

systems integrationasia



HI-TECH WELLNESS

**Jhansi Story Comes Alive in India's
Largest Projection Mapping**



**Solutions Update: Plethora
of Solutions Launched at
ISE**

**Creating Rich Experiences
for Worshippers Through
Visual Technologies**



KDS-7

AVoIP streaming that delivers more on every level

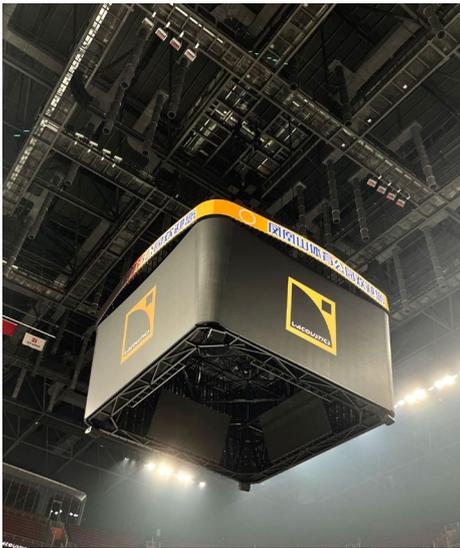


KRAMER ELECTRONICS ASIA PACIFIC PTE LTD

infoasia@kramerav.com

CONTENTS

Volume 21 Issue 06: JUNE 2022



06 NEWS

NEWS FROM THE REGION

04 FIRST WORDS

22 SOLUTIONS HIGHLIGHT

44 FEATURE

HI-TECH WELLNESS

VOICEBOX

54 CREATING RICH EXPERIENCES FOR WORSHIPPERS THROUGH VISUAL TECHNOLOGIES

INSTALLATION

58 JHANSI STORY COMES ALIVE IN INDIA'S LARGEST PROJECTION MAPPING



24 SOLUTIONS UPDATE

FROM THE ISE SHOWFLOOR

“

“The key challenges in the future are to deliver ever increasing image quality to enable more detailed and pinpoint accurate treatment across ever greater distances. This means we must deal with rapidly growing data loads, and we must focus on ways to deliver these with the lowest latency possible”

”

Raymond Soans, director, Sigma-Jones AV India



PUBLISHED BY
SPINWORKZ PTE LTD
71 BUKIT BATOK CRESCENT
#06-13 PRESTIGE CENTRE
SINGAPORE 658071
TEL: (65) 63162716

To read more go to our Feature article on page 44

We were starved of in-person exhibitions for over two years, but April, May, and June have brought a rush of events from Prolight + Sound Frankfurt to ISE, PALM Expo, AsiaTechXsg, NAMM and InfoComm 2022. I'm not sure how brands feel about these closely spaced exhibitions, but I would assume many are happy to meet in person again. Regardless of the lack of chips and shipping issues, it was nice to see several products launched. Our Solutions Update column is full of solutions released at ISE. In our main feature we touch on the role of next-gen AV-IT technologies in fortifying intelligent and intuitive healthcare of the present and the future. Hope you enjoy the read.



Thomas Richard Prakasam
Publisher/Editorial Director
thomas@spinworkz.com



EDITOR, INDIA AND ME
Ram Bhavanashi
ram@spinworkz.com



FEATURES EDITOR
Elton Noronha
elton.s.noronha@hotmail.com



DIRECTOR
INDUSTRY ENGAGEMENT
David Lim
davidlim@spinworkz.com
Tel:+65 96835275



ADMIN & CIRCULATION
Julie Tan
admin@spinworkz.com



MEDIA REP CHINA, HONG KONG, TAIWAN
Judy Wang
Worldwide Focus Media
+86-13810325171
judywang@vip.126.com



DESIGN & LAYOUT
Hazel Gundaya

PUBLISHED BY

Spinworkz Pte Ltd
71 Bukit Batok Crescent
#06-13 Prestige Centre
Singapore 658071
Tel: (65) 63162716

Disclaimer: Systems Integration Asia is published 12 times a year. All rights reserved. No part of this magazine is to be reproduced, whether mechanical or electronic without the prior written consent of the publisher. Views expressed in this magazine do not necessarily reflect those of the editor or the publisher. Unsolicited contributions are welcome but the editor reserves the discretion to use them. Whilst every care is taken to ensure the accuracy and honesty in both editorial and advertising content at press time, the publisher will not be liable for any inaccuracies.

Please be informed that products and company names mentioned in this publication may be protected with tradenames, trademarks or registered trademarks of their respective owners. Our non inclusion of such symbols is not an indication of us not recognising the copyright but rather to have a common look across our articles. Misuse of tradenames, trademarks or registered trademarks is strictly prohibited. It is the obligation of our readers to check if company names and products are protected with tradenames, trademarks or registered trademarks.

IS YOUR BUSINESS READY?

For China's Innovation-Driven Market

infocomm | 北京
CHINA

Featuring



Follow Us on WeChat!

13-15 July 2022
China National Convention Center, Beijing, China
www.infocomm-china.com

Organized by:

infocommAsia



PIXERA User Community Receives PIXERA Knowledge Base

GLOBAL: Christie has announced its acquisition of assets from Brass Roots Technologies LLC, an American technology innovation firm specializing in consulting and the engineering design of advanced optics and electronics for high-performance display and imaging systems. Brass Roots Technologies' current personnel have been transferred to Christie, and the company's operations will stay in Texas, USA, under the Christie name.

"The purchase of Brass Roots Technologies' assets will help diversify and advance Christie's engineering capabilities," said Zoran Veselic, president and chief technology officer of Christie. "We welcome Brass Roots Technologies' talented engineers and design team, who will join our existing teams to explore future technologies together."

Brass Roots Technologies has been at the forefront of innovation since its establishment in 2009, developing critical technologies that have improved image and display solutions to an entirely new level. The company provides a system-level perspective,

custom engineering design services, and licensed IP technology. It specialises in developing differentiated solutions that integrate advanced optics, mechanics and electronics, and it has experience in a variety of industries, including video, entertainment, imaging, medical, telecommunications, and defence/military imaging. The Brass Roots Technologies team will bring system architecture, optical design and analysis, mechanical design, electronic hardware and FPGA (Field Programmable Gate Array) firmware design, software development, in-house CNC fabrication, prototype assembly, and functional tests and verification to Christie's engineering offering. The team's experience also includes DLP, LCD and LCoS projection systems, LED video walls, digital projection optical systems based on lamps, LED, laser phosphor, laser illumination, lenses, and ultra-high frame rate projection.

Frank Poradish, founder of Brass Roots Technologies, added, "We are honoured to join Christie in this merging of the minds. We have collaborated with Christie since the start of our business more than 13 years ago, and there is no better fit for us. The synergies between the two organizations will contribute to growing Christie and add to its technology capacity both in the labs and in engineering resources."

Christie Digital



OPAL - THE VERSATILE LED PLATFORM FOR AV DESIGNERS

- >> Universal frames with 3 dimensions: 600×600 mm, 300×600 mm, 300×300 mm
- >> Flawless display through high-precision design
- >> Versatile for all fixed install solutions
- >> Best visual performance
- >> Easy maintenance

New
Fixed Install
LED Product



Booth
#N833
infocomm

www.roevisual.com

ROE Visual Co., Ltd.

+86-0755-83924892

roe@roevisual.com

Bldg 7, ZhongYuntai Technology Industrial Park, Baoan, Shenzhen, China

YOUR SPACE. OUR PASSION



biamp.

Biamp's Newest Family of Conferencing Solutions Receive Microsoft Certification

GLOBAL : Biamp has revealed that four new conference room audio solutions have been certified for Microsoft Teams Rooms, enabling customers to enjoy a complete Biamp audio solution in medium and large spaces. Each solution includes everything required for an extraordinary conferencing experience and is available to conveniently purchase as a bundle.

"We are thrilled to offer our customers certified Microsoft Teams Rooms bundles featuring our latest Devio and TesiraFORTÉ audio processors," said Joe Andrulis, executive vice president of corporate development, Biamp. "Importantly, our latest conferencing bundles feature Biamp Launch technology, an innovation that optimizes performance for any conference room with the touch of a button, automatically meeting the standards set by Microsoft for Teams Rooms certified audio."

Biamp's four newest certified Microsoft Teams Rooms bundles contain a TesiraFORTÉ X or Devio SCX

processor, Parlé Beamtracking ceiling microphones – which track conversations from around the room, enabling remote participants to feel just as present as those in person – Desono C-IC6 ceiling loudspeakers, Biamp's PoE-powered amplifiers, and all of the necessary mounting accessories and category cabling to complete the installation.

With each bundle, installers benefit from automated system deployment and configuration made possible by Biamp Launch, which identifies and configures every device in the system, performs a tuning cycle, measures acoustic characteristics of the room, applies recommended signal processing, echo cancellation, speaker tuning, noise reduction, and Microsoft Teams Rooms settings, then generates a dashboard highlighting performance settings before-and-after optimization.

These bundles offer customers and installers the advantages of a complete Biamp solution that extend far beyond superior audio, including minimal cable requirements with zero termination, zero network setup, automated EQ, and more. Biamp bundles are thoughtfully designed for plug-and-play installation, saving integrators time and providing users with a consistently high-quality audio experience across all conferencing locations within a building.

[Biamp/Tesira](#)

TALEN

Compact, full of impact



etconnect.com/talen



Brompton Technology Highlights Advances in LED Processing Technology at ISE 2022

GLOBAL: LED processor manufacturer, Brompton Technology, demonstrated the rapid advancements it has made in LED processing technology since its last appearance at the ISE exhibition in 2019.

Brompton's stand included an LED screen dedicated to High Dynamic Range (HDR) and accurate colour reproduction, a centrally positioned LED display demonstrating the company's latest software developments, along with a product display area and private meeting space.

With the increasing uptake of Virtual Production by multiple sectors of the industry including product launches, and corporate and live-streamed events, the features in Brompton's Tessera software, which offer an ever-increasing level of control, including a wide gamut of colour and image controls that allow users to correct and optimise the image on the screen, are becoming an essential component in the process.

Brompton HDR, along with its enabling technology Dynamic Calibration and Hydra, an all-in-one industrial solution that incorporates all the measurement instruments and processing required for panel measurements to enable Dynamic Calibration, was also on display.

Tessera v3.2 already added ShutterSync, Frame Remapping, and 3D LUT Import, with Pomfort Livegrade and Assimilate integration. Visitors to the stand experienced the capabilities of Brompton's

latest updates, Tesseract v3.3 software, which includes massive enhancements to virtual production workflows such as PureTone, Operating Modes, on-screen tracking markers and support of ACEScg colour gamut, all of which emphasized creative choice and control.

The product display area showcased Brompton's range of Tesseract LED processors, including the rental workhorse S8 and the flagship SX40, with the all-important XD Data Distribution Unit, which works alongside the SX40 to keep cabling as simple as possible for any event.

"We are delighted to be back at one of the most important events in the European tradeshow calendar," said Dries Vermeulen, Business Development Manager – Europe for Brompton. "We have been working hard over the past two years and have developed significant advances in our LED processing capabilities. We're proud of what our team has achieved, and we're excited to be able to show Brompton's latest solutions to our European customers."

Brompton Technology

Combine & Capture AV Sources into Software

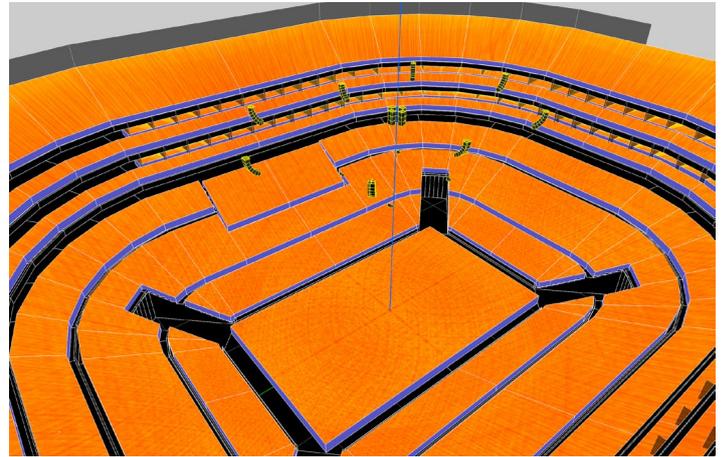
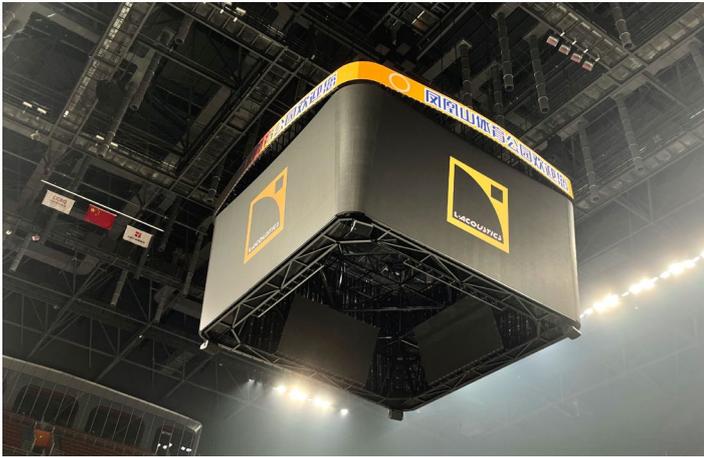
USB Fusion



- Fuse camera and wired screenshare sources into engaging presentations for remote education, virtual conferences, and more
- Multi-input video capture hardware with switching and layout control
- Switch between sources or combine two inputs (picture-in-picture or side-by-side)
- Capture into popular Windows®, Mac® and Linux® software via USB 3.0
- Tablet app for advanced presentation features including annotations and media files

MAGEWELL®

www.magewell.com



L-Acoustics Scores with 360° A Series Installation at Chengdu Phoenix Mountain Indoor Stadium

CHINA: The 18,000-seat Chengdu Phoenix Mountain Indoor Stadium lies at the heart of the state-of-the-art Chengdu Phoenix Hill Sports Park. Designed for global basketball, ice hockey, and other competitive games, the stadium will host the upcoming 31st World University Games and the 18th Asian Cup in 2023. In addition to hosting international and domestic sporting events, the venue is poised to stage live concerts, performance art shows, and high-profile product launches.

Construction of the NBA-standard arena began in 2019, with audio and video technology design and installation awarded to China Radio, Film and Television Design and Research Institute (DRFT). Zhou Yaoping, director of engineering at DRFT, worked with and was confident in, L-Acoustics' reputation for delivering world-class audio solutions for high-profile sports and touring projects.

Yaoping worked with local L-Acoustics Certified Provider, **Rightway Audio Consultants (RAC)** for technical support throughout the project. "On top of the superior precision and power of the L-Acoustics solution, we knew that we would also receive impeccable service from both RAC and the L-Acoustics Application team," he explained. Challenges to the sound design included VIP box areas with reflective glass surfaces and a centrally located 360° LED display screen, which would change positions depending on standard heights for the sport or optimal placement for live events. Systems designer at DRFT, Zhang Xinyu used L-Acoustics Soundvision software to map the venue and test different sound system configurations to attain optimal coverage and SPL for the entire audience, regardless of where the LED screen will be placed.

"Soundvision was an excellent tool to help me experiment [with] various design ideas," explained Xinyu. "It allowed me to find the best speaker configuration for optimal performance, taking all screen placement options into account." Settings for each event type are pre-calculated and can easily be recalled by venue operators in LA Network Manager.

The final system installation was led by Li Daojun, senior engineer at DRFT. The main system consists of

8 x arrays, each comprising 6 x L-Acoustics A15i Focus and 1 x A15i Wide, hanging from the roof in an oval shape above the LED display to deliver 360° coverage to the audience. A cluster of four hangs of 3 x KS21 subwoofers each, flown in the middle, ensures low-end rumble. Under the display cube, 4 x L-Acoustics X15 HiQ act as monitors for athletes on the court. The whole system is driven by 22 x LA4X amplified controllers.

Daojun praised the support DRFT received from RAC and L-Acoustics, “We were able to call upon experienced application engineers at any time during this three-year project, in turn ensuring that we provided the end-user with a comprehensive run-through of the operating system.”

Adding: “The flexible A Series system was the right solution to a complex brief. Chengdu Phoenix Mountain Indoor Stadium and the technical team are now ready to serve quality sports and entertainment programming to the dynamic Jinniu community.”

Similar sentiments were echoed by Liu Heming, deputy technical director of Chengdu Chengtuo Vanguan Sports Culture Development Co. Ltd., the company in charge of technical operations of the arena: “On testing day, the overall sound in the arena amazed me. Not many sporting venues possess a sound system of this calibre. Now my team has the right tools and resources to perform at the high technical standards of world-class events.”

L-Acoustics

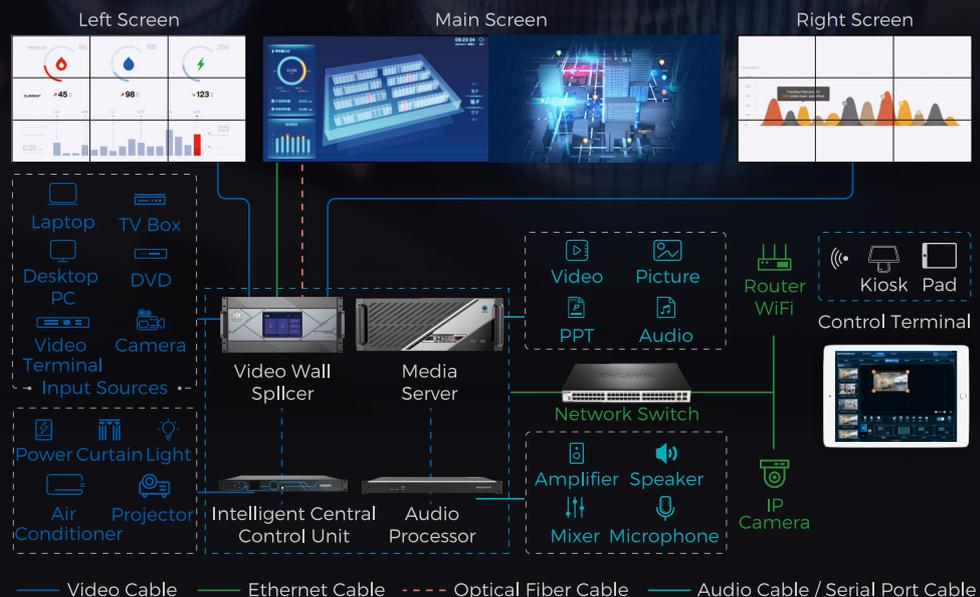


www.novastar.tech
 zachary@novastar.tech
 +86 15249247795



Visual Centralized Control Platform (VCCP)

NovaStar's brand new visualized control solution for comprehensive management of multimedia, audio, video and environment control in various fixed installation application scenarios, such as exhibition halls, conference rooms or centers, media centers, command and control centers, and smart city data centers. One-stop solution to achieve the project needs. One software can control all the display, video, audio, IPC, Lights, curtain, A/C, power, and so on.





Martin Professional LED Fixtures Provide Architectural Lighting Upgrades to Iconic Kings Park Trees

AUSTRALIA: Working with Western Australia's Botanic Gardens and Parks Authority (BGPA), PLAN E Landscape Architects recently enlisted Engineering Technology Consultants (ETC), Light Application, and Show Technology to design an architectural lighting display for Kings Park using Martin Professional Exterior LED fixtures.

Kings Park is a 990-acre park in the centre of Perth that features manicured green space, natural bushland, a botanic garden, and numerous memorials. Fraser Avenue, a lovely path lined with lemon-scented gum trees erected in 1938 and equipped with in-ground lighting to accentuate the trees, is one of the park's most noteworthy attractions.

When the existing fixtures came to the end of their serviceable life, the BGPA hired PLAN E Landscape Architects to coordinate a replacement capable of producing a wide range of colours and effects while utilizing the existing in-ground cabling infrastructure. To meet these requirements, PLAN E collaborated with ETC, Light Application and Show Technology to design an updated lighting installation featuring Martin Exterior Inground 410 LED fixtures.



“When Matt Bancroft from Light Application approached me for a solution, knowing the precinct very well and the high level of prestige at stake, I knew our offering needed to be of superior quality, so I recommended the Martin Exterior Inground 410,” said Mike Bird, Technical Sales, Show Technology. “Light Application are no[t] newcomers to using Martin architectural products, having installed numerous successful projects throughout Perth with Exterior 500 and 1000 image projectors.”

ETC conducted a night-time trial at Fraser Avenue and compared similar fixtures from different manufacturers, ultimately settling on the Martin Exterior Inground 410 for lighting the tree canopy. Part of the Exterior Inground 400 Series, the Exterior Inground 410 is an RGBW LED wash light that delivers rich premixed colours with high output and efficiency. Remote control and configuration via DMX and RDM allow for easy setup and unlimited flexibility. The durable, 19-millimetre tempered glass cover is available with an optional anti-skid surface for use

in pedestrian areas, and the top ring is available in flush or bevelled varieties for different mounting applications.

“To say that the output of the Martin Exterior Inground 410 is impressive would be an understatement,” said Matt Bancroft, Light Application. “It certainly packs a punch for its unobtrusive inground design—exactly what the iconic location along Fraser Avenue in Kings Park required. The CREE RGBW

Quad-Color LED chipset in these fixtures allows for a wide range of vibrant colours as well as a crisp 4000K white which accents the trees perfectly. In addition, the asymmetric optics provided optimum coverage for the tree canopies while keeping light spill and glare to a minimum.”

“It’s a privilege for HARMAN Professional Solutions to be associated with a project like Kings Park and extend an apt solution that seamlessly fits the unique requirement of the project,” said G Amar Subash, VP and GM, HARMAN Professional Solutions, APAC. “We would like to thank our partner Show Technology for their confidence in the products and working closely with ETC and Light Application to create a diverse and inviting space for visitors, especially within the constraints of the COVID-19 pandemic.”

Martin Professional

Show Technology/Martin Exterior Inground Series



BrightSign Players Bring Weta Workshop's Movie Magic to Life

NEW ZEALAND: Weta Workshop, a New-Zealand based concept design and manufacturing company, is an expert in the art of movie magic. The company is industry-renowned for producing outstanding props and visual effects for an impressive array of films, including Lord of the Rings, Avatar, Bladerunner, Thor: Ragnarok and I, Robot, The BFG, and Godzilla.

Weta Workshop was looking to launch an unforgettable visitor destination, bringing their work beyond the screen and exposing the audiences to the practicalities of the filmmaking process. The result

was Weta Workshop Unleashed! – a 'part film set, part creative workshop' experience housed within the Sky City Hotel of Auckland City and powered by BrightSign players.

AV consultant, Toulouse Group, was engaged to bring Weta's world to life through a complex technology and systems installation. "The client brief was fluid, and we needed a responsive system that allowed us to work swiftly to meet the creative vision in-situ," explained Marc Simpson, managing director of Toulouse.

Integration of AV systems alongside lighting design was a crucial part of the brief, merging story and technology in a uniquely 'Weta-way.' As well as the challenge of creating an adaptable system with the all-important 'WOW' factor for visitors, access to the site was restricted due to pandemic lockdowns, which created additional difficulties for delivery of the project. With fluid vision and creative expansiveness in mind,



Toulouse needed a product they knew could respond and keep up with the fast-changing requirements.

“Toulouse utilises BrightSign players for the majority of our visitor experience installations due to their inherently reliable nature,” explained Simpson. “Both Toulouse and Weta have used the players on joint projects in the past and they have provided the perfect fit for the flexibility and high-end finish demanded by these projects.”

The resulting experience was an explosion of creativity, mayhem and colour that blurred the lines between reality and fantasy through smooth content management from the BrightSign players. Following a red carpet entrance, visitors were directed through nine distinct zones, each matching a genre of the films being created within a fictional studio.

Firstly, the visitor and their theatrical host enter a storage room with its unique “box” door, moving on

into a corridor of dreams, the Weta Walk. Here lies Weta’s repository of creativity: a narrow, darkened walkway housing a vault where creative ideas are stored and harvested. With large format video and lighting enhancing with cinematic sound, three purpose-scripted films are shown to introduce the audience to some of the genres that Weta frequently work with - fantasy, horror and sci-fi. These three areas are then fleshed out and explored throughout the experience.

Due to the narrow confines of this passageway, the Panasonic PT-RZ970 projector with the ET-DLE035 throwback lens was the perfect solution for the ground-mounted short-throw requirements. This allowed for the realisation of the creative vision for the zone and brought to life this bubbling storehouse of ingenuity.

The visitors then enter the reception where an animatronic security guard sits in front of a bank of



monitors with Sir Richard Taylor welcoming them, besides a light show to demonstrate the intricacies of Weta's miniature models. Continuing down a corridor with 6 x 22" and 1 x 42" monitors showing views into the doors of the workshop, visitors arrive at the horror zone. Using a range of digital screens and interactive computers, complimented with a terrifying Horror House, the horror zone showcases Weta's tricks of the trade. The science behind prosthetics, robotic puppetry and motion capture technology are revealed in hands-on displays augmented by a soundtrack, timed jump scares, and pulsing dim lighting.

The Artist's Shed provides a creative studio to conceptualise characters and their created worlds using projection mapping. A 'bigature' section cleverly miniaturises the audience within Weta's signature giant-scale sets, moving into a large scale model

landscape that shifts from day to night with sequenced lighting and soundscapes. In the Worldcraft zone, visitors get the chance to have a go at various cinema crafts, including tracing, clay modelling and shaping.

The final Origins section gives an on-set experience of a sci-fi movie being 'filmed' inside a UFO that features a triple projector mapped screen and one small circular rear-projection screen. Here, audience members 'direct' the final film, watched over by a giant animatronic robot with two projection-mapped images to add additional 'animation' to the physical creature. Throughout the experience, 'Weta Wisdoms,' nine circular displays, offer the viewer fun facts about Weta. Each of these has a BrightSign LS424 player, and 35 of these devices are used for audio-only throughout the site. This impactful experience through the world of

film-making is of course wrapped up by rolling credits, before an exit via the gift shop.

The most unusual aspect of this project is the varied nature of the content delivery and execution. 5 x HD224 and 65 x LS424 players power the experience, each with a different role in the installation. Some are playing their media continuously on a loop as background ambience whilst others are used for a small, dedicated installation that customers trigger, sometimes without realising, as is the case with the 'jump scares' in the Horror House. More deliberately, utilising the GPIO inputs on the BrightSign players can trigger the media via a mixture of buttons, levers and other mechanical devices.

Using the GPIO inputs in this way is very unusual in digital signage installations, but Toulouse uses the players in this way in close to half its installations to create the theatrical experiences for which they are well known.

All of the BrightSign players are locally networked. Some form individual shows but all are linked with the master control system. With the push of a single button by a staff member, they execute a movie, thus issuing commands to multiple players that send either the video or audio and lighting elements to multiple projectors, a surround sound loudspeaker system and a theatrical intelligent lighting system. This is the case at the end of the final sci-fi zone, where BrightSign players are integral to providing visitors with a vivid and lasting final image of their time at Weta Unleashed. By pushing a single button, six networked players commence a sequence that synchs video, audio and lighting to transport the audience into a fully immersive cinematic experience for the final ten minutes of their tour.

"BrightSign players provided a robust platform that would withstand and support swiftly changing programming," explained Simpson. "[Using] the players meant we could keep up with the fluid creative needs of the project within the truncated delivery time frame." All of the BrightSign players used throughout the experience operate within the WETA network, where they were connected. Firewalls kept the network secure and allowed staff in the head office to update content off-site. "This is something we could do thanks to the robust nature of the BrightSign players. With almost guaranteed uptime, remote monitoring is a formality and maintenance is very seldom required," added Simpson.

Weta Workshop Co-founder and Creative Lead, Richard Taylor concluded, "The experience wowed audiences from the moment it opened. Over 25,000 people stepped on the red carpet within the first three months of opening, despite no foreign visitors due to strict international border restrictions in New Zealand. Today, the attraction is booked solid and draws rave reviews from its visitors. Every customer, whether first through the door at opening time or the last one out at the end of the day, receives a consistently high-quality experience. Each person's visit is unique depending on what they choose to interact with: which button they push, which lever they pull or which sensor they trigger. BrightSign allows this fully customisable media experience to be delivered in a repeated, reliable way until the final credits roll."

BrightSign



HARMAN Professional Provides Eulsukdo Cultural Center with Mesmerizing Audio Experiences

SOUTH KOREA: To ensure pristine sound quality throughout the prestigious Eulsukdo Cultural Center, TechDataPS Co. Ltd. installed a comprehensive audio system featuring state-of-the-art HARMAN Professional Solutions.

Founded in 2002, the Eulsukdo Cultural Center is a multi-purpose space for visitors to experience various art forms and performances with the natural beauty of Eulsukdo Island as a backdrop. Designed to achieve a harmonious blend between nature and culture, the centre features an outdoor performance hall

overlooking a stunning sculpture park and the island's natural beauty, as well as three indoor exhibition areas.

TechDataPS Co. Ltd. reported that the client requested a new audio system for crystal-clear sound and full coverage within both indoor performance areas. However, the deep balconies in both areas made achieving true tonal clarity for all audience members a challenge. The installation team developed a design that achieved immersive, reflection-free sound with industry-leading JBL Professional, Crown and Soundcraft audio solutions.

The new system primarily features the compact yet powerful JBL VTX A8 line array speaker, which provides impactful sound and full coverage thanks to its 110-degree dispersion and mid-frequency Radiation Boundary Integrator design. Additionally, JBL VTX B18 subwoofers reinforce the lower frequencies and feature a patented Slip Stream double-flared exponential low-frequency port design to avoid muddling the system's overall clarity. Finally, JBI VTX

M20 stage monitors with Differential Drive transducers and D2 dual diaphragm, dual voice coil compression drivers ensure isolated and coherent audio for the performers onstage.

For amplification, Crown I-Tech 4x3500HD amplifiers provide ample and reliable output across four channels, making it the ideal choice for the centre's diverse performances and exhibitions. Concluding the setup is the Soundcraft Vi3000 audio mixer, whose 36 faders and four Vistonics II touch screens ensure versatile control and ease of use during performances.

Eulsukdo Cultural Center thanked the TechData team and praised the new system's performance and flexibility. They added that they know the HARMAN solutions will help the centre create unforgettable experiences for visitors and audiences of any event.

"Complementing Eulsukdo Cultural Center's ambience, the HARMAN PA system delivers exceptional audio across the venue," said Amar Subash, director, channel management and audio solutions, HARMAN Professional Solutions, APAC. "We would like to thank



our partner TechDataPS for tackling the requirements of the cultural centre with dexterous use of HARMAN's range of audio solutions while ensuring an immersive audio experience for listeners."

HARMAN



Barco Launches TruePix: A Gamechanger in LED Video Walls, Offering a Premium Visualization Experience



Drawing upon Barco's long legacy in LED, TruePix is designed completely from the ground up to create a purpose-built video wall for a variety of enterprise applications. It perfects all aspects of the LED experience starting from installation, throughout its long lifetime, to after-sales support and maintenance. TruePix ensures a truly seamless experience bringing content to life as intended in control rooms, television studios, lobbies, boardrooms, auditoriums, and other corporate applications.

Key product highlights:

- * Truly seamless display
- * Smart engineering for an easy, perfectly aligned installation
- * Unmatched viewing experience thanks to the next gen Infinipix processor
- * Purpose-built robustness and ergonomics for 24/7 smooth and efficient operations
- * Superb colour accuracy, under all lighting conditions

- * Reduced ecological footprint
- * 10 years of dedicated service and support

With the ongoing cost erosion, LED technology is now within the reach of most companies, for a variety of applications. With TruePix, Barco combines the latest technological evolutions, a vast amount of expertise, and innovative, smart engineering. The result is a unique mounting technology, impressive image quality and ensuing longevity. These high-resolution 16:9 tiles are available in multiple options, with pixel pitches ranging from 0.9 to 1.9 mm.

Speaking on the announcement **Gan Ta Loong, managing director, Barco SEA and vice president Immersive and Large Videowall Experience APAC** said, "Barco has always believed in bringing technological marvels to industry and in our endeavour to continue we are proud to present TruePix, video walls offering seamless viewing experience combining innovative technology. TruePix encapsulates

Barco's 25 years of experience in LED technology, guaranteeing bespoke visuals & perfect sync of the content providing solutions to discerning needs of customers in key markets."

Reliably perfect quality

The first product to incorporate Barco's superior Infinipix Gen2 image processing system, TruePix ensures an unmatched viewing experience for all types of content. No visual distortions, low latency, perfect sync, and no tearing are the hallmarks of this system. Infinipix Gen2 also guarantees dimming without any loss in colour accuracy, which drastically expands the effectiveness of the installation. What's more, Barco's proprietary smart calibration method for wide colour gamut support and full colour balancing control, will create rich and true-to-life images. TruePix also shows that visual excellence does not equal high energy consumption. Its EcoPower mode ensures reduced energy consumption, helping to limit the ecological footprint. SteadyView, a unique Barco feature, improves viewing ergonomics and reduces eye fatigue. This is especially important in control room environments, where the staff intensely use the wall for multiple hours on end. This makes TruePix one of the very first purpose-built LED walls for critical and high-intensity applications like control rooms and command centers.

Smart engineering for predictable, truly seamless outcomes

The impressive image quality of an LED video wall can only come to its full right if the display is installed impeccably. However, there are always imperfections in the flatness of the walls and level of the floors, which very often cause mechanical stress in the frames of the tiles. This can lead to seams, damage,

or difficulties during maintenance. TruePix' innovative auto-balancing system counters these imperfections and makes sure the LED wall is 100% level and frictionless. Furthermore, the installation time is also cut because the tiles all slide perfectly into place without the need for manual adjustments. The guided module insertion ensures a fully contactless and risk-free installation, with no risk of tile damage.

Full service support for 10 years

For Barco, ensuring longevity, reliability and perfect display uniformity is of major importance. With its uncompromising service, Barco takes every measure to deliver the promised experiences to its customers. Availability of batch compatible modules throughout the life of the wall is therefore a key part of Barco's service offerings. If a module needs to be replaced, Barco guarantees that batch-compatible spare tiles (along with full service support) are available for up to 10 years. This brings complete peace of mind and a reduced cost of ownership over the full lifetime of the product.

The Video wall Management Suite, Barco's cloud-based platform for advanced video wall management, allows you to monitor, diagnose and/or control the TruePix installation remotely. This maximizes uptime and reduces the need and length of service interventions. TruePix is also the first LED product on the market to leverage 5Gb bandwidth. This makes the system up to 5 times more efficient with fewer cable runs and points of failure – as more LED modules can be connected in a single link. To further guarantee an uninterrupted data flow, 4-way inter-tile communication and signal loop redundancy are embedded, making TruePix the most reliable LED solution in the market.

Barco

Xilica and Sennheiser Reveal Hybrid Conferencing Kits for Medium and Large Rooms



Xilica and Sennheiser have strengthened their partnership through the launch of two new pre-validated, plug-and-play “room kits” for medium and large collaboration spaces. The room kits, designed with IT standards in mind, bring premium PoE-powered Xilica and Sennheiser audio conferencing solutions together in one compact in-ceiling system, with all components connected over CatX network cable. This speeds deployment for enterprise and education customers modernizing their meeting and learning spaces, as no copper cable or proprietary audio connections are required.

Xilica x Sennheiser Room Kits are purpose-built to solve the specific challenges of medium and large collaboration spaces. Both bundles include a Xilica PoE-powered DSP and a Sennheiser beamforming microphone array (TeamConnect Ceiling 2) to reduce noise and eliminate echo in challenging acoustical environments. The kits also add Xilica’s innovative new

CatX-connected in-ceiling speaker systems to optimize in-room audio and streamline architecture.

The Medium Room Kit includes a Xilica Solaro QR1-UC DSP, Sennheiser TeamConnect Ceiling 2 microphone, one PoE+-enabled Xilica Sonia Amp and two Sonia C5 in-ceiling speakers. The Large Room Kit includes all of the same technologies but with four Sonia C5 in-ceiling speakers and a Xilica XTouch 80 touchscreen for simple in-room control.

Xilica x Sennheiser Room Kits stand apart from traditional audio-conferencing solutions in several ways, including its centrality around CatX cable and existing installed network infrastructure. It is also one of the most easily-installed options, with no mains power requirement, full in-ceiling installation, and distributed ceiling speakers that address the requirements of collaboration room audio across a larger space without termination or proprietary wiring. The pre-validated solution reduces the costs of building an audio-conferencing solution from individual

components, while also providing installers with a practical system that is quick to deploy.

Utilizing advanced algorithmic processing from both vendors, Xilica HearClear acoustic echo cancellation and Sennheiser’s TruVoicelift functionality work together to further lift voice intelligibility, reduce audio artefacts, and eliminate room and acoustic distractions that limit clear communication. Xilica Solaro QR1-UC DSPs include a 2x2 USB audio interface that offers volume and mute status sync for Microsoft Teams, and Zoom, adding value for hybrid applications, and allowing remote workers and students to raise, reduce or mute from their computer keyboards.

The Medium Room Kit and Large Room Kit are adaptable to a wide variety of spaces, including auditoriums, board rooms, conference rooms, lecture halls, and training spaces as well as standard classrooms. Larger enterprises and universities have the added benefit of configuring kits with Solaro QR1’s advanced DSP functionality before deployment. This allows customers to easily standardize kit components to serve the specific needs of each space.

The Xilica x Sennheiser Room Kits are available now from select distribution points worldwide.

Xilica x Sennheiser Room Kits



ES Series
Outdoor Fixed

Hot models
P3.9/P4.8/P5.9

- Energy and power saving
- 1000nit high brightness
- IP65 high protection grade
- Front & rear maintenance

1000sqm LED display installed in JIS // // // // //

Jakarta International Stadium (short for JIS) was completed, YesTech provided two giant LED screens, with nearly 1,000 square meters, to support various events such as concerts and sport events, as well as a series of events of the G20 Indonesia.

Just Add Power Steps Ahead of AV/IP Trends alongside New Master Distributor



Just Add Power demonstrated the power and simplicity of its systems focusing on bringing more flexibility, features, and capabilities to installers at ISE.

MaxColor 4K60 series

The new MaxColor 4K60 transmitter and receiver provide integrators with an affordable and scalable 4K UHD distribution platform to support today's 4K source content natively with high frame rates over existing network infrastructures. MaxColor 4K60 offers video at 36-bit colour and true 4:4:4 chroma that can be distributed over existing Cat5/Cat6 cable, eliminating the expense of upgrading to fibre and buying costly network switches.

The series delivers instant, seamless switching, 4K up- and downscaling and HDR management, while supporting all lossless audio formats and HDR10, HLG and Dolby Vision for the best viewing experience. Additional features include image pop, push, pull and integrated control.

2GΩ/3G ST1 sound transceiver

Functioning as an input or output, ST1 is an audio-only component that allows integrators to add a stereo audio source easily to any Just Add Power system, or to extract stereo audio from an existing transmitter. Any audio source with an analogue audio out can be connected and played on any receiver. As an audio output, the transceiver can play any stereo audio content from any Just Add Power device, while providing variable audio control. This allows for unique functionality, such as sending analogue audio from a display to the main rack without having to run an extra network cable. Integrators also can mix audio and video in new and unique ways. For example, providing their clients with the ability to watch sporting events while listening to radio commentary, give a presentation by mixing PC video with microphone audio, or even add an audio return channel.

Advanced matrix programmer (AMP) software

For multicast switching, the software is designed for environments with existing infrastructure or special network requirements that don't allow for a dedicated AV distribution switch. AMP consolidates and streamlines the process of setting up individual Just Add Power devices — discovering them on the local network, presenting them in a list, and allowing installers to name them, configure their IP addresses, and assign channels to transmitters — while assisting with updates when new firmware is released. Alternately, AMP will configure devices and the network switch when used to set up VLAN systems. Once the Just Add Power system is configured, AMP provides a user interface to control source switching.

Warp engine transmitter/receiver

Installers can rotate any HDMI source – cable boxes, media players, game systems, cameras, and more – in a Just Add Power matrix in 0.1° increments in real-time with incredibly low latency. The rotated image can then be sent to an unlimited number of receivers in the network, allowing for the creation of massive artistic video walls using a single unit. Fully HDCP-2.2-compliant, the transmitter can be added to any Just Add Power 3G or 2GΩ/3G system running Just OS.

Finally, Just Add Power has partnered with Purelink Europe (<https://www.purelink.de/en>) as a new master

distributor for the EMEA region. This partnership adds a mainland EU office and showroom for Just Add Power as well as provides distributors and dealers in the region with inventory that is available in two days or less. Strengthening their commitment to product training and support, Just Add Power and Purelink will be hosting live and virtual training for dealers and distributors around the region. In addition, they will roll out technical support later this year, ensuring staff will be available by telephone or email to assist integrators with their AV-over-IP projects.

Just Add Power/ MaxColor Series

VuWall Launches Application Server to Securely Share and Control Video Walls



The VuWall Application Server is a cost-effective appliance for streaming, sharing, controlling and visualizing websites and applications across AV/IT networks. The scalable and versatile solution improves the operational and overall performance of video walls by consolidating web browser and application deployments into a single appliance, thereby reducing loading times and freeing up the video wall's processing power.

By combining browsers and programmes into a single protected virtual architecture, the Server improves security by limiting unauthorised access. It has multi-platform compatibility, which means it can run apps and web browsers on any Operating System(OS), including Windows and Linux. Best of all, it allows you to effortlessly, reliably, and securely access and interact with an endless number of websites and applications from anywhere on the network. With its scalable design, the Server accommodates more sources without compromising performance and facilitates seamless maintenance of certificates, licenses and plugins.

Simple to set up and configure, the Application Server is compatible with VuWall's TRx software platform. It has been designed to interact with VuWall's PAK video wall nodes and VuScope video wall controllers for multi-room visualisation, situational awareness, control room operations, and corporate applications.

VuWall/Application Server

Analog Way Unveils New Alta 4K High-Performance Presentation Switchers



The Alta 4K line comprises two presentation switchers, Zenith 100 and Zenith 200, designed for medium to large-scale live events and permanent LED video wall installations requiring the highest reliability and performance.

The switchers combine rugged design, class-leading video processing and image quality, HDR support, ultra-low latency, versatile 4K connectivity, live streaming capabilities, and unmatched ease of use. They are based on an extremely robust and stable FPGA-based hardware platform and meet the needs of the most challenging applications including live corporate meetings, hybrid events, worship productions, or large-scale 24/7 LED video wall installations.

The Alta 4K switchers offer up to sixteen inputs with versatile 4K connectivity (HDMI 2.0; DP 1.2; 12G-SDI), up to six independent 4K60 outputs and come standard with a dedicated Multiviewer output to easily control all connected sources as well as Program &

Preview screens. The video outputs of the Alta 4K series can be freely configured as single screens, edge-blended widescreens or scaled auxiliary outputs, and each screen can be composed of a live background with native resolution and up to 8 live layers.

The Alta 4K series is based on the class-leading Analog Way's 5th generation scaling engine, featuring ultra-low latency 4K60 10-bit 4:4:4 image processing, uncompromising video quality, HDCP 2.2 compatibility, advanced colour correction with custom external 3D LUTs, real-time SDR/HDR conversion and mixing as well as high frame rate processing at up to 144 Hz.

The Alta 4K series also offers advanced real-time video processing capabilities that will help even the most demanding customers achieve exceptional presentations: true seamless switching on all layers, advanced borders, elegant transitions, alpha channel support, Luma and Chroma keying, custom output formats, areas of interest (AOI). In addition, audio can also be easily de-embedded from the video sources and re-embedded on the physical video outputs to be sent to a display or recording device. An option is also available to add support for Dante audio networking (32 channels). The Alta 4K series offers RTMP-based live streaming, allowing users to stream any input or output to an online web service or directly send the content to renowned recording or custom live streaming software.

The Alta 4K series features an elegant HTML5-based user interface designed to allow for the best ease

of setup and to ensure flawless control of multi-screen presentations. The Alta 4K products can also be operated by a comprehensive range of control solutions from compact presets shot boxes to the powerful event controller RC400T. For easy integration into a fixed installation, the Alta 4K series offers TCP/IP control, ready-to-use AMX and Crestron drivers, and the unique VideoCompositor solution, which allows for easy incorporation of Alta 4K video composition into a Crestron touchscreen application. Finally, an

off-line simulator allows users to discover all the Alta 4K features, test programming commands, or create a configuration without having an actual device on hand.

The Alta 4K series complements Analog Way's range of presentation systems and is positioned between the Midra 4K series and the LivePremier 4K/8K systems.

[Analog Way/Alta 4k Series](#)

AtlasIED Supports Mass Communications via 5400 Series Compliant Voice Evacuation Solutions



AtlasIED spotlighted its 5400 Series EN 54-16 Compliant Voice Evacuation Systems for hotels, office buildings and public spaces at ISE 2022. Designed and engineered from the ground up, the 5400 Series answers the rigorous demands for mass notification and emergency communications initiated by EN 54-16 standards for life safety signalling and paging systems. The 5400 Series not only offers key voice evacuation and emergency response features but also provides solutions for day-to-day communications and paging needs.

The core of the 5400 Series is the 5400ACS, an integrated announcement controller that effectively

manages systems of emergency communication stations, digital zone manager amplifier units and other network peripherals, including up to 50 digital microphone stations. Featuring built-in message server capability, the 5400ACS is capable of recording two channels of delayed messages while providing two channels of message playback. Users may schedule messages for playback, as well as initiate announcements by contact closures, from a microphone paging station, the 5400ACS front panel, or by a network command from higher-level management software such as AtlasIED Director.

The 5400ACS offers overall supervision capabilities that allow the unit to recognize and report equipment faults and ongoing alarm conditions, including managing disabled and delayed zones, providing fault status information and automatically switching to redundant amplifiers or controllers in the event of failure.

[AtlasIED/5400 Series](#)

VOD Visual Connects with Fine Pitch LED Display

EDGE Connect with HDMI.

Simplicity on a whole another level.



As part of the EDGE display series, VOD Visual's innovative EDGE CONNECT puts LED display technology in an extremely competitive position against its LCD counterparts for digital signage and corporate/educational applications.

The EDGE CONNECT scales and mirrors video content from connected devices, bypassing the need for LED display control systems, send and receive cards and complex video infrastructures. Featuring accessible HDMI ports, the EDGE CONNECT allows users to easily and quickly connect standard video playback devices directly to the display. As a result, content can be instantly transmitted without scaling issues to a seamless display of any shape and size.

As with all models in the EDGE series, the pioneering 55" panels are single die-cast cabinets that are designed as direct and viable replacements for LCDs. At four times the average cabinet size, these

lightweight displays are four times quicker to install, can be directly wall mounted for rapid deployment, and fit seamlessly together to create scalable configurations.

With evolution ingrained into its DNA, the EDGE series paves the way for next-gen sustainable LEDs. The EDGE can be upgraded while keeping

80% of the component parts in place, further extending the product lifespan to over eleven years. The LED modules can be easily swapped out without changes to the underlying infrastructure, so a 2.5mm pixel pitch display can become a 1.2mm providing a cost-effective solution to enhancing image quality in the most sustainable way.

The EDGE's green credentials also extend to the recycling process. With four times fewer internal components and zero-plastic parts, the expert engineering behind the EDGE aims to consciously reduce the impact of e-waste. Furthermore, the EDGE features vastly reduced power consumption capabilities, while superior thermal management technology creates a cool to the touch display making it an eco-friendly solution.

VOD Visual/EDGE

Biamp Expands Camera Line with Vidi 150 Conferencing Camera



The Vidi 150 professional-grade conferencing camera adds to Biamp's portfolio of high-performance AV solutions for modern meeting rooms. It includes all of the same features as the Vidi 100, such as a 4K camera with a 120° field of vision, an 8MP sensor, and a built-in mic array but also has new features.

The Vidi150 is equipped with a manual electronic pan/tilt/zoom (ePTZ) with user-definable presets, automatic participant framing, and ePTZ, all of which are controlled via the provided remote. Both the Vidi 100 and 150 are cost-effective options with great picture and audio quality for small and medium-sized rooms and huddle spaces.

The Vidi 100 and 150 join the premium Vidi 250 conferencing camera, which was previously introduced, to form a comprehensive series of professional-grade cameras with a range of capabilities.

[Biamp/Vidi Conferencing Cameras](#)

d&b Changes the Game with Compact 5D Amplifier



The new 5D installation amplifier from d&b audiotechnik aims to make high-quality sound systems more accessible to a wider range of installations. The 5D features a high-density form factor, with a 1 RU 9.5" footprint. The amplifier is the ideal size for driving smaller loudspeakers and can be mounted under tables or ceilings as well as in a rack, allowing the newest member of the d&b family to serve—no matter the size or requirements of the venue. Because of its compact 4-channel architecture, the 5D is ideal for setting up and deploying small Soundscape systems.

The 5D is the first d&b amplifier with integrated Dante networking. This feature enables easy decentralised system deployment and flexible system configuration modifications, assuring that a d&b system will deliver the scalability, flexibility, and reliability required for today's installations. Lastly, the amplifier lowers the cost of a d&b system, making it more accessible to smaller and larger organisations around the world.

[d&b audiotechnik/5D amplifier](#)

Renkus-Heinz Redefines Column Loudspeakers with PCX Series

Renkus-Heinz demoed the PCX Series at ISE, which includes its UniBeam steerable technology in passive columns, to deliver The Sound Solution to more partners, across more installations, and in more places. The Passive UniBeam technology uses a specifically designed passive filter network to address each transducer and generate an asymmetrical vertical dispersion pattern, bending the coverage downwards and offering consistent front-to-back coverage with minimal side lobe artefacts.

Building upon the proven success of ICONYX self-powered steerable loudspeakers, the PCX Series provides AV contractors, consultants and sound system engineers an additional solution in the shape of a unique passive loudspeaker. The Series utilizes state of the art neodymium 3" Full- Range drivers ensuring a sleek and ultra-discrete appearance that will be available in three different sizes upon launch - PCX4, PCX8 and PCX16. The combination of the included wall mount bracket



(optional pan and tilt bracket) and Passive UniBeam will enable flush mounting in most applications.

All models in the PCX Series are weather resistant (IP64) as standard; salt spray and UV resistant, as well as subject to rigorous high/low operational temperature and humidity testing – making the PCX Series ideal for both indoor and outdoor environments. Each model includes a gland/conduit knock-out input cover for added security and enhanced weatherization, and a high quality, low insertion loss transformers with an easily accessible tap switch for 70V/100V constant voltage operation in larger, distributed audio systems.

Compatibility with EASE Focus 3 software aids specification by providing system design and verification with predictable outcomes in the familiar surroundings of an industry-standard software wizard.

Renkus-Heinz

Powersoft Makes Multisource Management Simple with Dynamic Music Distribution



Powersoft offered an interactive tour of its Dynamic Music Distribution (DMD) solutions that took centre stage on the company's main stand at ISE 2022. Experts were on hand to guide visitors through the functionalities that DMD has to offer system integrators (SIs).

Dynamic Music Distribution presents SIs with the ability to scale inputs and zones conveniently and efficiently with dynamic routing capabilities embedded in its amplifier platforms. Any digital or analogue source connected to an amplifier is instantly recognised as mono, stereo, or multichannel by Dynamic Routing and shared among the zones. This is made feasible by a dedicated object-based approach that makes audio sources, including analogue inputs, available to every amplifier in the network, simplifying the setup of sophisticated routing and zoning options. This makes it easier to dynamically share music,

control signals, and other signal sources between different zones and across multiple amplifiers – all independently of source location and without the need for a centralised DSP. Various UI options allow easy control of the entire system in DMD applications.

To demonstrate the combined capabilities of Powersoft's booth walls featured interactive panels, representing three examples of DMD applications - Powersoft's Mezzo amplifiers, ArmoníaPlus, WM Touch and SYS Control App. This allowed visitors to – for the first time on a Powersoft stand – physically explore the various combinations achievable with these applications from start to finish.

Powersoft/Dynamic Music Distribution

G&D Exhibits Exciting KVM Solutions for Control Rooms



Guntermann & Drunck (G&D) presented their latest, German engineered, KVM solutions and their seamless integration into

AV systems to ensure the best possible system homogeneity and interoperability in control room installations.

G&D's KVM systems support control room workstations and video walls with a seamless workflow and improved operations through a highly intuitive configuration and flexible operating concept.

VisionXS

G&D's new powerful KVM-over-IP extender series VisionXS utilizes standard Ethernet networks with up to 10 Gbit bandwidth and therefore requires much less compression for high-resolution applications. G&D's proprietary lossless video compression technology, bluedec, transmits video resolutions up to 4K60 to improve the user experience. As a special highlight, the integrated IP-MUX function lets a console device manage multiple target IP addresses from up to 20 computer sources without requiring additional hardware. For simpler applications, the on-screen display can be used to switch between different sources.

Expansion of the KVM-over-IP product family

Anyone needing to frequently change switching states and wanting to benefit from useful control

room features can rely on a KVM matrix. With the simple addition of a G&D central module, the KVM-over-IP extenders transform into a high-performance matrix system. By utilizing existing IP-based network infrastructure, IT installations can be scaled more easily, flexibly and at lower costs. Additionally, the G&D plug-and-play components facilitate ease of configuration, installation and intuitive operation. In addition to the previously released ControlCenter-IP, G&D now also provides a compact solution for smaller installations. The new ControlCenter-IP-XS is compatible with all G&D KVM-over-IP extenders and, like all G&D KVM-over-IP solutions in the portfolio, works with standard network components. The ControlCenter-IP-XS is an ideal solution for smaller applications with up to 20 end devices.

PersonalWorkplace-controller

Displaying different screens on a single monitor simplifies work in a control room immensely. This way, employees can keep an eye on all content without having to add more monitors to their desks. Depending on the application, the multi-viewing tool can display and operate up to 26 video sources on a single monitor. You can also use the PersonalWorkplace-Controller to display the sources on a large video wall. This way, AV specialists benefit from an almost unlimited flexible layout with high image quality up to 4K60. The PWC optimizes workflows in all applications, where multiple signals need to be monitored. Combining a KVM system with the PWC ensures secure, high performance and flexible access to all relevant computer systems.

G&D/VisionXS

Nureva Simplifies Hybrid Classrooms with Nureva XT



Nureva systems deliver the audio performance that customers demand without the cost and complexity associated with installation, setup and maintenance of traditional multi-component DSP solutions. The Nureva XT is an integrated end-to-end solution that combines a Nureva audio system (HDL300 for mid-size classrooms or Dual HDL300 for large classrooms) with the new Nureva CV30 classroom camera kit and a three- or five-year subscription to Nureva Pro, which includes advanced device management features in Nureva Console, 24/7 technical support, extended product warranty and advance replacement.

Nureva XT was designed specifically for educators who want the flexibility to extend the in-classroom

experience to remote students or classrooms, provide enriched learning opportunities for their students and support virtual administrative meetings and teacher PD sessions.

Powered by patented Microphone Mist technology, Nureva systems audio conferencing products fill a space with thousands of virtual microphones to provide full-room pickup. This allows students or meeting participants to be heard throughout the room regardless of their location, the direction they face or the presence of unwanted sounds such as HVAC fans.

Nureva/Nureva XT

Kramer Showcases High-Performance Devices to Power Creativity



Kramer revealed its next generation of engagement technologies during ISE 2022. An AV pioneer with over 40 years of experience and 20+ offices worldwide, the extraordinary growth of virtual communication has led Kramer to refocus on products and devices that seamlessly intersect the physical and digital.

Now, Kramer technology enables users to intuitively communicate and collaborate in the 'physi-digi' world. With Kramer by their side, organizations can future-proof their people's audio-visual experiences for real, human engagement, no matter how far apart they may be.

AVoIP encoders and decoders

In the main zone of Kramer's ISE booth, visitors experienced the company's full eco-system of AVoIP solutions. This included the new KDS-7 family of encoders and decoders, which provide low-latency, high-quality 4K60 4.2.0 video presentations and easy scalability to suit any size network AV installation. With fast deployment capabilities, a simple user experience,

enterprise IT-grade security, and advanced, intuitive management, KDS-7 is a perfect fit for any enterprise, education, military, or government site.

Also on show was Kramer's latest line of speakers for enhanced audio experiences. When paired with KDS-7, these advancements form Kramer's industry-leading AVoIP eco-system, enabling instantaneous, secure engagement across organizations worldwide.

Collaboration devices

In the booth's secondary zone, visitors explored the new line of Kramer collaboration devices, spanning speakerphones, video cameras, and all-in-one collaboration bars. From the smart panoramic K-180 Mini camera, crafted for small meetings and huddle rooms, to the ultra-HD K-Cam4K, which offers clear coverage of auditoriums, ensuring everyone can see and hear - and be seen and heard - whether they're dialling in from home or sitting at the back of a boardroom.

Kramer also demonstrated its VIA Connect² platform, upon which users can hold scalable wireless meetings and classes from any Windows, Mac, Chromebook, Android, or iOS device, on all major video-conference platforms, in any location worldwide. The platform also features enhanced security capabilities, helping all participants to meet stringent enterprise-grade and government requirements for safety, reliability, and confidentiality. Put simply, the palm-sized VIA Connect² tool turns any space, anywhere, into a secure hotbed for hybrid productivity and collaboration.

Unified communications and collaboration (UCC)

Finally, Kramer exhibited solutions from its latest strategic acquisition, unified collaboration experience pioneer UC Workspace (UCW). Amplifying Kramer's mission to power extraordinary AV experiences, UCW products transform how people communicate across multiple different platforms through unprecedented levels of simplicity, automation, and collaboration.

UCW's Quicklaunch software is a fast and secure way to launch any meeting, regardless of conferencing provider. In just 'one touch', end users can wirelessly connect to over 30 meeting providers for instant communication and productivity, while enjoying customizable environments, interfaces, languages, applications, and more. With UCW's full suite of solutions, Kramer is supporting organizations to supercharge output across multiple dimensions.

Kramer/VIA Connect2

Epson Produces Smallest and Lightest 20,000 Lumen Projector



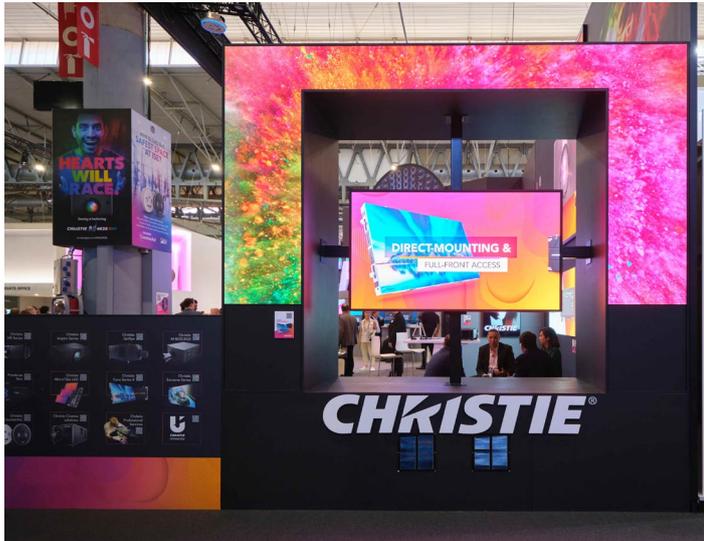
Epson's EB-PU2220B laser projector has a sleek black cabinet and is optimised for live events. With 3G-SDI input and output for daisy-chaining and long cable lengths, the projector is also equipped with a mechanical shutter to protect it during laser light shows.

The EB-PU2220B uses a 20,000-hour nearly maintenance-free laser light source to produce exceptionally brilliant, 20,000-lumen images. It also has a dust-resistant hermetically sealed optical engine and a filterless cabinet for low-maintenance operation.

The projector boasts a range of premium features for quick setup, including built-in NFC capabilities and the optional attachable PixAlign camera to streamline multi-projector installations, as well as pairing with 9 available powered lenses (sold separately).

Epson/EB-PU2220B

Christie Previews New Pure Laser Projector Plus Upgrades to M Series



The Christie M Series has been an industry workhorse for live events for over a decade. The new generation M Series, M 4K25 RGB, is a reinvention of this iconic projector featuring innovative cutting-edge RGB pure laser technology, UHD 4K resolution with TruLife+ electronics and electronic colour convergence (ECC). It ticks all the boxes for brightness (25,000 lumens) and an incredibly small form factor while retaining the ruggedness and reliability that it is known for.

In terms of live demos, two stacked and blended M 4K25 RGB pure laser projectors displayed visuals onto a Christie logo with MicroTiles LED behind it. In addition, there were vivid projections on a circular-shaped surface that captured lots of attention from visitors throughout the show.

There was also a hands-on demo of the Pandoras Box V8.5 that enabled visitors to experience real-time video processing and show control. Version 8.5 features a host of professional new features, a simplified

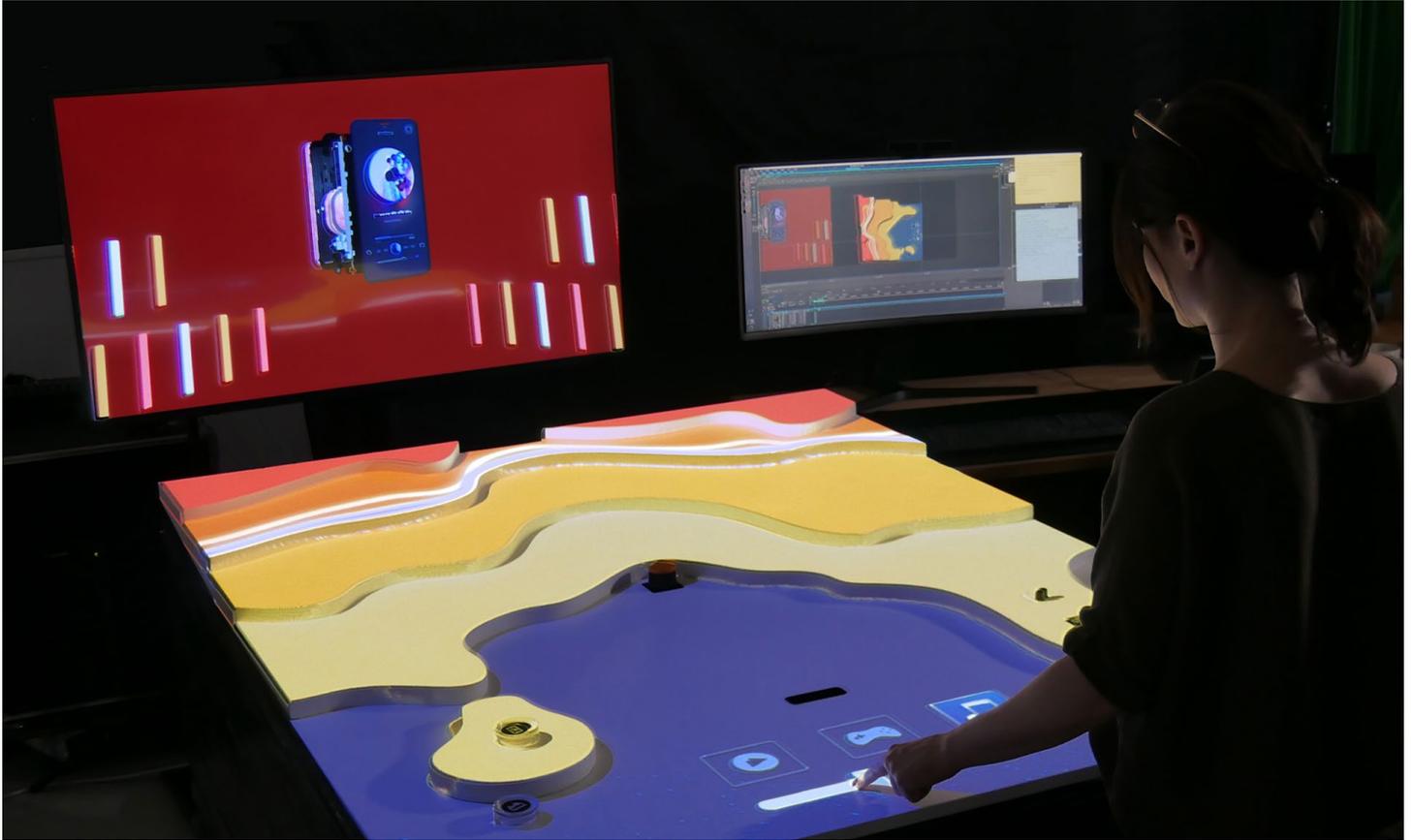
workflow and streamlined licensing. It can take over the content of all displays, switching between Pandoras Box and Christie Terra on a wall panel.

Among the other highlights of the stand was a “tech preview” of the Griffyn 4K50-RGB pure laser projector alongside the Griffyn 4K35-RGB. The new Griffyn 4K50-RGB officially launches in June 2022 and was well-received by attendees due to its compact footprint.

Two active units of the Christie CounterAct with patented Care222 technology were fitted into the stand. Christie CounterAct uses proprietary filtered far-UVC light to eliminate 99% of pathogens on surfaces in indoor spaces, including the SARS-CoV-2 coronavirus that causes COVID-19, influenza, bacteria, and other antibiotic-resistant superbugs by damaging the DNA or RNA of the pathogen, which leaves them unable to reproduce and infect humans.

Christie/M 4K25 RGB

Modulo Pi Upgrades Modulo Kinetic Platform with Real-Time Interactive Capabilities



Highly versatile, Modulo Pi's Modulo Kinetic media server effortlessly creates stunning visual experiences in a variety of applications. The flagship media server can be used across the complete workflow, including study, simulation, encoding, playback, and show control.

Featuring real-time 3D, interactivity, and tracking, the media server also comes with an embedded low-latency live mixer. Upgraded with the support of a vast array of sensors that can be calibrated and used to retrieve the position of an audience as well as new rendering features, Modulo Kinetic will offer the ability to create engaging interactive experiences without any coding. Incoming data can be utilised to adjust show

content parameters using the media server's Graph Editor. With a library of effects available as blocks, the Modulo Kinetic allows interactive effects to be linked and chained for show designers to produce unique shows.

Designed for creative studios and operators, the new features will be instrumental in building multi-sensory experiences where the audience is empowered to interact with video, audio, lights, or generative content.

Modulo Pi/Modulo Kinetic

APG Returns to ISE with a Fresh Look and Slew of New Products

APG returned to ISE with a showcase that included a new series of loudspeakers, subwoofers, and amplifiers while taking the opportunity to present its brand-new visual signature. The new logo will now operate as an integrated visual element on all products, inspired by the unique blue border that has been a part of the brand since its inception in 1978 and symbolising the sound precision and fidelity on which APG has built its name. This characteristic will be part of a new generation of round perforated grilles that are seamlessly integrated into the enclosure of the loudspeakers.

SPOT2.6 passive loudspeaker

A passive full-range loudspeaker that is equipped with 2x 6.5" speakers and a compression driver loaded with a 70° x 50° constant directivity horn. SPOT 2.6 offers directivity control over a wide frequency range (70° x 50°) thanks to the two low-mid d'Appolito mounting transducers coupled with a rotating horn for high frequencies.

SPOT2.6 comes with a wide range of optional accessories, including a stand base, U brackets for horizontal and vertical installation, and link plates for clusters of up to 3 loudspeakers. Available in 4 Ω (SPOT2.6/4) and 16 Ω (SPOT 2.6/16), the new loudspeaker comes with a 5 year warranty and can be coupled with an optional 200W external transformer for 100V line set up.



DA amplifier series

Developed in partnership with Powersoft, the DA8 and DA12 are 4 channels amplifiers with signal processing, analogue, AES3, Dante/AES67 inputs and outputs, and a bright 4.3" IPS touch display. The 4 channels offer high power and voltage, allowing for high SPL even with 8 or 16 Ω loads, and are capable of delivering a massive 4 x 2000 W (for the DA8) and 4x 3000W output at 4 Ω. The amplifiers' power supplies have been designed to operate anywhere in the world. An internal energy storage system allows the amplifiers to keep performing consistently in the event of a power drop. The amplifiers can be controlled via touch screen and functions include preset recall, gain, delay, and muting. The DA8 and DA12 can also be controlled remotely using Powersoft's ArmoníaPlus software.

iS subwoofer range

Comprising three models (iS110, iS112 and iS115) with a 10", 12" and 15" driver respectively, APG's iS replaces the SB series, bringing an even wider bandwidth of bass that perfectly fits the needs of modern music. The new series also features multiple functional insert points and accessories for wall mounting (iS110), overhead mounting (iS112 and iS115) and coupling with the iX range of installation loudspeakers, using crossbars to create modular, high-performance and easily movable sound systems. Thanks to its optional mounting system, the iS115 subwoofer can be coupled with

the iX12 loudspeaker. When coupled, the bass efficiency of these two loudspeakers allows the creation of compact clusters that will bring an innovative solution for nightclubs and small to medium concert venues.

UC118i subwoofer

To complement the iS range, the UC118i is a new high-powered subwoofer equipped with an 18-

inch, bandpass loaded loudspeaker. This subwoofer complements the Uniline Compact range as well as the iX 12 and iX15 models to provide a physiological bass effect. The UC118i also features a new APG EasyLink docking system that allows for easy clustering of up to three loudspeakers in either omnidirectional or cardioid configurations.

APG

Hall Technologies Debuts at ISE with Consolidated USB Workflows



Exhibiting for the first time at ISE, Hall Technologies, a global AV company specialising in end-to-end solutions, unveiled new products, EMCEE200 and Discovery 2, alongside a selection of existing products designed to address USB workflows.

The EMCEE200 is a powerful tool for managing the obstacles of video conferencing, collaboration, lecture and remote learning for education and training, as well as live streaming for platforms such as YouTube, Facebook and OBS. The seamless multiview presentation switcher and scaler has Picture-in-Picture (PIP) and Picture-over-Picture (POP) capabilities, as well as a built-in dual MIC mixer and can process up to four 4K@60 video sources with zero latency. EMCEE can not only record the presentation to an external storage device, but it can also broadcast live using USB3.0 4K capture without additional hardware.

For software video conferencing and audio extraction, the Discovery 2 is a cost-effective 4K signal extension kit with flexible USB and HDMI capabilities. It was created to cater to signal extension for multiple participants in the classroom, huddle space or conference room. Comprising an HDBaseT 2.0 Wall Plate transmitter and stand-alone desktop receiver, Discovery 2 communicates through soft-codec video conferencing to maximize applications such as Zoom, Teams, Skype, WebEx and more. This kit is suitable for extending USB alongside HDMI for display interactivity on products like interactive whiteboards or projectors. When utilised in a class/meeting room, additional analogue de-embedding enables the connection of an external audio system to a projector.

Hall Technologies/EMCEE200

DiGiCo and KLANG Unite for a Captivating Control Stand



Attending their first EU trade show after two years, DiGiCo and KLANG gave visitors to ISE a chance to experience the latest Quantum, SD and S-Series consoles, as well as the 4REA4 FPGA based audio engine, along with the KLANG:konductor, KLANG:kontroller and KLANG:vokal.

Taking the limelight was DiGiCo's new, compact Quantum225, first launched online in February this year. When specified with the new DQ-Rack with integrated Dante, this agile and flexible system is ideal for AV installation and the demands of an AoIP networking environment. Alternatively, it can be specified with the MQ-Rack with the familiar MADI connectivity for touring, allowing Quantum225 to integrate with any existing DiGiCo infrastructure.

The Quantum225 includes 72 input channels with 36 busses + Master Buss and a 12x12 Matrix. There are

four MADI ports and dual DMI ports for added connectivity, 8 x 8 analogue and 4 AES channels for local I/O, built-in UB MADI, optional optics and Waves SoundGrid, plus dual PSU.

The Quantum225 also incorporates familiar features from the existing Quantum Range including Mustard Processing channel strips, Spice Rack plugin style native FPGA processing options, Nodal Processing and True Solo.

There is a 17", full colour, daylight bright, TFT multitouch screen with the Quantum Dark application, seen before on the Quantum338, combined with 41 mini TFTs located across the surface to provide unrivalled user feedback and interaction.

Unique to Quantum225 is a custom-designed, multi-purpose mounting bracket that attaches quickly and easily to the left-hand panel of the console. This can accommodate an additional channel or overview screen, a KLANG:kontroller, or be further expanded to fit either a laptop or a script – particularly useful for theatre applications. The bracket can be installed at two angles with quick release to cater for all preferences or applications.

The new compact, 6U DQ and MQ racks have been designed specifically for modern application demands.

They feature 48 mic/line inputs, up to 24 analogue outputs or up to 8x AES outputs. The clever audio design allows the user to reconfigure 4 of the analogue line outputs to be either analogue outputs or dual AES outputs. This I/O flexibility and other configuration changes are managed from the racks' very own TFT Configuration screen. Standard features included Dual PSU and 48k or 96k operation.

For the installation market, the 4REA4 is a powerful low latency FPGA based audio engine. It features allocative processing, customisable I/O and a range of programmable hardware controllers, and delivers high-quality audio that lives up to the DiGiCo name.

4REA4 is designed to run as either a stand-alone install system, as an enhancement to an existing installed system, or to add install functionality to a multi-console setup. Its plug-and-play style setup and user-friendly interface make it perfect for making changes on the go and adding peripheral devices without the need for an integrator.

The ability to integrate 4REA4 into a DiGiCo console system makes it ideal for venues that have large performance spaces such as theatres, cruise ships or large houses of worship. In addition to providing access to a range of specially designed I/O boxes and controllers, 4REA4 adds flexible format conversion using DiGiCo DMI card options including support for Dante, MADI, Waves SoundGrid and Calrec Hydra2.

KLANG, meanwhile, showcased its latest products, the KLANG:konductor, KLANG:kontroller, and KLANG:vokal.

The KLANG:konductor is the company's most powerful and versatile immersive in-ear mixing processor to date, capable of delivering 16 immersive mixes and

processing 128 input signals at up to 96kHz, with an astonishing processing latency of less than 0.25ms. Housed in a single 3RU chassis, the unit offers three DMI slots on its rear to provide unrivalled I/O freedom and guarantees flawless integration into any existing setup. The device also has a front-mounted seven-inch colour touch display to allow for direct mix control, audio setup, routing and monitoring meters. A network port on the front of the unit provides power over ethernet to directly connect a KLANG:kontroller or KLANG:quelle, and dual redundant power supplies offer maximum reliability.

Designed for musicians, the KLANG:kontroller is a standalone hardware controller that delivers fast, tactile user control of channels, groups and immersive mixing via an intuitive interface, combined with a powerful, studio-grade Dante headphone amp. Relative DCA group mixing and full single-channel control via eight push rotary encoders provide important, fast access. Binaural ambient microphones are built into the unit that can be blended into the immersive in-ear mix, along with a local stereo AUX input. KLANG:kontroller gives musicians full control of all relevant functions, while the engineer can still overview and control all mixes via the KLANG:app or DiGiCo Quantum or SD-Range consoles.

The compact 1RU KLANG:vokal processor impresses with a dedicated feature set that allows up to 12 musicians to pick up to 24 mono or stereo channels out of 64 Dante and MADI inputs. Based on KLANG's powerful, ultra-low latency FPGA core, KLANG:vokal offers 12 mixes of 24 mono or stereo inputs at 48kHz and 96kHz, including the company's revolutionary Root-Intensity Eqs.

DiGiCo/Quantum 225

Hi-Tech Wellness

The role of next-gen AV-IT technologies in fortifying intelligent and intuitive healthcare of the present and the future

by Elton Noronha



The critical need for formidable and efficient healthcare has never been so apparent than it is right now. Following the first few weeks of the recent pandemic, several world leaders emphasized research and testing in the field of medicine as a vital component of the long-term strategy to sustain a healthy and resilient global ecological community. And over time, nations around the world have not just acknowledged the benefits of retaining a dynamic and decisive on-ground healthcare system, but have also actively worked towards reinforcing their existing medical and healthcare infrastructure to be better equipped to deal with unforeseen situations like COVID-19.

Experiences of the past two years (read, restrictions on physical contact, social distancing, etc) have compelled several industries to pivot their existing frontline services to virtual mediums augmented through next-gen AV and IT systems. And the case is no different when it comes to healthcare. In fact, introspection would show that the confluence of AV and IT systems is perhaps the most fascinating and positively opportune within the world of medicine and healthcare – going way beyond simplistic videowalls in lobby areas used primarily for information dissemination.

Viewed within the gamut of healthcare, the primary goal of advanced AV-IT enabled systems is to alleviate pressure off of the hospital staff while enhancing the overall patient experience. And these come in the form of advanced telehealth/telemedicine methodologies and virtual care solutions, communication through digital signages, AI driven healthcare / medical / surgical procedures, and much more.



“We have witnessed AV being implemented in both government hospital projects as well as private hospital projects For private hospitals, the type of modern AV system most commonly integrated are digital

signages for promotional purposes in waiting area, elevators, elevator lobbies and other public areas, and queuing stations. In government hospitals it is the same. However, since most of these are also university recognized teaching hospitals; there’s a notable demand for AV infrastructure in teaching spaces like classrooms, seminar halls, auditoriums and operating theatres/mortuaries – all of which are equipped with AV gear integrated with medical systems. In all our projects we’ve provided a AVoIP backbone to facilitate seamless streaming of content and interaction between spaces. We’ve also equipped OT for teaching with cameras, voice communication, streaming equipment to transmit data and images to various rooms. On the other hand, meeting rooms, seminar rooms and auditoria have all been typically configured for lectures and two-way interactions; with displays, audio reinforcement, Soft VC, microphones and voice lift. At the same time, we have also provided telemedicine capabilities for both private as well as government projects that connect city hospitals to

rural clinics. And finally, we round off the list of our services for healthcare with a mention of completely automated processes for in-room patient capacities such as controlling the TV, air conditioning etc via a standard panel that also allows the healthcare staff to monitor the patient via direct link to the healthcare software system,” informs **Kelvin Ashby-King, principal consultant at Clarity Consulting (India).**

Modern day signages enhancing communication experience

With modern day healthcare facilities, especially in tier 1 and tier 2 cities often spanning multiple buildings, or even locations; it becomes imperative for communication mediums to be unified, intuitive and support clear messaging.

Information delivered via a secure digital signage platform can increase patient engagement, can put patients at ease and improve the healthcare experience and patient outcomes. Such technologies make way-finding and navigation across multiple sites and buildings easier. Patients and visitors can refer to these signages to easily find their way across complex sites, with the ability to guide them from the moment they arrive all the way to their intended destination, invariably helping reduce anxiety and stress.

Modern day signage capabilities can accommodate embedded touch screens, image and audio capturing devices (allowing two-way communication for those seeking information). These systems allow for the screen heights to be adjusted so that users in wheelchairs can also access the information with ease. And recent developments have also afforded the flexibility for such technology platforms to allow multiple messages to be conveyed across all devices,

or tailored to suit need, location and end-user. Plus, every screen can be managed efficiently from one centralised platform that can be easily scaled in parallel to the growth of the establishment's digital signage network.

Telemedicine and virtual care solutions



Telehealth facilities and virtual care have rapidly become the norm in the time of COVID-19. Restrictions on physical interactions fostered the adoption of technologies that help communication of medical practitioners with their patients, or with medical colleagues for collaboration and consultation, and thereby maintain continuity of quality health care.

The past two years have shown that telemedicine has the power to transcend conventional physical barriers as it provides an avenue where access is simplified for the patient as well as the healthcare provider, thereby fostering a better ecosystem for more efficient assessment and treatment. And as telemedicine continues to evolve, so does the role of AV-IT technologies in making the technical logistics work, especially from the provider's perspective.

Several countries and states have created telehealth programs where patients can virtually consult with doctors quickly and instantly, while also ensuring that the call in particular is covered by standard health insurance schemes. At the same time, there are instant / real-time collaboration technologies that offer enhanced remote connection platforms between doctors and patients – a trait that is leveraged

by hospitals that feature 'virtual rounds' where doctors check in with patients online. Such capabilities are also seen in areas that aren't well connected to city-centres, wherein local pharmacies offering remote consultations with doctors.

High-quality cameras and audio-visual equipment beside the patient's bed or over the bed allow for better remote consultation and

rehabilitation experiences, whereas mobile video conferencing carts enable healthcare facilities to share the technology between beds or wards, bringing remote expertise to the bedside.

Video enhanced collaborations

From small meeting spaces to complex Multi-Disciplinary Team rooms within hospitals, video-enabled meeting spaces help healthcare professionals share critical expertise and information. From flat screen TV screens, to state-of-the-art video conferencing kits (cameras, microphones, automixers, switchers, etc), to and new desk tablets – pro AV and IT contribute greatly to a fast meeting start-up and seamless interoperability between systems, is key to enhancing the user experience for healthcare providers.

In addition to breaking down spatial barriers, video conferencing and collaboration solutions enable health practitioners to mobilise and connect with clinicians or other health professionals, regardless of location or proximity to a meeting room. Medical service providers can interact with their patients remotely and safely.

And by using video conferencing, healthcare service providers can meet patients who are located far away, in remote locations or patients who are immobile and cannot visit health care facilities. In other words, it could be viewed as the modern-day version of house calls.

At the same time, rural patients can visit smaller local clinics in the vicinity and access specialised treatment from medical experts located in urban areas via web conferencing while maintaining the guidance of their local general practitioner. In addition to this, doctors can use video conferencing to track the recovery of their patient post-discharge, ensuring patients are recovering as expected and receiving high-quality medical care.

Artificial intelligence

The integration of Artificial Intelligence models in healthcare is poised to fundamentally revolutionize the system in total – with potential to enhance existing workflows in medical diagnosis and develop new approaches to medical treatment.

One of the more basic uses of AI allows for its use in collating and maintaining electronic health records and other operational data, which can then be integrated with existing clinical workflow tools to provide real-time data through the use of other allied AI systems. Combining AI with predictive analytics can also help

medical practitioners detect diseases earlier and more accurately, as such systems would allow healthcare professions to interpret patterns that wouldn't normally be visible to the human eye to detect, directly from the logged data points.

AI-enhanced digital assistants in healthcare can allow doctors and healthcare providers to interact more qualitatively with patients. In addition to voice-command digital assistants, data collected from wearables like Fitbits, Apple watches and similar consumer devices turn out to provide vital information of a patient's health and level of activity over a period of time; with metrics such as exercise, sleep habits, blood pressure and blood sugar levels taken into account. From measuring steps taken to EKG, there is an app for it all, which syncs directly with the healthcare providers' monitoring system to allow for efficient hassle-free access. Accurate means of data collection has been found to help doctors and healthcare providers create more customized and efficient plans that are specific to patient needs.

At the same time, several healthcare establishments around the world have instituted AI enabled systems that use a combination of cameras, light sensors, temperature sensors and more to act as a first line of response in offering preliminary diagnosis of probable low-risk health issues (common cold/flu, skin allergies etc) based on the visual data and inputted data captured. Such systems were seen more widely in effect during the high-spots of the pandemic, where people often misinterpreted symptoms of common illnesses with that of COVID-19.



The da Vinci vision cart makes communication between the components of the system possible and provides a screen for the care team to view the operation. Photo copyright da Vinci.

The role of AI has shown great potential to be involved in much more intricate medical procedures such as surgeries, with robotic surgical systems like the da Vinci which gives surgeons an advanced set of instruments to use in performing robotic-assisted minimally invasive surgery. In such a scenario, the surgeon performs surgery with da Vinci by using instruments that he or she guides via a console, wherein the da Vinci system translates the surgeon's hand movements at the console in real time; bending and rotating the instruments while performing the procedure. The tiny wristed instruments move like a human hand, but with a greater range of motion, while the da Vinci vision system delivers highly magnified, 3D high-definition views of the surgical area. The Kokilaben Dhirubhai Ambani Hospital, which is regarded by many as one of the leading tertiary-care hospitals in India is home to three such da Vinci

systems, with reports suggesting that the inclusion of these systems has allowed the hospital to increase its capacity to increase the number of precise surgical procedures done in a day.



Speaking about the role of AI and robotics within the operation theatre setting, **Ingo Aicher, director, Sigma-Jones AV** explains, "AI is often used in analysing x-rays to eliminate doubts or pinpoint critical

areas. AI can already do this faster and more accurately than humans; with the next level being interoperative AI. Though to train an algorithm, one needs reliable data; in this case structured image data, which needs to be captured and treated properly to bring reliable

data for the AI to learn. Then once an algorithm has learned, reliable and consistent images need to be provided intraoperatively through an integrated AV system to be of any use to improve treatment outcomes. On the other hand, we see robots in OTs operated by local surgeons, though many 5G trials are already happening with remote operated robots. A surgeon in Japan operates a patient in Europe by remote controlling a robot. Though to control a robot remotely, as a surgeon I do not only need to see what the robot camera image inside the patient shows, but also effectively communicate with the team in the physical operation room. Plus, there are now robots that assist open surgery. So, in such cases, I need to see cameras from different angles around the patient and surgical field. Again, this is where futureproof integration and infrastructure comes into play. By investing in futureproof and expandable technology infrastructure today, you can facilitate even the most advanced and daring technologies in the not-so-distant future.”

Sigma-Jones AV India – a joint venture between Sigma AVIT India and Jones AV, UK – have been at the forefront of leveraging the power of AV-IT technologies within Operation Theatre settings to develop and deliver patient care driven healthcare ecosystems in India. A characteristic design of OT spaces by Sigma-Jones AV India highlights the inclusion of uncompressed video – over -IP integration, uncompressed video and audio distribution, high resolution output (HD & 4K), Near zero latency, multiview composition, simple setup, remote management, flexibility and future ready.

Raymond Soans, also a director of Sigma-Jones

AV further explains that the larger objective with healthcare and AV integration for Sigma-Jones AV is



to make the treatment-regime more transparent, intuitive, and agile while ensuring patient safety as a top priority. This, is a key reason why the company always put the ‘Operation Theatre’ at the heart

of their design philosophy and integration plan. The integrations, according to Raymond, are designed to equip doctors with the 'Right info at the right time at the right place', while bringing greater efficiency, increasing productivity, ensuring better data and image management, and providing ergonomic working conditions with hospital wide connectivity and along with unparalleled patient safety.

With the exponential growth in technology, it is clear that advanced AI and robotics enabled systems will eventually allow a single surgeon to operate multiple systems distributed over multiple hospitals across a country, and potentially, even globally. Not only will such a scenario have a direct positive impact on productivity, but it would also offer unmitigated ease of access to top notch surgical care, as neither surgeons nor patients would be expected to travel great distances for the procedure. And of course, reinforcing such systems would be several AV-IT enabled equipment including those of the likes of AR and VR technologies.

On the other hand, a slightly different take on the involvement of AI within the healthcare system can be seen in the form of drones being used to transport medicine and medical equipment to places that are disconnected from the availability of such essentials for some reason or the other.

Enhancing AV networks

Faster tech also means faster flow of information and data which in turns makes it easier for medical staff and healthcare providers to take instantaneous decisions during high pressure situations like complex long-duration surgeries. And as the demand for higher levels of real-time interactivity increases, so does the need for a more expansive network size. To achieve this, it's essential to have full network visibility, including all devices that are connected to the network, so that they can be leveraged to their full potential in achieving better staff and patient experiences and long-term outcomes for the organisation.

The growth of data-heavy healthcare technologies necessitates a well thought-out, robust and secure network infrastructure. As medical devices become network-enabled and organisations become more connected, it's essential to put strong cybersecurity systems in place to protect networks and prevent breaches that could have damaging consequences. This is because unlike enterprise networks, hospital networks have no breathing room for downtime; which means that both wired and wireless networks need to be resilient and able to scale up in response to not just unplanned surges, but also potential breaches. At the same time, these systems must be able to adapt to rapid adoption of modern, innovative technologies and automation.

For most remote diagnosis and treatment, it is imperative to ensure that the sharing of high-quality imagery and data takes place at ultra-high speeds over the internet. This implies the need for the inherent healthcare network to support more than one mean of data transfer; with the most common options being

ultra-highspeed internet run over multi-core optical fibre, along with ultra-high broadband internet facilities and standby 5G mobile connectivity which are usually kept as backup options in case of any eventualities.

At the same time, ample consideration needs to be in place for emergency first responders such as ambulances and 'hospital on wheels' which these days are equipped with high-quality portable imaging apparatus like MRI scanners and X Ray machines – with these services usually deployed to either inaccessible sites like rural areas or to sites that have experienced some sort of disaster or calamity.

In such situations where internet connectivity over fibre cables is not even a possibility, and 5g connectivity might be questionable; the access to leverage low earth orbit (LEO) satellites or high-altitude platform stations (HAPS) could work wonders in establishing desired connectivity and allowing healthcare professionals on-site to collaborate with counterparts and experts remotely to better assess the situation and engage an appropriate plan of treatment/rehabilitation.

AV-IT in healthcare learning

Another crucial application segment for AV-IT technologies within the healthcare realm is that of learning spaces – lecture rooms, simulation rooms, virtual anatomy labs etc. The idea in such settings is to ensure that various AV – IT enabled capabilities come together seamlessly to create realistic medical environments with the ability to observe, review and feedback within a 'simulated' environment.

Medical schools the world over have invested in virtual anatomy labs that promote an active-learning style



wherein students can learn in an environment where samples don't deteriorate as they do in a standard cadaver lab. The scale of the equipment integration – which could comprise a number of elements ranging from high-response touch panels / screens with haptic feedback to AR/VR headsets – depends purely upon the magnitude of investment and the level of realism desired to be achieved. Nevertheless, this is one particular area where AV-IT professionals can confidently exclaim to have an upper hand over the traditional alternative. These virtual labs, while having a large upfront cost, give students more access to studying the various systems that make up the human body; and turn out to be far cheaper to maintain in the long run.

Another important learning tool available to hospitals, medical schools and even to patients is the Human Visualization platform from Biodigital, which aims to elevate interaction between healthcare providers and patients. Incumbents can log in and visit any region of the body from literally any angle; which proves to be deftly useful wherein doctors can show patients what's happening within their bodies and pinpoint the exact location of the issue, thereby allowing patients a more in-depth understanding. The paid side of the platform

allows incumbents to dig deep into diagnostics and analysis of healthy and unhealthy conditions.

Enabling the confluence of hospitality with healthcare

AV and IT enabled systems play a key role in healthcare establishments that mandate creating an environment that offers patients unparalleled comfort and ease to recover more holistically. And one wishful way to do so would be to mirror the trend noticed in hospitality establishments where certain rooms feature an entire wall (edge-to-edge) direct-view LED that allows guests to choose and view from a set of pre-installed sceneries (either views of a garden, or lakeside, etc) and thereby lighten the mood.



More realistically though; having integrated HVAC, television, lighting and shading systems within patient rooms that can be accessed and controlled by the patient through a remote control or bed-side panel is probably the most important factor in achieving this goal.

Certain establishments have veered to integrating voice-controlled automation of the various in-room facilities in addition to on-call assistances like nursing staff, housekeeping and emergency doctor paging. Not

only do these systems ease a great deal of pressure off of the hospital / healthcare staff, but it also ensures that patient safety is maintained at an optimum by allowing them ample scope to recover without having to get out of bed to complete these tasks themselves.

Alongside, there are certain patient monitoring systems that are connected to the hospital network which not only allows healthcare staff and consulting doctors to maintain interactivity with the patient but also constantly monitor the patient's vitals and recovery process, and in some rare scenarios, also administer emergency medication / treatment remotely if needed.

Challenges integrating state-of-the-art systems within the healthcare domain

"Cost I think is the most driving factor in healthcare both public and private ..." asserts Kelvin as he points to the fact that there's certainly no lack in capability and skills within the professional AV-IT industry to provide advanced systems and facilities. At the same time, he also points toward the reality that there are still certain locations that lack enhanced quality of the internet connectivity – be it internet over fibre optic, or 5G levels of mobile internet connectivity. That being said, he does emphasize a positive lining as he mentions, "We are lucky as we have the lowest internet rates in the world in India for broadband and mobile. Also, the fact that India is a developing market with no legacy systems means that it is easier to implement these new technologies".

On the other hand, Raymond offers a slightly different perspective as he notes, "No great change has ever

been stalled due to a singular reason. Similarly, in the Indian healthcare sector, the challenges, although highly solvable, are manifold. Right from a restrained mindset from the healthcare professionals, to sub-standard component qualities from the service providers, there are a bunch of issues keeping an efficient healthcare ecosystem from becoming a reality. The key challenges in the future are to deliver ever increasing image quality to enable more detailed and pinpoint accurate treatment across ever greater distances. This means we must deal with rapidly growing data loads, and we must focus on ways to deliver these with the lowest latency possible. Minimal delay and quality are of the utmost importance and thus we must manage the convergence between AV and IT, network infrastructure and telecommunications. The days where audio and video being considered a separate discipline from networking and IT are long behind us. We must embrace the ever-growing complexity of systems integration so that it may allow us to deliver better workflows, more structured and complex data, superior educational outcomes and better treatment."

Futuristic technologies for next-gen healthcare establishments

While it would be safe to say that the 'futuristic technologies like AI and robotics enabled surgery, and AI enabled medical assistance has already created quite a splash within the market – it must be noted that these are simply the nascent stages of development.

As Raymond affirms, "Robotics and Artificial Intelligence must both be at the forefront of people's thoughts right now. Advances in both these



Robotics and AI to be at the forefront of Healthcare.

technologies over the past few years were rapid and the implementation is a hot area that everyone wants to be part of. That being said, for us at Sigma-Jones AV, it is all about focussing on a comprehensive 360-degree approach to not only install, but also implement better patient outcomes, equip and train the professionals, and design a result-oriented healthcare system. We are aiming to bring in world-class technological knowledge that's in line with healthcare requirements, high quality and absolutely medical-grade equipment's for greater image quality, and a fully guided ecosystem for doctors and technicians to come at speed in no time"

Kelvin on the other hand, is more optimistic of the market adopting a more cautious yet sustained growth chart for the future, as he details, "I believe the future will be all about fortifying network systems to the highest degree possible, and eventually using

electronic data to not just eliminate paper; but to also collect, collate and maintain reports. Also, an increased dependence on digital imaging and collaboration capabilities between healthcare service providers will translate into the need for more interactive displays, along with better avenues for streaming of images and data. The AV and IT infrastructure will undoubtedly sit at the heart of the healthcare system, with remote patient treatment via soft VC and telemedicine alternatives sure to grow exponentially. We've been having discussions with some of our clients on the use of AR and VR in teaching hospitals; and we are aware that the manufacturing companies of medical equipment are also keenly exploring AR and VR capabilities for robotic surgery etc."

Clarity Consulting (India)

Sigma-Jones AV

Creating Rich Experiences for Worshipers Through Visual Technologies



Barco visual solutions at the Northview Church. Copyright © 2018 Northview Church.

The world has changed exponentially since Covid-19. Many are used to working, interacting, learning and even worshipping in the digital realm. For more than two years, churches had to divert to online services to continue to serve the spiritual needs of the majority of their congregation. When governments allowed physical worship, it came with strict restrictions on the number of worshippers permitted for each worship service. Now, many governments are treating Covid-19 as an endemic and have relaxed the rules regarding the number of worshippers who can gather and lifting distance restrictions among worshippers.

However, like in the corporate world, hybrid worship is expected to be the norm. Online church services will continue to serve the needs of those who may be encumbered or, for some other reason, not able to attend physical services - which is a great option. However, there is also a worry that the ease of online worship may discourage those who are physically well from attending the in-person worship services.

The church is not just a physical space but a community coming together. It is about collective worship. It is about sharing a common bond and being

uplifted spiritually together. Further enhancing the experience will help churches to get their congregation to leave the comfort of their homes and return for physical worship services while possibly attracting new church members.

In short, churches need to consider upgrading their AV facilities and creating an experience that can only be achieved physically without distancing remote worshippers.

We live in a visual world

Visual technologies are being used to create larger-than-life personal experiences. Shopping malls have impressive LED screens installed within their premises or on facades to attract huge attention. Some museums engage visitors with immersive visuals and interactive storytelling through projection technology. And even in the corporate world, large video walls have been effectively implemented to engage stakeholders in a new manner.

Churches too can create that wow impact and immersive experience for their worshippers. Visual technologies can transform the worship experience by encompassing the worshipper's visual senses. They can complement the pastor's preaching by reinforcing the message and displaying lyrics of songs as part of the celebrations and prayers.

When done right. Visual technologies can even help to engage remote worshippers. By "transporting" them to the video wall or projected images, they can become part of the physical service and have that shared experience.

Visual experiences at the sanctuary and beyond

Visual technologies can be installed in several spaces

within the church to build on the visual experience. Walkways to churches can have displays installed for spiritual and informational messages. Sunday school classrooms and meeting spaces can enhance the learning and meeting environment through visualization and collaboration. And extended worship spaces can undoubtedly benefit from the visual technologies streaming services.

If you want to take it even further, projection mapping on church facades can also provide a different dimension to the worshipper's experience, especially during special occasions. It gives churches the unique opportunity to attract and immerse worshippers with captivating images and inspiring messages.

Barco visualization solutions

LED & LCD video wall

Video walls offer high performances, brightness and reliability. They can fit in perfectly at the sanctuary as a background display or as side displays. Their high resolution and fine pixel ensure that every word, graphic and picture can be seen wherever the worshipper is seated. Video walls provide the advantage of being configured according to the width and height of the display needed to fit each space's requirement.

Barco recently introduced its newest video wall platform – **TruePix**. TruePix is designed completely from the ground up to create a purpose-built video wall for a variety of applications. It perfects all aspects of the LED experience starting from installation, throughout its long lifetime, to after-sales support and maintenance. TruePix offers a truly seamless display with superb colour accuracy, under all lighting conditions. Smart engineering of the display ensures



Barco TruePix.

easy and perfectly aligned installation regardless of imperfections in the flatness of the walls and level of the floors at the installation space. TruePix is the first product to incorporate Barco's superior Infinipix Gen2 image processing system, ensuring an unmatched viewing experience for all types of content. No visual distortions, low latency, perfect sync, and no tearing are the hallmarks of this system. TruePix also shows that visual excellence does not equal high energy consumption. Its EcoPower mode ensures reduced energy consumption, helping to limit the ecological footprint. And Barco offers 10 years full service support for TruePix.

Barco offers both tiled-LCD and direct view LED video walls. Both are excellent to display any type of content, from plain text to colourful videos. Furthermore, they are very flexible in size and can vary from small to very large. For both LCD and LED, there are models that produce sufficient brightness to be used in daylight conditions. Especially direct-view LED modules are perfect for use in bright environments. Barco's LCD and LED video walls both offer excellent quality. The choice of which technology to use will depend on budgets and the type of content to be screened.

Projectors

Projectors offer a different visual dimension. They offer effects that LED/LCD/Videowalls can't duplicate. Projector technology has improved by leaps and bounds. Laser-based projectors offer minimal maintenance and a long life span giving users a good return on investment. The projectors are available in various configurations, sizes and weights to suit different space needs, be it big or small.



Barco UDM-W22 projector.w

Barco's rugged large venue projectors offer excellent brightness for auditoriums and projection mapping. Barco's range of single-chip and 3-chip DLP laser projectors for large venues and events covers a large spectrum of brightness levels, ranging from 12,000 up to 75,000 lumens. Image quality of projection is a key consideration. Barco projectors combine outstanding brightness, resolution, and colour performance to give you the perfect image.

Creating a seamless experience for the church AV team

The church AV team are at the centre of ensuring an enhanced experience for the pastor, the music ministry, guest presenters and the worshippers. Understanding their challenges and helping resolve



Barco visual solutions at Second Baptist Church, USA. Copyright © Second Baptist Church.

them is critical to the success of the overall experience.

Screen management of video walls and projectors is an essential element. Ensuring different sources connectivity, scaling of images where necessary, multi-windowing, strong processing capabilities, easy switching, video effects and integrated control of multiple screens at the fingertips of the Church AV team will certainly help the workflow. The choice of controllers, presentation switchers, and scalars plays an important role.

Barco offers a range of image processing solutions to meet the needs of the Church AV Team. The tools include presentation switchers, controllers and scalars. Barco's screen management systems provide scalable quality and consistent performance. Advanced screen mapping, expandable configurations and the integrated control of multiple screens make it easier to totally wow worshippers. True 4K at 60fps ensures striking images, while reliable, flexible and field-serviceable performance guarantees a future-proof

system and complete peace of mind for the Church AV team.

One brand for all your visual needs

At Barco, you find the answer for the entire visual chain from input to output. The company has the full range of display solutions – projectors, video walls, and complementing technologies such as controllers, processors and presentation switchers. By implementing technologies from a single brand, churches can scale up progressively without any technological incompatibility issues. Investing in value-adding technologies can be seen as investing in the church's future.

Are you interested to know how visual displays can transform your church? Begin your visual display journey, by clicking [HERE](#).

Barco, Enabling Bright Outcomes

This article is sponsored by Barco.

Jhansi Story Comes Alive in India's Largest Projection Mapping

Pan Intellectom, Digital Projection, Dataton & LBT come together to create a captivating experience

by Ram Bhavanashi



FACTFILE

Project name: Sound and Light System at Jhansi Fort

Project overall budget: ₹20.51 crore (over \$2.6 million)

Project location: Jhansi Fort, Jhansi- Uttar Pradesh

Project AV cost: ₹17.26 crore (over \$2.2 million)

Project segment: Infotainment

Project Design Consultants: PAN Intellectom Ltd.

Project owner: Jhansi Smart City Limited

Project Systems Integrator: PAN Intellectom Ltd.

Project operator: PAN Intellectom Ltd.

Project Highlights: India's first & largest permanent projection mapping- a 270-degree, 83m-wide projection canvas on the walls of the fort.

Top AV Brands in the Install

- * Electro-Voice (BOSCH) speakers and loudspeaker
- * Digital Projection projectors
- * Dynacord Amplifier
- * Medialon Show Controller
- * Dataton Watchout for blending and lighting
- * LBT Lasers, Moving heads and LED Lights

Jhansi Fort... the very name spells a hair-raising spirit of Freedom. A battleground that symbolizes a very different kind of bravery.... A vibe that involuntarily vibrates the mind and body of every Indian, reminding one, of the lady who personified a rebellion against a draconian colonialism... A queen who took to battleground in a fairy tale sort, and laid down her life in defence of her land, and Independence....

That fort, and its story is again retold in all its glory by means of a spectacular sound and light show. Creating in the prideful storyboard is Pan Intellectom, and glowing the fort in all its vivid colour is Digital Projection – a Delta Display Solutions concern – in association with Dataton WatchOut, and more.

As the country celebrates Azadi Ka Amrit Mahotsav (75 years of Indian Independence), SI Asia prides bringing you the bravery epic.



Celebration of a cause

India's Azadi Ka Amrit Mahotsav is happening in the best of its expressive ways. For, the people are being retold the saga of their struggles, and the spirit of Freedom- and in the process, the glory of their history, culture, and heritage.

The latest in this saga is the story of Jhansi- which is a story of a legend. A national heroine who ruled, nay, revolted against the British oppression from her 'fort'- Jhansi.

Giving a grand spectacle of life to this story with an all-round expertise is New Delhi-based systems integration firm PAN Intellectom who has made a big name for such high-stakes integration jobs. Bringing together with them British projection solutions major Digital Projection – in combination with Swedish multi-display production media server solutions leader Dataton, and Indian lighting major LBT – the SI firm has weaved an immersive visual saga that is claimed to be India's largest projection mapping till date with a 83 meter-wide projection spreading in a 270 degrees angle on the walls of the 17th century fort.

The storyboard of Jhansi fort evolved thus is a 30-minute experiential sound and light show using state-of-the-art projection mapping technology depicting the life, and struggle that the 29-year-old rani (queen) of Jhansi lived, and died fighting the British East India Company during Indian Mutiny of 1857-58.

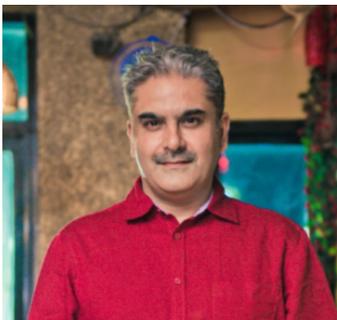
While the very initiative is of national significance, considering the Celebration of 75 Years of Indian Independence, the installation assumed further highs because the show had to be readied two months ahead of the original schedule to be in time for a visit by India's Prime Minister Narendra Modi.

“We are extremely happy that the show was commissioned in record time,” says Avnish Rai, CEO of Jhansi Smart City Limited (JSCL), the project owner. “Along with all stakeholders, we worked day and night to achieve it. The outcome was spectacular, with applause coming in from all corners,” he recalls.

The JSCL, a Ministry of Urban Development, Government of India initiative – set up as part of the ambitious Smart City Mission – when it ideated the storyboard, the intent was to create something that uses state-of-the-art audio visual technologies, and evokes national spirit among the citizens even as it attracts people of all walks and regions towards boosting tourism.

Initiative and narrative

While the narrative of the initiative was to be obviously pulsating, a very compelling component of that storytelling was the hardware component. The audio-visual equipment for the ambitious sound-and-light show project, therefore, comprised as many as eight 4K-UHD TITAN laser projectors from Digital Projection – a Delta Displays concern – that were calibrated to as many as a dozen 12-inch speakers, and 4 subwoofers from Electro-Voice. The essential aspect of content processing and dishing out to the screen had to be taken by Dataton WatchOut.



The selection of the Digital Projection equipment was based on a “quality- and cost-based” factor, explains PAN Intellecom Managing Director Harbir Singh.

“The 33,000-lumen TITAN Laser 4K-UHD projector

was chosen because of the large canvas and the high brightness requirements,” he says. “Since the audience sitting area is very close to the projected surface, it was paramount to use 4K-UHD resolution to be able to weave around a great viewing experience.”

In addition to the size of the fort, the projectors had to work with its challenging facade, which has been damaged and weathered over the past 400 years. “Being a heritage fort, built hundreds of years back, the challenge was to ensure the safety and integrity of the structure and still deliver a show that could mesmerise the audience,” adds Harbir.

With a view to achieving a perfect visual experience, three TITAN Laser projectors are stacked in the centre and three on the right, with a further two on the left-hand side. Fitted with Digital Projection’s 2.56–4.16:1 zoom lens, the projectors have a long throw distance that make them very flexible.

“Digital Projection systems are a ‘perfect match’ for the given situation AV system,” says Sankalp Srivastava, AGM-Projects at the PAN Intellecom. Apart from the surround sound coming from EV, the AV system comprised a Xeon processor, Dataton WATCHOUT software for blending and light recording and a Medialon server as an overall show controller.

According to him, Digital Projection team supported the system integration team throughout the project, offering guidance on the projectors, lenses and their positioning on site, as well as during installation and commissioning. “We had a very good experience in working with the team – they supported us on every aspect during the tendering stage, as well as the execution stage,” Sankalp commended.



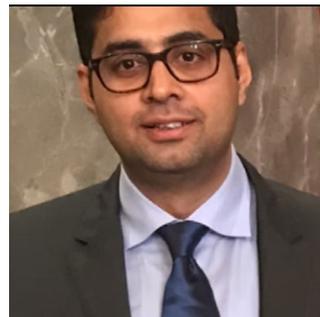
“As a creative director, it’s like a dream come true to narrate the story of Rani Lakshmi Bai through a 270° architectural projection-mapping show, the first of its kind in the country,” says Aman Arora, Technical-Creative Director for the project. “Digital Projection’s TITAN Laser 33000 4K-UHD projector’s true reproduction of colours made life easier for the content and creative team, who had a huge challenge to deliver uniform colours on a facade with stones that have lost their colour in an uneven fashion over a period of time.”



Says Hemant Agarwal, Head-Delta Display Solution Business Unit (India): “Being associated with India’s largest projection-mapping sound-and-light show in a fort complex is

indeed a matter of great pride for Digital Projection; but what’s even more joyful is to see a satisfied customer, mesmerised visitors and a proud Digital Projection partner – a great combination that ensures even greater successes for Digital Projection in India in the years to come.

Playing an equally prouder role in the saga is Dataton WatchOut- the brand known for prestigiously large-scale projection mapping settings.



“The Jhansi Fort projection mapping is a very inspiring story to tell; we pride being part of it,” says Ashok Sharma, Dataton’s APAC Representative. “It was a great opportunity and we’re

glad to get involved with the project, supporting the project team in every possible way,” he explains. “Traditionally, Dataton has built this reputation world-wide over the years for this kind of large-scale, high-profile projection mapping stories; it is even more prouder for us at Jhansi for the reason that it relives one of the grandest stories of India’s First Freedom Struggle.” That the Jhansi story comes alive every evening on one of the grandest canvases is a prouder

PAN Intellicom

Delta Displays

Electro-Voice

Digital Projection

Dataton

LBT



SynAudCon

systems integration asia

WE'VE BEEN GETTING A THUMB'S UP APPROVAL

FOR OVER 48 YEARS!

Open your world to greater opportunities!

WE TRAIN AUDIO PROFESSIONALS

Why Choose Our Training?

We are the leader in online audio training; trusted by most of the top manufacturers in the audio industry - training thousands of audio professionals in dozens of countries worldwide.

- ✓ We offer 10 courses.
- ✓ We present the practical application of theory; no sales pitches.
- ✓ Our courses have hundreds of positive reviews!



Professional Development

Greater knowledge + course certificates = more money, career advancement and possibly a better life!



Practical Knowledge

Our engaging & highly relevant courses provide entry-to-advanced learning opportunities.



Self-paced eLearning

Too busy to learn? Not with SynAudCon! We provide a self-paced "learn-when-you-want" training platform designed with the working professional in mind.

Offer details

Visit www.prosoundtraining.com and choose your desired course(s)

Apply this discount code at checkout **"SIASIA"** to receive **25% off** all online courses

Offer valid for Asia & Middle East readers only

