and fault tolerance characteristics. Until the launch of Avid NEXIS | E5 NL, media organizations have had to manage multiple storage systems from multiple vendors, which is costly, time consuming, and results in slow, unreliable and inefficient workflows. With the addition of Avid NEXIS | E5 NL to the Avid NEXIS family, media organisations can now use the same Avid NEXIS software-defined storage architecture across their nearline, production and high-performance SSD storage, enabling them to seamlessly, efficiently and cost-effectively manage media across online, nearline and archive storage tiers.

A game-changer in how teams operate and collaborate, cloud-enabled shared storage advances processes from production to distribution and securely manages media assets without the need for inefficient hardware-based silos. By enabling fully virtualized, cloud-enabled storage, media organizations can adjust storage capacity mid-project, without disrupting workflows and productivity.





## Sonifex Ltd: AVN-PXH12, AES67 Stream Mix Monitor

**SONIFEX**



**Sonifex is a UK based manufacturing company producing technical audio equipment for radio and TV broadcasters across the world. Started in 1969, Sonifex is historically known for making radio ‘cart’ machines in the 1980’s and more recently for its Redbox line of audio and video ‘fix-it’ interfaces.**

The company has progressed its technology from traditional analogue to digital and now to IP based networked audio. Focussing on RAVENNA AES67 and more recently Dante®, Sonifex’s new focus is to redesign its product range to take advantage of the benefits that AoIP brings. One of their newest products recently won a BaM Award™ during the 2018 NAB Show under the ‘Support’ category. The AVN-PXH12 Rackmount AES67 Stream Mix Monitor is a world first – it can simply and effectively simultaneously monitor and mix up to 24 x AES67 AoIP sources in a compact 1U rack to a speaker/headphone combination in a quick and intuitive way.

Sonifex worked with a UK TV broadcaster to produce a product which solved a problem that they had, and one which many more broadcasters will face: With audio moving to the AoIP network infrastructure allowing hundreds of audio sources to be available on the network, how do you easily monitor them, in a product which is simple to use and without adding complexity?

The broadcaster in question has up to a thousand audio sources on their network, available through a large router/mixer and they wanted a device at each position in their main Production Gallery/Control Room which could select multiple audio sources and either mix them down for monitoring, or select them individually. These would largely be AES67 audio sources but they would also need to be combined with physical audio sources available locally.

Marcus Brooke, Managing Director of Sonifex said: *“It’s a great honour for one of our new products to be recognised as being outstanding in this industry. The rise of IP audio and video throughout broadcast is changing the way that broadcasters operate and with the change, new opportunities are arising to develop products in different ways, to offer access to the myriad of audio and video channels available. The mix monitor is a triumph of a simple user interface making the job of monitoring much easier and is just one of many AES67 compatible products that we’re working on.”*

The main benefit of the AVN-PXH12 over traditional monitors is the speed with which sources can be monitored. Each unit has front panel headphone outputs and a speaker, together with rear panel analogue outputs. There are 12 x mini channel-strips along the front panel, each with a translucent rotary encoder and 3 selection buttons, allowing confidence monitoring, output mix level display, selection of main or secondary input, channel mute, channel solo and channel send to left, right or stereo mix of the output. With these simple controls, a mix of any of 24 channels can be made quickly and intuitively, ideal for live news environments where audio sources are changing rapidly and need to be monitored instantly.

As well as monitoring any AES67 AoIP stream, SAP discovery has been added to the unit so that AES67 Dante® streams can also be mixed and monitored. Additionally, Ember+ is used for the control communication allowing remote control of the product using the open Ember+ standard.



## TAG V. SMCM-9000U: IP-based, software-only multiviewer/monitoring solution.



**TAG V.S., is an international specialist in advanced IP monitoring and high-quality UHD Multiviewers. Established in 2008 by technology pioneers, Tomer Schechter and Gal Waldman, TAG has earned a reputation as an industry visionary and has remained ahead of the competition by anticipating and addressing the changing needs and requirements of the IP Monitoring Multiviewer market.**

The Company's flagship MCM-9000 was the first-of-its-kind, developed to provide one solution that did it all: DVB ETR-290 real-time monitoring and alarming, as well as baseband analysis and HD mosaic Multiview creation, all in the IP domain using off-the-shelf IT server hardware. The innovative MCM-9000 shattered traditional monitoring technology and paved the way for a whole new IP Monitoring Multiviewer paradigm.

At NAB 2018, TAG once again broke barriers with the introduction of the MCM-9000U – an upgraded version of the MCM-9000 that combines the sophisticated technology and simple operation of its predecessor with support for multiple formats, including compressed, uncompressed and OTT – all on the same platform. The MCM-9000U not only eases migration to an all IP infrastructure, but also supports the newly published SMPTE ST-2110 suite of standards for managed IP networks that address HD and UHD uncompressed video and audio streams at the Multiviewer's Inputs and Outputs, which is so critical in all broadcast production and post production applications.

The solution automatically scans networks, detects services, and utilizes simple drag and drop configuration capabilities for a totally customizable visual mosaic – viewable from anywhere, including mobile devices. The implementation of uncompressed UHD 2110-21 output results in unmatched picture quality at the mosaic output. Outputs from the monitored services also feature rich data overlays that serve as a strong tool for real-time error detection and alerts.

Additional benefits include its ability to receive large quantities of uncompressed sources and display them on the same screen. The MCM-9000U includes an intuitive web-based tool for layout creation and editing that facilitates the generation of multiple configurations, with numerous 'tile' types and a variety of visual structures. It can create and display more 'tiles', thus reducing the number of monitors and interface devices required, resulting in greater hardware efficiency. The versatile and flexible solution adapts to the changing needs of the user without changing equipment, providing substantial cost savings and allowing the facility to keep ahead of the curve as technology evolves. And because the software and licenses remain the same as hardware is replaced, costs are minimized over the life-span of the product.

The scalable solution runs on off-the-shelf hardware, making it easy to implement, and minimizes the overall cost of initial ownership. Everything the customer needs, including the OS, a bootable product image and license, is delivered in its entirety on a Flash drive.



## The Changing Landscape of Broadcast Audio: SMPTE ST 2110



**The recent approval of the SMPTE ST 2110 suite of standards is being advanced and adopted in multiple ways, not the least of which is its impact on the audio portion of broadcast. These standards specify the carriage, synchronization, and description of separate video, audio, and data streams in real time for live production, play-out, and other professional media applications.**

ST 2110 represents even more significant change as it opens the possibility of a new set of applications, workflows, scalability, and functionality. The standard re-separates digital audio from video, providing separate signal paths for each, allowing easier manipulation and processing of real-time audio as well as audio files. For example, an audio file in which a portion of the content needs to be dubbed to a different language can be sent to a cloud-based service for translation, then sent back for re-insertion without the intermediate steps of de-embedding and re-embedding.

ST 2110-30, the audio section of the greater ST 2110 standard, specifies and is built on the AES67 AoIP protocol. The AES67 protocol, issued in 2013, ensures the interoperability of products from various manufacturers and was rapidly adopted by all major broadcast audio equipment vendors. By basing the new SMPTE 2110 standards on AES67, the television industry has incorporated the most current standards work from the professional audio market, bringing these two groups into closer alignment and raising the possibility of additional benefits.



**Jim Kuzman**  
*Senior Content Strategist*  
*The Telos Alliance, TV Solutions Group*

Today, the most current and most mature AoIP protocol is Livewire+ which is ideally suited for all levels of professional audio and TV broadcast and production workflows. It is important to note that the new SMPTE 2110-30 standard incorporated not only the requirements of AES67, but the possibilities as well. AES67 has some specific requirements, such as 48 kHz sampling, 1ms packet time, and both 16 and 24 bit depth for all devices. But AES67 also allows for additional possibilities, such as 32, 44.1, and 96 kHz sampling, along with other packet timings and other options. This standardized, yet flexible approach will further change the landscape for television production, providing a common, reliable interface for maximizing interoperability while providing options for a wide range of workflows and content needs.

With increased efficiencies, new workflow possibilities, expanded interoperability and an entirely IP-based standard, SMPTE ST 2110 is the changing landscape of broadcast audio and how professionals will create, handle, and manipulate professional audio for television applications.



## NEP Mediabank and Discovery: changing the Olympic Games



**The 2018 Winter Olympics marked Discovery's first of four Olympic Games with broadcasting rights for most of Europe, and they needed to build a complete solution, from the ground up, to deliver Olympic content to 50 territories across Europe in 21 languages.**

They knew that one of their main challenges was going to be managing the tremendous volume of content coming in from Korea and out to all of their distribution channels. With 900 people from Discovery on the ground in PyeongChang and 1400 more across 10 sites in Europe, immediate access to content from anywhere in the world, with easy collaboration and content sharing was going to be critical. NEP worked with Discovery to build out their Mediabank cloud-based media asset management tool to create a custom solution for Discovery's ingest, storage, logging, distribution, and collaboration needs.

At its core, NEP's Mediabank is a cloud-based toolbox with an extremely intuitive and user-friendly interface that allowed Discovery's team to access their media from anywhere, anytime. They were able to search, process and distribute anything from their media library using any browser on their computer, tablet or phone. Mediabank includes three distinct applications:

- **AdEx:** An application that served as content courier for Discovery's digital video files, promos and masters. AdEx handled live ingest from OBS and Discovery's teams on the ground via a custom touch-screen application-based form, added rich metadata, automatically performed quality checks and delivered their files in the correct pre-set format to all of their platforms as well as external media partners. Metadata from this live logging tool also allowed Mediabank to handle auto-clipping and automated distribution to digital and social platforms almost immediately.

- **Review & Approval:** The collaboration application that allowed Discovery's entire team to share updates and comments clearly and quickly and move through the approval process efficiently. They used it to communicate real-time with colleagues to keep projects moving, annotate on material at any point during production, or give it a final check before going to air.

- **Library:** The application that served as a window to Discovery's entire media library. Rich with metadata, it offered a powerful search tool with the ability to share content with internal and external partners or publish directly to any destination. It also offered the ability to edit clips and set up scores of different automations.

Mediabank was able to take 132 different commentaries into 1 single hub, synch video and sound, add virtual and augmented reality elements and make content available with delay of less than 7 frames. At its peak, NEP's Discovery Mediabank supported 12,000 hours of Olympic content, handled ingest of 64 live feeds from PyeongChang, used over 550 Terabytes of storage, handled over 20,000 file transfers totaling 127 terabytes, created over 1,700,000 files, and using metadata, Mediabank created nearly 30,000 auto-clips. This was all managed in a simple, easily accessible web-based tool that is exceptionally user-friendly.

The full platform was rigorously tested for months, but the real test came the night of the Olympic Opening Ceremonies. Additional tension was added when athletes from North Korea and Russia entered competition just before the Games began, creating a last-minute hustle to update metadata and check the systems once again. The NEP and Discovery teams lined the operations rooms in Oslo and Paris when the 'switch' was turned on. The system worked perfectly, and the team's hard work and innovation was recognized industry-wide with a 2018 IABM BaM™ Award.





## DAVID Systems – Pop-Up Radio

**DAVID**  
s y s t e m s

**DAVID Systems is a leading enterprise software company, known for open, customizable and scalable rich media workflows, which are deployed in some of the largest and most innovative radio stations and media companies worldwide.**

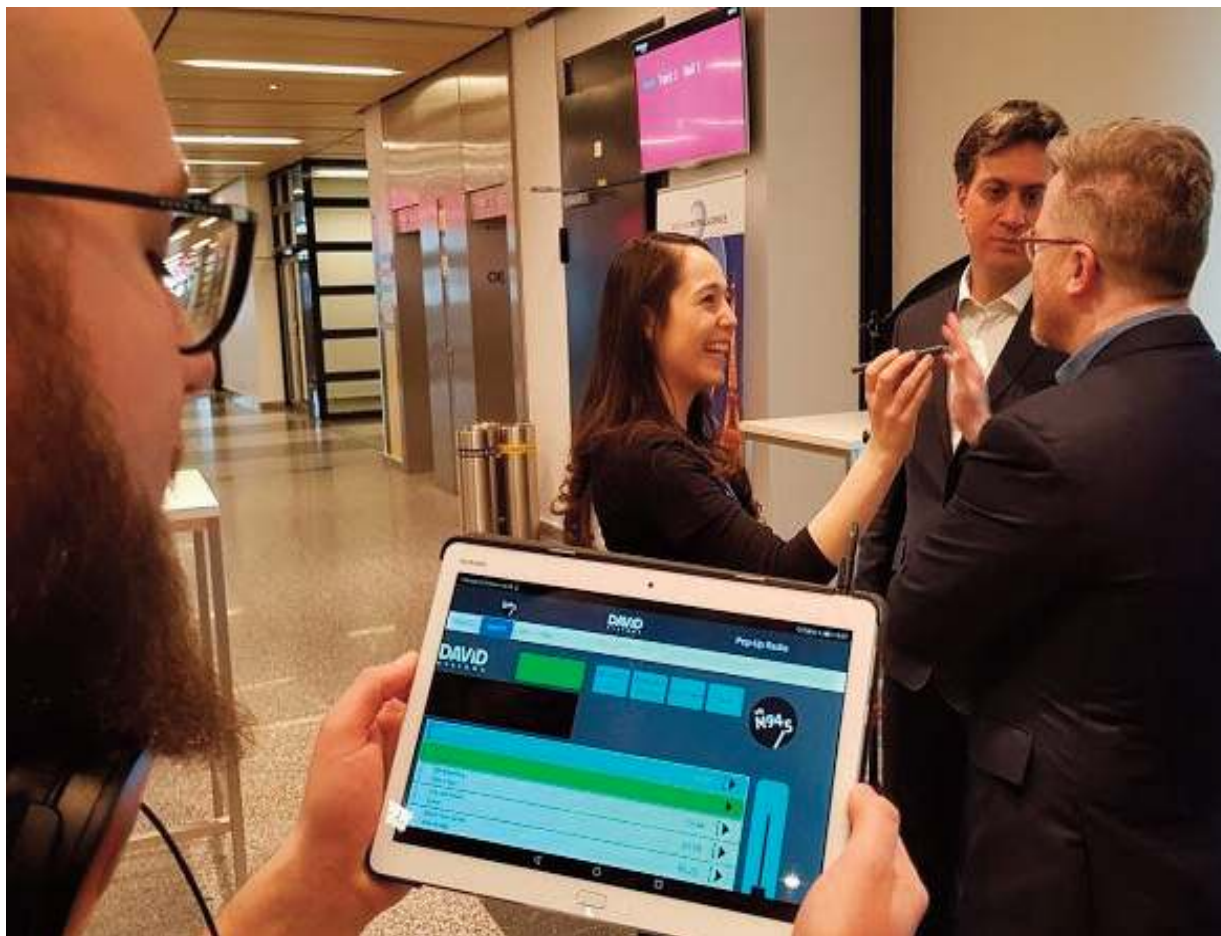
The privately owned company was founded in 1991 and is headquartered in Munich, Germany, with offices in Berlin and Washington, D.C. DAVID's umbrella product suite, 'DigaSystem' or 'DigAS,' offers an easy way for journalists, producers and operations teams to produce cross-media content and cost-effectively manage the opportunities and challenges of multi-channel distribution.

DAVID provides the necessary infrastructure in the areas of Production and Playout for radio stations and we work with our

partners to 'reinvent radio' as it moves into the realms of digital, podcasts, smart speakers, mobile studios, etc.

Pop Up Radio is our contribution to the reinvention of the traditional radio studio. When we think of radio, we are tethered to the realities and the concept of the radio studio as a stationary area where the audience must go to. To go 'remote,' consist of high costs, moving hardware and low degrees of collaboration.

Pop Up Radio drives greater collaboration with the audience, talent and the 'mothership.' It's mobility made easy as this is enabled via a public cloud, thus allowing you the ability to create a mobile studio in a moment with simply a smart phone and/or tablet. Before Pop Up Radio the solutions available were cumbersome and cost prohibited. Pop Up Radio allows for more content opportunities and makes everyone's life easier.



## Nevion an architect of virtualized media production, provides media network and broadcast infrastructure solutions



**Increasingly based on IP, virtualization and Cloud technology, Nevion's solutions enable the management, transport and processing of professional-quality video, audio and data – in real time, reliably and securely. From content production to distribution, Nevion solutions are used to power major sporting and live events across the globe. Some of the world's largest media groups and telecom service providers use Nevion technology, including AT&T, NBC Universal, NASA, BBC, CCTV, EBU, BT and Telefonica.**

Today, Nevion is a forerunner in the IP revolution, dedicating its research and development to IP technology and software defined networks (SDN) for professional broadcast.

When a move to new facilities offered them an opportunity to rethink how it produced content, TV 2, the largest commercial television broadcaster in Norway, chose Nevion as its partner to supply equipment, software and importantly, knowledge to create a distributed production network based on IP.

TV 2 wanted a solution that would enable any control room to be used with any studio across both its facilities in Oslo and Bergen. It also wanted the signal processing capabilities to be pooled and effectively virtualized.

It made no sense for TV 2 to build new facilities using legacy baseband technology (SDI) so it decided that the whole media network should be based on IP. This was a brave move as the use of IP technology in the

facilities was still in its infancy when they made the decision and the time-line for the move was demanding.

Nevion has a significant track record in delivering large-scale IP projects though, and offered a solution including its flagship software-defined media node Virtuoso, and its orchestration and SDN control software, VideoPath, which support the LAN/WAN convergence essential to achieving a seamless multi-site production capability.

TV 2's Bergen facilities are now totally IP-based, with a core SDN for all live production and broadcast routing requirements. The Virtuoso's SDI to IP adaption capabilities mean existing studio multi-vendor equipment can be used on the network – as well as new IP equipment. The network at these facilities is based on a distributed spine-leaf architecture, with Cisco Nexus 100G spine switches at the core and Nevion eMerge 10GE and 40GE switches deployed as redundant top or rack leaf switches.

The facilities in the two locations are connected via a fast and resilient IP WAN network. Nevion Virtuoso software-defined media nodes are used to provide JPEG 2000 encoded and uncompressed video for transport between both sites. High availability is ensured by using dual path network transport with SMPTE 2022-7 seamless IP protection switching (SIPS) for all media streams while Nevion VideoPath is in place for the management and monitoring of all connections between both sites.

Nevion's solution is more than just the equipment and software, it also includes experience and know-how – design, architecting and professional services – which ultimately made the biggest difference, enabling TV 2 to reach its objectives within the tight time-frame.





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## Industry Advisory Boards

**IABM, is introducing regional Industry Advisory Boards. This is a major global initiative to bring the technology buyer and seller communities closer together in a collaborative environment for the benefit of all.**

Industry Advisory Boards are a new IABM initiative to provide a platform for continuous dialogue and collaboration between IABM members (suppliers) and their global customers; they are designed to bring the buyer and seller communities closer together for the benefit of all.

Drawn from senior broadcast and media company executives, each Industry Advisory Board will consist of a minimum of eight members including a Chair.

Industry Advisory Boards will encourage partnership between buyers of broadcast and media technology, IABM and its 500+ supplier member companies around the world. Members of our Industry Advisory Boards will help us shape the future success of our industry.

Only by bringing together both ends of the industry can we all truly prosper and successfully navigate the structural transformation our industry is going through right now. IABM is uniquely placed to make this happen; it is the only international trade association for suppliers of broadcast and media technology.

You can look to IABM with confidence to provide the leadership, solutions and platform for collaboration that we all need. Working together, we can keep ahead of the growing complexity of requirements, rapidly changing business models and onrush of new technologies.

### The Aim of Industry Advisory Boards

The aims of the Industry Advisory Boards are to work with IABM members across technology and business model developments and future requirements, and to:

- Create a forum for discussion, debate and action on important industry issues.
- Provide a platform to promote best practice between IABM members and their customers.
- Lead, advise and direct pertinent content programmes around relevant topics.
- Share information about new and existing technologies or services that would be to the mutual benefit of IABM members and their customers – including products, programs, regulations, interoperability and procedures.
- Help IABM members and their organizations better serve their customers and the industry.
- Promote cooperation and support between IABM members and others who are dedicated to introducing young talent in the industry.
- Assist with IABM industry training directives.
- Facilitate networking events, disseminate information and knowledge.
- Participate in IABM research and events.
- Help shape and promote joint R&D initiatives.

**For more information please visit [www.theiabm.org](http://www.theiabm.org)**

## Where you can see us next

We will be present at a number of shows over the next few months where members can take advantage of a variety of member benefits



**BroadcastAsia**

**Broadcast Asia**  
**26-28 June 2018**

Suntec, Singapore



**BIRTV**  
**22-25 August 2018**

Pragati Maidan,  
New Delhi, India



**IBC**  
**13-18 September 2018**

Amsterdam RAI,  
Amsterdam, Netherlands



**THE FUTURE OF THE CONTENT SUPPLY CHAIN**

**6-7 December 2018**

UK






**webinars**  
WITH IABM

**3 Complimentary webinars to improve your sales skills**

- How to avoid the RFP Trap - 5 July
- Differentiating yourself in a crowded marketplace - 11 July
- Communicating with people how they want to be communicated with - 19 July

**FIND OUT MORE AT**  
[www.theiabm.org/eventcalendar](http://www.theiabm.org/eventcalendar)



**Complimentary event for IABM members**

**New Media - what does the future look like?**

*Tuesday 10 July (10am - 4pm) - Hilton Kensington, London*

A series of panel discussions and case study speakers taking a look at **what the future looks like in our industry**. We will also be joined by a number of broadcast and media technology buyers who will be telling us about their **future projects, how they purchase and their RFP needs**.

**FIND OUT MORE AT**  
[www.theiabm.org/newmediaevent](http://www.theiabm.org/newmediaevent)

## NEW IABM MEMBERS

**B&M Video Tech**  
[www.bmvtech.com](http://www.bmvtech.com)

**BeBop Technology**  
[www.beboptechnology.com](http://www.beboptechnology.com)

**Broadpeak**  
[www.broadpeak.tv](http://www.broadpeak.tv)

**BroadView Software Inc**  
[www.broadviewsoftware.com](http://www.broadviewsoftware.com)

**Cinex X-Jib**  
[www.x-jib.com](http://www.x-jib.com)

**Digigram S.A.**  
[www.digigram.com](http://www.digigram.com)

**Florical Systems**  
[www.florical.com](http://www.florical.com)

**Friend MTS**  
[www.friendmts.com](http://www.friendmts.com)

**Holdan Limited**  
[www.holdan.co.uk](http://www.holdan.co.uk)

**Limelight Networks, Inc**  
[www.limelightnetworks.com](http://www.limelightnetworks.com)

**Media Digital Space**  
[www.mediadigitalspace.com](http://www.mediadigitalspace.com)

**Red Bee Media**  
[www.redbeemedia.com](http://www.redbeemedia.com)

**Spicy Mango Ltd**  
[www.spicymango.co.uk](http://www.spicymango.co.uk)

**Square Box Systems (CatDV)**  
[www.squarebox.com](http://www.squarebox.com)

**Techex Ltd**  
[www.techex.co.uk](http://www.techex.co.uk)

**x-dream-distribution**  
[www.x-dream-distribution.com](http://www.x-dream-distribution.com)

## IABM training dates

### Engaging with the Broadcast & Media Industry

Available on-line as an e-learning package

### Introduction to Broadcast Technology

Available on-line as an e-learning package

### IP and File Based Workflow

Available on-line as an e-learning package

### Advanced IP Networks for Engineers

17-18 July Singapore  
8-9 November London, UK

### Audio & Video Fundamentals for Engineers

24-25 October London, UK  
20-21 November Dubai, UAE

### Broadcast Technology Workflows

28-29 August Singapore  
22-23 October London, UK  
22-23 November Dubai, UAE

### High Dynamic Range & Wide Color Gamut

30 October London, UK

### IP Multicast for Stream RTP Media

5-7 July London, UK  
19-20 July Singapore

### IP Network Essentials for Engineers

30-31 August Singapore  
6-7 November London, UK

### IP Overview for Technical Sales

5 November London, UK

### Understanding File Formats

26 October London, UK



**Andrew Jones**

*Head of Training, IABM*

## ABU's Digital Broadcasting Symposium

*Kuala Lumpur, 4 March 2018*

### Overview

The ABU Digital Broadcasting Symposium 2018 opened in Kuala Lumpur on 4 March, with the concurrent exhibition – with 52 media companies participating with booths – running 6-8 March. About 50% of the exhibitors were IABM members. The 2018 conference theme was 'Enhancing Multiplatform Content' and the exhibition layout was revised this year, something that seemed beneficial both in increasing footfall and enhancing useful conversations around the booths.

Though he undertook much of the local planning, IABM APAC Director, Peter Bruce, was representing IABM at Convergence India, so IABM Head of Training, Andrew Jones, attended to run the IABM booth as well as presenting four IABM Masterclass sessions, speaking on 'Packets for Pictures: Live IP-based Production' at the conference and contributing to a panel chaired by Ideal Systems' Fintan Mc Kiernan. IABM also worked with our Singapore-based training partner AV8 on the High Dynamic Range masterclass complementing the SMPTE ST 2110 and live IP standards content. These were small components of the ABU-DBS conference, which had technical breadth and globally relevant content. Monday was devoted to the DVB and WorldDAB conference, high-power digital broadcasting being a strategic element in the geographically larger countries of the region, as are advanced cross-over technologies like DAB Hybrid radio.

The world-class conference lived up to its theme with multiple streams including broadcast business-needs evolution, cloud-enabled workflows and content delivery, Artificial Intelligence, Future Technologies for production and delivery, OTT and IBB tech, AR, VR, 360 Video and Cyber Security. These were all very appropriate to the many use-cases, business and technical experience weaved through with the parallel masterclass program. The diversity of APAC in terms of culture, technology, geography and almost every other respect never fails to impress me, and ABU is right to be proud of its DBS success in bringing the best in the world to meet the very broad range of needs and interests which its diverse audience and membership implies.

### Lifelong learning – the key to your success

People are born to learn. You've been doing that as long as you've been breathing and certainly wouldn't be reading this unless you'd learned something. Put that learning into action by trying something new, and build on that learning based on what worked, and what didn't, along the way.

Lots has been written about how people learn, how we develop knowledge and skills, and what 'Learning styles' are most effective. I'm not going to try to add to that here – what I will say is that, because it's so vital that we were born to do it, helping people learn is rewarding, both personally and to your business. Against that, the cost of ignorance – the cost of not learning and gaining as much knowledge as possible from what you do – is huge.



If learning is so universal how can IABM help with any of it? Obviously, I'm going to highlight the fact that we offer advice on learning and development plans and we design, run and re-sell training courses both face-to-face, which are inherently interactive, and online courses, mostly in the form of eLearning.

People in your business will be learning so the trick is to help them develop knowledge, attitudes and skills that are beneficial to business, to encourage and motivate them to learn and do things they need to be effective in their job while giving customers the sort of experience that makes them happy to buy your products and services. Investing in people by building a development plan with them that includes industry-focused 'external' training from IABM and other relevant providers, mixed

with what you can do 'in-house' and what they can find and source themselves, is transformational.

The Internet 'shrank the globe' via almost ubiquitous low-cost connection to information – providing you can find it and trust it – so IABM is producing and partnering with others to offer more eLearning material. We've learned from some of the production problems of lengthy, difficult to maintain monoliths and changed to a shorter, more agile, style. We've just added 'Introduction to Broadcast Media Workflows' to our eLearning portfolio and will add 'The Basics of Video Formats' next month, soon to be followed by basics of media transport such as SMPTE ST 2110 and 2022 as well as the basics of audio of course. You can find all of these in the 'Technical' section of our [website](http://www.theiabm.org/training-courses/) [/www.theiabm.org/training-courses/](http://www.theiabm.org/training-courses/).

We're maintaining our face-to-face courses, as well as the masterclasses and short sessions we run at trade-shows, and the white papers, webinars, videos and slide-decks that you'll find in the members area of [www.theiabm.org](http://www.theiabm.org), which now includes a classified and searchable Knowledge Vault. We've also been adding to our media jargon-buster [www.iabmglossary.com](http://www.iabmglossary.com), so however you like to learn there's something for you. People learn in all sorts of different ways from all sorts of sources, so 'learning' extends well beyond training. As I said at the beginning of this piece people are born to learn from the outset, so in some ways the biggest barrier to learning can be yourself and the thought that you "know it all" already, something that can afflict people of all ages! I have occasionally come across managers who restricted learning in their team, either because they felt they didn't have time to allow it or because they thought that if people learned too much, they'd be more able to leave for a 'better' job. Few consider the dire business consequences of restricting learning opportunities so that people are forced to stay with the company!

While all the buzz is happening around AI, don't neglect the human intelligence and learning needed to build and capitalize on the artificial variety. Learning is part of being alive, and lifelong learning is a key survival technique for individuals and for companies. Never stop Learning; IABM is here to help.



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