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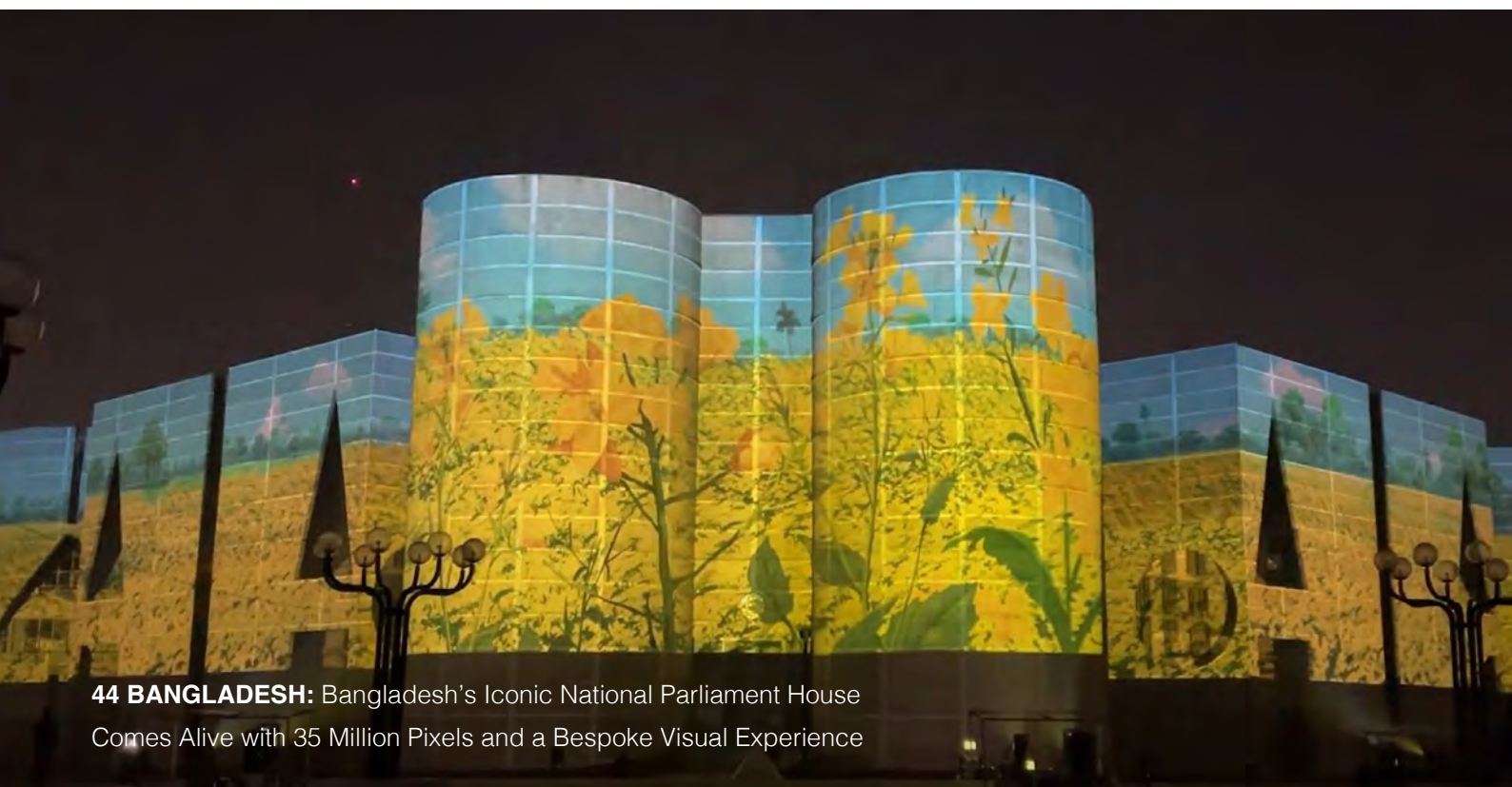
SPOTLIGHT: ALAN MATHEW,
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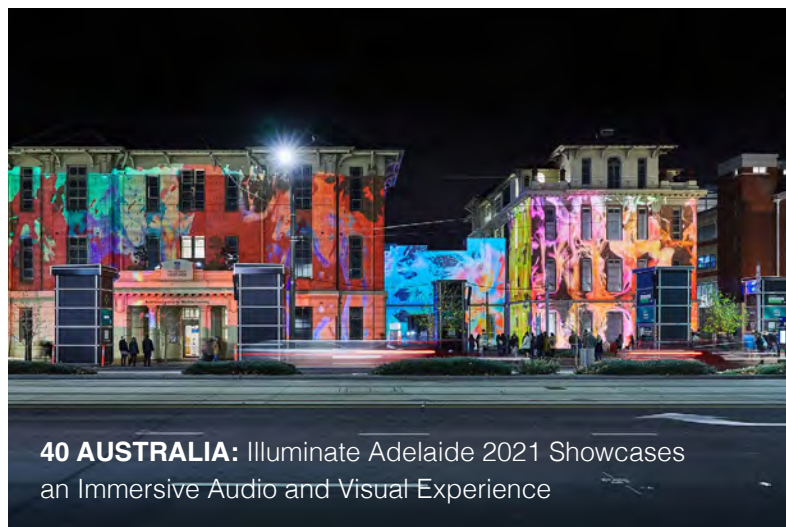
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The recently published detailed global survey report on the current position and future recovery of the live events industry by PLASA, paints a bleak picture. Shortage in supply chains has caused delays by many manufacturers in delivering solutions.

Compounding the matter, many freelancers have switched to

other jobs to cope with the lack of work in the industry during the last two years, leading to a shortage of skilled workers. It was also reported that many production companies took on additional loans to survive the situation and expect costs to increase further. The small light at the tunnel is that many in the live events industry feel that events will start to make a strong comeback from April but can the industry cope based on all of the challenges mentioned above?

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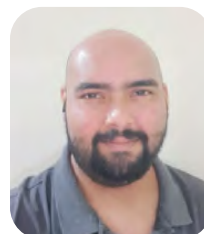


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PLASA: Significant Shortages and Delays Put Live Events at Risk



GLOBAL: PLASA, the lead association for the entertainment technology industry, and #WeMakeEvents, the global campaign to save live events, have published a detailed global survey report on the current position and future recovery of the live events industry.

The survey ran from 1 November 2021 to 21 December 2021 and was completed by 1,948 respondents in over 40 countries in five different languages. The data provides strong and clear evidence of the challenges currently facing the sector, with the vast majority currently reporting delays, shortages and cost increases.

Looking ahead, confidence is mixed, with the majority of respondents lacking confidence in industry recovery within the next six months. This is even more startling considering the survey was conducted before the Omicron variant threatened the lucrative winter holiday season. However, there is cautious optimism from seven to 18 months, which mirrors the progress made when the Live Events industry re-opened in 2021.

But for now, companies and organisations are carrying a heavy financial burden, reporting a huge decrease in annual turnover. To increase the pressure further, 45% took on additional debt to survive the lockdowns. Freelancers are fairing no better, with low earners growing in number and top earners dropping by 78%.

The supply chain is in complete disarray, with shortages and delays across the board. A shocking 94% of manufacturers are experiencing delays in components, resulting in many being forced to source new suppliers and redesign products. The knock-on effects are felt by rental companies, venues, installers and distributors, with the vast majority facing delays in finished goods, cost increases, and unavoidable complications.

Juan Jose Vila, COO of Equipson Spain, comments: "The global Live Events industry has been hit like never before in our lifetime, with much of the supply chain left out in the cold, forced into accruing debt and calling off work. Much of what is involved in making live events happen is out of sight – from the engineer behind the sound desk,



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to the factory that the technology is produced in. This survey demonstrates how impacted the global industry continues to be, so I stand with my industry colleagues around the world in calling for urgent financial support.”

The Live Events industry is also faced with a devastating skills shortage. 69% of companies report a lack of workers, particularly on-site roles such as engineers, technicians, crew and riggers. These crucial shortages are forcing many to delay or cancel work, further losing revenue and opportunities. There is very little confidence that this picture will improve over the coming months, with the real risk of not meeting the increasing audience demand for live entertainment and cultural events throughout 2022.

Andy Dockerty, Managing Director for Adlib, comments: “As a busy supplier to live events, the pressures have been immense. Covid and the enforced lockdown resulted in our turnover being down 80% and we had to rely on substantial CBILS loans to honour debt amassed through no fault of our own. These loans enabled the company to stay afloat and have resulted in huge additional monthly repayments. Couple this with rising bills and interest rates triggered by a lack of confidence in the sector from lenders, the industry is heading for a very uncertain 12 months or so. When allowed to work we are capable of recovering quickly, proving the sector to be viable. The negative messaging and Plan B announced by government in December resulted in our sector once again losing 80% of its income for December, January and the majority of February with absolutely no help at all, amassing further debt.

“We believe there is the potential for a busy 2022 from April onwards, however, there is the added factor of huge shortages within the sector resulting in many companies not being able to deliver numerous jobs or capitalise on any opportunities because of the lack of qualified personnel. Although we may be coming out of one crisis, amassed debt, massive staff shortages, rapidly rising overheads and interest rates, product availability and supply chain issues means we are quickly heading into a very different crisis and we will all need help.”

The pandemic caused an exodus of freelancers seeking work in other sectors, 17% of which migrated into Film & TV. Only half have returned to the Live Events industry full time, leaving a skills gap that takes many years of training and experience to fill. Freelancers who remained or returned are facing shorter lead times and increased pressure. Not only that, touring abroad has dropped by 60%, and international travel remains an unfeasible option.

However, when the Live Events industry re-opened in 2021, it experienced an overwhelming demand. According to Live Nation’s Third Quarter 2021 report, ticket sales were up 10% on 2019, and many festivals sold out in record time, proving a strong public appetite to make up for lost time and a highly resilient and relevant sector.

As a result, the Live Events industry has every chance of bouncing back to full health – but only with the help of government support and business investment. Without which, 2022 may see a noticeable loss of live events; many companies may not survive much longer, and many of the industry’s skilled freelancers may never return.

Download the PLASA and #WeMakeEvents survey report for free [HERE](#).

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EESA Steps into 2022 with Positive Winds of Change for India's Event Services Fraternity



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INDIA: Active initiatives include the establishment of a monumental Joint Working Committee in partnership with the Karnataka Event Managers Association, and formal announcements of a price correction in cost of equipment rental & technical services, along with a no-compromise stance on Miscellaneous Costs

In a first of its kind move – members of the Event Equipment Services Association's (EESA) working committee formally met with counterparts of the Karnataka Event Management Association (KEMA), and the two associations mutually agreed to come together to form a Joint Working Committee (JWC) with three representatives from each association, who will work together in effectively addressing the common concerns of the event management and technical services fraternities, while also acting as a unified voice in representing the entire event fraternity in Karnataka when communicating with the state government, chambers of commerce, and other key decision making offices.

KEMA nominated Srikant Kanoi (Vice President - KEMA, Director - Ethereal Celebrations Management), Pradeep Naik (General Secretary - KEMA, MD - Fuel India) and Ashwin (Member EC - KEMA, GM Marketing - DNA Networks) to represent the association within the

JWC, whereas EESA nominated Vinod Bangera (Joint Secretary – EESA, Director – Systematic Inc), Raghav R (Member – EESA, Director – LEDVISION), and Shankar Devraj (Member – EESA, Director – Firstake Productions) to be the active participants within the JWC.

The JWC has already established a concise agenda to be worked on for the first quarter of 2022, with the key points including:

- a. Establish a formal line of communication with Karnataka CMO, and engage in purposeful conversations that addresses the current state of the industry and culminate in meaningful support extended to members of the community.
- b. Establish an efficient mechanism that assures consistent engagement with hotels and venues, and works to institute a concise SOPs with all venues in Karnataka that will be adhered by all concerned parties.
- c. List pressing issues faced by technical services and agencies respectively, and engage in regular communication with the intention to achieve effective long-term solutions through mutual consensus.



EESA President – Felix Remedios – is optimistic about the JWC’s potential to breathe positive winds of change within the event industry, as he expresses, “The Joint Working Committee between KEMA and EESA is a monumental achievement that exemplifies the commitment and intent

of agencies and technical service providers to come together as one united industry and work cohesively for the mutual benefit of both fraternities. We view this as the first significant step in standardizing the event industry in Karnataka, and consequently moving towards consolidating events and entertainment as a government recognized structured industry. We thank KEMA for sharing our enthusiasm and extending their unequivocal support in making the JWC possible, and we look forward to this initiative acting as a beacon of inspiration for the entire events industry across India.”

Earlier on in December of 2021, EESA also voiced the sentiment of the entire event equipment rental service and event technical service community, as they announced a price correction in the cost of equipment rental & technical services for live events, along with a ‘no compromise’ stance on miscellaneous costs which encompasses service components like transportation & logistics, Manpower, Crew Welfare, and Engineer Fees.

The price correction – which came into effect from 1st January 2022 – emphasizes an incremental increase of 15-20% of the prevailing rates, and has been collectively implemented in light of the fact that fees for equipment rental and technical services haven’t changed for several years despite the exponential increase in costs of essentials like fuel (thereby affecting transportation and logistical costs), raw materials (thereby affecting equipment procurement and maintenance costs), general sustenance (thereby affecting staffing, crew and professional service costs), general business overheads, and other crucial input costs.

On the other hand, EESA members have decided not to entertain any negotiations on the ‘Miscellaneous Costs’ owing to the basic understanding that factors like Transportation & Logistics, Manpower, Crew Welfare (Food & Conveyance), and Engineer Fees – all of which comprise line-items under the Miscellaneous Costs heading in formal work proposals – are in fact, unavoidable expenses that service providers are incumbent to, irrespective of the scale and/or nature of the event.



“These announcements were made by EESA on behalf of the entire event equipment rental services and technical services community, with the view to foster a more secured future for our fraternity; and have been done so after careful deliberation

of the on-going situation. There’s been a conscious endeavour to minimize the impact of these decisions on our clients i.e. the event management community and our end clients; and we deeply appreciate the fact that our partners and clients have respected the sincere reasons driving these decisions, and have continued to actively engage in working together on planning for future events. We are thankful for their consistent support in empowering us to maintain the highest level of commitment in providing the very best technical expertise and infrastructure for events across the board” asserts **EESA Vice-President Santana Davis**.

These concrete steps initiated by EESA have garnered praise and support from an overwhelming majority of members from not just the technical services community, but also the event management community – and looks to usher in a new era of a more cohesive, structured and secure business ecosystem for the event industry across India.

EESA

disguise and Moment Factory Launch Collaboration to Drive Innovative Storytelling in Live and Broadcast Events



GLOBAL: disguise, the leading technology platform enabling visual experiences at the highest level, and award-winning multimedia production company, Moment Factory, launch a collaboration to combine their groundbreaking expertise in extended reality (xR) experiences and enable new storytelling possibilities in the music, live entertainment and broadcast industries.

As the pandemic accelerated the adoption of virtual production across the world, it created new opportunities with new technologies connecting virtual and real worlds. These technologies are influencing many types of experiences and are even enhancing the live shows that have returned post-pandemic. Moment Factory and disguise's mission for this collaboration is to create and deliver a multitude of immersive experiences for musicians and artists in broadcasts, live streams, concerts and other live events, as well as boost innovation initiatives within extended reality.

The collaboration will focus on Moment Factory's use of disguise's state-of-the-art hardware and software, in-depth technical expertise and global community of partners and users, whilst promoting Moment Factory's conception and production of wide scale creative, innovative and immersive experiences. Customers of both can expect new technology, better tools, a more

integrated production process when working with both and greater opportunity for the community and users within the xR ecosystem.

Moment Factory co-founder Dominic Audet is excited about disguise and Moment Factory's collaboration and mission to create amazing xR experiences. "By creating this collaboration with disguise, we will enhance our common delivery capacity for live xR events around the globe. Following a ten year-long relationship, sharing common DNA in music and live events, it is only natural to combine our visions to continue bringing amazing experiences to life all around the world."

disguise CEO, Fernando Kufer agrees. "We have a pipeline of joint initiatives lined up that will push the boundaries on what experiences we can create for people using extended reality. After working with Moment Factory for many years and seeing the amazing projects they have delivered using our technology, I am confident that we will push each other to break boundaries in music and entertainment. With Moment Factory, we will bring new meaning to the disguise motto of create together," says Kufer.

[Moment Factory](#)

[disguise](#)

Lokjat Audio Visual Adds Adamson to its Inventory



INDIA: Lokjat Audio Visual prides itself on delivering a unique and unforgettable experience to its clients, and they have elevated that experience with the acquisition of 8 x S10 line array enclosures and 6 x E119 subwoofers from Adamson Systems Engineering, along with Lab.gruppen PLM20K44 amplification.

Based in Delhi, Lokjat Audio Visual has been a provider of fully integrated audio visual services for almost 20 years. The company offers a comprehensive selection of audio, video, lighting, staging, installation and production solutions for the entire spectrum ranging from large scale corporate events right through to smaller private parties and social events.

"We have several brands in our portfolio, but we felt we needed Adamson as it is a cut above the rest when it comes to innovation and technological advancement," says Jatin Kapoor, Director of Lokjat Audio Visual.

"Our goal is to consistently provide our customers with the best possible value, quality, and service in each and every component we present, and that's what informed our decision to invest in Adamson. The sonic performance of the speakers is spectacular, and the training and expertise received from Dr. Rajesh Khade and StageMix have made us even more confident in the products and the brand. We're proud to be part of the Adamson Network."

The solutions was delivered to Lokjat Audio Visual by Adamson's distributor Stagemix.

[StageMix](#)

Analog Way's Aquilon RS4 Drives Video at Genesis Vehicle Launch in Shanghai



CHINA: Analog Way's Aquilon RS4 mission-critical 4K/8K multi-screen presentation system and videowall processor served as the video control backbone at Shanghai's Binjiang Shipyard when international luxury automaker Genesis launched its G70 luxury sports sedan and Genesis G70 Edition 1 limited edition vehicle available exclusively in China.

The event, in an old warehouse on the Yangpu River front, featured two stages where video, music and dance combined with the official launch presentation. The VJ/performance stage featured a main LED display with Dutch façade and horizontal LED stripes flanked by vertical LED stripes. The car stage had a floor LED display, four projectors with a lifting curtain above the stage and two projectors with lifting curtains at the sides. Vertical LED stripes were left and right on the car stage; more vertical LED stripes and a prompter display were at the rear and a long LED stripe ran along the ceiling from the main display to the prompter.

All of the LED displays and projectors were active for the event's open, welcome and promotional video. A dancer and mirror lighting effects highlighted the

vehicles' reveal, then the cars were driven, in drifting mode, to the accompaniment of a VJ video. The side projectors took over for the Genesis keynote. Then the performance stage's LED display enhanced audience photo ops, the reception and live band music.

The project manager at Really Beijing, which was responsible for AV equipment, installation and control, chose Analog Way's Aquilon RS4 to drive all the LED displays and projectors. The RS4 received content from the media player, VJ computer and band computer. Presets were edited with

Web RCS and controlled by Elgato's Stream Deck.

With 24 inputs and 16 outputs, the Aquilon RS4 delivers uncompromising presentation experiences. It combines industrial-grade reliability, unrivalled ease of use, versatile 4K digital connectivity, unmatched real-time 10/12-bit 4:4:4 video processing power, best-in-class image quality and pure 4K60p on each input and output with ultra-low latency.

"The RS4 greatly reduced the equipment needed and simplified their connections," notes Yang Li, Technical Support Engineer for Analog Way. "The event required 11 x 4K and five 1080p video inputs and 15 x 1080p video outputs. The initial design was using four video processors for this setup, while we just needed one Analog Way RS4 to get the job done perfectly."

"All programming and configuration was done through our Web RCS interface (Web based), so there was no need to install extra software," he adds. "RS4 also supports third-party controllers like Stream Deck for flexibility."

[Analog Way](#)

Alistair Smyth Joins zackrack International as Brand Manager



INTERNATIONAL:

zackrack has announced that Alistair Smyth, a long-time veteran of the industry, has been hired as Brand Manager. After earning a bachelor's degree in aerospace engineering from Kingston University London, he worked for Vari-Lite, High End Systems, Christie Lites, A.C. Entertainment Technologies and Flashlight. Most recently,

he was a Technical Sales Advisor at Elation, where he was responsible for product demonstrations, sales support and technical communication.

Alistair comments on his new role: "I am proud to join the Lightpower family of companies and be a member of the zackrack International team. I look forward to meeting our valued distributors, customers and users. The zackrack products are amazing and we believe they will revolutionize tracking in many areas of our industry. As part of the team here, we can work together to help promote this intuitive technology and bring it to a wider audience."

Stephan Saremba, Managing Director of zackrack International, said: "We are very happy to have Alistair on board now. Since zackrack International was established just last year, zackrack has been chosen for iconic projects like the ongoing Alanis Morissette 2021-2022 world tour or MJ the Musical on Broadway. We have also signed on several new distributors in key markets around the world, expanding our global service and support offering. With Alistair's industry experience and enthusiasm for the brand he will help put zackrack on many more stages around the world."

[zackrack](#)

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Sydney Drone Spectacular Sets New Vision

Photo credit: Daniel Griffiths, Destination NSW



AUSTRALIA: ELEVATE Sydney, a new festival held 1-5 January, unveiled the largest drone display in the Southern Hemisphere. The ELEVATE SkyShow, lit up Sydney Harbour for the first time with 500 drones, revitalising people's imagination in a time of uncertainty.

Featuring cutting-edge technology, art and a First Nations narrative, the inaugural ELEVATE SkyShow blended art and technology to create an entirely new form of night-time entertainment. The 500 Intel drones performed in between the Sydney Opera House and the Sydney Harbour Bridge to a powerful and moving soundtrack.

AGB Events was commissioned by the NSW Government through tourism organisation Destination NSW to create and produce ELEVATE Sydney (elevatesydney.com). This summer festival was designed to activate Sydney's CBD and AGB's SkyShow provided an epic conclusion at the end of every night for thousands lining the Sydney Harbour foreshore.

AGB Events assembled a team of leading creatives to design the show, comprising **Anthony Bastic Creative**

Director, First Nations Advisor Rhoda Roberts AO, Rhyam Clapham (DOBBY) and Senior Producer Olivia Bradley.

Set to an original soundtrack composed by artist DOBBY, the drones danced to powerful orchestral sounds, energetic beats, and indigenous language, bringing First Nations culture to the forefront. The drones served as flying pixels animating an authentic and thrilling narrative of Greater Sydney, paying homage to the ancient wisdom of the Eora People, the unmatched beauty of the Australian flora and fauna and the pure joy of experiencing Summer in Sydney.

To bring the breathtaking vision to life above Sydney Harbour, AGB Events collaborated with Australian drone consulting company **Mirragin** and world class drone experts from **Intel**. Intel, the technologists responsible for the spectacular display at the Tokyo 2020 Olympic Games and the PyeongChang 2018 Olympic Winter Games, deployed specialist pilots to Australia from Germany, United States and Finland specifically to program the Sydney show.

Photo credit: Daniel Griffiths, Destination NSW



"The innovation and technology offered by Drones is really exciting - they are environmentally friendly with zero emissions, you can create a narrative and tell a story, and the possibilities are endless - they really are the future of major events," said AGB Events CEO, Anthony Bastic.

"The collaboration created a first for Sydney resulted in something special. The coupling of technologies and applying them to outdoor public events greatly enhances the audience experience and will certainly set a benchmark for future Australian events," he added.

To set the perfect scene over stunning Sydney Cove, **Mandylights** was brought in to enhance the Sydney night skies with striking light projections, programming sixty mBeam searchlights from multiple locations around the Harbour.

As a further enhancement, AGB engaged international augmented reality artist **Charles Clapshaw of Future of Art**, to overlay an augmented reality experience to the drone show. Visitors scanned the QR codes on site and enjoyed added visual elements, further enhancing their live experience.

In addition to commissioning by Destination NSW, the ELEVATE Sydney SkyShow team was also supported by key landowners and government agencies, including the Civil Aviation Safety Authority, Transport for New South Wales, the Overseas Passenger Terminal and Ports Authority, and NSW Place Management.

"We're very grateful for the support and efforts of the many agencies who have worked with us to realise this project. This is an industry we really want to nurture and promote, the Intel Pilots travelling to Australia and sharing their knowledge is an amazing opportunity to grow the expertise of local drone operators." Bastic concluded.

[AGB Events](#)

Clear-Com's HelixNet and FreeSpeak II Rise to the Challenge at the National Paralympic Games XVI



INDONESIA: The 16th National Paralympic Games were hosted in Indonesia from November 2nd – 13th 2021 at the Mandala Stadium in Jayapura, Papua, Indonesia. Clear-Com's Indonesian-based **Partner, 86 Inc.**, was contacted by the Organizing Committee of the Opening and Closing Ceremonies (OCC) to assist with the show management and live broadcast communications for the complex events. 86 Inc. recommended a solution based around Clear-Com's HelixNet Digital Network Partyline and FreeSpeak II Digital Wireless Intercom.

"The OCC, the Paralympics COVID Task Force, and the Ministry of Communication and Information Technology (MCIT) of Indonesia all had different concerns needing to be addressed by the comms system," explained Dino Gonggalang, CEO, 86 Inc.

The OCC's concerns were related to logistics given the overall scale of the event—in one of the key moments of the show, 950 dancers were performing at one time— while the MCIT was tasked with securing sufficient spectrum frequencies in a limited RF zone, and the COVID Task Force was charged with enforcing increasingly strict national safety protocols.

"Basically, they told us their concerns and left everything to us to run it as seamlessly, reliably, and as safely as possible," continued Dino, "which is why we went with Clear-Com for the event."

The HelixNet and FreeSpeak II system configuration facilitated the required communication channels for the world-class performances and the broadcast, but it was no easy task.



“We deployed 46 drops of Clear-Com, where the main channel was designated for Show Director, Asthie Wendra, who connected directly with all aspects of show management,” said Putut, Project Manager, 86 Inc.

“At the height of the performance, 950 dancers appeared with their props, making various configurations accompanied by lasers, fireworks, various multimedia, sound, lighting, broadcast, and 500 drones to light up the Papua sky!” Putut continued.

HelixNet’s intuitive interface and ease of deployment was ideal for the fast pace the Opening and Closing Ceremonies required. Familiar yet innovative partyline channels provide an easy transition for all skill levels of Intercom users, allowing team members to be focused entirely on the task at hand.

FreeSpeak II was ideal for the scale and complexity of the events, allowing team members to be untethered and talking in any configuration of channels with exceptional performance in both the 1.9 GHz and 2.4 GHz bands.

This combination of features from HelixNet and FreeSpeak II addressed the OCC’s logistical concerns with the sheer size of the venue and number of

individuals needing to be on comms and allayed any concerns about the limited frequency spectrums.

Having the systems properly pre-configured with the appropriate channel settings allowed all parties to communicate effectively solely using the system, without requiring potentially dangerous, close-proximity side conversations and last-minute huddles, while its ease-of-use and flexibility also permitted on-the-fly changes.

“Considering the size of the venue and the elaborate performances, the communication system from Clear-Com displayed excellence

in terms of ease-of-installation, flexibility and reliable connectivity, while satisfying the requirements of all the organizations involved,” concluded Putut.

Head of Production OCC for the XVI Games, Ivan Budiman, added, “86 Inc.’s system recommendation contributed greatly to the success of these events, thank you so much!”

The Technical Director for the OCC, Ezar P. Darnadi, also had nothing but praise for 86 Inc. and his experience with the Clear-Com system. “We knew that communication could make or break this event, and 86 Inc. delivered tremendously for us.”

[ClearCom](#)

Korea's Ingang Audio Adds Optocore and BroaMan to Distribution Portfolio



Ingang Audio CEO Steve Kim

SOUTH KOREA: After working on many projects using Optocore solutions in the past, Seoul-based Ingang Audio Co has been formally appointed as new South Korean distributors for Optocore and associated brand, BroaMan, with immediate effect.

Established in 2006, under President Joo Hong Chang and CEO Steve Kim, Ingang Audio has an enviable portfolio of global pro audio brands, including Meyer Sound, Calrec, Countryman, Samson and Lectrosonics.

Both Mr Chang and Technical Director, Eric Han had known Optocore and BroaMan for many years and the latter has received Optocore training. The company had also had developed a good relationship with Optocore Distribution Sales Manager, Dawid Somló and the tech team during earlier project development.

"Ingang had been talking with us for long time," said Somló. "They are an excellent pro audio company with a good infrastructure. They are keen to develop their portfolio with our video transporting systems and also add them to their audio projects."

Ingang Audio Co's Senior Marketing Manager, Jake Min, agreed that the move into distribution was a logical progression after so many experiences together. "Having Optocore and BroaMan [in our portfolio] is like securing a backbone for our brands. We now have optical paths for sending and receiving audio/video/intercom and some control signals. Also it enables us to make an optical connection between loudspeaker, processor and console, replacing the existing cables."

As for BroaMan, they hope to expand the brand's outreach beyond broadcast into theatre, although Min estimates that with the impact of Covid-19, THE broadcast segment will lead the way rather than live events.

To that end they already have a project lined up, with two sets of Optocore M12 OPT/BNC MADI switches being installed in a large broadcast hall, for splitting and sending MADI signals to several consoles for PA, broadcast and stage monitoring.

Meanwhile, in their showroom will be demo racks featuring Optocore Festival Box Petit, M12 and X6R, while pride of place for BroaMan will be the best-selling Mux22 series.

Summing up the impact of adding these new market-leading fiber-based brands to their portfolio, Jake Min foresees many advantages. "It means we will be able to send various signals via Optocore connection to far away distances using a light weight solution. Secondly, Optocore and BroaMan have reliable redundancy such as dual power as well as dual connection. And with a decentralised network they can support various network topologies.

"In short, they are a very experienced brand that we firmly believe in."

[Optocore](#)

[BroaMan](#)

Burj Khalifa Lit by 250 PR Lighting AQUA 580 Beam for New Year Spectacular

Photo credit: Ralph Larmann



PR products” as the principal drivers.

The company has had more than four years of working with PR Lighting fixtures and knows their reliability implicitly. “They are really professional and always react extremely quickly to all our requests, reflecting the quality in their product. The AQUA 580 Beams met our expectations perfectly. We are impressed with the incredible power to weight ratio, the colour fidelity as well as other options.”

DUBAI: Despite the Covid-19 pandemic, Dubai celebrated the arrival of 2022 in style, with a grand festival of events.

Principal among these was the Laser & Light Show at the mesmerising Burj Khalifa, created and produced by **ECA2 with Patrick Awouters (LSE)** at the helm of the light and laser element of the production.

The company also drew on its inventory of PR Lighting fixtures, deploying 250 of its newly-acquired AQUA 580 Beam waterproof moving heads. These lined up alongside 60 RGB lasers, ranging from 60W up to a powerful 100W.

The fully-featured IP66-rated AQUA 580 Beam produces a powerful output from a 550W engine, housing PR's patent optics and a tight 2° beam angle. They were recommended by LSE MD Patrick Awouters, project managing the lighting with his son Nathan. The fixtures had been purchased specifically for this project, and Awouters was in no doubt that they would be best fit for purpose after delivering proof of concept for the client. He cited “the combination of the brightness, the power, the weight and the experience of PR Lighting manufacturing IP-rated product over many years—mixed with our own experience of using

He admits that rigging the fixtures the length of the tallest building in the world's façade (830-meters)—on both sides of the Tower—had presented its own challenges.

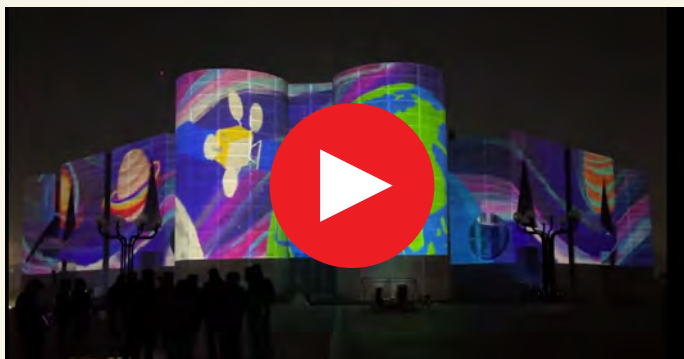
Summing up, Patrick Awouters was unequivocal in his praise for the AQUA Beam 580, which ticked every box for a company who were working on this event for the first time.

“Compared with the year before, when other companies used competitor products on this Tower, it's a major improvement,” he confirmed. “When we conducted a test for the customer, showing the AQUA 580 Beam against the competitor product, as soon as he saw the brightness and beam quality of the AQUA 580 Beam his choice was immediately to the PR Lighting fixture!”

This magnificent spectacle will now be projected onto the tower every hour from 6:15 p.m. to 10:15 p.m. on weekdays with extended projections every 30 minutes until 10:45 p.m. on weekends up to March 31st. The event will have been watched by around half a million people.

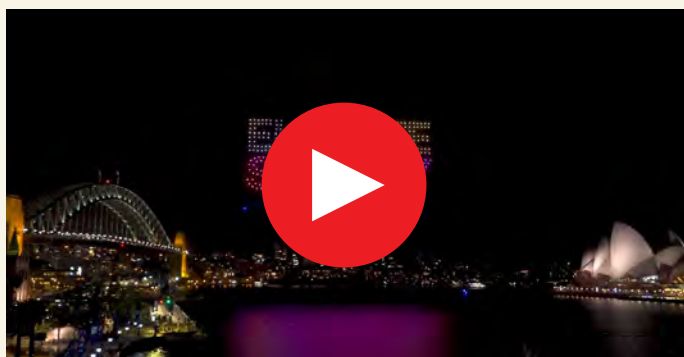
[PR Lighting](#)

Projection Mapping Extravaganza at Bangladesh 50th Independence Day Celebration



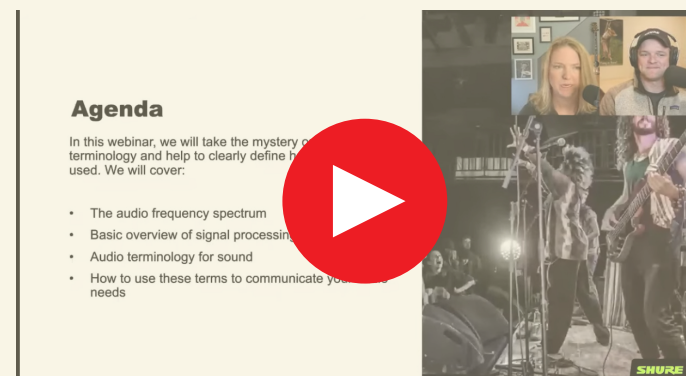
Bangladesh's iconic Jatiya Sangsad Bhaban a.k.a. the National Parliament House, comes alive with 35 Million pixels and a bespoke visual experience on Bangladesh's historic 50th Independence Day celebration. SPECTRUM AV team deployed over 24 units of BARCO Laser Projectors such that the projected content would cover every square inch of a stretch of almost 250 Meters across the National Parliament House with crisp colours and sharp images

ELEVATE Sydney SkyShow Highlights



ELEVATE Sydney, a new festival held 1-5 January, unveiled the largest drone display in the Southern Hemisphere. The ELEVATE SkyShow, lit up Sydney Harbour for the first time with 500 drones, revitalising people's imagination in a time of uncertainty. Featuring cutting-edge technology, art and a First Nations narrative, the inaugural ELEVATE SkyShow blended art and technology to create an entirely new form of night-time entertainment.

Shure Webinar: Live Sound Mixing Terms Explained



Boomy, boxy, muddy...what do these words actually mean when it comes to audio? These are some common terms used to help communicate mix issues and the qualities of sound. In this previously recorded live webinar, join our Shure panel of experts, Laura Davidson from Market Development, and James Allen from Application Engineering, as they explain the technical jargon, demo audio samples and give you pointers to easily talk about your tracks like a pro.

PROLIGHTS | EclPanel TWCJr 4x1 and Mini 2x1



The EclPanel TWCJR4x1 and Mini 2x1 are compact LED linear soft lights that provide a beautiful, wide source of soft and precise colours. In addition to this, the new panels come with a full range of white presets, from daylight to tungsten tones, and produces a tremendous output whilst keeping high CRI, TLCI and TM-30 values.

Still Not Immersed Enough? Part Four



After this column you will be totally immersed !

This is the last column on this topic for now and I would like to give full disclosure that I am posting my personal opinion on this topic here. You are very welcome to enter the discussion arena and to post

your own opinion, or to challenge mine at least. Here is how I view all this:

There are a bunch of loudspeaker setups for immersive applications, which do work very well, but none of them is really commercially viable. In my professional world this will typically mean that this has no future at all, if not commercially viable. The better the system is with regards to resolution and localization, the smaller the sweetspot becomes and you might end up with a system that really only serves one listener position. This makes zero sense for any commercial environment and for the individual who might enjoy sitting in the sweetspot, this will come at a substantial expense and quite an impressive technical requirement. Let's be clear and honest, the ability to make sounds move around in space on a decent sound system existed since 50 years and it has never taken off commercially. I remember my parents had a QUADROPHONIC Receiver and amplifier and there was and is literally no playable content but a handful of recordings. All this will only make sense if it is both simple and also affordable. The quality of even higher resolution systems has gone up, but commercial viability has not really kept up.

However there is a huge area where being immersed is very relevant and this is also where most of the drive for progress and development comes from and where the solutions are most viable and also interesting. This is the entire world of VR (virtual reality) and also everywhere, where people consume their content by using binaural reproduction (headphones). In these times and not only because of the pandemic, people are consuming the largest amount of content by far on their smartphones and have their headphones connected to those. Inside

the smartphone there is typically a Gyro, which allows realistic reproduction of 3D video content and it also comes with the required tracking through the gyro. Binaural decoding of a good and solid 3D Audio signal is definitely where this makes sense and where it becomes available to a huge number of customers and consumers and then the content can be connected to charging for the 3D audio versus the user having to buy a large scale audio system for reproduction.

In this world, AMBISONICS has become the defacto signal standard for many reasons. The resolution of a seventh order AMBISONICS system at 64 channels will be as good as 25 FPS video and movie system, good enough to fool our brain and ear system, that there is a full space coverage around us. Understanding the principle and also the math behind AMBISONICS is a very good base to start from and there is exciting stuff to be learned really at no charge at all. The beauty in all this is that all modern smartphones have the calculating power to handle such demand and they come with the ability to do headtracking as well, when used in conjunction with VR goggles. This means that the decoder and reproduction system is already existing and vastly distributed and we "only" need to provide good content for this and this is where the big global players (FACEBOOK, YOUTUBE) are at for a while already. This also means that the playground for all of us is rather simple and affordable, so there is really no reason not to learn and understand about all this, when any decent smartphone can give you an impressive solution.

And even when you don't want to use your smartphone, there are very affordable solutions for head tracking available now and they can be connected to any decent DAW along with the respective plug ins and many of those are available for free as well, like the AMBISONICS SUITE of plug ins. If you are interested in any of this, please get in touch and I will be happy to share what I have been doing over the past three years and share how you can make this work within a very affordable budget. Until then please stay safe and healthy and fully immersed.

Join the conversation and share your thoughts with Alex. Alex can be reached at alex@asaudio.de

Claypaky Sharpy X Frame: Small in Stature With a BIG Punch



Adding to the family of the award-winning SHARPY fixtures, Claypaky introduces the SHARPY X FRAME multifunction luminaire. The SHARPY X FRAME takes the best features of the SHARPY line and integrates a four-focal plane shutter system in a lightweight, compact fixture. The unit's source is the powerful 550- Watt arc lamp that makes this fixture extremely bright and produces deep and vivid uniform colors (including an unmatched deep red).

The unit boasts the flexibility to be the light you need when you need it. As a completely hybrid, multifunction fixture, the SHARPY X FRAME not limited as to beam effects, it can also be a spot, profile, or wash unit. This fixture replaces much larger luminaires using the longer life 550- Watt arc lamp.

Although a small fixture by most standards, nothing is sacrificed in the SHARPY X FRAME fixture's feature set. In addition to the four-focal plane shutter system, the unit offers a rotating gobo wheel with eight rotating gobos, a static gobo wheel, four and eight-facet rotating prisms,

linear frost, a color system featuring CMY, CTO and a separated color wheel, and six beam reducers starting at 0.5°.

With a zoom range from 2° to 52°, the SHARPY X FRAME can do unparalleled visual effects. The unit is fitted with a 160mm front lens and proven Claypaky optics for producing sharp images and collimated beams.

The SHARPY X FRAME is the most versatile, compact hybrid fixture on the market that addresses the needs for a bright spot, aerial effects unit, framing fixture and everything in between in an affordable, compact package.

[Claypaky](#)

Neumann Presents the Miniature Clip Mic System



German microphone specialists Neumann.Berlin have announced their first product range designed especially for close miking instruments. To create their new Miniature Clip Mic System, the engineers in Berlin elevated electret technology and its production process to a whole new level. The new KK 14 capsule is able to capture the details of sound better than anything that came before – without any of the production tolerances that have been associated with electret solutions to date. The system's modular construction has been designed to ensure excellent stability and long service life for live and stage performances. The system includes nine mounting solutions that make it possible to find the optimum positioning for acoustics while simultaneously protecting the instrument. The Miniature Clip Mic System will be available in spring 2022. The system can already be preordered by dealers and major clients.

Portfolio Manager Stephan Mauer comments, "We had been dissatisfied with the sound delivered by electret solutions for quite some time. Technicians and artists alike want greater substance, higher precision for low and medium frequencies and more openness. At the same time, we wanted to finally be able to create electret microphones that offered constant performance, so that sound engineers would not have to continuously deal

with production tolerances impacting sound level and frequency response."

Neumann's developers spent six years researching the capsules and the production processes that would be necessary to make this a reality. "All that work paid off. This capsule is unlike anything that came before," says Mauer. With minimized self noise and an extremely high maximum sound level of 152 dB, the KK 14 delivers perfect results for both very quiet and very loud instruments.

In addition, the Miniature Clip Mic System is modular and rugged. Neumann assembles the KK 14 capsules by hand and encapsulates them in a titanium housing. The capsule can be easily unscrewed from the gooseneck connector whenever necessary. All the other components are also easy to replace. Neumann did not design the system for a single season – it is designed to last for decades. It should therefore be no surprise that a market comparison reveals that this microphone system offers a superior return on investment. The system boasts nine options for reliable attachment to brass, string and stringed instruments, pianos, drums



Photo credit: Orchestra Academy of the Staatsoper Unter den Linden, Berlin.

and percussion. "Our field tests quickly revealed that all users share a desire for being able to reliably and securely position the microphone. Another wish that they all had in common was wanting to avoid damaging sensitive surfaces of their instruments. This gave rise to self-adjusting spring-loaded systems and newly developed mounting concepts for specific applications," highlights Mauer.

Neumann CEO Ralf Oehl believes that this new system marks the beginning of a new reference: "We are proud that we have succeeded in redefining the potential of electret capsules. For the first time, they are more than just a compromise solution for technically demanding situations. With this product, we have created a new reference for sound that is truly natural, neutral and reliable – even in challenging technical or acoustic situations."

Typical users of this microphone system include orchestras, theaters, musical productions, concert halls, big bands, brass sections and drummers. Thanks to connection cables with either a 3.5 mm jack, Lemo, MicroDot or 4-pin mini XLR connectors, the system is compatible with all standard bodypacks for wireless setups. Anyone who is interested in obtaining more information can register at miniature-clip-mic.neumann.com. The preorder period is already open to dealers and large customers. A list of Neumann sales partners worldwide is also available on the microsite.

Neumann

Modulo Pi Introduces New Hardware for Enhanced Media Servers Performance



Modulo Pi is pleased to introduce a new hardware revision for the Modulo Player and Modulo Kinetic series of media servers. The new hardware boosts the media servers performance and capabilities.

Shipping as of January 2022, the new hardware includes a series of improvements including vastly increased RAM, doubled bandwidth with PCIe 4.0, ultra-fast NVMe disks, and additional slots for optional live input boards. The hardware revision also comes with new server motherboards, as well as new generation processor and GPU. The new hardware specifications depend on the media server model.

Modulo Pi

PROLIGHTS Adds Two New Soft Lights to the EclPanel Range



After three years from releasing the highly successful EclPanel TWC and EclPanel TWC Jr, PROLIGHTS released two new soft light fixtures, the EclPanel TWC Jr 4x1 and the EclPanel TWC Mini 2x1.

The new units have the same features as their bigger brothers, with an RGB+WW source, a CCT range from 2,200K to 15,000K (in film mode), colour modes like HSI, RGBW, gels, source emulation and XY coordinates, and equipped with W-DMX and CRMX. Furthermore, the newly added panels have an Ethernet connection for Art-Net and s/CAN, a 24-36VDC input for connecting to external batteries and an alternative 48VDC input for an external power supply.

In terms of size, the EclPanel TWC Jr 4x1 has the same length as its flagship version, but half the width, making it the perfect fixture for low-ceiling environments, whilst the Mini version is one-quarter of the size of the flagship fixture.

With a 230W source, the EclPanel TWC Jr 4x1 has a total output of nearly 16,000 lumens at 4,000K, and the

same high CRI, TCLI and TM30 values as the rest of the range. Despite its small form factor, the Mini has a 115W source, outputting almost 7,000 lumens at the same colour temperature.

The increasing success of PROLIGHTS soft lights in major Hollywood productions has contributed to the improvement of several on-board software features, like a wide PWM range up to 40KHz, lower fan noises for silent applications, a high-resolution mode at low dimmer value, and a new dimming curve that offers a 16-bit dimming experience while using an 8-bit dimmer.

The newly released versions have the same accessories available than the previous two, including beam shaping accessories by DoP Choice like the SnapBag and SnapGrid, among others. There is also a pole operated yoke for each version.

PROLIGHTS

Processing Precision

by Elton Noronha



Photo courtesy of LEDVISION

A deep-dive into the complex world of LED video processors that explores how and why this technology sits at the heart of lucid and immersive viewing experiences in large format LED display screen applications.

Whether you're at a theatre production or a music festival...corporate conference or an industry exhibition – events of all kinds and scales these days rely on video content to not just convey crucial information but also establish and sustain meaningful audience engagement. Such content is invariably delivered through large format LED Video walls and LED displays – and as an important carrier for transmitting information, the image display effect presented has always been the focus of attention of all terminal users. This is typically one of the main reasons why LED displays in today's world are available in a multitude of sizes and resolution; with most offering the promise of higher resolutions, higher contrast ratios, wider viewing angles and higher brightness.

The continuous innovation of LED display applications have presented different scenarios that assert the need of unique feature offerings from LED displays, which – by

default – have carried with them their own unique set of technical challenges. For example, LED displays used in outdoors have to compensate for geographical weather, all while being expected to display high quality images. More recently, there's also been the rapid development of the 4k/8k ultra-high-definition formats, which has had a direct impact on the accelerated growth of small-pitch LED displays that aim to provide finer and more accurate image reproduction of content created in such formats.

With the steady expansion and evolution of the LED display market over the years – many peripheral devices for LED displays have emerged to now be considered a key constituent of any typical LED Display solution. Most pertinent among these are LED video processors – which by far, stand as the greatest testimony to the growth and maturity of the LED display industry. Created specifically to be used with LED displays; LED video

processors were conceived to offer high-quality image processing functions to enhance image quality and thereby optimize LED display screen capabilities in offering mesmerizing visual experiences.

Need for extended capabilities driving demand of LED video processors

ELIJAH EBO
GENERAL MANAGER
(ASIA)
BROMPTON
TECHNOLOGY



“The last 5 years have been driven by requests for finer and finer pixel pitches, and we expect this to continue to some extent. But with the next 5 years, we envisage more focus on the optical performance, especially on camera, and therefore expect to see an increase in the adoption of LED walls in the virtual production space, as well as other areas like digital signage and fixed installations. The continued drive for finer pixel pitches and higher resolutions has given rise to a need for different LED technologies (Flip chips and MicroLEDs) and processing systems with higher bandwidth than the current 1G ethernet architecture in use; and this need for higher bandwidth systems is driving new architectures in processing. Development in Brompton’s processing system and the release of new features (specifically for on camera and Virtual Production applications) has facilitated increased usage of LED walls in this new application area and enabled new approaches, techniques and workflows” explains **Elijah Ebo, General Manager (Asia) at Brompton Technology**.

According to a prior report by Fortune Business Insight, the global LED video wall market was projected to reach

USD36.16 billion by 2026, with a CAGR of 10.9% during the forecast period. And considering the ever evolving landscape of the market with respect to the multitude of technological offerings, a cascading positive impact on the growth of the LED video processor market was believed to be imminent.

AARON HE
VICE PRESIDENT
NOVASTAR



Aaron He, Vice President of NovaStar informs, “In the past five years, technology is the focus, and in the next five years, application is the focus. Miniaturization of products and technologies has not only promoted a series of technological and product reforms, but also brought huge potential development opportunities to the LED display industry. The pitch has become smaller; the chip has become smaller, and so has the mass transfer etc. At the same time, the COB form has come to be accepted in general by users. Plus, the overall development of ultra-large loading technology, correction technology, and image quality processing technology (colour management, dynamic engine, SDR to HDR etc), has introduced audiences to a more immersive environment which has now become a standard demand. In the next five years, the industry’s attention will be focused on the innovative application of LED displays, looking forward to entering the consumer market and getting closer to people’s daily lives.”

Current video processor models have considerably expanded the number of visual sources that can be displayed on a video wall simultaneously. Processors

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provide support for new standards such as display port, providing 4K signals at 60 frames per second. They also support IP capture, which allows a seamless display of digital video over the internet; and are reliable for fast signal transmission while ensuring high bit rates. Key performance factors such as these, and more, have translated into the possibility of LED display video processors being accepted for use in more mass-market and consumer-centric portfolios, as **Magnimage's Chief Product Officer – Tyler** – elaborates, "With the continuous improvement and gradual maturity of Mini/Micro LED technology, due to its higher pixel density, higher contrast and wider colour gamut and other characteristics, LED video processing technology has also put forward higher requirements. Higher pixel density means that LED of the same size gradually enters multiple 4K or even 8K from the original 2K and 4K resolution, that's why ultra-high resolution processing direction is extremely crucial. That being said, the core focus of LED video processing technology will always be improving image quality through the enhancement of colour depth, the use of HDR, HLG and improved refresh rates (120Hz/240Hz/360Hz), colour gamut management and other technical ways, to present an amazing level of detail. And of course, the continual evolution of video processing technology will drive high-quality output in more complex and varied scenarios for LED displays, which include wearable devices, car displays, commercial displays and TV sets in the future."

But what exactly are LED video processors?

Also known as picture processors, video controllers, image converters, independent video sources, etc; LED

video processors incorporate video image processing and high-definition signal processing technologies; and play a crucial role in efficiently executing the five steps of resolution conversion, colour space conversion, bit depth enhancement, scaling, image processing, and enhancement technology. They are capable of receiving and processing various video graphics signals of channels such as DVDs, computers, and high-definition broadcast boxes, which are then converted into signals that can be accepted by LED display screens at the same time. And it is widely accepted that in today's world it would be nearly impossible to manage all the signals and content in an organised way without LED video processing.

Why are LED video processors needed?

Before the LED video processor was born, the LED display screen can only accept DVI desktop computer signals and play the contents of the computer. If the video capture card is used to convert other signals, it is interfered by external interference and the signal itself is lost during transmission. This meant that the display screen could not deliver the kind of quality content as it potentially could. The advent of LED display video processors, however, has not only realized the simultaneous reception and processing of a variety of different video graphics signals displayed on LED display screens, but also increased the variety of playback contents, which has greatly improved the visual effects of the images.

That being said, the need for LED video processors is far more layered, as LED video processing equipment help address the following key issues:

Format conversion function: Like various video formats on PC, the signal input of LED display screen is also different. The fundamental solution is that the video processing equipment can complete the format conversion between many signal formats, like the conversion between VESA formats which is called 'up conversion' (such as VGA to XGA conversion) or 'down conversion' (such as uxga to XGA conversion); and the conversion from ITU and SMPTE to VESA formats which is called 'cross conversion' (such as the conversion from composite video to XGA);

Colour space conversion function: Since the LED colour space is much larger than the NTSC colour space of TV signal, and the RGB colour space of NTSC cannot be used directly to control the luminescence of the three primary colours of the large format LED display screen (as it will produce colour deviation and seriously affect the overall image reproduction experience), video processors are required to complete the conversion of colour space. The process involves the conversion of ccir601 and ccir709 to RGB colour space, while realizing the conversion from VESA, ITU and SMPTE signal format to VESA standard signal format when completing the format conversion function.

Image processing: Images are generally large and small, and some length width ratios are different from those of LED display screens. If videos or pictures of different proportions and sizes are cut every time and played out in LED display screens, it is undoubtedly a waste of time. Therefore, special processing equipment is needed to reasonably process pictures or videos at any time, Make it easy to match the LED display.

Image processing and enhancement capabilities

A fair summation would be to state that the use of LED video processors directly effects the quality of image and visual reproduction experienced on large LED display screens. There are a variety of different ways that video signals can be processed, and each one varies depending on the application. For example, in typical commercial video distribution applications, the goal is usually to preserve the original video quality as much as possible. In these case, the designer tries to manipulate the video as little as possible. Processing only occurs in these situations when the source video needs to be converted into a signal that the output display can handle. In other situations, the applications are more creative, and the video signals intentionally altered to achieve a certain look.

A closer look into the capabilities offered by LED video processors, reveals exactly how video processors are able to assure clearer images with uniform brightness and colours on large format LED displays, minus any visible lines, gaps or mixed batch panel issues. LED display video processors feature advanced image

scaling processing algorithms that not only ensure the appropriate scaling of video images but also assure the highest possible degree of image clarity and grayscale levels. Alongside, they also feature a wealth of image adjustment options and adjustment effects, the image brightness, contrast, grayscale processing, enough to ensure that LED displays (especially in the outdoors) are able to output detailed and clear pictures. Additionally, LED display video processors feature their own inherent ultra-high-definition graphics hardware that offers wide high-speed processing, a variety of pre-existing modes, key to call for patterns and seamless effects, and other leading technical capabilities. Units these days use advanced algorithms to modify poor-quality signals and perform a series of processes such as de-interlacing, edge sharpening, and motion compensation to achieve seamless image switching, fade-in and fade-out switching, and output of images to ensure excellent picture quality, smooth playback, and perfect alignment with zero lag when reproduced on large format LED display screens and LED walls.

Motion compensation: It involves compensating for slow and fast moving images. Good motion compensation technology reduces the jaggedness of the edge of the moving image when reproduced on LED displays.

De-interlace: In order to reduce the bandwidth of the video signal and increase the resolution, interlaced scanning technology must be adopted, wherein the interlaced signal is 'pre-processed' to a progressive signal, thereby eliminating 'scanning line' effect that exists during live broadcast and shooting.

Zoom: Modular design and splicing presents higher requirements for image and video display (especially the display resolution of each engineering application, which can hardly be found in the VESA standard). Video processors provide a zoom function which offer the following image enhancement options:

Image reduction: The dot matrix resolution of general display screen engineering applications is below the VESA standard XGA (1024*768) resolution. Video processors are capable of reducing the input signals to the resolution of the corresponding terminal, and offer 'pixel-by-pixel' scaling (which can be performed in the horizontal and vertical directions at the same time).

Image enlargement: In display screen engineering applications where the resolution is at 2048 points (including Pixel sharing), video processors with enhanced processing technology allow for image magnification, wherein the internal processing bandwidth of the video processor can reach or exceed the dot matrix area of 2048x1536 in atypical applications. To cooperate with this kind of application, video processors resort to the function of stacking, and the final dot matrix display is completed through the splicing of multiple video walls. This particular video scaling technology is closely related to the key technologies of motion compensation and de-interlacing, and has a direct impact on the smoothness of the images and videos displayed on the large LED screen.

Detail enhancement: The core of this technology is not only reflected in the sharpening of the edges of the image, but also includes the processing of color restoration and image scaling. The quality of this indicator of the video processor directly reflects the clarity of the image displayed on the large LED screen.

Noise suppression: Due to the dot matrix characteristics of LED display, the insignificant noise in other flat panel display media will greatly challenge the psychological tolerance of LED display audiences. The noise mainly comes from the compression noise (mosaic) of the video signal and the random noise of the system itself. The excellent video processor can reduce the interference of noise to the picture quality itself through noise suppression.

Gray scale: Grayscale has always been the goal pursued by LED large-screen display suppliers, but for a long time, most technical teams have been solving the grayscale problem of the LED screen itself scanning, and the grayscale processing has been upgraded to the current 16bit/17bit.

Also, with an increase in demand for small-pitch LED displays to better support playback of ultra-high definition content like 4k and 8k, manufacturers have begun to introduce specific LED display video controllers with high-resolution video input, which ensure pristine playback as expected from such content formats.

In-use unique features

In addition to all of the above capabilities, LED video processors present several in-use features that prove to be extremely beneficial to users / engineers during the course of a project / event.

First up, These processors come equipped with high definition digital input, analogue HD input, analogue SD input and audio input; and support more than seven channels of high definition SD video input, two channels of output – both of which can be extended. They support single and double screen displays, and PIP/POP displays; and also enable seamless switching, fade-in/fade-out and blend switching, while allow cascading splicing and arbitrary cutting. And finally, zoom mosaic, and pixel-to-pixel sync mosaic are also made possible through these units.

While in use, operators can seamlessly switch between any channel with the switching time adjustable from 0 to 1.5 seconds. Plus, using the inherent fade transition effect, LED video processors can switch the input channel, thereby enabling smoother switching of screens. Users can also instantly switch the video output by using the fast switching feature to switch input channels. Additionally, pre-switching technology allows users to avoid the chances of errors at the time of switching the input signal thereby improving overall performance. Furthermore, advanced motion detection technology enables programmable motion-detection schedules, sensitivity levels for each input, motion detection area, alarm alerts, and much more. There's also the 'mode save and recall' feature that enables users to store all default setup parameters; where in the 'mode' preset shortcut keys can be used for quick recall and backup. And finally, the 'image freeze' feature allows users to freeze the current picture and pause it; while an additional layer of security can be accessed by using the keyboard lock feature which prevents misuse after construction and debugging.

General considerations from a buyer's perspective

With a multitude of led video processors available with various capabilities and features, and at a variety of price points, buyers tend to keep a keen eye out for certain aspects before confirming their purchase decisions.

Most important among all is thought to be the image processing capabilities of the LED video processors. Users typically check for the unit's ability to provide high-quality upscaling and downscaling of images, followed by its accuracy of the colour reproduction.

Another important consideration is found to be the total number of inputs and outputs that a processor provides (and the type of inputs/outputs), and its ability to seamlessly bind together multiple screens. This includes checking whether the processor can easily accommodate displays of screen varying screen width, which is essential especially in rental service scenarios for large scale projects where usually several different screens are deployed. At the same time, users also assess the processor's capacity of delivering a fade in/out effect, which goes a long way in ensuring perfect switching with zero delay. This avoids picture loss and enables proper synchronisation during the transition.

Also, a key point of consideration is the ease with which the system can be set up and operated. Usual preferences include systems with remote control operability and improved graphical UI, along with reliable build quality that assure reduced noise from image processing. Models that support offline scheduled tasks, and key lock function have been known to be widely preferred.

Finally, apart from considering the initial price of the processor, users also look at the practical aspect of costs of long-term maintenance, consumables and energy consumption efficiency.

Raghav R – Director of Bangalore based LEDVISION, which is one of South India's foremost LED rental services provider – shares his inputs on the topic, stating, "Having a huge inventory of LED displays comes with challenges of designing and commissioning complex installations that assure error-less viewing experiences with reliable connectivity. Therefore, as a user, you have to try and ensure that LED Video processors are at the top of your priority list. The latest inventions in 4k/8k processors, coupled with the ever growing demand for complex designs and impactful visuals to enthrall audiences prompted us to invest in such technologies. Currently, we have an inventory that includes multiple units of Novastar's 4K and 4K prime cards along with Novastar J6 and Magnimage

RAGHAV R DIRECTOR LEDVISION



processing units. We understood quite early that the rush towards smaller pixels and bigger screen sizes will drive the need for more complex installation scenarios, and hence chose to invest into procuring systems that were simple yet future-ready. Moving forward, a key investment consideration for us will be the ability to control multiple cards through Optic fibre. Wireless technology with reliable connectivity that effectively mitigate all environmental conditions and challenges, while also offering extended management and monitoring possibilities – is now turning out to be a key consideration for buyers in the rental space, and this is sure to be a steady future trend as well. I believe end-users have started understanding the intricacies of LED systems, especially in the rental services line, and the focus is now on consolidating high-quality immersive experiences for viewers, while ensuring seamless productivity, efficiency and unparalleled accessibility for users who work behind the scenes."

Current technological offerings

While the market today hosts several different kinds of LED video processing units and systems; key players in the manufacturing space have described that their current technological offerings have been designed and delivered keeping in mind user preferences and the ability to work with legacy products as well as future innovations.



SX40

Speaking about Brompton's offerings to the market, **Elijah** reveals, "All our products can efficiently cover all kinds of live event applications, but I will focus more on the S4 and S8. Our products are designed with backward compatibility in mind; and so when we release new features, we always do our best to support these on all products wherever possible. The SX40 and S8 are our latest releases, and considering the fact that future applications is the key driver here, I would strongly suggests users to explore the S8 or SX40 (and XD), depending on the application and other key requirements. These products cover almost all of the key performance metrics that users desire from any latest generation LED video processor, and have been designed to offer reliable and unparalleled longevity."



MX40 Pro_1 and MX40 Pro_2



MIG-H9

On the other hand, **Tyler** explains that Magnimage have taken a more judicious approach with their product offerings, as he informs, "At present, our product application segments are mainly divided into two categories – one is for the splicing of multi-channel input source, zoom and multi-layer switching; while the other is LED control system (sending card, receiving card) used in LED display operations and system management. When it comes to systems that would be most pertinent to user needs in today's application scenario, our offerings of the MIG-H9 and MIG-V16 have been designed in line with requirements for signal management that customers can use today as well as years into the future."

Finally, **Aaron** informs about Novastar's current portfolio, sharing, "Recently we launched our latest generation

LED control system MX40 Pro, which together with smart receiving card A10s Pro, and a new LED screen vision management platform VMP, constitute Novastar's latest LED display control system solution. This new solution sports features like dynamic booster through dynamic algorithm which allows for the brightness and detailing to be adjusted to the ideal level in LED screen – a feature that has proven to be particularly crucial in helping users achieve HDR-like output quality even when using an SDR source. Additionally, the system has been recorded to reduce the power consumption of LED displays by approximately 20%, thereby lowering consumption cost, and enhancing the life cycle of the lamp as well as the screen. Plus, the system also features full grayscale calibration technology, which helps achieve uniformity when using Mini and Micro LEDs. And to wrap it all up, the new VMP software allows for advanced colour correction like 3D LUT and curve in screen; in addition to the 'shutter fit' function which makes it possible to have camera productions with LED screens."

The next frontier

While the pandemic did have a sizeable impact on the rental market which thereby had a cascading effect on the LED video processor segment – manufactures do note a healthy amount of positivity – with several leveraging the opportunity to either diversify into new market segments and/or further consolidating their processes with the view to improve customer experiences.



Photo courtesy of LEDVISION

Elijah explains Brompton's experience of qualitative growth in the past two years as he comments, "Most of our rental company clients are based in USA and Asia, which pre-pandemic, were places where we mainly supported our panel manufacturing partners. Luckily, our entry into the virtual production market started before the pandemic, and so by the time the rental market was coming to a halt, the virtual production market was picking up for us. And as virtual production took off globally, we too started seeing an increase the number of end customers from this segment, especially in Asia. As a result, we have grown the size of the team in Shenzhen and now also opened a new office in Taipei, to support the continued growth"

On the other hand, **Aaron** chooses to emphasize three keywords i.e. 'distributed', 'online', and 'informatization', while sharing Novastar's business journey over the past two years, saying, "We took the time to focus on key factors like strengthening the supply chain and overhauling our production bases in such a way that we could distribute to multiple geographically separate locations in an attempt to strengthen our network and reach. We chose to identify and cultivate high-quality suppliers; with a keen focus on strategic cooperation, and an emphasis on the common goal of ensuring timely supply. We also worked vigorously on improving localized services and online support

service capabilities, while paying keen attention to online publicity capabilities, which helped us make up for the loss of offline activities. And finally, we opened up a fully functional channels of communication to relay real time information between all of NovaStar's departments, and also between Novastar and our partners as well as our customers."

Closing off, **Tyler** conveys how Magnimage traversed the past two years while evolving it's idea of goals for the future, as he affirms, "With live streaming, remote video conferencing and other such scenarios witnessing explosive growth in the past two years, we quickly recognized the constantly evolving nature of customer demand, and realized that merely relying on our original product portfolio might not be the best way to face the market and expect volume growth. This encouraged us to delve deeper into product research and development with the intention to design and create more products that are in line with the effervescent nature of market demand, while also qualitatively contributing to MIG's constant pursuit of excellence."

Brompton

Magnimage

Novastar

INDIA

Sunburn Still Burning Bright

SoundEffects by Uday Shah and Spectrum Sound & Lights ensure upbeat festival experience for audience despite the leaner version of event



Vini Vici at the main stage

A look into the audio production that adorned the highly anticipated Sunburn 2021 Goa music festival which took place amid an intensely capricious environment and yet managed to present a ray of hope and positivity for the event industry during a time of looming uncertainty.

With the pandemic and government mandated safety restrictions throwing a spanner in the works for the event industry in 2020 – dance music festivals undoubtedly emerged as being one among the worst hit. While fans missed out on the jam-packed action of music revelry, organizers and artists missed out on crucial work and business opportunities from such festivals which have been known to comprise a major portion of annual earnings. One such festival that has usually been awaited with baited breath is Sunburn – India's premier

electronic dance music festival that has been ranked among the biggest and best in the world.

About Sunburn

Started in 2007 as a 3 day music festival in Goa, Sunburn has grown to become an aspirational lifestyle brand boasting an eclectic mix of music, entertainment, experiences and celebration that has seeded music tourism in India. Over the past 15 years, Sunburn has

grown from being a music festival to now including intellectual properties like Sunburn Reload, Sunburn Arena and Sunburn Campus formats – all of which have enabled a wide geographical and demographic reach pan India and abroad. During this period of time, the brand has garnered the distinction of having brought down to India the world's top 10 DJs on a consistent basis – as it coalesced renowned International and Indian artists to entertain hundreds of thousands of dance music lovers. In addition to spotlighting India's best-known electronic music acts, the festival has hosted the likes of Paul Oakenfold, David Guetta, Carl Cox and several more, who graced the stage as headlining acts over the years. And in doing so, the festival has helped position India as a serious dance festival destination to the world. Additionally, Sunburn has also made its successful debut overseas across Colombo, Sri Lanka; Khatmandu, Nepal; Dubai; Muscat; and Melbourne, Australia, thereby creating history to become the first successful indigenous Music IP to cross international shores.

Sunburn 2021 in the works

With the 15th edition of the mega dance festival unable to take place as originally scheduled in 2020; all expectations rested on 2021 to finally deliver the kind of high-quality music experience that audiences and artists had long been waiting for. The organizers – Percept Live – slated dates from **27th to 29th December 2021** in Goa, with the artist line-up announced in advance sporting over 60 local and international acts including global psytrance maestros Vini Vici, along with a massive flavour of deep house and techno by the iconic English duo Camelphat and the festival's beloved artist KSHMR; in addition to Italian techno hotshot Deborah De Luca, and Dutch trance legend Armin van Buuren.

Meticulous considerations were put in place to ensure the safety of all attendees amidst the ongoing health situation, which included mandated precautions like double vaccination of all the participants, in addition to provisions for sanitization at the venue.

However, the growing loom of the Omicron variant forced organizers to make certain key changes to the itinerary; with the format being altered to host day performances rather than a typical festival program. This was also accompanied by a change in the original

venue – with the festival being moved to a private club in Vagator called “HillTop”, in order to allow the organizers to proceed with a major chunk of the event schedule as planned, while conforming to government mandated rules. In an effort to ensure that the changes didn't completely dampen audience spirits, the organizers also announced a massive list of after-parties titled ‘Sunburn Goa 2021 After Dark’, which were scheduled from 10pm onwards on each day of the event, and featured several electronic music stars.

Bringing about the big festival feels ...

While the organizers did stick to their promise of delivering the artist line-up as announced in advance – these operational changes that came into effect at essentially the last moment, did have a ripple effect on the technical reinforcement that was originally chalked in for the festival.

The re-envisioned festival retained the original plan of three distinct performance stages – with each of the individual stages located a fair distance away from each other and positioned in such a way that neither the sound nor the lighting/visuals from any of the performance stages interfered with the other. That being said – the technical systems for each of the performance stages had to be scaled appropriately to meet the new event stage design, while making sure that the audience would still enjoy a top-notch dance music experience, despite its limited capacity. And this was most evident in the audio architecture that adorned the festival sported this year; which in many respects was viewed as a rather lean version of the usual mammoth productions that has usually been associated with Sunburn in previous years.

“For a festival like Sunburn and the kind of vibe that it has delivered year on year – when the new schedule for the festival was eventually confirmed at HillTop, we recognized that deploying the **JBL VTX V25-II** along with **G28 & S28 subs** would be the perfect solution, given the physical extent of the main stage performance zone, the dimensions of the stage itself, the pedigree of artists scheduled to perform there, and of course, the audience capacity that was chalked in for the space. With tonnes of headroom being the key requirement for the space – the JBL VTX system turned out to be



Uday Shah from SoundEffects

absolutely apt owing to its undoubtedly powerful and clean sonic performance, wide audio coverage patterns, sublime reproduction of high frequency fidelity with almost no distortion, and most importantly – the capacity to offer more than double the power handling. Plus, the line array calculator(LAC) tool, made it super easy for us to map out the flying points in relatively no time, and have the system up and running quickly” reveals Uday Shah, director of Pune-based equipment rental service company – **SoundEffects by Uday Shah** – who were entrusted with the responsibility of commissioning the sound reinforcement solution for the main stage performance section (named Tower of Electron).

fills, with appropriate time alignment engaged between each of the individual units and with the principal FOH system. Multiple units of the JBL VTX V25-II paired with JBL VTX S28 subs were also deployed as out fills on each side of the stage; while **JBL STX825** loudspeakers coupled with **STX828s subs** were commissioned at the VIP Areas on each side. The entire loudspeakers reinforcement solution was powered through multiple units of the **i-Tech** 12000HD power amplifiers from **Crown**; with the on-stage artist monitoring solution comprising **V8** loudspeakers paired with Vsubs from **d&b audiotechnik**.

“As a system, the JBL VTX is amazing. We had a great deal of headroom to work with during the event, and this allowed for the performances to be as energetic as the artist intended, without ever compromising on quality. The fact that we had compliments pouring in from not just the artists and the organizers, but also the audience in general, had us feeling absolutely stoked. We’d really like to thank Amit Jadhav, Manuj Agarwal, and Karan Singh from Percept Live for allowing us the opportunity to work on this amazing project along with our respected industry peers Emran Khan – Head of Production, and Shipra Venkatesh – Technical Producer. The entire experience for the SoundEffects team was truly phenomenal!” exclaims Uday.

The festival’s senior management too heap praises about the quality of service rendered by the SoundEffects team, as Sunburn CEO Karan Singh shares, “We have had an association with Sound Effects by Uday Shah for over a decade, working with their team on several festivals & live events. We were confident that Mr Shah’s vast experience and knowledge of the equipment would make him a valuable collaborator. He and his team certainly went above & beyond to ensure a flawless sound setup of the main stage for Sunburn 2021”.

With the SoundEffects team focusing their attention on the main stage performance area – the team of Goa based rental solutions company **Spectrum Sound & Lights** were called upon to provide the necessary sound reinforcement for the other two performance stages i.e. the Secret Garden of Solaris (Techno stage) and the Chill-Out stage. As Spectrum’s director Renzil Rodrigues informs, “When the festival was announced, things were still quite uncertain owing to the pandemic



The SoundEffects team

The SoundEffects team deployed a total of 12 modules of the JBL VTX V25-II line-arrays along with 3 units of the JBL VTX S28 Subs on each side of the stage flanks to comprise the FOH reinforcement. Additionally, a total of 18 units of the JBL VTX G28 Subs coupled with 4 modules of the JBL VTX V25-II were deployed as centre

situation; and it was pretty much a touch-n-go situation till the very last month. However, when we received a call from Ms Shipra and Mr Emran regarding their need to commission two of the performance stages, our team quickly sprung into action as our system engineers commissioned a detailed recce of the venue to follow through on some crucial analysis that helped us lock in a precise **L'Acoustics line array system** for the Secret Garden of Solaris stage, while opting to equip the Chillout Stage with a decisive **line array system from Sound Capital Pro Audio.**"



The Solaris stage handled by the Spectrum Sound & Lights

In total, the Spectrum team deployed a cumulate of 12 modules of the dV-DOSC line arrays along with **dV subs** and **SB218 subwoofers** as the principal FOH system at the Secret Garden of Solaris stage, which was the second largest performance section at the venue. Loudspeakers from the **ARCS** series were deployed as centre fills and side fills, and also additionally deployed to fulfil the on-stage artist monitoring exigencies. The entire system was powered through multiple units of the **LA48a** power amplifiers from L'Acoustics, with system control and management achieved through multiple units of **Dolby Lake processors** along with an **AVID SC48 digital mixing console.**

On the other hand, the Chillout stage, which was the smallest performance section at the venue, featured a total of 12 modules of the **Q1000 line array loudspeakers** from Sound Capital that were complimented by matching pair **SC8000 subwoofers** from Sound Capital, to together comprise the FOH

reinforcement. Multiple units of the Q1000 loudspeakers were also deployed as front fills, whereas multiple units of the **HDL30 loudspeakers** from **RCF** were matched with **SC1200** single subwoofers to form the side-fill reinforcement solution. The entire loudspeaker system was powered through multiple **i-Tech power amplifiers** from **Crown**, with system control and management achieved with multiple units of the **XTA 448 processors** along with the **SQ6 digital mixing console.**

"This being the 3rd time for Spectrum to be associated with the Sunburn brand – it's been a positive experience overall for our team to continue consolidating our

working relationship with Percept, and bring together yet another a flawless event production. Despite the operational challenges and extremely short turn-around time expectations, the event progressed smoothly with a seamless audio experience that was appreciated by the organizers as well as the crowd in general!"

Future implications

Sunburn 2021 could not present itself in the fullest extent of its former glory in terms of scale. However, the fact that the event did come together to successfully offer the "big festival feels" despite its limited capacity; is testimony to how it has presented a ray of hope and positivity to not just fans of electronic music and festival culture, but also members of the event production and technical services fraternity. With the success of Sunburn 2021, it gives hope to other music festivals to stay alive by assuring audiences of high-quality music experiences – in a smaller yet precisely executed capacity albeit.

[Harman Professional](#)

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[Sound Capital Pro Audio](#)

AUSTRALIA

Illuminate Adelaide 2021 Showcases an Immersive Audio and Visual Experience

Novatech calls on L-Acoustics X Series and Syva and Elation's Proteus Hybrid for outdoor light and visual art exhibitions



Illuminate Adelaide is a new annual winter festival that celebrates music, art, and light technology through exhibitions across the city. Photo Credit: David Solm

Taking place over three weekends, Illuminate Adelaide is a new annual winter event in South Australia's coastal capital that celebrates music, art, and light technology innovations. The festival transforms the cosmopolitan city's streets, laneways, gardens, and iconic architecture into immersive art and cultural experiences, maintaining Adelaide's reputation as a UNESCO Creative Cities Network member.

The festival hosted over 150 collaborative installations and events with local artists, including the Australian premiere of Light Cycles created by Canada-based Moment Factory, and the free outdoor City Lights

program. L-Acoustics Certified Rental Partner, Novatech led the supply of audio and technicians for the two exhibitions as well as the supply of lighting and crew for The Hearth zone. Novatech was also a presenting partner of the festival.

Syva at City Lights

City Lights was a collective of over 40 site specific installations, three of which, Emergent Horizons, Kaylene TV and The Big Picture Series featured visual projections on building exteriors with a fourth installation, Naturae Vitibus incorporating visuals projected onto a massive



The Naturae Vitibus projection exhibit saw Novatech installing Syva on three media projection towers forming a triangle around a big tree, and two Syva Sub. Photo Credit: David Solm.

tree. All four exhibits took place in Adelaide's central business district, with accompanying sound which allowed audiences to experience each exhibit up close or from a vantage point across the street. Since the locations were among a busy city environment of tram lines and traffic, Novatech chose to mount L-Acoustics Syva onto visual media projection towers.

"Syva is perfect as it has a wide coverage distribution from a minimal footprint," explains Ashley Gabriel, Director of Sales and Marketing at Novatech.

"Aesthetically they possess a streamlined, low profile design and compliment the projection towers perfectly. Syva gave us clear, consistent and immersive sound across all four activation sites."

Novatech installed a total of 13 Syva and six subs across all four sites. Soundtracks for each exhibit were a dynamic mix of vocal tracks, ambient sound and music, handily managed by the Syva cabinets with their exceptional bandwidth. "The client knew of L-Acoustics

but had never encountered Syva before. Through our careful consultation and guidance during planning and set up phases, they were pleased with the results for the City Lights program," Gabriel reveals.

X Series at Light Cycles

For the Light Cycles event, Illuminate Adelaide producers partnered with Canada-based Moment Factory who created the visual and lighting design as well as the immersive audio content. Light Cycles led visitors on a magical nighttime journey through nearly two kilometers of the garden's lush gateways and luminous canopies.

Moment Factory created seven zones of dynamic soundscapes to accompany the night-time light and video art installation in the natural surroundings of the Adelaide Botanic Garden, and Novatech responded to their technical design intent by proposing an audio solution that would be deployed in the garden.



Novatech rigged L-Acoustics 5XT, 8XT and X8 in and around the natural forest environment Photo credit: Moment Factory.

Novatech used 5XT, 8XT and X8 short throw coaxial loudspeakers to cover the spaces. This was the first time Moment Factory's creative sound design team worked with L-Acoustics range of premium audio solutions. Novatech's Ashley Gabriel reveals, "To achieve the best result on site, sound designers and engineers wrote and mixed tracks at their outdoor Forest Lab in Canada (where they can test audio spatialization), through the same L-Acoustics systems we specified for each installation of this event."

In response to Moment Factory's creative and technical brief, Novatech designed unique speaker configurations in each of the seven zones to match the natural forest environment of uneven ground, hills, trees and creeks. "Achieving homogeneous and consistent coverage within the zones was challenging. We also had to reduce the interference between zones as much as possible. It was vital to give the audience an immersive experience, without them getting distracted from sounds in other zones," explains Gabriel.

With their excellent off-axis performance, L-Acoustics X8 and 8XT were mounted on push-up stands two



Two Syva installed on a projection tower



Proteus Hybrid at The Hearth, Light Cycles experience Photo credit: Moment Factory.

metres high to diffuse coverage for each exhibit's main soundtracks. L-Acoustics 5XT exceptional output-to-size ratio also played a crucial role. Placed on shorter stands 40 centimetres from the ground, the boxes were concealed under natural plant cover to simulate sounds emitted from the environment. SB28 and SB18 subwoofers were used in areas where more low end reinforcement was required.

Gabriel acknowledges the versatility of the L-Acoustics speakers chosen for this outdoor immersive light and sound exhibition. "As it was the first time working on an event with this concept, we were delighted with the results that we achieved with the installation of a range of L-Acoustics products. Despite the challenging context, we managed to deliver the best coverage possible in all the different zones, providing an immersive experience to the audience and satisfying the expectations of the client."

Proteus Hybrid at The Hearth

Inspired by the timeless power of the bonfire, The Hearth was a gathering place set against the botanic gardens' iconic Palm House greenhouse. Colorful, ever-changing beams of light from 12 Elation Professional's Proteus

Hybrid luminaires intertwined with the instrumental soundscape to evoke the beating heart of nature, while a chorus resonated across the lawn. The sequence, which ran on a 5-minute loop, was the last of seven zones of the Light Cycles experience that visitors walked through and was designed to leave a lasting impression.

"The Proteus Hybrids were a good choice for this installation as their IP status allowed them to be out in the Adelaide winter for the entire 6 weeks, which faced an unusually wet and windy winter," stated Gabriel.

"They also provided the necessary punch for a beam fixture that due to the moisture in the air really did throw an incredible beam to create the desired effect."

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BANGLADESH

Bangladesh's Iconic National Parliament House Comes Alive with 35 Million Pixels and a Bespoke Visual Experience

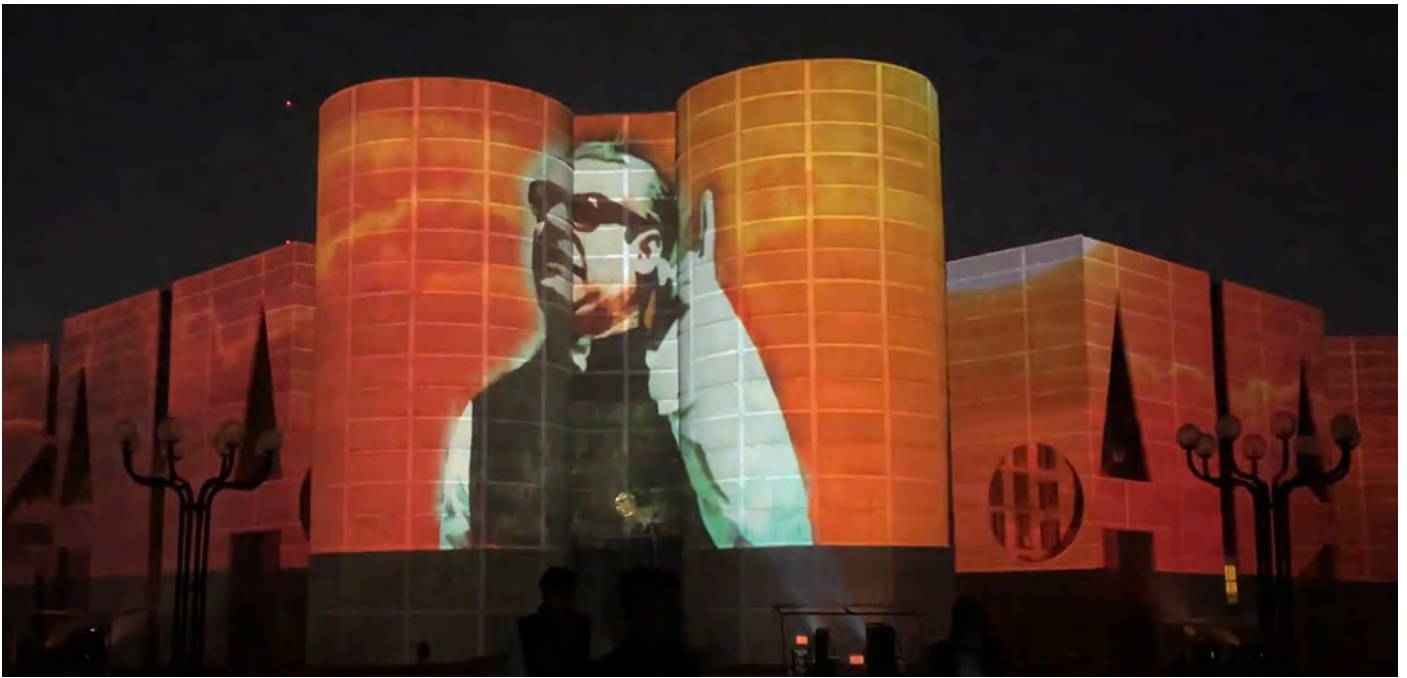
Spectrum AV commissions a true exposition of world-class projection mapping prowess at Bangladesh's historic 50th Independence Day celebrations in Dhaka



December 16th 1971 is noted a day of historical significance as it witnessed the birth of Bangladesh as an independent country, as the nation was finally free from the clutches of Pakistani occupation forces following a nine-month-long bloodstained War of Liberation that invoked the supreme sacrifice of three million people and the honour of nearly half a million women. In the years ever since, December 16th has been cherished by Bangladeshi nationals as the country's official Independence Day; with it being commonly referred to with reverence as Victory Day.

2021 marked a very special year in the country's Victory Day celebration proceedings, with the itinerary being more extensive than any other that the country has ever witnessed in its history, as the day happened to coincide with two other equally significant national celebrations i.e. the birth centenary of the Father of the Nation Bangabandhu Sheikh Mujibur Rahman, and the golden jubilee of the country's independence.

Besides hosting the Hon'able President of India Shri Ram Nath Kovind as the guest of honour for the occasion,



the programs marking 'Victory Day' celebrations included a 31- gun salute, placing of wreaths at the monuments to pay homage to martyrs, and hoisting of the national flags atop all government, semi-government and private offices as well as offices of autonomous bodies across the country. Additionally, the national authorities also promoted the decoration of city streets with miniature national flags and colourful festoons, and most importantly, the illumination of important buildings, establishments, roads and street islands at night.

On the list of the important buildings to be illuminated in celebration of Victory Day was the Jatiya Sangsad Bhaban a.k.a. the National Parliament House of Bangladesh; which by itself stands as the most prominent and remarkable architectural landmark in the country while also being acclaimed as the ultimate symbol of the nation's pride, freedom and sovereignty; as its key design philosophy is believed by many to be the greatest representation of Bangali culture and heritage.

The Jatiya Sangsad Bhaban illumination program was chalked in to take place during the evenings of 16th and 17th December 2021 respectively. And considering the high-value importance of the occasion and the building itself, officials from the Bangladesh government wished for the exercise to deliver a truly special and

wonderous audience experience – the likes of which was never witnessed in the country before, and of course, commissioned in a manner that would be befitting of the building's stature and prestige.

GREY Advertising Bangladesh, who are regarded as one of the country's leading agencies for entertainment and live experiences, were entrusted with the responsibility of bringing this vision to fruitful reality; and it was decided that best course of action in delivering a truly unique visual extravaganza would be to have the entire Jatiya Sangsad Bhaban building act a canvas to display a myriad of visual content (images and video) that provides an insight into the history of the nation and its 50 glorious years of independence.

With the project clearly demanding the need of world-class expertise in the field of professional projection mapping, the team at GREY searched long and hard for a professional audio-visual technology services company with a proven track record of seamlessly delivering superior quality large scale video mapping experiences, the likes of which could be compared to what was desired for this particular grand event. Taking note of strong recommendations from several industry leading peers and clients, the GREY team connected with one of India's leading service providers in high-quality audio-visual services for large scale live event applications – SPECTRUM AV.



Following a few detailed conversations about the project between the two organizations, the SPECTRUM AV team presented GREY with a meticulous plan to bring the project vision to life, along with a succinct and effective strategy to achieve the desired results. This particular interaction proved to be instrumental in GREY being convinced about SPECTRUM AV's capabilities and capacity to deliver true on their promise – which lead to the Mumbai based maverick company being awarded the opportunity to be a part of this prestigious project.

“After understanding the grandeur of the event and the client's expectations, we realized that the key priority on this project would be for us to ensure the optimal usage of the entire National Parliament House building as one single projection canvas; and fill every little square inch of this canvas space with crisp images and brilliant colours that would accurately represent Bangladesh's rich culture and heritage, while also spotlighting the country's journey of Independence (and Victory!) and the progress it has made thus far” commented Jay Mathuria – Founding Director of Spectrum AV.

Keeping all priorities in check – the Spectrum AV team carried out an extensive analysis of the building which involved securing accurate measurements of every inch, corner and curve of the Jatiya Sangsad Bhaban's façade in order to devise a detailed technical charter

to efficiently commission the task at hand. The analysis revealed the need for the SPECTRUM AV team to add multiple units of the brand-new Barco G100 W 22,000 lumens projectors – which the company ended up acquiring specially for this project.

While on-site, the SPECTRUM AV team stuck to its meticulous plan that detailed the deployment of over **24 units of BARCO Laser Projectors (UDX-4K 32,000 lumens & G100-WUXGA 22,000 lumens)** at extremely precise strategic locations, such that the projected content would cover every square inch of a stretch of almost 250 Meters across the National Parliament House with crisp colours and sharp images. And the spell-binding projection design was mapped onto the building facade through the use of a decisive system that included **DATATON Watchout playback servers, Lightware Matrix switchers**, and additional transmitters and receivers from Lightware, all of which came together seamlessly to assure 100% redundancy in networking across the entire stretch. The team also deployed double the amount of Watchout Server Channels used in conjunction with Lightware Matrix Switchers to provide an additional layer of backup.

The entire process of bringing all the technical brilliance together on-site was, however, far from being as simple

and straight-forward as the SPECTRUM AV made it seem. Mr Mathuria details the several challenges that the team had to overcome as he shares, "There was an unbelievable amount of time and effort that went into planning each and every detail of the project, most of which began before we could even board the aircraft to Dhaka. From narrowing down on products and quantity that would be perfect for the mapping, to the transportation and logistics of the equipment, to sorting out important formalities and securing an thorough understanding of international health and safety protocols so that our team could work safely and efficiently in line with all directed mandates – all of it demanded only the utmost level of commitment from our entire team. Luckily, SPECTRUM AV is blessed to have a team workforce of expertly talented thorough professionals, which is why we could mitigate these and several other challenges with relative ease. I cannot commend our team enough for their sheer brilliance in bringing this monumental project to life. They're absolute rockstars!"

Mr Mathuria informs that the SPECTRUM AV team spent a cumulate of 48 gruelling hours to precisely set up the technical infrastructure that efficiently enabled the spectacular projection mapping show, which ran for 90 straight minutes individually on both days of the event. Owing to the outdoor nature of the event, the team had to take prevailing weather conditions and other environmental factors into account; wherein special arrangements were made to protect the equipment from the elements, especially from the heavy dew that began to set in as the sun went down. In addition to the 48 hour set up time; the team invested an approximate of 20 hours in programming the visual content for the show which involved multiple checks on the resolutions, video codecs and also the reproduction of the content on the building façade itself, in an attempt to ensure the utmost level of perfection in doing justice to the client's expectation of accurately representing the spirit of Bangladesh.

At the end of it all, Bangladesh soaked-in the glory of one of the most enchanting visual experiences it had ever borne witness to, which not only celebrated the achievements of the nation and paid homage to its past, but also instilled inspiration for a promising future.



The SPECTRUM AV Team.

"The National Parliament of Bangladesh is considered as one of the twentieth century's most significant buildings, and seeing the building come alive with the 35 Million pixels all synced with music and lights, was a truly a sight to behold. We're very grateful to GREY and the government of Bangladesh for trusting us with the responsibility of such an important project; and we're really pleased to take note of all the appreciation and praise that the show has received from all quarters. Commissioning a one-of-a-kind projection mapping experience onto one of the finest parliament buildings in the world, in a matter of just 72 hours, and that too on one of the most important days in the country's entire history, is truly a proud moment for the entire team at SPECTRUM AV!" Jay Mathuria concluded.

SPECTRUM AV



ETA SPOTLIGHT is a heart-to-heart with industry professionals from across Asia, as they discuss their foray into the business and their journey thus far, while sharing their honest opinions about key aspects like market trends, technology, upskilling and more...

Please provide us with a brief about yourself.

My name is Alan Mathew and I am a mixer by trade doing a variety of FOH, Monitor and Broadcast work around the globe. Apart from the regular rock n' roll work that I really enjoy, I specialise in mixing large orchestras, ethnic ensembles and various other large scaled events. I also specialise in handling the audio element for various government events throughout Asia. Historically, my focus was designing and helming musical theatre projects, whilst balancing my role as university lecturer for the Technical Theatre Department in a world renowned Arts College based in Singapore. Presently, my days are spent running my three companies based in Asia and Australia, where we specialise in the reselling and distribution of rider friendly gear.

What got you interested in getting into the industry?

Having been a musician myself, I think it would have to be my deep love for music. I believe that music is what brings all of us together; in this particular line of work and for the global audiences that we cater to. I used to

do a lot of home recordings during my teenage days and that got me into things like 4 track tape recorders, 1/4 inch and 2 inch tape machines, routing to busses, sending aux outs to reverb machines and so on. The rest is history.

What do you feel about the industry?

I have an overwhelming sense of appreciation for the innumerable opportunities and relationships that the industry has blessed me with over the past twenty years. This current global pandemic, despite its' devastation on our industry as a whole, has seen many of us uniting together to navigate this unreal season. Personally, I see this as an "Industry Reset" going forward. Those of us who chose to stay in this field will have to adapt quickly to allow for these these new ways of working. The way we approach future productions, will require us to think dynamically and creatively when it comes to our technical approach. The whole experience from conceptualisation through to post production will be a completely new experience. Ever the optimist, I feel this may be our collective opportunity to pin down new standards and explore innovative ways of making things work.

What is your most memorable experience and why?

Loads! I've had the privilege of working with countless international artists over the span of two decades! It's almost impossible to pick one! However, I must say, mixing a stellar pop concert in the Mongolian Parliament House in Ulaanbaatar, stands out as one of the most memorable.

This opportunity came about after a long working partnership with Mongolia's most successful pop band, Camerton.

Following many prosperous years, the lead singer, Bold, branched out and navigated a fresh musical path as a solo artist. This venture to re-establish himself led to him becoming Mongolia's number one pop artist. He's a gifted musician, songwriter and performer. A truly inspiring artist; who manages to seamlessly merge traditional instrumentation and current day groove. In 2011, the Mongolian President requested Bold to perform a one off pop concert for his officials and

delegates within the chambers of Parliament House. It was seriously a one off experience to do the first rock n roll show in such an iconic and unusual venue.

What was your worst experience and why?

Breaking the hinges of an antique wood crafted door inside yet another Presidents' Retreat might top the list. Unopened in more than 20 years, this door had been delicately designed to conceal a hidden patch bay and my hands were the undoing of this important historical artefact. Disintegrating wood fell by the wayside as I had attempted to plug in a single cable.

It was a disaster of epic proportions. After reporting it to the officials, they relented and agreed that we were not intentionally trying to damage their historical architecture. Phew!

How exactly has the evolution in technologies impacted your line of work?

The evolution and advancements in technologies have had a tremendous impact on sound design and audio development. Here in Asia, budget constraints are often the reason behind tight setup schedules, which in the past would have sacrificed the integrity of the audio. Poorly tuned systems prior to sound checks were a common occurrence in small scale theatres and huge arenas alike. Given the current evolution of technologies within leading brands, we have the ability to get to the point of pushing up faders in a reasonably short period of time. These technologies have been the catalyst for better quality productions.

What are the products / technologies that are absolutely crucial to your workflow? Do you have a personal favourite among them? If so, please let us know why.

For all music related events that I mix, be it PA, Monitors or Broadcast, I tend to favour Digico SD options.

Additionally, Waves has become a staple in my audio arsenal for practically every gig. The innovative quantum platform puts so much power in your hands as an engineer. For monitors, I tend to sway towards Klang's immersive ears. The 3D full sound experience they provide is hugely beneficial for seasoned performers.

On the other hand, for corporate AV and non-music related events, I tend to prefer the Yamaha work flow that comes with both CL & QL options. A reliable, user friendly interface.

In your line of work (specialization), have you noticed any new trends in terms of workflow / technologies etc that you feel could revolutionize the future for specialists like yourself?

I think object based mixing is currently the way to go. The frontal immersive system solves a lot of issues that a conventional L/R PA could never resolve.

In my opinion, each of the the leading brands have produced competitive, viable solutions in recent times.

Do you have any Hobbies outside of work and what is it?

Unfortunately, time is the most valuable commodity these days with a young family to keep in line and my companies bubbling away, however, if such a miracle window of time presents itself, you'll find me in my studio song writing and fiddling on my instruments!

Highlight any professional training or certificates.

My formal education in Audio Engineering was completed in the UK with SSR (School of Sound Recording). Being abroad, I was gifted amazing opportunities to work with a number of British and Scandinavian artists both on their home soil and around Europe.

What did you do during the COVID-19 period?

To be honest, this period was bitter sweet. One of my companies specialises in reselling used show equipment. This Covid-19 period presented countless challenges for many within our industry, which resulted in a peak of busyness as we were helping a number of companies in Asia and South America liquidate. Our priority was, and will continue to be, to give assistance to companies that needed financial relief, through the sale of sitting gear, to alleviate the pressures during these troubling times.



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