IBCDAILY

06.12.2021

IBC DIGITAL WELCOMES KEYNOTES FROM DISCOVERY, NETFLIX, HBO MAX AND MORE

BY GEORGE BEVIR

IBC is welcoming the world's media and entertainment community to its IBC Digital platform, with a host of interviews, keynotes, discussions and presentations being published on the platform.

With the in-person, Amsterdam-based event cancelled amid concerns about the spread of coronavirus in Europe, IBC's content programme will instead take place on IBC Digital.

As well as a comprehensive content offering, IBC Digital is home to an unrivalled number of exhibitor profiles, providing users with the opportunity to discover new products and services, and arrange meetings with suppliers.

Keynotes and discussions that would have been presented to delegates on the exhibition floor of the RAI are now being recorded and published to IBC Digital.

From Friday 3 December, world-class speakers from globally recognised media and entertainment brands will deliver their keynote presentations and engage in discussions and debate over the course of a week.

Speakers from the likes of Netflix, HBO Max and ViacomCBS will speak about a range of industry issues and technology priorities, from the growth in remote production to the rise of direct-to-consumer services.

In a session published on Friday and now available on-demand, Discovery EVP GM, UK and Nordics James Gibbons spoke about streaming service Discovery+ and the lessons learnt since its launch last year.

He spoke about Discovery's strategy of providing a depth of programmes for viewers with passionate interests in areas such as food, science, space, exploration and survival. "Content really is what it's all about. Yes, we aggregate all these passionate audiences but for SVOD you must go big and make a splash and turn up the volume on everything.

"Your talent has to be higher profile and stories must have a bigger impact – you can't

Discovery's James Gibbons discusses the lessons learnt since launching Discovery+

be shy in SVOD. Also, it's a hungry beast and the appetite of audiences is enormous; whatever you put up will be consumed."

During the in-depth conversation with Omdia senior research director, TV, video and advertising Maria Rua Aguete, Gibbons also spoke about the ability to derive "granular" levels of data from its streaming service and Discovery's approach to balancing its linear offering with its streaming proposition. He also spoke about the importance of the big screen.

"We see consumption of our services on PC and mobile so that is vital, but there is no question that the big screen is king – and the main audiences for premium video are those who have access via the big screen, whether via smart TVs or pay-TV providers. Reaching those pay-TV audiences has been really important for us, and they are big screen providers."

The session with James Gibbons is now available on-demand on IBC Digital.

Keynotes coming up on IBC Digital (all at 12:30 CET)

Monday 6 December
Superna Kalle, Starz

Tuesday 7 December
Johannes Larcher, HBO Max

Wednesday 8 December
Yiannis Exarchos, OBS

Thursday 9 December
Olivier Jollet, Pluto TV/ViacomCBS

Friday 10 December
Vincent Tauzia, Netflix

And from **13-17 December**, **IBC Digital** will also offer a programme of content, panel sessions, Accelerator projects, video on demand and interviews focusing exclusively on the theme of Innovation.

INSIDE

IBC Digital has a range of options that allow you to manage your online IBC experience, making sure it's relevant for you. Via IBC Digital you can manage your profile, add a photo and opt-in for peer-to-peer networking with the ability to message and schedule meetings with peers and suppliers. You can also favourite exhibitors and products, download information and catch up on their company news.

Welcome to this digital edition of the IBC Daily

It's a shame that, once again, we're not able to bring you news from the exhibition halls of the RAI, but this issue will still provide you with the latest product launches from the industry's most innovative technology firms.

If the past couple of years have taught us anything, it's that the ability to adapt and adjust, often at a moment's notice, is essential. For the IBC Daily, that means moving from four issues to two (with the second issue to be published on Monday 20 December). It also means a considerable reworking of the content programme; since the cancellation of the in-person event, many of our IBC colleagues have been working hard to reschedule and capture all of the content that would for the first time have been delivered on the exhibition floor of the

RAI. Instead, the keynotes will be published on IBC Digital next week, and then the focus will turn to the theme of 'innovation'. To make sure you don't miss a thing you'll find up-to-date schedules online at IBC Digital.

If you haven't already, then make sure you register to use IBC Digital where you'll find videos, exhibitor profiles and the ability to chat with other members of the IBC community. And throughout this issue, where you see video or digital icons, you will be able to quickly access additional content hosted on IBC Digital.

In a neat nod to the past, some of the keynotes and presentations (including the session pictured above) are now being recorded at our technology partner 4Wall's studio at the Royal Lancaster Hotel in London. The more experienced readers or those with

a knowledge of IBC's origins will know that this was the location of the first IBC conference and exhibition. While the use of Unreal Engine-generated virtual environments would have blown the minds of delegates attending the inaugural IBC back in 1967, I'm sure they would recognise IBC's ongoing focus on providing the industry with a focal point for discussing, exploring and engaging with the latest ideas and technology for capturing, crafting and delivering great content.

We hope this issue provides you with a flavour of that insight and be sure to keep an eye out for the 20 December issue when we will bring you more product news and insights from our keynote speakers and panellists.

George Bevir, Executive editor

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Throughout the IBC DAILY you will see these icons. Click for video and exhibitor profiles

INSIDE

ONLINE OR IN AMSTERDAM, WE ARE STRONGER TOGETHER

BY MICHAEL CRIMP

We branded IBC this year with the strapline 'Stronger together', and while we had hoped that we would all be returning to the RAI in Amsterdam this year, I firmly believe that IBC – whether online or in-person – remains the one forum where all sides of the global media industry can come together, share ideas and do business.

Of course, we are all disappointed not to be gathering in Amsterdam. While there was considerable support from many exhibitors and attendees for us to put on a physical event, growing concern about the spread of coronavirus in Europe meant cancelling the in-person event was in the end the only option.

So rather than welcome you to the RAI, I am instead delighted to welcome you to another online experience which I am sure will provide you with the insights and connections that you have come to expect from IBC.

Last year, when we held a virtual IBC, I wrote in the IBC Daily that despite IBC being very different in many ways, nothing has changed. And, while I believe that our fundamental purpose remains the same, we have been working hard to adapt and to make sure that IBC is able to fulfil its role in either a hybrid environment of online and physical events or a purely digital world.

For IBC, one of the most obvious ways in which we have responded has been to develop IBC Digital, a platform for bringing the content and technology community together. As a platform it will continue to evolve, but one thing we are sure of is the importance of the ability to serve content and connect the industry. To help you connect with peers and suppliers, it gives you the ability to set up a profile and network, and you will find it packed with exhibitor profiles. Content that would have been delivered at the show will be published on the platform now and over the coming weeks.

We have, of course, been shifting IBC to a year-round experience for some years now. We launched IBC365 back in 2017 to provide a continuing stream of the sort of insight and information that we are known for. And IBC Digital went live in October, representing all that is good about the Amsterdam event, but online.

That said, the physical event will continue to be at the heart of what we do, and I see the demand for an in-person event growing to pre-pandemic levels and beyond, over the coming years.

IBC Digital would have provided the means for this year's IBC to have been one of the first genuine hybrid events, with the physical exhibition and conference complemented by a comprehensive online offering.

The cancellation of IBC affects the whole industry in many ways, including the opportunity to share knowledge and ideas. At a time when the industry comes together it marks the beginning of an annual cycle of education and thought leadership led by the six industry bodies that own IBC and form the IBC Partnership: the IABM, IEEE Broadcast Technology Society, IET – The institute of Engineering and Technology, the Royal Television Society (RTS), SMPTE and the SCTE.

In developing IBC Digital, we worked hard to create the same spirit of coming together to share knowledge and experiences. It offers appointment-to-view keynote presentations and panel sessions, alongside 'exhibition' walkarounds focusing on specific technology areas. It also includes powerful tools to help define your individual path through IBC, alongside networking areas to swap ideas with friends and colleagues.

REMARKABLE ADVANCES

You do not need me to tell you how hard the past couple of years have been. The industry has seen some remarkable technical advances, but these were largely forced upon us by the need to stay in business and to serve our audiences.

What it has shown is that our industry is marked by great resilience and remarkable ingenuity. We hear, time and again, how broadcasters and production companies have turned things upside down to continue to make and deliver great programmes.

If you have watched this year's IBC Awards Ceremony – and if you have not I urge you to find it on IBC Digital – then you will have seen how the industry has created remote working solutions, even in challenging live environments like sport.

We have always been a collaborative, sharing business. We actively encourage open standards and interoperability. Virtually every installation in every corner of the world brings together sub-systems from multiple vendors to create the perfect overall solution. The IBC Innovation Awards have celebrated just this sort of co-operation for almost 20 years.

The awards ceremony also includes comments from the winner of the IBC2021 International Honour for Excellence: Barbara Slater, director of sport at BBC. Her view is that, within the first weeks of the pandemic, they advanced their remote production technologies and capabilities three or four years.

We have also retained our Media Accelerator Programme, which provides a setting for collaboration and advancement. This gives innovative and practical projects an environment and a stimulus for cross-party development, with vendors, academics and media enterprises working together. I am very much looking forward to seeing what this year's eight projects have achieved.

Now is the time to take all the learning of the past 18 months or so, and bring it to bear on strategic thinking and planning for the future. That has always been the role of IBC in the industry, and it is certainly our aim now.

Finally, I would like to take this opportunity to make two expressions of gratitude. The first is for the sterling efforts of the IBC Team who, as I am sure you can imagine, have been challenged with changes of plans and circumstances on an almost daily basis.

Over the course of the year we have worked very closely with our friends at the RAI, and through them with the Dutch authorities, and these complex discussions have been made doubly difficult by the impracticality of sitting around a table and talking things through, the way we normally would. According to the Royal Statistical Society, globally we spent more than three trillion minutes on Zoom – my IBC and RAI colleagues certainly contributed more than their share!

And second, my thanks go to you, the members of the media industry – from developers and vendors to content creators and broadcasters and distribution platforms. Thank you for your continuing support of IBC, the world forum for the electronic media business. To all of you I wish a successful year and a more positive future.

Michael Crimp is IBC chief executive

"Our industry is marked by great resilience and remarkable ingenuity. We hear, time and again, how broadcasters and production companies have turned things upside down to continue to make and deliver great programmes"
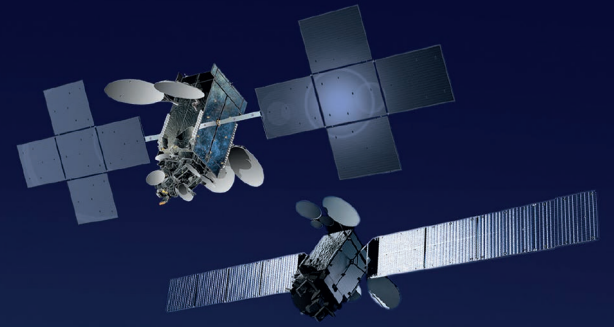
IBC HONOURS INNOVATION AT VIRTUAL AWARDS CEREMONY

The IBC Innovation Awards are highly coveted in the media industry. They represent more than just technical excellence: they honour real-world achievements through collaboration and co-operation.

This year's shortlist was reviewed, and the winners announced, in a virtual awards ceremony which premiered on 23 November. As always with the IBC Innovation Awards, the finalists cover the complete spectrum of the industry, geographically and technically.

The first of the three categories recognised innovation in **Content Creation**. Taking the trophy was the Remote Recording Network for a project it calls Around the World in 80 Milliseconds. This was a live music event with both performers and creative team in four countries on three continents. The technology team, led by Riedel Communications, achieved the low latency of the title.

Also shortlisted in this category was Songbird, a production of Catchlight Studios which was the first American feature film to return to production during the Covid lockdown. Frame.io provided the technology to allow the creative team to work from their homes.

Timeline Television developed a remote production kit built around two iPhones and a remote-controlled PTZ camera which on-screen talent can assemble at home. Used for live sports and other popular programmes, the whole system is controlled by a remote engineer.

And Sol Levante was a stunning production from Netflix, which used 4K HDR and Dolby Atmos to turn hand-drawn anime into an extraordinary immersive experience.

Riot Games won the award for **Content Distribution**, with its innovative approach to staging a world esports championship. The event was held in Reykjavik, but the production team was as far apart as Los Angeles and Berlin. Thanks to JPEG-XS distribution, it all came together perfectly.

Boeing made an impressive finalist with its plans to cover landings of its Starliner, a new service for the International Space Station. It is designed to land in a remote desert location, and high-quality video is needed to check on the craft and crew, as well as broadcast live on NASA TV.

Like many sports broadcasters, BT Sport was faced with the challenge of maintaining its high-quality output while protecting its crew. The culmination was a fully remote production of the 2021 UEFA Europa League Final from Poland, with all the talent and production crew in the UK.

MGM Studios has rolled out a new blockchain-backed content delivery platform, with machine learning underpinning its licensing system for complete programmes and clips. It makes more than 20,000 film and television titles accessible online to its distribution partners.

Finally Migo, working with lead technology partner Dalet, has brought a new concept to the media market in Indonesia. Sachet content is pre-paid, low-cost videos for mobile devices, accessible at retail locations. Ideal for developing regions, it delivers a service which is relevant to a large mass of customers, in an environment where traditional digital platforms could not succeed.

The third category was for **Content Everywhere**, and a second entry from BT Sport took the trophy. For sports fans stuck at home, it was the atmosphere and camaraderie of being at the game they missed the most. Through a new

Riot Games' Scott Adametz accepts the award for Content Distribution

Jamie Hindhaugh celebrates winning the Content Everywhere award for the BT Sport app

Remote Recording Network's Around the World in 80 Milliseconds was recognised in the Content Creation category. Peter Brandt picked up the award

app, BT Sport let them share the same banter with their friends that they would have had if they were together.

Football fans in Germany were also recognised, with a Bundesliga app from Deutsche Fußball. It gives viewers the ability to control their statistic feeds and their highlights. They can even track multiple games, as it is common in Germany to support not just one team but three or four.

Like many broadcasters, Sky Sports has been looking towards the cloud to create a new remote production workflow. Adding the capacity and simplicity of 5G, Sky has been able to offer high production values to a broad range of sports, while reducing the amount of kit and people to be transported to the venue.

Would you like to have a private, one-to-one conversation with your musical hero? In The Room is a new service that uses AI natural language processing and Ultra HD to bring remarkable people to your mobile, to have a personal

conversation with you. The first outing of the technology is with music legend Nile Rodgers.

The last finalist in this category – alphabetically only! – was Ubeat, a Spanish language OTT web and mobile portal, covering esports and entertainment. Developed by Mediapro, it achieved an extraordinary 7000% rise in page visits in little more than a year.

Every project is reviewed and the winners announced in the IBC2021 Awards Ceremony, which you can watch now on IBC Digital. Also included in the programme is a review of the career of this year's International Honour for Excellence winner, Barbara Slater of BBC Sport.

Visit IBC Digital

BBC DIRECTOR OF SPORT RECEIVES IBC'S HIGHEST HONOUR

The recipient of the IBC2021 International Honour for Excellence is Barbara Slater, BBC director of sport. As the first woman to hold the post, she has been a pioneer for women's sport, as well as driving forward innovations in coverage and reach.

Slater was born into a sporting family – her father won the FA Cup with Wolverhampton Wanderers – and she showed early promise as a diver. She moved from there to gymnastics, representing Great Britain at the 1976 Olympics in Montreal at the age of 19.

On retiring from competitive sport she found herself in the world of television, providing specialist knowledge behind the scenes as well as commentating on gymnastics competitions. She won a place as a trainee producer at BBC, and on one placement she found herself sitting behind the director at a sporting event.

"I thought that this was the best job in the world," she said. "He sat in the chair, he had all of the cameras in front of him, and he told the story."

She became a director, covering events like the Open Golf and Wimbledon, including a memorable Pete Sampras final.

Slater was appointed to the top job at BBC Sport in 2009, and immediately faced the challenge of creating a memorable and engaging experience at the London Olympics in 2012. "What I remember was the feeling of responsibility. This was such an amazing opportunity for the sports broadcasting industry, and I had this awareness that, goodness, we had to get it right," she recalled.

Today she is rightly regarded as a driving force in sports broadcasting for all. As well as collaborating with other broadcasters and sports bodies she is a special advisor to the International Olympic Committee. In 2014 she was made an OBE for her services to sports broadcasting.

For a long career in sports broadcasting, Barbara Slater has been awarded the IBC2021 International Honour for Excellence, only the second woman to do so in its 37-year history.

Receiving the award, she said: "I want to comment on the momentum that we now see behind women's sport, with the achievements of female athletes being recognised in the way they hadn't before."

"In my years at BBC Sport I've seen an industry transformed," she said. "Technology has paved the way to an entirely new level of quality of coverage, choice and range.

"I am extremely honoured to receive this prestigious award – I am really proud to do so. Thank you to all at IBC."

IBC International Honour for Excellence recipient Barbara Slater

# REMARKABLE RESEARCH PROJECT WINS TECH PAPER AWARD

Technical papers, representing the latest in research, have always been a cornerstone of the IBC Conference and this year is no exception.

Each year, the very best of the papers, in terms of both innovative research and clarity of presentation, is rewarded in the IBC Awards Programme. This year, the award for Best Technical Paper goes to a remarkable team effort from BBC Research & Development.

The aim of the paper is to make content discovery a more seamless experience for the consumer. To illustrate this, the team developed a portal which allowed a single app to access content on Netflix, Spotify and BBC Sounds.

The portal encouraged content discovery through curated suggestions. If a user regularly requested tracks from a particular artist on Spotify, then the app would suggest the next time that artist is featured on BBC Radio or BBC Sounds, for example.

While this is clearly a valuable concept, there are two significant challenges. The first is that each content provider closely guards its user data, which is a valuable part of its business assets. The second, of course, is
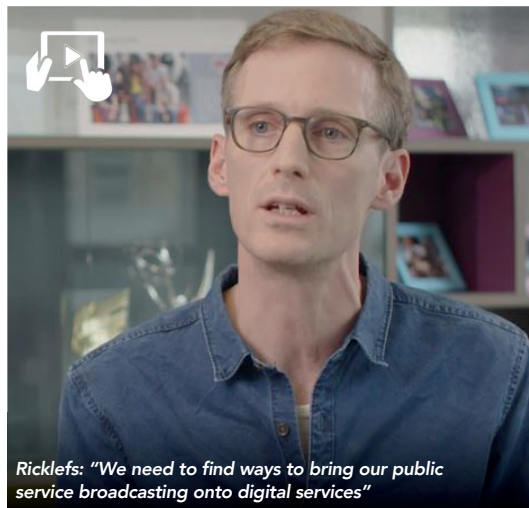
Ricklefs: "We need to find ways to bring our public service broadcasting onto digital services"

the need to protect the personal data of the user from unwanted exploitation, and to visibly demonstrate that it is safe when using the app.

That is why BBC R&D compiled a team which included not only technologists but also experts on the legal and ethical questions involved. The result is an IBC paper called Stronger Together: Cross-service media recommendations.

Hannes Ricklefs of BBC Research & Development, one of the authors of the paper, said: "We see the broadcast industry moving into the online space, going beyond TV and radio. We need to find ways to bring our public service broadcasting onto digital services. Within that, we believe that handling of personal data in a privacy-preserving way, with ethical controls, is a very important topic.

"We're grateful for this award because we hope that the blueprint we have described in the paper will be a catalyst for more innovation and development in this space."

Paul Entwistle, chair of the peer-review panel for IBC's technical papers, which is also responsible for selecting the winner, said: "Privacy of personal data is an important and under-debated topic. This paper demonstrates alternatives to the norm, putting control back with the individual, and potentially increasing value to the industry through co-operative sharing."

NBCUNIVERSAL GIVEN SPECIAL AWARD FOR TOKYO COVERAGE

IBC2021 chose to present a special award to NBCUniversal for its technical work around bringing the Tokyo Olympic Games to its audience and offering them the chance to enjoy live action in Ultra HD: 4K resolution, high dynamic range colour and Dolby Atmos sound. While production processes for recorded, scripted content in Ultra HD are now well established, NBCUniversal has led the way in developing the necessary technology for single-stream production workflows in sport.

NBCUniversal covered the whole content pipeline, from acquisition and management of 4K content in the HLG colour space to a new version of its Skypath distribution system, that distributes to more than 200 local TV stations. Just in time for the Tokyo Games, this provided the means to send localised, full 4K HDR, Dolby Atmos Ultra HD to 70% of the US, without the need for expensive technology upgrades in each facility.

David Mazza, CTO of NBC Sports Group and Olympics, and Clarence Hau, SVP of NBCUniversal Operations & Technology, said: "We are honoured to be recognised by IBC with this prestigious award. The Tokyo Games culminated years of live HDR and Atmos production and distribution development, leading to today's refined techniques.

"We are grateful to IBC for recognising this achievement by the technical teams across NBC Sports and Operations & Technology."

SIGNIANT®

Because Media Happens **Everywhere**

STRONGER TOGETHER: MEET IBC'S PARTNERS

IBC has always been proud of being run by the industry, for the industry. It is the involvement of all sides of the business, from all corners of the world, that gives IBC its authority and its influence as the one global venue to share experiences, see the latest technology and network together.

To guarantee that grounding in the industry, IBC is owned by six trade and professional bodies. Their input sets IBC's agenda and focuses its efforts on the real needs of this rapidly changing world. Each body brings a different set of knowledge and influence, and each has a representative who sits on IBC's board, under the chairmanship of Tim Richards

IABM is the international trade association for the broadcast and media industry. As the supply side's authoritative voice, it is active in keeping its members informed through its own communications opportunities and through its widely regarded market intelligence and research.

Peter White, its CEO, represents IABM's interests on the IBC board. By providing the vendor's viewpoint, he ensures that the goals of IBC and IABM in navigating the seismic changes in the industry are navigated successfully.

IEEE BTS is the Broadcast Technology Society within the Institute of Electrical and Electronic Engineers. It draws on more than a century of knowledge, starting at the Institute of Radio Engineers in 1912. Today its 2000 members worldwide benefit from technical journals and meetings, sharing IBC's aim of disseminating the latest in technological thinking.

Bill Hayes, a past president of IEEE BTS, represents the society on the IBC board. He is based in the US, where he is currently involved in studios and terrestrial broadcasting projects in Iowa.

IET – the Institution of Engineering and Technology – can trace its history back to 1871 as the Society of Telegraph Engineers. Indeed, some argue that the Society of Engineers, established in 1854, can be considered the oldest part of the IET, being one of more than 40 organisations which are now part of the group.

Today its aims are to inspire, inform and influence the global engineering community to engineer a better world, sharing knowledge to make better sense of the world in order to solve the challenges that matter. It is represented on the IBC board by Giles Grant, director of knowledge services and solutions.

RTS, the Royal Television Society, is perhaps most commonly associated with the creative and business aspects of television, although it also has thriving technical sections. It is very active within the industry, presenting everything from glamorous awards ceremonies to student bursaries to help those at the beginning of their career.

Representing RTS on the IBC board is Theresa Wise, the society's CEO. Her viewpoint is invaluable for its in-depth knowledge of the issues affecting production companies and broadcasters on a business and strategic level.

SCTE was founded in 1945 as the Society for Cable Telecommunications Engineers, but to reflect the greatly changed industry it is now the Society for Broadband Professionals, aiming to raise the standard of broadband engineers in the telecommunications industry. As well as publications, education and training, it is also the body for broadband accreditation and certification.

Dr Roger Blakeway, CEO of SCTE, is a long-standing supporter of IBC, and a leading figure in the cable industry for 40 years. With new content distribution platforms very much driving the media industry today, Blakeway's insights provide much value to the IBC board.

SMPTE is perhaps known as the most important standards-setting body in the media industry, but it is also dedicated to the sharing of knowledge among its members. It claims that the brightest minds in the industry have found their community in SMPTE, the home of creative technology. The membership is global, giving it the ability to draw upon vast amounts of experience in its standards-defining committees.

At a time of rapid change in the media world, SMPTE provides a solid foundation on which to build. The society is currently represented on the IBC board by Barbara Lange, the outgoing executive director and an outstanding advocate for IBC and its aims.

IABM TO EXAMINE EVOLVING MEDIA ECONOMICS DURING BAM LIVE EVENT

BY GEORGE JARRETT

The IABM has always prided itself on kicking off IBC with stunning research findings that highlight all the key trends and concerns people will discuss on the show floor. This year, the IABM has provided this insight via its online BaM Live event, delivered on 2 December and now available on demand.

CEO Peter White explained: "We have the trump card of world-class business intelligence, and this has shaped the content programme under six headlines, which together are the strategic issues at the heart of our industry's future."

BaM Live's six tracks, all designed to complement IBC's own events, cover Cloud Economic Models in Media, Digital Economics, Hybrid Futures: Blending Physical and Digital Models, Outsourcing and Insourcing Decisions, Managing Complex Media and Tech Ecosystems, and Future Media Business Models.

While the IABM supported IBC's decision to cancel the Amsterdam event, White stressed the importance of in-person events.

"IBC exists for the industry only. Unlike other events, it is entirely owned by the industry and, thanks to its success over the years, has contributed a great deal through this structure to keeping the broadcast and media sector vibrant and moving forward; there is no substitute for the good work it enables or the sense of community it engenders. IBC is truly by the industry, for the industry," he said.

"Lessons are still being learned about the positive role digital can play in companies' communications and sales strategies, but [membership] opinion is unanimous that digital will not replace the face-to-face experience of exhibitions. However, it can and will play an important role in future events," he added.

The IABM had previously spoken about how this IBC would have triggered a new future of hybrid events.

"The obvious benefits of hybrid/in-person platforms come with the bringing in of remote audiences, which increases the value of the show beyond the in-person audience," said White.

"The experience of in-person attendees will also be enhanced by digital inputs giving them insights they might have otherwise missed during their time on the show floor."

The six tracks, combining the expertise of media companies, analysts and technical suppliers, are a mix of case studies, panels and presentations. They are available on-demand at **https://theiabm.org/bam-live**.

IABM BaM Live highlights

• 'Challenges and opportunities of data-driven workflows in media': This session discusses how video service providers can ensure they are maximising the value of their data and putting the right strategies in place across the entire business to improve the customer experience.

• As part of the Hybrid Futures track, Gordon Castle, SVP special projects, global technology and operations at Discovery, discusses the challenges of a hybrid tech strategy.

• The 'Need for Balance – how to match your TV channel business model with the playout technologies' session will examine how both national and international TV broadcasters face the challenges of how to find the balance between fast-changing external market forces, the business model chosen, and the technologies implemented to gain market success.

WORKFLOW TOURS:
CONTENT SUPPLY CHAIN
AND CREATIVE PRODUCTION

BY SHERYL HICKEY

Visitors to IBC Digital can join two of IBC's latest Workflow Tours, one on the subject of content supply chains and efficiently preparing, managing and storing media, and another on the cutting-edge technology that is enabling every aspect of the creative production process.

IBC has designed four Workflow Tours through partnerships with market-leading companies. Their aim is to provide a forum for discussion and provide an overview of the latest innovations, advancements and buyer behaviour throughout the industry.

During the Content Supply Chain Tour, which is available to view on IBC Digital, viewers will hear from leading names in the industry including Dalet, OpenDrives and Nielsen Gracenote. The tour explores the emerging tools and techniques for creating an efficient multiplatform content supply chain. Specific technology, storage and workflows, both in the cloud, on-premise and with service providers, will all be discussed.

During this tour Sharif Khan, presales solution architect at Dalet, discusses how content needs to be produced and distributed with the influence of industry changes. He explains the need for intelligent content supply chains that support remote production workflows and bring quick and easy access to content, while cost-effectively integrating with a wider technology ecosystem.

Sean Lee, chief strategy and operations officer of LA-based OpenDrives, shares his insight into delivering the highest performing software-led solutions to match individual performance needs, on-premise, remote and in the cloud.

In addition, Nielsen Gracenote's managing director Simon Miller offers his experience of facilitating leading video distribution platforms in EMEA, LATAM and APAC, overcoming content search, discovery and personalisation challenges in order to deliver highly engaging entertainment experiences.

View the Content Supply Chain Workflow Tour HERE

Dalet's Sharif Khan with Workflow Tours host Jo Wheeler

Alex Timbs of Dell and Aidan Sarsfield of Animal Logic discuss the impact of remote work on creativity

Victor Kortekaas of Roe Visual talks to Jo Wheeler about Ghostframe

CREATIVE PRODUCTION

The Creative Production Workflow Tour will feature insight from companies including Dell EMC, Dell Precision Workstations, Elements and Roe Visual/Ghostframe.

The tour explores live production and content acquisition, production and post-production, storage and cloud, the latest AI-enabled tools and virtual studio technology.

As part of this, Dell's business development manager Alex Timbs and Animal Logic's head of production technology Aidan Sarsfield discuss the impact of remote work on creativity and how Animal Logic uses Universal Scene Description (USD) and automation to empower its creatives internationally.

Matt Allard, Dell's director of strategic alliances, reviews

workflow trends in creative production and post production and how they're impacting technology requirements.

Filip Milovanovic, media engineer at Elements, introduces an all-new file system to the media and entertainment industry, designed to power supercomputers. It will enable the building of highly efficient cloud and on-premise storage environments that benefit from high-performance Ethernet workflows with on-demand cloud possibilities.

Representatives from Roe Ghostframe's four partners, AGS, Megapixel VR, TrackMen and Roe Visual, introduce the key features of Ghostframe technology – which combines the strengths and possibilities of LED and camera technology – and explain how it can be used for broadcast or film production.

View the Creative Production Workflow Tour HERE

Along with tours on Content Supply Chain and Creative Production, other Workflow Tours hosted by IBC cover Live and Remote Production and Content Distribution. All four tours, which have been produced by Caretta Research, are exclusively available on-demand on IBC Digital.

Visit IBC Digital to watch the Workflow Tours

WORKFLOW TOURS:
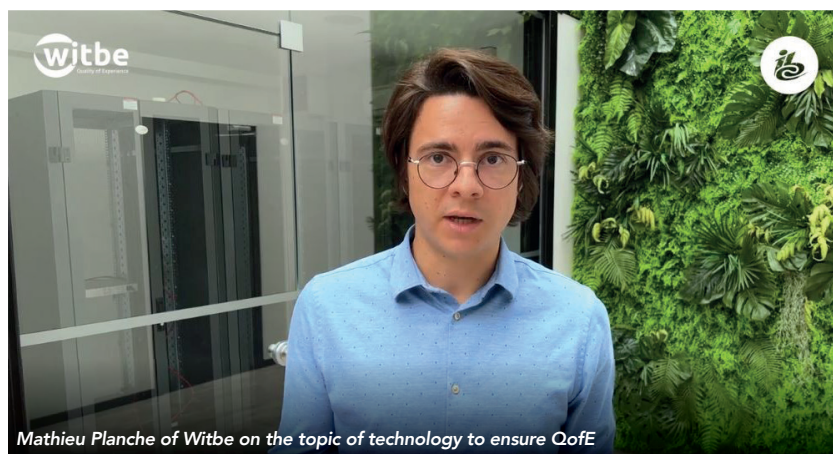# CONTENT DISTRIBUTION AND LIVE AND REMOTE PRODUCTION
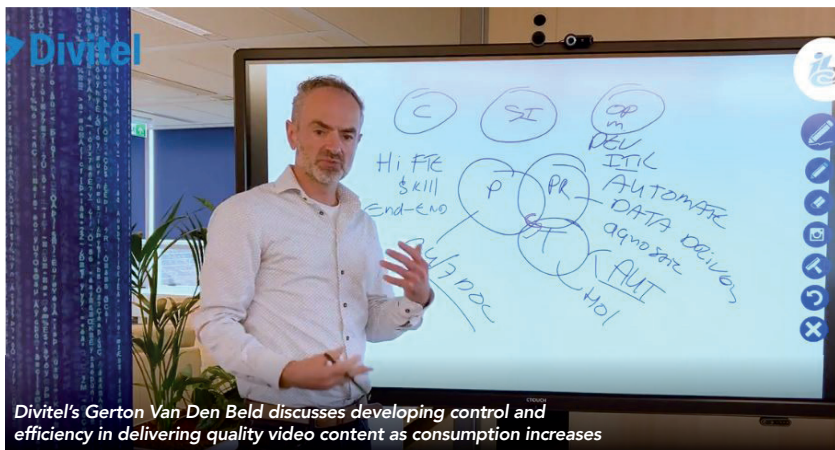
Divitel's Gerton Van Den Beld discusses developing control and efficiency in delivering quality video content as consumption increases

Telstra's Carl Petch and Steven Dargham

Ming Chow of Huawei looks ahead to a diversified future of video development

Mathieu Planche of Witbe on the topic of technology to ensure QofE

BY SHERYL HICKEY

Streaming, video-on-demand and the challenges of delivering a great direct-to-consumer experience are the focus of IBC's Content Distribution Workflow Tour, while the Live and Remote Production Tour covers the fast-changing world of live production, including news, sports and live events.

During the Content Distribution tour, which is available on demand on IBC Digital, viewers will hear from industry experts ARM, Divitel, Skylark (Ostmodern), Brightcove, Witbe and Huawei.

The tour, one of four Workflow Tours, explores the fast-growing market for online video, CDNs, content security and delivery, and cloud playout. User experience and personalisation, along with monetisation and advertising, will also be discussed.

During this tour Richard Amos, chief product officer of Skylark, discusses how to leverage design and data to allow audiences to discover engaging content.

ARM's senior manager Andrea Luigi Cantone and senior director of technology Rob Suero share their insights into market trends, particularly the growing influence and reach of streaming services worldwide.

Chief business development officer of Divitel Gerton Van Den Beld discusses developing control and efficiency in delivering quality video content as consumption increases.

Witbe's chief executive Mathieu Planche and chief operations officer Yoann Hinard disclose how major broadcasters ensure Quality of Experience through leveraging technology to perform automatic service tests on any device.

Brightcove's chief technology officer David Bornstein examines how illicit access and broadcast occurs and the most effective tools to protect content from video piracy.

Finally, Ming Chow, senior director of Huawei, defines a content delivery strategy framework to address market challenges and looks ahead to a diversified future of video development.

View the Content Distribution Workflow Tour HERE

LIVE AND REMOTE PRODUCTION

The Live and Remote Production Workflow Tour will explore the latest in live and remote production, covering topics such as greater automation, remote production/REMI and the rise of cloud, and more efficiently and creatively enabling IP.

During this tour, LTN Global's director of network distribution Charles Theiss and senior vice president Rick Young discuss how using cloud-based automation and workflows can help content providers reach more markets, platforms and audiences without significant CAPEX. They will also disclose how sports betting content provider SportsGrid grew exponentially by integrating IP-powered cloud production and distribution workflows.

Telstra's head of architecture and integration Carl Petch and Steven Dargham, head of major events at Telstra Broadcast Services, discuss the benefits of international remote production. Telstra has been at the forefront of development here, delivering content of all value from venues to remote facilities between Asia Pacific, North America and Europe.

View the Live and Remote Production Workflow Tour HERE

The Content Distribution and Live and Remote Production Workflow Tours are part of a series of four tours, with the other two covering Creative Production and Content Supply.

All four tours are available on demand on IBC Digital.

Visit IBC Digital to watch the Workflow Tours

SETTING THE STANDARD

At the end of the year, SMPTE executive director Barbara Lange will conclude her 12-year stewardship of the industry's premier standards body to follow the two new career strands of helping young women find careers in STEM and exploring sustainability in the sector

BY GEORGE JARRETT

We first track back to January 2010, when Barbara Lange joined SMPTE as executive director. "Regarding business discipline, SMPTE was a little wayward, and one of the reasons I was hired was to help drive new revenue streams and to be disciplined about budgeting," she recalls.

"The digital library was one of the first things we achieved and it continues to generate revenue," she adds. "At the time SMPTE was very US centric, but it has now transitioned into an organisation that is well known as being a global standards and membership association."

Lange had the pleasure of heading SMPTE during major milestones such as the centenary in 2016, but over the years who were the key people who helped her effect the huge transition?

"When I joined, I did not know a single person. The industry was overwhelmingly helpful and friendly and I learnt from the leaders of the society – Ken Fuller, Charlie Jablonski and Wendy Aylsworth. All of the presidents I have partnered with shared their insights and knowledge, and helped me to do my job better," she says.

"Then there was Peter Symes, formerly staff director of standards: he was fundamental in my education. So too were the local leaders around the world – Peter Weitzel in the UK, John Maizels and Paul Broderick in Australia, and the Hollywood and New York section people," she adds.

PARTNERSHIPS

Lange had said previously that "there is a lot of confusion between standards and specs, and how they stitch together," so how did IMF and working with the DPP move SMPTE onwards?

"It certainly created that push that we needed. There is always a proponent of some form, and for this project it was the DPP who put us on that pathway. We do not refer to technical specs anymore (now Public CDs) and we bring the relevant information out to the industry earlier than the due process of the standard," Lange says.

"The partnership with the DPP continues to be vital because they are a user community. It is crucial those users have a voice and help to shape things, whether it is a spec or a full-on standard. Without the users it becomes a collaboration among manufacturers," she adds.

When the JT-NM came along SMPTE teamed up with the EBU, VSF, AMWA and the AES. "JT-NM was the driver behind all of the work on ST-2110 and relevant bits like MNOS. It is all about collaboration to create a solution with IP that works for the industry. SMPTE and VSF have been recognised by the TV Academy with a Technical Emmy, and that is evidence that collaboration is critical," says Lange.

"The ST-2110 suite came about pretty quickly when you think about the normal speed of a due process standard. It is the pivot into the IP network for a broadcast facility, but you have to deal with media in the cloud and how does 2110 do that. We are also looking at virtual production and what role 2110 can play in that."

Can the SMPTE+ platform take the full weight of eradicating the concern over imbalances in knowledge?

"That is a role SMPTE continues to play, whether it is educating students coming into this space, or professionals who are changing in their career. One project that is moving us more towards the student end is work we are doing with a virtual production group – the Rapid Industries Solutions Initiative, which we call RIS. This is still nascent and we are forming fundamental ideas for bringing industry and students together in the world of virtual production," she says. "SMPTE+ is really an events concept."

The flip side of this discussion is the acknowledged skills shortages in so many new technology areas.

"It is a true statement that many skillsets need to be delivered, but I see that as a great opportunity for those within the industry to pivot and increase their knowledge, to learn the new concepts and new fields. The biggest problem is around the pipeline of talent coming into the industry: that is where this industry struggles and it could dry up," Lange says.

"It is incumbent on organisations like SMPTE to work more closely with students and promote the career opportunities in media technology," she adds.

> *"It is incumbent on organisations like SMPTE to work more closely with students and promote the career opportunities in media technology"*

EXPERTISE

It is at this juncture that Lange gets to the next part of her career. "I am certainly committed to helping SMPTE in its transition, but more importantly I am leaving soon because I have reached a point where I do want to do different things. This is to work on projects that are oriented in two specific domains – girls and STEM, and the issues around sustainability in the media technology sector," Lange says. "There is expertise I can lend to help girls find careers in science and technology. But I definitely need to educate myself on the issues around sustainability."

SMPTE is doing a ton of things that could not have been foreseen 12 years back, like the key operational elements fast metadata exchange and PTP monitoring capabilities. And its report on PTP security will be a hot ticket.

"That good work is all about Bruce Devlin and his merry band of supremely talented technologists. If there is any contribution I have made, it is to help them do their best work. We have an amazingly dedicated staff team who support their work," Lange says.

As she exits stage left, her successor will inherit a mountain of expectations.

"That's the nature of pretty much every industry – the work is never finished. I am certain that the next person in this role will bring a skill set that matches this organisation's needs to advance. Hans Hoffmann is president now, and it is his job to find the next leader," Lange says.

She leaves with the pandemic rampant, but responsible for many new technologies happening overnight to enable IP-based remote production.

"Any time a human being is backed into a corner they have the ability to solve problems. Accelerating remote production happened almost instantaneously, and news broadcasts were delivered from the talent's home overnight. And then virtual production really accelerated," says Lange. "The silver lining of the pandemic was that it created this super-innovative environment."

Looking back, what have been the great collaborations? "SMPTE covers broadcast, motion picture and streaming work as well. There are different groups we collaborate with like Movie Labs and ETC at USC. The HPA remains a good partner, and then too are AMWA, VSF, AES, EBU, DPP and the IABM. Think any three-letter acronym. Some of our newest partners are things like W3C and IETF, which are internet-based groups. Collaboration is crucial to SMPTE's future" she adds.

Lange came in with fiscal expectations, so how do the finances look as she goes?

"The digital library is a reliable and solid revenue resource. We did a fundraising exercise for the centenary where we generated almost $2 million, and we have been able to diversify our revenue so that we are not so reliant on IBC funding. Yes, membership and IBC are still the big drivers of our revenue," she says. "The organisation is as relevant today as it was in its heyday and it is known globally. If I had a contribution in making it that way, that is what I am most proud of."

BUILDING BACK SMARTER

ITN has weathered the pandemic well, with lessons learned from remote production determining the future course of innovation. Jon Roberts, director of technology, production and innovation at ITN, reveals the company's roadmap

BY MICHAEL BURNS

Successfully recovering from the significant implications of Covid, UK production company ITN is at the start of a significant investment cycle, particularly focused on the news side of the business.

"We're expecting to see a good deal of very transformative technology investments over the next 18 months," says Jon Roberts, director of technology, production and innovation at ITN.

ITN, which produces the daily news programmes for ITV, Channel 4 and Channel 5 in the UK, has in recent years diversified to produce a wide range of content including documentaries, sports, advertising and digital material for a range of international clients.

In an interview for IBC TV, Roberts describes how his team coped with Covid, supporting all ITN's internal corporate functions with a move into remote working, before even getting to the production considerations of the company.

"It was challenging," he says. "We are now in an unusual hybrid moment. We are starting to see the benefits of getting groups of people in rooms together again, seeing the creativity that comes from that. But we're also trying to figure out how we hold on to the things that we found very useful – discussion forums that would never have existed or groups of people that we've never been able to put in a room together before."

GOING REMOTE

ITN has form with remote production, such as its coverage of the IAAF World Relays 2019 in Yokohama from an NEP control room in Sydney, but in the past 18 months Roberts says the company has rapidly had to think of "whole new ways of extending" the use of its systems.

Covid restrictions, for example, have seen the control room extended to people's homes.

"We can now carry out production assistant, director and programme editing functions outside of [ITN HQ] Gray's Inn Road," he says. "For example, for the US elections, [our director] was able to direct all the rehearsals for that programme last November while in isolation."

Remote production is now a core part of all of ITN systems. "We need to design everything from the ground up assuming that geographical location can't be a defining factor," adds Roberts.

"We deployed home presenting kits very rapidly at the start of the Covid crisis, so we're able to produce hours of live broadcasting from people's homes," he continues. "But it's always been a feature of our special events programmes to have presenters and contributors in the field. We produced our US inauguration programmes this year from a Washington rooftop with the controller in Gray's Inn Road."

This production also saw an example of a trend at ITN where the company combines traditional high-end broadcast systems with new technologies which in many cases are prosumer tools. "For the US inauguration programme, we were deploying traditional broadcast infrastructure for most of the connectivity, such as LiveU encoding back to base here. But we were also using tools
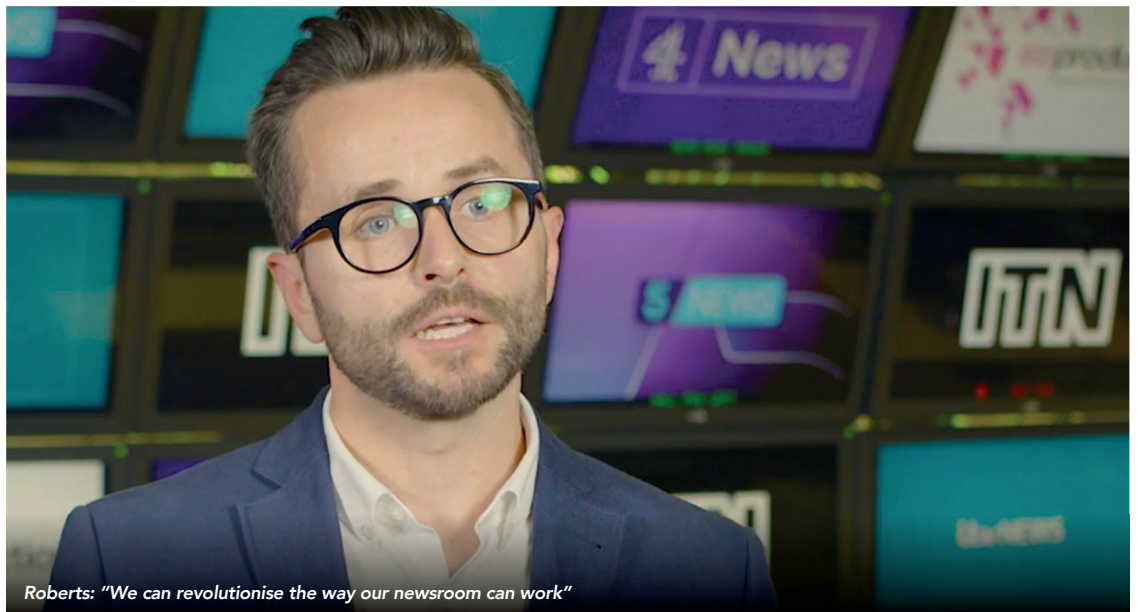
Roberts: "We can revolutionise the way our newsroom can work"

'Anything that enables our teams to connect us to locations more rapidly, more reliably, is a huge win for us,'
Jon Roberts, ITN

like Zoom for reverse vision, because of the advantages it gives us in terms of multiple contributors being able to join those calls, and of course, the low latency. So we're really interested in the space where those two things meet."

Roberts admires that these newer tools are not just built from the ground up to be very user friendly, but also to be 'remote native', unlike traditional broadcast infrastructure. "Extending [the latter] remotely tends to involve a little bit more engineering work," he says.

The roadmap for ITN then includes developing an underlying system that is flexible, scalable and remote native, while still offering broadcast quality and reliability. But that roadmap also has a human aspect.

"It's really important that we think about our people as much as we're thinking about our infrastructure as we try to embrace all the rapid change of this digital transformation," says Roberts. "The key to unlocking some of these new systems is to narrow the gaps in communication between technology specification, user requirements and, crucially, ongoing workflow review – a lot of the best change happens in the period after the [new] system has gone in. So we have an ongoing process to continually evolve those systems as we get to know them."

FORCE FOR CHANGE

A significant investment from ITV has engaged ITN in a project to integrate more with the ITV News regional network, and this has drawn from its remote production experience during the pandemic. "We're creating systems that give greater access to information, media and communication tools than ever before, not tied to any geographical location," Roberts reveals. "We're looking to change our newsroom computer system, which will be

the main window for most of our users to access material; for the video system that sits underneath we're looking to leverage cloud-based storage and cloud-based tools more than ever; and hopefully we'll find greater ways of connecting than ever before, but in a world where we're not tied to a desktop."

Roberts observes that one of the greatest areas of potential in this project is to revolutionise the ability of news teams in the field to interact with ITN's systems back at base.

"Currently there are some really inefficient workflows for moving media from one location to another," he adds. "We think we can revolutionise the way our newsroom can work day to day, if we can enable more people in more locations to be able to see what material we have, access that material, manipulate that material, and indeed publish from the field."

Roberts says reach and connectivity are huge hallmarks of any successful production, particularly for news or special events production. "Anything that enables our teams to connect us to locations more rapidly, more reliably, is a huge win for us. What's been interesting in the past 18 months is how video calling has completely changed the way we think about that," he says. "It's changed our production expectations. The challenge for us technically is to figure out how to improve the quality of those kinds of connections, while not losing this fantastic new ability to be able to 'spring up' guests really easily. That would previously have involved crew deployments or getting somebody to our studios. We can now focus on improving production quality around this greater reach.

"We see ITN's ability to reliably deliver high-quality, complex live production as a key part of our institutional DNA, and a key part of our future success."

GOLD MEDAL MEDIA MANAGER

Yiannis Exarchos is a specialist in the management and coverage of global sporting events. With an impressive career spanning culture, art and broadcast, the CEO of OBS is sure to draw an Olympic-sized audience when he shares his experiences on IBC Digital on Wednesday 8th at 12.30 (CET)

BY MICHAEL BURNS

Olympic Broadcasting Services (OBS) was created by the International Olympic Committee in 2001 in order to serve as the Host Broadcast organisation for all Olympic Games, Olympic Winter Games and Youth Olympic Games. In March 2018, a co-operation agreement between the IOC and the International Paralympic Committee (IPC) was signed, ensuring that OBS will serve as the Host Broadcaster for future Paralympic Games as well.

Headquartered in Madrid, Spain, the OBS team includes more than 160 full-time employees coming from more than 30 different countries. The organisation consists of nine departments which grow during the Games-time operation.

Heading up the team in Madrid is CEO Yiannis Exarchos, appointed to the position following the Olympic Games London 2012. Athens-born Exarchos had previously served as a top executive for all Olympic host broadcasting organisations since Athens 2004. In 2015 he was also named executive director of Olympic Channel Services (OCS), the corporate entity charged with creating and operating the IOC's Olympic Channel. Launched in 2016, OCS is now the core hub for content creation, technology and digital development, as well as data analysis for Olympics.com and the wider Olympic digital ecosystem. Exarchos is also a member of the OCS SL board of directors. He received an award from the Greek National Olympic Committee for his long-term contribution to the Olympic Movement, and the Great Wall Friendship Award in acknowledgment of his contribution to Beijing's progress and development.

Specialising in the management and coverage of global sporting events, Exarchos' background in radio, television, music and film brings a comprehensive perspective to the planning and management of the broadcast of major events. After studies in law and film directing, he produced and presented cultural and art programmes on Greek TV and radio and held several management and senior executive positions in a number of broadcast organisations, including time as executive director of Greek national broadcaster ERT.

Such in-depth media experience and leadership have earned him numerous nominations and recognitions, including five Emmy Awards, five Webby Awards and more than ten Telly Awards. His most recent project has, of course, been the OBS coverage of the Olympic Games Tokyo 2020 and he will be recounting that experience today at the Showcase Theatre session, 'Looking to Beijing: Lessons in live production from the Tokyo 2020 Olympics' (10:00).

TAKING TOKYO TO THE WORLD
As host broadcaster, OBS is responsible for delivering the pictures and sounds of the Olympic Games to billions of viewers around the world. It produces and transmits unbiased live radio and television coverage (International Signal or the World Feed) of every sport from every venue

Photograph by Christophe Moratal/IOC

Yiannis Exarchos, CEO of OBS, speaking at the 135th IOC Session, which was held at the SwissTech in Lausanne in 2020

"This is perhaps the biggest technological change in the broadcasting industry for more than half a century,"
Yiannis Exarchos, OBS

to all rights-holding broadcasters (RHBs) around the globe.

Although beset by uncertainty and delayed by a year due to the impact of the pandemic, Tokyo 2020 was a watershed moment in the history of Olympic broadcasting, with more content made available to fans on more screens than ever before through TV, digital, apps and social media.

Spectators were not able to attend events in person, but fans around the world were still able to experience the emotion and excitement of the Games. According to Exarchos their enjoyment was further enhanced by cutting-edge innovations in broadcasting. "For OBS, these Games were a major milestone due to the advances we introduced," he explains.

These innovations included producing coverage of all sports natively in UHD HDR for the first time, allowing viewers to enjoy a more immersive experience. Audiences around the world were also introduced to never-seen-before camera angles, 360-degree replays, multi-camera live VR coverage and more analytical data processed by AI. This included 3D Athlete Tracking (3DAT) technology, developed by Worldwide Olympic Partners Intel and Alibaba, a broadcast enhancement which offered near real-time insights and overlay visualisations.

Of course the world-class sporting action and the inspirational performances of the athletes were a major factor, but OBS claims the advances helped drive record-breaking viewing figures, in particular on digital streaming platforms. Exarchos refers to Tokyo 2020 as the "first streaming Games".

"These were the first Olympics where streaming was so prominent, but also they were the first Games where

consumption was so massive on every single platform," he observes.

Following the success of Tokyo 2020, OBS and RHBs around the world are now preparing for the Olympic Winter Games Beijing 2022, which commence on 4 February next year. Exarchos admits that holding two editions of the Games so close together has presented several challenges, but says it has also provided a number of exciting opportunities.

"At OBS, having to operate all the time in different environments in different countries, we know that it doesn't really work to apply the same blueprint and try to do the same things exactly," he says. "Over and over, you constantly need to think of new ways, and we tend to perceive challenges and big opportunities. Of course, the pandemic has been a very big challenge, but behind that there have been huge opportunities, [such as] the massive acceleration of digital, and the massive adoption of remote working."

CLOUD CONTENT
In particular, Exarchos highlights the development of OBS Cloud, built using cloud technologies from Alibaba to deliver short-form content, content asset management and content production.

During Tokyo 2020, up to 9,500 short-form content clips were produced by the OBS Content+ crew to help enhance coverage. Some 17 RHBs and four news agencies signed up to the service, with clips accessible by the RHBs' digital and social media teams through a web-based interface from any location in the world to supplement their own Olympic coverage.

Content+ also allowed RHBs to access all Olympic content produced by the OBS, including live content as it was being produced. Thirty-one such organisations signed up for this full service and were able to browse through the low-resolution files in near real-time and retrieve any content in any of their global facilities. The access to live coverage allowed RHBs to mark part of the live content and download it for their own post-production needs, simultaneously with the Games still happening.

"It is a combination of services and technology that enables broadcasters to have very easy access from all over the world to all of this content […] and to be able to publish all that very fast, and very, very efficiently," explains Exarchos. "This partnership with Alibaba Cloud is transforming how we broadcast the Olympic Games to the widest possible audience. This is perhaps the biggest technological change in the broadcasting industry for more than half a century, since the introduction of satellite."

Satellite was introduced to Olympic broadcast coverage for the first time at Tokyo 1964, and while OBS Cloud was introduced for Tokyo 2020, Exarchos believes Beijing 2022 could see even greater adoption of the platform by RHBs.

"In terms of broadcasting, it is still relatively early days in the full change to cloud technology, and Tokyo 2020 marked a first step," he says. "The Beijing 2022 Winter Olympics may then become a facilitator for its wider use."

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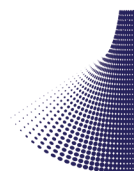
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LEADING THE DIVERSITY CHARGE

Jamila Daniel, SVP of human resources at Starz, and chief diversity officer for Lionsgate, is heading up a strategy to realise structural and sustainable change across the organisation. She tells IBC how company-wide initiatives are working and how the wider industry can benefit from diversity, equity and inclusion

BY MICHAEL BURNS

"We want to be an inspiration and a model for the rest of the industry, showing you can be successful, that you can have a path to inclusion and representation within the creative space, and still thrive as a business," says Jamila Daniel. "Diversity equals high performance, better creativity and innovation. It's not just the smart thing to do, it's also the right thing to do. And it does start with who's in the room and who's making the decisions."

As senior vice president of human resources for Starz, Daniel consults with business unit management to strategically plan and process the development of HR strategies that support the company goals for its employees. As chief diversity officer for Lionsgate, she is responsible for partnering with the company's leadership team to bring organisational changes in policy and culture for a more diverse and inclusive workplace.

Daniel takes a systematic approach to achieving this. "What systems are currently in place that create barriers to entry to access to opportunity?" she asks. "How do we break those down and put in new systems that lend themselves towards diversity, equity and inclusion?"

GETTING ON BOARD

At Lionsgate and Starz this equates to looking at recruitment, hiring, staff development, leadership opportunities, partnerships, procurement and how the organisation interacts with the community.

"We know that we have to break down old systems that maintain the status quo and create a new dynamic that will encourage and allow diversity to thrive and be sustainable," she says. "We have an inclusive hiring process at Lionsgate and Starz. We make sure that our job descriptions are gender-neutral. We have consistent questions that we ask all candidates so that we're comparing apples to apples. We have hiring manager training to make sure they know how to interview properly and are trained on cultural sensitivities."

Meanwhile, interview panels offer a cross-section of perspectives and opinions about a candidate.

"Starting last December, we did a pilot programme and rolled it out," Daniel explains. "In a short amount of time, we had great success in terms of finding diversity of candidates, presenting them and finding the best talent for our open positions."

The supply chain is also being considered, with the goal of doubling spend with diverse suppliers within a year. "So far we're on track," says Daniel. "We formed a supplier diversity committee within the organisation, consisting of procurement decision-makers in each of our divisions. We come together regularly, we highlight and help diverse suppliers get certified."

"We also partner with outside diverse organisations, to make sure that we are tapping into those pipelines from historically excluded groups," she continues. "We look at our philanthropy, where we spend our dollars, where we are spending our time."

That partnership also extends internationally. "We're just

Daniel: "We have to break down old systems that maintain the status quo"

beginning DEI (Diversity, Equity and Inclusion) work with the UK office we have as part of Lionsgate. October was Black History Month in the UK and so the office partnered with Black Business Week to sponsor their programming for the month."

"[Diversity starts] with who's in the room and who's making the decisions,"
Jamila Daniel, Starz

DIVERSITY IN CONTENT

"Our vision is for narratives by and for women and under-represented audiences," states Daniel. "We have recently partnered with the Alliance of Women Directors (AWD) to hire women directors to work on our shows. We know that representation in front of, and behind, the camera matters. We recently did a study with UCLA that showed we are at the forefront in terms of having that representation and inclusion."

Daniel says diversity is already represented across the Starz slate. "We could start with Blind Spotting, a female-centric show about family and all kinds of social issues: mental health, mass incarceration, poverty, the criminal justice system; it touches on all these serious subjects, but in such a creative way," she enthuses. "That's a prime example of a show you're able to get when you bring diversity into the room."

Another show is P-Valley. "This is about a strip club in the Deep South [of the US]," says Daniel. "The way that Katori Hall, the showrunner/creator, tells the story is just so moving, it gives us a slice of life that we would never see, but that we

can relate to in many ways. It's great storytelling and again, it shows the power of different lived experiences and how it can resonate with a global audience."

A big piece of the work that Daniel is doing is through education: training, webinars and seminars for the company, as well as educating the industry with transparency talks around DEI. "I think education is a big component of getting people's buy-in, understanding and willingness to do the work," she says.

Starz doesn't just teach diversity though. "As far as the executive leadership team reporting into [CEO] Jeff Hirsch goes, 75% are women, and of those 50% are women of colour," says Daniel. "We need that diversity at those decision-making levels and positions within the organisation, that is really how things get changed. When you have a homogenous leadership team, a lot of times that can lead to homogenous decisions and more of the same, so let's shake it up. Let's make sure that we're hearing and having perspectives in the room that can speak to different experiences."

"We had a very concrete goal with the supplier diversity programme and plan to scale that in years to come," adds Daniel. "The ultimate goal for us is for our workplace and our content to represent the world that we live in. That comes in so many different ways, whether it's gender, sexuality, race, religion, age, neurodiversity or ability. We want to make sure that we are representative of our employees of the global audiences that we serve."

**Watch the full interview –
Creating a more diverse workforce with
Starz's Jamila Daniel – on IBC Digital**

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LESSONS FROM THE FRONTLINE

Senior figures from studios, broadcast groups and networks, and technology suppliers came together recently to discuss early implementations of IP-based workflows, talk about their successes and learn from their mistakes

BY GEORGE JARRETT

The SMPTE-branded gathering titled IP Facilities – The Big Picture saw the Joint Task Force on Networked Media (JT-NM) field a who's who of the founding fathers behind the IT network for media. The most frequently uttered terms were '2110' and 'NMOS', and the sharpest observation was that IP is a giant wave that the industry has to ride to escape SDI.

The purpose behind this IP temperature take was explained by AMWA and VSF executive director Brad Gilmer, joint event chair with Andy Rayner, chief technologist of Nevion. "It is for people who are just getting acquainted with the move to IP infrastructures. We wanted an event where those people who have gone before have a public conversation about their IP experiences," said Gilmer.

Rayner added: "It is the biggest gathered collective of wisdom we have ever seen in the industry in one place. We acknowledge IP is not a full plug-and-play ecosystem yet, but we are a very long way along the journey to a very mature capability now."

Barbara Lange, executive director of SMPTE, added: "This is evolution, and these things are never finished. Even after five years there are a lot of people just getting into IP, and they don't know what they don't know."

Setting the scene for discussions, Félix Poulin, director of media architecture with CBC/Radio Canada, started with first publication in 2015 of the JT-NM reference architecture.

"It is quite amazing what we've learnt since. Once we have the big picture template, we can use it to express a number of use cases or contexts. The total modularity of these sets of technology explains why it is very flexible compared to SDI, and this flexibility is necessary to continuously adapt to our quickly evolving business," he said. "That's why in our new building we have chosen the network media approach with 2110 with NMOS."

The first multi-chat session was about what has gone well, what was not so smooth and what the future offers. It was jointly chaired by Rayner and Richard Friedel, president of VSF and executive VP of engineering, operations and technology with Fox TV Stations.

Gordon Castle, SVP of technology and operations at Discovery, struck a chord with all speakers when he said: "The bottom line is that the 2110 essence layer works great. The scale, of course, is the big enabler for us."

"The ability to utilise and dynamically create virtual combinations of things without physically building – different bandwidths, different frame rates, local and wide areas – has been really enabling for us to utilise the full power of the 2110 infrastructure," he added.

INVOLVING PRODUCTION
Other subjects aired in part one included the need to retrain or hire specialist staff, SDI still sits in the midst of much of the IP installations, and in transmission, and that while COTS switches need to be carefully configured for 2110, the problems tend to come from the end points.

Poulin said: "The technology is very strong, but it helped to involve support and production people early in the design and installation. They are the users and need to understand it and have a good feeling about it."

The concerns element started with the need to leave plenty of time for testing new set ups, and PTP issues. NMOS has matured, but it is interpretations by vendors that sit behind end nodes having different ways of interacting.

Roger Crothers, senior head of engineering and operations at BBC Wales, noted that broadcast vendors had not understood the importance of the toolsets, but that support for 2110 and interoperability had improved.

"The knowledge among systems integrators is better now because there have been more implementations. The biggest issue for us still to this day is a lack of skills in house," he said.

Jim Beahn, VP of engineering and operations with the Fox stations WTTG/WDCA, added: "We went to the last NAB Show and companies were showcasing their 2110 products; when it came to install them, maybe they were 2110 compliant, but they were not the products that we were expecting. A lot of that was the NMOS IS-04 and IS-05 part of the interface."

Plug-and-play was dismissed as a misnomer by Don Roberts of Sinclair Broadcast. Castle turned to what is to come. "As an industry we have got to make this work on a smaller scale. We've got NMOS and it's very flexible, but we have to really narrow it down. And there needs to be better ways to report failures; NMOS doesn't really have a way to report them," he said.

The whole aspect of having an IP system and managing it like an IP/IT system should be a goal. "The industry needs to think about this as an IT problem and not a media system problem," Castle added.

WORKFLOW DRIVEN
The session ended with training being the urgent want to do or see. Philip Tudor, principal engineer at BBC R&D, chaired a session called 'Ongoing Evolution: How standards and specifications work together'. He wanted his speakers to consider what users are looking for in IP systems, and iterating the specs to try and address that.

Karl Paulsen, CTO of Diversified Systems, opened with the observation: "The major difference in IP [over SDI] is that we have everything here at once. It is just a matter of whether the products can be built and delivered in functional form."

"This has changed to a flexible and dynamic perspective, and a lot of this has been driven by workflow, which was really the ideal of the founding fathers of the IP world," he added.

Bruce Devlin, SMPTE standards VP, was asked about specs that groups are trying to agree and test across the industry. "What we have to really try to do is figure out how we are going to use these systems, and we are going to need different sorts of standards, things like best practices. A lot of them will be metadata, and a lot will be about friction reduction," he said. "Users want to do radically different things with IP, including bidirectional

CBC/Radio Canada has opted for 2110 with NMOS at its new facility

feed, mixed resolutions and dynamic audio configuration. We need more input from the user community on where standardisation is needed and where proprietary technologies are useful. High-speed, high-quality media networks require knowledge of IP technologies, including transport signalling and security, and knowledge of media, synchronisation and quality.

"SMPTE will soon publish its PTP security report that covers issues and mitigations around core timing infrastructure. There is a big need for better awareness and training around IT security in general. In terms of new standards, SMPTE is looking at key operational elements like fast metadata exchange and PTP monitoring capabilities."

HIGH-BITRATE MEDIA TRAFFIC
A session on how the JT-NM partners can help was topped with what the EBU Live IP Software Toolkit V2 and LIST V2 offers. A collaboratively developed suite of software tools saw the biggest help among EBU members come from VRT and CBC/Radio Canada.

"It helps to inspect, measure and visualise the state of IP-based networks and the high-bitrate media traffic they carry. These are crucial functions in environments that deliver production capacities based on flexible and scalable IP-based infrastructures," said Ievgen Kostiukevych, EBU team leader for media over IP and cloud, and JT-NM Tested program co-ordinator.

He highlighted the new set of stream comparison measurements summed up as Media Transit, Differential Media Transit, Network Redundancy and Audio-to-Video Sync. "We have an extensive roadmap that includes planned support for ST-2110-22 with JPEG XS and contribution solutions like SRT and RIST," he said.

Kostiukevych also had news of JT-NM Test 2022. Set for the spring, this gives great hope for an in-person tested round compared to the virtual event of 2020.

He said: "We aim to make the JT-NM Tested programme as objective, accessible and repeatable as possible."

Gilmer added: "Tested events provide a critical service to the industry. It is quite challenging to hold a face-to-face event given the Covid environment, but this has risen to a level of importance such that we need to go ahead and plan for one. If we don't plan for a face-to-face event, it will never happen."

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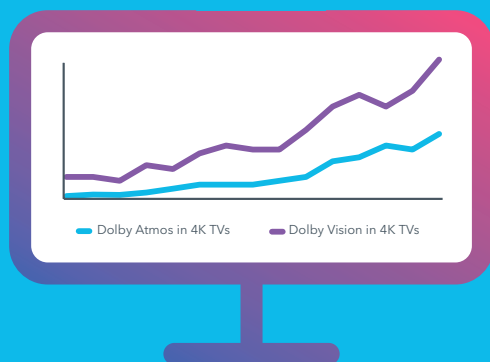
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↑400%
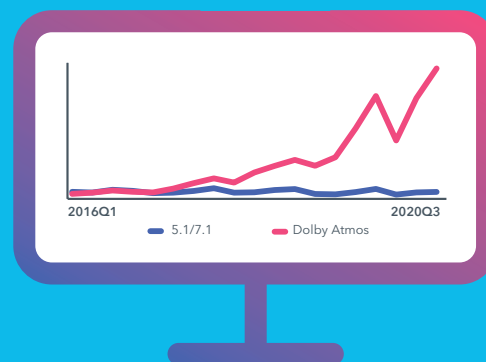
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IBC2021 ACCELERATOR: 5G LBXR

With the phenomenal growth of esports and the dramatic improvements in AR and VR technologies in recent years, an Accelerator looking at the role of 5G in location-based entertainment experiences in extended realities is a timely one.

The 5G LBXR Accelerator project has been designed to examine how 5G's low latency and provision of edge computing in particular can amplify important aspects of LBXR's (Location-Based eXtended Realities) immersive interactivity, technical feasibility, inclusion and accessibility.

Project lead is Xiangyu Lian, chief engineer of the Telenet Innovation Center, based in Brussels.

I wouldn't say we have everything we need for this use case, but for a technical trial we are on a good track," he says, arguing that 5G in Europe is rolling out more slowly than anticipated due to a range of issues including Covid and security concerns involving Chinese vendors.

This has led to an extended period of test and evaluation, which is perhaps no bad thing as there are important considerations still to be decided with several aspects of 5G deployment which the Accelerator in part will address.

"For example, from an operator's side we can either say we own the edge computing units, or we say we don't need to fully own them, we can share them but just need to create a local breakout. That way the traffic doesn't need to go the full loop, you have a breakout point that directs you to the nearest edge computing resource, and that can be shared with different operators, or be accessed via cloud infrastructure. There are quite a lot of options and the exact solutions that will be used depend on market, preferences, budget and more."

GAMES WITHOUT FRONTIERS

There are a range of different workflow scenarios that the LBXR Accelerator is exploring with relation to 5G.

It is looking at testing and validating 5G's connectivity towards XR equipment via different 5G devices, building a streaming solution from cloud infrastructure to XR equipment for different XR content, and providing access to 5G networks and cloud infrastructures from user case locations to multiple locations across Europe, as well as other potential locations around the world.

Xiangyu points to the games market as an ideal test bed for 5G use cases in general, due to its requirements for low latency, high bandwidth and serious computing power, as well as an audience that is willing to pay for premium access, assuring rapid ROI.

Hado represents precisely the sort of new use case that has been brought about by technological confluence and that will find itself accelerated by 5G. Billed as the world's first physical esport and growing rapidly worldwide, its players compete on a physical court while using head-mounted displays and armband sensors to both see and wield energy balls and shields. Currently it operates in a closed arena on a 5Ghz network, but the Accelerator is looking at implementing a remote play proof of concept (POC).

Remote play experiments where the two teams compete in different arenas have been tried before, but while all the AR elements from the other team can be seen, the players can't.

"What we are doing through the Accelerator is solving

Hado is billed as the world's first physical esport

"We will have two teams in two different locations, and the players and spectators will be able to see a single court created from the data with avatars representing the players,"
Jim Sephton, Hado

that," says Jim Sephton, ex-UK team captain and in charge of augmented reality sports development with Hado UK.

"We're working with Noitom to scan the players in real time and we will be merging that data with the Hado gameplay data for the output to viewers. So, we will have two teams in two different locations, and the players and spectators will be able to see a single court created from the data with avatars representing the players."

There are technical hurdles to this. While neither Hado nor Noitom create large datasets, perfect synchronisation with no data dropout is vital before the two streams are brought together for real-time rendering. 5G's low latency is therefore a key enabler, while edge computing is also going to be vital for the rendering part of the process.

5G LBXR
Champions: Telenet/Liberty Global, Park Playground, Hado, Digital Domain, Twickenham Studios, Vodafone, ESL
Participants: Noitom, Quark.XR

WORKFLOW CHOICES

Integration is also an issue, as the pipelines for providing the real-time avatars to the players' and the spectators' devices are different. "There is no universal language yet for all the different parts of the workflow to speak to each other," explains Roch Nakajima, president of Noitom International. "But because you're eventually typically

trying to render something in Unreal or Unity, ultimately you have to speak one of those languages. The issue we currently have with the POC is that Hado is Unity-based and Weavr is Unreal-based."

Weavr is the technology platform put together by a consortium including leading esports company ESL, that is being used for the spectator views. "We need to be able to feed data to both platforms so that the Hado players can see each other, but all this needs to be co-ordinated," says Nakajima. "There is more data, different languages that are being spoken, plug-ins that need to connect things and more."

Nevertheless, understanding the workflows necessary for scaling to large audiences via B2B and B2C consumer models is an important part of the POC. As Sephton points out, the potential for innovative interactive and immersive viewing is immense; viewers will not only be able to scrub backwards and forwards in the action, but they will also be able to rotate the view around 360 degrees, zoom themselves in for a POV perspective of individual plays and more.

Porting that technology to other sports is an obvious long-term ambition, but not an easy one. It works in this use case because Hado already provides the full telemetry data. Providing that for a conventional sport, even for one with a comparatively constrained playing surface such as tennis, would be decidedly non-trivial, particularly as scanning the ball's movements in real time would be extremely challenging. An issue for a future Accelerator perhaps.

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IBC2021 ACCELERATOR:
RT-3D INTERACTIVE CONTENT CREATION FOR MULTI-PLATFORM DISTRIBUTION

One of the more interesting consequences of the dramatic increases in computing power over recent years, specifically the increase in power of graphics processing units (GPUs), has been the arrival of photorealistic, real-time CG.

The industry has followed a stratospheric curve as a result, one that has its roots in clunky rendering times for even primitive polygons and ends – currently – with real-time raytracing and being able to generate utterly convincing scenes, animations and virtual sets on the fly.

But, while the 3D output can now be generated in real-time, the tools that we use to create these animations are lagging and are still defined by mouse-based, 2D production pipelines. That is partly why the co-Champions from one of 2020's most popular Accelerator projects, CG Animation Production: New Immersive & Real-Time Workflows, return this year with a new challenge looking at creating transmedia content using cutting-edge XR tools and technology with genuine, real-time workflows.

The POC will aim to bring RT-3D – Real-Time 3D – to life using a combination of immersive XR software and traditional production tools, with a focus on animation or photo-realistic live action output. And it has scored a bit of a coup as content feeds using the major competing real-time game engines on the market, Unity and Unreal, both working together again in this Accelerator, will look to show how output can be optimised with time and budget efficiencies that scale over 'traditional' methods by using an XR-based pipeline.

"I'm pretty sure we're the only public project on the planet that has those two folks in the same room together," comments project lead, Matthew McCartney, head of immersive technology at Sky.

COPING WITH DEMAND
"A couple of years ago the only way you could create a 3D asset was sitting down on a laptop with your mouse and you draw it, then you have to manipulate it – it's quite fiddly," says McCartney.

"Using software like Masterpiece Studio or Tvori, who are both onboard as Participant partners, you put on your VR rig and you're suddenly sculpting – this ability to create a 3D asset in 3D for 3D output is very new."

One of the main tasks of the Accelerator is precisely assessing the viability of that pipeline. The effort is split across four creative teams with the plan being that each will create two pieces of content for IBC; a production diary and the content itself.

These will showcase the variety that can be achieved with this new breed of XR production tool as well as reveal potential synergies between the different workflows (which McCartney points out tend to be a common pipeline until they hit a games engine and start being purposed for a specific use).

RT-3D workflows bring a range of potential benefits to

"Using VR, you are able to move the camera with your head. That actually lowers the barrier for a lot of people to get into working in digital art,"
Dylan Sisson, Pixar Animation Studios

users. Speed and efficiency are two of the most obvious, while they also allow artists to literally be able to walk around their creations and identify any problems more easily in the process. They are also far more naturalistic to use. This means that the barriers to entry for new users are minimised as the learning curve for digital content creation (DCC) tools remains high.

"There's a million of those little, tiny barriers that you have to learn to get even a simple thing created in a DCC tool," says Pixar Animation Studios' Dylan Sisson.

"Using VR, you are able to move the camera with your head. That actually lowers the barrier for a lot of people to get into working in digital art; an illustrator can now be part of a digital pipeline when they couldn't before."

This is evolving all the time. New for this year is a test workflow that integrates motion capture into the workflow via Noitom, another new Participant for 2021. This technology allows artists to quickly tie motion into their models for animation purposes; they move their arm, their CG model does the same, and so on.

EMPIRICAL EVIDENCE
One of the key tasks for the Accelerator is assessing the advantages this confers and putting actual numbers to the benefits an XR workflow can bring.

Grace Dinan is a Viz Artist at Irish broadcaster RTÉ and explains how she is teaming up with participants Pink Kong Studios, as well as fellow Champions Trinity College Dublin to do a formal user study which will compare the costs, time and resources used in XR workflows with traditional DCC-driven ones.

> **RT-3D Interactive Content Creation for Multi-platform Distribution**
> **Champions:** Sky (Project Lead), Pixar, Cartoon Network/Warner Media, Unity Technologies, Unreal/Epic Games, RTE, Trinity College Dublin, Fox Sports, Facebook Reality Labs
> **Participants:** Anchorpoint, Noitom, Pink Kong Studios, Trick3D, Masterpiece Studios

"We're going to do some studies with novices new to animation," she explains. "We will give them a simple task, such as creating a snake moving across the floor, add textures, lights and render it, and measure how easy that is to learn and do. I think that's where we're going to get some really interesting results with their XR tools. We're also going to do a user study with experienced professional animators; assigning them a task such as facial or hand animation and seeing how well they perform it in both methods."

Alongside this collation of empirical evidence, the Accelerator is also going to look at the concept of fidelity. The new breed of XR tools are more capable than ever – and extending their functionality with every point release – but as yet they are not accomplished enough to deliver the very highest quality of CG on their own.

McCartney reckons they are between 5% and 10% shy of being the complete article.

"Hair, for example, it's very difficult to get hair into strands using XR tools," he says," so were still going to need integration into more traditional tools to get things over the line. The Accelerator will provide valuable feedback to developers, either indicating where they need to focus their efforts and/or improve those integrations."

> **For more information on the IBC Accelerator Media Innovation Programme, supported by Nvidia, visit show.ibc.org/exhibition/ibc-accelerator-media-innovation-programme**

Next Generation Broadcasting Serv
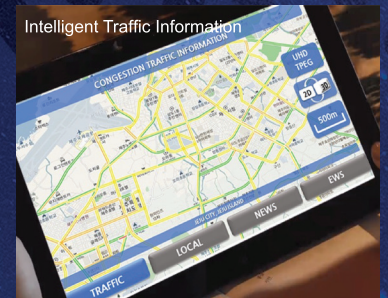
Datacasting Services

Distance Learning over Digital Terrestrial Broadcasting

HomeCaster terminates both ATSC 1.0 and 3.0 signals and pumps ATSC services to IP network via Ethernet and Wi-Fi. It supports ROUTE & MMT transmux to HLS, MPEG-DASH and MMTP. It can also work as small CDN (Content Delivery Network) inside home. For distance learning, HomeCaster caches learning materials from any learning management systems and delivers the materials to pupil's laptops.
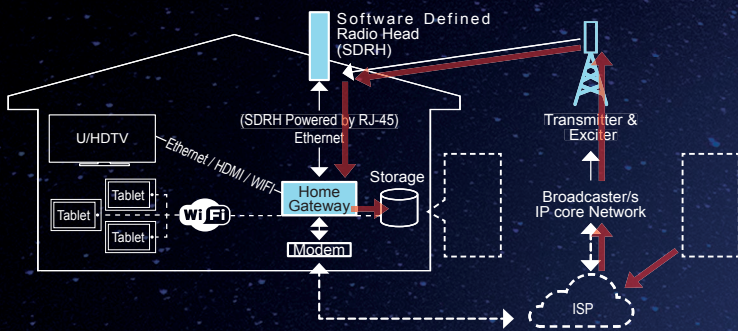

NextGen TV Convergence Data Service

Intelligent mobile data service through terrestrial broadcasting includes traffic congestion, car-accident, construction information as well as news, weather, region and tourism for vehicles in operation. In connection with the disaster safety portal, interactive emergency warning and safety information service can be provided through various devices.

Media contents with Integrated Information

Intelligent Traffic Information

KBS   KaiMedia   AIRCODE media developers' group   AGOS Advanced Technologies   LowaSIS

Cloud-based Services

Cloud-based ATSC3.0 System

Telcom industry-proven distributed cloud-based ATSC3.0 system enables Broadcasters to quickly build a 4K HDR OTA broadcasting system by integrating the existing air-chain solution, composed of physical broadcasting equipment, into a general-purpose server-based virtualized ATSC3.0 Head-End solution with centralized operations management.
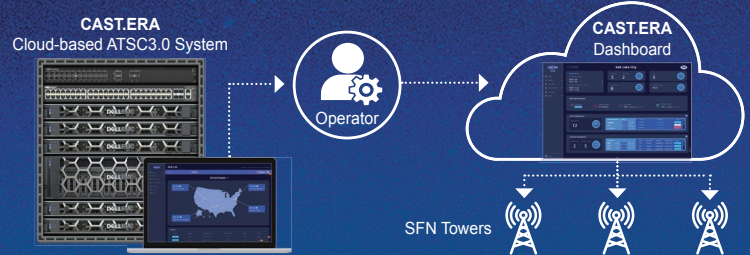
AI-Upscaler

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CAST.ERA Cloud-based ATSC3.0 System — Operator — CAST.ERA Dashboard — SFN Towers

Broadcasting Station CAST.ERA Cloud-based ATSC3.0 System	Input		ATSC 3.0	Output	
AI-Upscaler GPU	Resolution	720P	ATSC 3.0 Stream	Resolution	4K/1080P
	Frame-rate	30fps		Frame-rate	60/120/240fps
+ SAPEON X220 Chip	Color Gamut	SDR		Color Gamut	HDR
	Format	ATSC1.0		Format	ATSC3.0

Broadcasting Station	ATSC 3.0	Inside the Vehicle
Live TV in Vehicle	ATSC 3.0 Stream	
In Vehicle STB	HP/HT*	
Targeted Ad Insertion		
Terrestrial VoD		

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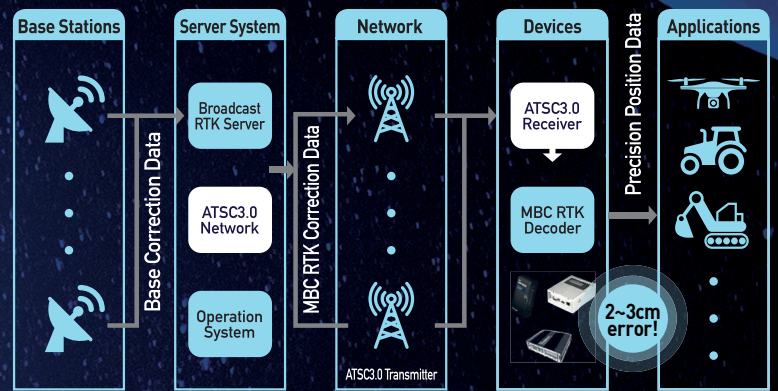
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Broadcast RTK Server

ATSC3.0 Network

Operation System

MBC RTK Correction Data

ATSC3.0 Transmitter

ATSC3.0 Receiver

MBC RTK Decoder

Precision Position Data

2~3cm error!

Contact : victorlee@mbc.co.kr, http://rtk.mbc.co.kr/en

Emergency Alert Broadcast Services

Advanced Emergency Alert Broadcast Services

The Advanced emergency alert broadcasting service by the nextgen TV broadcasting network uses IBB technology to run the broadband convergence application on smart devices as well as connected TV through the communication network in case of a disaster. In addition, disaster messages through terrestrial data are received and applied not only to next-generation broadcast TV terminals, but also to public media such as electronic billboards and bus information systems across the country.

ATSC 3.0-based emergency alert broadcasting system is a system that delivers emergency information to receiving terminals such as UHDTV and mobile and dedicated receiving terminals through various rich media services such as text, image, and video based on a broadcasting app. Advanced Emergency Alert (AEA) signaling, defined in ATSC 3.0, can provide powerful and efficient emergency alert broadcasting in the event of a disaster.
In Korea, the ATSC 3.0-based emergency alert service development and demonstration test on Jeju Island have been completed, and the service is being provided through various types of proliferation projects.

IBB AEA

Smart Media AEA
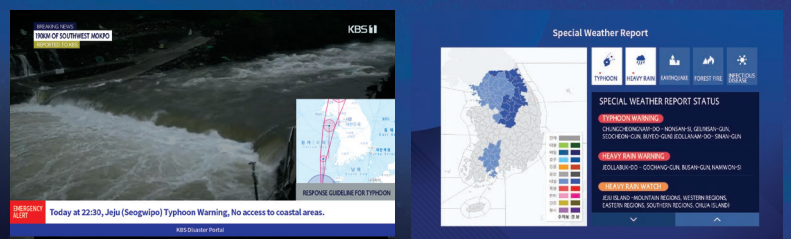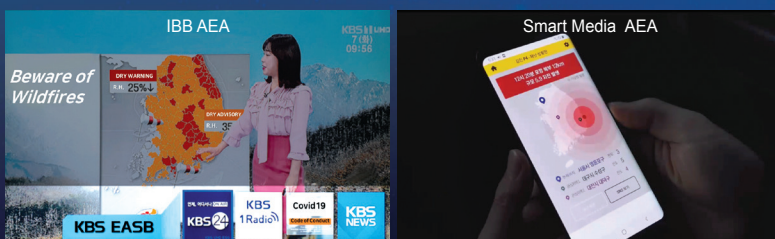
KBS   ETRI   AIRCODE media developers' group   KIT Valley Korea Information Technology   LowaSIS

Ministry of Science and ICT   RAPA Korea Radio Promotion Association

IBC2021 ACCELERATOR:
SMART REMOTE PRODUCTION FOR REAL-TIME ANIMATION

Accelerating the animation pipeline without increasing the amount of kit required is the principal aim of the Smart Remote Production For Real-Time Animation Accelerator project, which is bringing together leading broadcasters and vendors to leverage the latest technological developments of markerless motion capture and speech-driven facial animation to drive CG performances in the Unreal real-time render engine.

"We don't usually work directly with vendors, so this is very interesting to us," says RAI's Roberto Iacoviello. Indeed, Italy's RAI is just one of a strong broadcast contingent of Accelerator Champions that also includes RTÉ, VRT, YLE and the EBU, working alongside the Entertainment Technology Center at USC, Digital Domain, and Unreal Engine developer Epic Games.

With participants including RADiCAL and Respeecher, with guidance from IBC Accelerator supporter Nvidia, this Accelerator represents a powerful conglomeration of talent and expertise that is looking to create the most effective, low-cost pipeline that they can to take material from script to 3D character in a real-time, distributed workflow environment.

LOW COST AND ACCESSIBLE
One of the key elements to this Accelerator is the phrase 'low-cost'. As well as testing the feasibility of using vocal performance and body posture to drive 3D avatars from remotely connected locations, its stated aim is to do all this while using minimal equipment. Even more so, according to one of the project leads, RTÉ's Ultan Courtney, the wish is to utilise technology that exists less in production facilities and more in the pockets of the people that work there and their audiences.

"As opposed to having studios doing volumetric capture and other high-end techniques, we want to look at a workflow that engages millions of people," he says. "Most households have a smartphone, for example, so we're working on that basis and what is the most accessible, highest tech we can work with to tell stories and communicate."

This changes the technological emphasis of performance capture markedly. As opposed to a high technology solution involving wearing marker-based motion capture suits in a precisely delineated and monitored capture volume, the tech emphasis is shifted to the AI processing of a standard video signal. The AI tracks the performance and converts that into an avatar, mapping limb and facial movements onto a virtual character.

"This is the difference between now and a few years ago; there is a lot of AI technology that can help us at a low budget," explains Iacoviello. "There are three aspects where AI has made a lot of progress: marker-less capture, emotional response and speech animation."

VOICE CLONING
Speech is one of the areas where this Accelerator is using interesting new tools. Respeecher is software that

Respeecher software has already been used on The Mandalorian to create the voice of a young Luke Skywalker

"I was really happy to see so many broadcasters involved in this project. What I really hope already is that we keep going on this project even after IBC is over. We are learning so many things,"
Paola Sunna, EBU

Smart Remote Production For Real-Time Animation
Champions: RTÉ, EBU, RAI, VRT, YLE, ETC/USC, Digital Domain, Unreal/Epic Games
Participants: Respeecher, RADiCAL

effectively clones voices using Deep Learning techniques and has already been used on The Mandalorian to create the voice of a young Luke Skywalker and by the NFL to recreate the voice of deceased football coach Vince Lombardi at this year's Super Bowl.

"In this project the idea is to make one source speaker be able to speak in several different voices for the POC piece," says company co-founder Alex Serdiuk. "To date we've offered a white glove service where we need to be involved, but this uses our new self-serve Voice Marketplace. There are many challenges for us with this as we lose a lot of control over the recording conditions and performance levels of the actors involved, but it is important to be able to democratise these tools so that they can be used in the sort of environments that ideally would require just an iPhone."

Of course, one of the challenges any Accelerator team faces is that while the tools may be available to make the POC a success, getting them to work together in a designated workflow is not always easy. Sometimes they are lucky and the work has already been done. For instance, once motion has been captured using RADiCAL and uploaded to the cloud, RADiCAL provides an animated FBX file which can be used in both Omniverse and Unreal to retarget the animation to CG characters.

In this case, as an illustration, the wrnch CaptureStream iOS-based AI capture software can already export into Nvidia's Omniverse real-time simulation and collaboration platform via the wrnch AI Pose Estimator.

However, other areas of the workflow still need work. Despite Omniverse's success at becoming a universal solvent for 3D tools, there are always challenges. For example, can the team's Pose Estimation workflow be easily connected to the speech-to-ßfacial animation workflow that the team is working on? And can the resulting characters then be imported from Omniverse and integrated into Unreal environments?

"We are pushing things forward but not everything is designed to be opened up to other uses. There are a few steps forward and back, and that's where the Accelerator helps; having a target forces us to crash through all these problems," says Courtney.
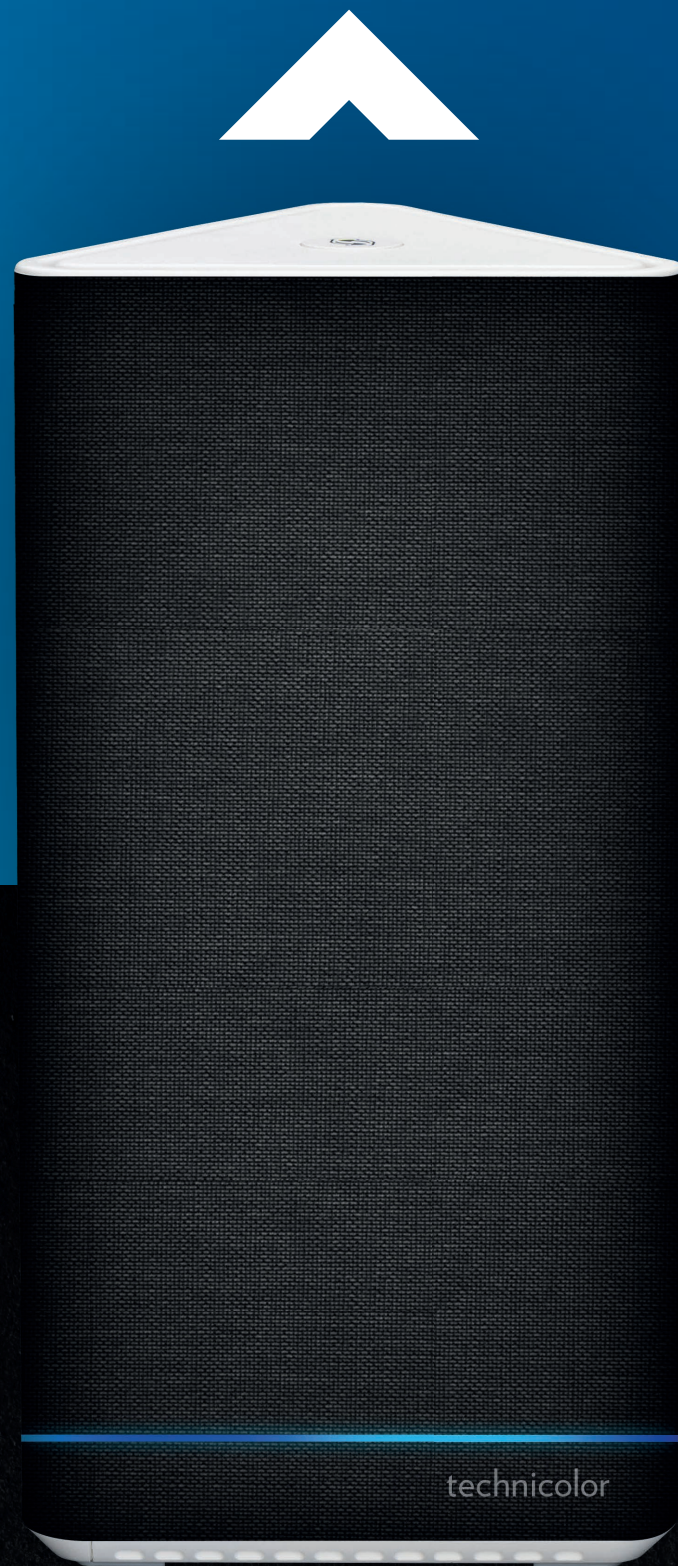
MULTIPLE USE CASES
As the RAI team, which also includes Alberto Ciprian and Davide Zappia, points out, the TV market is not the only one that will be interested in the concept of realistic real-time character animation. Virtual influencers, for example, become a distinct possibility, while its use in high-end pre-production or even to drive real-time performances in mixed reality LED capture volumes is fairly compelling. "When you go into the digital world the use cases are limited only by your imagination," says Zappia.

Paola Sunna, senior project manager at EBU Technology & Innovation, says: "I was really happy to see so many broadcasters involved in this project. What I really hope already is that we keep going on this project even after IBC is over. We are learning so many things."

For more information on the IBC Accelerator Media Innovation Programme, supported by Nvidia, visit show.ibc.org/exhibition/ibc-accelerator-media-innovation-programme

IBC2021 ACCELERATOR:
IMMERSIVE AUDIO AND SOUND IMAGERY

It is very tempting to think of immersive audio as a done deal within the industry. Great strides have been made in audio reproduction in recent years, with consumer deployments of 5.1 and Dolby Atmos becoming increasingly mass market and no longer simply the preserve of the AV enthusiast.

However, as this fascinating Accelerator focusing on Immersive Audio and Sound Imagery proves, there is a lot that can still be achieved. New object-oriented audio technologies not only raise the bar for high-end audio reproduction, but also hold out the potential to vastly improve a range of areas of more pragmatic interest to broadcasters.
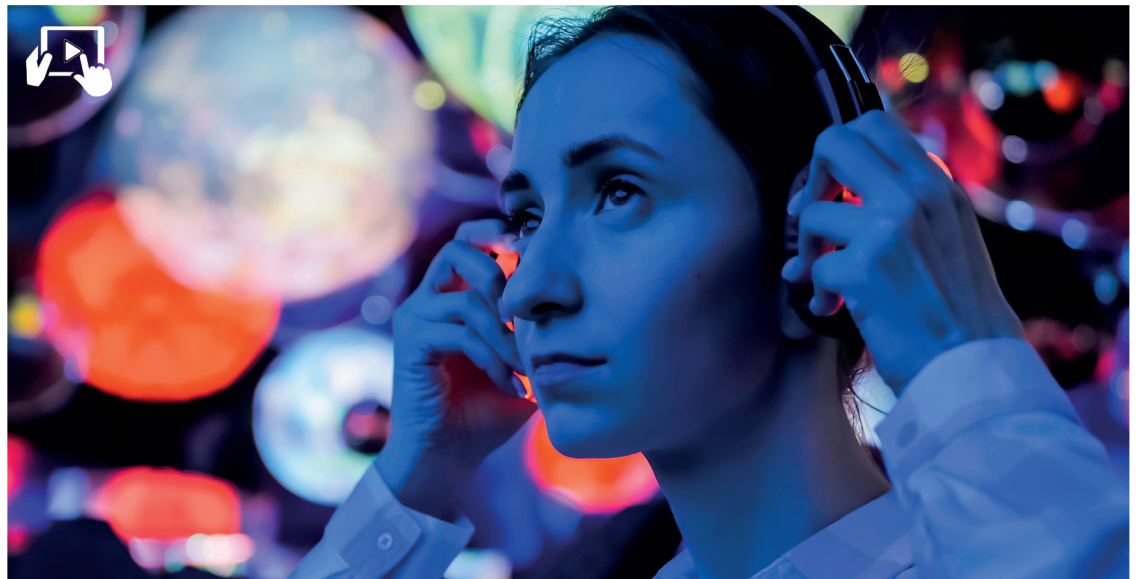
"We see the delivery of object audio not in order to fly it around the living room, but so viewers can make their own mixes and be able to choose from a list of languages," comments Karl Petermichl, technische direktion at Austrian broadcaster ORF, one of the co-Champions on the project.

The project has a broad range of Champions from industry and academia working together to produce three binaural POCs that will showcase some of the new possibilities engendered by immersive audio from live music performance through 360-video and on to spoken word dramatisations.

Initially pitched at the IBC Accelerators Kickstart event by independent media consultant and project lead Benjamin Schwartz, his DIY soundscape experiment 'Being There' helped inspire the wider scope of this challenge. "I was stranded at my mother's house in March 2020 and deeply disappointed to miss a concert due to lockdown," he explains. "I was looking for a solution to address millions stranded like me in a house with just a regular HD TV and stereo sound. I wanted a solution that would make a difference for everyone. Knowing that the sound mix in music videos is permanently fixed during a performance, even if there are varied camera angles, I started working on the 'Being There' project: breaking that un-said rule of a static audio mix."

To further explore where cutting-edge audio innovation can be applied to this basic concept, one area of the POC will focus on a fully immersive music experience, showcasing six degrees of freedom, room spatialisation and 360VR elements. The idea is that dynamic soundscapes will accompany the camera and, thanks to input from project Participants Omnilive (video) and MagicBeans (audio), the viewer will be able to select the camera angle and even move around within the 360-degree space. As they do this the audio perspective will match their movement, thanks in part to the pre-release 6DOF volumetric audio feature of MagicBeans' forthcoming RoundHead software.

The key software brought into the Accelerator with the express aim of achieving the spatial mix is Braud.io, a spin-out from co-Champion King's College London, which has developed a subset of technologies that it hopes will be able to underpin the next generation of audio. In addition to its application within the music R&D of this

"We see the delivery of object audio not in order to fly it around the living room, but so viewers can make their own mixes and be able to choose from a list of languages,"
Karl Petermichl, ORF

Immersive Audio and Sound Imagery
Champions: CTOI, ORF, BBC, Audible, Twickenham Film Studios, King's College London, The Audio Engineering Society (AES), University of Surrey, University of Lethbridge, MuseumTV
Participants: Omnilive, Magic Beans

Accelerator, it will also be implemented into the POC's spoken word use case. This will focus on a multi-narrative audio play, specially commissioned by fellow Champion Audible and recorded at Twickenham Film Studios, another co-Champion of this challenge. Braudi.io's co-founder is Zoran Cvetkovic, professor of signal processing at King's, and he lists two main challenges in the field of broadcast immersive audio.

The first, how to provide a stable auditory perspective for a listener moving around the listening environment, is beyond the scope of this Accelerator; hence the decision to present the POCs binaurally. The second is being very much tackled though and relates to techniques for capturing the room acoustics.

"When you observe an acoustic event in enclosed spaces, what you hear is the initial wave and then the first order reflections and second order reflections and so on of the walls and objects," explains Cvetkovic. "It is via the processing of the relationships between these different reflections that the human auditory system creates a perception of where the objects in the space are. The more of these reflections we render the better it is, but that is numerically prohibitive to be done with proper accuracy in real time and is made more difficult

by moving objects. However, we have developed technology that allows for synthesising most of it in real time using modest computational resources."

BROADCAST USE CASES
The team behind Braud.io originally developed the technology with classical music in mind before realising its potential in immersive environments. And it's the prospect of taking that potential, and object-oriented audio in general, and applying it to the broadcast environment that has ORF's Petermichl excited.

"The way it automatically adapts to the actual listening environment is very important for us," he says. "In the era of smartphones and big TVs, you never know where your programme is listened to, on the underground with earphones in, or on a 100in smart TV in a big living room in a cinema-like experience. Synthesising and adapting a given configuration to the actual point of listening is a really important task for us."

The project will also hopefully address four key issues for broadcasters. The perennial problem of variation in loudness and viewers not being able to hear the centre channel; improving language versatility; providing interactivity for narrative purposes; and being able to deliver stems to provide a more immersive mix.

"We see our work as a stepping-stone to immersive technologies, which might require specific equipment at the customer end," he concludes. "We don't know if our current iteration of technology will just play a proof-of-concept role to advance the immersive agenda or be used for several years, maybe even commercially. That wasn't our initial purpose. We just want to rediscover that wonderful sense of Being There when the audience understands the artistic intent of a live performer."

For more information on the IBC Accelerator Media Innovation Programme, supported by Nvidia, visit show.ibc.org/exhibition/ibc-accelerator-media-innovation-programme

INFINITY SHRINKS TO EXPAND KVM POTENTIAL

CREATE & PRODUCE

Adder Technology

BY DAVID FOX

The new AdderLink Infinity 2102 (ALIF2102) offers a host of new features, including a smaller form factor transmitter and DisplayPort connections. It is available as a transmitter and receiver, and the new form factor transmitter helps maximise limited rack space.

John Halksworth, senior product manager, Adder, said: "The ALIF2000 series has been a trusted and proven IP KVM [Keyboard Video Mouse] solution for our customers for many years. It's at the heart of thousands of KVM systems around the world. Our customers expect connectivity choice and migration options that reflect the ever-changing landscape of their networks and workflows, and the ALIF2102 solution does just that. Not only that but the new ALIF2102 is compatible with the existing ALIF2000 series products, which means customers can migrate at their own pace."

The latest updates to the ALIF2000 series provide increased control, flexibility and choice for customers when it comes to connectivity, with the current DVI version being joined by DisplayPort connections. Support for video resolutions up to 2560x1600 allows users to visualise their data

The new AdderLink Infinity 2102 transmitter and receiver

with pixel-accurate image quality, while multiple audio configurations provide greater implementation options.

The redesigned ALIF2102 transmitter significantly reduces rack-space use. The new, compact form factor means that three ALIF2102 transmitters fit into 1U of rack space. It also saves energy, using up to 50% less power than its predecessor.

A+E NETWORKS HEADS TO THE CLOUDS FOR VOD DELIVERY

PUBLISH

Arqiva

BY DAVID FOX

Arqiva has won a two-year contract with A+E Networks EMEA to deliver VoD services to around 35 European head end affiliate platforms via the cloud.

The contract extension will see Arqiva implement a completely cloud-based setup that will allow A+E Networks to bring audiences an expanded library of on-demand content until at least 2023. Over the past three years Arqiva has delivered a hybrid version, but as it has continually enhanced its cloud capabilities, it will now work with A+E Networks to shift all existing archived content to an entirely virtual environment.

Arqiva's offering is tailored by the creation of custom workflows suitable for A+E's destination platform specific requirements. This features an end-to-end cloud-contained journey that takes content from the archive, then processes, packages and delivers it to platforms such as Amazon Prime, Apple TV+, Sky Italia, MediaSet and M7 Group for on-demand viewing. Processing VoD requests in the cloud drives significant cost-savings, and also enables

Westrup: A+E now has "an efficient, reliable and scalable VoD solution from Arqiva"

Arqiva to process and deliver more assets, at the same time and at a far quicker pace.

To simplify the process for A+E and bring consistency, Arqiva has also worked to drive standardisation procedures, by developing a house format that can be produced once and then distributed across multiple affiliate platforms.

Chris Alner, commercial director – commercial broadcast & radio, Arqiva, said: "This deal represents an important milestone for Arqiva, as A+E Networks will become one of our first customers to leverage an entirely cloud-based solution. We've gained extensive expertise around

cloud infrastructure since beginning our journey with A+E Networks three years ago, and we're pleased that we've been chosen against strong competition to continue delivering on its goal to achieve an entirely cloud-based platform."

Matt Westrup, SVP technology & operations, A+E Networks EMEA, added: "Our VoD fulfilment has grown with breathtaking speed and it has been a competitive advantage to be able to meet these complex demands with an efficient, reliable and scalable VoD solution from Arqiva. Their teams treat our customers and content as if it were their own."

EMERALD SHINES FOR VIRTUAL MACHINE CONNECTIONS

MANAGE

Black Box

BY DAVID FOX

The latest addition to the Black Box Emerald family, Emerald GE is claimed to be the industry's first system that enables multiple users to connect simultaneously and control a virtual machine (VM) just as they would a physical system.

Emerald GE has incorporated PC-over-IP (PCoIP) and PCoIP Ultra technology to support VM sharing and to ensure a secure, high-definition and responsive computing experience. As it allows collaboration across physical and virtual machines, it should allow broadcasters to work together more efficiently in remote production scenarios.

The new Emerald ZeroU DisplayPort transmitter is just a little bigger than a smartphone and works with any Emerald receiver to give users a seamless desktop experience anywhere on a TCP/IP network.

Supporting visually lossless, HD DisplayPort video up to 1920x1200 and requiring less than 40Mbps of bandwidth for 1080p video, the transmitter brings high-performance connectivity to a wide variety of applications, including broadcast and post production.

Emerald Vue is a new KVM switch that addresses broadcasters' need for advanced 4K image processing and robust system switching with instant responsiveness. It enables the operation of multiple DisplayPort computers from a single console while facilitating simultaneous monitoring of four video sources spread across two screens.

The multiview KVM switch delivers up to 4K60 image quality and allows users to arrange windows freely on the screen or in preconfigured screen layouts, such as full screen, quad view or picture-in-picture. Real-time switching between sources via keyboard, API or GPIO gives users convenient control over the production process.

Q&A

Workflows are becoming more global and complex, while security concerns are forcing media organisations to re-assess older tools

What are the biggest challenges facing the media and entertainment industry?

The demand for more content on more platforms across more borders is adding complexity to the media supply chain. Companies are tasked with delivering more, on tighter timelines, and often with limited resources. It's time for new thinking when it comes to technology investments.

How is your company helping its customers to address the challenges faced by the media and entertainment industry?

Media and entertainment organisations of all sizes rely on Signiant's intelligent file transfer software to move petabytes of high-value content every day. Signiant software drives efficiencies for modern media companies, making it easy, fast and secure to access media assets on any storage, anywhere.

Jon Finegold
Chief marketing officer, Signiant

In the past 18 months, Signiant has seen explosive growth. For example, the move to remote work helped drive Media Shuttle adoption to over 1 million global end-users. The explosion of cloud workflows has also been a big growth driver as Signiant software now moves petabytes of content to and from AWS, GCP and Azure each month. Meanwhile, the introduction of Signiant Jet in 2019 has also contributed to growth as businesses look for lighter-weight yet powerful alternatives to automate operations.

What do you think are the main drivers in your market sector?

At the simplest level, files continue to get bigger, workflows are becoming more global and more complex, and security concerns are forcing companies to re-evaluate older tools. Distributed teams are the norm, cloud is now a mainstream part of operations, and the streaming services driving more globalisation are all big drivers of Signiant growth.

What sets your company apart as a technology leader?

Even as we innovate in areas that extend beyond fast file transfer, we continue to invest in our core acceleration technology. We were recently awarded yet another patent for our intelligent transport architecture, which uses machine learning to adapt to network conditions in real-time and is capable of multiple Gbps transfer speeds. Our investment in innovation, our leadership in cloud and SaaS, a commitment to storage independence, and our focus on the media and entertainment industry all set us apart as the market leader. We've also made multiple acquisitions this year that will accelerate our innovation capabilities and our path to delivering more advanced capabilities beyond file transfer, so the stage is set for a very exciting 2022.
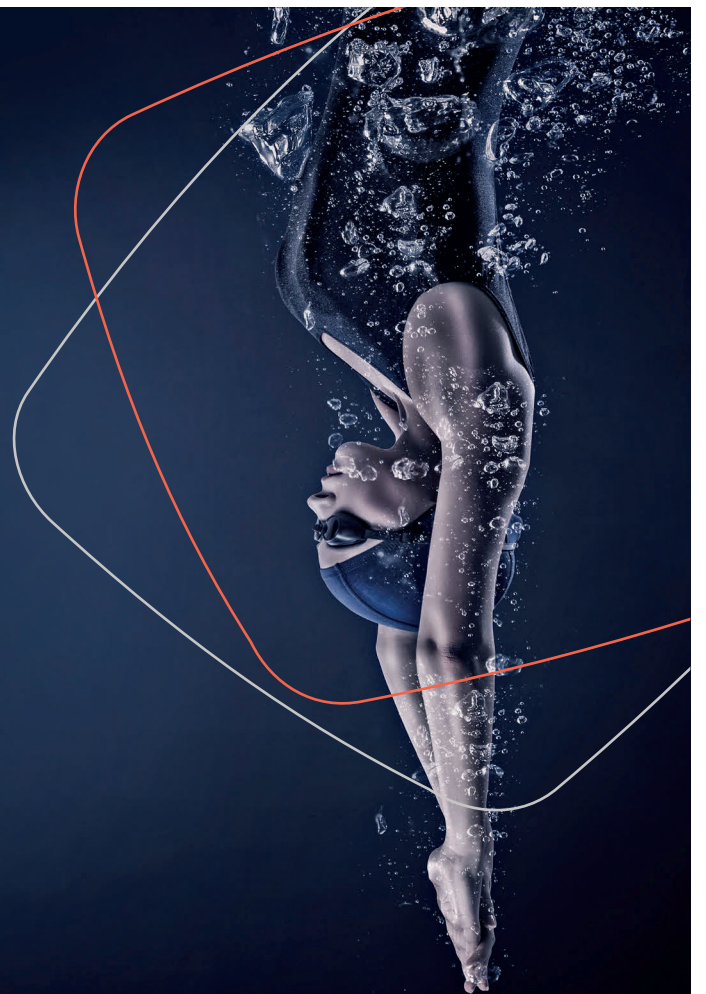
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BASELINK 5G PORTABLE LIVE STREAMING ENCODER LAUNCHED

CREATE & PRODUCE

Vislink

BY MICHAEL BURNS

Vislink has released the Mobile Viewpoint BaseLink 5G, a bonded cellular and 5G mobile encoder for remote production and live streaming applications.

The latest addition to the BaseLink range supports up to six 5G modems to maximise available bandwidth and offer high-quality, low-latency video streaming. It features two Ethernet ports to expand in-venue connectivity options,

BaseLink 5G supports up to six 5G modems to maximise available bandwidth

access to wide-band internet for production crews, and direct connection to cloud-based content storage. It also offers increased local storage within the unit, allowing store-and-forward of high-resolution video content.

The unit comes in ruggedised aluminium housing to withstand challenging operating conditions.

BaseLink 5G also supports the latest video GPUs that will power the next generation of encoders capable of delivering sub-second

delay and virtual zero latency applications.

The combination of adaptive video encoding technology, along with bonding of multiple mobile networks, guarantees that video can be live streamed,

whether over fixed, WiFi, 3G, 4G or 5G connections.

Mickey Miller, CEO of Vislink, said: "BaseLink 5G is ideal for broadcasters and content creators everywhere who want a professional live streaming solution that can be set up and deployed easily and at relatively low cost. These users have an ever-increasing need to generate high-quality live video to stay competitive, but don't always have the means to produce and stream their own unique content. The BaseLink 5G product allows any content owner to become their own online streaming platform, as well as distributing to YouTube and other platforms."

TEMPEST OFFERS SCALABLE AUDIO PROCESSING

CREATE & PRODUCE

Solid State Logic

BY DAVID FOX

New from SSL is its System T TE1 and TE2 Tempest Engines alongside its latest System T V3.1 software. This introduces pay-as-you-go licensing, while delivering enhanced third-party device control on top of advanced AoIP routing technology.

The new software enables operators using the TE1 and TE2 scalable DSP engines

to flexibly scale processing capabilities according to their specific broadcast production requirements. Software licences for five different processing packs, defined by the total number of mono All-Paths equivalent channels supported (from 85 to 800), are available to users as perpetual or short-term, time-based rental upgrades.

TE1 supports Processing Pack 1 (140 paths) or 2 (256 paths) while TE2 supports all five packs, from 140 to 800 paths at 48kHz, or 85 to 500 paths at 96kHz. TE1 is equivalent to the original T25 engine for System T,

SSL's new System T TE2 (top) and TE1 scalable digital signal processing engines

which offered a maximum of 256 paths, while TE2 matches the previous 800-path T80 engine. The two new engines and five processing packs expand beyond those configurations

to offer a wider variety of channel path capacities that align with a broader range of applications and budgets.

System T V3.1 provides alerts and warnings as any

processing pack licence nears its expiration. The new SSL licensing platform enables users to retrieve licences as required and seamlessly add them to their console systems.

OTA AND OTT MONITORING IN COMPLETE SYNCHRONICITY

MANAGE

Actus Digital

BY DAVID FOX

The new OTT Synchro and Delivery Synchro packages from Actus Digital offer simplified but sophisticated tools for multi-viewer monitoring and quality assurance of multi-rendition OTT streams and over-the-air linear content at multi probe points in the video delivery chain.

Ken Rubin, SVP, Actus Digital, said: "Media and entertainment companies lose revenue when
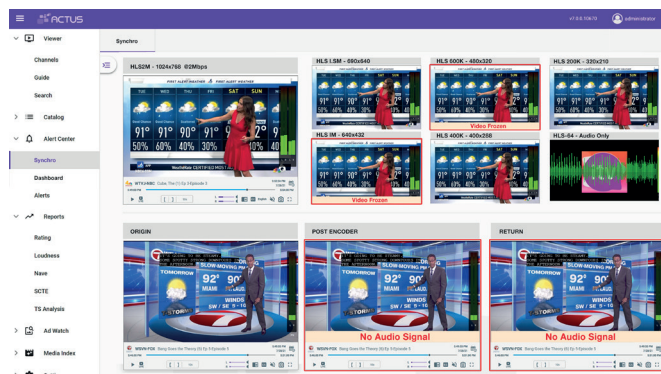
The GUI for Actus Digital's new Synchro monitoring and QA tools

quality issues disrupt a viewer's OTT experience. This makes maintaining quality across all devices paramount."

The company claims that the systems offer "extremely low cost of entry" for ultra-reliable core quality assurance

monitoring and compliance logging features.

The Actus OTT Synchro platform organises many adaptive bitrate renditions, providing immediate notification of quality issues as well as multi-viewer identification of those affected renditions.

Actus Delivery Synchro identifies the locations where quality is impacted in the delivery chain and immediately alerts engineers, enabling them to quickly pinpoint and resolve issues.

The Actus platform is now said to offer seamless integration

with AI partners, enabling advanced AI-based workflows and automation use cases.

The Actus Clip Factory Pro system enables advanced editing and automated clip stitching, with publishing to social media and digital platforms, while Actus AdWatch matches commercials and content from a database against multiple channels with automatic filtering and report generation. Actus L-MAM meanwhile can handle ingest, archive, metadata integration, content management, automated transcoding and publishing.

VIRTUAL PRODUCTION IS HERE TO STAY

Miguel Churruca, marketing & communications director, Brainstorm

Live events increasingly resemble broadcast shows, while the move towards IP has meant a further democratisation of virtual production.

The Covid-19 pandemic has consolidated the virtual technology revolution. Virtual and remote solutions are here to stay, and taking advantage of these will only help in satisfying an ever-growing demand for content.

One of the constant themes of the past few years has been a steady increase in the complexity of live events. The introduction of new technologies and increasing expectations on behalf of exhibition organisers and audiences have meant that the roster of equipment of the highest profile exhibition and corporate events now rivals that of a broadcast studio.

With an increasing use of cameras, video feeds, mixers, lights and, latterly, graphics and augmented reality, live events now almost resemble broadcast shows. Both are built around the concept of the playlist and discrete, triggered events that need to take place on demand in a carefully choreographed sequence, often requiring the exact timing of separate parts of the workflow.

This is one of the reasons why the live events industry is looking to the broadcast sector both for equipment and to build workflows. Broadcast has a decades-long heritage of ensuring that its equipment works in a bulletproof manner, and in recent years this type of gear has become more accessible too.

"The roster of equipment of the highest profile exhibition and corporate events now rivals that of a broadcast studio"

The move towards IP production across the industry has meant a further democratisation of virtual production. There is no longer a requirement for proprietary, specialist – and often expensive – equipment, and it is possible to build high-quality video workflows without using a single SDI component. That has led to the possibility of repurposing the same equipment across the exhibition sector.

Affordable packages such as Edison Pro from Brainstorm have redefined ease of use and represent a new category of graphics tools that offer high-end quality. In fact, it is even fully compatible with Unreal Engine, allowing Unreal's photorealistic scenes to be used as 3D backgrounds for a presentation. The result is that data-driven graphics, virtual technology and AR options are all now available in cost-effective packages that do not imply any loss of image quality and do not require specialist skill sets to operate.

Edison Pro allows a larger sector of users – including corporate, live events, education, houses of worship and online content providers – to turn a simple presentation into a complete interactive show through an affordable platform that does not require expensive hardware or a studio setup.

Template-based for ultimate ease-of-use, Edison Pro allows users to enhance their speech and storytelling with real-time 3D graphics and other visual aids, as well as include themselves in the presentation. It enhances presentations occurring on site to an audience via large screens, and increases their impact when streamed or broadcast, allowing event organisers to produce more visually arresting events that help boost attendance in a competitive market. All the user needs as a starting point is a Powerpoint file or a PDF.
www.brainstorm3d.com

ATC AUDIO PROCESSING ADDED TO INTRAPLEX IP LINK

GatesAir

BY DAVID FOX

GatesAir has introduced embedded software that it believes will save Intraplex IP Link customers "thousands of dollars" in auxiliary equipment. It has added professional ten-band audio processing software from ATC Labs, a specialist in audio compression and processing technologies, to two recently announced GatesAir Intraplex single and multichannel transport systems.

ATC Labs' Perceptual SoundMax audio technology is now part of the Intraplex IP Link 100c hardware codec and the scalable Intraplex Ascent cloud transport platform.

Introduced late last year, the Intraplex IP Link 100c codec provides an integrated single-channel system for remote contribution, Icecast streaming and standard STL IP connections. Intraplex Ascent's scalable platform accelerates migration to software-based cloud transport that can scale audio processing requirements for multiple channels.

Dr Deepen Sinha, CEO, ATC Labs, said: "Higher-resolution audio processing brings far better control to broadcasters as the technology affects only the specific and targeted audio characteristics.

"In Perceptual SoundMax, high-resolution audio processing technology is combined with psychoacoustic principles and wide-band perceptual models, which ensures the greatest possible accuracy in tuning the sound quality for each application. This leads to great sounding audio with consistent loudness that is pleasing to the ear, minimises listener fatigue and never sounds over-processed."

"This processing also inherently reduces the perception of artefacts introduced due to digital compression codecs, which are integral to audio transport solutions," continued Dr Sinha. "Combined with GatesAir's innovative Intraplex products, we can together provide sophisticated audio transport solutions that also enhance audio quality for FM and digital radio broadcasters."
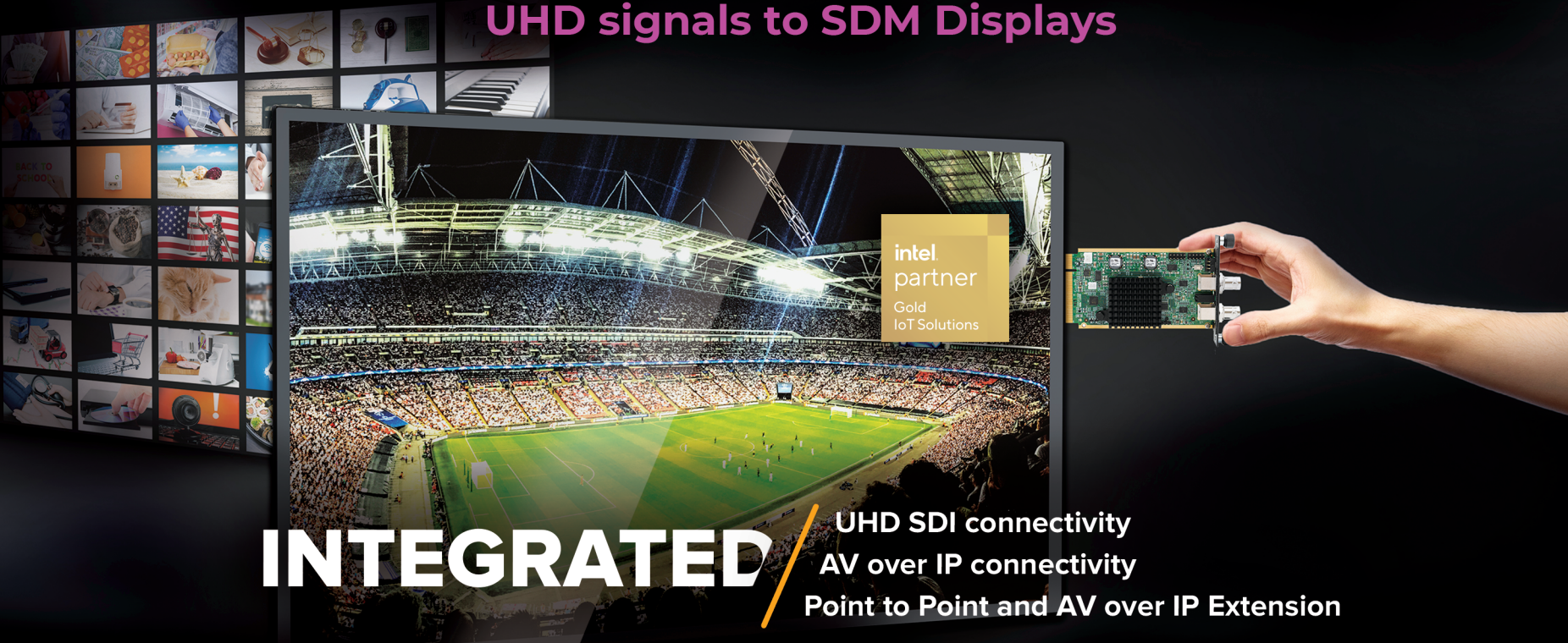
ATC Labs' Perceptual SoundMax is now part of GatesAir's Intraplex

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- Based on Intel® FPGAs on SDM platform

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- HDMI 2.0, HDCP 1.4 and 2.2
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- Long Reach Mode (1080P@60Hz/ 8bit, up to 150 meters)

AV over IP Receiver on 10G Ethernet
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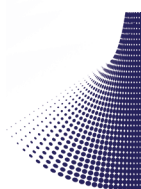
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# UPDATES FOR CLOUD TRIO FLEX, MEDIA CORTEX AND BRIO

Dalet

BY JO RUDDOCK

Cloud-native platforms Dalet Flex, Dalet Media Cortex and Dalet Brio have been enhanced with new capabilities.

Dalet Flex now includes the FlexXtend Panel to provide enhanced NLE integration with creative tools such as Adobe Premiere Pro. The panel features full search and content discovery with free text searching for general queries; advanced filters and sorting for targeted queries against any metadata, and saved searches for common queries. Users can work with proxy files or source content and have both thumbnail and list view for browsing and searching for content. They also have the ability to preview video, image and audio content before importing to a project. Users can
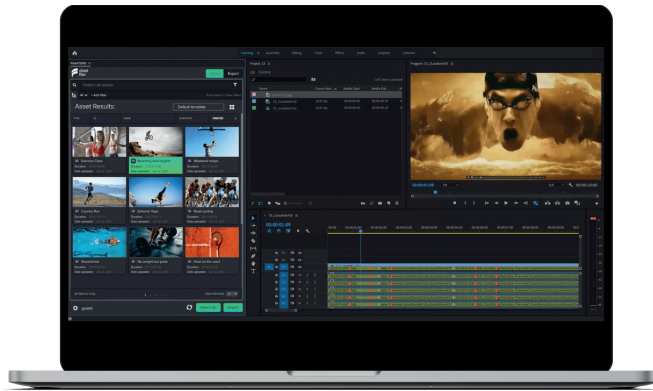
The new FlexXtend Panel provides enhanced NLE integration

cross-collaborate with FlexMam and asset collections.

The Dalet Brio ingest and playout platform offers smarter workload distribution and core optimisations around HD and UHD to increase density and propel an overall smoother ingest and playout workflow for high-resolution productions.

Additions to the Dalet Media Cortex AI service platform include APIs to translate captions while preserving timing information, eliminating

the need to manually re-time translated captions.

Additionally, the integrated caption editor now flags infringements around timing, line and character overlaps in real-time, allowing users to address visual issues early on in the production process. A complement to both Dalet's Media Workflows and News solutions, Dalet Media Cortex will also ship as part of the AI-powered newsroom starter pack for Dalet Pyramid.

LIVELINK GETS TITANIC BOOST TO TRANSCODING

ATEME

BY MICHAEL BURNS

The Titan video-processing solution from Ateme has been integrated into Cerberus Tech's Livelink IP delivery platform.

The Infrastructure as a Service (IaaS) Livelink platform reduces the cost of contribution by allowing broadcasters to self-manage IP feeds, from any location to any destination. Livelink enables customers to transport live linear and OTT content from point-to-point or multi-point. It combines a protocol-agnostic, multi-cloud compatible infrastructure with low-latency global reach, which is facilitated by a network of technical partners.

Ateme claims Titan delivers

the highest-quality content for contribution, distribution and OTT, reduces infrastructure costs and increases sustainability by minimising energy consumption.

Independently, Titan can be deployed for entire head-ends, but for ease-of-use within Livelink, customers are provided with a curated set of transcoding options that support most broadcasting use cases. These include the Titan software-based live transcoding, packaging and origin capabilities. These options have been integrated into the Livelink interface and can be deployed on each broadcaster's preferred cloud provider.

Titan also supports processing multiple audio channels, and supports the latest in content protection, including BISS-CA and various watermarking technologies.

RTL LUXEMBOURG AUTOMATES SPORTS WITH STAIGE AI

AISportsWatch/ Staige

BY DAVID FOX

Casel: "Staige has the best product among the competitors"

RTL Luxembourg wanted to expand its portfolio to include more sports, streaming soccer, volleyball, basketball and handball with live broadcasts and reporting. However, with more than 50 different venues per weekend during the season, the manpower required for camera teams would not have been economical. So, RTL looked for a digital solution and found it in the camera and software offering from Staige, a brand of AISportsWatch.

The fully automatic camera system allows RTL to broadcast all matches from many venues in parallel on the network. The image quality meets the broadcaster's high requirements

and Staige takes care of tasks from production and hardware to software and delivery. Bespoke technology that was necessary for this project was developed together.

Teams also use Staige for match analysis, and every week, dozens of matches are streamed automatically, without a camera crew, on the RTL Live Arena platform.

Pascal Casel, business-platform & diversification director at RTL Luxembourg, said: "Staige has the best product among the competitors, which is why we decided to co-operate with the German company. The first months of co-operation have confirmed our decision, because we are very satisfied with the high quality system and the production of the games."

# RAI TAKES FORENSIC STEPS TO GUARD CONTENT

Nagra

BY JO RUDDOCK

Radio Televisione Italiana (RAI) has become the first free-to-air national public broadcaster to use Nagra's NexGuard forensic watermarking and Anti-Piracy Services platform to protect its streaming content and related advertising revenues.

RAI is one of the major content producers and broadcasters in Italy, operating numerous terrestrial television channels and radio stations. Nagra's solution inserts NexGuard forensic

watermarks into the pubcaster's content available to consumers via the RAI OTT web and app service.

Nagra's Anti-Piracy Services platform is also leveraged, providing a crawling engine to monitor the web and pirate IPTV services, searching for illegal publications of original content. The crawled content is then inspected to detect watermarks and validate when it is illegally redistributed. The solution also provides valuable data insights of illicit activity that enables actionable business decisions. The result is a comprehensive solution that ensures coverage against illicit attacks on valuable content.
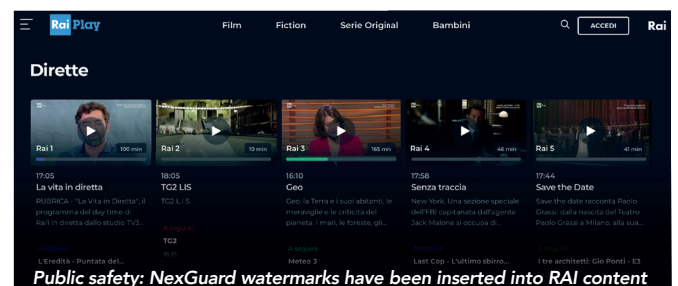
Public safety: NexGuard watermarks have been inserted into RAI content

CONTENT MIX AND MATCH WITH MOSAIC

Axinom

BY ANNE MORRIS

Axinom is introducing Axinom Mosaic, which it describes as a comprehensive platform for creating video streaming and OTT backends that provides all the building blocks for content-first applications through independent yet connected services.

The platform is designed to fulfil the needs of a hybrid approach between build and buy, enabling companies to develop, customise and expand their infrastructure in-house. Mosaic embraces service-oriented architecture based on microservices and micro-frontends. Its technology stack consists of Node.js, React, GraphQL as well as RabbitMQ.

Axinom claims the combined capabilities of managed and open-source services support
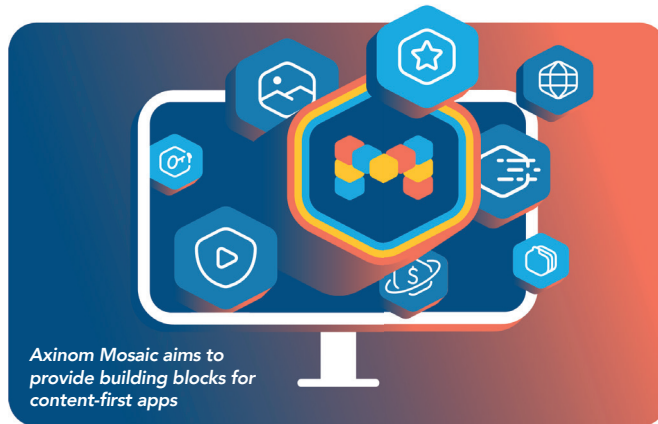
Axinom Mosaic aims to provide building blocks for content-first apps

a wide range of solutions, including video platforms, content management, protection and monetisation.

Ralph Wagner, CEO, Axinom, said: "Axinom Mosaic is the ultimate platform that lets you create next-generation video platforms in no time. We've built the hard stuff so that you can build with ease. Mix and match exactly what you need, and scale as you grow."

Features include faster development, with an agile approach using microservices and micro-frontends. Open-source services enable customers to build their own services or shape Axinom's to fit their needs. It offers editorial focus, where the platform follows a micro-frontend approach that provides a standard management UX throughout all services. The platform allows rapid integration with internal or third-party systems, services, or applications through an API-first approach, while serving multiple platforms and devices.

RIST TAKES INTERNET DISTRIBUTION GATEWAY TO THE NEXT LEVEL

Sencore/Wellav Technologies

BY MICHAEL BURNS

The DMG 7000 internet distribution gateway from Sencore now fully supports the reliable internet streaming protocol (RIST), offering such features as link bonding and seamless switching. The UDP-based transport technology is intended to provide advanced streaming performance in unreliable or lossy networks, such as the public internet.

Utilising the latest software-based platform from Sencore, the DMG 7000 is focused on providing a gateway between broadcast MPEG/IP networks and internet-based distribution protocols.

It offers seamless switching using SMPTE-2022-7 and bonding of multiple links for load sharing. It also offers RIST receive and transmit, simple and main profile, unicast and multicast support and packet retransmission via RTCP.

The DMG 7000 can be deployed on COTS hardware in a variety of form factors, from mini-PCs to 1RU rack mount servers, and virtual environments such as AWS or Google Cloud.

The DMG 7000 enables low-cost distribution workflows using protocols like RIST

NFS OVER RDMA BOOSTS STORAGE PERFORMANCE FOR M&E WORKFLOWS

Gregory Shiff, principal solutions architect, media & entertainment, Dell Technologies

We are in a new golden era of content creation. The explosion of streaming services has brought an unprecedented volume of new and amazing media. Production, post-production, visual effects, animation, finishing: everyone is booked solid with work. The expectations for this content are higher than ever, with new, technically challenging formats becoming the norm rather than the exception. Even in 2021, working with native 8K video or high frame rate 4K video (60 frame per second+) is no joke.

During post, storage and workstation performance can be huge bottlenecks. These bottlenecks can be particularly problematic for 'hero' seats that work with uncompressed media in real-time. Remote Direct Memory Access (RDMA), an 'old'/'new' (what do those words mean anymore?) technology improves storage and workstation performance simultaneously for systems handling the most demanding content. This article will examine using RDMA for NFS storage traffic over an Ethernet.

Why NFS? Well, Linux is the operating system of choice for media professionals working with applications that support the most challenging media. Even if applications have Windows or macOS variants, the Linux version is used in the truly high-end. The native way for a Linux computer to access network storage is NFS and, in particular, NFS over TCP.

This article is already going down a rabbit hole of acronyms, so let us pause for a moment. I imagine that most people reading know about NFS (and SMB) and TCP (and UDP). For readers who are not familiar, NFS stands for Network File System. As said, NFS is how Linux systems talk to network storage (there are other ways, but mostly it is NFS). NFS traffic sits on top of other lower-level network protocols, in particular Transmission Control Protocol, (TCP) or User Datagram Protocol (UDP), but mostly it is TCP. TCP does a great job of handling things like packet loss on congested networks, but that comes with performance implications.

Back now to RDMA, which is a protocol that allows for a client system to copy data from a storage server's memory directly into that client's memory. The client system bypasses many of the buffering layers inherent to TCP. This direct communication improves storage throughput and reduces latency in moving data between server and client. It also reduces CPU load on the client and storage server.

RDMA was developed in the 1990s to support high-performance compute workloads running over InfiniBand networks. In the 2000s, two methods of running RDMA over Ethernet networks were developed, namely iWARP and RoCE. iWARP uses TCP for RDMA communications and RoCE uses UDP. There are various benefits and drawbacks to the two approaches. For instance, iWARP's reliance on TCP offers greater flexibility in network design but suffers from many of the performance drawbacks of native TCP communications. RoCE reduces CPU overhead compared to iWARP but requires a lossless network. Ultimately, RoCE is the clear winner given that we are looking for the maximum storage performance with the lowest CPU load.

> *"NFS over RDMA will play a vital role for creative companies working with 8K or high frame-rate 4K video"*

Put that all together and you can run NFS traffic over RDMA leveraging RoCE. If your client workstation, network and storage support NFSoRDMA, you can massively boost performance by mounting the network storage with a few mount options. The performance gains of RDMA are impressive. RDMA can be twice as performant as TCP all other things being equal (with a similar drop in workstation utilisation).

Let us look at some real-world examples in media creation. First up, 8K uncompressed playback in DaVinci Resolve. Uncompressed video puts less strain on the workstation (no real-time decompression), but file sizes and bandwidth requirements are huge. In the testing for this article, an 8K DPX image sequence was put on the Dell EMC PowerScale network storage. As an image sequence, each frame of video is a separate file. At 8K resolution, each file is approximately 190MB. Sustaining 24 frame per second playback requires

4.5Gbps. To cut a long story short, the image sequence would not play with the storage mounted over TCP. Mounting the exact same storage using RDMA was a night and day difference: 8K video at 24-frames per second over the network!

Now let us look at workstation performance. To be fair, uncompressed 8K video is unwieldy to store or work with. The number of facilities truly working in uncompressed 8K is small, and in fact 6K PIZ compressed OpenEXR is a more common format. OpenEXR is another image sequence format (file per frame) and PIZ compression is lossless, retaining full image fidelity. The PIZ compressed image sequence I used had frames between 80MB and 110MB each. Sustaining 24 frame-per-second required around 2.7Gbps.

This bandwidth is less than uncompressed 8K but still substantial. However, the real challenge is that the workstation needs to decompress each frame as it is being read. Frames were dropped in Resolve with the network storage mounted using TCP. The combination of CPU cycles required to read and decode each 6K frame using network storage was too much. RDMA was the key for this kind of playback. Remounting the storage using RDMA enabled smooth playback of this OpenEXR 6K PIZ image sequence over the network.

Going a little deeper with workstation performance, let us look at other common video formats: Sony XAVC and Apple ProRes 422HQ at full 4K DCI resolution and 59.94 frames per second, this time in Autodesk Flame. In debug mode Flame shows video disk, GPU and broadcast output dropped frames. With the file system mounted using TCP or RDMA the video disk never dropped a frame. The storage was plenty fast, as were the beefy Nvidia RTX GPUs. With the file system mounted using TCP, the broadcast output dropped thousands of frames; the workstation could not keep up. RDMA was a different story, with smooth broadcast output and essentially no dropped frames. In this case, it was all about the CPU cycles freed up by RDMA.

That was a lot of information in one fairly short article, so let me put it plainly: NFS over RDMA will play a vital role for creative companies working with 8K or high frame-rate 4K video. If you want to dig deeper into my testing and results, please visit **https://infohub.delltechnologies.com/t/ powerscale-onefs-nfs-over-rdma-for-media/**

ON-THE-GO ENCODER RACKED AND READY FOR 4K STREAMING

CREATE & PRODUCE

Aviwest

BY MICHAEL BURNS

Available in a compact, half-1U form factor, the new Rack400 encoder from Aviwest supports 4K UHD and multicamera workflows for up to four high-resolution, fully frame-synced feeds.

The Rack400 delivers up to 4Kp60 combined with eight audio channels for high-end productions.

Aviwest's Emmy Award-winning Safe Streams Transport technology is said to provide the Rack400 with robust, error-free transmission over network with low end-to-end latency, down to 0.5 seconds.

To accommodate new and existing infrastructures, both H.265/HEVC and H.264/AVC compression standards are supported.

Other features include frame-accurate synchronisation and video transmission between multiple cameras for seamless camera switching in the studio, as well as high-definition video return (up to 1080p50/60) from the studio to the venue for confidence monitoring or teleprompting. In addition, the Rack400 supports full-duplex intercom to optimise communication between field crews and studio operators, along with data bridging for remote camera control, tally light management, or any other IP device control during a live event.

Samuel Fleischhacker, senior product manager at Aviwest, said: "The Rack400 is a game-changer for the broadcast industry, accelerating live remote production and offering the potential for greater productivity and huge savings in operational and capital expenses. For on-the-go production, broadcasters need equipment that is easy to deploy. The Rack400 is small, light and robust, and offers exceptional video quality."

Rack 'em up: The new encoder delivers up to 4Kp60 combined with eight audio channels

RUBY RB1.5 LED PANEL LAUNCHED

CREATE & PRODUCE

Roe Visual

BY MICHAEL BURNS

The new Ruby RB1.5 LED panel from Roe Visual is equipped with four-in-one LED technology, which the company claims results in more robust LED panels with less reflection and a wide viewing angle.

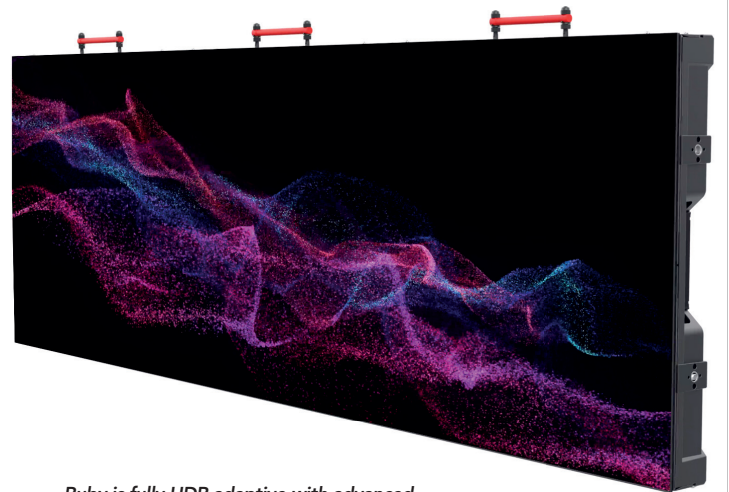Roe says the LED panel offers more contrast due to an optimised black body, with striking colours.

Other new products include the Black Marble LED floor, which is now also available in a deep black anti-reflective, matte finish, suitable for studio environments. The company says this is in high demand for broadcast as well as immersive XR stages.

Black Pearl BP2V2 LED, a high-performance, broadcast-grade HD-LED panel used for large LED volumes, is also available. Designed for use in film studios, XR stages and virtual production applications, it is said to offer true-to-content colour representation, high frame rate, high refresh rate and low scan lines.

Roelof Bouwman, general manager for Roe Visual EU, said: "Our growing engagement with and expertise in the market for broadcast and film is manifested in our current product portfolio. We're well-aware of the demanding requirements that go hand-in-hand with working with in-camera shoots. Our partnerships with Arri, Unreal Engine and disguise not only reflect that engagement but are also focused on getting the most out of the LED technology for our users."

Ruby is fully HDR adaptive with advanced driver ICs and large colour space LEDs

BEEGFS ADDS ELEMENTS OF SPEED TO VIDEO STORAGE

MANAGE

Elements

BY DAVID FOX

Elements has introduced an all-new high-performance file system to the media and entertainment industry: BeeGFS. Originally designed at Fraunhofer ITWM and developed by ThinkParQ, it normally powers supercomputers, and this is its first use in broadcasting.

In September, Elements Bolt SSD-based storage was used with BeeGFS to achieve the highest performance score ever recorded by the SPEC SFS VDA video benchmark, making it the world's fastest storage for video. It recorded the highest stream count (throughput) of 11,000 streams (50,708Mbps) – 14.58% higher than the previous high score. It also scored very highly for efficiency, with the highest storage CPU efficiency (23% more concurrent streams per CPU core than the highest scoring competitor); highest client CPU efficiency (107% more concurrent streams per CPU core); and highest RAM efficiency (68% more concurrent streams per Gigabyte of RAM used).

Elements believes that BeeGFS will enable it to build highly efficient cloud and on-premise storage environments and benefit from high-performance Ethernet workflows with revolutionary on-demand cloud possibilities. It "offers performance that stretches way beyond state-of-the-art, allowing users to capitalise on a future-proof file system that encompasses cutting-edge technical properties and features while outsmarting the status quo", the company said. BeeGFS will be available on Elements Bolt and Elements One.

Also new is a version of Elements' Media Library Panel for DaVinci Resolve. The Panel is the same as the one for Adobe Premiere Pro and allows users to import clips and rough-cuts together with all the comments on the footage, start Automation jobs and the granular search function. Users can also reuse Media Library proxy files for offline editing, saving time and bandwidth. A single click relinks the timeline to proxy or high-resolution footage.

Media Library now offers AAF support and will work with external transcoders. It also has improved sharing, quick renders for subclips into a physical file, an updated rough-cut editor interface and the ability to exclude certain folders from Media Library scans.

Faster storage: Elements One and Bolt really buzz with BeeGFS

Nexio NewsCraft™

All-in-one news production solution

Designed for remote-friendly content access, full media management, and quick-to-air multiplatform delivery.

Simply put, it's production at the speed of news. Wherever it happens!

DISCOVER HOW YOU CAN DO NEWS DIFFERENTLY →

# FRANCE TÉLÉVISIONS MOVES TO FAIRLIGHT FOR NEWSROOMS

CREATE & PRODUCE

Blackmagic Design

BY DAVID FOX

France Télévisions has upgraded its audio and video post production capabilities with Fairlight-based digital audio workstations. With the support of Paris-based reseller Magic Hour, the broadcaster has implemented 31 Blackmagic Design Fairlight Advanced consoles in two-bay chassis systems across 24 regional newsroom hubs across France.

According to Gregory Vital, head of engineering and technical services, France Télévisions, the requirements
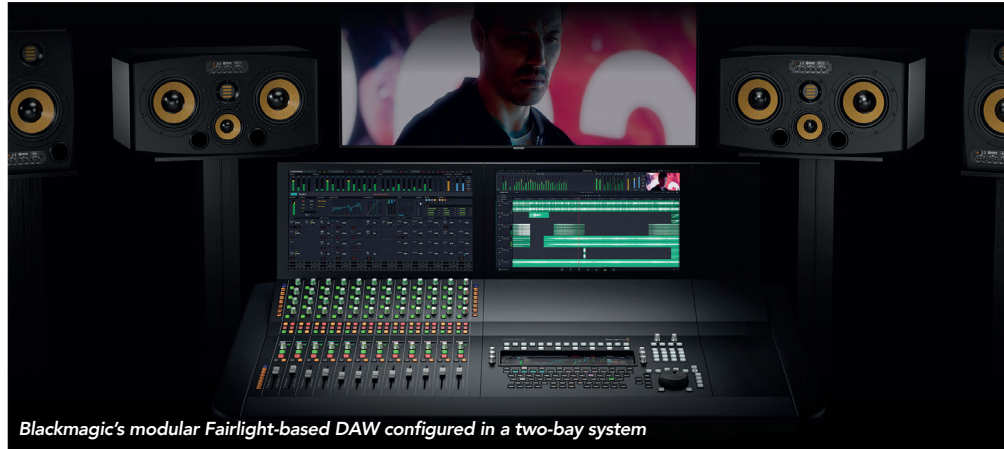
Blackmagic's modular Fairlight-based DAW configured in a two-bay system

were "to guarantee on-air continuity for our 24 newsrooms with a solution that would ensure the production of our regional broadcast news in a fluid and rapid manner".

The system had to offer a future-proof audio and video toolset while seamlessly integrating with the broadcasters' existing media and PAM pipelines across its entire news operation.

"Fairlight met all of our immediate requirements while also supporting our need to expand into 4K workflows in the future. Access to DaVinci Resolve's API also ensured we could quickly interface Fairlight with our existing systems and

workflow automation, ensuring a smooth transition for our operators," said Vital.

Amandine Doucet, AV project manager, France Télévisions, was impressed by the Fairlight control surfaces. "They afforded our operators more direct access to essential features and controls such as EQ, for example," she said. "This is crucial when working in a broadcast newsroom environment where speed to air is critical."

DaVinci Resolve was another factor in choosing Fairlight. "The integration of a modern and more open platform means we'll have a greater choice of systems when we want to renew them, without being blocked by any incompatibility," said Vital.

TELESTREAM CELEBRATES 20 YEARS OF TRANSCODING WITH JUMP TO LIGHTSPEED

MANAGE

Telestream

BY DAVID FOX

The latest Lightspeed Live Capture platform now supports 12G and ST-2110, aiding the transition to IP-based workflows.

Lightspeed Live Capture offers scalable, automated, multichannel IP and SDI capture for ingesting live or tape-based media directly into production, post-production and broadcast workflows. It processes video in 16-bit space to preserve source quality and records in a wide

Telestream's latest Lightspeed Live Capture now has 12G and ST-2110

variety of mezzanine file formats for delivery to local shared storage, SAN, NAS, object storage (S3), FTP, Aspera and more.

In December 2001 Telestream introduced the industry's first enterprise class

video transcoding software: FlipFactory. Previously, encoders handled individual codecs, but the rapidly increasing number of codecs and formats meant automation was required.

Since then it has built on this with Vantage, which added

intelligent decision-based workflow orchestration, and is now available on premises or in the cloud, and its Lightspeed servers. The latest Lightspeed is 4-5x faster than the first models from 2012 and their improved operational efficiency helps media companies reduce their carbon footprint.

Scott Matics, senior director of product management at Telestream, said: "The move towards IP-based production workflows is gaining momentum and this development places Lightspeed Live Capture in the vanguard of live IP production scenarios."

A compelling feature of Lightspeed Live Capture is its ability to seamlessly ingest content for use with Edit While Capture (frame-chase) workflows on popular NLEs, both on prem or in geographically dispersed locations.

"The ability for broadcasters and OTT service providers to live stream over IP at scale with equivalent resilience and efficiency to linear broadcasts is becoming a critical business driver," added Matics. "These new strategic enhancements to LightSpeed Live Capture highlight our efforts to support customer needs with orchestrated IP workflows within larger content delivery ecosystems."

KRONOS K8 INTEGRATES WITH SHOGUN LIVE FOR 4K VFX

CREATE & PRODUCE

Bluefish444

BY DAVID FOX

The Kronos K8 video card from Bluefish444 is now fully integrated with Vicon's latest Shogun Live 1.6 software. It can be used in 4K SDI VFX motion capture workflows.

Shogun 1.6 adds low-latency tracking for both film and

virtual cameras, support for Vicon's Viper and Viper X motion tracking cameras, auto-skeleton and other features optimised for virtual production. It complements and supports existing features including live subject calibration and unbreakable solving, as well as Kronos K8 4K SDI video support.

Kronos K8 is claimed to offer the lowest-latency multichannel SDI IO interfaces, making it suitable for virtual

production workflows. Shogun Live 1.6 now supports up to eight 3G or two quad-link 3G UHD low-latency SDI inputs and LTC Timecode input. Kronos K8 also has a dedicated SPG output for locking downstream equipment during production.

Bluefish444's Epoch | 4K Neutron video card is also supported by Shogun Live 1.6, enabling up to three channels of low-latency SDI input in a single PCIe card.
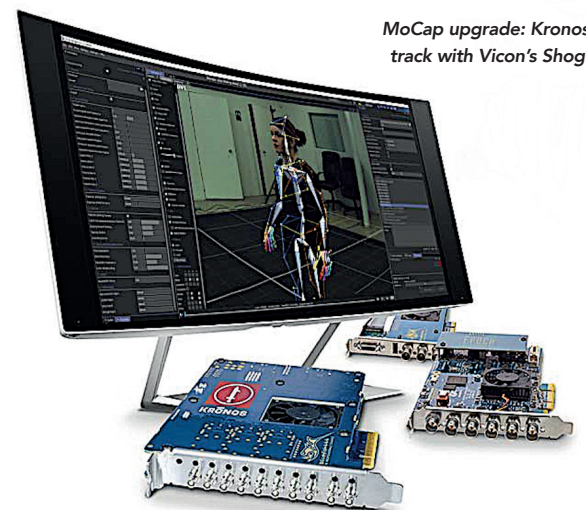
MoCap upgrade: Kronos K8 on track with Vicon's Shogun Live

Q&A
New or enhanced software solutions that support IP production and virtualisation are among the latest innovations from WorldCast

What are the main areas of growth your company is looking to address over the next 12 months?

This year there are a few different areas of growth that we are focusing on, primarily with new or enhanced software solutions. These solutions reflect market trends and challenges around the themes of IP, virtualisation, energy savings, cost savings or optimisation, and higher audience understanding, targeting and engagement.

What will this mean for the products/services you provide?

Our flagship solutions meet in one way or another these key challenges.

Kybio, our NMS software, is now available in v4. Among other features, this brings more scalability and ease of deployment with its now fully agnostic communication protocols, enabling compatibility with a wider range of media IP infrastructures.

On the broadcast side, the migration to IP and less hardware remains a top priority with two

Gregory Mercier, director, product marketing & pre/post-sales support, WorldCast Group (WorldCast Systems and Connect)

new APT technologies: APTmpX, a unique algorithm to transport MPX over IP with a low quantity of data and huge signal transparency; and SynchroStream, the most accurate technology to transport synchronous audio or MPX over IP.

With another technology, SmartFM, we offer the market a highly innovative solution for FM broadcasters to lower their energy bills (and CO2 emissions) by up to 40%.

Ecreso FM transmitters, designed with efficiency in mind, have SmartFM built into them for easy, and free, activation. This year we launched a v2 of SmartFM for higher potential savings and to further meet broadcasters' requirements on the field.

Our monitoring range is also growing with the new Audemat FM Probe. This is probably the most powerful FM probe available on the market. It sequentially monitors a list of defined stations and continuously ensures the FM network conformity with both legislation and radio expectations. For each station monitored, critical thresholds are defined and, when a problem is detected, alarms are

triggered. The operator can then remotely check the signal received, determine the impact on the listener, and react to fix the issues.

Also, in the Audemat range, a new RDS Server gathers any data source and feeds RDS encoders to improve radio datacasting and revenues. In this interconnected age, broadcasters need tools to facilitate the retrieval, processing and delivery of increasingly complex data streams. This solution is entirely compatible with WorldCast's fully digital Audemat RDS Encoder.

What sets your company apart as a technology leader?

I think our most significant added-value is our extensive expertise across the entire broadcast chain. Whether it's for content transport and delivery, FM transmission, solutions to ensure high QoS or signal conformity, choosing WorldCast is synonymous with reliability, high quality and great customer service by teams who are passionate about their solutions.
www.worldcastsystems.com

# SAAS SPECIALIST ADDS MORE REACH

👆 **Signiant**

BY ANNE MORRIS

SaaS specialist Signiant recently completed the acquisition of Levels Beyond, the company behind the media workflow software suite known as Reach Engine.

The deal marked Signiant's second acquisition of 2021; in March, it bought Lesspain Software, a German provider of embedded media processing software and the desktop application Kyno, to facilitate organising, finding and interacting with media assets. The Levels Beyond acquisition extends Signiant's offerings to include a range of configurable workflow building blocks.

Margaret Craig, CEO, Signiant, said: "By virtue of our underlying acceleration technology and broad-based role in the global
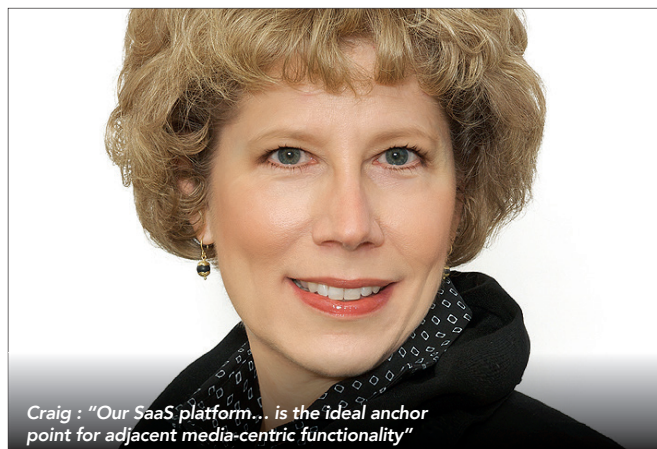
Craig : "Our SaaS platform… is the ideal anchor point for adjacent media-centric functionality"

flow of media, Signiant can provide customers with a foundation that addresses multiple supply chain challenges efficiently and at scale. Our SaaS platform has critical mass, it serves as the core of the B2B media ecosystem, and it is the ideal anchor point for adjacent media-centric functionality."

Art Raymond, founder, Levels Beyond, said the decision to join forces with Signiant was clear and noted that the two companies share a number of

key customers: "We're excited to become part of a high-growth, customer-centric software company that is committed to the media industry."

Mike Flathers, chief solutions officer, Signiant, said: "By leveraging know-how from Levels Beyond and the power of the Signiant SaaS platform, we can give customers what they're asking for – which is a much lighter-weight, simpler, more productised approach to workflow implementation."

YOWIE IS SIMPLE ANSWER TO STORAGE NEEDS

👆 **RNT Rausch**

BY DAVID FOX

The new Yowie secure software-defined storage appliances pack five nodes with 3+2 erasure coding (for data protection) into a single 3U device.

The system is claimed to offer maximum data security and protection, with the focus on business continuity without users having to become security experts. Components are also hot-swappable for easier serviceability. There are

two versions: the Yowie 53H with 15 HDDs; or the Yowie 53F all-flash series with 40 flash SSDs and ten NVMe drives. The 53H-HDD series starts from 32TB usable capacity while the 53F starts from 41TB usable capacity. Both have dual platinum power supplies. Besides saving on rack space, the 3U design is also claimed to save on power and cooling.

The Yowies also chime with RNT Rausch's mantra of simplicity-as-a-service, which promises to deliver "enterprise-grade storage infrastructure at entry level storage cost and stop paying for features you don't need".

Wowie: The new Yowie 53H-HDD software-defined storage appliance

PARTNERSHIP PREPS JPEG XS TO CUT COSTS AND LATENCY

BY MICHAEL BURNS

Net Insight and intoPIX have announced a partnership to develop solutions compliant with the low-latency compression technology JPEG XS.

Christer Bohm, VP product management at Net Insight, said: "We are proud to be partnering with intoPIX, pioneer of class-leading video compression technologies, to create solutions that deliver meaningful environmental and financial savings for the media and broadcast industry. The JPEG XS standard strengthens the innovation possible within content production, thereby assisting to create improved live experiences for viewers all over the world. Net Insight's JPEG XS applications bring game-changing cost reductions to our customers. In addition to bringing JPEG XS to our latest cloud and IP solutions, we have also invested to bring JPEG XS to existing Nimbra media networks."

Jean-Baptiste Lorent, marketing and sales director at intoPIX, added: "Net Insight's leadership in cloud, IP and standards-based technology represents the kind of role model partnership needed to realise the full potential of JPEG XS. We believe that content producers, media companies and service providers will greatly appreciate the engineering excellence and innovative nature of Net Insight's adoption of the JPEG XS technology. We are immensely proud to partner on new solutions that can reduce resource consumption and environmental impact."

TICO-XS compression technology from intoPIX is fully compliant with the new JPEG XS standard, offering low latency within a portable software application framework, while Net Insight offers JPEG XS standard compliant applications within its cloud and IP solution portfolio.

Based on real-world testing and compression grades in the range of 4:1 to 12:1, Net Insight claims its JPEG XS applications can deliver lossless quality video while reducing typical network resource consumption by 90%. By integrating JPEG XS, the same application acceleration platform offers virtualised processing across IP, SDI and mixed format environments, while customers can reuse the same acceleration hardware to perform both media and network processing.

Bohm: Proud to create solutions that deliver meaningful environmental and financial savings

GATHER ROUND FOR A GAGL WITH NEW CLOUD SERVICE
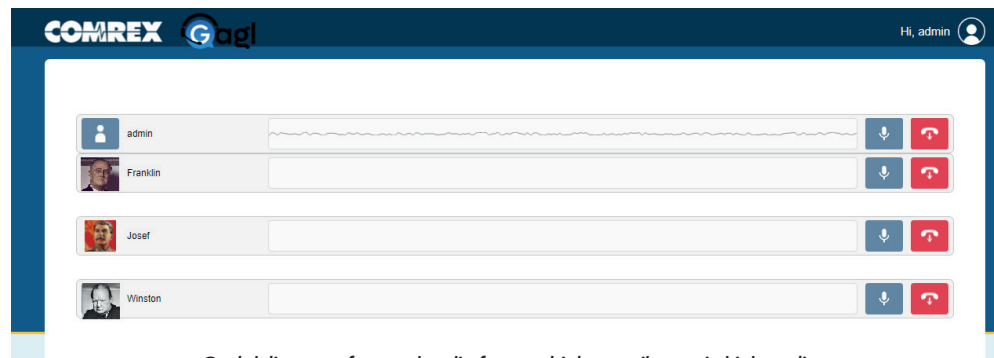
BY MICHAEL BURNS

A new cloud service called Gagl is to deliver conferenced audio from multiple contributors to Comrex hardware codecs in high quality.

Gagl allows between one and five users to send and receive audio from computers and smartphones. Participants can connect and send audio by clicking a link using any common web browser. Their audio is

Gagl delivers conferenced audio from multiple contributors in high quality

conferenced (if there's more than one user), and delivered to a Comrex hardware codec such as Access or Bric-Link II. All participants can hear other participants, and the codec can send audio back to them.

Comrex suggests that Gagl could be used as the hub for a round-robin reporting program or for a 'morning zoo' radio show to support multiple simultaneous connections at once. Because it offers low latency, it's appropriate for call-in talk radio. Gagl could also be used to allow a single contributor to connect back to the studio from a computer or smartphone.

Designed with audio quality in mind, Gagl provides stable connections with limited bandwidth. The system uses the Opus audio encoder, with a bitrate that delivers both voice and music in excellent quality, according to Comrex.

Gagl also delivers audio directly to a Comrex codec with all the stability enhancements, pro-grade audio connections and features that hardware codecs provide. With a simple user interface, the company claims Gagl is easy for people with any level of technical expertise to use.

The cloud-based service will be available by the end of 2021.

PERFORMING ARTS STREAMING SERVICE TAKES THE STAGE

BY ANNE MORRIS

OTT service provider Easel TV, has partnered with PlayerPlus to provide StagePlayer, a new streaming service for the performing arts.

PlayerPlus is a direct-to-consumer premium content aggregator. Its second market offering, StagePlayer, is a platform for theatres, concert venues, producers, rights holders, festival organisers, agencies and performers staging live or recorded online events.

Providing a virtual venue for streamed events, StagePlayer is a fully managed service that includes pay-per-view ticketing, payment and customer care. It will be available to users through a wide range of large-screen connected TV devices and platforms with content secured to Hollywood digital rights standards.

Joe Foster, CEO, Easel TV, said: "We partnered with PlayerPlus to build a shared streaming service, a common hub, that any theatre, concert or festival organiser could use; the result is StagePlayer."
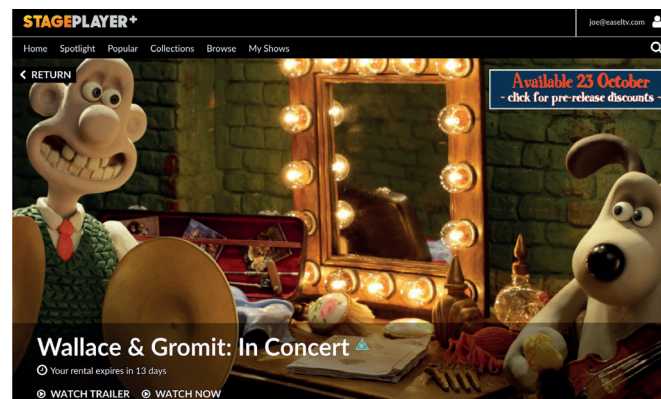
StagePlayer is a service for staging live or recorded online events

Richard Jacobs, CEO and co-founder, PlayerPlus, said: "Following the launch of NewsPlayer, we are excited to have launched StagePlayer, the next in our series of genre-based OTT services, offering content providers an alternative route to market."

StagePlayer is designed to bring audiences of all content partners together in a single destination, generating greater collective audiences on a collaborative basis, and creating a focal point easily discoverable by viewers.

Jacobs added: "Both PlayerPlus and Easel TV are confident that by removing obstacles for theatres, production companies and event organisers, and enabling them to offer audiences their premium content through a professional service on a wide range of big screen devices, StagePlayer will become the go-to destination for performing arts."

LECTROSONICS CLEARLY HAS IT COVERED

Lectrosonics

BY DAVID FOX

New silicone covers to protect a wide variety of Lectrosonics' popular transmitters, receivers and recorders have been unveiled. They include the DCHT digital camera hop, DPR, DPR-A digital plug on and LT transmitters, as well as the DCHR digital portable, IFBR1B multi-frequency IFB and M2R IEM/IFB receivers. New silicone covers are also available for the MTCR miniature time code and PDR portable digital recorders.

All the covers are available in clear silicone, but some are also available in black (to make them less visible on camera), including the DPR, DPR-A and HM/HMa. These tough covers are designed to protect Lectrosonics' units from moisture and dust, and the two-part

Cover up: The new clear silicone (and black) covers protect Lectrosonics audio kit

overlapping design makes them pliable enough for easy installation and removal. Each cover features die-cut holes for antennas and input jacks which suit the individual model.

Also new are Lectrosonics' latest DBSM single battery and DBSMB dual battery bodypack transmitters, an update of its popular SM Series of miniature transmitters that brings these body-worn units into the digital era.

They are fully compatible with the DSQD digital receiver, DCHR digital portable receiver and DCR822 compact dual channel digital receiver, and feature a tuning range covering both the A1 and B1 bands from 470-608MHz (470-614MHz for E01 international versions).

The new transmitters include specially developed, high-efficiency circuitry for extended operating time on AA batteries, and offer RF power selections at 10, 25 and 50mW.

A new, selectable high-density transmission mode (HDM) allows for much tighter channel spacing, yielding more than double the operating frequencies per available spectrum. Firmware updates for the DSQD, DCHR and DCR822 receivers, and updates for the Mac and PC versions of Wireless Designer software, make use of this new high-density mode.

MONITOR RAISES ITS IQ FOR AI-BASED COMPLIANCE

MANAGE

Digital Nirvana

BY DAVID FOX

Digital Nirvana has released MonitorIQ 8, the latest version of its AI-driven compliance logging and monitoring tool that integrates with its Media Services Portal. The software is now more secure, more resilient, quicker to navigate and includes new streaming technology with lower latency from live video, says the company.

MonitorIQ allows operators to record, store, monitor, analyse and repurpose content with a minimum of clicks. Natively recording content from any point in the video delivery chain, from production (SDI) to consumption (OTT and STB), MonitorIQ enables broadcasters to collect and use knowledge about their broadcast content to meet a wide range of regulatory and compliance requirements. Users can view live or recorded content across hundreds of channels from desktop and mobile devices in any remote location worldwide for instant recall of proof of performance, compliance or ad placement.

Hiren Hindocha, CEO, Digital Nirvana, said: "Speed and efficiency are key to delivering and monitoring content. This is why we chose to speed up all facets of our product. It will allow our users to perform their daily tasks faster and easier. This latest version puts us head and shoulders above our competitors with functionality, speed and reliability."

Also new is MetadataIQ, a metadata automation tool for content producers using the Avid media platform. The scalable software-as-a-service (SaaS) offers off-the-shelf integration with Avid Interplay to automate the end-to-end process of generating speech-to-text and video intelligence metadata for Avid-based assets while automatically submitting media for transcription, captioning and translations from within the existing workflow.

MetadataIQ allows operators to create and ingest different types of metadata – including speech-to-text, facial recognition, OCR, logos and objects, each with customisable marker durations and colour codes for easy identification – that can be accessed via the Avid MediaCentral environment.

Intelligent upgrade: Digital Nirvana's MonitorIQ is now faster and more resilient

AIR CONTROL BREEZES IN FOR LIVE PRODUCTION

MANAGE

LiveU

BY MICHAEL BURNS

Air Control, a broadcast orchestration cloud-based solution, has been launched by LiveU. It aims to streamline the production workflow by connecting the control room, in the field talent and crew, and existing technology infrastructure. It enables broadcast-grade video and audio, powered by LiveU's dedicated video and audio protocol LiveU Reliable Transport.

Built for broadcasters as a "human-centric" offering, the company claims Air Control enables organisations to better choreograph live production workflows and deliver high-quality live programmes of any size while providing the commercial and operational flexibility to support the rapidly changing industry.

Ronen Artman, VP marketing at LiveU, said: "Air Control's disruptive concept is poised to transform the control room, unlocking the potential of the broadcast industry once again as LiveU did 15 years ago. Air Control streamlines and simplifies the production workflow by connecting everyone involved in the production using a single platform. Air Control removes risk and complexity by replacing general-purpose, consumer-based video conferencing solutions with a broadcast-grade orchestration and transmission tool, leveraging LiveU assets and giving production crews a complete solution to manage all of the human elements of a live remote production."

According to LiveU, teams can work with the devices they use daily, while benefiting from a professional service.

"Broadcasters are looking for simplification, flexibility and innovative tools to accommodate today's changing media landscape. What they are not willing to compromise on is quality, reliability and a superb customer experience. With Air Control, we are taking this to the next level and revolutionising the live production orchestration space," added Artman.

Air Control serves as a single collaboration solution for everyone involved in the production

TEAMWORK TOOLS ARE KO:R TO REMOTE WORKING SUCCESS

MANAGE

Octopus Newsroom

BY DAVID FOX

KO:R, a new planning and collaboration tool designed to streamline teamwork and increase productivity, has been unveiled by Octopus Newsroom.

The pandemic has emphasised the need for remote teamwork and KO:R aims to secure broadcasting workflows by providing tools to seamlessly address this transition and drive remote production. It facilitates organisation and planning by offering users a tool to interact and organise daily and long-term tasks even if they are not physically in the same place.

While this tool was originally designed to meet the demands of broadcasters, KO:R's Darwinism – as it is portrayed by its developers – allows it to completely adapt to the needs of teams of all types who want to increase efficiency by improving task management and monitoring.

Lukas Kotek, CTO, Octopus Newsroom, said: "KO:R was created for everyone. The driver for the development of this product was the market need for a customisable planning tool that would adapt to the workflows of the organisation, rather than the other way around, where the team needs to modify their habits to make the tool functional."

Being cloud-based, KO:R enables teams to perform all types of workflows remotely.

KO:R can handle remote teamwork and planning in a flexible way

"HEY, ACTIVATE IMMERSIVE SOUND"

DOLBY ATMOS

Do you want to hear the most impressive sound and enjoy a voice-controlled video experience?

That's what our Dolby Atmos + Google Assistant soundbar does. Equipped with world-class speaker.

SELENIO SOFTWARE MAKEOVER ADDS PERSONALITY

Imagine Communications

BY DAVID FOX

Imagine Communications has updated its Selenio Network Processor (SNP) with several new software capabilities, including: JPEG XS encoding and decoding; an automated changeover switch; an advanced keyer; and additional audio management capabilities. They all take advantage of the core processing of the SNP, including the ability to easily combine HD and UHD, SDR and HDR, and SDI and IP connectivity.

According to John Mailhot, CTO networking and infrastructure, Imagine Communications, SNP is the software equivalent of a modular video processor, "with the huge advantages that you can plug in SDI or IP, you can add functionality by licensing the software, and you can switch between personalities quickly".

"So a processor chain can be an audio shuffler and up-mixer for one show, and a production multiviewer the next," he continued. "The great advantage of this approach is that we can continually add new functionality, which our customers can add without buying additional hardware or re-architecting their machine rooms."

JPEG XS offers visually lossless production and contribution quality at very low latency (less than a frame), with typical compression ratios between 5:1 and 20:1. The codec will be available at resolutions up to UHD/4K (and HDR). Users can tailor the bits-per-pixel (coding rate) for specific applications. Imagine is also working with leading cloud providers to create ground-to-cloud connections.

The automatic changeover switch uses content-aware metrics to determine the health of each feed and switches seamlessly between A and B feeds to maintain a consistent on-air output.

The new downstream keyer offers four layers of keying, supports graphics sequencing and animations, and uses SNP core functionality to allow mixed IP and SDI I/O.

The latest release adds support for up to 16 audio channels within each audio stream. Imagine has also upgraded the SNP's audio shuffling and remapping capabilities to allow more complex audio channel mapping among the MADI, embedded and IP inputs and outputs.

There are also significant enhancements to the SNP-MV production multiviewer, including caption/subtitle rendering and new on-screen indicators and alarms.

Each 1RU SNP contains four independent processing chains, which can run separately or together to add capacity: the multiviewer, for example, can put nine PiPs on two UHD screens using one chain, or up to 36 PiPs across two UHD screens by combining chains.

Multiple personalities: Imagine Communications' SNP-MV multiviewer in action

UNIVERSAL DECLARATION FROM TRIO SUPPORTING AMPP

Grass Valley

BY DAVID FOX

ASG, ES Broadcast and Logic Media Solutions have become the first three members of the new GV Media Universe Advanced Channel Partner Program, which involves both commercial and technical integration with Grass Valley's GV AMPP platform.

The global scheme allows selected partners to become an extension of Grass Valley's AMPP (Agile Media Processing Platform) commercial, integration and technical teams. It is only available to partners who meet the requirements and invest in

Lange: The companies "are leading the way in making a cloud-first future a reality"

the qualifications, certifications and resources to support Grass Valley's extended customer base.

Jan Lange, chief revenue officer, Grass Valley, said: "GV Media Universe has been developed to become the leading cloud-based ecosystem for live media production companies around the world and partnerships with key industry players is fundamental to our cloud strategy. One of the early ideas around the GV Media Universe and AMPP was to make a frictionless user experience for customers, whether that be provisioning cloud instances or adding new capabilities to workflows. With the launch of the GVMU Advanced Channel Partner Program, we were looking for companies that are already transitioning into cloud-based tools. ASG, ES Broadcast and Logic Media Solutions are leading the way in making a cloud-first future a reality."

Jonathan Lyth, group CTO, ES Broadcast, said: "We are very happy that Grass Valley is the first cloud partnership ES Broadcast enters into, particularly on the back of the lessons we have learned over the past 18 months. As with all the technology solutions we recommend to our clients, our focus is very much on the application of the right tool for the job. We can propose AMPP to our clients with conviction – both from a technical and commercial perspective – based on the granularity of AMPP's workload-based model, the diversity of workloads it can offer, and the support we have seen. We expect AMPP to sit at the heart of our offering as cloud adoption gathers pace."

FLEXIBLE APPROACH TO DATA TRANSPORT

Caton Technology

BY MICHAEL BURNS

The Caton Transport Protocols (CTP) have been developed from the previous CatonEngine to ensure stability, quality and security for video, media and other data transmissions.

This series of IP transmission technologies uses more than 30 in-built algorithms and deep learning approaches to smooth and mitigate network challenges. It offers patented dynamic error corrections to recover from data loss.

A significant feature is the CatonNet Video Platform (CVP), which provides a fully managed IP network employing CTP for resilient and secure connectivity. CVP provides broadcast-grade media transmission services with a profile in more than 60 countries.

Caton is inviting visitors to IBC Digital to find out more about partner service ArkHub, which offers a low-cost cloud storage service. Powered by Cydex, ArkHub offers a simplified pricing model that allows users to store data at a monthly storage cost with no additional charges for ingress or egress, no early deletion/embargo fees, and no region fees. According to Caton, there is no discrimination between 'hot' and 'cold' data, while the ArkHub Web Connect offering can archive and transfer data files simultaneously.

Also available now are two encoder/decoder products: Caton Prime, which is designed for 4K production, and Caton Live, which is geared towards HD.

Caton Prime is designed for 4K production

EDISON LIGHTBULB MOMENT FOR REAL-TIME AR/VR

Brainstorm Multimedia

BY DAVID FOX

Edison Pro is a newly available high-end presentation tool that is claimed to quickly transform any live, online presentation or conference session into a fully immersive experience using AR and virtual environments.

It is template-based for ease-of-use and requires no previous experience in graphics, video, image or 3D object creation. It allows users to enhance their speech and storytelling with real-time 3D graphics and other visual aids, as well as include themselves in the presentation. All they need as a starting point is a PowerPoint file or PDF.

Based on Brainstorm's real-time 3D technology, Edison Pro allows

Brainstorm's Edison Pro promises to make live AR simple

content providers to turn a simple presentation into a complete interactive show without expensive hardware or a studio setup. A complete standalone system is ready to work out of the box. All that is required is a camera and a portable chroma set to include the presenter in the virtual world with the presentation.

It uses drag-and-drop and ships with a library of pre-defined templates, scenes, furniture, pointers, screens and other

objects to populate a scene, plus a number of interactive templates for quizzes and polls to customise the event. It is compatible with Unreal Engine, so that photorealistic CG scenes can be used as 3D background.

Ricardo Montesa, CEO, Brainstorm, said: "[Edison Pro] has been developed to bring the high-end quality of broadcast shows to users at a whole new price point, without requiring the expensive and time-consuming ad-hoc generation of new assets."

EPIC GAMES KEEPS IT UNREAL

Epic Games/Unreal

BY ANNE MORRIS

The latest version of real-time game engine Unreal Engine offers new features for creators across game development, film and television, architecture, automotive and more.

Unreal Engine 4.27 includes major updates to the in-camera visual effects toolset for virtual production, enhancements to GPU Lightmass for faster

light baking, integration of the Oodle Compression Suite, Bink Video codecs for free use in Unreal Engine, production-ready Pixel Streaming, production-ready OpenXR support and Datasmith upgrades.

Visitors to IBC Digital will be able to ask Epic about the in-camera VFX toolset, part of the suite of virtual production tools in Unreal Engine 4.27. Recently, Epic Games and filmmakers' collective Bullitt assembled a team to test out the VFX toolset while it was still in preview.

Unreal Engine 4.27 brings in new improvements to virtual production workflows

ATOMOS SWITCHES UP NINJA LINE

BY DAVID FOX

Atomos has expanded its recorder/monitor line-up with new additions to the Ninja family, while the new AtomX Cast uses the AtomX expansion port on the Ninja V to transform it into an advanced multi-input switcher.

The AtomX Cast is small enough to hold in the palm of your hand, and suits a small crew or even a one-person multi-camera production. It combines the 5in Ninja V touchscreen monitor with four HDMI inputs and physical buttons. This allows users to connect cameras, computers, consoles, pre-recorded content sources or any valid video source with a resolution of 1920x1080 and use the touchscreen or buttons to switch between sources for broadcast.

The new Ninja V+ can record 8K Apple ProRes Raw or 4Kp120 ProRes Raw for slow motion. It offers users affordable media choices (2.5in SSD, SSDmini with support for up to 4TB and the option of CFast II via an adaptor), while the 5in, 1000-nit daylight viewable display offers HDR>Log image processing and 3D LUT support. A Ninja V+ Pro Kit adds SDI support and enables 4Kp120 ProRes Raw recording mode from the SDI Raw output of Sony's FX9 and FX6 cameras.

Meanwhile, Ninja V users can now upgrade to H.265 codec support, with up to 4Kp60 10-bit 4:2:2 full i-frame with options for 8-bit at various data rates.

Also new is the Atomos Ninja Stream, a social distance production tool, which offers simultaneous recordings of both ProRes and H.264/5 proxy with shared file names and timecode, while sending video feeds to other Ninjas, smart

Switch blade: AtomX Cast is a Ninja-based four-input mini switcher

devices or web-based platforms simultaneously. It comes with WiFi, Ethernet and USB-C, and can livestream content around the world without the need for a PC.

PLAYBOOK REWRITES NEWSROOM EFFICIENCY

BY DAVID FOX

The Associated Press' cloud-hosted system AP Playbook for planning coverage across broadcast, digital, social and print channels, is being rolled out by Al Jazeera Media Networks to co-ordinate the activity of news teams in the Middle East, Europe, North

On the ball: AP planned its coverage of the Tokyo Olympics with Playbook

America and around the world.

David Hostetter, CTO of Al Jazeera Digital, said: "We are continually looking for solutions to improve reporting efficiencies across our 78 bureaus around the globe. After surveying the market, we see AP Playbook as ideal for our needs and are excited to… see the impact the offering will have on our digital newsroom operations."

Playbook provides high visibility of story plans across categories, locations and output channels. It allows journalists to receive notifications of new tasks on their mobile devices, and integrates with other newsroom systems and tools to provide enhanced, efficient workflows.

Other news organisations planning their coverage and output channels in Playbook include the Daily Mail Group and The Associated Press itself.

Playbook serves multiple roles within the AP's global newsroom: planning coverage across approximately 250 locations worldwide; communicating coverage plans to AP's members and subscribers; and enabling AP editors to efficiently produce summary lists of the day's most interesting and important stories for multiple different audiences.

It also helps the AP manage coverage of large events such as the Olympics in Tokyo. For each day of the Games, AP produced an average of 200+ text stories, 2,000+ images and dozens of video packages.

DANTE SDK MAKES SOUND CONNECTION

BY DAVID FOX

Audinate, developer of the Dante media networking technology, has announced full availability of the Dante Application Library software development kit (SDK). Previously available to a select few, the SDK for Windows and MacOS provides software developers with an easy-to-use way to connect to microphones, speakers, signal processors, amplifiers, loudspeakers and other audio devices using Dante, with up to 64x64 channels of bidirectional audio.

Nick Mariette, senior product manager, Audinate, said: "The success of any audio software application hinges upon customers being able to easily connect to audio devices in the system they are using. More and more audio devices connect via Dante's AV-over-IP. Dante Application Library brings Dante network functionality directly into applications, giving users access to an ecosystem of more than 3,000 Dante-enabled audio products from more than 500 manufacturers."

Dante is claimed to have the largest installed base of audio

The Dante Application Library will simplify audio software integration

devices in the AV space today. Data from RH Consulting indicates Dante is the protocol of choice in more than 91% of the networked audio products currently on the market. Dante Application Library provides a robust way for developers seeking to connect to this ever-expanding ecosystem.

Developers can integrate Dante device discovery and subscriptions directly into their software products for conferencing, recording, lecture capture, media playback, or other applications. Dante Application Library can simplify setup of unified communications applications, allow for easy deployment of software-based digital signal processors and audio utilities, streamline use of lecture and courtroom capture software, automate connections to DAW applications for recording and processing, or make configuration of Media Player software bulletproof.

"Each application runs its own instance of Dante, allowing multiple applications to send and receive networked audio independently from one another," said Mariette. "The possibilities for real-time audio processing and capture are endless."

Q&A

With a growing choice in content and platforms, audiences are firmly in the driving seat – meaning that content producers and advertising agencies have to respond and adapt more quickly than ever

What are the biggest challenges facing the media and entertainment industry?

The media and entertainment industry has always been home to challenges, but challenges are, in essence, the very reason this industry is driven by groundbreaking innovations. Here are some of the pressing challenges currently driving the best out of all key players:

Reach: Audiences are moving beyond pay-TV to a plethora of subscription-based and ad-supported platforms. This has left everyone from digital-first media companies to traditional broadcasters scrambling for reach.

Tech refresh: Broadcasters are under pressure to embrace cloud technology to diversify their content distribution and achieve greater efficiency and lower operational costs.

Revenues: Advertisers are slowly diversifying their spend across broadcast networks and the booming ad-supported streaming platforms, accelerating the

Baskar Subramanian
Amagi, CEO & co-founder

competition for ad revenues.

Data & insights: As audiences and advertisers diversify their presence, content owners are scrambling to access the right data on audience behaviour so they can strengthen their business strategies accordingly.

How is your company helping its customers to address the challenges faced by the media and entertainment industry?

Amagi's unified cloud workflows for broadcast and streaming TV enable broadcasters and media companies to easily create, distribute and monetise channels across any platform around the world. With our solid integrations across 50+ FAST platforms and 100+ D2C and AVoD platforms, we provide reach across 250+ million global households. Our ad tech solutions open up plenty of opportunities to monetise content with targeted ads, while our analytics solution provides deep insights into content and ad performance.

What do you think are the main drivers in your market sector?

We are clearly seeing two key drivers: audience consumption patterns and CTV. With greater choice in content and platforms than ever before, audiences

are in the driving seat, pushing broadcasters, content producers and advertisers to adapt their strategies to suit consumer expectations.

Likewise, the fast-growing connected TV market is redefining TV. It's giving increased thrust for streaming, providing content owners with greater access to data on audience behaviour and further accelerating competition in the industry.

What are your priorities for the next 12 months?

In 2022, we are focused on three key things: simplifying the process of channel creation and distribution for customers through a self-service, SaaS model; helping content partners maximise ad revenues from FAST channels using new, non-intrusive ad formats, and powering more live news and sports channels leveraging our upgraded product, Amagi Live.
www.amagi.com

POCKET WIRELESS OFFERS A SOUND INVESTMENT

CREATE & PRODUCE

👆 **Deity Microphones**

BY DAVID FOX

The Pocket Wireless from Deity Microphones is a low-cost compact wireless microphone kit that can be used with cameras and smartphones.

Most similar systems use 4mW Bluetooth 5.0 chips, but Deity uses a proprietary 25mW

wireless protocol to ensure it offers reliable signal strength even when talent blocks the transmitter's line of sight to the receiver. Where the transmitter is behind a user's body, the range reduces to about one-third of its 65m maximum. Latency is 19ms.

The receiver can be plugged into a USB port on a laptop or phone and operate like a USB microphone with the transmitter's built-in mic or the included lavalier microphone.

The Pocket Wireless can be charged via USB-C in 75 minutes providing power for more than five hours.

The basic Pocket Wireless system includes the transmitter, receiver, USB-C and TRRS cables, lavalier microphone with locking 3.5mm mic input, fur windshield and carrying case.

The Pocket Wireless Mobile Kit adds a table-top tripod that can fold to become a handle for vlogging, plus a phone clamp.

The Pocket Wireless transmitter and receiver have one-button pairing

IP BASE STATION FOR FREESPEAK INTERCOMS

MANAGE

👆 **Clear-Com**

BY DAVID DAVIES

Clear-Com's IP base station, FreeSpeak Edge Base Station, is designed to support the full range of FreeSpeak digital wireless intercom solutions,

including 1.9GHz, 2.4GHz and 5GHz, as well as third-party Dante devices.

Designed for quick deployment, users can be up and running with a transceiver and two belt packs in less than five minutes. Other features include a default system set-up right out of the box, the ability to add transceivers on the fly

from the front panel, and to add belt packs via USB.

Also new is the Station-IC Virtual Desktop Client, which follows in the footsteps of the Agent-IC mobile app and

brings the same intuitive UI to any Windows or MacOS user desktop.

Connecting to Eclipse HX IP-capable matrices or LQ Series IP Interfaces, Station-IC

can extend communications access to any remote location, quickly and easily, and is claimed to be suited to scenarios where key contributors of a production are required to remote-in to the main broadcast facility.

The Base Station supports the full range of FreeSpeak digital wireless intercoms

FOCUSING IN ON PTZ CAMERAS

CREATE & PRODUCE

Avonic

BY DAVID DAVIES

With its range of high-quality PTZ cameras, Avonic has put the emphasis on providing products that are easy to install and easy to operate. Specific ranges include the CM70 PTZ Series, which includes a rich set of features normally only found on broadcast cameras. These features include a user-adjustable colour matrix, tally light and SRT streaming.

Other products in this area include the CON300-IP PTZ camera controller over IP and serial, with one controller making it possible to control up to 255 cameras. The company describes the product as a "hybrid solution for new and existing installations".

Broadcast features on Avonic's PTZ cameras include a tally light and SRT streaming

ENCO HEATS UP CLIPFIRE AUTOMATION PLATFORM

PUBLISH

Enco Systems

BY DAVID FOX

Enco has added powerful new features to its ClipFire television automation platform. ClipFire is designed to offer broadcasters, cable operators and streaming media providers a comprehensive, reliable and cost-effective platform for organising, managing and automating critical broadcast production and integrated channel playout tasks.

It combines functions such as ingest, media asset management, dynamic graphics, live production and playout automation within a unified, easy-to-use platform while integrating seamlessly with third-party systems to create end-to-end media workflows.

ClipFire can now ingest and play out multiple channels of video simultaneously, with support for both baseband SDI

ClipFire can now ingest and play out multiple channels at once

and NDI inputs and outputs. On-the-fly transcoding enables ClipFire to play a variety of mixed file formats and resolutions with transitions, while a new native Clip Editor allows users to adjust in/out points and merge clips directly within the ClipFire application.

A new, resizable L-bar automates live video squeeze

backs to accommodate wraparound graphics for a more sophisticated look, while dynamic graphic overlays can be automated for real-time information display. ClipFire can also be optionally expanded to feed custom streaming channels with Visual Radio content on platforms such as YouTube Live and Facebook Live.

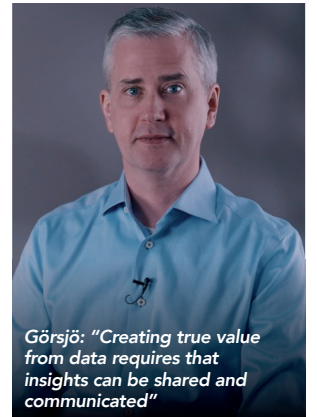# STAYING FLEXIBLE WITH ELASTIC ANALYZER

MANAGE

Agama Technologies

BY ANNE MORRIS

Görsjö: "Creating true value from data requires that insights can be shared and communicated"

Agama has introduced several new features and functions, including Agama Elastic Analyzer, which aims to take a new and flexible approach to asset monitoring.

Also available are the OTT QoS Analytics app, a new analytical dashboard feature, head-end assurance for on-premise, virtualised and cloud deployments, and plug-ins that are designed to be easy to integrate with OTT platforms or set-top boxes.

Johan Görsjö, CPTO, Agama Technologies, said: "Agama has been developing analytics applications for over a decade, and we see that creating true value from data requires that insights can be shared and communicated between stakeholders and teams, which is vital more than ever for our customers."

In terms of the analytics app, Görsjö noted that in today's fast-moving video market, "it is more crucial than ever to get the right insights at the right time, to be able to exceed customer expectations".

R UREADY FOR UNIVERSAL CONTROL?

CREATE & PRODUCE

Densitron

BY DAVID FOX

Densitron has unveiled its latest UReady control surfaces and Tactila Development Kit (TDK), designed to make human-machine interaction simpler.

It has released 1-row and 3-row versions of its UReady 2RU universal control surface. These feature a total of 18 or 54 buttons respectively. Both benefit from full Ethernet connectivity as well as Densitron's X86 CPU architecture and an Intel Premium Processor N Series (N2400) with 1.1GHz and 4GB RAM.

Also from the UReady range is a new version of the 2RU universal control surface with an embedded ARM processor and a 4RU 19in rackmount-ready TFT display with capacitive touch.

The TDK includes everything needed to develop a custom control surface. It combines an ARM-based computer with integral high-resolution display to provide a flexible graphical user interface with tactile rotary knobs.

Users can design their own GUI and combine it with tactile faders and rotary knobs via the installed Aurora software, which uses industry-standard Qt Creator. It is possible to develop fully working control surfaces for any application, without the need for mechanical product designs.

Densitron's Tactila allows you to get hands on with machine control

MERGING MAKES ITS MARK

BY DAVID FOX

New from Merging Technologies is the Merging+Hapi MKII. Apart from a significant upgrade to use the Z-Man processor, the big advance for the broadcast market is the provision of the additional RJ-45 for full ST-2022-7 redundancy. All Hapi option boards are fully compatible with the new unit, meaning that the audio performance retains the continuity demanded by Merging's user base.

The company's Pyramix digital audio workstation is often used for immersive content. The latest Pyramix 14 provides for the import and export of ADM files and remote control of the renderer.

The latest Ovation 10 can also import ADM files. Most recently, Ovation has been deployed to drive the audio and cues for Expo 2020 in Dubai, which continues through to the end of March 2022, where two independent fully redundant systems drive the L-ISA immersive sound system.

With the option to switch from Monitor to Music Missions, the flexibility of Merging+Anubis has been hugely expanded. Routing and network management have been simplified in the Music Mission to facilitate the setting up of an expanded network.

The latest Merging+Hapi MKII

Anubis SPS allows for ST-2022-7 compliance as well as ST-2110 and NMOS IS-04 and 05.

A recent partnership with Sonarworks to implement SoundID Reference in Anubis has also proved popular. This is particularly relevant for remote production where acoustics in the audio area may be compromised.

LOW-COST INTEGRATED SHARED STORAGE

BY DAVID FOX

Ardis Technologies has launched a 1U dual high availability AVFS head that offers users a lower-cost way into integrating shared storage.

The HA Dual AVFSHead and the installed AVFS file system

Sharing and caring: The new HA Dual AVFSHead from Ardis Technologies

can be used to integrate storage arrays from Infortrend, Seagate, Excelero, Dell, HP and others. Brands can be combined into shared storage which displays as a single file system, with folders and folders mountable as volumes.

These volumes can be shared using FC, Ethernet iSCSI, RoCEv2/NVME-oF and other storage area network protocols in the same set-up. Ardis advises users to predominantly use Ethernet and iSCSI. This can be combined with Fibre Channel when required and with RoCEv2/NVME-oF for extreme performance such as 8K uncompressed and above.

The file-based caching capability of AVFS is a useful feature when one of the storage arrays uses SSDs. In that case a hybrid solution can be formed. In such a configuration users access the material on the SSDs and the spindles are there as an online standby storage pool.

ROBYCAM GAINS FREEDOM OF MOVEMENT IN A SMALLER AREA

BY DAVID FOX

Movicom has introduced a lightweight version of its Robycam 3D cable-suspended camera system, the Robycam Compact, which is more suitable for studio use or for small and medium-sized sports venues.

The Compact can move freely through space following any 3D trajectory within a working area. This is enabled by a specially developed mathematical model serving as a base for real-time control of four automated winches, advanced gyro-stabilisation and motion control techniques.

Available in both 2D and 3D modes, Robycam Compact

The Robycam Studio in use on RTVE's La Hora de La 1

can be used for a wide variety of applications and supports augmented reality production.

Reduced weight and its compact size facilitate transportation, installation and dismantling, and it is designed to be a reliable and secure system that meets international safety standards. Its winches may be easily placed in venues with limited space, still providing enough pulling force to achieve the maximum working height of the camera. The system boasts a drop angle of only 4.5°, allowing it to work in low ceiling environments. The compact, lightweight dolly with its gyrostabilised camera head can control camera orientation along with the lens parameters.

The Robycam Studio version has been installed at Sky Italia and RTVE Spain, where the producers of breakfast TV show La Hora de La 1 and Up Films needed a system that would provide production value in the small space of Prado del Rey's Studio 1. Despite its smaller size, the system has full positional tracking and camera data compatibility with all major augmented reality graphics systems, such as the Vizrt system used on La Hora de La 1.

INTRODUCING CLOUD MANAGER

Magewell

BY DAVID DAVIES

Magewell Cloud management software provides centralised configuration and control of multiple Magewell streaming and IP conversion devices. It also offers stream management features including protocol conversion and SRT relay.

The system can run on a cloud hosting platform or on-premise server. Magewell claims an intuitive, browser-based interface makes it easy for integrators, administrators and users to manage multiple Magewell encoders and decoders across many locations.

Also new is Magewell's Ultra Encode family of universal live media encoders, which are designed to offer systems integrators and video professionals a flexible and affordable encoding solution for applications ranging from live streaming and remote contribution to IP-based production. Ultra Encode supports H.264, H.265 and NDIlHX encoding, plus a wide range of streaming protocols, including SRT, RTMP, RTMPS, RTSP and HLS. Ultra Encode can also be combined with Magewell's Pro Convert decoders for end-to-end media transport in NDIlHX or streaming formats.

Magewell's new Ultra Encode family of universal live media encoders

POSTLAB GIVES CLOUD SILVER LINING FOR MEDIA COMPOSER USERS
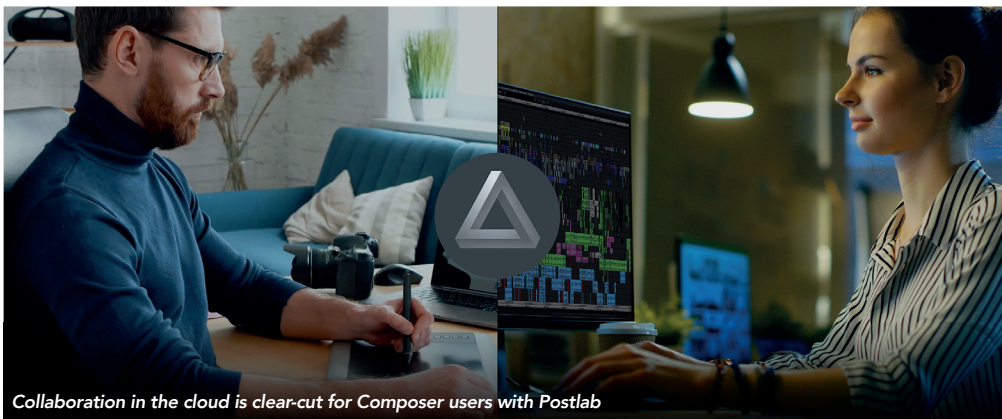
Collaboration in the cloud is clear-cut for Composer users with Postlab

Hedge

BY DAVID FOX

Hedge has unveiled Postlab for Media Composer, a cloud-native system for Avid editors, allowing them to work remotely, but together, through Avid's own collaborative tools.

Postlab for Media Composer serves as an extension to an on-premise Nexis or other Avid-compatible NAS/SAN storage, eliminating cumbersome access gateways and high latency associated with cloud-media workflows, and it is usable regardless of available bandwidth. Where bandwidth is insufficient for real-time cloud operation, media files are prefetched and securely cached, so they're available for immediate editing.

A flexible pricing model lets post facilities and media businesses use the Postlab platform without upfront commitment and scale or reduce team sizes when needed.

Paul Matthijs, co-founder and CEO of Hedge, said: "Media companies need a way to collaborate remotely right now. Given the uncertainty around the pandemic, many do not want to make significant investments or sweeping infrastructure changes. Postlab for Media Composer extends facilities' on-premise storage by providing much-needed secure remote editing for a small incremental cost. It's fast, secure remote editing that delivers the same great experience of being in the facility."

It includes "industrial-strength security without having to rely on slow and hard-to-configure VPNs", so editors can work from anywhere, even with slower internet connections.

Postlab can keep existing workspaces in sync and makes Avid's bin locking feature work in the cloud so users can seamlessly collaborate on projects without overwriting each other's work: a crucial component of any workflow, on-premise or in the cloud.

P5'S ELASTIC CONTAINER MAKES STORAGE STRETCH

Archiware

BY DAVID FOX

Archiware has released version 7.0 of its P5 Data Management Platform, which is claimed to contain "a slew of innovative features".

These include an elastic container storage engine for disk and cloud, true incremental cloud backup, an LTFS engine with Archiware's own driver that can import foreign LTFS volumes and offers LTFS exchange support on all platforms, as well as fast verification of written data.
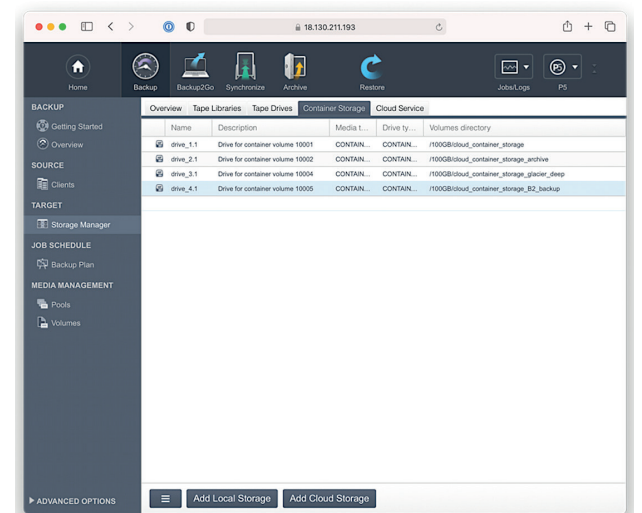
P5's new container storage format for backup and archive to cloud storage moves away from the virtual tape concept. Multiple volumes are now replaced with single Storage Containers to access disk and cloud storage.

As of P5 version 7.0, regular full backups are a thing of the past. The amount of data requiring renewed backup to disk and cloud is significantly reduced, thanks to the new elastic container storage format, along with the intelligent organisation of the data within.

Expired containers are simply removed from the backup when no longer needed. Full backups are only required when writing to LTO tape, allowing whole tapes to be recycled and reused.

Support for import of foreign LTFS volumes brings benefits for users with data stored on such tapes. LTFS tapes can now easily be searched and browsed by importing them into P5 Archive to an index of choice. All LTFS tapes written by P5 or third-party LTFS software are supported. Formatting, reading and writing of LTFS volumes for import/export is supported on all P5 platforms, including Windows and FreeBSD.

Archiware P5 has replaced multiple storage volumes with a single container

BACKPACK MAKES HARD CASE FOR FLEXIBILITY

BY DAVID FOX

Plaber's new HPRC5200 range is claimed to offer "the first and only protective case that becomes a backpack in a matter of seconds".

On the bottom of the case there is a removable panel that can be easily replaced with soft padding. A kit can quickly and easily transform the case into a backpack, and includes shoulder straps, plate, backrest, screws and Allen key.

With the HPRC5200 cases, the company claims the performance characteristics of the entire HPRC (High Performance Resin Cases) range have been improved. The cases are guaranteed for life and thanks to their durability can be reused many times, while each case and all its parts and components can be entirely recycled. The case can be purchased empty, with pre-cubed foam or with Second Skin inserts and dividers.

The case structure is made of TTX01, a patented material composed of a polypropylene-based compound containing mineral fillers and elastomer. This keeps the case strength unaltered while increasing its elasticity and ensures a high resistance to impacts, falls and pressure. The cases are also claimed to weigh up to 20% less than the competition.

The new HPRC5200 can turn into a backpack in seconds

LATEST VERSION FOCUSES ON USABILITY

BY DAVID FOX

The latest version of eMAM and eMAM Cloud media asset management software offers an improved Feeder tool for more efficient media ingest. New live options allow organisations to edit during capture, with highlight delivery during a live event.

Version 5.3 of eMAM also includes extension panels that allow editors and designers inside Adobe's Creative Cloud apps (Premiere Pro, After Effects, Photoshop, Illustrator and InDesign) and Apple Final Cut X to work seamlessly with non-technical staff using the web interface.

Beyond local storage, AWS, Azure and GCP storage, more tools and systems are supported, including Teradici, Lucid Link, Drastic Media Reactor, NiceDV, FSX, Qumolo and Wasabi. The new version supports sequence stitch and deliver, conversions of Premiere Pro bins into categories, and organisation of projects using collections.

The software can now distribute/publish media through Vimeo, VideoFlow and Wowza. Advanced media packaging with Ateme Titan allows users to dynamically select elements for packaging, transcoding and segmentation with Grass Valley Morpheus.

eMAM is available in AWS Marketplace as a SaaS-managed system including all AWS storage and services. Also available is eMAM's Platform as a Service (PaaS)/Server/AMI system where customers use their own AWS storage and services.

Click and select: Storage management in eMAM's latest version 5.3 software
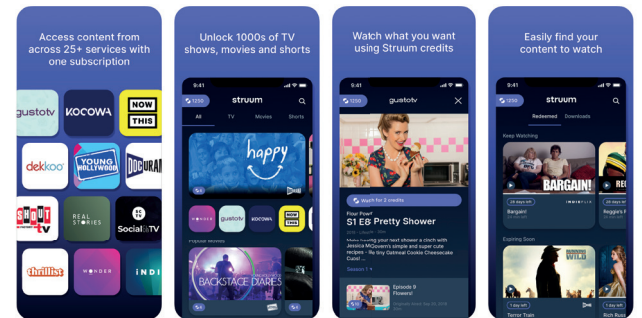
STRUUM PUTS CONSUMER IN CONTROL

BY JO RUDDOCK

Evergent's monetisation and customer management tools are now available across Struum's subscription-based platform, which enables users to sample content from dozens of participating streaming services from around the globe.

Struum aims to streamline the video streaming experience by providing viewers with one central destination and a single monthly subscription to access a diverse array of programming.

The platform's credit-based subscription model allows users to cut through the global streaming landscape to choose the films and TV episodes that best match their interests from an extensive range of participating services and content partners.

Eugene Liew, CTO and co-founder of Struum, said: "Struum's mission is to provide customers with a curated streaming experience that perfectly matches their tastes and interests. Evergent's monetisation and customer management tools are essential to that, enabling content providers to deliver against these tailored offerings in an increasingly complex streaming environment."

Vijay Sajja, founder and CEO of Evergent, said: "Rather than force customers to make difficult selections with limited budgets for entertainment, Struum is breaking new ground by offering a credit-based, à la carte streaming experience."

Struum operates a credit-based subscription model

TAKING A FRESH APPROACH

BY MICHAEL BURNS

Globecast has unveiled its new 4K live channel cloud playout capabilities, which it claims is a significant advance for the industry. Using a leading cloud service provider alongside its own in-house cloud MAM, Orchestrator, Globecast now allows its customers to take full advantage of cloud OPEX models for live 4K playout, with the inherent fast time to market and service flexibility.

Globecast is partnering with Gravity Media to support customers at a major sporting event in 2022

This includes the cost-effective and increasingly popular creation of pop-up channels.

Globecast has also worked across 2021 on its remote production offering and commentary services. It recently announced a partnership with Gravity Media to support customers at next year's major football tournament, providing end-to-end contribution, connectivity and production services.

It has also expanded its OTT solution portfolio, announcing a partnership with Viaccess-Orca and MainStreaming for OTT solution development.
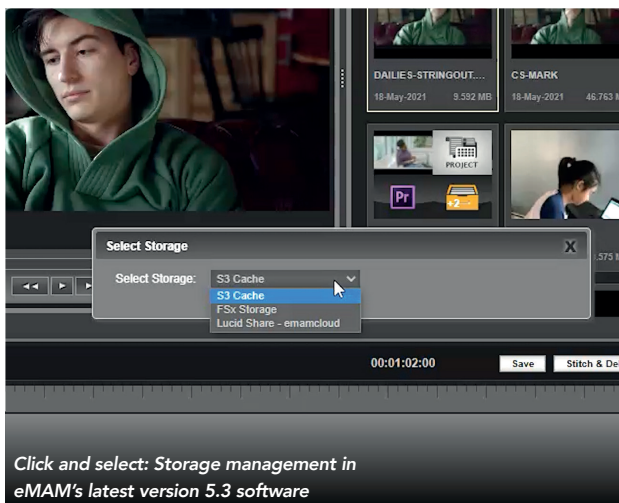
ELSIE FULL-FRAME PRIMES POP WITH WARMTH

CREATE & PRODUCE

Leitz

BY DAVID FOX

The new Elsie lenses from Leitz are designed for full frame use offering consistency in size and speed to serve a broad range of productions. The 13 lens set ranges from 15mm to 150mm, all at T2.1, and cover a 46.5mm image circle.

They are claimed by Leitz to

A Leitz Elsie 25mm lens fitted to a RED camera

offer "warmth and resolution" alongside a "noticeable but gradual falloff of resolution and illumination as the image approaches the corners to create a dimensional pop that gently draws the viewer's eye towards the centre of the frame." They are designed to complement the existing Leitz Zooms in both image look and feel.

They also boast a new bokeh design developed in conjunction with Leica Camera that more closely mimics Leica's M-System

lenses "by creating out-of-focus elements that are painterly while still being recognisable".

The lenses are available in LPL mount, with Cooke/i and LDS-2 data connections, to fit cinema cameras such as the Arri Alexa LF or Alexa Mini. They can also be fitted with adapters for use with Canon EF and Sony E mounts.

The Elsie lenses will cost about €19,000 each, making them more affordable than the company's Cine Primes. The first five focal lengths should be released early next year.

A NEW VISION FOR KVM

MANAGE

Guntermann & Drunck

BY DAVID FOX

German KVM manufacturer Guntermann & Drunck's new VisionXS is a high-end multi-purpose extender for KVM connections that promises to be smaller and more powerful.

It was designed to fit a wide range of functions into the smallest possible housing, offering high-performance KVM extenders with a bandwidth of 10G and video transmission for resolutions up to 4K.

Previous devices from the manufacturer supported a data transfer rate of 1Gbps per line, which was enough for full 4K video thanks to G&D's own compression method. However, with a bandwidth of

10Gbps, VisionXS opens up new possibilities, claims the company. Initially, G&D will provide extender modules for KVM-over-IP, followed by versions for classic KVM systems for direct transmission.

VisionXS has the ability to combine the extenders with G&D's matrix systems, so the units can either be operated in pairs as an extender line or via a matrix. They are also fully compatible with existing

Visionary: Guntermann & Drunck's new VisionXS 10Gbps KVM extender

models.

Initially, there is a high-end system for DisplayPort UHR with 10G bandwidth, with devices for HDMI and DVI-I next. In addition, dual head modules allow the transmission of two video signals via one transmission cable.

The VisionXS-IP-DP-UHR system is compatible with the central ControlCenter-IP appliance. Combined, they form a matrix for KVM-over-IP, so each connected workstation can be granted access to any computer connected to the KVM system.

TËNK VIDEO PLATFORM GOES GLOBAL

MONETISE

Kinow

BY ANNE MORRIS

Kinow has helped one of its first customers in France to create a multi-country streaming site.

Launched in 2016, Tënk emerged out of Etats généraux du film documentaire de Lussas – a festival organised every year by producers, directors and technicians. Kinow helped to launch the Tënk platform in France and this year enabled the SVOD platform to extend into Europe and Canada.

Tënk has just launched a new interface that is fully integrated with Kinow via the Graph QL API. By integrating Kinow APIs, Tënk is able to customise and manage its editorial strategy with complete autonomy. The company can propose a new design, with a new
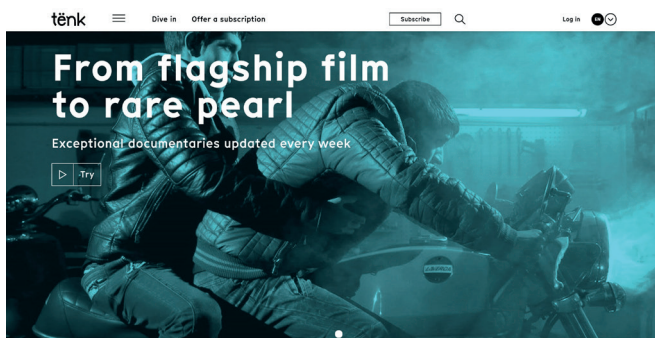
Tënk is providing a multi-country streaming site with the help of Kinow

navigation experience, while benefiting from the features and advantages of the Kinow product.

The Tënk video platform has thus become a global site with a multi-country catalogue. The Kinow platform enables the company to translate film descriptions, account for different VAT rates and manage its catalogue according to each country (film availability depending on rights holders).

For Canada, Kinow worked

with Tënk on a second platform that is also supported by the Kinow streaming service.

Mohamed Sifaoui, CEO, Tënk, said: "Kinow has accompanied us since the beginning of the Tënk adventure. Their solution, used for more than five years, is now at the heart of our growth and strategy in France and internationally. We are proud to propose our European offer on a single platform, supported by a Kinow back-end, for a unified and optimised user experience."

WPE WEBKIT UPDATES

PUBLISH

Igalia

BY ANNE MORRIS

Open source software consultancy Igalia has announced a number of new developments for WPE WebKit, the reference port of Apple WebKit for embedded devices.

Igalia, which claims to be the second-largest contributor to the WebKit project after Apple, noted that WPE is deployed in hundreds of millions of devices from set-top boxes and smart TVs to cooking machines and infotainment systems.

Xavier Castaño García, partner at Igalia, highlighted that the company "has helped advance quite a lot of exciting things in WPE WebKit in 2021" through collaboration with projects utilising WPE.

Castaño García: "Igalia has helped advance quite a lot of exciting things in WPE WebKit"
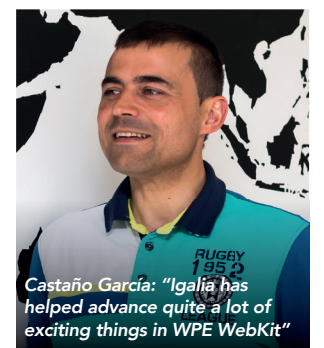
These include the creation, and submission to the WebKit project, of a new layer-based SVG engine unlocking hardware acceleration for SVGs and unifying the historically separate HTML/CSS and SVG rendering pipelines; adding an OffscreenCanvas implementation to WebKit, allowing the utilisation of multiple processes and cores to paint on a 2D canvas; the development of WebXR for WebKit; and an experimental Android version of WPE with demos illustrating XR.

PAVOTUBE LEDS EXTENDED

CREATE & PRODUCE

🖱 **Nanlite/Nanlux**

BY DAVID FOX

Three years after releasing its PavoTube LED lights, Nanlite has launched its second generation units, with extended colour capability, more durable construction, enhanced battery life and improved control.

There are three sizes initially: the 60cm-long 35W PavoTube II 15X; 1.2m 70W PavoTube II 30X; and 2.4m 106W PavoTube II 60X – a size not previously available. They all now run RGBWW LEDs, compared to just RGB before, which increases the variety of colours they can generate (up to 36,000). Having additional white LEDs also improves the colour temperature range (now 2,700K to 12,000K, in 100K increments –

Pixel FX: The new PavoTube II units offer a variety of lighting effects

with green/magenta adjustment). Colour accuracy is high, with a Television Lighting Consistency Index rating of about 98.

The tubes offer a variety of lighting effects, such as flash, pulse, storm, firework, explosion, or police car, as well as Pixel FX, including gradients, scrolling colours, multi-colour fade, fire, rainbows or driving – the 15X has eight controllable pixels, 30X has 16 pixels and 60X has 32 pixels.

For control there is a new Nanlink iOS and Android app that works directly with the lights via Bluetooth. It can also be used via WiFi with the addition of an optional transmitter box. They also support wired DMX/RDM.

Each unit includes a built-in battery, which can run the lights for more than two hours at full brightness (they have 0 to 100% dimming), as well as AC power supply.

NEW TECHNICAL RECOMMENDATIONS FOR JPEG-XS TRANSPORT PUBLISHED

MANAGE

🖱 **Media Links**

BY MICHAEL BURNS

The JPEG-XS Activity Group within the Video Services Forum (VSF), supporting industry interoperability, recently posted new technical recommendations. Chairing the group which updated the industry on interoperable WAN/LAN transport of JPEG XS compressed video, was John Dale, CMO of Media Links.

The newly announced VSF TR-07 Technical Recommendation defines profiles for streaming of JPEG XS video and establishes an interoperable method for transporting that compressed video along with associated audio and ancillary data across WAN networks in an MPEG-2 Transport Stream. Also announced, the TR-08 Technical Recommendation is focused on LAN applications and defines profiles for streaming of JPEG XS video over SMPTE

John Dale, CMO of Media Links, chaired the JPEG-XS Activity Group

ST-2110-22. It adds information for the interoperable transport of audio and ancillary data over other relevant ST-2110 standards.

Both Technical Recommendations define interoperable capability sets which include multiple interoperability points for specific target applications. These applications could include typical broadcast 2K formats and frame rates, 4K and 8K resolutions including HDR and WCG, as well as multimedia extensions including RGB with 4:4:4 sampling, at both 8- and

12-bit depths.

JPEG XS is being implemented in many industry products and is available in several Media Links offerings, including the MDP3020 MAX IP Media Gateway. The latter supports up to four video channels using JPEG XS compression, which achieves bandwidth reduction ratios of up to 10:1 and beyond, visually lossless quality and sub-millisecond latency. The device can be used in various configurations, either separately or in combination due to its multichannel capability.

INTERRA STREAMLINES IP MONITORING

MANAGE

🖱 **Interra Systems**

BY DAVID FOX

The Orion 2110 Probe from Interra Systems supports the SMPTE ST-2110 standard for IP-based media workflows, to provide broadcasters with future-proof, end-to-end monitoring.

It performs comprehensive ST-2110 monitoring, including ST-2110 main and redundancy signals, and NMOS-based ST-2110 feed discovery in the network. It also addresses the diverse complexities and challenges of the SDI and IP environments, offering a simple, powerful approach to

content monitoring, especially for production and contribution applications.

Anupama Anantharaman, VP product management, Interra Systems, said: "We have developed the Orion 2110 Probe with a smart feature set that includes validation of individual essences, SDP protocol checks and monitoring density, among others. Our customers will be able to ensure high quality and performance for SDI-IP streams and take full advantage of the flexibility and benefits of ST-2110."

The Probe offers a set of REST APIs to ensure seamless integration with third-party software, including most network management systems, according to the company.
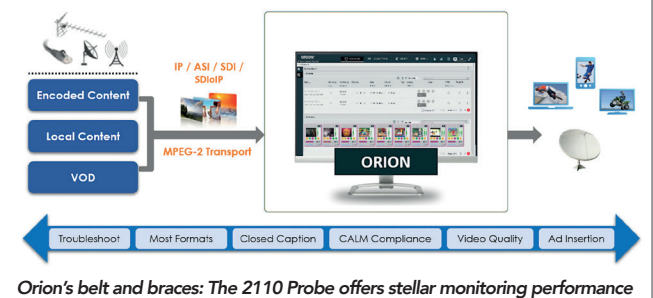
Orion's belt and braces: The 2110 Probe offers stellar monitoring performance

ROBOEYE UPDATED

CREATE & PRODUCE

🖱 **Telemetrics**

BY DAVID FOX

The PT-RE-2 RoboEye robotic 4K pan/tilt camera system has been updated with several new features, such as compatibility with Telemetrics' reFrame Automated Shot Correction technology, and integration with a new teleprompter system that can track the talent across the set.

RoboEye is a fully integrated robotic PTZ camera system that includes a 4K digital camera with a 1in Exmor R CMOS sensor, zoom lens and built-in ND filters. It offers advanced servo motors and image stabilisation as well as a 50/60p (HD) frame rate.

For the teleprompter, RoboEye is combined with an EP-6M Televator elevating pedestal and a teleprompter, giving studios a way to robotically pan and elevate to a

variety of heights, in sync with the talent as they move across the set.

When paired with the latest Telemetrics RCCP-2A Robotics and Camera Control Panel and optional STS Studio or LGS Legislative software packages, RoboEye leverages AI and facial recognition algorithms built into its reFrame Automatic Shot Correction technology to automatically keep talent in frame. The software locks the camera onto the talent and trims the shot, without the operator having to touch the controls.

The new RoboEye Teleprompter with a Televator Mini and new floor dolly

AJA DISKOVERS THE IMPORTANCE OF MANAGING DATA

MANAGE

👆 **AJA Video Systems**

BY DAVID FOX

AJA Video Systems has taken an equity stake in data analytics software developer Diskover Data and launched AJA Diskover Media Edition.

The new software is based on open source roots and lets users easily search, find and analyse media asset data originating from on-premises, remote or cloud storage – aggregating associated metadata into a unified global index. Users can search across multiple platforms simultaneously, and discover

and present data in a master index, while generating reports and cost analysis to a range of roles across productions or enterprises.

The software can index hundreds of petabytes of data and more, to locate files, analyse them and pinpoint misallocated resources. It allows metadata to be harvested to add business context and insights and help identify wasted storage space, ageing and unused files, data changes and more.

According to Nick Rashby, president of AJA, this is the first time that AJA has invested in another company.

Rashby said the attraction included both the technology, "which is rock solid" and the

Rashby: AJA Diskover Media Edition is based on "rock solid" technology

people behind it, which he believes will gel well with AJA's knowhow, "to create a very compelling solution for our customers and immediately start solving what we feel are very

relevant problems… which are going to continue to grow unless addressed".

Paul Honrud, CEO for Diskover, said: "We're excited to scale our offering into the media content

creation arena. AJA offers best-in-class solutions for content production and is an ideal partner for us, as many of their existing customers will benefit from our solution."

AETA SCOOPS UP 5G FOR AUDIO TRANSPORT

CREATE & PRODUCE

👆 **Aeta Audio Systems**

BY DAVID FOX

Aeta Audio Systems has added 5G capability to its ScoopTeam commentary unit, for better sound quality and ease of use.

The company claims this "future-proofing" of the outside broadcast unit will allow users to seamlessly cover events while ensuring their audience benefits from impeccable audio quality.

It offers improved speeds (up to 100Gbps, theoretically 100 times faster than 4G) and should greatly reduce the risk of losing time on connection setups, such as network bonding, even when working in crowded environments.

Yann Vonarburg, general manager of Aeta Audio Systems, said: "After carrying

out some in-depth R&D work, we're happy to be able to offer our clients the most advanced network connectivity available today. The fact that ScoopTeam can now embed a 5G network connection will result in safer audio links, even via wireless networks that should not be saturated anymore, greatly reducing AoIP connection obstacles."

The ScoopTeam unit also offers Ethernet, 4G, WiFi, VoLTE ISDN and AES67 connections together with Aeta remote access technology, enabling technicians in the master control room to take control of one or more units wherever they are located.

ScoopTeam can also now accept two wireless modules, so that it can connect to both 4G and 5G networks simultaneously, as well as offer bonding and double streaming options if still necessary.

Commentary boxed: 5G joins the ScoopTeam pitch side

KAON MIDDLEWARE AIDS ALLENTE INTEGRATION WITH GOOGLE CBS

CONSUME

👆 **Kaon Media**

BY JO RUDDOCK

Nordic pay-TV company Allente has become one of the world's first operators to complete Google Common Broadcast Stack (CBS) integration on an Android TV Operator Tier set-top box. The project was completed in six months thanks to close collaboration between Allente, Kaon Media, Nagra, Broadcom, 3SS and Google.

Hybrid Kaon BCM72180 PVR STBs became available to Allente's over 1 million

subscribers, with Nagra Media CAS, Broadcom 72180 SoC and based on 3SS UX technology, in Q3 2021.

Among the stated positive outcomes of adopting Google CBS are easier and faster integration for hybrid Android TV OS devices, accelerated time-to-market, simplified upgrades and reduced overall total cost of ownership.

Kaon STB middleware is fully integrated with the Android TV software stack to enable new pre-certified Android TV capabilities such as custom over-the-air update, among others, further accelerating the introduction of new features.

Tom Buhl, executive vice president, Kaon Media, said: "We are extremely

proud to be the first OEM to complete STB integration on a Broadcom SoC with Nagra CAS seamlessly integrated with UX delivered by 3SS. The rapid pace of integration with our highly esteemed partners could hardly be more powerful evidence of the many benefits made possible by the Google Common Broadcast Stack."

Jon Espen Nergård, CTO, Allente, said: "Completion of our STB integration so rapidly is a clear testament to the technology, engineering skill and dedication to customer satisfaction from our partners Kaon and 3SS, and indeed those of our wider partnership of collaborators which includes Nagra, Broadcom and, of course, Google."

Kaon STB middleware enables integration of Android TV capabilities
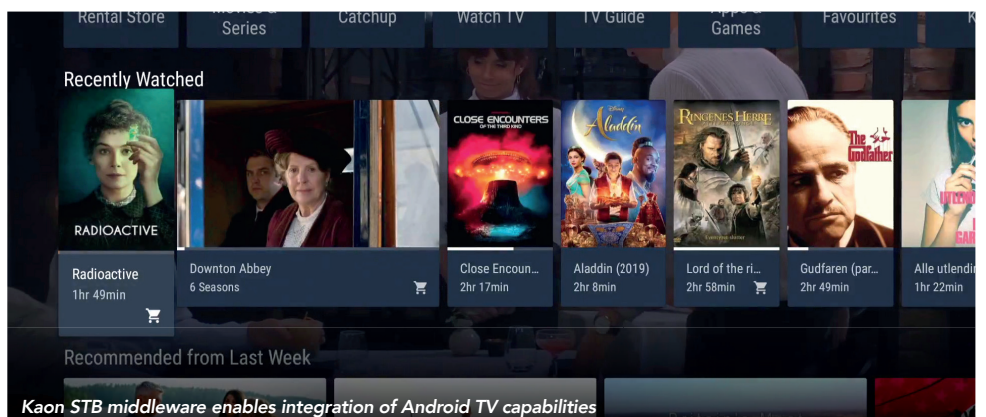
ANGÉNIEUX WEIGHS IN WITH TWO FULL-FRAME LIGHTWEIGHT ZOOMS

CREATE & PRODUCE

Thales/Angénieux

BY DAVID FOX

Two new full-frame Optimo Compact Zooms, a 21-56mm T2.9 and a 37-102mm T2.9, have been announced by Angénieux, designed to complement the existing Optimo Ultra 12X and the Optimo Prime Series lenses.

They use a completely new optical design (compared to the previous Optimo 15-40mm and 28-76mm zooms) to enable full frame coverage (a 46.3mm image circle). They have a zoom ratio of 2.7x, with a 60cm close focus distance and a front diameter of 114mm.

The zooms are claimed to offer a good balance between contrast and resolution, with an appealing cinematic look, and "perfect homogeneity of colour, contrast and resolution". They

Clément Mondesert, Optimo Ultra Compact project manager, with the 37-102mm

are said to exhibit no ramping and minimal breathing.

Both are compact and lightweight (the initially available 37-102mm is 235mm long and weighs 2.6kg), including a precise, ergonomic focus ring with scale rotation of 310°, with

user-changeable focus marking rings (imperial or metric). They can cope with extreme shooting environments with a temperature range from -20°C to +45°C. The lenses come with a PL mount and support Cooke /i metadata via an external connector.

WORLD'S FIRST CLOUD-BASED LIVE FRAME RATE CONVERTER

MANAGE

InSync Technology

BY JO RUDDOCK

M2A Media, InSync Technology and Hiscale have collaborated to bring the first motion-compensated, live, cloud-based frame rate conversion service to the global market.

M2A Connect | Cloud Frame Rate Converter is integrated with M2A Media's cloud acquisition, aggregation and distribution system, M2A Connect. A live, cloud-based, motion-compensated frame rate conversion service, it's delivered entirely as an on-demand, pay-per-use solution.

M2A Connect | Cloud Frame Rate Converter is designed to make it easier for global broadcasters to easily accept content in any frame rate and to convert it to a high-performance feed for local

output, regardless of where the content owner may be, without the need to invest in, host and support dedicated hardware.

It is orchestrated through M2A Connect scheduling, which means live events can be scheduled for frame rate conversion as required without manual intervention on the day.

Marina Kalkanis, CEO and founder of M2A Media, said: "As broadcasters transition their workflows to the cloud, the demand to move traditional hardware-based services to the cloud

also grows. We immediately saw the value of a cloud-based frame rate conversion service and were delighted to collaborate with InSync Technology to be the first service providers to offer exactly that."

Paola Hobson, managing director at InSync Technology, added: "FrameFormer from InSync Technology offers exceptional quality frame rate conversion for all types of content, extending usual national programming to a global reach."
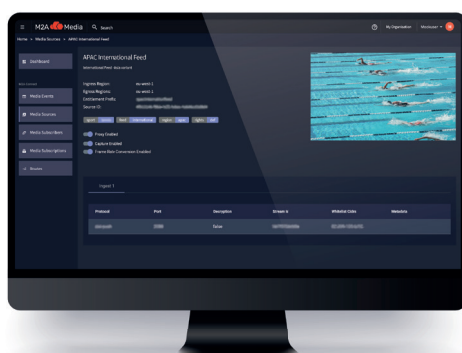
M2A Connect | Cloud Frame Rate Converter is delivered as an on-demand, pay-per-use solution

WIZTIVI CREATES A PERSONALISED VIDEO SOUNDBOX EXPERIENCE

CONSUME

Wiztivi

BY JO RUDDOCK

Sagemcom's new Video Soundbox benefits from a user interface by Wiztivi, bringing together video, audio and voice control, and opening up new possibilities for a significant level of customisation.

Video Soundbox is the world's first Dolby Atmos-certified set-top box, with an audio solution by Bang & Olufsen and built-in Amazon Alexa to control the varied services with voice command.

Managing the interactions between all the services and cutting-edge technologies was the biggest challenge for Wiztivi. The customer

journey is optimised thanks to a modern design, increasing both the time spent in the operator's universe and the average revenue per user. The use of voice command benefits from on-screen feedback, and any home devices connected to it can be controlled by voice.

Ari Bensimon, CEO at Wiztivi, said: "Certain innovations allow incredible progress in their field, and the Video Soundbox is definitely a step forward. Up to now, it has been impossible to bring such a degree of customisation and to keep a simple and unified user experience while maintaining the operator's brand universe. We pride ourselves on having brought this project to life and to see how successful it is for those of our customers who have already marketed it."

Video Soundbox is the world's first Dolby Atmos-certified set-top box

SIGMA BROADENS RF MATRIX PORTFOLIO

MANAGE

DEV Systemtechnik

BY ANNE MORRIS

Sigma, a distributing matrix system, is new from DEV Systemtechnik.

Sigma is built on DEV Systemtechnik's Archimedes L-Band matrix switch system. According to DEV, Sigma allows satellite network operators and broadcasters to choose any input and output configuration with a granularity of eight physical ports, up to 128 inputs and 128 outputs.

Ports are selectable between 75 or 50 Ohms with F-type or SMA connectors. In addition, Sigma supports direct optical

DEV's new system aims to meet customer needs for flexibility and simplicity

input ports. With up to three hot swappable power supplies, the system can support redundant LNB powering on all 128 input channels. All I/Os and the entire switching fabric are designed to support extended L-band signalling from 850MHz to 2450MHz.

UHD DVR SET FOR SKY BRASIL

Wyplay

BY JO RUDDOCK

Wyplay has been selected to power Sky Connect, the latest 4K Android TV DVR launched by Sky Brasil.

Sky Connect provides a wide set of features, including live satellite TV, pay-per-view, push and broadband VOD all in 4K UHD. Subscribers can enjoy their favourite content in HD at any time with DVR and OTT streaming services such as Netflix or Sky Brasil's proprietary VOD platform. They can also use 'far-field' voice control through the Sky Connect Android TV environment.

By leveraging the work done for the launch of Linux STBs for Sky Brasil and DirecTV Latin America in 2016, Wyplay managed to meet parent company Vrio's expectations. Wyplay also provided the Sky Brasil technical engineering team with the Android TV software stack, STB integration services, validation services and support for STB program management.

In addition, the LATAM operator can now use FAMS, Wyplay's analytics solution, to study event reporting analytics (zap, stand-by, VOD and others).

Jacques Bourgninaud, CEO of Wyplay, said: "We are proud to have been selected once again by Vrio to work on this project for the new Sky Brasil Android TV STB. Wyplay is now a long-

Wyplay is to develop new features on the operator's existing STBs

term partner of trust for Vrio and will continue to provide valuable services throughout the years."

As part of the project, Wyplay will develop new features on the operator's existing STBs and provide on-going annual software maintenance as well as support for Android OS and APK updates on Sky Connect.

RE AMPERE POWERS UP RENDERING POTENTIAL

Zero Density

BY JO RUDDOCK

Zero Density has released its first hardware solution for virtual sets and broadcast graphics, Re Ampere. Each Re Ampere can double the rendering performance of real-time graphics – enabling broadcasters to tell stories with photorealistic UHD visuals straight out of the box, according to the company.

Kuban Altan, co-founder and vice president of R&D at Zero Density, said: "Real-time graphics can be revolutionary, but they also come with a lot of questions. After years helping clients like
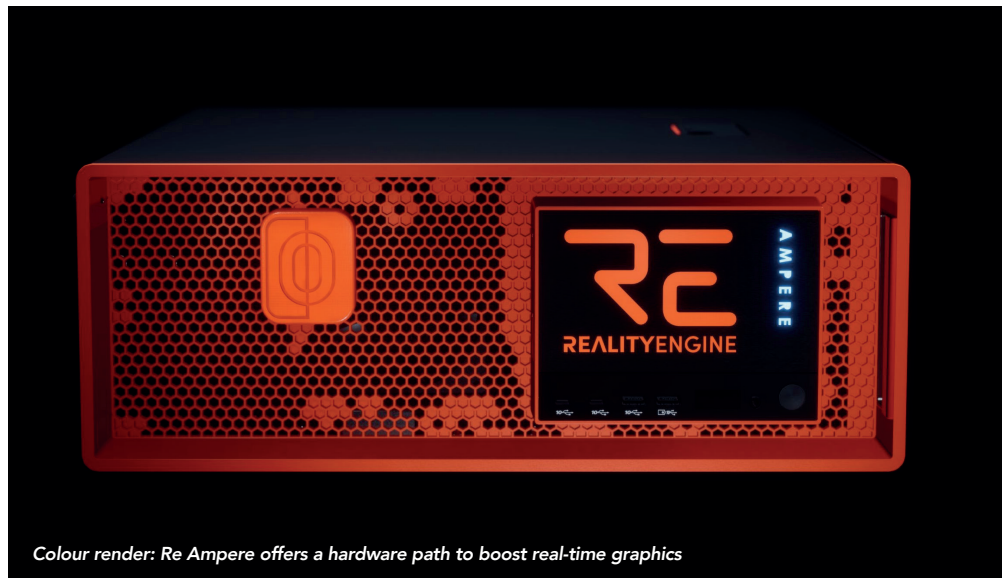
Colour render: Re Ampere offers a hardware path to boost real-time graphics

Eurosport, The Weather Channel and RTL use immersive virtual graphics to tell their stories, we've heard one come up more than most: 'What hardware can I use? With Re Ampere, broadcasters never have to wonder again. Everything they need to create high-performance real-time graphics is now in a simple plug-and-play box."

Featuring the Nvidia RTX A6000 GPU and AMD Ryzen Threadripper Pro CPU, each Re Ampere is configured to optimise not just rendering performance, but also real-time video I/O, keying and compositing, even in multi-camera setups. Zero Density claims a single unit has enough processing power to enable UHD graphics streaming in real-time at 60fps without dropping a frame.

Additional benefits for customers include the ability to access AI-driven processing power and a deep learning neural network to create sharper images and real-time ray tracing. In addition, GPU-driven processing and a PCIe Gen4 bus can help deliver multi-camera renders, composites and SDI video from a single unit.

VIVID COMPRESSION DELIVERS 8K REAL-TIME ENCODING AND STREAMING
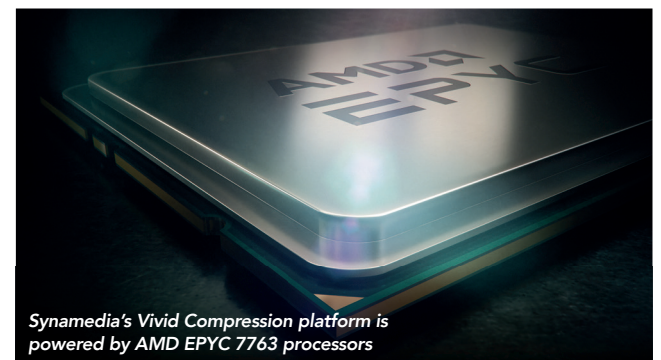
Synamedia

BY JO RUDDOCK

Synamedia has achieved 8K real-time encoding and streaming with 'zero compromise' on its Vivid Compression platform powered by AMD EPYC 7763 processors. Leveraging AMD processors, Synamedia says it has eliminated the need for screen splitting and other technology tricks which compromise video quality.

James Knight, director, global media and entertainment/ VFX, AMD, said: "Synamedia turning to third-generation EPYC processors was a natural fit for the high-performance needs of 8K real-time encoding technology."

The Synamedia team built compression algorithms specifically to remove the need for technology trade-offs. This is achieved by leveraging the full codec toolset powered by AMD EPYC 7763 processors. There is no need to split the 8K signal into 4K quadrants, nor for dedicated GPU memory or other hardware acceleration. This is said to eliminate issues with memory communication and throughput, as well as local video quality variations. These advancements, combined with Synamedia Vivid-AI artificial intelligence technology, produce true 8K video, according to the company.

Synamedia has also extended

Synamedia's Vivid Compression platform is powered by AMD EPYC 7763 processors

its cloud-based video quality analysis solution, Video-Quality-as-a-Service (VQaaS), with 8K resolution. VQaaS provides both objective measurement and subjective visualisation analysis, to measure improvements of 8K video quality.

Elke Hungenaert, VP, product management, Synamedia, said: "By combining our team's expertise with the performance of AMD EPYC processors, we can enable more 8K content to the market at a more affordable price."

CATDV UPDATE GAINS GOOD REVIEWS – AND APPROVAL

MANAGE

Quantum

BY DAVID FOX

Quantum has released the latest version of its CatDV content management, curation and orchestration software platform, with major new features, performance enhancements and a range of new deployment options to address the needs of agile content production teams.

The update introduces a new review and approval framework with real-time messaging, support for clip stacking meta-folders to flexibly organise content with versioning to make team-based collaboration faster and more focused, and many more new features, including Nvidia-accelerated transcoding.

Dave Clack, VP and general manager, cloud software and analytics, Quantum, said: "CatDV is a deep technology platform that allows our customers extreme flexibility to build custom

Clack: CatDV now delivers "new levels of production efficiency"

workflows and adapt to rapidly evolving collaboration needs. The new review and approval framework, when combined with the clip stacking and versioning features, gives creative teams extraordinary flexibility to build highly specialised and efficient workflow automation for new levels of production efficiency."

This latest version of CatDV plays a key role alongside other recently introduced systems from Quantum, such as its Web Scale Content Archive Reference Architecture and Collaborative

Workflow Solution for creative teams. The latter is an example of the increased performance possible with a tight integration of software, hardware and services. This integrates a turnkey, ready-for-production deployment of Quantum StorNext shared storage, CatDV and a range of options for adding archiving capacity into the petabyte range and beyond.

Quantum claims the option to choose Nvidia RTX GPU-based transcoding means broadcasters can dramatically accelerate content transcoding workflow steps.

RACKING UP THE NEWS ON THE MOVE

CREATE & PRODUCE

Appear

BY JO RUDDOCK

The new X10 DSNG is tailor-made for digital satellite news gathering (DSNG). It features a switch module, with built-in satellite reception and ASI IO ports, that supports encoding and satellite uplink in a single 1RU chassis.

DSNG vans are often needed in conjunction with outside broadcast trucks to support live production for large events. For such vehicles, it's vital to have equipment that can deliver content via satellite or IP ports to support the use of satellite and fibre delivery simultaneously.

Appear claims the X10 DSNG provides such functionality, which DSNG operators need for contribution including encoding/decoding and satellite uplink/downlink. The X10 DSNG can support 1G to 10G of traffic and features a switch module with dual 1G IP IO ports, satellite demodulator and two ASI IO ports, an encoder module, a satellite modulator module and a decoder module.

Common compression technologies and video protocols are supported, while the programmable hardware can support emerging standards. With the modular nature of the X10 DSNG, additional compression standards can be supported through adding JPEG XS and JPEG2000 features.

The X10 DSNG supports both fibre and satellite delivery

DROP-IN VERSATILITY AND DURABILITY COMES INTO VIEW

CREATE & PRODUCE

Breakthrough Filters

BY DAVID FOX

The new Cinema DFM (or drop-in filter mount) from Breakthrough Filters is a versatile PL filter mount that can fit a wide range of camera systems, including Sony E, Canon RF, Red DSMC2 VV, Fuji X, Leica L- Mount, Nikon Z and MFT, with Arri in development.

Users can drop in one of more than 30+ filters, including a selection of Neutral Density, polarised virtual ND, night sky and infrared. Cinema DFM has been designed with large-format sensors in mind.

Breakthrough Filters has also introduced what it claims is the first 1.5 to 11-stop X4

A Cinema DFM virtual density filter fitted to a Red Komodo

VND, with very well controlled colour neutrality without any X-pattern. The Cinema X4 VND incorporates a 0.8 MOD for motor control and optical density indicators. Also on offer is a 1-stop Drop-In Rota Pola, which is currently the fastest polariser.

Graham Clark, founder of Breakthrough Filters, said: "Our design principle for the DFM was to be a universal filter system, so the drop-in filter could easily be interchangeable between different cameras, even different camera systems," added Clark. "The result is an ultralight, behind-the-lens filter system machined from titanium and aluminium alloys."

The rugged weather-sealed mount and TacLock locking system can handle extreme shooting environments.

SPECTRA DRAWS VAIL ACROSS MULTI-SITE MULTI-CLOUD STORAGE

MANAGE

Spectra Logic

BY DAVID FOX

Vail has been added to Spectra Logic's data storage and management ecosystem.

A distributed software designed to provide universal access and placement of data across multi-site and multi-cloud storage, Vail is claimed to enable seamless hybrid and multi-cloud workflows. The company says it can unify and safeguard data, no matter where

that data is located, whether in the cloud, multiple clouds, or on premises in multiple sites.

Spectra Logic is fortifying its entire range, including its StorCycle Storage Lifecycle Management software, and its family of enterprise-class tape library systems, against the impact of ransomware and other cyberthreats with the addition of 'Attack-Hardened' features that help protect customers from cyberattacks, and offer them improved business continuity through rapid restore of clean data after an attack.
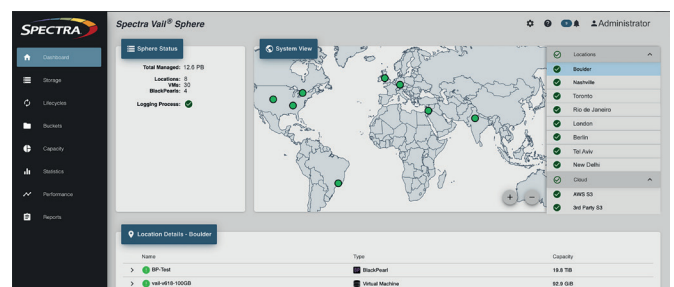
Throwing a Vail around the world – Vail's Dashboard Map

STUDIO BERLIN U10 OB DESIGNED WITH SPACE TO BREATHE

CREATE & PRODUCE

Broadcast Solutions

BY DAVID FOX

U10, Studio Berlin's new large UHD/HDR OB, outsources many of its technical facilities to a support truck to give more space to users.

Built by Broadcast Solutions, the main trailer has two extensions (one the entire length and one for audio control). An area of 60sqm allows for 26 workstations in a more relaxed working environment.

The two control rooms can be quickly converted into one large super control room by moving doors and monitor walls.

U10 handles productions with up to 24 UHD/HDR cameras, plus additional wireless cameras, and saw its first outing to broadcast the German Television Awards for RTL. The OB houses ten 19in racks of hardware in the support truck, with a redundant fibre interlink connecting both.

Nick Zimmermann, managing director, Studio Berlin, said: "A large area of use for the U10 will be the production of the German Bundesliga. Because of Bundesliga's new rights period, but also because of big show productions, the demand for UHD/HDR production capacities is increasing massively."

As U10 provides more space than usual OB vans of its size, minimum distances can be maintained, and acrylic glass shields become superfluous during OB production. Since there is no need for cooling the racks, it has no separate air-conditioning circuits. Broadcast Solutions has developed new methods for keeping the air

The view from one audio control room through Studio Berlin's new U10 OB

clean. Incoming air is cleaned of germs and viruses with active filters, while treatment with UVC light kills viruses, which Broadcast Solutions believes is a first in an OB truck.

ROLLING OUT AN ENHANCED FAN EXPERIENCE

CONSUME

NativeWaves

BY ANNE MORRIS

NativeWaves EXP claims to enhance standard broadcast and streaming experiences by giving audiences the chance to explore additional content at their leisure.

Supported by a dedicated low-latency streaming platform coupled with a customisable experience framework, NativeWaves EXP aims to enable deeper fan and audience engagement across numerous types of content, programming and live events.

Viewers can choose an enhanced event-centric experience on smartphone,

Haslauer: "Simply 'watching TV' or 'being there' is no longer good enough"

tablet, or mirrored to the TV, offering additional camera angles, audio tracks, instant replays, social media integration and more, including full on-screen navigation. In addition,

NativeWaves EXP can be used and configured as a second-screen experience.

Christof Haslauer, CEO and co-founder of NativeWaves, said: "There is no doubt that

deepening the real-time fan and audience engagement experience is the next frontier for broadcasters and streaming services."

"Simply 'watching TV' or 'being there' is no longer good enough because what audiences want is a personalised content-centric experience," Haslauer added. "This is what drives engagement, which in turn will ultimately strengthen subscriber retention and advertising growth."

NativeWaves claims that NativeWaves EXP allows broadcasters and streaming providers to easily integrate new features into their existing streaming offering, addressing a gap in the strategy of these companies.

"Events will appeal to a younger demographic in a completely new way by adding views and informational data that match today's expectations – live or on demand," Haslauer said.

Partners that have already deployed services using the NativeWaves EXP experience include ProSiebenSat.1 and Samsung Electronics in Germany, which are offering a variety of sports events such as the current seasons of the German Touring Car Masters (DTM), Korean K-League soccer and others.

• NativeWaves is also participating in the IBC Media Fan Engagement Accelerator Project, delivering the FIFA Arab Cup 2021 to stadium visitors in Qatar as well as to IBC audiences online.

CALREC ASSISTS WITH REMOTE WORKING

CREATE & PRODUCE

Calrec

BY DAVID FOX

Calrec's Assist web interface allows operators to mix entire shows from their home or other locations and provides comprehensive control for Calrec's Apollo, Artemis, VP2 virtual production engine and Type R IP core.

Assist also provides control for the RP1 Remote Production core. RP1 enables broadcasters to mix live events either on dedicated Calrec hardware or via Assist from a remote facility. It has enabled broadcasters like NBC and the BBC to reduce the number of people they sent to events by using RP1 to mix international sports from studios in Manchester and New York. In-ear latency is eradicated by locating RP1's 2U core at the venue.

Calrec's modular Type R and Brio consoles are also being used for remote working. Type R is an expandable and flexible IP mixing system for small TV and radio stations that uses Assist to mix in the cloud and provides facilities for up to three independent mixers to hang off one system core, while the compact Brio Duet and Medley consoles are fully loaded with dynamics and delay on every path and include a huge internal router, multiple monitor outputs and comprehensive built-in I/O.

The modular Calrec Type R IP mixing system offers greater flexibility

New Blackmagic Studio Camera!

The ultimate live production camera in a revolutionary all-in-one design!

Introducing the world's most advanced self contained studio camera! Blackmagic Studio Cameras have the same features as large studio cameras, miniaturized into a single compact and portable design. Advanced features include talkback, tally, camera control, built in color corrector, Blackmagic RAW recording to USB disks and much more! You can even add a focus and zoom demand for lens control!

Revolutionary Studio Camera Design
The distinctive Blackmagic Studio Camera has the benefits of a large studio camera because it's a combination of camera and viewfinder all in a single compact design. The camera is designed for live production so it's easy to track and frame shots with its large 7" viewfinder. The touchscreen has menus for camera settings, and knobs for brightness, contrast and focus peaking.

Get Cinematic Images in Live Production!
The amazing 4K sensor combined with Blackmagic generation 5 color science gives you the same imaging technology used in digital film cameras. Plus, when combined with the built in color corrector you get much better images than simple broadcast cameras. The color corrector can even be controlled from the switcher. The resolution of 4096 x 2160 allows both HD and Ultra HD work.

Powerful Broadcast Connections
Blackmagic Studio Cameras have lots of connections for connecting to both consumer and broadcast equipment. All models feature HDMI with tally, camera control and record trigger, so are perfect for ATEM Mini switchers! The advanced Blackmagic Studio Camera 4K Pro model is designed for broadcast workflows so has 12G-SDI, 10GBASE-T Ethernet, talkback and balanced XLR audio inputs.

USB Expansion Port for Accessories
The Blackmagic Studio Camera features a high speed USB-C expansion port that allows you to record to external disks or connect accessories. Plug in an external USB flash disk and the camera can record high quality 12-bit Blackmagic RAW files for later editing and color correction. Plus the files are small and fast, so editing responsiveness is incredible!

Blackmagic Studio Camera 4K Plus .... **1109€***

Blackmagic Studio Camera 4K Pro .... **1539€***

www.blackmagicdesign.com/nl

Learn More!