

WORLD IN BRIEF

Singapore edges closer to digital switchover

SINGAPORE – Singaporean households who have not made the switch to digital TV receivers are now seeing a smaller picture on their existing TV screens, as a visual reminder that all analogue TV signals will be switched off in the republic by 31 December 2018.

New Zealand leads smart TV adoption

WELLINGTON – According to a new report by global market intelligence firm IHS Research, New Zealand is now one of the leading adopters of smart TV. New Zealanders now own an average of 4.2 electronic devices, of which 77% are 'smart devices'.

Huawei launches OTT platform

SHENZHEN – Huawei has launched its own over-the-top (OTT) platform in Spain and Italy. The service, available on Huawei and Honor devices, offers a library of local and international content.

Are we ready for 4K/UHD TV? 'We are simply not there yet'

KUALA LUMPUR – Imagine watching your favourite football team on TV in details so vivid that you can actually see the bead of sweat trickling down a player's forehead.

This is exactly what Astro is promising Malaysian football fans, as the pay-TV satellite operator prepares for the launch of a 4K/ Ultra HD (UHD) service by the end of this year.

At a live outdoor 4K/UHD broadcast of the opening matches of the 2018/19 English Premier League (EPL) season in August this year, Lee Choong Khay, chief of sports at Astro, said: "At Astro, we are committed to providing a better viewing experience for sports fans in Malaysia. As such, we will embrace the latest technology, 4K/ UHD, to enhance our customers' viewing experience.

"Besides the EPL, we will also bring Formula One racing events and blockbuster movies in 4K/UHD



PHOTO CREDIT: ISTOCK BY GETTY IMAGES

While 4K/Ultra HD (UHD) can bring about a more immersive viewing experience, many broadcasters in Asia have not truly considered launching 4K/ UHD services, preoccupied as they are with making the transition to digital television.

to offer our viewers a premium viewing experience."

Will Astro's initiative herald the introduction of more 4K/UHD services in the region, or should a more pragmatic approach be adopted where 4K/UHD is concerned?

"We have acquired some 4K/UHD-capable cameras, but this is merely due to compelling prices, and not as a part of our plans to go 4K/ UHD. Going 4K/UHD will demand much more financial and manpower resources, and we are simply not there yet."



— Dr Ahmad Zaki Mohd Salleh, Director, Technical Operations, TV Networks, Media Prima

critical areas.

"I'm afraid, until these financial matters are put to rest, 4K/UHD and other new technologies shall be on the back-burner until a later date."

He also questioned the public readiness, or lack thereof, in terms of 4K/UHD-ready TV sets. The majority of the Malaysian population, Dr Ahmad Zaki believes, have

▶▶ 8

Australia tests DVB-T2 transmission robustness/payload

BY JOSEPHINE TAN

SYDNEY – In cooperation with Free TV, ABC and SBS, Broadcast Australia has conducted trials of the DVB-T2 broadcast technology

Broadcast Australia, alongside Australian broadcasters ABC and SBS as well as FTA organisation, Free TV, have conducted DVB-T2 trials.

in the Sydney area. The trial, according to Broadcast Australia, is a "world first" for 7MHz very high frequency (VHF) transmissions with off-air fed ultra high frequency (UHF) repeater sites operating in a single frequency network (SFN) using multiple physical layer pipes.

Peter Lambourne, CEO of Broadcast Australia, commented: "Terrestrial free-

to-air TV delivers its service to 99% of the population, and over 20 million Australians tune into TV every week. This trial is an important part of ensuring that when the time is right, the terrestrial TV platform is ready for the next stage of its evolution, and that it can deliver the best possible viewing experience."

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Complete your digital transition journey first ... before going for 4K/UHD

We have heard this argument before: 'Go for 4K/ Ultra HD (UHD); it offers four times the resolution of HD, bringing with it a level of clarity and vibrancy that will re-shape the entire viewing experience.'

Some of us have seen the evidence for ourselves — particularly for content genres such as sports, 4K/UHD immerses viewers in the thick of the action, as if we were technologically transported into the bowels of some of the most iconic sports stadiums around the world.

By the end of this year, sports fans in Malaysia will be able to embark on their very own 4K/UHD journey, as Astro prepares to launch a dedicated 4K/UHD service based primarily around sports content.

While Astro's initiative should perhaps be applauded as they look to gain first-mover advantage in 4K/UHD deployment — and there is nothing to suggest that 4K/UHD will not take off in the long-term — is the time right for Asian broadcasters to consider launching 4K/UHD services?

Perhaps, this question should be considered from a region-specific perspective. In South-east Asia, where a 2020 timeframe to complete the digital switchover has been set by the Association of South-east Asian Nations (ASEAN), many broadcasters remain at risk of missing the deadline.

In Singapore, all analogue TV signals will be switched off this December 31 — an encouraging development, although it must be noted that the original target was end-2017.

In Malaysia, the outlook is less certain. An on-going dispute between MYTV — the body tasked to oversee the digital switchover in the country — and FTA broadcasters is continuing to

delay the roll-out of digital TV services.

Thus, 4K/UHD, at this moment, is a *non sequitur*, suggested Dr Ahmad Zaki Mohd Salleh, director, technical operations, TV Networks, Media Prima. Notwithstanding the extra financial and manpower resources that will be required to launch 4K/UHD services, the entirety of Media Prima's internal processes are still centred around the provision of HD services, Dr Zaki revealed.

And that, in a nutshell, is perhaps the biggest conundrum currently facing many broadcasters in Asia today. 4K/UHD, after all, is not the only emerging technology that promises to allow broadcasters to offer a more immersive viewing experience, and also to create more effective and sustainable workflows.

For broadcasters still operating in SD, there is just not enough incentive for them to leapfrog directly to 4K/UHD; for those exploring how technologies like IP, AI and blockchain can bring about more operational efficiencies, there must be an underlying realisation that unless they go fully digital, they are unlikely to enjoy the full benefits that these technologies can offer.

So, while it may sound archaic in an increasingly evolving media landscape characterised by the prominence of online digital content providers, the completion of the digital transition cannot come fast enough for many broadcasters — and viewers — in Asia.

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AVIA looks to grow and innovate video ecosystem in Asia

BY LOUIS BOSWELL

The decision to change the name of CASBAA to the Asia Video Industry Association (AVIA) was not taken lightly. Nor was it taken because we simply fancied a new name. CASBAA was established in 1991 and over the past 27 years, has been at the forefront of the advent of an entire industry — pay-TV.

However, over at least the past five years, the pay-TV industry has been changing, but it was becoming clear to many that CASBAA, the industry's association, was not. It was therefore losing relevance.

When I was interviewing for the role of CEO of CASBAA at the end of last year, it was clear from the board that the association was in a parlous state and needed a new direction. I spent the first several months in the role talking to as many members as I could, asking why they were members, what they expected from an industry association and what direction they wanted CASBAA to go in.

What became abundantly clear was that members had lost patience for CASBAA as it was. They did not see the relevance, and they did not see the value as it was today. To many, CASBAA had long been synonymous with the annual CASBAA Convention, but that too had lost its way.

Moving to Macau had not been popular and the conference had become weaker and attendance had declined.

But while there may have been little sympathy with the current state of the association, almost everyone felt as I did, that there was a need for an industry association and there was a huge amount of pent-up goodwill towards us, if we could be relevant and provide value.

Relevance had to come from re-defining the industry we represent. Some years ago the association had changed from the Cable and Satellite Broadcasting Association of Asia to simply CASBAA, but many members, myself included, did not get the memo.

And in any case, the association was still inextricably linked to only the pay-TV part of the industry. Having come from the pay-TV industry myself, and having spent the previous five years looking at how to expand beyond traditional pay-TV into over-the-top (OTT), I felt it was obvious that we had to represent the broader video industry.

If our biggest members were all looking outside of traditional pay-TV, how could we not?

But before we started worrying about the semantics of a name change to reflect this, we had to clearly articulate what the association was here to do. The only way we were going to continue to exist was if we provided value to our members. The role of an industry association must be to make the industry stronger and healthier, and help its members to grow.

The first area to focus on was not difficult to identify because CASBAA was already doing it, and it was the one area where there was still respect for what CASBAA was doing — *advocacy*.

Clearly, when it comes to dealing with government regulators, it makes sense for the industry to speak as one, not as many, and CASBAA had been fulfilling that role for many years under the very capable leadership of John Medeiros.

What had changed though, was that one area of potential regulation that governments are increasingly grappling with — the world of streaming video services. And what was clear was that the whole industry wants governments to tread lightly in this area. This is as important for a company like Netflix, as it is for a Disney or an HBO.

So, as an association engaging with regulators, for the sake of our credibility on this issue, we have to represent both old and new. It was exactly because of this shared vision and the need to speak with one voice on behalf of the broader video industry that Netflix saw value in joining.

The second area was *piracy*. If we saw ourselves as a video association, clearly, piracy was the biggest single issue facing all of us. Some of our members are at the coalface of the problem, but piracy sucks revenue out of the entire ecosystem and so all parts of the industry are ultimately adversely affected.

A number of CASBAA members started an initiative called the Coalition Against Piracy in 2017 and it quickly gained traction under Neil Gane, who is bringing the fight to pirates through enforcement strategies, through disruption, and through outreach and education. So we have made the decision that the fight against piracy should become a central tenet of the entire association, while those at the coalface still do much of the heavy lifting from a financial perspective.

The third area where we decided we can add value to all our members was through *insight* — providing information, intelligence and education to our members, both through the written word in reports and articles, but also

“The role of an industry association must be to make the industry stronger and healthier, and help its members to grow.”



through bringing members together, through committees as well as conferences and seminars. The success of the annual OTT Summit is an indication on the overall direction the industry is going in, and under our new guise, the CASBAA Convention has become the Asia Video Summit, with the remit of defining the state of the video industry in Asia in 2018.

There has never been a more interesting time to be working in our industry. Interesting clearly does not mean easy though. But I believe the need for an industry association is greater today than it has ever been before. That industry association, though, must be relevant and provide value to members across the broad church that constitutes

our industry today. So that is what we are now more focused on doing than ever before.

It does not matter if you are a linear broadcaster, a pay-TV platform, a native OTT company, a mobile telco, a satellite company, a technology provider, a research and data company, or another part of the industry. What is important is that you are part of the video ecosystem in Asia, looking to grow and to innovate, and that is why we have become the Asia Video Industry Association — to help you do exactly that. **APB**

Louis Boswell is CEO of the Asia Video Industry Association (AVIA), and an APB panellist.

VIEW FROM THE TOP

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Great storytelling holds no fear

promotings

Themed Infinite Fear, Universal Studios Singapore's (USS) Halloween Horror Nights has returned for its eighth edition (HHN8)

at Resorts World Sentosa (RWS) from September 27-October 31. Besides having Asian horror take centre stage, USS has also tied up with Netflix for the first time ever to bring its science fiction-horror Web series, Stranger Things, to life.

Marking another first for USS this year is the production of a series of teaser horror films that tell the stories and supernatural characters of this year's haunted houses in cinematographic style. APB prompts Mads K Baekkevold, director from Media Monks, an Amsterdam-headquartered digital production team, who are also the creatives behind the production of the films for HHN8, to elaborate on the conceptualisation process in creating these bite-sized films.

Can you take us through the conceptualisation process behind the making of the horror series, and what can viewers expect from the short films?

Mads K Baekkevold: I did have knowledge of the tales that the haunted houses were based on. I have lived in Asia for nine years now, and I have always been extremely interested in local folklore and mythology wherever I am at. Whenever I travel, I try to talk to locals about the legends of the area, which has resulted in hearing some great stories.

For the *Pontianak* film, the myth has always been extremely fascinating to me. We have a fairly similar creature in Norwegian mythology, a murderous forest woman named the Hulder. Some of the little trivia facts specific to the Pontianak were new to me though — that she is attracted to fresh laundry, how she can throw her voice, the scent of jasmine and

her lingering around banana trees — all these strange little quirks that we tried to put subtle references into the film.

Of course, I do understand the slightly iffy nature of a white guy writing and directing a South-east Asian story. This is by no means the only take on a Pontianak — I heard the local stories, and this is my own personal take on them. It is a folktale, and those will always change, depending on who tells them. Who knows, maybe this Pontianak has a little bit of Hulder DNA in her.

In terms of the *Pagoda of Peril* film, I do have a fascination for the extremely multi-faceted Chinese/Buddhist beliefs in the afterlife — and specifically hell. Haw Par Villa is one of my favourite places in Singapore. A few years ago, I did a collaborative project with other local filmmakers, where each of us made a short film based on one level of Buddhist hell. I did a lot of

research for that project, and used quite a bit of that as inspiration for my take on the Pagoda. *Pagoda of Peril* takes on an animated film approach, given the creativity with colours, visuals and characters were practically limitless.

When it comes to *Killuminati* — the Chinese secret society of vampires that has existed for centuries — I was not aware that there is a secret society of vampires running the world, so this is fresh material to me!

These films transport fans to different paranormal realms, telling stories of betrayed, angry and vengeful spirits, giving fans a chance to immerse in the horror early before stepping into USS for HHN8.

The films feature myths and tales from different regions — ranging from the very Asian-based Pontianak to Stranger Things, which is created from the



Mads K Baekkevold, director from Media Monks, at the set for the filming of the *Pontianak*.

US. Hence, were there any challenges when marrying all these different elements together while localising the content to make it appealing to viewers across the globe?

Baekkevold: I do not think viewers need context to understand the stories. Our goal from the start was always to create content that functions on multiple levels — a refreshing way to introduce USS' HHN, and they can also function as completely independent standalone series of short films that anyone, anywhere, could immerse themselves in, regardless of context.

Having said that, there are obviously stories that might be unfamiliar to our international audience. I doubt many people outside of South-east Asia would know much about the Pontianak, which makes it a joy to potentially introduce her to a wider Asian audience, and make them scared to hang around banana trees or do their laundry.

For *Killuminati*, we intentionally wanted it to raise questions in the viewer. It is constructed to function as the beginning to something larger, even though the story is very much around four protagonists. We hope that it is a film people will watch again to pick up on the little clues, the red herrings, the symbolism, and the subliminal messages that they might have missed the

first time round — and then go to the HHN themselves to find out the rest of the story.

During the shoot, what specific visuals should be captured? Is there any particular tool or technology that is required to capture that specific shot?

Baekkevold: I am not a fan of computer-generated special effects in horror films. Even the shoddiest stop-motion model is creepier than some glossy, over-the-top CGI ghouls. Not the most unique opinion I know, but we felt it was important in this series of films to keep the scares tactile. And for the actors, they need to feel that the creatures are actually there, as opposed to having a person in a green leotard waving a tennis ball in their face.

Most of the effects are 100% practical: When the Pontianak slams the female character, Raudha, to the ground, that is the actress herself falling after just an hour of stunt training. Similarly, in *Killuminati*, the same actress playing both the demonic Vampire Hostess and the human form really threw the gangster to the floor herself.

We do have a great team on set with us to make sure we got everything we needed for the post-work, mainly consisting of shooting some plates for composition and close-ups for the makeup-touch-up.



Universal Studios Singapore has collaborated with Netflix to bring to life its science fiction-horror Web series, *Stranger Things*.

Facebook Watch going for global audience

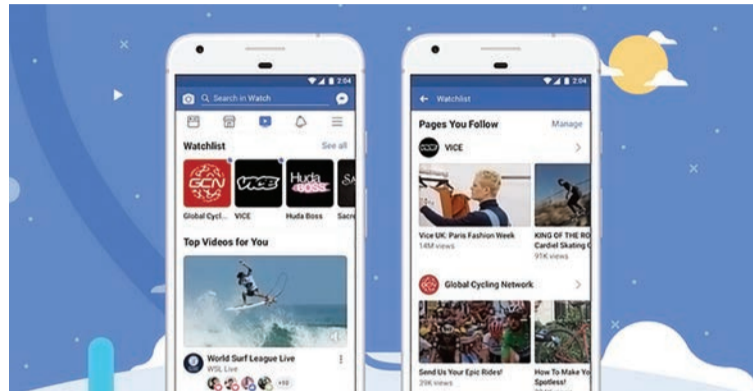
SINGAPORE—As Facebook continues to evolve its content strategy, the social media platform is aiming to bring Facebook Watch to a global audience.

Saurabh Doshi, director, entertainment partnerships, Asia-Pacific, Facebook, tells *APB*: “Facebook Watch is a dedicated video platform that showcases a wide variety of content from creators and partners, as well as scripted and unscripted original programming from Facebook.”

According to Doshi, Facebook Watch partners are described as third-party companies using the platform to showcase their own content, and range from digital publishers to TV companies, production companies and broader page owners.

Facebook Watch creators, on the other hand, are individuals using the platform to engage and build communities of loyal fans.

For example, in Asia-Pacific, the China-based creator of *Miss Yeah* recorded big success in exporting the content worldwide on Facebook. Transforming ordinary office supplies into the kitchen — such as eating hotpot out of a water dispenser — *Miss Yeah* Facebook



Facebook Watch is a dedicated video platform that showcases a wide variety of content from creators and partners, as well as scripted and unscripted original programming from Facebook itself.

page has more than 3.5 million likes and 4.2 million followers.

“Long term, we are focusing on creating a platform where all creators and publishers can find an audience, build a community of passionate fans, and earn money for their work,” Doshi added. “All content on Facebook Watch aims to be inherently social, encouraging users to share, comment, react or follow, in order to engage fans and build communities around specific programming strands or standalone videos.”

Another content genre that Facebook has entered into, and which could potentially alter the

pay-TV landscape, is live sports. Beginning with the 2019/20 season, Facebook will be live streaming every single match of the English Premier League in Thailand, Vietnam, Cambodia and Laos.

“Facebook is already the broadcast home for all La Liga — Spain’s top professional football league — matches across the Indian subcontinent for the next three seasons,” Doshi said. “An additional layer of Facebook Watch partner content is through licensing deals — spanning both music and sports — in order to build up a music library, as well as live sporting events.”

DVB-T2 potential to allow 4K/UHD TV reception

Several DVB members, including Rohde & Schwarz (R&S), supplied their equipment to facilitate the trials.

Nils Ahrens, regional broadcast manager, Asia-Pacific, Rohde & Schwarz, outlined to *APB* the three main agendas that the trials aimed to achieve: “First was to find out the highest maximum capacity in terms of data rates, the improvements compared to the exact settings of DVB-T, and the possibility of having a stream that is carrying 4K/ Ultra HD (UHD) signals, as well as mobile signals.”

The trials were separated into two stages — a laboratory trial for the testing of set-top boxes (STBs) and wider trials encompassing transmission sites across Sydney that took place from April to June.

He continued: “The Australians wanted to find out how its current network architecture can work with DVB-T2. More particularly, if the technology provides greater flexibility to actually make a complete move from the current architecture of DVB-T into DVB-T2. For whatever plan or roadmap to move into DVB-T2, there is also a need to know its capability of carrying 4K/UHD content.”

The DVB Project’s Dr Peter Siebert: “DVB-T2 works in Australia as it works in Europe, Africa or Asia. I think everybody understands how DVB-T2 works, and I would not expect any negative results from Australia.”



Australia commenced the rolling out of the DVB-T network, which utilises MPEG-2 video coding, in 2001. And by 2013, the country successfully completed the analogue switch-off.

The recent trials successfully assessed the performance of DVB-T2 technologies in Australia, according to R&S, with DVB-T2 being considered as a technology to replace the current DVB-T standard for TV delivery in the medium term.

When combined with new compression technologies, DVB-T2 will have the potential to allow 4K/ UHD TV reception, which provides four times the picture quality of the current HD standard, the company added.

“DVB-T2 has a transmission standard that caters to 4K/UHD transmission,” Ahrens elaborated. “Otherwise, broadcasters would not be able to bring 4K/UHD

content into the available bandwidth because the data and bitrates required to have a good quality transmission will go beyond what the DVB-T standard allows for.”

Dr Peter Siebert, executive director of The DVB Project, revealed that R&S has had prior experience working with South Korean broadcaster, Korean Broadcasting System (KBS), on tests with DVB-T2 and 4K/UHD content.

He said: “There is a wide range of numbers for the necessary data rate of 4K/UHD content. The most demanding application is live broadcast of sports events, and I would still recommend 25Mbit/s in order to not have bad quality. For pre-encoded content such as video-on-demand (VoD) or movies, the data rate can be lower.

“Depending on the trade-off between robustness and capacity, the data rate for DVB-T2 varies. It is just a different way to fill the payload, and for the transmission, it does not matter if the broadcaster fills it with many SD or HD services, or with one 4K/UHD service.

“DVB-T2 works in Australia as it works in Europe, Africa or Asia. I think everybody understands how DVB-T2 works, and I would not expect any negative results from Australia.”

4K/UHD may just be a niche domain for some broadcasters

1 >>

yet to invest in 4K/UHD TV sets, and are therefore, not ready to enjoy 4K/UHD video yet.

There are also other priorities at play, as Dr Ahmad Zaki explained: “Our internal processes are still centred around the provision of HD services, and we have no plans to provide 4K/UHD services as yet.

“We have acquired some 4K/ UHD-capable cameras, but this is merely due to compelling prices, and not as a part of our plans to go 4K/UHD.

“Going 4K/UHD will demand much more financial and manpower resources, and we are simply not there yet.”

In Singapore, terrestrial broadcaster Mediacorp began 4K/UHD production in 2016, and some of the programmes produced in 4K/ UHD include *VIC*, *2589* and *Intercept*. However, it is unlikely that these programmes will be aired on free-to-air (FTA) TV anytime soon.

“Toggle — Mediacorp’s interactive over-the-top (OTT) service — will be our primary platform for 4K/UHD content as it does not have the technical constraints as FTA TV,” reveals Goh Kim Soon, head, broadcast engineering, Mediacorp.

“Viewers can look forward to more content produced in 4K/UHD, including live production of major national events.”

As alluded to by Media Prima’s Dr Zaki, countries such as Singapore and Malaysia, and those in ASEAN, are facing a race against time to complete the digital switchover, in line with the 2020 timeframe agreed by all ASEAN nations.

In Singapore, all analogue TV signals will be turned off by this December 31, a deviation from the original target of end-2017.

In Malaysia, uncertainly continues to abound. Dr Zaki observed: “Another issue would be the ‘stalemate’ between broadcasters and MYTV.”

Mediacorp’s Goh Kim Soon: “Toggle — Mediacorp’s interactive over-the-top (OTT) service — will be our primary platform for 4K/ UHD content as it does not have the technical constraints as FTA TV.”



Dr Amal Punchihewa of IEEE-Broadcast Technology Society: “The best way to deliver dynamic content such as sports is still via over-the-air, either through satellite or terrestrially, where quality can be assured through deterministic latency and other performance parameters.”

In April 2010, MYTV was established to build, operate and manage the digital terrestrial TV (DTT) infrastructure in Malaysia. Since then, MYTV has been embroiled in a number of disputes with FTA broadcasters over transmission fees.

“Until this impasse is resolved, the roll-out of digital TV services, let alone 4K/UHD services, is uncertain. There has been some intervention from the Malaysian government lately, but the final outcome is yet to be seen,” said Dr Zaki.

Astro should be applauded for its strategic move to be a 4K/ UHD pioneer and early adopter, noted Dr Amal Punchihewa, a distinguished lecturer of IEEE-Broadcast Technology Society (BTS) and former director, technology and innovation at the Asia-Pacific Broadcasting Union (ABU).

He said: “Pure OTT services such as Netflix are already offering content in UHD-1, commonly known as 4K. If viewers have access to high-speed broadband with better quality of service (QoS), they could enjoy content with higher quality of experience (QoE).

“However, the best way to deliver dynamic content such as sports is still via over-the-air, either through satellite or terrestrially, where quality can be assured through deterministic latency and other performance parameters.”

Incorporating technology elements such as high dynamic range (HDR) and high frame rate (HFR), increasingly more service providers are offering 4K/UHD content in genres such as sports and blockbuster movies, Dr Amal noted: “South Korea has 10% native UHD-1 content for its DTT network on ATSC 3.0 and will increase this annually to reach 100% in the coming years.”

And even away from 4K/UHD hotbeds such as South Korea and Japan — the latter will commence 4K/UHD satellite broadcaster this December — 4K/UHD is beginning to take root in Asia, Dr Amal suggested. In India, for instance, there are D2h Life 4K, a 24x7 multi-genre 4K/UHD direct-to-home (DTH) channel; Star Sports 4K/ UHD channel, which was launched during the 2015 ICC Cricket World Cup; and the Star Gold 4K/UHD channel for Hindi entertainment, among others.

As competition in the media and entertainment industry continues to intensify, 4K/UHD could turn out to be a niche domain that allows the likes of Astro to gain a competitive advantage, said Dr Amal, who concluded: “Hopefully, we can hear about the success and challenges involved in introducing 4K/UHD services during major APAC broadcast events next year.”

Inter BEE 2018 highlights the possibilities of new media

Broadmedia & Entertainment
Inter BEE 2018

11.14   Makuhari Messe

TOKYO – Under the slogan of *Telling the World of the Possibilities of New Media*, Inter BEE 2018 will return to the Makuhari Messe convention centre in Tokyo from November 14-16, with the intention to build on a proud tradition of bringing together innovations in the broadcast, video, audio, lighting and media businesses.

Organised by the Japan Electronics and Information Technology Industries Association (JEITA), Inter BEE is now entering into its 54th edition, and comes as Japan edges closer to the 2020 Tokyo Olympics, which Japanese public broadcaster NHK will be broadcasting in 8K.

By December 1 this year, 4K/Ultra HD (UHD)/8K satellite broadcasting will commence in Japan, and Inter BEE 2018 will be proposing new video and audio technologies to broadcast and communication businesses and content creators. Inter BEE 2018 will also highlight the potential of 5G in the media and entertainment fields in preparation for the 2020 launch of commercial services in Japan.

After a successful Inter BEE 2017, where a record 38,083 visitors interacted with 1,139 exhibiting companies, this year's show will continue to provide a platform for business trading and information exchange by bringing the latest innovations together under one roof — and to present new user experiences in the media and entertainment field.

According to the show organiser, Inter BEE aims to develop itself into a "comprehensive media exhibition", with an emphasis on content, from "making" (production), to "sending" (transmission), to "receiving" (experience) content.

For the first time, Inter BEE will also be held in conjunction with Digital Contents (DC) Expo, which had been traditionally held at the National Museum of Emerging Science and Innovation in Koto City, Tokyo. Digital



Inter BEE 2018 will look to build on the success of Inter BEE 2017, where a record 38,083 visitors walked the halls of the Makuhari Messe convention centre in Tokyo.

Contents Expo will introduce a diversity of technologies to enrich content production, including virtual reality (VR), augmented reality (AR), mixed reality (MR), 3D, computer graphics (CG), artificial intelligence (AI), drones and robotics.

Content technology is the lifeblood of the content industry, said Kensuke Ichihara, senior executive director of the Digital Content Association of Japan.

He explained: "The prime mover behind the growth of the Japanese content industry, and which makes new modes of expression possible, is advanced content technology." "DC Expo has always showcased demonstrations and prototype exhibitions of the most trailblazing technology being researched and developed at research institutions and in-company ventures.

According to Ichihara, the DC Expo has consistently focused on high-potential technologies that will bring forth new businesses, including creations in the pre-commercial phase, for which eventual business applications may remain unclear. "Currently, DC Expo is involved in showcasing a variety of technologies for which the practical applications continue to be advanced — including VR, AR and projection mapping," he continued.

"Being able to introduce advanced technologies to creators and development partners represents a commercial opportunity for the businesses that deal with them. Along with driving competition in the Japanese content industry, new content businesses offer a chance for development of partner businesses to greater widen their market."

Heralding the com-

the birth of joint projects between manufacturers' development partners and exhibitors.

He added: "The creation of new businesses using advanced content technology is not just about promoting the content industry; the ripple effect of the expansion of the content market can also be expected to have a positive influence on related industries such as IT."

Noting that Japan has been consistently producing highly individual content post-war, Ichihara described how this enterprise has been brought forward to the Internet era, where self-published works such as blog novels and video uploads have been of sufficient quality to be turned into major productions.

"It seems that opportunities abound for content produced in the period after the war until now, borne of various societal changes from economic growth to the ageing of the population.

"Just as Japan continues to birth invigorating new content businesses and lead the way for the future of content, so I hope for the DC Expo to continue to effectively show off the latest advanced technologies," he concluded.



“Currently, DC Expo is involved in showcasing a variety of technologies for which the practical applications continue to be advanced — including VR, AR and projection mapping.”

— Kensuke Ichihara, Senior Executive Director, Digital Content Association of Japan
(For the first time, the Digital Content Expo will be held in conjunction with Inter BEE.)

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Heralding a new era in home Wi-Fi

Mesh networking devices sell by the tens of millions, but none of the popular systems from vendors such as Google, eero and Plume are capable of using other vendor devices to create a unified home Wi-Fi network. In May this year, the Wi-Fi Alliance set out to change that with EasyMesh — a new standard that enables interoperability between mesh access points from different vendors.

And now, the first Wi-Fi certified EasyMesh device — the ARRIS VAP4641 wireless extender — is here. The launch of the VAP4641 represents a big step forward in home Wi-Fi for two reasons: It simplifies mesh networking for consumers, giving them the choice of mixing and matching different brands of products; and it enables broadband service providers to constantly improve the quality of Wi-Fi through a new level of visibility and control.

Engineered for performance and usability

The VAP4641 features 4x4 antennas and 802.11ac Wi-Fi, and it leverages Wi-Fi EasyMesh to extend Gigabit speeds over greater distances when paired with other Wi-Fi-certified

Constant connectivity is the new consumer imperative. By working with partners like ARRIS, service providers can achieve the next level of visibility, management and expertise to resolve network issues before they impact consumers.



The ARRIS VAP4641 is the first Wi-Fi-certified EasyMesh device and will herald a new era for in home Wi-Fi, according to ARRIS.



William Ho,
Senior
Vice-President,
Sales,
Asia-Pacific,
ARRIS



EasyMesh devices. This allows service providers to securely deliver high-quality Wi-Fi to any location in a subscriber's home.

In addition, consumers retain traditional "wired" levels of service and quality while enjoying flexibility in placement and ease of installation. The VAP4641 accommodates a range of home layouts and configurations with its optional wall-plug adapter.

Seamless Wi-Fi experience throughout the home

The ARRIS VAP4641 includes a full suite of management features to ensure an optimal consumer experience while reducing operating costs for service providers. The extender can function as part of the ARRIS HomeAssure (www.arris.com/solutions/wi-fi-connected-home) Whole-Home Wi-Fi solution, which also supports Wi-Fi EasyMesh, enabling it to deliver high-performance Wi-Fi in an auto-configuring, auto-optimising system.

The ARRIS HomeAssure solution also ensures that devices in the home work optimally with EasyMesh devices, providing the steering control to optimise Wi-Fi-based services to every device in the home.

Constant connectivity is the new consumer imperative. By working with partners like ARRIS, service providers can achieve the next level of visibility, management and expertise to resolve network issues before they impact consumers and deliver a new era of seamless whole-home Wi-Fi.

To find out more about the ARRIS VAP4641, visit: <http://www.arris.com/products/vap4641-wireless-extender/> □

What's on Screen

iflix teams up with Bernama

KUALA LUMPUR – iflix is partnering with Malaysian National News Agency (Bernama) to deliver the latest news live to iflix users for free.

Bernama's live news broadcast will form part of iflix's 24-hour news hub, *iflix NEWS*, an aggregate of live news streams, clips and linear feeds from international, regional and local news authorities.



HOOQ expands FTA line-up on its Live TV offering

JAKARTA – HOOQ is introducing four more free-to-air (FTA) linear channels on its platform's freemium layer.

tvOne, ANTV, BeritaSatu and DW bring to a total of 13 FTA channels offered on HOOQ's Live TV feature, making it the largest selection of FTA channels on any major platform in Indonesia, according to HOOQ.



Appealing to the maker in you

SINGAPORE – Makeful HD, a lifestyle specialty channel from Blue Ant Media, an international content producer, distributor and channel operator, is now available via StarHub TV.

Awakening and celebrating the creativity that exists in every individual, Makeful HD features a compelling programme line-up to inspire Singaporeans to bring imagination into every aspect of their lives.

Makeful HD brings its viewers an extensive selection of celebrity-led home improvement programmes, and Makeful Originals featuring design, décor, style, crafts and DIY ideas.



Award-winning host Sarah Richardson (left) of *Sarah 101* and brothers Kevin and Andrew of *Projects* are featured on Makeful HD's compelling programmes lined up on StarHub TV Channel 436.



ABS-CBN kicks off Karate Combat

QUEZON CITY – Philippine broadcaster ABS-CBN has been made the first Asian distribution partner of Karate Combat, a new global, professional martial arts league.

ABS-CBN's Sports+Action channel is showing the initial three-fight events Karate Combat has produced as multi-part broadcasts.

Michael DePietro, CEO of Karate Combat, said: "Combat sports are incredibly popular in the Philippines. We're proud to be reaching this huge, devoted audience via ABS-CBN."



IBC2018 sets direction for broadcast and media industry

BY JOSEPHINE TAN

AMSTERDAM – IBC continues to be the place where industry players and professionals meet to discuss the future of media, technology and entertainment. This year, the annual trade event saw the attendance of more than 55,000 visitors from all around the world walking through the halls of the RAI Exhibition and Convention Centre in Amsterdam, The Netherlands, from September 13-18.

Despite competition arising from over-the-top (OTT) service providers such as Netflix and Amazon Prime Video, as well as technology giants like Facebook and Google, who are vigorously extending their footprint into the media industry, this is an “exciting period of time that calls for innovation”, commented David Cohen, vice-president of marketing, Grass Valley.

Cohen said: “The shift in consumers’ consumption habits has already resulted in media companies increasing their OTT spending. Hence, it is important to focus on innovations in this challenging time in the industry. Vendors will also need to have the capabilities to drive innovations forward.”

In a move designed to place customers at the centre of its innovation and product development, Grass Valley announced the debut of its new Core Technology initiative — an agile, collective approach to research and design. Embracing the “lean engineering” philosophy, Grass Valley said that the initiative will set the direction for its product portfolio, and take a “build once, integrate to many” approach in areas such as video processing, IP connectivity, cloud technologies and software-defined solutions.

The Core Technology initiative has already been applied to multiple Grass Valley products, including iTX, GV Flex and ICE. The company further revealed that the initiative will be extended to more solutions across its portfolio in the coming months.

Another company that has been focusing on IP innovation is Embrionix, which unveiled its all-IP emSFP microservice platform. This latest addition to the company’s software-defined gateways is capable of processing up to two 4K/Ultra HD (UHD) SMPTE ST 2110/2022-7 signals, and offers various processing microservices including frame sync, up/down/cross-converter, downscaler, colour correction, audio shuffling, video/audio/metadata timing adjustment



More than 55,000 visitors from all over the world attended IBC2018, which took place from September 13-18 at the RAI Exhibition and Convention Centre in Amsterdam, The Netherlands.



Andreas Hilmer, director, marketing and communications, Lawo: “Media companies today have a vision of installing future-proof solutions, which, of course, have to be IP-equipped.”



TVT’s Jason Ho, vice-president, sales, Asia, and Mark Beard, senior vice-president, commercial, highlighted that the company has been tasked by UK broadcaster ITV to provide a content management platform for its local and international markets.

and all-IP quad split, among other functions.

Embrionix also debuted its miniaturised emFUSION-6 UHD-IP standalone gateway, which is designed to interconnect multiple

remotely located devices over IP. The emFUSION-6 is software-defined, and can be deployed for remote broadcast production scenarios.

For Lawo, the company premiered its vm_udx virtual module



David Cohen, vice-president of marketing, Grass Valley: “It is important to focus on innovations in this challenging time in the industry. Vendors will also need to have the capabilities to drive innovations forward.”



From Riedel Communications are Christian Bockkopf (left), head of marketing and communications, and Joe Commare, marketing and sales manager for North America, who are ready to speak with visitors on how Riedel’s communication solutions can help streamline their operation workflows.

(VM) for the V_matrix ecosystem. The solution features four independent paths of format conversion between SD, HD and 4K/UHD for IP and SDI signals, in addition to providing audio embedding/de-embedding, frame sync, and RGB colour correction functionality.

Andreas Hilmer, director, marketing and communications, Lawo, explained that the vm_udx is fundamentally designed with IP networking in mind, and the solution supports both ST 2022-6 and ST 2110-20 IP video, as well as ST 2110-30/-31/AES67 and Ravenna IP audio streams.

“Going IP is no longer a question. We have been doing more and more consulting works on IP, and understand that media companies today have a vision of installing future-proof solutions which, of course, have to be IP-equipped,” he added.

Making its European debut for GatesAir are two Intraplex IP

network solutions, IPConnect and IP Link 200A. IPConnect is an IP networking gateway that employs a combination of packet protection schemes, network/time diversity and packet-level forward error correction to address the issue of data transport and packet loss across complex networks.

As for IP Link 200A, it is an AES67-compliant codec that marries audio encoding and decoding with optional built-in GPS for synchronised single-frequency networking operations.

The GatesAir Intraplex IP Link product family also includes LiveLook software for analysing and monitoring all streams that are transported over an IP network, and generating reports and graphs to illustrate real-time and historical performance.

At the Riedel Communications booth, the company exhibited the 1200 series SmartPanel RSP-1232HL. The SmartPanel features



Connectivity barriers no longer, for live production in the cloud

For some early adopters, the cloud already provides a scalable, flexible infrastructure achievable without large capital investment, enabling workflow efficiencies in content creation, management and distribution.

Broadcasters are faced with increased processing and storage needs to accommodate their archives and new content. At the same time, this content must be distributed and delivered in multiple ways, each with different technical requirements: video and audio codecs, wrappers, metadata, and so on. Meeting all these demands, and ensuring that each is in the correct format, can be an automated process that is ideally suited to the cloud.

Up to this point, however, the adoption of advanced cloud-based workflows, especially for live production, has been hindered by concerns over the reliability of connectivity to the Internet. That is why Dejero believes that achieving cloud success within broadcast will take industry-wide collaboration.

Dejero solves the first-mile challenge of efficiently moving content into the cloud from virtually anywhere, where it can be managed, processed and ultimately distributed. This is of critical importance as the industry transforms. But that is just one part of the equation.

At IBC2018, Dejero collaborated with Microsoft Azure, Avid, Haivision, Hiscale, Make.TV, and Signiant, to show a proof-of-concept demonstration of live production in the cloud to deliver greater flexibility, scalability and budget efficiencies to broadcasters.

From the field, a live video stream is sent to the Microsoft Azure cloud platform from a Dejero EnGo mobile transmitter. Dejero's video on-ramp technology receives the stream in Azure, transcodes it and delivers the standardised stream to Make.TV's Live Video Cloud, which is used to curate and route the content to any number of destinations from within Avid MediaCentral. Hiscale's cloud-based transcoding solution enables the live ingest into customers' editing and asset management environments, where high- and low-resolutions files can be stored in Avid Nexis.

Additional workflows include a live ingest workflow using a Haivision



Bogdan Frusina,
Founder,
Dejero

stream to Avid MediaCentral or a file-based workflow with Signiant. The overall solution presents users with a single interface, pulling relevant data from collaborating partner technologies while leveraging the compute and storage power of Microsoft Azure.

This workflow aims to illustrate how the cloud can deliver on a vision that enables broadcasters to take advantage of a highly flexible infrastructure that scales according to their needs — whether that be for a month, a day, or an hour at a time — while reducing costs, and expanding their revenue options.

The cloud can help broadcasters address a pressing need to improve efficiencies and control costs. Cloud-based processes can be shut down when they are not needed, so broadcasters are not paying for processing power they are not using.

A hybrid world is emerging, where on-premises and cloud infrastructure work together. In this scenario, the cloud is often used for occasional or peak needs. It could present new opportunities: trialling a new channel, for example.

As the broadcast industry transforms, cloud processing will become crucial to metadata enrichment. For those with extensive archives, comprehensive content metadata is central to maximising monetisation. Artificial intelligence (AI) can identify detailed information within the content, including image and sound recognition, as well as speech detection, to enrich the metadata.

Taking away the need for capital investment and moving to an operational expenditure model, spinning up and shutting down processes and the associated costs as needed, the cloud will enable people, even those perhaps working out of their garage, to run an enterprise-grade broadcast operation. They will drive revenue much quicker, from a significantly lower cost base, which changes the dynamics of the industry completely. □

Systems integrators, KVM solutions providers seen at IBC2018

▶▶ 11

multiple full-colour multi-touch displays, 32 hybrid-lever keys, the ability to leverage apps for multi-functionality, and the ability to adapt to the various workflows in use today.

Alongside the SmartPanel was the display of the Bolero wireless intercom system, which is now available as a standalone application. With the Bolero Standalone Application, antennas are daisy-chained to each other in a line or redundant ring via a synchronised time-division multiplexing (TDM) network.

In its continued global expansion, Riedel announced the opening of its fourth Asia-Pacific sales hub in Beijing, following the launch of its branches in Australia, Japan and Singapore. Riedel's Beijing office is located in Chaoyang District, and will be led by Gao Jian, who will be the regional sales manager for China.

Meanwhile, TVT has been embracing IP cloud technologies and media management approaches, and has enabled the global content services provider to address the complexities of packaging, versioning, producing access services, managing and delivering content for international linear, on-demand and online entertainment market.

Mark Beard, senior vice-president, commercial, TVT, revealed that the company has been tasked by UK broadcaster ITV to provide a content management platform for its local and international markets. This partnership will see TVT managing media logistics, content preparation and access services across all ITV's platforms.

MediaKind, formerly known as Ericsson Media Solutions, unveiled its new name to reflect the concept that "media should inspire and unite humankind". At the show, MediaKind launched MediaKind Universe, its next-generation solution and service portfolio.

Driven by new consumption habits, MediaKind Universe allows content owners, distributors and service providers to meet the increasing pace of innovation and to create new and dynamic workflows. MediaKind Universe consists of five solutions, named after constellations, which provide solutions to content contribution and distribution, direct-to-consumer, video delivery networks, consumer experience and services.

Featuring the theme of "Shaping the Future", ARRIS focused on smart connectivity and multi-play devices with the display of its HomeAssure solution. ARRIS HomeAssure comprises a range of gateways, modems, network extenders, consumer apps and cloud management software — all developed to improve coverage and performance of the Wi-Fi connected home.

And as cable networks evolve towards distributed access architectures (DAA), ARRIS demonstrated the delivery of quadrature amplitude modulation (QAM) over IP video and data over remote PHY solutions, optimise network implementation and management with ARRIS Network Planning and Consultancy Services, and network intelligence and orchestration solutions.

Responsible for building and installing complete networks, playout centres and



MediaKind's Chiranjeev Singh (left), director of marketing, APAC, with Murray Barker, marketing director of EMEA.

turnkey solutions are systems integrators such as Magna Systems and Engineering. The company has been involved in several projects that leverage IP and 5G technologies, revealed David Blackett, group general manager, Magna Systems and Engineering.

He explained: "The ratification of SMPTE ST 2110 has given a boost for broadcasters in transiting to IP. We are now seeing more implementation of IP within broadcast infrastructures.

"And on the topic on 5G, we have already provided test equipment to telcos for their



ARRIS is attempting to redefine connectivity with the display of its product portfolio, including the ARRIS HomeAssure suite of solutions. Seen at its booth are: Duncan Potter (left), senior vice-president for global marketing, ARRIS; and William Ho, senior vice-president for Asia-Pacific and Japan.



German systems integrator Broadcast Solutions' Sebastian Schlusnus (left), head of marketing, and Andreas Höflich, public relations, welcoming visitors to their booth.

5G trials. 5G will start changing as bandwidth becomes more available, and it will provide media companies with more opportunities as video becomes more mobile."

Another systems integrator at the show was Broadcast Solutions, which presented *hi* — an intuitive control layer for media appliances. Equipped with auto-discovery and zero-configuration technologies, *hi* reduces the set-up and configuration time of broadcast and media systems via a user-friendly interface that provides easy control and monitoring of complex infrastructures, said Broadcast Solutions.

The German systems integrator also premiered a new Robycam system — Robycam Compact. Designed as a smaller version of the Robycam 3D cable-suspended camera system, Robycam Compact can be installed in TV studios, and at small and medium-sized sports venues. Some features of the Robycam include a flying area of 80m x 80m; support for HD, 4K/UHD and high dynamic range (HDR); and an integrated augmented reality (AR)-camera tracking solution.

Keyboard, video and mouse (KVM) systems play an essential role bringing IT equipment into the broadcast ecosystem, thus optimising any broadcast workflows. For instance, Guntermann & Drunck (G&D) demonstrated its KVM matrix switches — ControlCenter-Digital, ControlCenter-Compact and ControlCenter-IP — which provide distributed access to remote workstations.

Newest to the KVM-over-IP solutions is the ControlCenter-IP matrix system, which provides functionalities such as monitoring and simple network management protocol (SNMP), scripting and scenario switching, push-get and CrossDisplay-Switching for intuitive operation at multi-monitor workstations. Equipped with IP-Control-API, the ControlCenter-IP can be linked with the broadcast control systems and thus, execute

switching commands.

Another KVM solutions provider, Adder Technology, launched a new VGA addition to its ADDER-Link Infinity 100T (ALIF100T) range. Designed for users with analogue servers, the ALIF100T VGA is able to connect and transmit video sources from a single source. As a result, users can "gradually migrate to digital" while gaining value from their existing technology investment, said the company.

Jamie Adkin, vice-president of sales, EMEA, Adder Technology, explained: "Contrary to popular belief, VGA connectivity is still widely used, particularly in control rooms. So, although technology advances are driving the sector to upgrade their KVM solutions, this has been difficult without incurring major expense.

"We recognise the continuing importance of VGA and believe the capabilities of the ALIF100T range will put it at the top of the agenda for many customers looking for a way to retrofit KVM into infrastructures designed around legacy equipment."

At the Cobalt Digital booth, the company announced that the 9904-UDX-4K-12G UHD 12G/3G/



Bryce Button, product marketing manager, AJA Video Systems, with the new HDR Image Analyser, an HDR monitoring and analysis appliance powered by Colorfront-developed software.



Andrew Tan, director of sales for Asia-Pacific, Ross Video: The company has announced a total of 21 new product updates, including the Carbonite Ultra motion graphics systems, this IBC2018.

HD/SD-SDI up/down/cross-converter has begun shipping. As Cobalt's latest generation of advanced image and audio processors for the openGear platform, the base card provides quad 3G-SDI and 12G-SDI I/O with SDI muxing and demuxing, and up/down/cross-conversion. Other options include RGB colour correction, and SDR-to-HDR up-mapping via Technicolor's HDR Intelligent Tone Management (ITM) processing.

AJA Video Systems also announced the availability of its new HDR Image Analyser, a HDR monitoring and analysis appliance powered by Colorfront-developed software. The solution supports the monitoring and analysis of 4K/UHD/2K/HD, HDR and wide colour gamut (WCG) content for broadcast and OTT entertainment across production, post production, QC and mastering.

To further support emerging HDR workflow demands, AJA Video Systems has developed a v2.6 firmware update for the FS-HDR HDR/WCG converter. Available this fall, the update includes new colour transformation enhancements that allow users to accomplish new workflows and achieve a "consistent, final look" when working with a range of 4K/UHD/2K/HD, standard dynamic range (SDR) and HDR formats.

From "Smart Production" to "Living Live", Ross Video announced a total of 21 new updates during IBC2018. This includes Carbonite Ultra, a 24-input production switcher that can be expanded to 3MEs within 1RU.

In addition to supporting SD, HD and 3G 1080p formats, Carbonite Ultra also includes a range of HDR formats, such as hybrid log gamma (HLG), perceptual quantiser (PQ) and S-Log3, as well as SDR to HDR conversion. Furthermore, Carbonite Ultra comes with the XPression LiveCG software that empowers users to create still graphics. Users can install the software on a network-connected

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Jamie Adkin, vice-president of sales, EMEA, Adder Technology, with the VGA version of the ADDERLink Infinity 100T.



Miguel Churruga, marketing and communications director of Brainstorm: "AR is in Brainstorm's DNA, and our aim is to help media companies to create compelling content."

A galore of product launches at IBC2018

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computer, render graphics directly into Carbonite Ultra's MediaStores via IP, and take them to air with the push of a button.

Another product that has received a new update is the XPression motion graphics system. In the latest 8.5 version, XPression is packed with an array of new features, including a new search tool that allows users to find fonts, materials and scenes more easily. Enhanced support for WCG and HDR is included, as is support for Bluefish444 Epoch 4K Neutron I/O cards, Windows 10 support and enhancements to XPression DataLinq data integration server with the addition of a number of new data sources.

Where graphics creation is concerned, Brainstorm has combined the Brainstorm eStudio renderer with the Epic Games Unreal Engine within the Combined Render Engine application. The company also announced the integration of Aston graphics material within the third version of InfinitySet.

InfinitySet is Brainstorm's flagship product for the creation of "advanced, photorealistic" virtual sets and AR content. In v3, the solution provides AR features and technologies such as TrackFree, TeleTransporter, 3D Presenter or VideoGate, which are all used by media companies globally to create programmes using virtual sets and graphics.

Miguel Churruca, marketing and communications director, Brainstorm, said: "AR is in Brainstorm's DNA, and our aim is to help media companies to create compelling content. For instance, when combining live sports events with AR, it brings viewers a totally different viewing experience as it allows them to feel that they are almost watching the show live from

the stadium."

Meanwhile at ARRI, the company unveiled Stellar, an app for lighting control. Available on iOS and Android devices, Stellar is compatible with ARRI's family of lighting equipment, including SkyPanel and L-Series, as well as SkyLink.

From large films with many scenes and set-ups to small projects with minimal fixtures, Stellar allows users to create different lighting looks in any lighting scenes. Looks can be stored in Stellar, which saves all fixture settings and colour selections. Moreover, Stellar is able to manage switch colour modes, settings and output for all fixtures.

Going "beyond definition" is Sony, which showcased its latest innovations, including a new generation of 4K/HD HDR live system

cameras — HDC-P50, HDC-3500, HDC-3100, HDC-3170 — and a new camera control unit (CCU) HDCU-3170, a handheld camcorder HXR-NX200. A 4K/UHD HDR reference monitor BVM-HX310 was also on display.

Takuma Wada, head of content creation solutions marketing, professional solutions company (PSAP), Sony Corporation of Hong Kong, elaborated: "Each year at IBC, we unveil innovative solutions that give media companies the best possible tools to capture stunning content and share it with their audiences — and this year is no different. At Sony, we listen and work collaboratively with our customers to create solutions that actively address the challenges media companies face today, and provide them with the technologies they need to go and make tomorrow a reality."

In an attempt to strengthen its commitment to drive interoperability based on open standards, Sony expanded its IP Live Production System solutions with further support for ST 2110 in both HD and 4K/UHD. For instance, its XVS-9000 switcher, which is set for release this October, features support for IP and 12G-SDI — same as the XVS-8000, XVS-7000 and XVS-6000.

Dejero, which is continuing to empower crews in the field to capture high-motion news and sports content, has enhanced its EnGo mobile transmitter with increased processing power and HEVC/H.265 compression support.

Kevin Fernandes, vice-president of sales, Dejero, added: "As the broadcast industry shifts towards the HEVC/H.265 video compression standard to efficiently transport high-quality video from the field, the latest Dejero EnGo is equipped with increasing processing power to boost overall performance, and deliver enhanced picture quality to those shooting fast-paced high-motion video in the field."

The additional processing power has paved the way for a new dynamic content adaption feature that adjusts the encoding process based on the amount of motion detected within content that is being captured. This, according to Dejero, allows broadcasters to "automatically and seamlessly" transition from a talking-head shot with limited motion to high-motion content without any softening of the picture or introduction of compression artifacts.

In managing storage of media content, Ultrium LTO highlighted its LTO-8 tape technology, which provides more than 30TB of compressed capacity, and up to 750Mbps data transfer rates. With continued support of partitioning



Takuma Wada, head of content creation solutions marketing, professional solutions company (PSAP), Sony Corporation of Hong Kong: "At Sony, we listen and work collaboratively with our customers to create solutions that actively address the challenges media companies face today, and provide them with the technologies they need to go and make tomorrow a reality."



Kevin Fernandes, vice-president of sales, Dejero: The EnGo mobile transmitter is now equipped with HEVC/H.265 video compression support.



Charles Sevier, CTO of APJ, Dell EMC, highlighting the company's technology portfolio, which includes Isilon storage, servers networking, VMware virtualisation solutions, as well as Dell workstations and displays.



Bringing content closer to media companies' heart are VSN's Nicholas Morgan, sales director for Asia-Pacific, and Patricia Corral, marketing director.

to enable functions such as linear tape file system (LTFS), LTO tape technology also enables compliance with features like 'write once', 'read many' (WORM) and AES-256-bit encryption.

Meanwhile, Dell EMC showcased its technology portfolio, which includes Isilon storage, servers, networking, VMware virtualisation solutions, as well as Dell workstations and displays. Available in all-flash, hybrid and archive modes, the Isilon scale-out network attached storage (NAS) platform

can manage media workloads such as digital media content creation, media processing, content delivery and nearline storage.

Dell EMC also showcased its ECS solution, which is a multi-purpose, cloud storage platform. ECS is Dell EMC's third-generation object platform, and is able to perform data ingestion and analytics within a cloud storage architecture.

Since the launch of the green-Machine in 2016 and its software-based signal processing approach,



David Godfrey, vice-president and general manager for Asia-Pacific, Bitmovin, sharing some findings of the Video Developer Report, which revealed that latency and device playback are the top technology concerns globally.

Michel Beke (left), product ambassador for MEDIAGENIX, with Peter Heinckiens, CTO of MEDIAGENIX: "Nowadays, the media industry fulfils the craving audiences have for stories by broadcasting, streaming and publishing content on a multitude of different devices and platforms."

Lynx Technik has taken the next "logical step" into cloud with the launch of Lynx Air, a cloud-based signal processing solution, at this year's IBC show. The introduction of Lynx Air enables remote production as the solution is designed to separate processing power from physical hardware, allowing functions like signal processing to be accomplished in the cloud.

Lynx Technik has also added the C_EH_1911 to its yellobrik product family. The solution is capable of performing as a bridge between ST 2110 video-over-IP signals and HDMI, thus enabling the integration of HDMI displays or HDMI-capable devices into IP-based video environments.

The RFR 1218 is another rack-frame solution Lynx Technik highlighted. Equipped with RJ45 Ethernet ports operating as USB to Ethernet bridges, the RFR 1218 allows access to all mounted yel-

lobrik converters used within the rackframe. Furthermore, users are able to utilise this new feature to control all yellobrik modules network by using a central Web-based GUI.

As for VSN, the company launched its cloud-based traffic and scheduling software, VSN-Crea. Scheduled for 2019 release, VSN-Crea can be used specifically within TV channels, radio stations or Web TV platforms for traffic and scheduling, programme planning, advertising management, and control of third-party TV rights acquired for broadcast.

Other features include the ability to change languages within the user interface, consolidation of the final broadcast, and analysis of the programming and content return on investment (ROI) through analytical reports.

VSN also demonstrated VSN-

Explorer Plugin, which allows journalists to access the VSN Explorer platform functionalities from their newsroom computer systems (NRCS) interface, including the Web video editor, Wedit. Together with VSN Explorer MAM, the company's media asset management (MAM) solution, and VSN Livecom, its studio playout solution, VSN presented a complete solution for news production that supports users through the entire news production workflow.

With the theme "Sharing stories 2.0", MEDIAGENIX has been focusing on being content-centric since the introduction of its WHAT'S'ON broadcast management system.

At IBC2018, Michel Beke, product ambassador for MEDIAGENIX, explained: "The way in which we share stories has come a long way from the days of telling them around the campfire. Nowadays, the media industry fulfils this innate craving we have for stories by broadcasting, streaming and publishing content on a multitude

of different devices and platforms.

"As a result, the broadcasting business is no longer about filling linear channels with content, and is no longer about offering as many titles as possible on video-on-demand (VoD) services. It's about sharing stories. For instance, releasing content on the main rendezvous points with the targeted audiences — it is also about generating added value throughout the content lifecycle."

WHAT'S'ON is built up with several modules — VoD scheduling, linear scheduling, rights and finance management, material management, promotion and interstitials, workflow automation, and reporting — empowering media companies to manage their content workflow throughout the entire content lifecycle.

At the Bitmovin booth, the company released its annual *Video Developer Report*, revealing a snapshot of the key trends and issues in video technology. The study reported that latency and device playback are the top technology

concerns globally, especially for live sports events. Some 55% of the global respondents indicated that latency is the biggest problem being experienced with video technology today.

Delivery delays can be an issue for online streaming compared to traditional broadcasters, especially for live sports events. The next most prevalent issue is ensuring playback on all devices, which is pointed out by 50% of the global respondents.

Bitmovin has developed the HTML5 Bitmovin Video Player, which is designed to manage device compatibility, platform updates, new streaming formats and codecs, digital rights management (DRM), and ads. Particularly for device compatibility, the Video Player features device and cross browser support for desktop Web browser, mobile devices, as well as TVs and streaming devices.

Since its establishment in 2010, Es'hailSat, the Qatari satellite company, has been delivering services to broadcasters, enterprises and governments in the Middle East, the North Africa (MENA) region and beyond. In 2013, Es'hailSat launched its first satellite, Es'hail-1, which is now positioned at the 25.5°E orbital location. Al Jazeera Media and beIN Sports are some of the media networks leveraging on Es'hail-1 for the delivery of its SD and HD channels.

The company further revealed that Es'hail-2, its second satellite, is expected to be launched in 2018, and will be located at the 26°E orbital location. Es'hail-2 will also feature a number of Ka- and Ku-band transponders with both steerable and fixed spot beams, unleashing new opportunities for businesses in Qatar and the region. In addition, Es'hailSat has established partnerships with service providers to offer a portfolio of broadcast and VSAT services to support business growth.



White Paper @ www.apb-news.com

❖ Content value protection from origin to consumption

The need to deliver TV-calibre viewing experiences is growing more acute as consumers are presented with ever more options from a rising tide of virtual video multi-channel video programming distributors (MVPDs), subscription video-on-demand (SVoD), aggregators, content owners, MVPDs and pirates vying for their attention.

At the same time, the surge in losses to piracy has triggered a global response that has made support for forensic watermarking an essential requirement for licensing increasing volumes of 4K/Ultra HD (UHD) and other high-value content. This white paper from NAGRA and Broadpeak explains how the integration of NAGRA's NexGuard Streaming watermarking solution into Broadpeak's BroadCache Box platform makes it possible for every type of distributor to meet these challenges.



2018 Calendar of Events

■ OCTOBER

October 2 - 4
APSCC 2018
Shangri-La Jakarta Hotel, Indonesia
<http://apscsat.com/>

October 9 - 11
IEEE BROADCAST SYMPOSIUM (BTS)
Keybridge Marriott Arlington, Virginia, USA
www.bts.ieee.org/

October 25 - 27
BROADCAST INDIA 2018
Bombay Exhibition Centre, Goregaon, Mumbai, India
www.broadcastindiashow.com

October 29 - November 1
ASIA VIDEO SUMMIT 2018
Intercontinental Hong Kong
www.asiavia.org

■ NOVEMBER

November 14 - 16
INTER BEE 2018
Makuhari Messe, Tokyo, Japan
www.inter-bee.com

■ DECEMBER

December 6 - 7
IABM ANNUAL INTERNATIONAL BUSINESS CONFERENCE & AWARDS 2018
Hilton Metropole, Birmingham, UK
www.theiabm.org

2019

■ MARCH

March 4 - 7
ABU DIGITAL BROADCASTING SYMPOSIUM 2019
Royale Chulan Kuala Lumpur, Malaysia
www.abu.org.my

March 12 - 14
CABSAT 2019
Dubai World Trade Centre The UAE
www.cabsat.com

■ APRIL

April 6 - 11
NAB SHOW 2019
Las Vegas, Nevada, USA
www.nabshow.com

■ MAY

May 22 - 25
KOBA 2019
COEX Exhibition Centre, Seoul, South Korea
www.kobashow.com

■ JUNE

June 18 - 20
CONNECTECHASIA2019
• **BROADCASTASIA2019**
Suntec Singapore
• **COMMUNICASIA2019**
Marina Bay Sands, Singapore
www.connectechasia.com/

APB CREATION

Postium expands footprint into the Americas

Postium Korea has appointed Postium America as its distributor for North and South America. The deal sees Postium America providing its expertise on product selection and integration, and offering products through reseller channel partners throughout the Americas. Wes Donahue, VP of sales and marketing, Postium America, commented: "Our industry is transforming with new distribution models and more content deliverables than ever before. New technologies such as high dynamic range (HDR) and 4K/Ultra HD (UHD) are changing how content creators express their creative vision, and Postium America offers a wide range of feature-rich, colour-accurate displays to make sure its vision is faithfully reproduced."

Atomos supports 4K/UHD 10-bit video from Nikon cameras

The new Nikon Z6 and Z7 mirrorless cameras output a full-frame 10-bit 4K/Ultra HD (UHD) N-Log signal, which the Atomos Ninja V monitor/recorder can record and display in HDR. This combination, according to Atomos, is aimed to raise the bar for filmmakers and photographers shooting video everywhere. Both the Nikon cameras are equipped with sensors that output 4K/UHD images over HDMI, ready for conversion to HDR by Atomos. The Atomos Ninja V then records the output to production-ready 10-bit Apple ProRes or Avid DNx formats.

Next Month @ Creation

Power, Lighting and Camera Support System

PANELLISTS



Dr Ahmad Zaki Mohd Salleh
Director Technical Operations
TV Networks
Media Prima



Phan Tien Dung
CTO
Vietnam Digital Television



Mike Whittaker
Executive Vice-President
and CTO, Asia-Pacific and
the Middle East,
Fox Networks Group Asia

A vibrant new era of storytelling

Prior to any final broadcast, video content goes through a long process of conceptualisation, acquisition and the final stage of post production, where the picture is enhanced, bringing out more details and dynamic range.

Josephine Tan finds out how today's editors can leverage 4K/UHD and HDR technologies to bring their stories to life.

It is no secret that HD has become a norm for filmmaking, regardless if the final content is being distributed onto linear or online platforms, or a combination of both. This is evident in today's professional camera marketplace where most camera systems are readily HD-equipped.

In order to match the colours as closely to reality as what the human eye sees, the industry has introduced higher resolution formats beyond HD, as well as high dynamic range (HDR), to provide more details and dynamic range of luminosity. To meet these demands, camera manufacturers have developed cameras that are capable of recording up to 4K/Ultra HD (UHD), or even 8K, while integrating HDR capabilities within the camera systems.

And in the near future, in post production, which perhaps is the last stage of the broadcast and film acquisition chain, colourists and editors will be editing videos containing high-resolution images and greater dynamic range.

David Colantuoni, senior director of production management, Avid, tells *APB*: "With all of this technical change, never before has a director of photography (DoP), director or editor been given such a wide range of options for creating content. Today's camera technology is capable of capturing larger than 4K/UHD, and HDR workflows add another level of complexity, but an extended range of looks that can be achieved for the ultimate creative differentiation.

"Emerging 4K/UHD and HDR technologies allow for differentiation to the viewer. High-quality content can be produced that differentiates from other traditional programming. Camera technology and allowing for higher depth field or capturing of more colour and luminance information — as a scene is being shot — allows for greater downstream creative control."

Suggesting that the emergence of 4K/UHD has created "incredible change" in post-production workflows, Colantuoni highlights that with the availability of these high-resolution digital cameras, every production



"The emergence of digital technology with regard to larger than HD resolutions has caused the industry to rethink production techniques."

— David Colantuoni,
Senior Director of Production
Management,
Avid

From first cut to final finishing, Avid Media Composer provides editors with the tools they need to work with HDR and 3D content.



The image on the right reveals more brightness and details after an editor colour graded the image on Adobe Premier Pro.

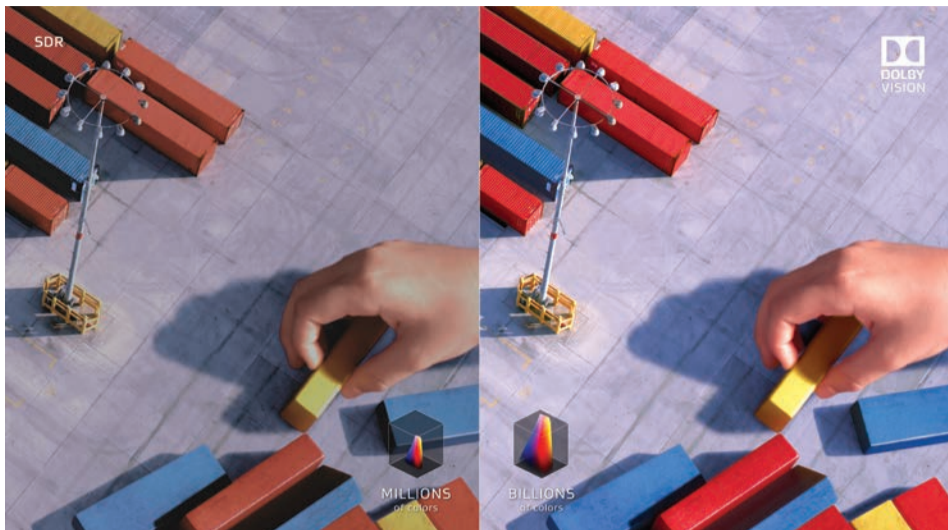


detail downstream from capture has to be considered.

Across the entire production chain — from on-set production, dailies processing, ingest, storage, editorial, delivery to archive of material — all these areas pose different challenges from traditional post production, as well as from a technical production aspect,

he points out.

"For instance, on-set production and dailies processing have to be more powerful and allow for the archive of camera originals. Ingest and storage have to be faster and have a larger capacity. Remote editorial needs higher bandwidth and controls for security and performance. As for delivery, the



Dolby Vision combines HDR and WCG to deliver bright highlights, more contrast and colours.



Dolby Vision features 12-bit detail, bringing more clarity and texture than SDR.

final product needs to be produced for multiple outlets for over-the-top (OTT), movie theatres, TV and a whole host of ‘channels’ for viewership.”

Viewers today, driven by the on-the-go viewing habits of millennials and the rise of OTT services, have affected how content is created, edited and delivered. Furthermore, due to the explosion of content consumption, never before has there been such demand for many different versions of the same content.

Colantuoni elaborates: “Production techniques must consider the potential for content to be viewed on a phone, an airplane screen, tablet or even with the screen held vertically. Production techniques to manage all of these content also need to change; thus, we have seen the emergence of file-based mastering specifications such as the Interoperable Master Format (IMF) as essential to managing hundreds of versions of one production.”

IMF is a standard from the Society of Motion Picture and Television Engineers (SMPTE) for providing a single, interchangeable master file format and structure for the distribution of content between businesses globally.

As a file exchange unit to the distribution channel, IMF enables businesses with a master format for creating multiple tailored versions of the same piece of content for different audiences. It also allows for the distribution of versions from content owners to service providers, or distributors — and multiple final destinations such as airlines, broadcasters, OTT and more.

An early adopter of the IMF standard is Netflix, which needed an efficient way to vault its masters in the cloud while eliminating the requirement of a different version for every territory the OTT service operates in. According to Netflix, the adoption of this standard has enabled the company to hold a single set of core assets and elements needed to make those assets

relevant in a local territory.

“It is essential that manufacturers provide the tools needed to create this content from conception to delivery,” Colantuoni adds. “Asset management systems, interacting with editorial and delivery for an end-to-end solution for content creators can assist in productions today by simplifying the workflow challenges for production services.”

Not only is Netflix an early adopter of IMF, the OTT service has also commended streaming of 4K/UHD content in 2014, followed by the roll-out of HDR video in 2016.

Apart from 4K/UHD and HDR presenting “some of the most revolutionary changes to post production” in recent years, Colantuoni points out that there are also cloud production aspects to be considered, including triple archive of camera originals, central ingest and transform, co-located production such as location shoots and remote editorial capabilities.

“It is safe to say that the emergence of digital technology with

regard to larger than HD resolutions has caused the industry to rethink production techniques,” he concludes.

For Adobe, the company is confident that the viewing of HDR will be “far more compelling” than stereo 3D, 4K/UHD, or wide colour gamut (WCG), and will create images that are more realistic than ever before, declares Jon Barrie, strategic development manager, Pro Video, Adobe.

The increase in resolution, according to Barrie, will not affect the colour correcting process. Although HDR does make a difference to overall brightness and details in the highlights and shadows, with WCG also allowing for more colours to be shown, both HDR and WCG will only come into play when there is a desire to make colour correction for HDR and WCG compatible television displays, he adds.

“Although HDR will be very exciting to watch, in the immediate future, most viewing will still be on current standard dynamic

range (SDR) displays,” he reveals. “Just as with HDTV programmes today — to reach a large audience — HDR programmes will need to be down-converted to HDTV and SDTV. This conversion is far more challenging than HDTV to SDTV, which was mainly a resolution change.”

For best results, Barrie recommends colourists to work on a separate colour grade for SDR, as this grade can be delivered as metadata with the HDR content to guide the conversion in the receiver, as well as supporting the specification of HEVC/H.265 and Blu-ray.

He says: “Colour correction allows for a natural or stylistic feel for colours that appear ‘correct’, especially between shots that are meant to feel connected in space and time. For that, colourists need to ensure the overall consistency of brightness, contrast and colour between shots. There are also stylistic choices that colourists make for more emotive storytelling to create a deeper connection with their viewers.”

Adobe has integrated a Lumetri Colour workspace in Adobe Premier Pro, allowing colourists and editors to grade footage directly on their editing timeline, adjusting colour, contrast and light in their sequences, in innovative ways. The Colour workspace is designed not just for experienced colourists but also for editors who are new to colour grading, thus empowering more content creators to tell their stories “masterfully” and produce their best work, says Adobe.

At IBC2018 last month, Adobe unveiled, among others, new video features coming to the Adobe Creative Cloud. These are aimed to speed up production timelines, enable more workflows and deliver capabilities to bring filmmakers’ and video professionals’ creative visions to life. The updates include Adobe Sensei-powered animation, audio clean-up tools, selective colour grading, advanced data-driven motion graphics templates, and

end-to-end virtual reality (VR) 180 support.

Emphasising colour correction as a “highly technical process” is Dolby, which stresses that this procedure will allow film directors, DoPs and colourists to manipulate the look of their content in order to support the story they are telling. It is equally important for filmmakers to understand the power of using dynamic range and colour to influence the audience, to create a connection and set a tone through storytelling.

According to a Dolby spokesperson, although digital motion picture cameras often give options to “burn-in” a colour correction on images captured from the camera’s sensor, filmmakers typically record “un-colour” corrected RAW or log-based images directly from the camera. These log-based images will then retain the wide colour gamut and the full dynamic range of the sensor, typically 14-16 stops.

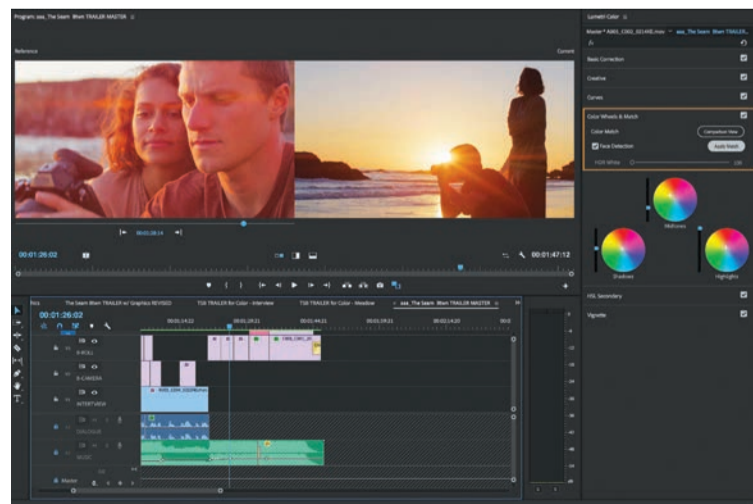
“However, they are flat-looking when viewed on a professional reference monitor, which is calibrated per ITU standards to 100-120 nits peak luminance and Rec-709 colour gamut,” the spokesperson continues. “Colour correction can then be applied to these images, taking advantage of the dynamic range and WCG of the RAW capture to support the context of the story being told.”

It is also because of the power and flexibility of modern colour corrector platforms that allow filmmakers to create mood, tension and special lighting effects during the post-production process — an advantage for various reasons over the on-set restrictions of time, location-access and special lighting requirements.

The spokesperson explains: “This provides opportunities for the filmmaker to convey feelings, connections and context in stories that simply may have not been captured while shooting on-set. This is also why colour correction in post production is considered a critical part of the creative process.” **APB**

“Colour correction allows for a natural or stylistic feel for colours that appear ‘correct’, especially between shots that are meant to feel connected in space and time.”

— Jon Barrie,
Strategic Development Manager, Pro Video,
Adobe



With Adobe Premier Pro, one of the main tools is the Colour Match option in the Lumetri Colour panel.

APB MANAGEMENT

Masstech integrates with x.news

Masstech is collaborating with x.news information technology to provide x.news users full visibility into both video and text sent by stations using Masstech media wires. Mike Palmer, Masstech CTO, said: "Masstech users have long been able to send text and embedded video to internal and external users through a single newsroom computer system (NRCS) drag-and-drop operation. Our new integration with x.news now allows users to view this received content alongside other sources, such as social media, in an elegant user interface (UI) with sophisticated search."

Friend MTS ties up with Intertrust ExpressPlay DRM for live sports



Intertrust, a provider of computing products and services, has integrated Friend MTS' ASiD OTT subscriber-level watermarking

with its ExpressPlay digital rights management (DRM) client software development kit (SDK) and multi-DRM service. Friend MTS' ASiD OTT managed security service incorporates global channel monitoring with fingerprint-based content recognition, and this integrates tightly with watermarking for subscriber identification. This highly automated, client-side service operates with live, pay-per-view and on-demand content, including 4K/Ultra HD (UHD) and high dynamic range (HDR). This monitoring can connect with subscriber management systems to stop content theft in minutes, said Friend MTS.

Next Issue @ Management

Format Converters

PANELLISTS



Fintan Mc Kiernan
CEO
Ideal Systems
South-east Asia



Patrick So
Regional Manager
Asia Pacific
Magna Systems & Engineering



Craig Johnson
Managing Director -
Media
Nielsen

IP routing on the switch

As the transition to IP continues to gain pace, how will a key broadcast function such as routing evolve alongside? **Shawn Liew** finds some answers ...

For more than 30 years, UK-headquartered remote production company Telegenic has been delivering the highest standards of quality, expertise and service to the world's leading broadcasters.

Calling themselves "pioneers in HD and world leaders in 3D and 4K/Ultra HD (UHD)", Telegenic's goal is to continually embrace and develop the latest technologies to exceed client expectations.

In order to effectively keep T-Wiz, Telegenic's outside broadcast (OB) vehicle, on the road for more than 34 weeks a year covering golf tour events, Telegenic needed an integrated and comprehensive signal transport, routing and processing solution. Having previously used a non-integrated solution made up of parts and pieces from multiple vendors, they realised that the only way to stay on schedule would be to invest in an infrastructure that could keep up with their demands.

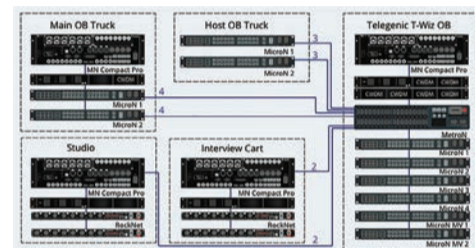
Having looked at various IP and 'software-defined hardware' solutions from other vendors, Telegenic decided to choose Riedel, because the latter was able to demonstrate not only forward-thinking, network-based design, but also a proven track record for their hardware.

Telegenic's MediorNet network consists of a MediorNet MetroN core router, 10 MicroN high-density media distribution network devices, and four MediorNet Compact Pro stagebox/mainframes to facilitate transport of HD video and a variety of audio and data signals.

At each golf course venue, the MediorNet components are all connected over a 10Gbps optical fibre network to form a decentralised routing matrix. WDM multiplexers within the system cut the number of fibre connections required for the Riedel Compact Pros from six single-mode cores down to just two. With MediorNet's automatic signal re-routing capabilities, Telegenic teams are then able to create full optical redundancy over just four cores.



A decentralised Riedel MediorNet backbone allows Telegenic flexibility in signal routing and the ability to easily create redundancies via CWDM optical muxing, resulting in simplified cabling and faster set and strike times.



Andrew Wisniewski, US operations supervisor, Telegenic, says: "MediorNet, controlled by VSM hardware and virtual panels, provides the technical and production crews with unprecedented flexibility.

"The all-in-one approach, where we do not need to route signals in and out of various bits of equipment, drastically simplifies set-up. Riedel's network-based design makes connecting the trucks and sharing resources much easier."

The built-in redundancy of the MediorNet network would prove critical during one event. One of the MediorNet Compact frames had only seven out of nine links to start and, over the course of a live half-hour show, went down to only two links. The system did its job, switching from link to link, keeping the show on the air.

Integrated signal processing functions such as audio and video routing, audio embedding, de-embedding, and the distribution of sync are also of great value and eliminate the need for additional hardware. In addition, running on two of the MicroNs, the MediorNet multiviewer app provides multiviewing capabilities for up to 18 video signals that can be used to create up to four multiviewer screens. These can then be used locally or redistributed to any of the MediorNet nodes. Also included is Riedel's RockNet real-time audio network that rides atop the MediorNet backbone to provide backup audio transport from several remote locations.

Simon Foster, deputy head of sound, Telegenic UK, adds: "Multiple formats, low-latency SRC, and plenty of MADI support provide for a fully interoperable audio domain.

"Integrating MediorNet and Rock-

Net together into the Telegenic project has been a simple and effective process."

Today, Riedel's MediorNet network continues to be used in aspects of Telegenic's production — from fibre-based acquisition of video and audio signals from the host broadcaster's trucks in the TV compound, through integration of various on-site locations, to the replacement of traditional broadcast routing and multiviewing hardware. And, thanks to the implementation of optical multiplexing within the system, Telegenic is able to reduce the number of fibres required for remote locations while taking full advantage of MediorNet's ability to automatically reroute signals in case of cable issues.

In 2013, Paul Greene, director of networking product management, Imagine Communications, wrote a white paper entitled: *When will plants go 100% IP routing?* Answering that question retrospectively, Greene tells APB: "We are absolutely ready now. We have worked with OB trucks, production control rooms and studios on 100% IP infrastructure, and we have proven systems out there in revenue-earning service."

However, he is quick to point out: "When we talk about 100% IP today, what we are actually saying is that the infrastructure does not have an SDI core router.

"We cannot yet move to an all-IP signal flow, because we believe in open, best-of-breed systems, and there are popular devices out there that are not IP-ready. Some third-party devices are SMPTE 2022-6, some still SDI. So we can have 100% core IP routing, with SDI gateways at the edges."

Imagine Communications' Selenio Network Processor (SNP), for instance, provides the needed gateway func-

tionality as part of the workflow management. Once all devices become IP native, the gateway functionality can be done with, but the SNP remains viable as an IP video processor, says Greene.

As to what advantages IP routing can offer, he details: “One of the great advantages of SMPTE ST 2110 is that it is a family of standards because it treats precision reference time (ST 2110-10), video (ST 2110-20), audio (ST 2110-30) and ancillary data (ST2110-40) as separate parts of the essence. With SDI, the audio is generally embedded in the video.

“So, for instance, if you want to shuffle audio channels with SDI, the process is inherently complicated because, first, it has to de-embed the audio from the SDI stream before it can process it, then it has to re-synchronise it to the video and embed it once more at the output. In ST 2110, the audio device just looks at the audio part of the stream, so it is much simpler. And, incidentally, it reduces latency build-up.”

Then, of course, there is the consideration of cost. As Greene describes, the impact grows as the size of the installation grows. While a 512x512 SDI router is relatively expensive, the price “skyrockets” when broadcasters go beyond 1,000 SDI inputs and outputs.

When that happens, enterprise-quality Ethernet switches become financially “very attractive”, provided broadcasters have a largely IP infrastructure, according to Greene. “If most of your signals are still SDI, then the required gateways are not only going to break the capital expenditure bank — but they are also going to need a lot of power and air-conditioning,” he continues. “This is another part of the transition planning: you need to determine the point at

“In terms of future strategies for routing, Arista will continue to focus on building high quality and lower cost solutions for IP media networks that simplify the transition to SMPTE ST 2110 and transition broadcasting away from legacy SDI cabling.”

— Richard Byliss,
Director of Systems Engineering, APJ,
Arista Networks

Arista is simplifying the transition to IP working with a single software operating system — Arista Extensible Operating System, which can be deployed across all Arista devices — including 7500R2 routing platform.



In a hybrid network where both SDI and IP switching are in play, Imagine Communications' Magellan SDN Orchestrator can provide a layer of abstraction and provide control to operators.

“When we talk about 100% IP today, what we are actually saying is that the infrastructure does not have an SDI core router.”

— Paul Greene,
Director of Networking Product
Management,
Imagine Communications



which IP switching becomes the cost-effective decision.”

Greene also advises broadcasters to take into account that IP network design for video is fundamentally different to SDI design, and from a core architecture point of view, the broadcast plant will look much like a data centre.

To ease this transition, Imagine Communications continues to produce “the best SDI routers in the market”, featuring multiviewer functionality, audio and video switching, analogue and digital, audio mux and demux, as well as frame synchronisation, all within a single, space-saving frame.

Green explains: “IP video and audio is switched over Ethernet, and there are manufacturers out

there — such as Arista Networks and Cisco — who have the same experience in data switching as we have in SDI.

“There is no point in us re-inventing technologies, so our workflow orchestration platform enables us to integrate commercial off-the-shelf (COTS) switches, allowing us to build routing infrastructures of enormous sizes.”

He also believes that hybrid networks, where SDI and IP switching are both in place, are likely to last for at least a decade before SDI slowly fades away. In such a scenario, what is important is that the control layer should manage the differing signal flows without intervention from the user. “The operator needs to send a source to a destination; the form the signal takes, and which specific device is handling it, is not important,” Greene elaborates. “Our Magellan SDN Orchestrator provides this layer of abstraction. Control is identical — for human operators and for automation systems — as it has been for decades, whether the particular action

takes place in SDI or IP.”

As Greene attests to, companies such as Arista Networks have substantial experience in data switching. The latter is also finding out how it is now possible to create highly capable routing platforms using Ethernet switch-like form factors, driven by the rapid pace of innovation by merchant silicon vendors.

Richard Byliss, director of systems engineering, APJ, Arista Networks, explains: “In contrast to legacy routing platforms that are typically built using expensive custom silicon, the new generation of routing platforms provide terabit performance with dense 100G IP interface support, providing sufficient headroom for the transition to IP-based 4K/UHD and 8K uncompressed broadcasts.”

He also highlights how Arista is simplifying the transition to IP networking with a single software operating system — Arista Extensible Operating System (EOS). The same version of EOS can be deployed across all Arista devices — including the fixed 7280R2 and 7500R2 routing platforms — removing the need to qualify multiple versions of code for various switching and routing use cases.

“Arista’s EOS provides some unique architectural differences, based on our experience of building some of the largest cloud networks in the world,” says Byliss. “EOS was built from the ground up to enable automation for deployment, configuration management, and extending functionality to partners such as Lawo, Neveon, EVS, Imagine Communications, SDNSquared and Skyline Dataner. Combined, Arista’s routing hardware and software create a high-quality and reliable high-performance routing platform that can be trusted in the complex

and demanding broadcast world.”

In terms of future strategies for routing, Arista will continue to focus on building high-quality and lower cost solutions for IP media networks that simplify the transition to SMPTE ST 2110 and transition broadcasting away from legacy SDI cabling, Bayliss reveals. He also believes that focusing on scalability and ease-of-use for the application programming interface (API) is key to Arista’s partners.

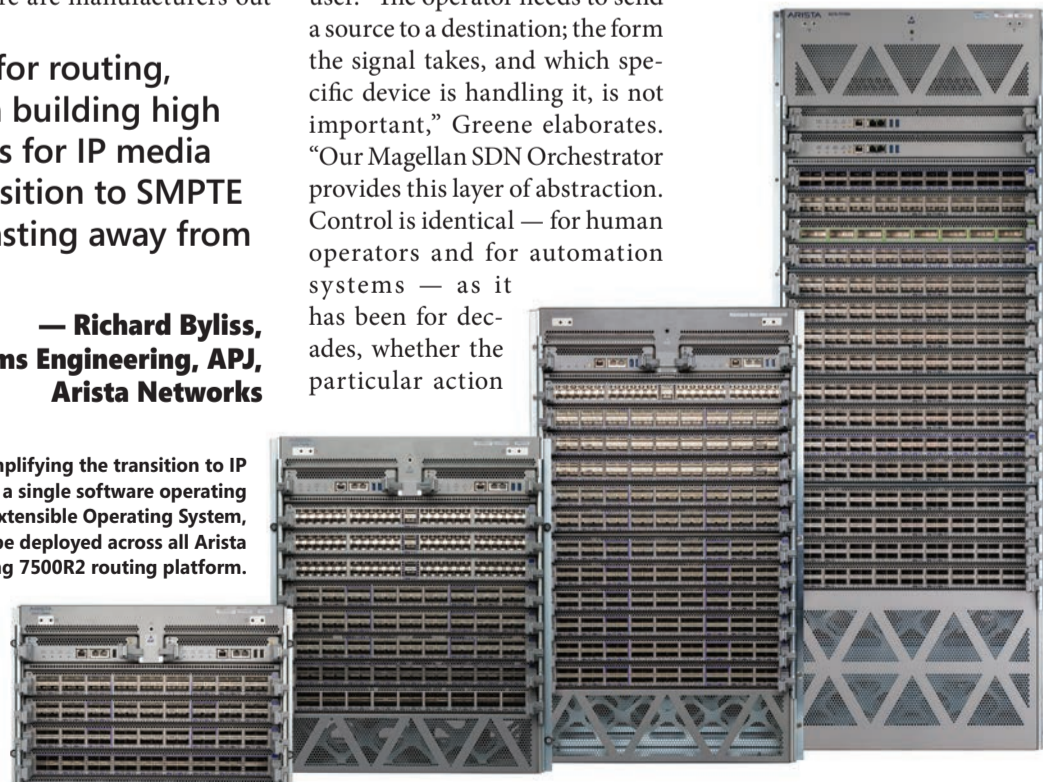
“ST 2110 with separate flows for video, audio and ancillary data require that all the essence streams must be programmed ‘simultaneously’. At the top of the hour, with dozens or hundreds of streams that need to be programmed, ensuring that the broadcast controller’s instructions are programmed into the IP fabric are successful and occur within a predictable period, are vital.”

IP networks, with the use of standard 10G, 25G, 40G and 100G interfaces, can “dramatically reduce” the time to deploy new broadcast environments, with future transitions from HD to 4K/UHD and 8K requiring no additional physical layer adjustments, suggests Byliss. “Arista’s focus on quality, scalability and providing programming platforms that our broadcast partners are looking for is enabling hybrid and IP facilities without compromise.”

While pointing out that the major technology components for the transition to IP networking are already available, he acknowledges that the transition will not be an easy one. “Apart from the technology shift, a cultural change is required from the SDI-era’s ‘the cable is the network’ mindset. IP networking and routing requires organisations to develop new skills and expertise while retaining their core broadcast engineering capabilities. Individuals with both IP and broadcast skills are in high demand, creating a skills gap.”

What broadcasters can start doing, Byliss advises, is to start investigating and experimenting with IP technology. This investment of time, he says, will allow them to develop the fundamental skills that will increase the chances of a successful deployment.

Noting that routing is a critical function of IP networking, and with Arista’s routing platforms already deployed by some of the biggest media companies in the world, Byliss concludes: “As the broadcast and media industries continue to embrace IP networking, Arista is ready to help with our expertise in design, deployment and operation of IP networks for media.” **APB**



IHSE supports 4K/UHD transmission with new extenders

Keyboard, video and mouse (KVM) solutions provider IHSE has expanded its Draco ultra high-end extender series with Cat X transmission of video signals up to 4K60. This, said IHSE, provides the same image quality as fibre-optic extenders, while users can also combine Cat X and fibre optics in matrix switching applications.

IHSE's Draco ultra KVM extenders deliver "unprecedented quality" with imperceptible latency in the transmission of high-definition video, with KVM signals. The series was developed in cooperation with the Fraunhofer Institute for Integrated Circuits (IIS), and for ultra-high-resolution video signals, IHSE offers Extreme

Velocity (XV) extenders.

The XV series is now offered with Cat X devices to supplement the original fibre versions. The new XV models support DisplayPort 1.2 and HDMI 2.0, enabling transmission of 4K60 video with a colour depth of 10 bit per RGB colour channel and optimal 4:4:4 colour sampling over a single Cat X connection.

According to IHSE, the expansion of the series enables users to integrate ultra-high-resolution video signals into Cat X infrastructures. Existing copper cabling no longer needs to be replaced by optical fibres in order to support the maximum resolutions and frame rates.

Mark Hempel, product manager, IHSE, said: "The choice of transmission media no longer plays a deciding role in distribution of ultra-high-resolution video signals. Cost-intensive new cabling with fibre optics is no longer necessary to transmit 4K60 signals at the highest quality."

IHSE has also announced the launch of new dual-screen capabilities with the Draco ultra DP 1.2 dual-head option kit, which supports up to two 4K60 displays in one extender set.

Packaged in a compact two-slot Draco vario enclosure are two DisplayPort KVM extenders that create an extender solution for business and professional users



IHSE's Draco ultra DP 1.2 dual-head option kit supports up to two 4K60 displays in one extender set.

focused on high-resolution imaging for broadcast applications, command and control, air traffic control, visual medicine and geo-spatial mapping.

Hempel continued: "Organisations are increasingly taking advantage of 4K/Ultra HD (UHD) screens and can achieve more by putting them together. With this dual-head 4K/UHD DP extender, we are bringing the next level of dual-screen capability to increase productivity with large 4K/UHD dual-display workstations for ultra-high-resolution imaging, mapping, or multi-application set-ups. Or-

ganisations will benefit in terms of both Capex and return on investment (ROI)."

The Draco ultra DP dual-head extender kit allows users to operate CPUs from a remotely located workstation over two duplex fibre cables or two Cat X cables. The extender transfers digital video in 4K/UHD resolutions at 60Hz refresh rate and full-colour depth (10 bit, 4:4:4).

Users can either create a stretched desktop of 8192 x 2160 across two displays, or run them in clone mode to show the same content on both displays.

MOG presents new mxfsPEEDRAIL models

MOG Technologies has introduced new and enhanced models to its mxfsPEEDRAIL central ingest product line.

mxfsPEEDRAIL is a central ingest system that reduces video ingest time and saves on operational costs. With more than 2,500 installations and deployed in more than 200 worldwide customers, the system has been evolving and adapting to technology demands. It completely optimises media workflows by delivering practical and simple tools to capture, transcode, schedule and prioritise all ingest tasks, according to MOG.

The new models include mediaREC, a multi-format SDI recording system, now featuring full support of video-over-IP standards (SMPTE ST 2110 and ST 2022-6); mediaCARD, simplified solution for users who want to stitch all camera shots with unattended batch ingest; and mediaMOVE, an

ingest gateway for broadcast environments, new media and social media streaming. mediaMOVE supports all input devices, file wrappers, video and audio codecs to any output wrapper, proxy, Web format, storage server or asset management.

Luís Miguel Sampaio, CEO, MOG Technologies, said: "The mxfsPEEDRAIL central ingest system is designed, since its beginning, with economy and reliability in mind."

"The system now features more flexibility as it is built with HTML5 technology, which breaks any physical boundary, and it is also wrapped in multiple packages to fit the customer needs better. With a single licence, the user can now unlock all proxies and codecs."

The new mxfsPEEDRAIL central ingest system manages file or live video streams in an integrated media



MOG Technologies has introduced new and enhanced models to its mxfsPEEDRAIL central ingest product line.

production ecosystem, and responds to the immediacy of capture and viewers engagement, filling every gap throughout the workflow.

Nagra's Conax Contego secures Cignal TV's milestone

Cignal TV, a pay-TV provider in the Philippines, has reached the milestone of two million subscribers who are receiving multiple-format TV and hybrid services on a range of set-top boxes (STBs). These STBs are protected by the Conax content protection, which Cignal TV first deployed in September 2015.

Jane Basas, CEO of Cignal TV, explained: "A pay-TV service can only be successful if its content assets are secure. When we first launched our new platform, we chose Conax technologies because we were confident they would deliver — and they did not disappoint."

"Now, just two years later, we have reached the two-million subscriber mark, and could not be more excited for what is to come. We wish to thank the Conax and now NAGRA teams for their ongoing support and commitment to our growth and success."

Cignal TV deployed the Conax cardless solution based on the Conax Contego unified security backend. Conax Contego is developed for support and integration of all major distribution technologies



Cignal TV, which recently reached the milestone of two million subscribers, has had its content protected by Conax Contego since September 2015.

and formats including 4K/Ultra HD (UHD), smart cards, cardless, next-generation IPTV security, advanced multi-digital rights management (DRM)/over-the-top (OTT) services and new hybrid network combinations. Both Conax solutions are now part of the NAGRA content protection portfolio of advanced and off-the-shelf security solutions.

Stéphane Le Dréau, SVP Sales APAC at NAGRA, added: "We congratulate Cignal TV in reaching a significant milestone and one that demonstrates the growing popularity of its service and content with viewers in the Philippines."

"We are also proud to be the content security provider for those services, and ensure the continued

integrity and growth of the Cignal TV service for years to come."

In collaboration with Samsung, NAGRA has also launched TVkey cloud, an enhanced content protection solution for smart TVs equipped with TVkey hardware-based root of trust.

TVkey Cloud builds upon the existing TVkey specification deployed in the market today. While the TVkey system using external USB dongles is the reference for "one way" broadcast pay-TV solutions, the increased availability of Internet-connected Smart TVs opens up "exciting new possibilities" to combine the security capabilities of the TVkey embedded hardware in the TV with sophisticated security management systems in the cloud, said NAGRA.



Ooyala optimises Super RTL's OTT service

Ooyala is streamlining video operations for Super RTL, a joint venture of the RTL Group and Disney, with the Ooyala Flex Media Platform, a flexible and configurable content supply chain optimisation platform that automates tasks, simplifies workflows and speeds up the time-to-market for content creators and distributors.

Ooyala is delivering an end-to-end solution with Germany-based LOGIC media solutions, built using Microsoft Azure Media Services that will optimise Super RTL's operations and simplify content delivery to over-the-top (OTT) platforms.

Boris Bolz, chief digital and marketing officer, Super RTL, said: "The media landscape is evolving faster than ever, introducing new and growing challenges that left our existing technology obsolete.

"We needed a solution that could provide greater flexibility and deeper insights across our entire operations, all while future-

proofing our services. The Ooyala Flex Media Platform has allowed us to build the best solution for our needs, and being implemented on Microsoft Azure, it can easily be scaled as our service grows and new technology is introduced."

The project grew out of Ooyala's collaboration with Microsoft, who had been in talks with Super RTL on migrating its digital video platform to the cloud. Microsoft introduced Ooyala to Super RTL to provide the workflow and content management components. For the implementation and local support, Ooyala subsequently brought in its local partner, LOGIC.

The Ooyala Flex Media Platform is also now providing extended support for the Interoperable Master Format (IMF). With IMF support, users of the Ooyala Flex Media Platform can "significantly reduce" the costs and improve the efficiency of their multi-version, multi-platform distribution needs, according to Ooyala.



The Ooyala Flex Media Platform is a content supply chain optimisation platform that automates tasks, simplifies workflows and speeds up the time-to-market for content creators and distributors, and which was highlighted by Jim O'Neill, principal industry analyst, Ooyala, at last month's IBC2018.

IMF is a file-delivery standard created by the Society of Motion Picture and Television Engineers (SMPTE) that reduces the number

of different versions of a video file required for distribution to viewers in different markets and on different platforms around the world.

Prior to IMF, thousands of different versions of a widely distributed motion picture — reflecting various combinations of subtitles, metadata, audio, formatting and other features — would be required in order to support multiple-market-segment distribution. The efficiencies offered by IMF have been estimated to achieve savings of 25% or more in storage and "versioning" costs.

Jonathan Huberman, Ooyala's CEO, said: "Unlike other technology partners, Ooyala provides end-to-end support for IMF across the entire content supply chain. And with seamless integration of existing tools into the Ooyala Flex Media Platform, we are enabling IMF strategies for companies who would otherwise lack the necessary technology.

"The technology community has been listening to content providers and we are equipped to help them truly capitalise on global monetisation opportunities."

Paywizard announces new technology partnerships

Paywizard is building the next-generation version of its subscriber intelligence platform, Paywizard Singula, on the Microsoft Azure artificial intelligence (AI) platform.

Harnessing Azure's analytics environment 'Databricks', the move enables Paywizard to extend its machine learning and AI capability. This, said Paywizard, allows its clients to better position themselves to action data insight to strengthen customer loyalty, grow revenues and win new subscribers.

Paywizard Singula, which debuted at IBC2018, is a standalone platform that empowers pay-TV operators and over-the-top (OTT) providers to utilise subscriber insights and AI to recommend the 'next best action' an operator can take for each and every subscriber at the critical 'decision moments' in the customer journey.

The Microsoft Azure AI platform is an open, flexible, enterprise-grade cloud computing platform that will empower Paywizard



"Building Singula on the Microsoft Azure AI platform is a strategic move that empowers Paywizard to massively bolster our analytics power and incorporate AI going forward."

— Bhavesh Vaghela, Chief Executive, Paywizard

(commenting on a new partnership between Paywizard and Microsoft)

to add AI and machine learning capability to 'decision moments'.

Bhavesh Vaghela, Paywizard's

chief executive, said: "Building Singula on the Microsoft Azure AI platform is a strategic move that

empowers Paywizard to massively bolster our analytics power and incorporate AI going forward.

"Azure AI is perfect for that and provides the infrastructure no other platform can while offering flexibility, scalability and security."

Separately, Paywizard has also partnered with Verimatrix to enable operators to proactively engage with customers experiencing problems by utilising quality of experience (QoE) data sets.

By tapping into more data through Verimatrix Verspective RT QoE updates, Paywizard will enrich the single customer view (SCV) created by Paywizard Singula. Vaghela continued: "The more data operators have about customers — including service issues they are facing — the better position they are in to take effective action.

"So, for instance, if a group of subscribers is having a service problem, the operator can immediately and proactively communicate to them that it is aware of the prob-

lem and working to fix it."

Traditionally, analysis has been focused on quality of service (QoS) data, which is primarily used to diagnose network challenges, including streaming, audience and configuration, by operational teams and network administrators. The partnership allows this insight to be taken a step further and proactively communicate to customers in real time when issues are experienced, resulting in a better customer experience, reducing churn and increasing loyalty.

Tom Pollard, VP of product management at Verimatrix, added: "This partnership is all about providing the best possible customer experiences and building subscriber loyalty by using data and insight wisely — whether that is dealing with a billing issue, proactively recommending a change in content package to a wavering subscriber, or addressing a QoE issue such as buffering, before the customer even has a chance to contact their service provider.

Qvest Media and VRT create media house of the future

System architect and ICT integrator Qvest Media will be working with Flemish public broadcaster VRT to create what they call "one of the most advanced media houses".

Daniel Url, managing director, Qvest Media, said: "The way in which we consume media content with innovative technology is changing constantly, and in ever-accelerating cycles. In the past, media providers revamped individual sectors every eight to 10 years, but now fixed cycles are a thing

of the past.

"Media companies must be able to adjust at any time, quickly and easily to new production demands. The key to an agile production and distribution architecture lies in combining people-centred company organisation with a flexible technical infrastructure. The latter helps staff to be innovative, but is not the main driver of innovation."

To achieve this, VRT and Qvest Media are creating innovation-promoting framework

conditions from spatial design to the design of the technical and operational workflows. Employees will receive the best possible support through a highly flexible technical infrastructure. This is intended to create the maximum possible scope for intuitively realising new production requirements, even without any specialist technical knowledge.

Stijn Lehaen, CTO of VRT, comments: "Never in our history have we launched a project of this size. So we really took the time

needed to find the best partner that we want to work with long term to design the media house of the future.

"Ultimately, we decided through the selection process to choose Qvest Media, as we were convinced not just by the innovation concept, but also by the methods behind it. Qvest Media's many years of experience as a systems integrator also creates synergy effects in its consultancy role which VRT can profit from."

APB

DISTRIBUTION

Zenterio OS puts all DT services under one roof

Deutsche Telekom (DT) has launched EntertainTV Sat, a 4K/Ultra HD (UHD) IPTV, over-the-top (OTT) and satellite set-top box (STB) powered by Zenterio OS. The software is an independent operating system for interactive TV that unifies STB deployments in different countries, from multiple vendors and within various ecosystems. With Zenterio OS content-centric architecture, DT is able to introduce new client- and cloud-based features and services, including OTT video-on-demand (VoD), hybrid local/network personal video recorder (PVR), HTML5 apps, and other broadcast and streaming innovations to its customers.

Digisat Media upgrades to Forsway's Odin F-50

Forsway has delivered its Odin F-50 hybrid satellite router to Digisat Media, furthering its partnership with the Spanish satellite services provider. As an alternative to VSAT, Odin F-50 provides rapid deployment of satellite-based Internet services to regions that may lack infrastructure or capacity. Candido Calero, CEO of Digisat Media, commented: "We are committed to our partnership to deliver entertainment and content for children in hospitals managing a network driven by the Spanish media group. The innovative services and solutions provided by Forsway are enabling Digisat Media to deliver quality services and position for evolving market demands of today and tomorrow."

Next Month @ Distribution
Cables and Converters

PANELLISTS



Martin Coleman
Executive Director
Satellite Interference
Reduction Group



Amitabh Kumar
Director, Corporate
Zee Network



Louis Boswell
CEO
AVIA
(Asia Video Industry
Association)

Covering breaking news timely and reliably

Timeliness has always been one crucial factor when it comes to newsgathering. Even though the rise of social media platforms is capable of addressing this element, satellite newsgathering (SNG) has continually been serving broadcasters as a reliable source of delivery medium, with the additional ability of exchanging content in multiple formats across different transmission channels. **Josephine Tan** writes more.

In this increasingly connected world, news crews need to be able to share breaking news and live sports events promptly across multiple platforms. No matter what time of the day it is or where in the world an event is happening, evolving technology has created an expectation of instant access to information — and in the highest quality video format, says Hans Massart, market director, broadcast at Newtec.

He tells *APB*: "This presents challenges as the industry moves towards providing a combined media experience, encompassing not only live video, but also radio, social media and online content. As such, existing newsgathering solutions will need to provide the much-needed flexibility to manage multiple video formats and address modern expectations."

In October last year, Newtec teamed up with Network Innovations, VRT Sandbox and Pacific Live Media, to deliver live stream interviews and backhaul action video clips of the Punch Powertrain Solar Team as they competed in the Bridgestone World Solar Challenge, a solar-powered car race which took place in Australia. Using Network Innovations' Maverick VSAT service, the crew was able to broadcast daily overviews of their journey from Darwin to Adelaide.

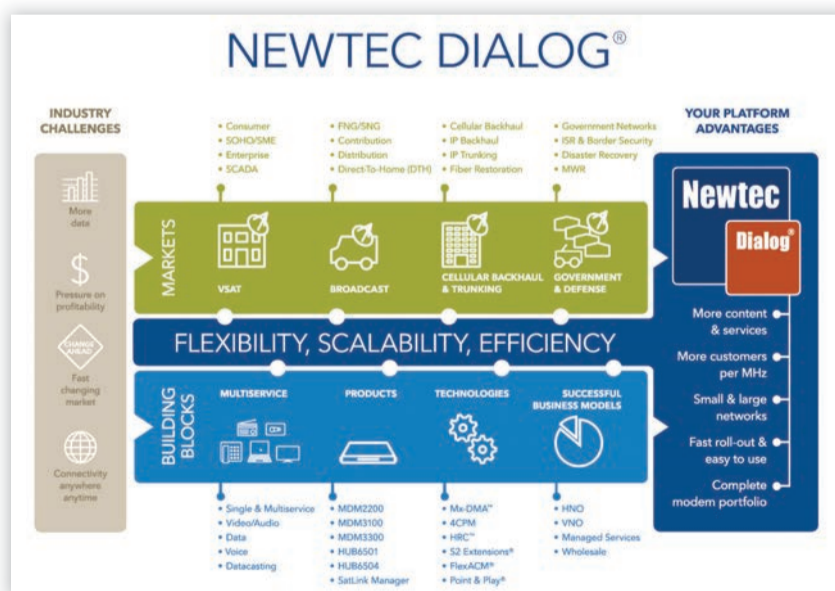
Thierry Garritsen, spokesperson at the Punch Powertrain Solar Team, explains that transmission of the video clips was a time-consuming process, as it included driving up to 150km away to find a broadband connection. Hence, the team required a solution that allowed them to be in live contact with its base.

"Thanks to the IP satellite solution provided by Newtec, Network Innovations, Pacific Live Media and VRT Sandbox, we



"When covering live news and events, today's crews rely on IP technology more than ever to transport multiple services concurrently, including video, voice, files and general broadband applications."

— **Hans Massart**,
Market Director, Broadcast, Newtec



Newtec Dialog is a multi-service platform that enables operators to build and adapt satellite networking infrastructures according to specific needs.

can now go online and live stream on Facebook from wherever we are, daily," Garritsen adds. "We can take ad hoc questions from our audience, on top of providing additional action clips for delayed viewing."

The Maverick VSAT service is powered by Newtec Dialog, a multi-service platform that enables operators to build and adapt satellite networking infrastructures according to specific needs. Newtec Dialog features

As a manufacturer of satellite carrier signal monitoring solutions, Integrasys has developed Satmotion SNG, which can be installed on SNG trucks to minimise OU access time, effort and satellite interference.



Mx-DMA bandwidth allocation technology, which is designed to adjust the frequency plan, symbol rate, modulation, coding and power level for satellite networks. With the technology, operators can flexibly allocate bandwidth based on real-time terminal demand while adapting to the changing radio frequency conditions.

“When covering live news and events, today’s crews rely on IP technology more than ever to transport multiple services concurrently, including video, voice, files and general broadband applications. Being able to blend capacity from IP satellite, cellular, Wi-Fi or Ethernet IP connectivity on an ad-hoc basis helps ensure broadcasters have multiple tools to enable flexible, reliable and cost-effective delivery of more content from more locations and from more vantage points,” Massart adds.

The Newtec Dialog all-IP platform has also enabled MX1 to create an adaptable solution — OU Flex — for occasional use (OU) broadcasters. With the integration of Newtec Dialog, OU Flex is designed to allow broadcasters, live event producers, event organisers and remote operators to enrich the viewer experience through live broadcasts.

One OU Flex broadcaster is Waterford-headquartered production company, Nemeton. In January this year, British broadcaster Sky contacted Digisat, the satellite arm of Nemeton’s business, to supply uplink trucks, satellite capacity, communication and broadband for all of its outdoor broadcasts across Ireland.

Tomás Mac Craith, head of technical facilities, Nemeton, elaborates: “We found the perfect solution in MX1’s OU Flex broadband modem — which is based on the Newtec Dialog platform, including its MDM-series of modems.

“The OU Flex system works on top of our existing satellite newsgathering (SNG) trucks to ensure we deliver reliable, high-speed broadband as soon as we arrive on site, without the need for ISDN or DSL lines. Using reliable VSAT connectivity via satellite to support live video is particularly efficient at busy events such as live sports games, when the network can easily become congested due to a high level of other reporters and users in the area.”

Beyond live video broadcasts, OU Flex allows crews in the field to use multiple applications such as voice-over-IP, video clip transfer, archive browsing, email, social media and the Internet.

Massart concludes: “We are continually seeing evidence of satellite’s impact on news operations. For instance, OU Flex uses the Newtec Dialog platform to provide IP connectivity to manage users’ entire video and data content contributions, ensuring quality of service anywhere, anytime. By transforming the DVB one-way feed into a bidirectional link, OU Flex provides broadcasters and SNG operators with maximum flexibility without the need for two antennas.”

Despite IP having its impact in SNG workflows as an “easier and cheaper” distribution alternative, satellite is still very relevant when a reliable communication is required, declares Sebastien Couvet, sales manager, EMEA, Integrasys.

For instance, in a stadium where a large group of spectators gathers for a sports event, every cellular network might get congested due to multiple mobile devices sending and receiving data at the same time. This can then provoke possible interferences and congest the cellular network environment. In addition, broadcasters have also begun tapping onto mobile to send videos over

the same wireless networks that are used for voice and data communications.

“Therefore, we believe that satellite is fairly strong in areas where there is poor phone coverage, due to the fact that these mobile devices haven’t got the same signal strength as SNG trucks,” Couvet explains. “It is something usual in Asia-Pacific because they have many remote places where technology has not reached yet, as well as the inconvenience of weather conditions, making satellite transmissions the most advantageous resource in the industry.”

For Integrasys, the satellite carrier signal monitoring manufacturer has developed Satmotion SNG, which the company labels as the SNG Auto LineUp system for minimising the OU access time, effort and interference of intra-satellite such as CrossPol and inter-satellite such as Adjacent Satellite Interference (ASI).

Automation is what broadcasters are demanding everywhere, and how to optimise the operations when they arrive at the site, Couvet stresses. “In many cases, the cameraman is the antenna engineer and the SNG driver all together. This is thanks to the automation and simplicity of the set-up with Satmotion SNG. Satmotion allows the truck drivers to be capable of automatically accessing the satellite with a simple application.”



— Andrew Bond, Sales and Marketing Director, ETL Systems

“Alternative broadcast technologies, such as IPTV, will continue to complete and compliment professional footage. SNG needs to offer the quality, affordability and reliability to maintain its role in this marketplace.”



Sebastien Couvet, sales manager, EMEA, Integrasys, highlights that broadcasters are demanding automation, as well as the need to optimise SNG operations when crews arrive on site.



Acknowledging Couvet’s point on satellite’s role in newsgathering, Andrew Bond, sales and marketing director of ETL Systems, adds that SNG trucks are by their nature “truly satcoms platforms”.

This is largely due to SNG trucks’ ability of offering fast set-up time, especially for the coverage of live news and sports events, where operators are required to establish uplink traffic from a network of live cameras. Although larger outside broadcast (OB) vans may also use local fibre inputs to create these feeds, in both scenarios, satellite is “fast and affordable” in getting signals distributed, he adds.

“In Asia-Pacific, satellite remains the dominant platform for broadcasters because the region might not have the cable and fibre networks in place that European countries have. It is also true that there is a low cost of bandwidth and high availability with satellite in the region, especially compared to other regions,” he elaborates. “This has largely been driven by the provision of high throughput satellite (HTS) in the region, which enables cost-effective access to satellite capacity. The fact that modern SNG trucks can be set up easily and often run by one person, makes them an extremely affordable option.”

When it comes to news broadcasting, viewers today are also increasingly expecting content of at least HD quality, even as the demand for 4K/Ultra HD (UHD) content continues to grow, Bond highlights. He cites a report from Futuresource Consulting, which revealed that approximately 100 million 4K/UHD TV sets will be

sold worldwide in 2018. Therefore, many SNG trucks are now allowing HD encryption to satellite, enabling the receiving and modulating of multiple HD feeds.

Bond continues: “Broadcasters are also increasingly using multiple cameras as this means that if any feed fails, there will still be others that can be used. However, with the need for multiple cameras comes the need for larger SNG trucks, which can accept these multiple-camera feeds that can be multiplexed onto the uplink system. There is also an increasing trend for wireless cameras that can link via 4G or fibre to give high-quality feeds.

“Furthermore, the price of satellite bandwidth is falling. According to Northern Sky Research, satellite capacity prices are down by as much as 60% in some cases, and are still dropping. This makes it easier than ever before to get an affordable and cost-effective satellite link. This will naturally be important for satellite as competition from other communication methods increases.”

Despite the fact that today’s viewers are able to access social media and live streaming platforms for breaking news, Bond adds that this amateur footage provides an “additional angle” to the reality of live TV, but does not replace “quality editable footage with professional on-the-ground commentary.”

He concludes: “Amateur footage is good for this sensational events where news crews are not there, such as a storm or traffic collision. This will then be supplemented by the professional coverage once news teams are on site. Planned live events, such as sports and newsgatherings still need multiple-camera shots of high quality to provide clear and original feeds to make programming.

“Alternative broadcast technologies, such as IPTV, will continue to complete and compliment professional footage. SNG needs to offer the quality, affordability and reliability to maintain its role in this marketplace.” **APB**

APB

X-PLATFORM

Anevia, Viaccess-Orca provide ultra-low latency live streaming solution

Anevia and Viaccess-Orca are providing audiences with an ultra-low latency live streaming solution: Anevia supplying the encoder side of the solution, while Viaccess-Orca the secure video player. The combined Anevia and Viaccess-Orca software has been optimised and integrated to reduce latency and allow streaming at as close to real time as possible, said the companies. The solution, driven by user frustrations at watching live broadcast such as sporting events on a slight delay, will allow audiences to live stream everything with sub-second delay. This is in stark contrast to the up to eight-second broadcast standard delay and the between 30 and 60 seconds with other traditional over-the-top (OTT) systems, the companies added.

Vewd Atom brings OTT to legacy set-top boxes

Vewd, a smart TV, over-the-top (OTT) software provider, has introduced Vewd Atom, an OTT solution that brings today's most important apps and streaming experiences to operator devices previously incapable of accessing OTT services. Aneesh Rajaram, CEO of Vewd, said: "Vewd Atom ... offers all of the modern features potential cord-cutters actively seek while reducing the technical burden on operators. Not only can we help reduce churn, but we can also strengthen the value of pay-TV by adding OTT services to hundreds of millions of devices already in the field. This creates the perfect win-win scenario for operators to continue to grow their business."

Next Month @ X-Platform

5G/LTE Broadcast

PANELLISTS



Chong Siew Loong
CTO
StarHub



Michael Cronk
Chairman,
Alliance for IP Media
Solutions (AIMS)



Peter Bithos
CEO, HOOQ

Broadcast TV & social media create powerful synergy to engage audiences

In a world where global populations are digitally connected around the clock, broadcasters are increasingly finding it advantageous to use social media to reach out to their audiences. **Shawn Liew** reports.



PHOTO CREDIT: ISTOCK BY GETTY IMAGES

The consumption of TV content has evolved to a stage where the overall TV viewing experience is intertwined with social media immersion.

TV has entered the realm of social media. While the likes of Facebook and Twitter were once platforms primarily for the display of individualistic ideas and expressions, they are now allowing their users to stream content previously available only on traditional TV platforms.

In fact, as social media platforms continue to compete with broadcast TV for eyeballs, they can plausibly be viewed as the biggest threat to the latter, suggests RV Krishnan, VP graphics, APAC, Vizrt. He tells *APB*: "Broadcasters have to start looking at ways social media can be leveraged for their own benefit, harnessing synergies and its potential to further their own goals by building loyalty and expanding reach."

Understand your audience, he urges, because social media appeals to a younger demographic profile who have different needs and consumption patterns, compared to mainstream broadcast viewers.

The sheer volume of short-form content, instant appeal and shareability are primary considerations for video on social media, according to Krishnan. The downside is how the ubiquity, huge volume of content and their source can erode confidence and the integrity of the content. "This is amply illustrated by the recent spate of fake news and debates questioning the veracity and authenticity of such content," he explains, while highlighting why the brand of broadcasters is so important in this instance.

"By virtue of being a brand and having the ability with long-form productions, to delve deeply into a subject and expose different facets of discussions, broadcast TV can capture a significant share of audiences who want trusted sources for their news. Broadcasters can leverage the lack of trust in social media to maximise their own viewership."

Krishnan also observes how broadcasters are increasingly exploiting the synergy with social media, by engaging with their audiences on multiple platforms. Beyond this, broadcasters are continuing to engage and build brand recognition with viewers who may be outside of their mainstream broadcast network — by drawing them to programming based on verifiable content while stroking their curiosity for a deeper analysis of events.

Another content genre where social media and broadcast TV enjoy a close synergy is sports. Fans look for updates and the latest news on games, outcomes and fixtures on social media, while live matches continue to be predominately viewed on high-quality large screens. Broadcasters thus can maximise their viewership through loyalty programmes, including pushing stories, news, game highlights, player profiles and teasers to draw viewers to their own programming, says Krishnan. "Broadcasters have come to terms that social media platforms are here to stay and it is best they acknowledge their wide and pervasive appeal to young audiences," he adds. "They will need to engage with the young, socially-aware generation at their own terms, leveraging the very tools that they use to reach out to them."

Another point to note, Krishnan emphasises, is the omnipresence of



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**— RV Krishnan,
VP Graphics, APAC,
Vizrt**

Building communities with social media

If they are not already doing so, broadcasters should use social media to build a community and thus viewership, suggested David Blackett, group GM, Magna Systems and Engineering. "This means they can develop and grow their relationship with their viewers in niche areas, and in key areas such as sports," he told APB. "As a result, their strength and connection with their viewers will grow directly into the areas they target through social media."

He also emphasised that any good social media strategy requires a solid, relevant and engaging foundation, on which the strategy will develop and grow. "Without it, there will be no reason for the audience or community to engage and keep engaging," Blackett continued. "Once you have developed a solid foundation, this has to be communicated and

spread across all social media platforms, as no one platform will meet all of your requirements. The key is to create content and an environment which people want to visit, be a part of and, critically, keep coming back to."

Blackett also pointed out that because most social media is consumed via apps, the effectiveness of the latter, and being able to guarantee that content is being delivered properly and efficiently via the apps, is crucial. "Without this monitoring and these guarantees, the effectiveness of the social media strategy can be severely reduced and diminished," he said.

Blackett recommended that broadcasters check out companies such as Witbe, which helps broadcasters wanting to investigate quality of experience (QoE), end-device testing, and how to maximise the efficiency of

apps. The company, according to him, is committed to monitoring the QoE being delivered to the end-users of any interactive service, on any device, and over any type of network.

Others, such as IneoQuest Technologies, provide video quality and audience behavioural intelligence solutions, and, in particular, its proactive video quality monitoring that verifies video content is continuously available — in every bitrate and format.

"Then, there's also Crystal Connect, which draws on Crystal's long experience with the monitoring and controlling of the broadcast workflow," Blackett added.

Understanding that all the information needed to automate over-the-top (OTT) production exists already in playlist, traffic,



Magna Systems and Engineering's David Blackett: "Broadcasters can now target specific viewers and send them ... customised ads at exactly the right time during a programme."

scheduling and media asset management (MAM) data sets, Crystal Connect accesses this data, generates SCTE 104, SCTE 35, SCTE 224 and/or proprietary-format messages required by each distributor, and places them with frame-accurate precision at the beginning and end of each content segment in a programme.

"This means broadcasters can now target specific viewers and send them tailored and customised ads at exactly the right time during a programme or broadcast in conjunction with their social media activity — something that previously has been very complex to achieve and which is extremely valuable," Blackett concluded.

news and information, which needs to be curated "24/7 in 360 degrees", covering all angles, filling tweets, Facebook posts and Instagram as images, bullet headlines, updates and snippets. "This requires an ecosystem of social media desks and journalists that work in tandem with mainstream editorial to sustain the interest in the content.

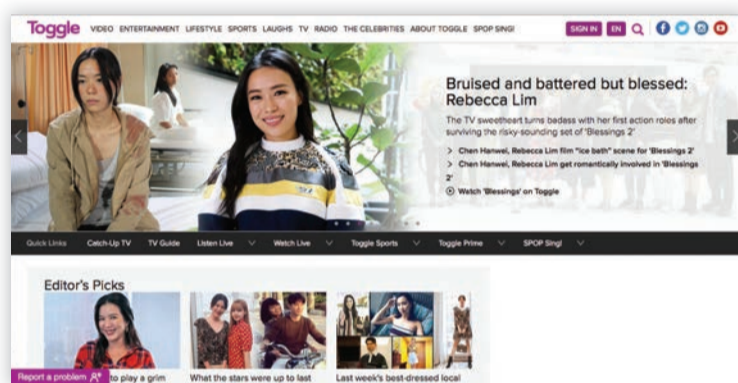
"In this sense, social media is not different, but deeply embedded within broadcast TV — all these, with the very objective of bringing eyeballs to TV."

In order to help bridge the gap between social media and TV, Vizrt Social solutions were envisaged as a broadcaster's gateway into social media, allowing journalists and producers access to trending and significant topics on social media. By bringing these tools into the mainstream broadcast workflow, Vizrt aims to provide broadcasters the very tools that build a bridge to social media platforms, as well as the editorial ability to harness the potential to the fullest. This, according to Krishnan, is in line with Vizrt's corporate slogan "to do more with less."

The various tools Vizrt offers include the Vizrt Social TV, which brings moderated external social media content onto broadcast screens. This ensures that relevant content, with assured quality and authenticity, is passed on to viewers, alongside deeper analysis.

Another Vizrt tool popular with broadcasters is Viz Story, a video publishing tool for social media platforms. It combines the power of templated Viz graphics and inherent simple video editing and management capabilities, and makes it possible for producers to create video content branded for targeted social media platforms in formats and aspect ratios specific to these platforms.

Vizrt also offers an automated multi-platform built on the Viz Opus automation system, which allows the repurpose of live TV production to publish professionally produced and branded content on multiple social media platforms in near real time.



Singapore terrestrial broadcaster Mediacorp's social media strategy is a unified one across linear and digital platforms — including Toggle, its over-the-top (OTT) interactive service.

Krishnan concludes: "All these tools are fully built on the robust and very flexible Viz One media asset management (MAM) platform, which allows broadcasters to manage content across the lifecycle of the story, repurposing them as needed in a manner and formats best suited for their publishing."

For Singapore terrestrial broadcaster Mediacorp, its social media strategy is a unified one across linear and digital platforms — including Toggle, Mediacorp's over-the-top (OTT) interactive service — linking linear TV and radio channels to digital platforms, either as a catch-up destination or a live streaming alternative. Speaking with APB, Guillaume Sachet, head of social, Mediacorp, elaborates: "The main focus of social media, in a hub-and-spoke model, would be to amplify the central piece of content produced for Mediacorp platforms, either linear or digital."

"Our unified social media strategy is particularly active during tentpole events and programmes, where integrated teams from various Mediacorp business units will be brought together to conduct real-time listening, produce recreational content, drive conversation and use highlight videos from the show to amplify eyeballs and digital traffic."

On a day-to-day basis, Mediacorp also uses social media as a conversational screen to TV. For example, *Tanglin*, Mediacorp's long-

running English drama, has been live tweeted for every single episode of the 800 thus far. This, says Sachet, builds a vibrant community of fans and followers that discusses characters and plots as the story unfolds on-air, in real time.

He continues: "Lastly, we use social media as an accelerator to employer branding (with initiatives such as Twitter handle employee curation, Instagram photo stories or LinkedIn thought leadership) and as a driver for in-house talent development; for example, through brown bag sharing sessions or digital skills training."

Sachet also goes on to identify the three key pillars of Mediacorp's social media strategy:

- Social listening to better understand audience preferences and trends, in order to make better content.

- Dialogue to ignite and maintain conversations around content — rather than brand — in order to provide increased value for audiences.

- Data to optimise published content and increase brand visibility/touch points, and delivering content that lends itself more naturally to audience consumption behaviours.

In order to make these activities successful, Mediacorp has also set out some principles, as Sachet describes: "We focus on our social media platforms' strengths; we create content in the language the

audience is accustomed to and in the voice of digital natives; we have authentic, fresh, relevant and innovative content to start conversations with audiences; and we build a network across our digital and social platforms."

Moving forward, Mediacorp's ambition is to evolve its hub-and-spoke content offering model to decentralise content into individual and tailored narrative universes across linear, digital and social media platforms. "These narrative universes would then come together as strings of story elements, building up on each other to create a coherent, unified and monetisable story around one or more multiple IPs, topics and characters of Mediacorp," Sachet reveals.

"Each audience could then explore one universe individually (vertical content discovery) or progressively connect the dots between the various universes and platforms (horizontal content discovery). Mediacorp, as a multi-platform, transmedia storyteller, would then be in a strong position to provide a unique content experience to its audiences — tapping digital and social to add new angles with each story extension."

Consistency across all its business verticals is the approach taken by Singapore telecom and pay-TV operator StarHub. Rod Strother, vice-president of digital experience, StarHub, details: "The three main objectives of our social media strategy are to engage our social communities, listen out for potential issues or trending topics, and to inspire brand advocacy."

"In terms of content pillars, we focus on global and local events, everyday tech solutions that can inform and educate, travel tips and tricks for mobile-savvy audiences and lastly, bite-sized entertainment pieces to connect with our passionate fanbase. By adding value to our customers, we can create better interactions."

He goes on to urge broadcast networks to tap into the opportu-

nities that social networks provide to engage fans. For example, to encourage deeper audience engagement for Season 7's launch of *Game of Thrones*, StarHub's community managers replied customers' comments with famous character quotes — the fans relished the in-character personalisation, reports Strother.

For the 2018 FIFA World Cup, StarHub's social media campaign rallied fans to show their support for their favourite teams, and this generated more than 16,000 reactions, comments and shares. "Social provides a life beyond the confines of the 60 minutes or so on screen for followers of the show; it offers both immediacy and amplification to what would simply be the water cooler conversation the next day," he concludes. **APB**



"The three main objectives of our social media strategy are to engage our social communities, listen out for potential issues or trending topics, and to inspire brand advocacy."

— Rod Strother, Vice-President of Digital Experience, StarHub

Winning the OTT battle with technology

BY JAHEER ABBAS

Today, over-the-top (OTT) providers — both new market entrants and established players alike — have to keep up with the ever-increasing demands of modern-day viewers. With viewers today increasingly watching videos on their smartphones, one thing is clear: the user experience is arguably the most significant factor that determines an OTT player's success or failure.

Poor viewing experience: A recipe for disaster

OTT platforms such as Netflix and Amazon Prime Video have become household names in local markets, expanding their user base through the quality and diversity of content. Yet, is a singular focus on content enough to keep viewers coming back for more?

With the vast availability of OTT platforms, as well as streaming options in the region, viewers now expect high-quality streaming every time and will switch to alternative platforms in the absence of desired

quality, or if there are frequent interruptions caused by content latency or rebuffering.

In addition, findings from Limelight Networks' recent *State of Digital Lifestyles 2018* report revealed that the most frustrating challenge viewers face with content is when it stops playing or rebuffers. All it takes for a dissatisfied viewer to switch loyalties is a mere click of the button, leaving OTT platforms at a considerable disadvantage to their closest competitors, if viewers deem their platforms to have inferior streaming quality.

The biggest impediment to a high-quality and consistent viewing experience is that viewers access OTT services from a gamut of devices, platforms and network conditions.

Delivering content to multiple devices is no longer a "should I?" — it is a "must do". However, deliv-

ering content to desktops, mobile browsers and dedicated mobile applications adds complexity to the Web infrastructure because each device supports different capabilities. This requires OTT platforms to develop and deliver multiple versions of their content.

Addressing OTT challenges with a content delivery network

While complex, the challenges that OTT platforms commonly face can be easily addressed through the use of a content delivery network (CDN) — a geographically distributed group of servers, which work together to provide fast delivery of Web content.

Using highly efficient edge-caching technology and the latest protocols, a CDN can deliver optimal viewing experiences to all users across all environments, platforms and devices. This is achieved by

maintaining the content availability at both source and destination, as well as by detecting device, platform and prevailing network conditions to customise broadcast settings and content formats.

New-age CDNs also help in eliminating cybersecurity threats, offering protection to help secure platforms by detecting and blocking attacks at the network edge in real time while safeguarding viewers' private data.

The future of OTT

The adoption and utilisation of OTT platforms is definitely set to grow in our increasingly digitised nation — but only if they are able to cater to the demands of their users and resolve prevailing challenges in user experience.

In this regard, CDNs have become of paramount importance to ensure a seamless viewer experience and encourage the growth of a loyal viewer base. Playing a pivotal role in influencing the ultimate success or failure of platforms, CDNs ensure that a quality content streaming experience is

delivered to meet consumers' uncompromising demands.

It is thus up to players in the highly saturated and largely competitive OTT sector to adapt to this changing paradigm and thrive by adopting the right technologies, or risk lagging behind competition, if they do not.



Jaheer Abbas is senior director, South-east Asia and India, Limelight Networks.

A content delivery network can deliver optimal viewing experiences to all users across all environments, platforms and devices

Synamedia to bring broadcast and OTT media services together

Synamedia, a new company to be formed through the sale of Cisco's Service Provider Video Software Solutions (SPVSS) business to a company backed by Permira, a European private equity firm, is expected to be unveiled in the first half of Cisco's FY19.

"Syna" means "together" in Greek, reflecting Synamedia's ambition to bring together broadcast and over-the-top (OTT) media services, and enable clients to deliver "exceptional customer experiences".

Dr Abe Peled, the incoming chairman of Synamedia, said: "Synamedia enters the market at a time when the TV landscape is being redrawn. Building on a 30-year heritage in the pay-TV industry, a market leadership position, and an unrivalled reputation for innovation, we will hit the ground running as a private, independent entity committed to helping customers boost engagement and revenues by capitalising on the myriad opportunities that

IP distribution and cloud-based services bring."

Among its line-up of solutions, Synamedia will offer Cloud DVR, which is already supporting more than 10 million subscribers worldwide. A cloud-first microservices-based architecture in a multi-cloud environment, cloud DVR allows users to combine public and on-premise cloud storage to enhance delivery and comply with content licensing agreements.

Yves Padrines, incoming CEO of Synamedia, added: "From day one, we will be the vendor with the ability to deliver products on a global scale while offering the flexibility required for market localisation. We will intensify our focus on innovation, building even closer links with our customers and ensuring that we continue to provide the world's most complete, secure and advanced end-to-end video delivery solution."

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