Senior OSN and MBC executives lead the Middle East into its multiplatform future
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The Middle East TV entertainment industry has always been a puzzle for internationally successful pay-TV networks that have not had to compete in a market where there are more than 400 (at the last count) free-to-air (FTA) channels. Of course, the FTA market in this region would have been easy to tackle if it weren’t for MBC, which has moved from strength to strength in the space with its choice of English and Arabic content across different genres.

There’s no doubt that MBC’s viewership has been unsurpassed in the region and, therefore, it follows that it also has the largest share of the advertising pie. Even by very conservative standards, I reckon that would be at least 70% of the ad market, thereby making it the uncontested leader in this space.

The only network that has been able to withstand its onslaught in this region has been pay-TV network OSN, which has also, with the promise of its premium content from both Hollywood studios and local productions taken MBC on.

The new challenge they face is retaining their viewers/subscribers, and both networks are taking giant strides in the multi-screen space to ensure that they are ahead of the pack. This IBC, we pay tribute to those efforts in the multi-screen space with an exclusive look at the technical, business and workflow models of an FTA giant, a pay-TV network and a telco, each taking ambitious strides to make their content available on multiple devices.

Having had the pleasure of reviewing several international entries as part of the judging panel for the IBC Innovation Awards, I can proudly say that these efforts in the Middle East are on par with international players. However, the IBC entries also opened my eyes to a whole new world of international players that are investing in several new and disruptive technologies to achieve varied commercial and social goals. It was a huge eye opener as the IBC Innovation Awards truly attract the cream of the crop from across the world, and I feel honoured to be part of this panel. I hope all of us can meet at IBC.
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With the reach, power and unmatched capacity of Arabsat’s state-of-the-art satellite fleet, the largest Arab community in the sky now brings you more power to experience the future in incredible detail. No wonder most free-to-air HD-TV channels in the MENA region are exclusively broadcasting on Arabsat, the HD-TV portal of the Middle East. Join our premium community today!

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Say hello to a sleeker incarnation of Sony’s all-in-one studio. The AWS-750 Anycast Touch. This compact, affordable, all-in-one live production solution with an intuitive touch panel operation makes live production accessible to anyone who requires live broadcasting or webcasting anywhere at any anytime.

Remarkably small, incredibly compact and amazingly portable, the Anycast Touch features two responsive touch screens - one for all the video sources, program preview and effects, and another for all secondary controls. With no previous live production experience required, it is suitable for a wide range of customers to get up and running with minimal training.

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WRN Broadcast ties with MBC
WRN Broadcast and MBC have announced a partnership that will see the London-based broadcast managed services provider undertake a range of broadcast services for the Dubai-based broadcaster. WRN Broadcast secured the deal after initial discussions with MBC at NAB 2013.

Speaking about the partnership, Andy Palmer, Group Director of Technical Operations, MBC, said: “WRN Broadcast has been appointed to work with MBC on a number of key projects moving forward. The company’s in-house expertise and leading technology are highly impressive and were a contributing factor to our decision.”

Qvest has secured the systems integration contract for Al Arab News channel in Bahrain.

Al Aan has installed its seventh radio transmitter in Syria so people in Damascus can tune into its radio channel.

Media Group International has won a huge transmitter project in Doha.

Qvest has won the deal to undertake the upgrade of Studio A for state broadcaster DMI in Dubai.

INC has won a USD 3 million project to upgrade KTV’s Master Control Room (MCR) in Kuwait.

DIFF opens registrations for tenth edition in Dubai.

Follow us @BroadcastProME for the latest news from the MENA broadcast market

KUWAIT TV INSTALLS GV STRATUS

State broadcaster Kuwait TV (KTV) has installed Grass Valley’s Stratus at its facility to streamline its news operations. This is the first Stratus installation in the Middle East. The installation is part of KTV’s efforts to migrate from its old analogue system to an online, file-based solution that will make its operations more efficient.

Stratus has been integrated with KTV’s existing ENPS newsroom system to simplify and streamline its workflow. It is designed to be integrated with many third-party systems and devices through its support of the MOS and CII protocols that allow working with a wide range of systems, resulting in a seamless integration into the NRCS. The news in the integrated system is, therefore merged with the video and directly sent to the editors for the final edit.

“Prior to this, we were ingesting content onto DVCAM tapes, undertaking linear machine-to-machine editing and playing material using VTRs in the news studio,” stated Khaled Alsayegh, Project Manager at KTV.

“This new file-based news production system will replace the existing workflow. Ingest will be through Aurora. Content is stored in the HD-ready SAN-mirrored storage, and the material for editing goes through the network and is played out directly from the server. The idea of the Stratus is to build the basic system which will contain file-based Ingest, production server, editing and playout.”

Hassan Ghoul, Managing Director, Grass Valley, Middle East added: “As content is no longer made for just one screen — operators now face a number of challenges in order to meet the demands of a more dispersed, multi-screen, multi-platform audience, GV Stratus offers support for every part of the content creation and distribution lifecycle, enabling more efficient workflows and allowing resources to focus on creativity. It’s really great to be bringing such an exciting product to the region and to be showcasing it with KTV. This is a really important win for Grass Valley in the market.”

The second phase of this project will see a more large scale adoption of High Definition infrastructure within KTV, thereby providing greater storage capacity for more editing clients and journalists at the network.

Adeeb Abed, General Manager at INC System Integrations, which was responsible for the project at KTV added: “The biggest challenge we faced was to make the operators familiar with the file-based system and enabling them to understand advantage of having such systems. As they were working on tapes and papers earlier, it involved extensive training for them to adopt the new online system. However, the operators were ready to adapt to the changes. With the help of our engineers, we worked closely with them on the system. As the Stratus is a user-friendly solution, the operators have not had any issues.”

OSN targets South Asians with Pehla acquisition
Pay-TV network OSN has acquired Pehla Media & Entertainment from Arab Digital Distribution for an undisclosed sum of money. The Asian entertainment platform will now be called OSN Pehla and is available on the OSN platform.

The acquisition of Pehla adds 69 more staff to OSN, bringing its total staff to 1500 employees.

David Butorac, CEO of OSN, said: “This acquisition builds on OSN’s growth strategy to explore opportunities for market consolidation, bringing greater economies of scale and operational efficiencies to offer great value entertainment for subscribers. Appealing to millions of South Asian expatriates, OSN Pehla gives us the opportunity to reach out to one of the largest demographics in MENA, serving as the ultimate entertainment destination for all segments of the region’s population.”

With Pehla, OSN will add almost 40 South Asian TV channels in Hindi, Urdu, Bengali, Tamil and Malayalam languages to its portfolio.

Pehla will continue to be distributed through Etisalat and Du. The subscription packages for Pehla also remain the same but the subscription will be made simpler in due course. While new Pehla subscribers will receive OSN boxes, the old subscribers’ boxes will be swapped with new ones in time, although there is no deadline to achieve this.
Egyptian broadcaster completes radio installation

Egypt’s state broadcaster ERTU accepted a completed dira! radio automation system and dira! digital radio archive installation this July following a successful three-month operational test. Amira Sharabia, Head of Central Directorate for Studio Projects at ERTU said: “ERTU is happy with the completion of this important project. The new system tightly integrates all involved radio sub-systems of our broadcast operation. This includes the new digital archive, the disaster recovery site and also the regional sites. The new radio broadcast automation and archive system is customised to exactly meet ERTU’s demands. Its future-oriented design offers scalability towards expansions whenever necessary.”

The on-site implementation, including daily producing, scheduling and playing out for 50 national and international programmes, running 24/7 in multiple languages. To facilitate regional studios communicating with the headquarter Maspero, dira! Mediapool is used as a web-client to download and upload material via the web or a mobile 3G connection. The business continuity strategy has been a successful characteristic of the project. The architecture of the dira! broadcast solution enables ERTU to stay on-air with their scheduled programme regardless of any unpredictable events that may interfere with daily routine – as well as the main system in Maspero, there is a dedicated recovery system at a second site that serves as a fail-safe and can run independently.

An essential part of the complete system is the dira! digital audio archive. This hard-disk based storage system integrates seamless with the production system, both of which are accessed using the dira! Highlander client. The scalable archive stores up to 190,000 hours of audio at this stage. The business continuity strategy has been a successful characteristic of the project. The architecture of the dira! broadcast solution enables ERTU to stay on-air with their scheduled programme regardless of any unpredictable events that may interfere with daily routine – as well as the main system in Maspero, there is a dedicated recovery system at a second site that serves as a fail-safe and can run independently.

Enda Parker, Saffron Digital.

Saffron Digital hires former Brightcove exec

Saffron Digital, specialist in the management and delivery of premium multi-platform video services, has appointed former Brightcove sales executive Enda Parker as Sales Manager EMEA to drive growth in the region. Parker is a highly experienced commercial media executive with a strong track record in online video platforms and has joined Saffron Digital to help drive the growth of its recently launched Stage platform throughout Europe. Parker joins Saffron Digital just six months after the appointment of Craig Chuter, former Capable Director, to the role of Sales Director EMEA.

Al Jazeera America launches; network dropped by AT&T

Al Jazeera America premiered on August 20, replacing Current TV. But the network’s debut was marred by AT&T’s decision to unilaterally drop the channel from the U-verse line-up. Al Jazeera said it was looking to the court system to resolve the contract dispute.

“Unfortunately , AT&T’s decision to unilaterally delete Al Jazeera America presented us with circumstances that were untenable — an affiliate that has willfully and knowingly breached its contractual obligations,” the network said in a statement. “We had no choice but to take this action and to enforce Al Jazeera’s rights under its agreement with AT&T — and to compel AT&T to do the right thing.”

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The perfection of ‘2-in-1’

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Single Box HD Automation

ichannel2 now offers baseband + IP stream processing capabilities. It provides an ideal solution for AV/IP-based, & hybrid MCR broadcasting.
German live streaming solutions provider Code One is now available in the Middle East. Dubai-based distributor Advanced Media Trading is in talks with the company to distribute their products exclusively in the region.

The Arab market has a requirement for high security data transfer products, Alaa Al Rantisi, Managing Director of Advanced Media Trading told BroadcastPro ME. “We are constantly in search of new ideas and technologies to bring to the region. One of the new areas of growth is the transfer of large amounts of data. With the media expanding, there is greater need to send data within the media and Code One meets that requirement,” he stated.

Although Advanced Media is already a distributor of Teradek solutions in the market, the company clarifies that the two products do not compete but complement each other. "Teradek already caters to a large segment of the market but with safety of transmission and better quality monitoring and reliability becoming increasingly important, we felt there was a need for more solutions. There are also several low-end and mid-level solutions in the region but with Code One we will have access to very sophisticated solutions."

Code One’s CEO Sven Hanten and Consultant Michael Erkelenz had come to Dubai last month to meet with customers and offer specialised training on the products at Advanced Media.

Speaking about the market requirement, Erkelenz said: “Today’s broadcast workflows require transferring large amounts of data from one point to another. We provide solutions to combine these technologies into one system.” Code One’s solutions include many features to transmit real-time audio video to specified points in the network through IP delivery.

“We conducted pre-tests between Germany and Dubai to transmit HD videos and directly streamed HD on devices, which was successful. Generation two of the product is based on a very new technology and we are demonstrating it around the world.”

Sven Hanten, CEO of Code One added that public broadcasters in Germany have already deployed the Code One technology. “Every time you send data over the internet you need protocol. We have developed our own reliable protocol called Code One Transfer Protocol (COTP). It is a very robust and reliable system. Any errors during transmission can be handled easily through this system. This is an ongoing research and we plan to introduce a lot more features in the future,” he added.

Advanced Media's CEO Kaveh Farman added: “We are excited about the future. This technology holds promise for us. The challenge, however, is that it is a new technology and for us at Advanced Media, it opens a door to a new market.”
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Al Aan TV ties with Algerian network for content syndication

Dubai-based broadcaster Al Aan TV has formed a content syndication partnership with Algerian channel Numidia News TV.

The partnership gives Numidia News TV the right to broadcast Al Aan’s range of programmes from entertainment and cooking shows to news bulletins and current affairs programmes. The partnership highlights the beginning of Al Aan’s syndication journey as the channel seeks more partnerships across the Arab world. Syndication is an essential element of Al Aan’s distribution strategy as hundreds of new channels are launched every year and original content is rare and difficult to find.

Rotana to move its HQ to Bahrain

Saudi-based media conglomerate Rotana Group is to move its regional headquarters to Bahrain in the first quarter of 2014, Bahraini Minister of State for Information Affairs Sameera Rajab confirmed.

The move, which was originally slated to happen by early 2013, now looks set to coincide with Bahrain’s plan to open four ‘digital cities’ to encourage private investment in the media sector, according to Gulf Daily News.

The digital city proposal, which will be put before Parliament and the Shura Council by October, will precede the establishment of a media academy to train young people, according to Rajab.

In December 2011 Rotana announced that Bahrain would be the base for its Arabic news channel Al Arab TV, which has not yet launched.

As part of the deal, senior level management will be based at the Bahraini headquarters, while the group will continue to operate its studios located in Beirut, Cairo and Dubai.

MBC Launches Cairo News Facility

Middle East broadcaster MBC Group has launched a state-of-the-art news facility in Cairo, Egypt. The news centre is designed, integrated and tested by system integrator Media Group International (MGI), which was also responsible for the entire IT infrastructure and the installation of all power requirements.

The news centre, which is now delivering news broadcasts to MBC’s Egyptian viewers, comprises a broadcast control room and gallery, a central apparatus room, an audio studio, a broadcast studio, a master control room, a newsroom, and editing and production facilities.

Sudan Radio upgrades to NETIA’s Radio-Assist 8.1

Sudan Radio has upgraded its operations to the Radio-Assist 8.1 range of digital audio automation software. Sudan Radio first launched Radio-Assist in 2005, after working closely with NETIA to migrate its tape-based archives to digital. With this upgrade to version 8.1, the North African broadcaster will take advantage of the NETIA solution’s newly enhanced tools for broadcasting, editing, and music scheduling.

NETIA’s Radio-Assist family of digital audio software programmes covers each part of the production and broadcast workflow, allowing users to record, edit, or prepare a playlist. In addition to new browse and publishing tools for full multimedia functionality, the software features tools for acquisition, sound-file editing, commercial and music production, newsroom systems, scheduling, multicasting, and administration.

Ixonos delivers TV Compass to MBC

Ixonos, a mobile creative services firm, has delivered its next-generation TV-viewing experience TV Compass for MBC Group as the MBC Now 2nd screen solution. The service synchronises smart devices with the TV set, converting tablets and smart phones into second screen devices that enable viewers to access a wealth of online information relevant to the programming, interact socially as well as benefit from personalised interactive advertisements.

Instead of using several different apps to search for current information and juggling multiple social media apps to reach friends who are watching the same show, with the TV Compass service serves as an all-inclusive platform. Viewers can synchronise their social media accounts with their MBC viewer account in the online service that runs in parallel with the channel’s TV programming.

Ixonos customised a successful application for the show The Voice. Based on the bonos Super App patent-pending innovation, the multi-platform app offers an interactive music and reality show experience for the viewers.
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My-HD secures premium channels with Irdeto Media Protection

Irdeto has announced that My-HD, a satellite pay-TV platform in the Middle East and Northern Africa (MENA), has selected its media protection to secure the launch of over 30 premium HD channels via Arabsat to the region.

My-HD partnered with Arabsat in March 2013 to launch its High Definition (HD) services. With Digital TV Research reporting that the number of pay-TV homes in MENA will double between 2011 and 2018 to 16 million, the new HD platform is a strategic step to meet consumer demand for premium entertainment. Although there is vast opportunity, the region is also facing a tough battle against pay-TV piracy. In a proactive move to stay ahead of this challenge, My-HD began shipping its HD set-top boxes (STBs) this month integrated with Irdeto Cloaked CA, a cardless conditional access (CA) solution, which provides dynamic content protection without the cost and complexity of managing physical smart cards.

“The My-HD and Arabsat partnership will shape the future of HDTV in the MENA region, and we required a long-term partner that could deliver a combination of strong security, experience and scalability as well as minimise total cost of ownership,” said Cliff Nelson, CEO of My-HD. “Irdeto’s Media Protection technologies are well respected in the market and its widely deployed Cloaked CA solution was the clear choice for us. We’re proud to be the first operator in MENA to deploy software CA and join the other innovative leaders around the world doing the same.”

From L to R: Ali Al Kuwari, Es’hailSat’s CEO, and Khalid Balkheyour, President and CEO of Arabsat.

ES’HAILSAT AND ARABSAT PARTNER

Es’hailSat and Arabsat have announced the signing of a strategic partnership to promote closer co-operation between the two companies and strengthen the reach and penetration of the 26-degree East hotspot for broadcasting.

Under the terms of the agreement, Es’hailSat will acquire the rights to 500MHz of premium Ku-band bandwidth at the hotspot to be used by its second satellite Es’hail 2, which will be designed to provide direct-to-home (DTH) and other telecommunications services. This will significantly increase Es’hailSat’s capacity and strengthen its in-orbit back-up capability when both Es’hail 1 and Es’hail 2 are operational. Furthermore, the arrangement between Es’hailSat and Arabsat will pave the way for enhanced operational flexibility and mutual in-orbit back-up between the two satellite fleets. The agreement was signed in Doha by Ali Al Kuwari, Es’hailSat’s CEO, and Khalid Balkheyour, President and CEO of Arabsat, in the presence of Dr Hessa Al Jaber, Qatar’s Minister of Information and Communication Technology, and Fareed Khashoggi, Chairman of the Board of Directors of Arabsat.

GlobeCast ties with Arabsat

GlobeCast and satellite operator Arabsat are offering new solutions for broadcasters seeking to distribute programming in North Africa. The collaboration will include GlobeCast’s teleport facilities, playout services, network and rich knowledge of the broadcast market, particularly in North Africa and will be carried on Arabsat’s BADR satellite at 26 degrees East. The goal is to foster a robust neighborhood of quality channels for viewers in the North African region.

The initial rollout of the new service will include Algerian channels. Already, five channels have just been launched on this exciting new platform: Echourouk TV, Al Atlas TV, Dzair TV, Imed TV, and Ennahar TV.

MediaCast partners with TC Electronic

TC Electronic has announced MediaCast as its new partner in the Middle East.

The Danish firm, founded in 1976 has a wide product range that includes guitar effects, bass amplification, computer audio interfaces, audio plug-in software, live sound equalisers, studio and post production equipment, studio effect processors and broadcast loudness processors and meters. Under the agreement, MediaCast will deal with the company’s post production and broadcast range of products.

Dubai-based MediaCast is a creative technology distributor serving the whole Middle East.

Simon Short, Business Development Manager at Pro Audio said: “TC Electronic’s reputation and product portfolio complements MediaCast’s constant growth in the post production and broadcast industry. With a quality brand such as TC Electronic, I am confident MediaCast will excel further in providing a variety of industry standard solutions.”

My-HD and Arabsat create the first destination for Rotana channels to go HD

My-HD, a satellite pay-TV platform in the MENA region has unveiled a host of High Definition (HD) Rotana Channels, one of the largest TV networks in the region to go HD for the first time on My-HD and Arabsat. The My-HD bouquet of channels will shortly expand with nine HD Rotana Channels, five of which do not exist in Standard definition (SD), bringing the total number of My-HD channels to 41 premium channels including 35 in HD.
GY-HM70 | HD ENG camcorder

EVENTS CAPTURED
AFFORDABLE HD PRODUCTION

Capture every detail with this advanced full HD shoulder-mount 1080p events camcorder.

Introducing the new GY-HM70U ProHD camcorder. This cost-effective camcorder will appeal to event videographers and educational users who want a full-sized, shoulder-mount camcorder but have limited budgets. Built around a 1/2.3-inch 12 megapixel CMOS imager and JVC’s advanced FALCONBRID high-speed processor, the camera records 1080/50p, 1080/50i, and 576/50i (SD) footage in the AVCHD Progressive format to dual SDHC/SDXC memory cards.

The GY-HM70 offers a number of innovative features, including JVC’s hot-swappable dual battery system, which allows for hours of continuous, uninterrupted shooting. It also includes a high quality 29.5mm wide-angle GT lens that offers smooth 16x dynamic zoom performance, as well as an optical image stabilizer, auto focus, focus assist, and manual focus, iris, and shutter controls.

For further information on our camcorders, please visit www.jvcpro.eu or contact:

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Miranda launches iTX EMEA Gold Dealer Programme

Miranda Technologies has announced the launch of its “iTX Gold Dealer Programme,” a new initiative designed to enable qualified EMEA dealers to offer broadcasters access to Miranda’s market-leading iTX integrated playout solution.

Miranda dealers from throughout EMEA assembled in Derby, East Midlands, UK on 25-26 July to learn about and discuss details of the programme. The initiative marks the first step in making iTX available through channel partners who sign up for the programme; a move that Miranda believes will benefit regional broadcast and playout facilities by dramatically accelerating the entry path to iTX.

Micky Edwards, Vice President of Sales EMEA at Miranda said, “There has been a perception that iTX is the bespoke preserve of major multi-channel playout facilities and regional and national broadcasters worldwide. However, our new iTX Gold Dealer Programme is designed to provide easy access to iTX for facilities of any size through regional dealers who are ready to equip themselves with the knowledge, skill set and tools provided by Miranda. Those tools will enable authorised dealers to work with broadcast and playout facility owners to integrate an iTX solution that suits their operation.

The iTX Gold Dealer programme is being launched only in EMEA, at this time, but there are plans to launch in other regions in the future. iTX is currently used to manage the playout of thousands of channels every day, by broadcasters and service providers around the world including Videohouse in Belgium and Chello DMC in Amsterdam.

Qvest Media expands to Singapore

Qvest Media, part of German broadcast service provider Wellen+Noethen, is expanding its international business through the establishment of Qvest Media Singapore, through which it aims to gain a strong position in the Southeast Asian market. Stephan Kösich, previously General Manager of the Qvest Media location in Dubai, has been named head of the business development team in Singapore.

At the new location, Qvest Media will focus on deploying its consulting and development, systems integration and technology support services to customers in the areas of broadcast, media and telecommunications. The company also sees business potential for turnkey solutions in the rental business, for example solutions required for major events and sports coverage.

In addition to Singapore and Malaysia, the company also wants to serve markets including Australia, Indonesia, Myanmar, the Philippines, Thailand and Vietnam from its new location for which Qvest Media has ambitious goals: “From the project business, we expect revenues of around US$20-30 million over the first two years,” said Peter Noethen, co-owner of Wellen+Noethen.

Fast & Furious 7 to be filmed in UAE

Twofour54 has confirmed that the seventh instalment of Hollywood thriller Fast & Furious will be filmed in the UAE. The film will also benefit from the 30% rebate scheme on the filming budget offered by Abu Dhabi media hub, it was reported in The National. The financial initiative was launched in September last year as an incentive by the Abu Dhabi government to attract international film and television productions to the emirate, by reimbursing production crews for 30 per cent of the filming budget, tempting more movies to UAE shores.

Noura Al Kaabi, CEO of twofour54 said: “When the producers announced the film, they started with Egypt. But, unfortunately with what is happening in Egypt, they shifted and now they are looking at the UAE, specifically Abu Dhabi,” she says.

“That will be our next Hollywood film to benefit from the rebate.” It is not clear how much of the film will be shot in the UAE, as preproduction crews are also coordinating with Dubai, says Al Kaabi. “They went to see a few places there also.”

DFI CELEBRATES ABBAS KIAROSTAMI’S CINEMATIC MASTERPIECES

Doha Film Institute (DFI) celebrates the illustrious cinematic and internationally renowned, award-winning filmmaker Abbas Kiarostami with a dedicated showcase of 14 short and feature films from 13 to 21 September, 2013 at the Museum of Islamic Art (MIA) in Doha for the first time. Abbas Kiarostami himself is expected to attend and to make appearances at screenings from September 13 to 16 to engage with audiences from around the GCC.

Featuring a number of his acclaimed films, the Kiarostami Retrospective underscores DFI’s role in bringing the best of cinema and international filmmakers to Qatar’s audiences, stimulating discussion on world cinema, and continuing the development of appreciation for the art form among audiences in Qatar.

Sarajevo Film Festival

Doha Film Institute (DFI) has formed a new strategic alliance with Sarajevo Film Festival (SFF). They will partner on a number of new initiatives at their respective festivals to increase and strengthen connections between Arab and European cinema.

This year, DFI will curate a selection of films from the Arab world to be shown at Sarajevo Film Festival (16-24 August 2013) including Mahdi Reiffat’s A World Not Ours (UK/Lebanon/Denmark, 2012) and Ahd’s Sanctity (Saudi Arabia, 2012). The films will be featured as part of the Sarajevo Film Festival Partner Presents programme.

BBC World on Arabsat

BBC World News is now available as a High Definition (HD) feed across the Middle East on Arabsat. Arabsat is the BBC’s first distribution partner in the Middle East to offer the news channel in HD. This deal will give audiences in the Middle East access to BBC’s ongoing coverage of key global issues, documentaries, entertainment and arts programming in HD.

Colin Lawrence, Distribution Director for BBC Global News Ltd. said: “We are pleased to be able to partner with Arabsat to launch BBC World News HD across the Middle East, bringing our audience closer to the news than ever before. BBC World News HD will showcase our commitment to impartial and high quality journalism, and will showcase our news programmes at their best.”

Khalid Balkheyour, President and CEO of Arabsat added: “We are very proud of the long-term partnership with BBC and value their confidence in Arabsat. We are pleased to be the first satellite operator to bring BBC World News HD to its viewers in the region. Known for its professionalism and impartiality, the BBC enjoys a very good reputation and a wide range of viewers and followers in the Middle East.”
Belgium and Chello DMC in Amsterdam.

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“That will be our next Hollywood

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HOLLYWOOD FILM IN ABU DHABI

Abu Dhabi Film Commission (ADFC), Sony Pictures Entertainment, through its film production company Screen Gems, and Jerry Bruckheimer Films have announced that the paranormal thriller, Beware The Night, is to film in Abu Dhabi using the production services and facilities from twofour54 Intaj, the media production arm of twofour54.

The film is directed by Scott Derrickson, known for horror films such as The Exorcism of Emily Rose and Sinister.

Derrickson shot on location in Liwa Oasis and at twofour54 Intaj’s studios from July 31. Six Emiratis from twofour54’s vocational traineeship programme ‘intaj’ and twofour54’s creative lab community had the opportunity to shadow the production team, gaining experience on a big budget Hollywood production.

Glenn Gainor, Executive Producer of Beware the Night added: “Abu Dhabi seemed like the natural choice for this feature because of its unique desert landscape, the 30% production rebate and because of the competitively priced production services and facilities on offer here. ADFC assisted with location scouting and we’ve been able to limit the size of our travelling crew due to the quality of crew available locally through our UAE producer twofour54 intaj. We look forward to welcoming young Emiratis as part of the production team and to getting the cameras rolling for crucial scenes of this supernatural thriller, including the opening sequence and a key flashback.”

Beware the Night stars Eric Bana as a New York City Police Department police officer and Edgar Ramirez as a renegade priest who convinces him that elements in a bizarre crime case are demonically related. Together, they work to solve the case and combat the paranormal forces working against them.

ADFC, part of twofour54, launched the region’s first production industry incentive scheme in 2012. The production scheme aims to accelerate Abu Dhabi as the first choice for international and regional producers needing location, production and post-production services. Recent beneficiaries include the Syrian producers from the Arabic drama series Hammam Shami, the first ever studio-based Syrian production of this scale to be filmed in the capital.

The incentive — which is in the form of a 30% rebate on qualifying spend in Abu Dhabi — has already been utilised by regional TV productions and TV commercials, but Beware the Night is the first international feature film to qualify for it.

Noura Al Kaabi, Chief Executive Officer of twofour54 stated that the film “will showcase Abu Dhabi as a great production location for not just feature films but also for TV, documentaries, commercials and music videos”.

“One exciting aspect about Hollywood movies such as Beware the Night being filmed in Abu Dhabi, is the inspiration they afford to young Emiratis seeking filmmaking experience. The inspiration gained on set and on location will drive a new generation of Emirati talent and ultimately help to build Abu Dhabi’s film and entertainment industries. This is set to be a gripping film and I’m confident that Abu Dhabi audiences will support its theatrical release in the UAE in 2015.”

In addition to providing the rebate and location options, ADFC has supported Beware The Night with visas, filming permits, customs support and twofour54 intaj has provided full production services including crew, equipment, studios and other services.

Local production companies and service providers including airlines, hotels and restaurant are expected to benefit from the growing number of regional and international productions choosing the Emirate of Abu Dhabi as location of choice for their shoot.
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PMW-400 comes in two versions:
- PMW-400K: Kit version with 2/3” Lens Package and PMW-400L: Body only

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The more things change...

The month of IBC is often a time of change and looking forward to the future, looking back at another Ramadan passed helps suggest what may lie ahead

1 New content, uncertain viewers

Apart from MBC1 putting a lock on the top spot from day 1, there was no clear trend, which is itself unusual.

Several people said to me that content seemed to move away from the big, historical dramas seen in recent years and towards more contemporary settings and themes. Draw your own conclusions about how this reflects the current context of the region.

However, without such clear direction it took a while for audiences to work out what they wanted to watch. Even the top programmes didn’t dominate every day and the ratings fluctuated quite a lot over the period.

The top overall programme Etr Al Ghannah averaged 71,000 viewers per episode, but that would only have included fifth spot last Ramadan.

Some established favourites like Shabayet Al Carton and Freej did well but were not the unstoppable forces that they have been in the past. Runaway 2012 winner Shabayet could manage only fifth this year, and with a reduction of nearly 50,000 viewers per episode.

2 Now that’s funny

One thing which was very clear was a division in tastes between Emirati and Arab expat audiences.

The Emirati audience went for comedy – six of the top ten programmes were animations or comedies such as Shabayet Al Carton, Freej, Wi Fi and Sab Sah.

All of these did well among Arab expats but only three of the top ten were comedies, with expats watching a lot more drama.

This brings me to what I could call the surprise package of Ramadan, which was Abu Dhabi Al Oula, finishing a strong third behind MBC1 and MBC Drama among all Arabs. Their Syrian-set drama Al Wiladah Mn Alkhasirah was a very close second in Arab expat programmes.

In the interests of disclosure, I’ll mention that Abu Dhabi Media is a shareholder of EMMC. Nevertheless for a channel that has been struggling to enter the top five channels most of the year to storm up so strongly during Ramadan is something I think is worthy of comment. In fact, the main reason I mention it is not only to praise ADM but to highlight a mantra I keep trying to instill in this market – People watch content, not channels.

3 Not overloaded

Against the received wisdom, we noticed that actually, viewing did not increase dramatically during Ramadan 2013. Certainly, the viewing becomes more concentrated in the evening but in terms of total hours, it didn’t change a great deal.

Arab Expats, for example, watched about 7.4 hours each day, but typically they watch a little over 7 hours outside of Ramadan, anyway. Emiratis watched slightly less at about 6.1 hours and that’s almost unchanged for other months.

I have no scientific way of knowing, but I don’t think this is due to competition from other screens. The evidence from studies in other markets is that tablets and mobile devices complement television, not replace it, so there’s no reason to think we are any different.

Ultimately, there are only so many hours in the day, and our viewing is already higher than many other markets.
It’s not all different

Early in Ramadan, I mentioned to someone that MBC2 was doing well, and was scornfully told there must be something wrong because nobody watches movies. The trouble is that people judge general behaviour through themselves or their immediate circle.

Yes, we know that drama and cartoons are popular during Ramadan, but there is certainly a segment of the population which doesn’t want to change their viewing behaviour for the month.

For Arab expats, there are two movies in the top 20 programmes over the whole month and for Emiratis, there are four movies. MBC2 is the seventh ranked channel in the categories all Arabs and all households (which includes other nationalities), and was second overall. Not bad going for something nobody watches?

Where was the money?

As always, it comes down to advertising. The mix of advertisers was fairly similar to previous Ramadan periods. Some names changed – Zain replaced Mobily as the top advertiser – but otherwise, it was food and beverages with Pepsi as the most prominent as well as telecoms and consumers goods, especially technology.

It’s hard to say if it is a trend – and if it is, then I would like to think tview had something to do with it – the top advertisers seem to have run fewer spots this Ramadan but placed them more effectively. Last year, the top 10 had 63,590 insertions to achieve 24,672 ratings points, while this year, it was 49,646 insertions to achieve 20,980 points. So that’s a ratio of .388 per spot in 2012 against .423 in 2013, an improvement of nearly 9%.

That sounds very technical but in terms of what it means for viewers, they see fewer ad spots so they will be happy, but the advertisers can also be happy that they got more value for their advertising dollars.

Conclusion

So there we have Ramadan 2013. Some welcome improvements in advertising, although, I have no data how that reflected on the revenues. It was also a time of change in content and one that viewers seem to have been unsure about. But was that negativity or simply uncertainty? Over to the qualitative research lot.
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The current economic climate is not likely to improve anytime soon which means the market will remain challenging for broadcasters. Indeed, a recent report by the European Broadcasting Union (EBU), which represents Europe’s public service media (PSM), states: “The financial outlook is gloomy for public service broadcasters, with more belt tightening expected in the next five years... if PSMs’ budgets continue to shrink at the same rate, some broadcasters will be gravely imperilled.” The report goes on to assert that to avert such an outcome they should invest in new technologies to improve efficiencies.

Part of that solution is investment in studio robotics and automation for longer term efficiencies. The field of camera robotics has come a long way in terms of both costs and ease-of-use. In the early days of studio robotics, broadcasters were heavily reliant on manufacturers as they were the only ones that could untangle the complexities surrounding installation, maintenance and reconfiguration of robotic products. The technology behind robotics equipment was often proprietary and serial communications based, which made the installation process more challenging and demanded a great deal of technical support, ultimately increasing the cost of ownership.

This is no longer the case as IT networks supported by Ethernet have dramatically simplified robotics for the end user. Networked systems offer much greater flexibility, enabling IP connections between manufacturers’ own individual system components and a greater interface into third-party systems.

This trend is pushing robotics solutions further towards a true IP-based system, so camera robotics can use standard commodity IT components, including generic Ethernet cables and switches. A major benefit for broadcasters is that their IT teams will know and have experience of working with the technology. This means the network can set up the infrastructure in advance of the manufacturer fitting the robotics system, saving both time and money at the point of installation. By combining the flexibility of Ethernet-enabled products with the ability for remote support allows the robots to be moved around, either within a studio, or from one studio to another.

The latest operational capabilities and creative advantages have ensured the rising profile of robotics in studio camera support as more and more broadcasters are taking the decision to move into robotics and reap the benefits, including automation.

The growing capabilities of studio robotics and playout and studio automation have been well documented and in the current uncertain economic climate, the demand for automation is increasing alongside the tightening of broadcasters’ budgets. The use of broadcast robotics guarantees highly repeatable performance that can dramatically reduce production costs. Automating camera positioning and control releases operators to undertake more creative work without compromising production quality. Overhead reductions can be typically as much as 50%, achieving payback on the investment within three years or less.

Looking ahead, robotic trends will take us further into the realms of more creative applications. The ultimate aim would be to give the operator overall creative control of the shot from a high level.

So, when looking to improve cost efficiencies and quality, broadcasters should look to automation as a technology for the long term.
As broadcasters worldwide move towards delivering content on multiple screens, we witness a similar revolution among top-tier broadcasters in the Middle East. In an exclusive interview with Vijaya Cherian, the digital heads of FTA network MBC and pay-TV operator OSN talk about their varied business models, the technologies they have adopted and the challenges that lie ahead. We begin with Abe Naga, Head of Digital Business at MBC Group.
In July 2013, MBC Group proudly declared that its Shahid.net app for Apple devices had hit 1.1 million downloads. Between Shahid.net, the web site and the app, MBC today boasts around 3.6 million users watching content. The average visitor duration on the web site is approximately 28 minutes. During Ramadan this year, a whopping 38 million videos were watched on Shahid.net. These figures are no small achievement for the television network that has revolutionised the free-to-air television space in the Arab world.

Shahid.net is MBC’s video-on-demand (VoD) and catch up service portal. Although it was launched as a minor VoD service in 2008 on the MBC web site; it was eventually made into a standalone portal called Shahid.net in 2010 and developed into a catchup service offering series, programmes, cartoons, and documentaries from MBC’s Arabic bouquet. The web site has witnessed exponential growth in the last three years, and broke all records this Ramadan with the 38 million videos.

MBC’s aim is to target the Arab-speaking community and, therefore, its VoD service is primarily focused on Arabic content, explains Abe Naga, Head of Digital Business at MBC Group.

“Our focus is on Arabic content because this is where the internet is lacking. Western content is well catered for globally through Netflix and other platforms. We want to lead in this area by offering Arabic content on multiple devices,” he says.

Naga was perfectly suited to lead the digital group at MBC. The American Egyptian brought many skills to the table. With a Degree in Business and a Masters in Information Technology (IT) as well as work experience as Creative Director in advertising with a special focus on online media, Naga had all of the skills necessary to lead the team at MBC Group.

Since then, there has been no turning back for Naga, who has helped launch each of MBC’s web sites, several apps for various programmes, Shahid.net and as recently as last month, MBC Now.

As MBC’s digital product offering has grown, so has its digital team of developers, designers, editors and engineers who are spread across the region in several different cities including Dubai, Cairo, Riyadh, Amman and Beirut.

One month after the launch of MBC Now, the broadcaster reported 606,000 downloads of its app across iOS, Android, Windows and Blackberry devices. The app enables viewers to engage with its programmes and with each other.

MBC Now is actually the culmination of previous efforts in 2011 by MBC to introduce apps for specific shows.

“For all of our flagship programmes such as Arab Idol, Arabs Got Talent and The Voice, we had developed separate companion apps that allowed the viewer to engage with the show, during the show when it aired and in between episodes. So we have always had programme-focused, second-screen applications that were very successful. The apps go beyond enabling you to interact with the show to helping you know more about the programme than what you see on TV, reading more about it, watching more content, interacting with the show itself and interacting with other users. So it really has a social spin to it. People tend to watch TV together in groups and even if you are alone, you can connect with other people in their homes through these applications,” explains Naga.

In addition, each app allows the user to engage with the show differently. For example, with Arabs Got Talent last year, the app had a buzzer that allowed users to buzz the contestant if they did not like their performance. The app created for Arab Idol allowed people to record their own auditions and submit it and, in turn, allowed other people to rate it.

“One of the key elements within this digital facility is the Magnolia CMS, for the Blackberry, iOS, Android and a lot of devices. It’s difficult to develop everything internally.”

Unlike MBC’s linear broadcast operations, its digital facility is fairly new and, therefore, runs as a separate entity within the network.

“The broadcast systems designed for rights management, scheduling and playout are built specifically for broadcasting, not web publishing. There are synergies between the broadcasting and online systems but not all of our systems have to talk to each other at all levels,” clarifies Naga.

“As broadcasters worldwide move towards delivering content on multiple screens, MBC and pay-TV operator OSN talk about their varied business models, the challenges that lie ahead. We begin with Abe Naga, MBC...
which MBC has customised significantly to cater to its broadcast requirements.

“We use Magnolia to manage all of MBC’s online properties including MBC.net, Shahid.net and Al Arabiya. Two years ago, we decided to use a single CMS for all of our sites and started migrating one site after the other onto Magnolia. Primarily, we started with mbc.net.

“Since Magnolia is an open source platform, we were able to customise and develop it further to suit our specific business needs and requirements as a broadcaster. We developed our own custom workflows and developed specific modules for managing programme schedules across the network. We also made some core changes to how content is pooled within the CMS to allow for re-using the content across different channels or even programmes. We worked closely with Aperto on the development and system integration as they are Magnolia’s official partner. They were also involved in the development of the latest major release, most notably the Standard Templating Kit (STK) it contains.”

Naga, however, is quick to add that MBC begins its major projects by working with specialised systems integrators but “gradually builds up the expertise and experience within the company”.

Delivering content to multiple platforms and devices is not without its challenges however. One of the big issues is identifying the right standard. Flash, for instance, has been the standard for years when it came to online video but Apple announced that it would not support Flash on any of its mobile and tablet devices and would only support HTML5.

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strategy. Each device has different specs and supports different standards starting from the OS to the middleware to the applications and that can run all the way to the videos they can play,” explains Naga.

“In our case, we chose to standardise our video encoding and format to MP4 (H.264) and our delivery protocol to HLS. But in order to do so, we had to use special plugins to support HLS on Windows phones (for instance) as they are not supported natively,” he adds.

MBC has also been careful to keep its workflow fairly uncomplicated.

A typical workflow would see a 50 Mbps HD file that is used for traditional TV taken from the storage server and transcoded down to a mezzanine format, reducing it to a 5 Mbps H.264 MP4 file to make it web ready. It is then uploaded to MBC’s cloud-based video platform.

In the cloud, the file is then transcoded to six different renditions, then segmented to small chunks for adaptive bit rate streaming and finally made available for delivery through the content delivery network (CDN).

MBC presently works with three CDNs including Limelight, Level 3 and Akamai to maximise the reach of its content in different markets.

“We chose to work with three CDNs instead of one because each of them are strong in different markets. Each of them have varying points of presence (PoP) in different countries and territories, so their performance will also vary from one territory to the other. Even in territories where PoPs are not available, proximity to other PoPs in combination with how traffic is routed will vary from one CDN to the other,” he adds.

This, however, meant, making some changes to MBC’s video delivery architecture as its origin servers are hosted with only one of the CDN providers.

“As a result, after the files are transcoded and segmented, and stored in our origin storage servers, we now have an independent caching layer in place for caching all of these assets. Each CDN will request it from this caching layer, which is a neutral environment from where they can all connect,” he explains.

Using three different CDNs also enables the broadcaster to shift between the providers if any of their respective performances slacken, says Naga.

Historically, CDNs have not been very active in the region and the scarcity of PoPs and the lack of peering agreements between ISPs and each other have made online video delivery a significant challenge in the region. However, all of that has changed in the last two years with CDNs showing greater interest in this region.

There have also been recent initiatives like the UAE-IX, the first carrier-neutral Internet exchange platform in the Middle East, that are aimed at resolving such issues.

Perhaps, one of the key topics of discussion with regards to multiple screens is the question of how well broadcasters are able to monetise the

“We chose to work with three CDNs instead of one because each of them are strong in different markets”

Abe Naga, Head of Digital Business, MBC Group
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content that they are making available freely on multiple platforms.

MBC’s primary business model has always been securing revenue through ad sales and programme sponsorships. It is, however, developing other revenue models as well along the way.

For instance, viewers of popular Turkish drama series on MBC can subscribe by SMS to watch a five-minute recap of an episode one day prior to it being broadcast on television. In other cases, they may subscribe to an SMS news alert service.

Although not a pay TV provider, MBC reiterates that security is also an important issue for the broadcaster and that all of its content is securely delivered and encrypted.

“Encryption is not just for pay TV companies. We don’t just encrypt our content to prevent users from watching it; we also encrypt it so that online pirates don’t steal it and put it on another website,” explains Naga.

MBC, however, has only begun its digital journey. Shahid is currently available on Apple iPads and was also recently launched on Windows phones. However, there are plenty more devices in the pipeline.

“By the end of the year, Shahid will be available across all mobile and tablet devices,” claims Naga.

In addition, MBC is also working on apps for set-top boxes, game consoles and is in talks with connected TV vendors.

“This is an ongoing project,” Naga says.

“The digital medium has become more central to the media business. Social media may have been perceived as a fad before but now you rarely see a programme without Twitter or Facebook integrated in one way or the other.

“People seem to be spending more time in the digital world and it seems to be compelling viewers to consume more TV. Essentially, that’s the purpose of digital media extensions today. It helps to extend your TV consumption beyond the traditional screen.”

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David Hanson, Director of Digital at OSN, Dubai.

Ready to Play

David Hanson, Director of Digital at OSN, explains how new media is complementing traditional broadcasting platforms to enrich the viewing experience and what the future has in store.
How long have you been with OSN?

I have been with OSN since 2004. I used to work with the linear channels as Director of its Western programming but the digital area has always appealed to me. When the opportunity came, I moved to digital technology. I haven’t looked back since.

Tell us about the progress of your second/third screen platform since it was launched in March last year.

OSN’s digital platform has evolved rapidly since its launch. We concentrate on improving in three key areas.

The first is reach. By targeting and supporting more devices, we increase the number and variety of addressable users and make the service more convenient to current users. That’s why we’ve invested a lot in releasing to smartphones and supporting 3G streaming.

The second is content. We are constantly looking to improve the service by adding new programmes. In the past two months, we’ve seen an exclusive preview of *House of Cards*, exclusive digital programming in *Hannibal*, *The Kennedys* and *Hemlock Grove*, and a hugely successful Ramadan catch-up service.

Finally, we’re also developing new services. Live streaming was a big success when we launched last year. This year has seen the launch of our pay-per-view service OSN Box-office on OSN Play and we’re getting ready to release an update to the player with a whole raft of service improvements including bookmarking, which gives you the ability to pause viewing on one device and pick up where you left off on another.

How would you describe the journey?

We are fortunate to have a CEO and a Board of Directors who are very forward thinking. They didn’t merely see this as an opportunity but as vital to the growth of our business in the long term. One of the initial challenges that anyone faces in this kind of a scenario is making people understand that you are not threatening their existence. It is more of a complementary relationship. Once that was addressed, the new challenge was to build the skills and knowledge base necessary internally to develop our digital offering and deliver it to the market. It has been a steep learning curve but we have never missed a beat or felt that we needed to lose a step.

What were your initial challenges?

Following the merger, we had just invested a lot of money in closing the platform and all of a sudden, we were going to launch a platform that would make the content available across multiple devices. We quickly needed to understand the digital rights management (DRM) issues and make sure that the technology was 100% secure.

We had to ensure that the platform we launched was both robust and technically advanced. Most of the team was from the broadcast media so we also had to ensure that we had the right combination of skills and knowledge to launch something that would be a game changer.

How is your digital offering different from other product offerings in the market?

There are two elements to this. On the one hand, our benchmarks are other leading international pay TV companies such as HBO and Sky. These platforms, however, tend to cater only to one base, which is primarily an English-speaking population. Ours, by comparison, is built to support both English and Arabic in terms of navigation, subtitling and providing dual audio tracks. So, while we are more international in terms of the scale and scope of what we are doing, we are very regional in terms of our content offerings. Our content sets us apart. Where else can you find all of the latest Hollywood movies alongside great Arabic drama and comedy, and two 24-hour live streaming sports channels?

We have also tried to stay consistent in terms of the look and feel, and the quality of the experience that people are used to on our traditional platform.

Within the bouquet of OSN services, OSN Play is unique because it is delivered directly to the customer’s own devices rather than to an OSN box. This is a new experience for OSN as we’re used to delivering content to our own boxes within a closed platform. Again, this makes the platform more personal than ever before. Because we are streaming expensive and extremely valuable content within 24 hours of it being broadcast on our devices, the technology, the security and the streaming experience has to be spot on.

Has security not been an issue when you made your content available across so many devices?

No. For one, the services are geo-blocked within the region. Secondly, the service is limited to registering two devices to your OSN account. There is a rigorous process on how we authenticate it with that platform. We don’t see too much risk involved as most people today are asking us to extend that registration to more devices. Over a period of time, we may allow people to register more devices but may limit the content to two concurrent streams at a time.

What technology are you using to implement this service?

We developed the platform in partnership with Ioko 365, which is a part of Kit Digital. It runs on Microsoft Silverlight using Smooth Streaming and the PlayReady content security system. Microsoft Silverlight is a tool for creating and delivering rich internet applications and media experiences on the web.
Smooth Streaming, an IIS Media Services extension, enables adaptive streaming of media to Silverlight and other clients over HTTP. Smooth Streaming provides a high-quality viewing experience that scales massively on content distribution networks, making true HD 1080p media experiences an option.

Microsoft PlayReady is a content access and protection technology for digital entertainment services, devices and applications.

Is OSN Play fully integrated with your traditional platform?

It has been integrated into the existing OSN structure wherever possible. A digital team was created to make editorial and content decisions specifically for the platform. Media coordination, IT support and marketing are all managed by the relevant OSN department alongside traditional broadcast functions.

The content is managed on the same Harris Broadcast Master system that powers our linear channels. Our EPG (Electronic Programme Guide) team manages the metadata in a specially designed piece of software known as BOB. Content is transcoded into one format for delivery over WiFi and internet, and a second HLS format for delivery over 3G/4G networks. Our live streaming channels are picked up off the satellite signal in Europe and digitised by Level 3, which provides our CDN services.

The system is also developed in such a way that it stores the subscriber’s information. When a subscriber accesses OSN Play, his linear subscription is replicated. So if I have subscribed to movies and I try and watch a sports channel that is not part of my linear package, OSN Play will notify me that I am not subscribed to receive the sports channel. The team was able to develop it in such a way that it would be linked to a subscriber on the basis of his package. Other information also then becomes available including the customer’s usage, his programming preferences, what devices he uses and which one he uses the most. This data will eventually enable us to tailor our subscription packages. So that is one of those areas where we will be able to serve our customers in the long run much better from what we are doing in the traditional environment.

“We developed the platform in partnership with Ioko 365, which is a part of Kit Digital. It runs on Microsoft Silverlight using Smooth Streaming and the PlayReady content security system”

David Hanson, Director of Digital, OSN

How big is your digital team?

It started with one; now we are up to about five and next year, I think it will double.

What are your plans with regards to apps?

We want everything we create to feed into every element of the OSN platform. An example is the OSN TV Guide app we launched on iOS devices (iPad and iPhone). It gives you the whole of the EPG, features and highlights and then, when you click on a programme, if you have the OSN+ HD progressive download box, you can remote record straight to the box. These are the kind of applications we are looking at.

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Smooth Streaming, an IIS Media Services extension, enables adaptive streaming of media to Silverlight and other clients over HTTP. Smooth Streaming provides a high-quality viewing experience that scales massively on content distribution networks, making true HD 1080p media experiences an option. Microsoft PlayReady is a content access and protection technology for digital entertainment services, devices and applications.

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HITACHI
Inspire the Next
at that tie the whole platform together. We launched this about three months ago.
We are now looking to take that further by allowing tablets and mobile phones to remote control their box. It’s not available yet but we are looking at developing it.

**Do you plan to adopt a separate revenue generation model for your digital platform?**
Well, OSN is a subscription service and OSN Play is an integral part of that subscription. So our relationship with monetisation is a little more straight line than some other digital offerings. Of course, there are monetisation opportunities in terms of advertising and partnerships but the fundamental value of the service is in making the OSN proposition more attractive to the customer.
We can measure our success in terms of a significantly lower churn rate for subscribers who sign up and use the service than in those that don’t. Someone who has access to their content 24-hours-a-day wherever they go, is much more likely to see the value of it than someone who only has access a couple of hours a day in front of the first screen. A 5% drop in churn extrapolated across the whole business has a significant impact on revenue.
In the future, I think we’ll see digital subscriptions to OSN that lower our customer acquisition cost, open up new subscriber segments and allow viewers to access their content through multiple touchpoints.

“In the future, I think we’ll see digital subscriptions to OSN that lower our customer acquisition cost, open up new subscriber segments and allow viewers to access their content through multiple touchpoints”

David Hanson, Director of Digital, OSN

A 5% drop in churn extrapolated across the whole business has a significant impact on revenue, says Hanson.

**How popular is this service among OSN viewers? What devices are the most popular?**
It’s been very popular – to date around 30% of the base has registered for the service which compares very favourably with TV anywhere services in the US which took around four years to reach that level. On the Android platform, we’ve seen sharp uptake since launching our smartphone App so that the Samsung S4 now leads the way closely followed by the note 2 and the S3 phones ahead of the larger-form tablets such as the Galaxy tab. Obviously, the iPhone and the iPad are still very popular as well.

**Why is there a significant gap between rolling out the service on different platforms?**
The difference between devices tends not to impact the workflow too much. Delivering content over WiFi to a tablet is very much the same as delivering it to a smartphone or even a smart TV. The significant differences come when you change the delivery method. So, for example, when we launched our smartphone app, the challenge wasn’t so much resizing the app for the myriad new devices; it was integrating 3G and HLS delivery as that requires all of our content to be transcoded in two different formats and for us to duplicate the media if we want to have multiple language versions.
The time lapse between our platform roll-outs is partly due to our commitment with our partners at Ioko 365 to detailed development and testing and partly to allow us time to learn from each successive deployment. It’s very important that we take time to listen to the feedback as it allows us to keep improving the service as we develop.

**What new skills have you had to bring to the table to go beyond traditional TV expertise?**
I think more than skills it’s an ability and willingness to be flexible and think on your feet. Traditional TV technology platforms tend to make major jumps forward with long gaps in between due to the challenges of rolling out changes in technology to the whole subscriber base. Just ask the OSN team responsible for swapping out our whole platform after the merger. This
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means that you can plan quite far ahead.

With our digital platform, it is constantly evolving. You have to keep your finger on the pulse of the latest devices and trends. We have been watching the news this past month about the Google dongle that is coming out for instance. Therefore, we have to keep an eye on all of the new developments and be willing to embrace new technology and viewing trends as they emerge.

**What new devices are you looking at?**

We’re looking seriously at games consoles. We’re also looking at providing some of our content as downloads so that customers can cache a piece of media to view on-the-go even without a WiFi or 3G connection. More streaming channels is another one. We’re also looking at introducing an HD element to the service and improving the search and recommendation services.

**Any last words?**

We’ve been fortunate in that the CEO, the board and the business, as a whole, recognised the importance of making OSN Play a success and made a significant investment in getting us to this point. However, there have been moments along the way when we were waiting for an application to clear certification with hours to go before the start of the London Olympics when I did wonder whether we would actually make it.

The recent release to smartphones was pretty stressful. iOS is a pretty closed platform so you can predict and test the performance of the player before release but when you release your app to a couple of thousand different Android devices, it’s pretty scary.

Our IT and platform technology teams have had to integrate totally new systems for OSN Play into their existing workflows. The technical brains behind the product would be Lisa Robinson in broadcast and Bas Wijne in IT and our developers at Joko 365. I’m fortunate that I get to approach this with the end product and user experience in mind while they figure out how to make that work. They’ve done an amazing job and ultimately, the breakthroughs we make on one platform can often be applied to the other. Overall, we’re in a far stronger position for having embraced these changes.
The Smart Touch

In an exclusive interview with Vijaya Cherian, solutions provider E2M talks about how it put together a project for Lebanon’s leading telco provider Touch to ensure the delivery of TV content to mobile phones.

Snapshot

END USER: Touch
LOCATION: Lebanon
SOLUTION PROVIDER: E2M
OBJECTIVE: To make TV content available on multiple devices to Touch customers
KEY SUPPLIERS: Envivio, Dell, Cisco

Touch, Lebanon’s leading mobile operator, managed by Zain Group, recently undertook a major installation in order to make TV entertainment available to its users on mobile devices. The three-month project was contracted to Lebanese systems integrator and solutions provider E2M, which is also an entertainment-to-mobile services specialist and a sister company of Al Sumaria TV. Both companies, in turn, belong to GET group.

Nadim Khater, Touch’s Chief Commercial Officer (CCO) says the telco was “very keen on retaining its innovative edge”.

“This is reflected in our TV offering, which can be viewed on any web-connected device including tablets, TVs, PCs and smartphones. E2M’s role was paramount in developing this state-of-the-art product. They proved to be a capable, creative, and knowledgeable partner that could deliver to the highest quality standards,” he adds.
Touch essentially wanted to deliver several video formats and multi-video platforms to mobile phones so they needed a mobile TV solution which included Video on Demand (VoD) and other features, seconds Edmond Mouawad, Broadcast and Media Team Leader at Al Sumaria TV.

“E2M received an RFP for a mobile TV solution and a special team started working on it. People with specialisations in IT, broadcast engineering, electrical installations, networking, programming, project management and software development were required to take this project forward. All of us had to liaise to put together the various pieces of the puzzle for this project to ensure a fault-free workflow that worked well.”

E2M, which is the TV and telco service and solutions provider arm of CET, therefore, designed a turnkey solution to enable the delivery of content to mobile devices.

“We provided them with a full solution including designing the workflow and integrating all of the various solutions together,” explains Mouawad.

One of the main elements of this project is the Envivio platform, which primarily includes the acquisition and encoding elements.

This platform includes two live Envivio Gen 3 encoders handling six live channels each, one live backup encoder, one VoD encoder, a 4Balancer and the Envivio 4Manager.

Video streams are converted into different formats for them to work on different devices including Android, iOS, Windows, Blackberry and Symbian.

“We used Envivio for encoding and transcoding the various video formats and delivering the content. We chose them because of the price and the quality. We have a long-term partnership with Envivio. They provide good support as well,” explains Mouawad.

“Live channels are received by Invex receivers and sent to the Envivo platform,” chips in Zaynoun Hammoud, Software Development Manager at E2M and Project Manager for this installation.

“The Envivio platform then sends the feeds to eight Helix Streaming Servers distributed among four sites in Lebanon. The Helix servers run on Dell servers that use Red Hat Linux 6. We use H264 encoding on the Envivio platform and this, in turn, ingests the feeds to all four streaming distribution centres.”

A significant part of this project was the inclusion of VoD assets, which again are managed by Envivio’s 4Balancer and VOD encoder.

For VoD, content is uploaded onto a content server. The Envivio encoder then fetches the files and uploads them to the Helix servers. The streaming servers support several streaming protocols including HLS, MMS, RTSP and RTMP. This means most standard platforms are covered including iOS, Android, Windows and Blackberry.

Users can watch the service by “Touch is very keen on retaining its innovative edge. This is reflected in our TV offering that can be viewed on any web-connected device including tablets, TVs, PCs and smartphones”

Nadim Khater, CCO, Touch
using Touch’s web portal (mobiletv.touch.com.lb) or by downloading the relevant apps on their phone which are available for Apple, Android and Blackberry devices. “We developed the portal and the apps as well for this project. Users can login into the system using their operator account, as our system is integrated with their accounts as well,” explains Hammoud.

One of the unique aspects of this installation is the fact that E2M developed a middleware that is integrated with Touch’s billing and provisioning system. “We developed our own middleware for this project because Touch has a very tailored commercial requirement, which standard middleware in the market do not comply with,” explains Hammoud. “We built this middleware from scratch to address the needs of Touch. For instance, they needed to calculate, monitor and manage the time spent by a user watching live feeds or VoDs over 3G and WiFi. Users are allowed a consumption quota. Once they exceed that quota, the stream is cut. The middleware is integrated with the telco...”

“People with specialisations in IT, broadcast engineering, electrical installations, networking, programming, project management and software development were required to take this project forward” Edmond Mouawad, Broadcast and Media Team Leader at Al Sumaria TV. Edmond Mouawad says E2M provided a turnkey solution including designing the workflow and integrating all of the various solutions together.

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Edmond Mouawad, Broadcast and Media Team Leader at Al Sumaria TV.

“People with specialisations in IT, broadcast engineering, electrical installations, networking, programming, project management and software development were required to take this project forward”

Edmond Mouawad, Broadcast and Media Team Leader at Al Sumaria TV.
The middleware also provides APIs to other systems like the portal and apps,” explains Hammoud. The portal and apps interact with the middleware. The middleware identifies the user’s geo location and redirects the users to one of the streaming sites.

Team leader Mouawad explains that this project “is unique on several levels.” “Besides the integration we have achieved between several brands, we have developed the middleware, the portal mobiletv.touch.com.lb as well as the iOS and Android apps for this project in-house,” he explains.

Perhaps one of the common challenges with most regional mobile content is the paucity of broadband. To counter this, E2M recommended the adaptive bit rate approach to Touch. “We have used adaptive bit rate streaming. Everything was tested and settled before implementing at the customer’s site. We did not have any major problems although of course, fine tuning was required to ensure that everything worked well,” explains Mouawad.

“The client is now able to deliver TV content to mobile phones that users can access everywhere and at any time. They can watch the streams live or as VoD on their smartphones. They can also watch content on their legacy phones and PCs through 3G and WiFi. E2M explains that this is a standalone project. The platform is tapeless, fully redundant, fault tolerant and has 99.9999% availability, according to Hammoud.

“This is very flexible setup and can be expanded depending on the client’s needs. The number of live channels can be expanded and the number of concurrent users can be expanded as well. This is a very flexible and modular solution,” he adds.

E2M is already working on another project as we go to press to provide its clients with VAS and SMS services.

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Zaynoun Hammoud, Project Manager and Software Development Manager, E2M

**Tech Specs**

- 3 Channel Master 180 Dishes
- 14 Invex DDC 100 Receivers
- Envio platform consisting of three 4caster-c4-genIII, one 4Balancer, one 4Manager and one OneDemand C4 GenIII offline encode.
- 8 RealNetworks Helix Universal servers running on 8 Dell Servers
- 2 E2M Wap Servers running on 2 Dell Servers
- 2 E2M Middleware Servers running on 2 Dell Servers
- 3 database servers running on 3 Dell Servers
- 1 E2M Content Server running on Dell Server
- All Dell Servers specs (PowerEdge R510, 2 x Intel Xeon E5620 2.4 GHz, 16 GB RAM, 2 x 300 GB SAS HDDs Raid 1, RPS, 8 NICs)

**STORAGE:**

- 4 DELL PowerVault MD1200 with 12 x 3TB NL-SAS 7.2k HDDs with Controller
- 8 DELL PowerVault MD1200 with 12 x 3TB NL-SAS 7.2k HDDs Expansion

**POWER:**

- 4 6000 W SIL Inverters
- 6 4000 W SIL Inverters

**NETWORK:**

- 2 Cisco firewalls (ASA5525-K9)
- 8 Cisco Load Balancers (ACE-4710-01-K9)
- 8 Cisco Layer 3 Switches (WS-C3560X-24T-S)
- 5 Cisco Layer 2 Switches (WS-C2960S-24TS-S)

“We developed our own middleware for this project because Touch has a very tailored commercial requirement that standard middleware in the market do not comply with”

Zaynoun Hammoud, Project Manager and Software Development Manager, E2M
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Steering ahead

Hedgehog, a Lebanese production company, recently rolled out a 14-camera High Definition OB truck, reportedly the first in Lebanon. The vehicle boasts state-of-the-art kit capable of executing an end-to-end production. Vibhuti Arora takes a closer look.
Hedgehog, a Lebanese production company, recently rolled out a 14-camera High Definition OB truck, reportedly the first in Lebanon. The vehicle boasts state-of-the-art kit capable of executing an end-to-end production.

Hedgehog Rolled out Lebanon’s first HD OB van.

Beirut-based production/post production house Hedgehog recently completed the integration of its first OB truck. Capable of both live and recorded productions, the van is claimed to be the first High Definition (HD) van in Lebanon and the largest available multi-format vehicle in the country at 14m. It features a 10m expandable side, and is designed to run a production in full HD.

Hedgehog CEO George Moufarrej and Managing Director Nabil Nasr have ambitious plans for their company and the OB truck is believed to be part of that effort. A state-of-the-art OB van will help venture into live production.

While the van is presently leased out to a regional broadcaster, the company doesn’t rule out using it for in-house productions in the future.

Hedgehog’s journey into production happened gradually over the last decade. From a young post production house back in 2003 to a full-fledged production company offering end-to-end services, the company has come a long way.

“Our services range from acquiring show formats to developing ideas and concepts, and producing them. We are specialised in tailor making shows to suit the requirements of each region and even produce them at cost-effective rates with international standards,” informs Moufarrej.

In the process, however, Hedgehog found it increasingly challenging to address its HD requirements as equipment, OB vans and parts of the chain were not easily available in Lebanon. Building an HD OB van seemed to be the answer to empowering the production house to handle large-scale, high-end productions.

“We have been a very successful post production house; the next step from there was to venture out into other territories. We started producing TV magazines for a few clients including Abu Dhabi TV, which turned out to be a great success and a lot of fun.

In the course of our work, we built close relationships with TV producers and broadcasters and got to understand the broadcast industry better. That’s when we realised that there was a gap...
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in HD production, which we saw as an opportunity waiting to be explored. The OB van offered the perfect opportunity to do this,” explains Moufarrej.

The van is presently fitted out with 14 LDK 8000 Elite cameras although wired for 16 should there be a need to expand in the future.

With live events and pre-filmed productions under its scope, the OB van caters to a wide variety of shooting requirements be it indoor or outdoor shoots.

“We hope to work on live talent shows and singing competitions such as The Voice, Arab Idol, and Arabs Got Talent. The audio system that we have installed in the van is top-notch and is designed to meet the requirements of such high-profile shows. In fact, everything that we have integrated in the van right from the cameras to the servers boasts the latest and the most advanced gear, and the audio system is part of that package,” explains Moufarrej.

**The truck and its offerings**

The van was assembled in the US by Ohio-based Gerling & Associates. The work on the vehicle started in June 2012 and Hedgehog was handed over the product as an empty shell with interior sound-proofing and carpeting in place by December 2012. The OB van was fully fitted and ready to roll in Q2 2013.

The systems integration was carried out in Lebanon by Beirut-based engineers who drew out the design and executed the final project. Hedgehog worked closely with the systems integration team led by Jean Claude Rahme, who was previously the head of broadcast transmission at Abu Dhabi TV.

“Since there was very high demand for

*“We hope to work on live talent shows and singing competitions such as The Voice, Arab Idol, and Arabs Got Talent”*

George Moufarrej, CEO, Hedgehog
Complete with a 14-camera installation, the van offers end-to-end production capabilities.

HD cameras in Lebanon, we rented out our equipment as soon as we received them. This was back in Oct 2012. It was used as a flyaway kit for the first programme titled Impossible Duets produced by a regional broadcaster. Once this show was filmed, our engineers and crew started extensive work on the integration of the truck beginning December 2012. This took around three months resulting in us having the complete integrated van by the end of April 2013," adds Moufarrej.

The main role of the OB truck has been to provide any upcoming production with a full range of HD equipment in terms of cameras, audio systems and broadcasting infrastructure. The company selected an end-to-end workflow consisting of cameras, production switchers, routing switchers, router control systems and replay systems for the truck from Grass Valley. These live production solutions provide the mobile backbone for the Hedgehog OB van so that it can provide quality HD coverage of live events. Grass Valley's local partner in Lebanon, Pharaoh Broadcast provided local support.

A full series of LDK 8000 Elite cameras featuring three high performance 9.2 million pixel HD-DPM+ sensors to capture HD images natively and switch instantly between multiple formats and frame rates has been installed. A Kayak HD 3 M/E video production switcher offering 14 affordable systems for flexibility, and several high-end features is also a part of the key kit. In addition to that, a Trinix NXT digital video routing switcher offering three different redundancy options with Multiviewer, 128 Frame HD 64 x 32.

“In the course of our work, we built close relationships with TV producers and broadcasters and got to understand the broadcast industry better. That’s when we realised that there was a gap in high definition production, which we saw as an opportunity waiting to be explored”

George Moufarrej, CEO, Hedgehog
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High-quality conversion with advanced Region of Interest scaling.

Whether it’s a web page, video chat or live presentation, output beautiful professional video from any computer via AJA’s ROI Mini-Converter. ROI can take any Region of Interest from your computer screen and easily resize it in real time for high-quality video output, via the included AJA MiniConfig software for Mac and PC making ROI the ideal choice for AV, broadcast and post production needs.

Region of Interest
Interactively select a Region of Interest, via the free MiniConfig application, and control how that region is scaled to the output resolution. AJA’s high quality scaling algorithms ensure the cleanest picture quality possible.

Connectivity
DVI loop through allows ROI to be placed in-line with a DVI display and the reference input locks the SDI output for use throughout a facility.

Audio
Embed 2-channel analog audio from a computer or 8-channel HDMI audio into the SDI output for easy, synchronized routing.

Find out more at www.aja.com and visit us at Stand #7.F11
forms a key element of the workflow. The replay system installed is K2 Dyno, which includes a K2 Summit HD/SD production server with 80 hours of ingest, clip store, highlight reel creation and replay.

An impressive part of this van is its audio. Hedgehog has installed a 32-fader Calrec Artemis Light console in a 40-fader frame in the truck to complement the HD video by delivering high-quality audio for Hedgehog’s mobile TV production projects including live television shows, sports and entertainment events. The Artemis Light manages 240 fully featured DSP channels, and its surround spill controls make it easy to create 5.1 mixes. The console’s configuration gives Hedgehog room to expand the number of faders by simply plugging in an additional panel. Likewise, Hedgehog can increase the number of inputs and outputs by plugging in new I/O boxes to the integral router using a fibre or copper connection.

The Artemis Light desk also allows for linking high-quality audio directly to the HD picture coming from its other equipment, which is something that would have been impossible before. Instead, Hedgehog would have had to match HD video with lower-quality audio from the studio’s less sophisticated audio system. Integrating the Calrec console into the new truck means Hedgehog can offer a full line of services with consistent high quality in both video and audio.

An additional Calrec Hydra2 analogue I/O box is connected to the studio by fibre, which makes the application even more flexible and easier to handle, according to Moufarrej. “With the best quality in mind throughout the selection process of everything that was chosen for this truck, right from the cameras to servers, the truck is equipped with the most advanced gear, and the audio system is no different. Based on the latest trends in the business, we’ll likely be working on where the audio system is of utmost importance. That’s why we turned to Calrec. The Calrec console gives us immense power and scalability with full redundancy on every critical component of the system,” explains Moufarrej.

In addition to this, the company has a dedicated crew for the van which includes a Video Engineer, an Audio Engineer, an AV Operator and an OB Captain. The rest of the crew is hired on a project-by-project basis depending on their respective requirements. The truck is leased out on a project-by-project basis. The company has a long association with a host of production houses in the region. The truck has been leased out for five months to a leading regional broadcaster, with more bookings in the pipeline. Besides that, there are enquiries and requests from other production and event companies based in Lebanon. The OB truck is sent to whichever studio the production house decides to use for the project at hand. The cameras and audio system are then locally wired out of the truck onto the set as required. It remains there throughout the filming and execution phases of the programme. Once that is complete, all of the VTR recordings are sent to the production house for editing and the remaining steps of the production chain.

The truck seems to be quite busy now working on a tight schedule for clients, but it won’t be long before Hedgehog employs it for in-house productions, which is on the cards, according to Moufarrej and Nasr.
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Relationships play key role in CDN evolution

The classic definition of a CDN, or content delivery network, is an aggregation of servers dishing out live streams, on-demand content and other files to end users on behalf of various clients. In broadcasting, typical clients range from small radio and television stations to larger broadcast networks and media conglomerates.

The CDN's role in the broadcast space isn't so much changing but it is evolving. The now-simple idea of distributing content grows more complex by the year. The explosion of mobile streaming and the ever-expanding OTT universe is evidence alone.

Simply put, to provide an audience with the ability to access content with whatever device and network they use, there are more formats to learn, varying bit rates to accommodate, more complicated signal flow to navigate, and more devices specifications to understand. The good news is that CDNs have the tools, the knowledge and, most importantly, the relationships to help broadcasters evolve their platforms.

Television
The slow-boil behind “cutting the cord” and “ditching the dish” has generated enough steam to send a clear message: A growing number of consumers worldwide are leaving cable and satellite services behind in favour of accessing their entertainment through OTA digital HDTV broadcasts and through the internet.

Viewers that have transitioned to over-the-air digital receive additional benefits beyond free TV services, from a higher-quality picture to digital...
subchannels (due to the ability to fit more
digital channels in a slice of spectrum
than a typical analogue channel).

What viewers miss in reverting to
terrestrial TV is selection. The number
of channels sharply decrease upon
cutting the cord, though the rapid
proliferation of OTT options has eased
the pain for many consumers.

That proliferation also means more
complexity: more formats and varying bit
rates equate to wider ranging transcoding
requirements. It also means staying on top
of changing client and consumer needs.
For the CDN, this means integrating
new technologies into the streaming
architecture – and establishing the
necessary relationships to make it happen.

Content management

Digital content management is imperative
in any modern broadcast architecture.
It has become the overarching layer
that allows broadcasters to effectively
move files and manage media across
multiple components, from servers
and editing systems to online, near-
line and archival storage systems.

Simplifying delivery across
many platforms is among the main
responsibilities of the CDN. For this
responsibility, the CDN has a limited
number of true options for packetising
media into multiple protocols:

Adobe, the original developer of the
Real-Time Messaging Protocol (RTMP)
for delivering video, audio and data to
many platforms. Reliable, if expensive.

Wowza Media, supporting all major
streaming protocols with a flexibility to
quickly adapt to new devices and software.

RealNetworks, which has grown to
support more protocols beyond Real
Media players but remains expensive.

Emerging server technologies such
as EvoStream, which look promising
to date but require more testing.

We work across many of these server
technologies and focuses on cost-efficiency
and the ability to adapt to new targets with
minor changes. Wowza Media particularly
excels in supporting all major streaming
protocols cost-efficiently, and evolved
grown from strictly RTMP-to-Flash delivery
to quickly supporting most emerging
OTT and mobile-device protocols.

MPEG-DASH represents one interesting
emerging protocol, efficiently making
HTTP-based file segments available in a
variety of bit rates. It ultimately marries
tried and true MPEG compression
algorithms with dynamic adaptive
streaming over HTTP, becoming the
first globally-accepted, adaptive bit
rate HTTP streaming option.

The emergence of MPEG-DASH follows
along similar lines as Apple HLS, Adobe
HDS and Microsoft Silverlight Smooth
streaming – all HTTP-based protocols
that offer carrier-grade delivery. The
HTTP-based architecture ultimately
simplifies delivery to multiple devices.

The openness of MPEG-DASH further
simplifies the implementation layer
for playback. It’s a less cumbersome protocol
essentially, making it easier to surpass
firewalls and player-related issues at
the consumer side. Its openness and
similarity makes it a very attractive
option for OTT services that are targeting
a continually growing number of
devices. This translates to the consumer
experience, as MPEG-DASH can easily
adapt to varying networking conditions
and provide excellent playback quality.

Enhanced services

Closed captioning in video streaming
is emerging as an important enhanced
service. Typically, it’s down to two
options: create the captions from
scratch, or integrate a solution for
automated caption creation.

We have partnered with Ensemble
Video to provide users with a video
content system to manage, coordinate
and syndicate video content within their
architecture. Essentially, it provides
the toolsets for broadcasters and media
organisations to manage their streaming
libraries online, and publish and that
distribute content across many platforms.

Ensemble Video’s playout system also
establishes an automated workflow that
creates and delivers closed captions
to the player. This is especially
beneficial to a production house or
a mobile truck that is doing a lot of
video production but lacks the time or
resources to create captions in-house.

Ensemble Video’s solution is intriguing
as it is rooted more in the higher education
space, and its strict ADA compliancy, as
opposed to broadcasting. Like a production
house, educational video production is
typically high in volume – and lacking in
the resources to efficiently caption content.
This can be especially helpful in the OTT
space, where multi-language captioning
is more often needed for international
OTT services that deliver media content
to multiple regions and/or countries.

Applying proven captioning solutions
like Ensemble Video to broadcast also
eliminates the need to hunt for separate,
more expensive hardware-based
platforms like Elemental or Haivision
to support in-stream captioning.

“A growing number of consumers worldwide
are leaving cable and satellite services behind in
favour of accessing their entertainment through OTA
digital HDTV broadcasts and through the internet”

Eduardo Martinez and Andrew Jones, StreamGuys
Online radio
Few radio stations today lack an online presence, and most stations with active streams are looking to monetise their efforts. Dynamic ad insertion offers, perhaps the best opportunity to generate revenue from their online properties, and reach very specific audience subsets (age, gender, geographic location) with targeted content.

A number of software-driven ad insertion technologies exist today to support pre-roll, mid-roll and post-roll placements for live and on demand content. Pre-rolls are the easiest to do (client-side or server-side) and offer the most value to the broadcaster. For some broadcasters, ad replacement is a must to stay within the distribution rights of advertisement campaigns that are limited to the local OTA broadcast area.

Mid-roll ad replacement requires more technical expertise to set up, typically relying on metadata or tone-based triggers such as contact closures coming in and out of an ad break. The CDN architecture can be set up to receive and recognise the trigger or tone that signals content should be replaced with a spot from the ad server.

We partner with AdsWizz for live and on-demand ad insertion, able to handle pre-roll, mid-roll and post-roll ads. The current architecture supports Flash and Icecast audio streaming of MP3 and HE-AAC formats, as well as progressive download MP3 podcasts.

AdsWizz brings an additional capability by supporting Target Spot, an ad network that allows broadcasters to acquire and approve additional campaigns for unsold ad slots. This is also built into the StreamGuys CDN architecture, and is representative of how a CDN can help support financial gain and operational efficiency for online radio broadcasters.

Media playout
Most radio stations exploring ad insertion today are successfully doing so using Flash players, with HTML5 player support an emerging trend.

The Flash platform supports tightly synchronised ad insertions and companion banner ads. This is made possible through metadata support that aligns banner ad changes with audio, creating a more satisfying user experience and value to the advertiser.

The HTML5 platform requires additional work-around software to align audio with banner ad changes. The major bonus here is format and device flexibility: The use of HTML5 extends the benefits of synchronized audio and banner ads to iOS devices, for example.

HTML5 also offers better overall support for mobile devices – a more exciting proposition for web developers working in the broadcast space.
An HTML5 Player with rollback to Flash (a service StreamGuys offers) represents a perfect complement of technologies and functionality.

The bleeding edge
CDNs are equipped to more than just deliver content. Today, they help broadcasters increase reach, expand viewer bases and generate revenue. This could be through any of the above applications discussed, as well as others such as mobile app support; exploration of next-generation high-efficiency codecs like HEVC H.265; and the provision in-depth analytics to better understand audiences and the overall business of streaming.

“Closed captioning in video streaming is emerging as an important enhanced service. Typically, it’s down to two options: create the captions from scratch, or integrate a solution for automated caption creation”

Eduardo Martinez and Andrew Jones, StreamGuys

“What viewers miss” in reverting to terrestrial TV is selection. The number of channels sharply decrease upon cutting the cord, though the rapid proliferation of OTT options has eased the pain for many consumers”

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Business analytics are especially taking off in the streaming world, offering richer data that note audience numbers, geographic locations and average dwell times. These services are important to help CDNs and broadcast clients understand the appropriate time to scale services at the infrastructure, from adding new live server nodes to increasing storage and for on-demand files.

The role of the content delivery network has certainly evolved, from supporting more formats, bit rates and devices today to helping broadcasters develop a future roadmap through audience analytics and measurement to generate revenue. How well the CDN accomplishes these goals will certainly in part lie in developing key relationships with industry vendors, with the intent to bring more advanced functionality and services into the streaming architecture.
I had the pleasure to test the new DPA 4017C-R microphone just as it is being released at this IBC. It is a newcomer from the famous and acclaimed DPA 4017 Shotgun family. I thought perhaps the best way to test it was to take it along with me on a sound job and compare it with my good old trusty companion – the MKH 416 from Sennheiser.

My set up on this gig was my Sound Devices 664 mixer/recorder, my two Lectrosonics wireless systems and these two microphones.

First of all, both the microphones are from the shotgun family. They both have interference tubes and both have superb cardioid polar patterns. The fundamental differences between the two are that the Sennheiser principle is an RF condenser and the DPA is a pre-polarised condenser. Even if they are not based on the same transducer principle, I carried on with the test because at the end of the day, both are designed for the same applications such as fixed positions at sports facilities, broadcast, studio recording and, as in my case, for ENG/film booming.

So what’s the first major noticeable
difference? The size of the microphone is the first thing that impresses you. An astounding 15.3 cm for the DPA compared to 25 cm for my 416! We are talking a significant reduction here. Extremely friendly for rooms with low ceiling and or in limited space applications. Also, because of its shorter size, it brings the microphone capsule nearly 10 cm further down, which means that we are closer to the talent’s mouth to capture all of that crisp and clear sound. And do not forget that by dividing the distance by half between the capsule and the source, you increase your signal by 6dB! Pretty clever idea from DPA, I would say. It allows them to increase the sensibility without bringing any electronics into the equation but just by applying basic sound physics laws.

Again, this mic is so compact because DPA has removed the filter but in the first place, I rarely use the filter provided with a mic. I tend to use the one on my console. For me, the compact feature, therefore, is more important than the filter and so immediately, this mic had a friend in me.

The next important consideration for me was the weight of the microphone. I tend to work on the field all day long, so microphone weight is something I really need to take into consideration. Booming is still one of the most common techniques to capture sound on a set and at the end of it, you really want something light to operate.

In this again, the DPA outdoes the 416 by far! 165g for the 416 and 68g for the DPA. Believe me, it makes a difference when you are fully extended on the boom (most often, you can’t just think about the mic but you also have the suspension and bonnet to consider). Since the microphone is smaller, the Rycote wind shield system will also be smaller and, therefore, reduced in mass.

But since we are on the subject of the Rycote system, I must add that the DPA 4017C-R comes with a Rycote suspension kit. I have to admit though that I was disappointed on this count. The wind cage itself is fine, as per the wind jammer but I wasn’t happy with the shock mount. They were not doing their job properly.

The solution here is a modified Rycote “Modular Windshield Kit” with a short angled XLR connector at the mic end made by DPA. The kit is provided with custom made Rycote suspension Lyres to achieve maximum suppression of handling noise as the lighter the microphone, the softer the suspension needed.

The rubbers used for the system are very soft and flexible resulting in lots of movement from the mic within the cage, creating unwanted mechanical transmissions when it should in fact be there to reduce them.

So the regular, less compliant black Rycote Lyres will be the ideal alternative. The lyres are very easy to switch and we can potentially configure the 4017C-R to our preference. These lyres can be purchased at around USD 30.

Let’s now go to the actual performance of the microphone. In one world, I would describe it as “Beautiful”. Since I previously had the pleasure of using its predecessor, the 4017B, I was pretty sure it would be beautiful.

In terms of directionality, it hasn’t changed. It is the same capsule and the same interference tube. Previously, DPA had already done quite a bit of research on

“Booming is still one of the most common techniques to capture sound on a set and at the end of it, you really want something light to operate”

David Thirion, Sound Recordist
Make every second count

With SanDisk high performance products delivering exceptional read/write speeds, you can capture, share and store your shots faster than ever. SanDisk—the brand of memory trusted most by professionals worldwide.

© C.S. Ling, SanDisk Extreme Team Photographer
its 4017B model to achieve a microphone that would be very transparent but that would still have an excellent rejection of sounds coming from both sides and also, from the back. So, not really any major changes here.

But what was remarkable was that the previous model didn’t have much self-noise already. Now, they are coming out with a preamp with even lesser self-noise. It was really impressive.

When I used the microphone for the first time, I didn’t really appreciate it because I was doing some interviews in a busy open office with the continual low rumble of phones, keyboards, chit chat, printers and all of the other rigmarole associated with an office ambience. It is only when I recorded at home in a very calm environment to carry on with my test that I realised that my trusty Sennheiser companion created more self-noise than the DPA 4017C-R. If you push it quite high, you could really start to hear a slight hiss in my headphones while with the same level on the DPA line, it was clean as a whistle. I was gutted but amazed at the same time because it didn’t strike me that much with the previous model.

So once again, the excellence and professionalism from the Danish company shone through. If I am not mistaken, the result of less self-noise would increase the dynamic range of the microphone. This is another plus from the C version. Dynamic range is usually limited by the imperfections from the electric system from the microphone itself. But since we have such a “low self-noise” in this case you notice a richer response straight away to a large range of sound pressures before clipping. It really is striking with full headphone sensation.

You can understand now, why this microphone has been used in live opera recordings. Even if you would normally use two omnidirectional microphones to produce a nice A-B stereo system, I would be very interested to try it with two of these DPA 4017 C-R mics. I was certain we would be surprised by the results.

So, to conclude, DPA came out strong once again. The fact that all DPA microphones are tested and assembled by hand in Denmark shows that they take great pride in their products, and seems to reflect their dedication to the professional audio community. They managed, somehow, to make one of the finest shotgun microphones already out there on the market even better.

Don’t get me wrong, I still love my dear Sennheiser MKH416 mic but boy, I would love to add this DPA mic to my collection!
PRO REVIEW

Avid Media Composer (MC) has been a staple in the post production field for years. A stable and mature non-linear editing system, over time it has formed the backbone of many a post-production house across the globe. However, with the advent of such tools as Final Cut Pro, the more recent FCP X and Adobe Premiere, MC’s approach has started feeling daunting, cumbersome and outdated especially to a younger generation of filmmakers and editors with a more drag-and-drop approach to editing.

An increasing number of clients these days demand faster turnaround times to match their ever shrinking budgets, as a result of which the appeal of “drop anything onto the timeline and start cutting” of other non-linear editors (NLEs) has increased substantially. With ultra-HD adoption around the corner, we are moving steadily towards greater-than-HD file-based formats, which due to an increase in pixel count have led to tape based media becoming less relevant.

With camera manufactures launching a new model every other day, modern NLEs are required to support the various formats from the get-go, whilst handling the camera’s metadata efficiently. The roles of editors have also changed significantly. The current shift is towards the one-man band type approach. A single operator is often required to ingest, media-manage, online edit, sound mix, grade and output from within the same system.

The latest release of Media Composer 7 addresses all of these and more. Let’s start this review with some of the biggest changes in MC 7– the FrameFlex:

With the jury still out on 4K monitoring solutions – and given that most broadcast programming still happens in HD – FrameFlex allows users and owners to take a more “wait-and-see” approach in order to transition more smoothly and easily into greater-than-HD formats.

The new feature allows you to start working straightaway with the high-res media whilst not having to go through the additional step of generating of offline copies, transcoded generally at a lower resolution. In the past couple of versions of MC, if your material was shot on a RED at 4K or higher, you could bring it straight into the edit without having to transcode or convert. However, you were fairly limited in your colour and resizing options.

Enter FrameFlex, a new feature that allows you to choose what area of the frame and aspect ratio you want to use as your HD extraction, all camera metadata is maintained and can be modified should you desire to do so. With Media Composer’s new Look UP Tables (LUT) colour management, you can now apply LUTs directly onto clips in a non-destructive manner for accurate colour monitoring and LUTs can be applied on a single clip or several with a few mouse clicks.

If you are doing the grade in another system such as Baselight or Resolve, you can remove the LUTs and send the material across just as easily. There are new features:

- **FrameFlex**
- **Colour management and LUT support**
- **Background services**
- **AMA media now Avid managed**
- **Clip gain adjustments in timeline**
- **Master audio fader**
- **Support for iZotope plugins**
- **Symphony toolset now built into MC**

**Snapshot**

PRODUCT - Avid Media Composer 7
RETAIL PRICE - USD 965
REVIEWED BY - Tony Ruthnam, Senior Supervising Editor at Twofour54 intaj, Avid certified editor and trainer

Avid-certified editor Tony Ruthnam takes a look at the new features of Avid Media Composer 7 to see how the software suite compares with its predecessors and peers.

**TOP: Media Composer 7 offers a host of new features such as the FrameFlex and a master audio fader.**
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Tony Ruthnam, Editor, twofour54

New features

- FrameFlex
- Colour management and LUT support
- Background services
- AMA media now Avid managed
- Clip gain adjustments in timeline
- Master audio fader
- Support for iZotope plugins
- Symphony toolset now built into MC
several presets already available within the system with support for user generated LUTs as well as 1D, 3D LUTs and CDLs.

Speaking of colour correction and grading, Avid’s Symphony has now been integrated within MC in the same manner as scriptsync or phrasefind and can be activated without having to install additional software.

Another big feature of MC 7 is AMA Managed Media. Media Composer has always relied on its amazing media management features and toolset. Avid’s databases are second to none. In previous versions of the software, the metadata of AMA linked clips were never tracked. As long as you were still linked to the media within the relevant bins in your project, all was well. Break the link and all the goodness disappeared. This is no longer the case. The Media Tool, when brought up now, also includes all native and non-native AMA media along with the relevant metadata.

Avid has also included a new feature called Dynamic Media Folders. Coupled with the new consolidate and transcode background services, it really ties into the idea of the one-man band multi-tasking user.

The concept is simple. Set up a dynamic folder on your system (literally a folder on your system), and configure the actions you’d like MC to take, such as transcoding to a particular format, consolidating or copying all media to a particular location and so on. Once you’re done, drop all the media you’d like to use into the folder and carry on editing while Avid does all the grunt work in the background.

It frees the user up to concentrate on the creative and editing tasks whilst the system handles the grunt work in the background. All this can be done while MC is running or even when it is closed. This leads to significantly reduced down time as you are up and running with editing as soon as the source media is made available to you and Avid optimised media is made available to you in the background without having to interrupt the editing process. Do note though, with MC having moved to a 64-bit architecture and with these background services, MC is now more RAM hungry than ever. To really take advantage of this feature, you probably should consider bumping up your RAM to at least 16 GB, if not higher.

Audio tools in MC 7 have a few new additions as well. Clip-based gain adjustments are a welcome addition, a feature borrowed heavily from Avid’s Protools systems. Now you can directly adjust a clip’s gain in timeline through a small slider in the lower left hand corner of the clip a la Protools. The audio mixer has been reworked to allow you to decide what needs to be displayed and, more importantly, what doesn’t need to

“In ultra-HD adoption around the corner, we are moving steadily towards greater-than-HD file-based formats, which due to an increase in pixel count, have led to tape based media becoming less relevant”

Tony Ruthnam, Editor, twofour54
be displayed. Users with limited screen real-estate such as on laptops will be thrilled as they can now view more of the User Interface (UI) by hiding the faders. Waveforms are now cached, allowing for significantly reduced loading on the timeline, especially on longer sequences.

There are also quite a few cosmetic and under-the-hood changes in the latest version. Bin views are now easily accessible at the bottom of each bin rather than from within a drop down menu. You now have the ability to colour code your AMA clips, so that you know at a glance what is native and what might, perhaps, require transcoding on your timeline. Quicktime clips with alpha are now supported via AMA as well as vertical scrolling on the timeline.

Avid Media Composer 7 is extremely promising. If you’re already an MC user, this is a must-have upgrade and if you’re not, it’s time to give it a serious look.

Avid has added some really powerful features that are especially beneficial for people doing more on set work such as LUT Management, AMA media-managed clips, as well as background services. By making Symphony into an add-on feature, it offers buyers and users the ability to start with a fantastic NLE and enable the finishing toolset at a later stage, giving you a really powerful all-in-one system.

Avid has big plans for MC and with the demise of the Avid DS, who knows if we might start seeing some of the DS’ more advanced FX toolsets within MC, making it a very complete and powerful system, capable of handling any show from start to finish. The future looks very bright indeed.

“If you’re already an MC user, this is a must-have upgrade and if you’re not, it’s time to give it a serious look”

Tony Ruthnam, Editor, twofour54

Tony Ruthnam is an award-winning Senior Editor at twofour54 intaj in Abu Dhabi and an Avid-certified instructor and pro-user. He has worked on a number of local and regional projects as Lead Editor and Co-Producer.
Since professional production-capable cameras became smaller with the advent of the DSLR boom, more and more features are being packed into ever tinier packages.

I shoot most work on RED cameras, but often need a smaller camera for either easily repositioned second angle shots, or simply for size. I’ve used the 5D Mark 2 for many years. Although it is still a great camera, its capabilities have become somewhat outdated. When weighing the options for a replacement, I became interested in the many smaller options that have hit the market.

The GH3 is a replacement for Panasonic’s super-popular GH2, and is similar in size to one of Canon’s entry level cameras (such as the Rebel/T5i). It sports a Micro Four Thirds Sensor (MFT between 16mm and APS-C/S35mm) and MFT lens mount, so your current lens line-up will not work straight off the bat, if you are coming from a DSLR background.

The great thing about a Mirrorless MFT system is that it makes it easier to adapt to the other lens systems. A quick browse on the internet will pop up
options to pretty much any lens you have from Canon EOS, to Nikon, to PL to OCT18 (as long as you are happy being limited to manual control).

If you have manual Iris lenses, or you are happy having your lenses forced wide open, then a cheap MFT-EOS or F mount adapter can be found online for next to nothing. I used one from eBay in order to use both my Zeiss primes and Canon L series zooms and had no issues. There are more expensive options, such as the Kippon MFT-EOS adapter ($195), which adds an artificial iris (within the adapter) or the Redrock Micro Livelens ($595) which allows manipulation of Canon lenses electronically. The only drawback to this is that your lenses will act differently due to the crop factor of using APS-C or full frame lenses on a smaller sensor. The Metabones MFT-EOS Speedbooster/focal reducer, which is expected to arrive this year (similar to the E-Eos mount for Sony cameras) would effectively make the sensor S35 in size and provide an extra stop of light on the low end. If and when it arrives, it would make this camera a little powerhouse of sorts.

If you want to know how your lenses will act on the MFT sensor of the GH3, then there are a number of options available to you. There are excellent iPhone apps such as P-Cam, or you can use the field of view calculator available at http://www.abelcine.com/fov/ (use the Panasonic AF100 sensor for size reference of the GH3 as they share the same sensor size).

However, for the purpose of this review, I also had two Panasonic Lumix zooms at my disposable, and to be honest, if you have the money to invest then you cannot go wrong. The 12-35mm and 35-100mm Panasonic Lumix lenses are both F2.8 (the same as the Canon L series zooms) and fully stabilised (like the Canon 24-105) giving you an effective stabilised range of 12-100, which is something you simply cannot do with Canon L zooms.

The Lumix lenses will also work perfectly on other MFT cameras, such as the Blackmagic Pocket Cinema Camera (BMPC, if it ever ships)

**“Given that other cameras** (including the GH2, and even GoPro) allow higher frame rates at lower resolutions, it would have been useful to have another frame rate such as 100fps at 720P but perhaps Panasonic has done the right thing by ensuring everything is acquired at 1080P rather than at varying resolutions”

Andrew Clemson, Cinematographer and Digital Cinema Specialist
However, on the 16mm sensor of the BMPCC, there will be the crop factor to deal with. Even with the crop, they are likely to be the most sought after lenses for the GH3 and the BMPCC. Lenses can be manipulated to achieve longer focal lengths by using the Ex-Tele option in the camera’s menu, effectively cropping the sensor but maintaining the same resolution. Using this mode also allowed me to shoot with older lenses that I have bought for the Blackmagic’s S16mm sensor by cropping, in order to avoid the vignette caused by the GH3’s larger sensor.

Unlike its predecessor, the GH3 has added the option to shoot Quicktime files rather than just AVCHD, which is a huge improvement in terms of post production. These files can also be recorded at a much higher bit rate (up to 72mbs) and at frame rates of up to 60P at 1920X1080, unlike the 5D which requires you to drop to 720P to shoot slow motion. Given that other cameras (including the GH2, and even GoPro) allow higher frame rates at lower resolutions, it would have been useful to have another frame rate such as 100fps at 720P but perhaps, Panasonic has done the right thing by ensuring everything is acquired at 1080P rather than at varying resolutions.

The slow motion is offered at either 60P (for slowing down in post) or shooting at 25P with an in-camera slow motion recording. I didn’t notice a major difference between the two, but if you are editing the footage yourself, it probably makes more sense to shoot the 60P and give yourself options for post. However, if you’re handing the footage to post after that, you could argue that it is better to shoot in-camera, so the off-speed footage is easily identifiable to the editors. Just make sure, if you’re doing the former, you check for flicker, as this camera does seem to suffer from it more than its peers.

Despite the fact that the GH3 offers a clean image out via the miniHDMI port, I couldn’t see the difference when compared to the images recorded to the internal SD card. Adding an external recorder, even as small as a nano flash or a hyperdeck bulks this camera up, defeating the very purpose of shooting on such a small camera. I shot all day on a single battery, although the GH3 takes SD cards. I also used one of the microSD cards from my GoPro Hero3s in an SD adapter and saw no noticeable difference.

The GH3 offers pretty good quality audio for scratch sound on its built-in mics. It also offers the ability like other cameras to mount an external mic like the C

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“Unlike its predecessor, the GH3 has added the option to shoot Quicktime files rather than just AVCHD, which is a huge improvement in terms of post production”

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by trust and care, we take it to the air
Rode Videomic or a stereo mic via the hot shoe and 3.5mm input. You can then monitor the audio levels in the camera. The rear LCD on the GH3 swivels out to the side and is great for most run-and-gun situations. When it comes to critical focus, or if you are shooting outside, and don’t have a viewfinder loupe such as the Zacuto Zfinder or an equivalent, then the GH3 also has a very good OLED viewfinder which works even in video mode.

The GH3 does, of course, have an HDMI out, enabling electronic viewfinders like the Zfinder EVF, Cineroid, Alphatron or SmallHD DP4 to work perfectly with it. This is also true of monitors, and to be honest, the best option for the GH3 is probably the small HD DP4 as it offers the ability to use it as a small monitor or an EVF in one package.

Moire is more evident on the GH3 as compared to the GH2, but it is way better than on comparatively priced and similar sized DSLR bodies. I really didn’t have any issues with it. The GH3’s low light capabilities are also good, but certainly, nothing close to those of the higher-end Canon or Nikon bodies. The camera performs better than its predecessor GH2, and can go up to ISO800 clean. You could certainly use footage shot at higher ratings, but if you are shooting in the dark then the Nikon D800 or Canon 5D Mark III are certainly the better options. You can bolster the GH3’s low-light performance by adding faster lenses such as the Canon F1.2 primes or MFT options such as the SLR Magic or Leica F0.95 lenses, but the tradeoff is that your depth of field becomes so razor thin that keeping focus becomes very difficult.

For most people like myself, when it comes to choosing a compact back-up camera, the choice will be between the GH3 and the Blackmagic Pocket Cinema Camera. While the Blackmagic camera offers more in terms of elasticity in the recorded image owing to RAW recording and a greater dynamic range, the GH3 offers slow motion recording (the BMPCC only shoots up to 30P) and a native M4/3 sensor which will match readily available lenses without cropping.

Conclusion
The GH3 is a great camera, which offers innumerable options and if you want a portable, compact unit that can also shoot slow motion, then there really isn’t anything else on the market that can compete, especially not at this price point.

PRO

In Brief
 Compared to the industry standard 5D Mark III:

**PROS:**
- Smaller
- Lighter
- Finer detail and sharpness
- Slow motion at 1080P
- Lighter, fully stabilised lenses from 12-100mm
- MFT mount is infinitely adaptable to other lens formats

**CONS:**
- Less robust
- Weather proofing not as good
- Smaller sensor
- No magic lantern-esque hack as yet (but sure to come)
- Only records to SD or micro SD (with adapter)
- Weak HDMI output

Andrew Clemson is a Dubai-based cinematographer and digital cinema specialist.
Living in a world of Maya

Autodesk’s latest release Maya 2014 is a handy tool for animators to create visual imagery as close to real life as possible. Maya Specialist Chris Jupp gives us the lowdown

Maya 2014 offers a host of new features for modelling with its brand new modelling toolkit, a new Crease Set Editor, Polygon Reduction Tool improvements, and new Edge Flow tools. The new Grease Pencil allows artists to block-sketch their characters’ key positions and there have been improvements to skeleton, allowing for automatic centring of joints to your mesh model and joint symmetry. There is a much improved Node Editor and a File Path Editor thrown in with some updates to paint effects and dynamics added for good measure.

If that’s not all, the new colour is cyan with a glass twist, which fits in nicely with a slick new design of the Autodesk branding, showing off its extensive suite of products. The dragon has fled.

When you fire up Maya 2014 with your shiny new icon, it starts by giving you an option to display all of the new features highlighted in bright green. I’m sure this is a borrowed idea from somewhere but it’s a quick and simple way to explore what’s been added. Plus, there is a new help display panel that pops up at the top of the screen when you press the buttons 4 to 9, showing first timers the different shading modes available. And yes, you can turn it off.

So let’s start with the Modelling Toolkit panel, which is located in the top right...
corner, next to the attribute editor. Contained in the interface is a wide range of polygonal modelling tools based on the NEX toolkit from DigitalRaster. There are a lot of these types of modelling extensions for Maya but this particular toolkit offers an array of powerful, easy-to-use functionality, aimed at enhancing character modelling in particular. Some of the best features of Maya 2014 include Quad Draw, which allows the artist to place dots on a mesh or grid and then fill in these dots with faces, plus do lots of neat editing. Using a feature called Polygon Strips allows you to make strips of quad polygons which stick to the surface of the model you are matching. It does take a bit of getting used to but the offshoot of this is an artist can take a very high-density mesh, say from a 3D scan, and by carefully placing your dots and building your faces, the artist can construct a much lower poly version with correct topology, which you can skin so the surface will deform correctly.

The modelling tool kit
Another favourite are the slider components along the object’s surface by actually selecting the mesh you are editing as the actual transform constraint. This is also useful when using the multi-cut tool allowing you to slice holes in your mesh with the cuts always along the surface. Also, I noticed nice little reminder icons, the + or – signs next to the mouse when selecting or deselecting components, great for the late nights and tired eyes.

An Edit Edge Flow feature is now available creating a node after edge selection controlling the surface shape when you edit the edge positions. You can increase the Adjust Edge Flow value to way above 1, making for some interesting effects when animated.

Creases can now be controlled by a new crease set editor. You can define and add weights in a compact easy-to-manage interface. Just like a crease in a piece of paper, creases allow the artist to pick edges and cause the surface to look bunched together. I did, however, notice that when I used the Crease tool in 2014, I did not receive any interactive feedback for the Crease Weight. Maybe a bug that needs ironing out?

Staying with modelling, the Polygon Reduction tool has been updated featuring a new algorithm. By taking complex mesh objects and reducing the face count, the algorithm retains the mesh’s shape with far fewer polygons. There is more control for reducing the number of faces in a mesh allowing the artist to keep existing lines, reducing by vertex count, triangle count or by percentage.

“Some of the best features of Maya 2014 include Quad Draw, which allows the artist to place dots on a mesh or grid and then fill in these dots with faces, plus do lots of neat editing”

Chris Jupp, 3D freelance animator
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Let’s now walk over to Character Animation with new joint tool enhancements. Maya 2014 has introduced a Symmetry Constraint which allows the artist to create a symmetrical copy of the rig as you construct. While you are carefully mapping out a left hand skeleton, the right hand is created at the same time and if you edit the thumb joints on the left thumb, the right is tweaked accordingly.

Also introduced is a Snap to Projected Centre feature, effectively calculating the middle Y value from your character’s mesh. Very useful! I mapped out my joints for a hand (which was modelled with the fingers curved downwards) in about 30 seconds.

And, if like me, you have a preferred custom rig setup, your placement markers will also snap to the middle of the mesh so you just have to worry about tweaking the X and Z positions.

Grease Pencil is a brand new feature allowing the artist to stretch on a set of transparent canvases which can be added at particular frames. Ghosting is available so that pre- and post-frames can be imaged at a lesser transparency, and Colour and Brush types allow you to add more information and detail, thus mimicking your scene more closely. It’s a useful feature for blocking and since the drawings are not in 3D space so to speak, more like the old placing cling-film on the screen technique, it seems like a very fast and easy-to-use addition.

I think the oil paint on canvas and then, adding turpentine and watching it melt down the paper is one of the coolest features in Maya. Anyway, now Paint Effects has collided with a mesh feature added. So, if your character is walking through the Paint Effects grass, the grass will interact with the character’s feet. Another addition allows the artist to create more realistic plants in Paint Effects by offering random leaf and flower sizes with the new Leaf Size and Flower Size random attributes. Plus, you are now able to fill an object with Paint Effect strokes using the new Occupation Surface and Occupation Volume feature creating a forest at the click of a button.

Interface: The Node Editor, introduced in the 2012 extension package, has been very much improved in the new edition. It is worth remembering that the 3D Maya software was one of the

“\textit{I think the oil paint on canvas and then adding turpentine and watching it melt down the paper is one of the coolest features in Maya}”

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pioneers of procedural modelling and animation using nodes, attributes and channels. Maya was built ground up with an extensive editable history in mind.

The Node Editor allows the artist to plug attributes from one node into an attribute on another node, thus one drives the other, in a much more intuitive and clearer way as compared to the Hypergraph / Connection Editor combination. You have handy shortcut keys 1 – 5, which allows information to be expanded and compressed and lots of colour coding. Maya Assets are now represented in the Node Editor, which will let you create connections to and from published attributes, and display details on the connections are highlighted with a mouse hover.

Maya 2014 introduces a new File Path Editor as well. This will list path information for your files, including referenced files, and even displays a resolving status icon, indicating file path issues plus an Auto Resolve function much like in an editing software. Using the re-path window, you can access the replacement string tool, searching and replacing elements selected in the browser window. Effectively, any path issues can be easily corrected. Personally, I think this is about time because paths are such a basic part of 3D but it’s great to see an editor built in to Maya now.

A final note on interface matters, N-dynamics have been given funky new icons in the Outliner. I especially like...
“Maya 2014 is a solid release with a host of useful, well-implemented features and upgrades in cyan with a twist of glass”

Chris Jupp, 3D freelance animator

PRO REVIEW

the nucleus…and talking dynamics, the curvature attribute in the Non Linear Bend Deformer now uses degrees rather than radians for people who were asleep in Maths class. You can also delete N-Hair and not delete the group nodes above the curves, which is great.

Select All is green? I thought that had always been there! Turns out, it now has a short-cut combination and if you’re in component selection mode, it will select all your components such as vertices, faces, NURBS control vertices, and so on.

With the ongoing buzz over real-time rendering, ever driven on by the games industry, Viewport 2.0 in Maya 2014 now supports the DirectX 11 rendering engine for Windows 64-bit. Using either DirectX 11 or OpenGL mode, a built-in DirectX11 shader allows the artist to manipulate displacements, translucency and even blurred reflections in real-time, utilising the power of the user’s GPU. There is greater interoperability between Autodesk’s Mudbox and Maya so the user can visualise displacement results of the Mudbox model directly in Maya 2014 without having to access software rendering.

A Skip Existing Frames option has been added, which used to be flag in the batch render exe, but I think it was removed. If you have two or three Maya licences and you just want to set a render off on each machine without using a Render Manager because you are using a plug-in that’s not supported maybe, this allows each Maya to just render what is not yet completed. This feature gets filed under the “oh that’s useful” category and it’s nice to know little things like this are being included and not just stuff for the big studios.

The majority of upgrades and new features in a Maya release tend to be focused on ensuring its position as the number one character animation software in the market place. In my humble opinion, this is, without doubt, true. If you are an ambitious company wishing to produce a 3D animated film or a television series with CGI heroes fighting computer generated monsters, then this is the software package of choice. Not only because of Maya’s extensive offering of powerful ever-evolving tools but because the Maya developers understand that each Maya seat has to act like a brain cell that can communicate in a greater network, allowing the flow of data along the complex pipeline of 3D production.

Maya 2014 is a solid release with a host of useful, well-implemented features and upgrades in cyan with a twist of glass.

Chris Jupp is a 3D freelance animator and a long term Maya user.
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As dreams are made on...

In a candid chat with Vibhuti Arora, Emirati filmmaker Juma Al Sahli talks about his journey so far and his plans for the future.

It is said that the best things in life are often unplanned. Emirati filmmaker Juma Al Sahli couldn’t agree more because filmmaking came to him quite by chance. While studying for his Bachelor’s degree in Business, Al Sahli discovered that he did not have a head for numbers. His teachers advised him to opt for a Diploma course or change his line completely and choose another set of subjects for his degree. He opted for a course in media and production simply because it offered him a degree, only to realise later that it was the best thing to have happened to him.

“I did not know much about it at that point and decided to enrol because I was keen on getting a degree rather than a diploma,” says Al Sahli.

Something that he approached with great trepidation turned out to be his true calling and today, he is glad that things turned out the way they did because that opened the door to a whole new world of opportunities for him.

“I am glad I stumbled upon filmmaking. I loved the course, enjoyed every bit of it and was naturally good at it or I would like to believe so. In the first year itself, I made a short film that won me an award for best cinematography from Sheikh Nahyan bin Mubarak, Minister of Education. That was a big encouragement for me. By the time I completed my degree, I had four films under my belt,” he adds.

Al Sahli continued to work in HR after completing his studies and pursued filmmaking as a part-time career until last year when he quit his job and took up filmmaking as a full-time profession. Al Sahli now works at Security Media.
As dreams are

In a candid chat with journey so far and his plans Arora, filmmaker mirati/film for the future R

September 2013
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the /film

/ film making,” he explains.

I love to watch all kinds of films. Watching films from all genres and different parts of the world is a learning experience for me. The films that I have made so far are all different. I like to explore various genres and styles of filmmaking,” he explains.

He also uses his technical knowledge to explore a variety of styles. He says he is very comfortable with technology and doesn’t shy away from using a new technique if it adds value to the film. He used the time slice effect in one of his videos recently.

“I introduced the time slice effect to one of my videos recently. We used 75 Canon

still cameras in a rig with an ARRI Alexa at the beginning and one at the end of the trail. Specialists flew in from Australia and our DoP was from Spain with extensive experience in time slice,” says Al Sahli.

The team did three shots using the time slice effect, also known as frozen time effect. The technique was first introduced in the 1999 film Matrix.

“It took us six hours to prepare the rig and another five hours to set up the cameras but looking at the end result, I can safely say it was well worth the effort.

“I had already used horses in at least three of my previous videos. I wanted to do something different, so came up with this concept. The challenge for me was to use the same subjects, yet bring out a completely new and fresh film. I resorted

“I am glad I stumbled upon filmmaking. I loved the course, enjoyed every bit of it and was naturally good at it… I would like to believe so”

Juma Al Sahli, Emirati Filmmaker
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“Ten years ago, I was among the early entrants into the Emirates Film Competition in Abu Dhabi. We were ten directors, now there are ten times more”

Juma Al Sahli, Emirati Filmmaker

“I learnt how to operate the cameras and handle post production during my course. My stint at New York Film Academy helped me develop a knack for all things technical in filmmaking. On most of my projects, I am usually the Scriptwriter and the Director and sometimes, I also produce and direct.”

For his last film *Goat’s Head*, Al Sahli cast a young Emirati actor. It was his debut film and he worked perfectly, according to the director.

“He was a natural; I prepared him for two weeks for the role and the shoot then progressed like smoothly,” comments Al Sahli.

“I like to be involved in every stage of my projects. I am not very controlling or authoritarian but I like to go by the book. Filmmaking is teamwork and it thrives on a healthy give-and-take of ideas. I would do whatever it takes to make good film.

Commenting on his style of working, he says, “I hate to work under too many constraints. I need time and creative freedom and no constraints on budget to limit me.”

This year during Ramadan, Al Sahli shot three videos and one promotional video for Al Shara, a programme on Abu Dhabi TV. One of his videos was a tribute to HH Sheikh Zayed bin Sultan Al Nahyan who passed away on the 19th of Ramadan, in the year 2004.

**The UAE film movement**

The film movement in the UAE is on the right track. It has grown by leaps and bounds, according to Al Sahli.

“I have been associated with the film industry since 2002. Ten years ago, I was among the early entrants into the Emirates Film Competition in Abu Dhabi. We were ten directors, now there are ten times more. Our industry has seen a lot of growth and the government is playing a key role in this movement. New and upcoming filmmakers are encouraged to showcase their talent.

A growing list of film festivals held annually in the UAE and the region is also an impetus to the industry’s growth,” comments Al Sahli.

It is his dream to make it big on the international film scene and he hopes to be at Cannes some day.

In Brief

**MOVIES:**
- 2003 *Mud* (Award: Best Cinematography for high college of technology)
- 2004 *An Empty Bottle* (Award: First Talent Award from Abu Dhabi Culture and Music)
- 2005 *Sara’s Secrets* (Award: two appreciation certificates for editing and directing from Emirates Film Competition)
- 2006 *Um Duwais*
- 2008 *Paradise Evening* (Award: Best Cinematography from Middle East Film Festival)
- 2012 *The Goat’s Head* (Award: GOLD MUHR from Dubai International Film Festival)

**MUSIC VIDEOS:**
- 12 music videos for the national day with singers such as Hussein Al Jasmi, Mehed Hamad Al Wasmy
Making a Difference

A TV series documenting the work of the Make-A-Wish Foundation went on air this Ramadan. The 30-episode series showed an episode every day on Abu Dhabi TV during the holy month. Vibhuti Arora brings you the details

The UAE chapter of the Make-A-Wish Foundation grants the wishes of children who suffer from life-threatening medical conditions. The foundation was set up in 2010 by H.H. Sheikha Sheikha bint Saif bin Mohammed Al Nahyan and has since then granted the wishes of more than 700 young children. During Ramadan this year, Abu Dhabi TV aired 30 episodes of the Make-A-Wish series to showcase the work that the foundation is doing to make a difference to the lives of terminally ill children in the UAE.

The series was commissioned by Image Nation, a subsidiary of Abu Dhabi Media to a freelance production crew. Headed by Majid Alansari, the Executive In-Charge of Production at Image Nation, the team chronicled the work of the Make-A-Wish foundation.

Hani Alzubaidi, CEO of Make-A-Wish UAE says that by granting their most cherished wishes and letting the children have a day of fun, the foundation brings magic and joy to
these children’s lives. This is an experience that the children look forward to, often holding on to it to get through tough times.

“There are some wishes where we go out and travel with the child. We have recently granted a wish for a child who wanted to visit Sir Bani Yas Island and see the animals. And so we quickly organised a trip for him and his family; he was able to see the animals and participate in other activities such as horseback riding, biking and kayaking. We also organised a surprise visit from Sheikh Sultan bin Khalifa bin Zayed Al Nahyan to spend some time with the child,” says Alzubaidi.

Freelance DoP Kamil Roxas was roped in to produce a series on some of the wishes that were granted so as to inspire viewers to extend their support to the foundation.

“Each year in the UAE, children are diagnosed with life-threatening medical conditions. The idea of the show is to document how Make-A-Wish UAE steps in to assist these children and their families by providing an avenue for hope and strength,” says Roxas.

The series
The series included 30 episodes of seven minutes each, which were aired throughout the holy month of Ramadan. The show featured 30 different children and their families. It took about three months to film the episodes that covered family interviews and the day the wish was fulfilled.

Two Canon 5D MkIIs and two GoPro Hero 3 HD cameras along with Canon 17-40 F4 lenses were used to shoot this series. Other key lenses for the shoot included the Canon 24-70 2.8, Canon 24-104 F4 and the Canon 70-200 F4. Besides this, the Glidecam HD2000, the Glide track, and the Zacuto shoulder rig were key elements of the shoot.

The production team comprised a core crew of six people including George Trummler, the producer; Kamil Roxas, the director and DoP; Steve Erana and Ihab Mokayed, the two camera operators, and Meral Niazi, the coordinator and translator. Shine TK took care of the sound.

While the production mainly took place in the UAE, the team also travelled...
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to Qatar, Ajman, Saudi Arabia, and the Philippines among other places to shoot the occasions when the wishes of various children were granted.

Filming was not as easy as it sounds. How, for instance, do you capture the simple joy of a child who wanted to visit Emirates Palace in Abu Dhabi or just wanted an iPad. In such cases, Roxas says, the team had to bring in some creative ideas.

“We would create a scenario like a red carpet setting and a beach lunch or we would bring in a celebrity whom the child liked and would have appreciated being with. This added an element of drama to the show and made it more interesting to watch.”

The schedules of the children posed yet another challenge as there were significant restrictions on what they could do due to their health conditions. The crew needed to work around these issues. Permissions had to be sought from the respective doctors ahead of the shoot.

Although the interviews were conducted in a controlled environment, the crew had to stay in the background on the actual “wish day”. This clearly meant less control over the environment and the use of natural light most of the time.

“We would just have to let the day unfold and stay in the background,” says Roxas.

“For instance, if a child wanted to be at Ferrari World Abu Dhabi, we’d pretty much have the camera on the glidecam and the sound man running along.”

Then there was the language barrier, which posed a challenge for the crew as most of them were not Arabic speakers. The Director relied heavily on the Arabic translator in the production and the editing stage.

The workflow
The filming of the entire series took place over a period of three months between May and July. After filming an episode, the files were transferred to the editors who transcoded them and prepared them for editing and post. The file transfers were mostly done between two different shoots.

Each episode generated about 80-100 GB of footage, which were transferred using two Macbook Pros on the road.

The editing and animation were split between Kamil Roxas and Brent Spence. Two Pegasus Raid R4s were used for storage and Final Cut Pro was employed for editing. The colour correction was done using Apple Color.

The music was added using Pro Tools TDM hard disk recording system, and a Behringer 24-channel digital mixing desk. Music supervision was handled by Hussain ‘Spek’ Yoosuf from PopArabia.

Several individuals and production houses came together in this project. For instance, the sound design and mixing was handled by John Kochanczyk from Mile Studios. Mango Jam Studios worked on the Intro logo sound composition while the voiceovers were undertaken at CreativeForce. The rough cut of every episode went to PopArabia for musical scoring; each episode consisted of about four to six original music cues before it went to Mile Studios for the final mixing.

“By granting their most cherished wishes and letting the children have a day of fun, the foundation brings magic and joy to these children’s lives”

Hani Alzubaidi, CEO of Make-A-Wish UAE

Key Kit
- Production cameras - two Canon 5D MkIIs, two GoPro Hero 3 HD
- Lenses - Canon 17-40 F4 cameras, 24-70 2.8, 24-104 F4, 70-200 F4
- Footage - Transferred using two Macbook Pros
- Storage - 2xPegasus Raid R4
- Editing - Final Cut Pro
- Colour correction - Apple Color
- Hard disk recording system - Pro Tools TDM

TOP Left: The Make-A-Wish crew with Dr Mohammed Ben Sulayem (centre); Right: Granting the wish of a child who wanted to be a helicopter pilot.
Bottom: Director Kamil Roxas with cameraman Steve Erana.
The great migration

Although the idea of 4K imaging is not new, its adoption has been posing a challenge for broadcasters. With more momentum being built around the technology, we explore some of the basics for migration to higher resolutions.

This may come as a shock to some broadcasters, but the idea of 4K imaging is not new. In the movie world, 4K has been around for 20 years, from the very first days of digital intermediate postproduction. The theory is that 4K – 4096 pixels per line – is a pretty good match for the absolute resolution of 35mm film.

Today, though, a new sort of 4K has come to the fore, designed for video. This is a slightly different definition of 4K: 3840 x 2160 pixels, or four times the resolution of today’s HD. The consumer electronics people have dubbed it as Ultra HD for this reason.

If it has four times the pixels then it must be four times as good, right? Well, as much as I hate to say this, but hidden in the hype, there are some significant limitations in the 4K we are talking about today. Not least of these is any suggestion that we might standardise on a different frame rate.

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DIGITAL 9000 – The Wireless Masterpiece.
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By limitations, I mean short-term...
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“In the days of RGB, timing was very critical. However, in today’s digitally buffered world we do not have the same issues, so basic routing and distribution delays are of no concern”

Stan Moote, VP Business Development, Harris Broadcast

technical issues. When we view programmes on television, our minds have been trained for certain expectations. Part of this is due to how creative and technical directors portray how we visually perceive a programme.

So why do we care about this technicality when we simply want to have 4K running in our facility? This is a key part of the misconception. Most of the 4K we see today is running at film frame rates. Tests have shown that when we are viewing live television at film rates – a slow 25 frames a second – our minds think we are watching a movie. At its most extreme, live news can be perceived as a fictional movie, which I think we would all agree would not be a good thing.

The reason that the currently proposed 4K technology sticks with low frame rates is simple: to use less data. Even HD at 24, 25 or 29/30 FPS stretches the ratio of static to motion detail. These frame rates are well below those needed to deliver the kind of visual experience 4K is capable of, and when watching 4K at lower frame rates, it detracts from the full 4K experience. It is perfectly simple: great-looking spatial detail requires a comparable temporal resolution. For 4K television to be stunning, it needs to be running at 50p or 60p.

Going through these details sets the scene about good-looking 4K television and helps us to understand the wiring needed within the broadcast facility. Without getting too deep into some of the nuisances that make 4K different to HD, just consider 4K as four times more data, and also remember that 4K is inherently a progressive scan.

This leads us to have a clearer understanding of what is required. We know that 3Gb/s is needed for 1080p50/60, so four 3Gb/s “pipes” are needed for 4K running at 50p or 60p. Remember what I said about movies and the 4K hype?

For this they are typically running 24p, 25p or 30p, which only requires half the bandwidth hence, only two 3Gb/s pipes.

While many 4K cameras record directly to memory, some offer live outputs via four 3Gb/s SDI connectors. This is the format needed to support 4K within a broadcast plant. Now if your plant only supports 1.5Gb/s, you would need eight co-axes, which does get messy. Four lines is bad enough, but thinking back to the days of analogue, production houses that kept away from composite video ran RGB and sync, over four co-axes, which was not impossible to handle.

Labelling is crucial: this includes both physical labels on wiring and patch-panels, and soft labelling in databases. In a single co-ax per signal world, finding the right signal in a large plant can be difficult enough, but think of trying to find four linked signals! Documenting is crucial.

We would classically think of having supporting 4K support by building “4K islands”, just as we had “digital islands” during the transition from analogue. If your plant already supports 3Gb/s routing, you are in good shape. Extra paths will be needed to handle 4K, but this should not be an issue as most mid to large size routers are expandable to handle growth.

Although router control systems can switch four signals together as salvos, or simply with four different takes, having one that can support 4K certainly makes life easier.

To future-proof broadcast plants, we would proofed for new standards such as 1080p and 4K with

Figure 1 – New generation 3Gb/s routers are future-proofed for new standards such as 1080p and 4K with

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“If you ever get the chance to compare frame rates at the same spatial resolution, you will realise that more pictures per second make a very much greater difference to perceived detail than simply throwing more pixels at the screen”

Stan Moote, VP Business Development, Harris Broadcast

3Gb/s directly does the trick — and many infrastructure products are already 3Gb/s-ready. Some simply need software upgrades and have device control parameters set for various uses. In Figure 1, we can see a router drop-down menu for connection ports. For 4K considerations, different options are available for binding together two (dual) or four (quad) ports for different 4K frame rate options. For longer runs, Harris Broadcast has a cool card that puts four 3Gb/s onto a single fibre, which provides the assurance that the 4K signals are travelling together.

A few final words about routing and distribution. In the days of RGB, timing was very critical. However in today’s digitally buffered world we do not have the same issues, so basic routing and distribution delays are of no concern. A word of caution though: since frame syncs are all over the plant, and often put in for one feed and later forgotten, be sure paths are matched at least within half a line. More is OK, but if these are sloppy they will predictably come back later to bite you!

Beyond routing and distribution is where the kicker comes into play, when we look at servers and storage. Putting four 3Gb/s SDIs into a server is not difficult. However ensuring they can record, compress and play back simultaneously is a concern. Additionally 4K signals will be wrapped directly into the server as a single file, not as four streams. Can the server support this? What compression format will be used?

Assuming your server plays out the four streams reliably, joining four switchers or even having multiple logo and branding products linked together can get you on-air with 4K. This issue will be the final distribution scheme as 4K has a lot of bits to get to the home user! New compression formats like HEVC will be required and most likely HEVC decoders will be built directly into television sets within the next couple of years.

So after reading this, you may have decided that 4K is not worth a look within your broadcast plant. I disagree. In the production environment, 4K is going to be great! Shooting at 4K and using file-based editing systems is perfect. Zooms and pans for HD can be produced in post more elegantly without a loss in resolution, resulting in lower HD production costs and fewer re-shoots. The statement “fix it in post” will have new meaning. In this environment, 4K streams never happen beyond the editing room, with the final output as HD files.

4K is also very useful in master control and monitoring environments. The switch from having a wall of multiple CRTs to flat screens has created a dilemma: users forget that putting 16 virtual screens on a single HD monitor – whatever the size – is clearly not the same as having 16 HD monitors. The maximum resolution of the monitor is divided by 16 for each individual display.

As operators often sit very close to the monitors, switching to 4K displays radically improves quality. Figure 2 shows a typical MCR layout. Notice the programme feed is one quarter of the flat screen. When using both a 4K multiviewer and monitor this means the operator is viewing actual HD resolution, since 4K is four times HD resolution.

If you ever get the chance to compare frame rates at the same spatial resolution, you will realise that more pictures per second make a very much greater difference to perceived detail than simply throwing more pixels at the screen. So we should be pushing hard for 1080p at 50 or 60 for all production, even if we have to down convert to 1080i or 720p for broadcast.

If we are going to implement 4K in the short term as an acquisition and post format, we need to be looking at these frame rates at the very least. It would be nice to hope that we have high frame rate 4K on the roadmap when it finally becomes a consumer product.

For now, though, if you are already on a 3Gb/s strategy then you are in a good position to embrace both 1080p and 4K signals. You can look ahead to an even brighter future.
German-based artec technologies has been contracted to provide a new TV/radio solution for a major news agency in Qatar. The system will enable the agency’s editors to generate and evaluate information from more than 200 TV and radio broadcasters and then forward them onto the country’s governmental agencies and dignitaries in real time.

Prior to this deployment, the news agency had a daunting challenge ahead of it. It needed to ingest content from a large number of sources from around the world, catalogue it and evaluate it.

Qatar News Agency recently commissioned artec technologies AG to provide a new TV/radio recording and information system. BroadcastPro ME brings you some exclusive details

Snapshot

CLIENT: Qatar-based news agency
SOLUTION PROVIDER: artec technologies
OBJECTIVE: To provide a TV/radio broadcast solution that streamlines operations and enables editors to efficiently package stories and send them to clients within a short span of time
Its clients, including government departments as well as blue-chip businesses wanted the information as quickly as possible. With business and political intelligence, time is of the essence. Besides the challenge of recording the content, the agency also had to use incoming metadata to filter the content, and do so immediately.

It required a system that could provide simultaneous access for multiple editors at the agency, who could prepare and package the content, and add metadata. Finally, the reports and packaged stories needed to be directly available on the desktops of the agency’s clients.

It was clear that the solution lay in a networked system based on compact file storage, and using web services for access. Developing a system from scratch would have been difficult and time-consuming. Instead the agency turned to German developer artec technologies, which has previously supplied them with a TV/radio broadcast solution.

Thomas Hoffmann, member of artec’s Board of Directors, says the German firm has provided the news agency with “state-of-the-art technologies since 2006”.

“This present expansion demonstrates their continuing confidence in our products and system solutions. At present, this has led to a contract volume of USD 2.6 million.”

Artec’s XENTAURIX Broadcast system is a modular IP recording system that is designed to be highly flexible, reflecting the way in which it is called upon to meet a range of applications. The logger units are capable of recording in any quality format from browse resolution to full 1080p HD. Secure capacity can be expanded up to 16TB through a Raid 5 server array.

Special functionality in the platform includes artec’s patented CVOD technology, which enables network-based time shifted playback.

“This creates a new audio-visual archive with virtually unlimited capacity,” says Ingo Hoffmann, CTO of artec technologies, “a kind of Google for television, a ‘television time machine’. It is as applicable to reality TV and docu-soaps as it is to environmental and traffic surveillance video.

“Online monitoring and editing is creating millions of hours of video which are directly accessible, and which can now be searched. You cannot travel through space with our television time machine but you can travel through time to any point for instant, frame accurate playback.”

The developer also specifically envisaged applications for the technology such as compliance recording, where the output of multiple channels must be stored for a period of months after transmission, and available for simple search and recovery.

The same system can be applied for this application. The output of the channels which the agency monitors – more than 200 television and radio channels from around the world – is recorded. Where metadata is transmitted along with the video and audio, it too is captured. The delivered metadata, and further information entered by the agency’s monitors, is searchable for analytics as well as for identifying particular pieces of content.

One of the best ways of building descriptive metadata is to transcribe the spoken content. XENTAURIX has the ability to implement speech-to-text translation, which will greatly add to the searchable information.

The mass of news material captured by the system can then be searched by keywords and content. Clips can be taken from larger pieces of content, and edited together using built-in functionality. Researchers can also create a storyboard to which audio and video recordings are attached to create a package to meet a client’s expectations. These packages can be stored or delivered in various formats.

Because the access is developed using web services, it is simple to customise the user interface to meet the specific needs. Staff using regular workflows can create their own screen layouts and functionality, which can be stored centrally, so wherever the user logs on the interface will be right.

That also leads to one of the important new facilities recently added by artec

“This creates a new audio-visual archive with virtually unlimited capacity … a kind of Google for television, a ‘television time machine’. It is as applicable to reality TV and docu-soaps as it is to environmental and traffic surveillance video”

Ingo Hoffmann, CTO, artec technologies
You are not only a cameraman. You are the eyes of the world.
technologies — the ability to use the system from mobile devices. Through apps for all common smartphones and tablets from Apple, Samsung and others, a closed user group can access the functionality.

The mobile devices can be used as players, so clients anywhere can pick up important content from the agency, either pushed by an editor or time-shifted. Users can also search through the content archive and call up other broadcasts, to be displayed on the mobile device in seconds.

Individual clients of the agency, who may be members of the government or senior executives, can also access content in their personalised folders, via the internet to view on standard television sets and smart TVs. When these VIPs are travelling, they can still access content relevant to them from remote offices, hotels and holiday residences, with the same level of interactivity and security they routinely expect.

The core hardware for the system is a modular server developed by artec technologies. Each 1U box records up to eight television or radio channels, with the complete stream captured for a preset time period of 10 to 200 days. Packages which the news agency staff create and mark for archiving are kept permanently.

Individual modules are built up to achieve the capacity required. This installation is presently configured for more than 200 channels, but can be expanded at any time. As well as searching on the metadata, users can jump to a point in time and scroll backwards and forwards to identify the required content. Frame accurate playback is achieved on a standard browser without the need for plug-ins or Active-X functionality.

The solution meets the practical needs of the news agency. It allows them to scan and digest the world’s news sources, and present the relevant information to its clients with minimal time delay, helping them to make the best business and political decisions.

CTO Ingo Hoffman, who is also the creator of the solution, says artec is “creating new impulses for the broadcasting market” with its technology. “In effect, our system is a highly modern, multichannel network video recorder which records TV around the clock in brilliant quality. With this system, you never need to miss a broadcast. Video recorders and programming are things of the past.”

“With XENTAURIX, viewers can watch and hear whatever, whenever, wherever they want. It will just be a matter of time until TV broadcasters provide time-shifted television around the clock for extended periods of time.”

“The Qatar news agency is already able to record all programmes without gaps for 180 days and then locate content immediately. Storage capacity can be expanded at any time. Then you will have access to an online archive for years to come,” Hoffmann concludes.
In a highly competitive broadcast environment, small but powerful broadcast technology benefits from customer-driven requirements. In a 'see-it-now' world, you have to figure out how to get there first. The carnivorous appetite for content by consumers worldwide is driving broadcast technology designers and manufacturers to look at every opportunity to make their devices and processes smaller, faster and more efficient – right from the ability to replace an OB truck with a single flight case to HD transmitters that can disappear in the palm of your hand. It's not quite “magic”, but only a few years ago, it certainly would have been seen as such.

For example, there has been a significant move to produce lightweight, compact SNG systems that can be operated by one person. There is no need for an engineer to establish the uplink. A reporter, doubling as a cameraman (or vice versa), can now jump on a plane or dash off in a vehicle, arrive at a scene and begin reporting in minutes. The frequency of such an undertaking would have been all but unthinkable without a full-blown crew only a few short years ago. The fact is, in a ratings-driven, I-want-it-yesterday, multi-platform world, being second equates to being first in the unemployment line. Broadcasters are under unprecedented pressure to transmit footage from a scene as quickly and efficiently as possible. The challenge is that those scenes are increasingly remote and difficult to access, but the consumer doesn’t care about that. Fortunately, for content consumers, and for broadcasters that need to provide it, the miniaturisation of technology is now keeping pace with the need for access, if you know where to look.

Put simply, miniaturisation provides freedom, more specifically, the freedom “to boldly go where no man has gone before.” If you’ll excuse the dated pop culture reference, it’s actually a highly relevant phrase today. Audiences want to experience news and events, not just from places they’ve never been to before, but from a point of view that they’ve never seen before. Static camera positions still have their place, but...
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“The miniaturisation provides freedom, more specifically, the freedom to boldly go where no man has gone before”

Stuart Brown, Cobham Broadcast
but to excite and compel viewers, news, drama, sport and cultural events need to be captured from new vantage points, new angles, new frames of reference, and modern technology manufacturers are responding with the enablers.

Cameras, and their transmitters are getting smaller and smaller. The trend towards lighter, smaller and increasingly robust wireless transmission systems is having a major impact on the ability of broadcasters around the world to cover news, events and sport. The desire to get as close to the action as possible and transmit reliable HD signals from camera to studio is ushering in a new world of creative possibilities for those who want, indeed need, to differentiate themselves with compelling content. Solid wireless transmission links are vital to achieve this, but how do you get an SD or even, HD signal out of a matchbox-sized transmitter, and do it wirelessly? Going wireless is, after all, a major contributor to the ability to extend a broadcaster’s untethered reach, the operative word being “untethered”?

Compression and connectivity are the keys. In fact, they’re vital, using one example, for newsgathering. Current, and rapid changes in satellite technology such as the development and deployment of a number of large, multi-transponder Ka-band satellites and Ka-band networks is increasingly offering a viable and economic alternative to heavily used and frequently oversubscribed Ku-band.

Inmarsat’s new Ka-band based Global Xpress service, which will start delivering, via its next-generation Inmarsat-5s satellite system scheduled for launch this year, higher transmission speeds through more compact terminals at a lower cost than existing VSAT services, using far less congested spectrum. When the full service starts rolling out next year, production teams will be able to capture events at distances never before possible and transmit bandwidth-intensive, high-quality video from anywhere. Production teams with modern wireless transmission systems that include IP-connectivity will also be able to make video calls, watch their home team score a goal, read the news, shop or even use social media if they want to.

And it is IP-connectivity that is changing the game, so long as it includes connectivity via 3G, 4G and LAN. The ability to utilise 3G is particularly important at the moment, as it ensures access to super-fast wireless 3G internet connections from even the most remote locations.

There has also recently been a lot of discussion about a number of advanced video compression standards such as HEVC H.265, which I believe will undoubtedly augment the space-saving benefits of wireless systems. Why? Because at the moment, all wireless systems have to trade range for bit rate. It’s just the way it works in the wireless world. The higher the picture quality you want, the lower a wireless system’s achievable range will be. However, by adopting improvements in compression that come with new standards such as HEVC H.265 and no doubt, others on the horizon, high picture quality can be attained but at ever-lower bit rates, which in turn extends the range of the system to achieve, and maintain, the expected quality – importantly, without failure. Production teams stand to benefit the most from increased range at current picture quality thresholds, but improved compression will extend that reach ever further, and the results will be dramatic, both in terms of quality and content for the viewer.

Let’s pause for a moment and consider the ultimate space saver, i.e., no space at all. Wireless transmission links require no cumbersome cable. Anyone involved at the business end of outside broadcast of any type are very familiar with the thick lattice of heavy cables strewn across the ground. Broadcast professionals scarcely take notice, but still have to negotiate paths around, through or over them. Less experienced field producers, or members of the public, can easily get tripped up or entangled in the maze.

Of more direct, practical importance to broadcasters is that implementing wireless transmission systems vastly reduces onsite rigging times. I’ve already mentioned that the ability to get to a site and to be first to air within minutes, even seconds, is critical. Cables are heavy, large and – for coax – limited in effective range. Going wireless means that those set-up times are slashed, with the added benefit of not having to transport and deploy large spools of copper coax. The reduction in production costs is noticeable, which pleases the accountants.

We’ve talked quite a lot about the ever-decreasing size and mobility of wireless transmission systems, new compression standards and Ka-band satellite availability, but there are many other initiatives that will continue to make newsgathering, event coverage and production techniques better, faster and smoother, not to mention more financially viable.

The bottom line is that the ability to get to a location, capture images and link to a satellite to get that information back to base as quickly as possible is now a requirement, not an option, and the diminishing size, coupled with vastly improved functionality, of new technology is heralding a new age in broadcast production.

“Broadcasters are under unprecedented pressure to transmit footage from a scene as quickly and efficiently as possible”

Stuart Brown, Cobham Broadcast
System Integrated Turnkey Projects for Broadcast, Lighting and Pro AV
Ethiopia’s state broadcaster Amhara TV recently deployed the country’s first HD terrestrial TV station broadcasting to more than 50 million viewers. We look at the key kit installed at the facility

Ethiopia in High Definition

The recently built Amhara TV station is Ethiopia’s first High Definition (HD) terrestrial TV facility. Offering HD services to more than 50 million viewers across the country, the TV station went live early this year.

The project was executed by Grass Valley from start to finish and the complete solution was implemented within a span of two months. The successful implementation of the project not only marked Ethiopia’s first steps into HD broadcast but also opened the door to a world of opportunities to broaden the country’s broadcast scope.

The talks for the project began in 2012, which was finally awarded to Grass Valley in the last quarter of the year to deliver an end-to-end service.

“Some project with Grass Valley holds real importance for Ethiopia because it offers our television viewers their first ever HD experience. With this in mind, it was crucial for us to select a partner we could trust and that could offer us the best HD solutions,” says Leykun Mekonnen, Vice General Manager and Media Technology Head, Amhara TV.

The vendor not only supplied the solutions but also provided full systems integration along with training, project management and consultation. The project was implemented from scratch to finish, with the idea of building a world-class broadcasting hub for the country.

The TV station broadcasts all kinds of shows ranging from entertainment shows, talk shows, panel discussions and news, and the solutions were tailor-made to suit the profile of the broadcaster and cater to the various broadcasting requirements.

With the introduction of HD, the government-owned broadcaster has brought about a complete transformation of the media landscape in this East African nation.
Whilst the facility is up and running, there are plans for further implementations in the months to come. The content will be made available internationally through satellite very soon.

“The solutions provided equip Ethiopia’s first HD terrestrial TV station with high-quality broadcast equipment so that its viewer base across the country can enjoy unprecedented quality of coverage. We are expanding to satellite transmission for international viewers,” says Mekonnen.

While most of the equipment is installed in Bahir Dar, the project interconnects three different sites in the country, including Bahar Dar, Addis Ababa, Desse and Debreberhan.

The solutions include LDK 3000+ HD cameras, Kayak HD video production switcher, Maestro SD/HD branding and master control system for multichannel control, Concerto series routing switcher with Prelude router control and GeckoFlex Signal Processing System, among others.

These systems are completely redundant offering modular and easily upgradable solutions, claims the vendor. The solutions provided being completely scalable also allow for expansion of the services.

An extension project is in the offing. This will include a video wall, archiving with a complete editing system, an OB van, DSN, satellite transmission, FM transmitter and production equipment.

“We have ensured that the solutions deployed are flexible and cost-efficient and offer high-quality HD capabilities to provide unparalleled television experience to our viewers,” adds Mekonnen.

There was no need for integration as the installation was carried out in a brand new media building (as opposed to the old analogue studio). Hence, it was relatively easy to deploy the solutions from scratch as compared to upgrading a legacy system. However, with no prototype available, the install had its own set of challenges, especially when it came to training the staff.

“It was crucial that we trained our staff on the ground at all technical levels. That was somewhat of a challenge because it involved a completely new workflow. Striking a close synergy with the vendor helped us achieve that quickly and efficiently,” adds Mekonnen.

In a span of two months, the entire HD broadcast chain was deployed and the brand new fit out offering complete broadcast facilities was up and running. A standard production workflow with two stage and control rooms for production, a VTR room and a MCR for broadcasting (fibre links) was established.

“Africa is a key area of growth for Grass Valley and it’s exciting to see our solutions being used by customers like Amhara TV to deliver new and better quality services to viewers in the region,” says Said Bacho, Regional Vice President EMEA at Grass Valley.

“As broadcasters continue to look for ways to maximise efficiencies, Grass Valley is well-positioned to offer its customers turnkey solutions that meet their requirements and offer integrated flexibility so that business models can be successfully built around them,” he adds.

During the project, the end user and the vendor worked closely in all aspects of the deployment.

“The solutions provided equip Ethiopia’s first HD terrestrial TV station with high-quality broadcast equipment so that its viewer base across the country can enjoy unprecedented quality of coverage”

Leykun Mekonnen, Amhara TV, Ethiopia

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**Key Kit**

- 6 x LDK 3000+ HD cameras – in studio
- 2 x Kayak HD Video Production Switcher control (keyboard) – in studio
- 2 x Kayak HD Video Production Switcher processor – in central apparatus room
- Maestro SD/HD branding and master control system for multichannel control – in master control room
- Concerto Series routing switcher with Prelude router control – in central apparatus room
- GeckoFlex Signal Processing System – in central apparatus room

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**CLOCKWISE FROM TOP:** The central apparatus room boasts the Concerto series routing switcher with Prelude router control and GeckoFlex Signal Processing System, among others; the systems installed are completely redundant offering modular and easily upgradable solutions; the newly set up studio at the facility.
SHARP

HIGH IMPACT
ULTRA LARGE
90” LED
DISPLAY MONITOR MEETS YOUR
PRODUCTION AND BROADCASTING NEEDS

Sharp’s PN-R903 boasts an ultra-large 90-inch screen that towers seamlessly above other professional LED monitors in size, quality, and impact. With its full-HD resolution, brilliant image quality, and streamlined profile, this premium professional LED monitor was designed to lead the large-format digital signage market.

SHARP PN-R903

Key Features:
- Magnificent 90” Class (90-1/16” diagonal) Screen Size
- Brilliant High Definition (1920 x 1080) Full Array LED Display
- Local Dimming energy efficient technology
- 700 cd/m² Brightness
- 1,000,000:1 (local dimming-High) 4000:1 (local dimming-Off) Contrast Ratio
- Landscape and Portrait Mode Compatible
- Engineered for 24/7 Commercial Use

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EXPERIENCE THE ULTRA-LARGE 90” LED DISPLAY AT
20-24 OCTOBER 2013
STAND TA-01
IBC 2013 takes place from September 12 to 17 at RAI Amsterdam. The annual event will see a convergence of professionals engaged in the creation, management and delivery of entertainment and news content from across the world.

Every year, IBC brings the world’s electronic media and entertainment industry together to challenge, direct and set the industry’s agenda through its conference and exhibition. Staged by the industry for the industry it casts the spotlight on future trends, technologies, innovations and business models. IBC 2012 had 1,440 exhibitors and a total attendance of 50,937 with 30,739 visitors and 20,198 exhibitors.

IBC is owned by six industry partners that represent both exhibitors and visitors. Uniquely, the key executives and committees who guide the convention are drawn from these leading organisations, bringing with them experience and expertise in all aspects of our industry.

Year after year, IBC continues to innovate and deliver a dynamic, comprehensive event which is both stimulating and relevant to the changing real world needs of its attendees.

Encompassing the creation, management and delivery of all electronic media and entertainment content in the multiplatform and multiscreen world, IBC is more than just an exhibition, it is an inspirational combination of meetings, demonstrations, new products, seminars and networking opportunities.

The key decision-makers that shape the future of the industry are attracted by the 300+ speakers at the world-leading and agenda-setting conference; the 1,400+ key international suppliers that fill the RAI’s fourteen halls; the unique Feature Areas that reflect the changing nature of the industry; the celebrated Awards Ceremony; and the inspirational global gathering of innovation and talent that IBC and the City of Amsterdam have to offer.

IBC also provides unrivalled networking possibilities for attendees to connect across countries, technologies and industry sectors; allowing them to make new contacts, develop existing relationships, hone their knowledge and widen their peer networks in an ever changing industry.
GRASS VALLEY’S EDIUS 7 DEBUTS

Making its worldwide debut at IBC 2013 is EDIUS 7, the latest version of Grass Valley’s nonlinear video editing application. EDIUS 7 edits content in real time. Its enhanced functionality includes support for real-time 4K editing and the newest file formats, as well as software integration with third-party input and output hardware.

Edius 7 will be publicly demonstrated for the first time at the show. In addition to that visitors to the Grass Valley stand will see the full range of its latest innovations including cameras, switches, replay and playout servers and editing and production tools.

Grass Valley will be introducing updates to GV Director non-linear production centre, GV STRATUS workflow toolset, and LDX series of upgradeable cameras at the show. The company brings its advancements to the region to help content owners and operators across Europe to create and develop multi-screen, multi-platform futures.

“Grass Valley prides itself on the flexibility of its products and its ability to meet the ever-changing needs of today’s market, and our range of future-proofed solutions continues to help broadcasters and media organisations stay ahead of the game,” said Mike Cronk, Senior Vice President, Marketing at Grass Valley.

SNELL IMPROVES IQ

Snell has announced the release of its 30 series IQ range of format converter cards. Based on a single IQ modular infrastructure module, single- and dual-channel cards in the series couple motion adaptive broadcast-quality conversion with support for a wealth of input and output types to enable flexible up-, down-, and cross conversion. In particular, the module allows output of an SD/HD simulcast in a single card while maintaining independent aspect ratios, metadata, and audio for each channel. Supporting up to 10 cards, the module allows 20 channels of conversion in a 3U rack space for remarkable space and power utilization. The 30 Series IQ range of format converter cards is available starting at USD 2,995 per channel.

The 30 series’ broad input/output support enables handling of SDI and AES digital video and audio, analogue video and audio (including HDMI), fibre, and GPIs. All cards in the series include a frame synchroniser capable of referencing to a SD bi-level or HD tri-level reference and a variable aspect ratio converter with reading and writing of WSS, VI, and 2016 AFD signaling.

DB BROADCAST TO SHOW EXTENDED RANGE

Broadcast systems integrator dB Broadcast will be demonstrating an expanded range of broadcast monitoring receivers at IBC. The range includes the newly launched IQBBT105 monitoring and acquisition module and the ASI transport stream monitor/switch module IQASB82, both of which are compatible with the Snell IQ modular enclosure range and Snell RollCall control software.

The IQBBT105 features a web-based SNMP interface for monitoring and control which can be used on unmanned transmitter sites such as rebroadcast and gap-filler sites, and provide monitoring of parameters including MER (modulation error ratio) and LDPC (low density parity check) error correction status.

Also on show will be an enhanced software release for the very popular MERlin DVB-T2 self-contained monitoring receiver. This release offers enhanced MER measurement for SFN (single frequency networks) and at reception sites with difficult multipath signals. MERlin also adds support for Mode B (multi-PLP) broadcasts.

RASCLUD AT THE HELM

Rascular is debuting Helm Clockwork. This is an expansion of its leading PC-based control and monitoring technology Helm. Clockwork — via the creation of a simple Helm panel — allows broadcasters and playout providers to schedule a huge range of different events using Helm’s control of third-party hardware (branding devices, routers, video servers, VTRs, multi-image display processors and modular gear). These “events” could include switching a router, triggering a server to record an incoming feed, or the automated control of audio ingest – the list goes on. RouteMaster integrates Rascular’s tried and tested router control and emulation technology to form a powerful yet flexible router control system. Helm V4.1 release includes many new features and fixes, including indicator controls, rotary controls, router lock and protect, integrated help.

WEBVIEW, SOCIAL MEDIA INTEGRATION, SECOND SCREEN, RED BUTTON SERVICE AND REMOTE TABLET CONTROL ARE SOME OF THE NEW FEATURES THAT WILL BE PRESENTED AT ITS BOOTH.

METEOGRAPHICS PRESENTS WEATHER SOLUTIONS

MeteoGraphics, the broadcast division of Europe’s largest private weather business MeteoGroup, will showcase new weather solutions for broadcasters at IBC.

Webview, social media integration, second screen, red button service and remote tablet control are some of the new features that will be presented at its booth.

LIBEC OFFERS SUPPORT

Libec’s RSPLUS is a tripod and pedestal system with a 100mm ball head RHP75/85. Its payload of the RHP85 is 25kg, which is designed for studio and digital cinema applications. The RHP75 is the ideal tripod for ENG shoulder cameras with 17kg payload. Both systems enable 7STEP drag operation. To achieve a perfect counterbalance in an easy and speedy manner, new technologies called “balance stabiliser mechanism” and “smooth balancing system” were applied to new RSPLUS. This mechanism simplifies the strict adjustment procedures needed for balancing. Tripod cases are equipped with casters for an easy transportation or travel. An internal protection around the RSPLUS makes it shock resistant. In addition to all of these, the tripod is easy to transport as a check-in luggage for air travel.

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Marketing at Grass Valley.

Cronk, Senior Vice President, ahead of the game, " said Mike and media organisations stay continues to help broadcasters of future-proofed solutions today's market, and our range and its ability to meet the flexibility of its products create and develop multi-operators across Europe to help content owners and advancements to the region show. The company brings its toolset, and LDX series of centre, GV STRATUS work Director non-linear production introducing updates to GV Grass Valley will be its latest innovations including stand will see the full range of at the show. In addition to that /f_l demonstrated for the Edius 7 will be publicly input and output hardware. integration with third-party /f_i le 4K editing and the newest /f_l includes support for real-time Its enhanced functionality the latest version of Grass
video scaling quality for true “any source, anywhere” processing, Kaleido-MX is designed to be easy to select, configure and install, whether in large studios or OB trucks.

Miranda’s routers, including the 4K UHDTV-enhanced NWSION B500 series are optimised with SMPE RP-168-compliant, quad-link 3Gb/s switching for the efficient handling of 4K links. The company will also display its new M3 cable, a unique cable bundle that simplifies the connection between router and multiviewer.

Making its IBC debut will be the new SME-1901 module for streaming media. For playout, Miranda’s flagship integrated playout platform, iTX, will feature several new enhancements, including version 1.1 of iTX Render Service for Adobe After Effects CS6 software. The Miranda stand will also feature solutions from recently acquired Softel.

The company will also display its new M3 cable, a cable bundle that simplifies the connection between router and multiviewer. The M3 combines 16 coax connections into a single cable structure, requiring only a single connection step.

NETIA IN THE CLOUD
NETIA is unveiling version 8.2 of the company’s Radio-Assist digital audio software suite. This latest release of NETIA’s flagship software boasts three powerful enhancements, all of which will be showcased throughout the show.

The introduction of cloud-based management for Radio-Assist gives users the ability to access the system database from any network-connected workstation.

The Snippet range of editing tools available within the Radio-Assist automation products is now available for iOS devices. Sharing the same look and ergonomic principles as the Snippet desktop interface, the new iPhone- and iPad-compatible iSnippet tool allows field reporters and other remote users to enjoy the Radio-Assist audio editing capabilities – familiar from the desktop – on their portable devices.

The new teleprompter module for the Radio-Assist suite gives presenters and journalists convenient visual access to news scripts, which scroll continuously down the presenter’s screen and is linked to the playout system in the studio.

NETIA will also showcase the latest version of its media asset management (MAM) platform, which allows users to manage all processes within the global production environment — from editing through post and distribution — through simple, easy-to-manage workflows and task automation, and accessed through one interface.

Miranda Technologies will feature the strength and depth of its range of broadcast solutions at IBC. The new Kaleido-MX and Kaleido-Modular-X multiviewer series, making their first IBC appearance, combine weight, space and power efficiencies with no-compromise

DPA GETS VOCAL
DPA Microphones will also be showing its new, high quality d:facto II Vocal Microphone that gives users unlimited possibilities for their performance. The company will complete its IBC 2013 line up with its expanded d:facto series of headset microphones. Available in both directional and omnidirectional options, in single or dual-ear designs and with long or short booms, d:facto headset microphones are designed to fit comfortably and can be adjusted to accommodate any ear size and head shape.

DPA Microphones

GVF OFFERS SNG TRAINING PROGRAMME
The Global VSAT Forum (GVF) has announced it will be demonstrating its global SNG training programme on its stand at IBC.

The GVF training programme, which was developed for GVF by SatProf, delivers a highly-effective blend of simulator-driven, interactive, self-paced online knowledge training, verification of hands-on skills, and optional supplementary classes. It is delivered by GVF and its partners worldwide for VSAT, broadband, and maritime satellite terminal technicians, engineers users, and operators.

GVF recently collaborated with the Radio Frequency Interference – End Users Initiative (RF-EUI) to develop a test for Advanced Technical Operator (ATO), aimed at occasional user satellite uplink users, such as SNG van/truck operators and teleport uplink technicians.

DPA Microphones
TRACS
VIDEO LOGGING AND COMPLIANCE RECORDING

THE ULTIMATE IN AUTOMATED, NON-STOP, DIGITAL BROADCAST RECORDING

When you really ‘must’ do something, like compliance recording or video logging, why not make it easy on yourself? And cost-effective too? More and more broadcasters worldwide are now legally obliged to provide recordings of their transmissions – pretty much on-demand. This is an important part of a broadcast operation. Being able to quickly prove that a transmission actually happened can also help to resolve a dispute, maintain advertiser confidence, or assist support teams in identifying and fixing faults.

Our 3rd generation compliance recording and video logging system makes video recording easier, more efficient and cost-effective than ever. The software, hardware and an extensive range of features bring unprecedented levels of efficiency and reliability to the whole process of transmission recording, storage and retrieval.

WWW.AXON.TV
NEVION’S ADVANCED TERRESTRIAL BROADCASTING

Nevion will showcase new digital terrestrial solutions, encompassing new SFN capabilities, improved spectrum utilisation, and DAB/FM distribution to transmitters at IBC. Now backed by the complete portfolio from T-VIPS, Nevion’s DVB-T/T2 solutions simplify day-to-day operations, reduce costs, and help the world’s leading service providers and broadcasters take advantage of new revenue streams.

Nevion’s DVB-T/T2 solutions include the cProcessor line of transport stream processing solutions, the DVB-T2 Gateway suite providing full-featured HD content delivery, seamless switching and monitoring solutions, and Connect remote monitoring and management solution for flexible, robust digital solutions for a rapidly-changing media environment.

“To remain competitive in the new media landscape, the high efficiency, improved robustness and increased flexibility of digital solutions are essential,” said Helge Stephansen, Senior Solution Architect at Nevion. “We’ve applied smart engineering to make the most of these benefits, maximising efficient use of valuable broadcast frequency spectrum for audio, video and data delivery.”

MEDIORNET GRASS VALLEY CAMERA INTERFACE CARD

Riedel Communications will feature the Grass Valley camera interface card for MediorNet compact real-time networks.

The new MN-C-OPT-GV-2 for MediorNet Compact allows the user to connect Grass Valley LDK and LDX cameras and their base stations directly to MediorNet. This provides a solution to route bi-directional camera signals, including all embedded audio and telemetry control data, through the MediorNet fibre infrastructure. MediorNet’s network approach allows the free assignment of cameras to any base station or CCU within the network, providing unparalleled flexibility in setups and eliminating the need for re-wiring when production needs change.

The MN-C-OPT-GV-2 for MediorNet Compact fits into a MediorNet Compact expansion slot. It provides two Grass Valley ports that connect either to cameras or base stations.

The MediorNet Grass Valley card supports all video and sync formats supported by Grass Valley LDK and LDX cameras.

Other products on display:
- MediorNet Modular and MediorNet Compact, MediorWorks software; Performer, Artist, Acrobat communications systems; RockNet fibre-optic converters and console interfaces.

AMBERFIN BRINGS TRANSCODE FARM CONTROL CAPABILITIES

AmberFin, a developer of file-based media ingest, transcoding and quality control solutions for content owners, broadcasters, sports organisations and post production houses, will use IBC to highlight the importance of scaling versatility, high calibre quality control resources and cost efficient media transformation platforms in the rapidly growing file-based workflow market space. AmberFin will debut a strategic extension to its ICR (intelligent content repurposing) family of modular software products. The new ICR Transcode Farm Controller functionality builds on AmberFin’s market leading multi-format transcoding capabilities. Also showcased will be an enhanced version of AmberFin’s Unified Quality Control (UQC).

DIGITAL TV LABS BRINGS LIGADA ISUITE

Digital TV Labs will be showing the latest version of Ligada iSuite. This widely adopted, versatile and highly automated test harness enables adaptive streaming tests for MPEG DASH and is the first test harness to facilitate the deployment of DASH conformant services.

Designed to test the areas synonymous with interoperability problems, Ligada iSuite can provide the testing of HbbTV devices employing CI+ DRM and conditional access solution.

As the first registered HbbTV test centre, Digital TV Labs uses Ligada iSuite to provide an official conformance service designed to test CE products to enable manufacturers to display the official HbbTV logo.

Digital TV Labs will also be highlighting its custom test tool development and professional services, enabling operators and broadcasters to specify and build cost-effective video delivery test solutions.
Multichannel instrumental monitoring system/multiviewer

A unique highly scalable solution that allows to solve serious problems of monitoring and control.

All under control!

Having been based on successful combination of versatile features including multi-channel (unlimited number of sources) and multi-format (HD/SD-SDI, IP, DVB-ASI, Composite combined in 1 server) abilities with high-level reliability Stream MultiScreen 5.0 system has been implemented in the projects of the largest Satellite and Cable operators, TV Channels and OTT operators.

The system provides audio and visual alarms, saves the events history, records events in the database MS SQL, sends e-mail notifications and SNMP if necessary.

Warning events

- Video loss
- Frozen video
- Black video
- Audio signal level: silence
- TR-290 (1st and 2nd priority)
- Sync loss
- Service lost
- PID lost
- PID scrambled
- Decoder runtime error
- Transport Stream Bitrate
- Program Splice Monitoring (SCTE-35)
- Service Bitrate
- HLS Transport error
- HLS Low Throughput

Input signals

- SDI (HD, SD) (PAL, NTSC);
- DVB T2-MI Streams (Option: can be monitored using Stream Labs’ DVB T2 MI splitter);
- DVB-ASI;
- HLS (HTTP Live Streaming Monitoring);
- Composite (NTSC, PAL, SECAM);
- FLASH RTMP streams (Real Time Messaging Protocol), The support of H.264 video and AAC and MP3 audio streams;
- RTSP, HSS, MMS;
- IP (Ethernet) MPEG TS (SPTS/MPTS).


All these sources can be combined in one server.

Output signals

- Up to 6 outputs of HDMI, DVI, VGA (can be mixed);
- Streaming Mosaic to IP (Option): MPEG-2 transport stream, H264/AVC, HD up to 1080.

Options

ScreenView Coder - Image Encoding Module encodes the image displayed on the screen of the monitoring system. All the layout visualization is encrypted as it appears: the video window, the PPM indicators, the reports of alarm events and the text plates. The image is encoded with MPEG-2 Video codec or H.264 and packed into a transport stream MPEG-TS. The transport stream is then transmitted over IP.

Programmable keyboard – provides the quick switching between early prepared configurations via the client software Stream MultiMonitor. The keyboard can be physical or virtual.

DVB-T2 MI TS splitter - Stream Labs’ solution for T2-MI to MPEG2-TS de-encapsulation.
Softron will feature a technology demonstration of the upcoming MovieRecorder 3 incorporating a new Smart Record Engine, featuring a new interface design, support for all major codecs, and other innovative features.

MovieRecorder offers a cost-effective way to capture video for collaborative editing without requiring media transcoding, re-linking or re-rendering. MovieRecorder makes post sessions more efficient with pre-editing starting at ingest, powerful online content search, and editing in Final Cut Pro and most other editing solutions seconds after the ingest has started.

Softron will also showcase its OnTheAir Manager for multichannel playout and the Multicam Logger for streamlining logging of all of the different angles (or inputs) used in a live multi-camera production.

Tedial, a supplier of MAM, workflow and archive solutions is highlighting a new evolution of its solution-based approach to the market. Tedial will demonstrate BPM and workflow manager Ficus, which is now in its third generation. Ficus now features an improved workflow creation capability using standard BPM notation and associated tools to enable users to create, modify and maintain their workflows.

New at IBC this year will be Tedial’s data movement technology Media Amigo; new plug-in technology for ENPS and Avid iNEWS systems enabling journalists to easily archive and retrieve News content and Tedial’s content manager Tarsys enhanced by support for Media Sets where all the elements of complex assets such as series and/or collections of programme content comprising masters, promos, attachments, audio tracks and subtitles can be efficiently managed, maximising the speed of response and ease of use.

nangu.TV is an interactive media platform for traditional and new internet service providers that enables the delivery of television and video content including advanced, value added services. nangu.TV will unveil its new HD interface that provides users with a stylish and sophisticated design. Based on feedback by customers the new GUI further enhances usability of the platform by providing a simple navigation process. Also on display will be the nangu.TV Recommendation Engine that provides a simple way for viewers to access relevant content thereby giving advertisers a targeted approach. Using the nangu.TV app, it’s now possible for consumers to control their TV using a tablet or smartphone device. This remote application enables simple browse capability with on/off, play, pause, start over and volume adjustment. Pop-up push notifications on the second screen alert the user that content is starting and a single click plays it on the TV via the set-top box. The search optimisation is advanced enabling filtering based on chosen criteria. Using the nangu.TV app users simply download the application and access content on the platform using the pin number provided by their operator.

ON-AIR GRAPHICS | VIRTUAL SET | WASPi MIMOSA | VIDEO WALL SOLUTION

A versatile solution for on-air real time graphics ranging from Virtual Sets to virtual simulation, Video Walls to Interactive Graphics & Channel Branding, WASP3D’s quality, flexibility and workflow addresses the most demanding graphics requirements of any network or station.
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Anyware Video’s all-in-one automation tool centralises the entire broadcast infrastructure in a single interface, check everything at a glance and have total control from a single screen. Two new features have been added to All-in-One, which includes supervision for monitoring external equipment such as routers, and a MAM interface.

CastGenie, now available in an “all-in-a-box” version, for broadcasting high-resolution videos, creating on-air graphics, sub-titling (for both video & DVB), dubbing the programmes, and for anamorphosis — all from a single system.

For video capture, Pige Antenne, an archiving, monitoring, and diagnostics solution, now manages IP streams and SurCode for Dolby.

Anyware Video will be in Amsterdam with several enhancements to its product line.

A selection of the most striking new features of Anyware video’s flagship solutions CastGenie include: HD-SD downscaling for including HD streams in your SD version and automated management of local cutaways according to the destination output of DVB subtitles.

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Uncompromising performance at unprecedented speed

When you need superior mobility with zero compromise on connectivity, there can only be one choice. Thuraya IP+ is engineered to deliver the fastest streaming speeds for a terminal of its class - allowing you to take advantage of reliable broadband access from locations covered by Thuraya’s unwavering satellite network. Light and compact, Thuraya IP+ is easily deployed to provide satellite broadband access in a matter of seconds. Thuraya IP+ is ideal for mission-critical operations, equipping broadcasters with high speed IP connections to transmit their video feeds back to their studios in the most optimized manner using asymmetric streaming capability.

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IFB resolves a data integration problem by achieving a high-speed integration between production media servers and a broadcast playout system. The integration is tailored specifically for media-rich content to enhance the live news experience. IFB’s integration solution is designed to support the IBC standard, enabling seamless integration with broadcast systems. The solution is based on a plugin-based architecture, allowing for easy customization and deployment in diverse environments. It enables efficient data exchange and playback, ensuring a smooth integration and minimizing latency during live events. 

IFB provides a robust solution for live news production, offering a secure and reliable method for data exchange. This ensures that the live news experience is not only smooth but also secure, providing peace of mind to content creators and distributors. The integration solution is scalable and adaptable, allowing it to be utilized in various broadcasting settings, from small-scale newsrooms to large multinational networks. 

IFB’s commitment to providing the latest technology and solutions for the media industry highlights its dedication to advancing the live news experience. The company is at the forefront of innovation, ensuring that broadcasters can deliver high-quality content to their audiences with confidence and efficiency.
HARRIS BROADCAST OFFERS NEW GRAPHIC USER INTERFACE

Harris Broadcast, which delivers advanced, content-rich media experiences to consumers worldwide, will introduce a new and sophisticated graphical user interface (GUI) to the latest version of its market-leading Landmark broadcast ad sales, traffic and billing system.

The improved and evolved GUI adds a new look and feel to the platform alongside new functionality, without losing any of the core strengths that define Landmark. These strengths include inherent operator flexibility, instant graphical reporting and powerful live data analytics. Landmark differentiates itself from other broadcast sales and scheduling systems in the wealth of vital sales data it provides. With the new GUI, staff can see more of this data with ease, and be instructed when key information changes.

One of the most widely deployed media software sales platforms worldwide, Landmark users deliver vast and complex airtime campaigns. This leads to millions of commercial spots each month, and automatically balances station efficiency with the delivery of quality campaigns for the end customer.

GLOBECAST REVEALS ‘STREAMS OF CONTENT’

GlobeCast will present a new look and positioning for the broadcast service provider, underlining the company’s shift toward working with its broadcast clients on tailored solutions. GlobeCast will also be touting its latest contracts, as well as new developments in the over-the-top space.

In terms of business and product news, GlobeCast will highlight new OTT deals, such as an application developed for sport powerhouse beINSPORT, as well as a suite of B-to-B services for OTT content, whether live, VOD, or a conversion of live to VOD. On the traditional side, new satellite capacity agreements have recently been concluded, such as a deal with Arabsat in North Africa, and will be highlighted at the show, as well as increased fibre connectivity to the four corners of the globe.

BLUEFISH444 HIGHLIGHTS 4K ADUPE SUPPORT

Bluefish444 will exhibit a new Windows plug-in for Adobe Premiere Pro Creative Cloud software enabling 4K SDI preview. According to the company, Epoch | 4K Supernova enables Adobe video editing tools new 4K SDI functionality building, on the existing 2K/HD/SD workflows already provided by their Create and Epoch video card range.

The new SDI functionality includes 4K/2K/HD/SD HD-SDI outputs on a single video card; Digital Cinema standard 4096x2160 23fps-30fps 4:2:2 YUV 8/10-bit HD-SDI; and QFHD 3840x2160 23fps-30fps 4:2:2 YUV 8/10-bit HD-SDI. Advanced configurations allow a maximum of 4096x2160 60fps 4:2:2 YUV 8/10-bit HD-SDI, plus RGB/YUV HD-SDI output through 4 Single Link, Dual Link, and 3G SDI BNC outputs.

The Bluefish444 Windows driver supporting Adobe CC is available for download from the Bluefish444 home page free of charge.

SONNET TECHNOLOGIES AT IBC

Sonnet will demonstrate Thunderbolt-to-PCI Express Card (PCIe) expansion solutions equipped with the new, ultra-fast Thunderbolt 2 technology. Other featured products include the Echo 15 Thunderbolt Docking Station, the Qio line of high-speed media readers with Thunderbolt interface options, and Fusion storage systems for video, broadcast, and audio professionals.

Sonnet’s Echo Express family of Thunderbolt-to-PCI Express Card (PCIe) expansion chassis enables the use of a wide variety of high-performance PCIe cards with any Mac computer with Thunderbolt ports. At IBC2013, Sonnet will demonstrate workflow solutions featuring pro cards from Avid, ATTO, AJA, Bluefish444, RED Digital Cinema, Blackmagic Design, and Sonnet. The new Echo Express III-D desktop and Echo Express III-R rackmount chassis are the first to incorporate ultra-fast Thunderbolt 2 technology, which delivers twice the throughput of standard Thunderbolt.

VISLINK TO LAUNCH MOTORISED MSAT

Vislink, a provider of broadcast communications technologies, will launch a new motorised version of the Advent MSAT satellite terminal. Vislink’s Advent MSAT is a fully integrated satellite data terminal, capable of supporting either a 90cm or 120cm antenna and designed to meet growing demand from the global SNG market for more portable systems with improved data throughput and ease of deployment.

Stephen Rudd, CEO Vislink International Ltd said, “The Motorised MSAT was developed in response to growing demand from broadcasters for an automated version of our successful Mantis MSAT product. It is ideal for first on scene reporting, providing the perfect balance between the functionality of a full vehicle mounted satellite terminal, and the speed, mobility and versatility needed to make sure you can deliver the first high-definition video images from the scene.”

The motorised MSAT is part of Vislink’s Advent range of antennas, and like other Advent products, is highly customisable and can be tailored to include the Advent DVE5100 H.264 encoder or a customer-specified IP modem fitted into the body of the unit. Despite these additional features the Motorised MSAT still meets IATA (International Air Transport Association) weight limits, with the entire unit weighing less than 25Kgs.
Sony will be showing how it is working with the industry to help meet consumer demand for content-rich formats such as 4K and allowing its customers to take the lead in content creation and distribution. The event also gives Sony the chance to share experiences from some of its key projects over recent months. Most notably, Sony has been responsible for the HD multi-platform production behind the FIFA Confederations Cup 2013 in Brazil, where it has also been trialling 4K live production ahead of the FIFA World Cup 2014. Also, continuing a longstanding relationship with the All England Lawn Tennis Club (AELTC), Sony was responsible for shooting and recording part of this year’s Wimbledon Championships in 4K; yet another technological landmark for the AELTC and Sony.

Alongside its work in sports broadcasting, Sony will also be able to discuss how it has been supporting the future talent of the broadcast industry through initiatives such as the John Lennon Bus and the Sony PROducation awards. Earlier this year, Sony partnered with the John Lennon Educational Tour Bus, providing production equipment, integration services, consultancy and expertise that will help the development of core skills around music, video and digital production as part of its commitment to student skills and media education. In May of this year, Sony also announced the winners of the Sony PROducation Awards, a competition to uncover and celebrate the filmmakers of tomorrow.
Alongside its work in sports broadcasting, Sony will also be able to discuss how it has been supporting the future talent of makers of tomorrow. This expertise that will help the development of core skills around music, video and digital production as part of its commitment to the Wimbledon Championships in 4K; yet another technological landmark for the AELTC and Sony.

Clarity Graphics with a range of new features will complete channel playout. The latest release of the company’s transmission devices for graphics or power output devices. It’s ideal for playout facilities to build a variety of playout solutions using Pixel and scalable scheduling, asset management and will be available, Pixel Power’s highly integrated channels. In addition a demonstration of Gallium a channel-in-a-box approach to deploying new the introduction of use-based pricing.

OnDemand, which delivers all of the benefit of the i-styling means it’s intuitive to use and easy on the eye. It ensures consistency and accuracy of output. Finally, templates and the automation capabilities will either, Factory can repurpose existing Pixel Power between facilities or departments a breeze. No deployed at discrete locations, making sharing is quick and easy to scale and in addition can be available standard IT server hardware, Pixel Factory is quick and easy to scale and in addition can be available standard IT server hardware.
Even in a so-called “off year” like 2013, with a meagre number of major events, and a number of disruptive conditions, sports saw substantial growth.

### Sports video market scores

Another sports video research edition has been published and once again, the market research indicates a banner year and forecast for sports video on a worldwide scale. Even in recession-troubled Europe, we see sold-out stadium boxes and seats, heavily subscribed premium channels and unabated enthusiasm for everything related to sports. The latest edition Sports Video World in 2013, published by DIS Consulting, reinforces the assumption that sport TV and all of its segments – professional, collegiate, mobile and broadcast – are thriving.

**Growth seen**

Overall, growth of sports video equipment purchases – aggregated across all product genres – is estimated at 7.24%, globally – since our last sports study was published in 2012. Regionally, USA is seen as strongest with 9.64% growth, the Americas with 7.51% growth, Asia at 6.92% growth and in the Middle East and Africa that growth is estimated as 7.05%. While Europe shows the weakest growth, it is evidencing a positive 5.08% growth despite a very challenging economic climate. Segment growth on a global basis saw that Professional Sports were making the strongest growth at 11.60%, with College Sports second at 8.94%, Broadcast/Cable at 4.72% and Mobile/OB at 3.71%, respectively.

Many factors add to success in sports video growth, among them major events like the Olympics, the World Cup, the Masters and the like. But, even in a so-called ‘off year’ like 2013, with a meagre number of major events, and a number of disruptive conditions, substantial growth was seen.

### Basic kit required

Just as it would be unthinkable to play competitive sport without the right gear, so too television coverage of sport has its required kit, and that has grown in both the nature of basic component items and quantity, year on year. Certain genres of sports video kit are more common in professional sports, such as instant replay and robotic cameras, they do appear in the other segments as well. Universality is seen for cameras, camcorders, D-SLRs, displays and many other sports video related products.

### Money is the root of all sports

Colleges spend an average of 50% of their annual revenues from tuition, from donations and from grants, in support of sports, from stadia to programs and TV gear. Professional clubs and stadia use public tax funds to expand, and depend on ticket sales and merchandising to supplement their operations. More mobile operations are built to serve those constituencies. And, broadcasters and cable operators depend on advertising revenue or subscriptions to premium channels to support their enterprises. It is all about the money.

### Public unrest affecting play

The pressures of public unrest on each of those market segments is, however, going to have an impact. Brazilian citizens took to the streets over lack of a basic social safety net like health care, as the massive spending for the World Cup and Summer Olympics began to come to light. Already, the uprising in Turkey has all but eliminated that country from future Summer Olympic consideration. And, parents of U. S. college students are questioning sports spending due to governmental plans to double the interest rate on student loans.

### 2014 will be a big sports year

Despite a more sluggish European sports climate, between the 2014 winter games in Russia, the World Cup of Football (FIFA soccer) in Brazil and many other televised sporting events, the year ahead is going to be big in sports. While 3D has been sidelined pretty universally, 4K has risen in its stead to attract the interest of venues, teams and fans.

### Sports market growth from previous study

<table>
<thead>
<tr>
<th>Segment</th>
<th>Growth Rate</th>
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<tr>
<td>Total</td>
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<tr>
<td>Broadcast &amp; Cable</td>
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<tr>
<td>Total</td>
<td>7.24%</td>
</tr>
</tbody>
</table>

**NOTE:** The above is predicated on unit growth or decline since the previous DIS sports study was conducted.
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