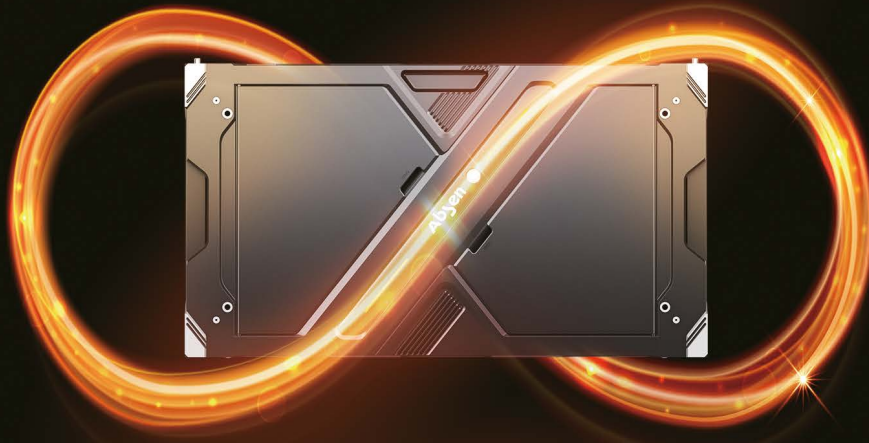IN BIG LETTERS …

RESHAPING THE EDUSPHERE

Installation:
EYTE Creates Hybrid Classroom at Indira Management College

Spotlight:
BAP Celebrates 20 Years in Business

Show Report:
Integrate Middle East Makes its First Impression

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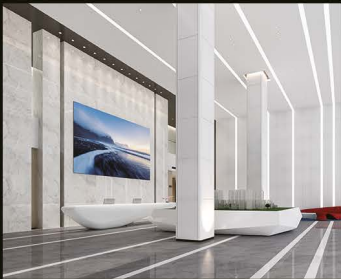**APS energy-saving technology**
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For safe and reliable display

Precision floating connector
Bright and dark lines adjustment

Application Scenarios

Entrance & Lobby

Exhibition Hall

Conference Hall

Flagship Stores

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36 SPOTLIGHT BAP Celebrates 20 Years in Business

“The integration of artificial intelligence (AI) and machine learning (ML) algorithms in AV systems brings forth intelligent automation and personalized learning experiences. Experts anticipate that AI-powered AV solutions can adapt to individual student preferences, customize content delivery, and provide real-time feedback, fostering a student-centric approach that promotes self-paced learning and knowledge mastery.”

Our Feature column touches on AV technology and how it reshapes the Education segment. When technology is deployed correctly within education and learning practices, educators provide a more authentic and well-rounded learning experience. Not only does technology help to affirm and advance relationships between educators and students by reinventing conventional approaches to learning and collaboration, but it also plays a pivotal role in adapting these new learning experiences to meet the needs of all stakeholders efficiently. More importantly, the increasingly inclusive nature of technology, in general, has significantly helped in shrinking long-standing equity and accessibility gaps.

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

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

FEATURES EDITOR
Elton Noronha
elton@spinworkz.com

ADVISOR
David Lim
davidlim@spinworkz.com

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

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Biamp Broadens Global Commitment with Shanghai You Shi Wei Xin Electronics Technology

CHINA: With a continued focus on rapid expansion across the Asia Pacific region, Biamp has increased its existing sales channel by appointing Shanghai You Shi Wei Xin Electronics Technology Co. Ltd. to provide local inventory, sales account management, marketing programs, training, and support in Mainland China.

"We are thrilled to partner with Shanghai You Shi Wei Xin, which has a well-established team and presence across Mainland China. We have enjoyed a mutually beneficial partnership for a long time and so it made perfect sense to deepen and expand our cooperation in a more direct manner," said Niclas Brattberg, Biamp's general manager for the Middle East and Asia-Pacific.

"Having inventory readily available in China will further underpin continued growth across the expanding range of Biamp solutions and enhance our commitment to delivering extraordinary service for our customers in China."

Shanghai You Shi Wei Xin is a professional AV and IT solution provider in China. Through this cooperation with Biamp, Shanghai You Shi Wei Xin will better provide customers with complete, high-quality audiovisual solutions and services.

"We are excited and proud to represent Biamp's complete portfolio of solutions in China. This is not only a perfect addition to Shanghai You Shi Wei Xin but also represents our shared values in our pursuit of innovation and service excellence. We have seen Biamp's commitment to growth and broader AV solutions that adapt to ever-changing IT environments. With this partnership, we will create a new benchmark for customer service in China," concluded Stevie Ng, director of Business Development.

The agreement is effective immediately and the first Biamp products are already available at Shanghai You Shi Wei Xin.

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GENELEC®

Christopher Jaynes to Lead Q-SYS in Next Chapter of AV Experience Innovation

GLOBAL: QSC's Q-SYS division has welcomed Christopher Jaynes as its senior vice president of Software Technologies. In this role, Chris will lead Q-SYS software engineering as well as advanced research and technologies including artificial intelligence/machine learning, cloud and data.

"As a rapidly growing technology business with substantial investments in software technologies and new product development, leadership in software engineering and advanced research is paramount," enthused Jatan Shah, president and chief operating officer, Q-SYS. "Chris is a distinctive leader and recognized innovator in our industry, and we could not be more thrilled to have him join us."

Jaynes is a passionate and accomplished leader who believes the innovative use of current and emerging technologies can solve complex challenges in human-technology interaction, create new market opportunities, and positively impact our world. He founded Mersive Technologies in 2006 to support a more collaborative and engaging workplace and grew the company into a leader in wireless media streaming with over 300,000 locations around the globe. Before founding Mersive, Jaynes was a professor of computer science and Director of the Center for Visualization and Virtual Environments at the University of Kentucky, where he conducted research in artificial intelligence and human-computer interaction technologies.

He received his Bachelor of Science degree with honours from the School of Computer Science at the University of Utah and went on to receive his Doctoral degree at the University of Massachusetts, Amherst. His work has led to over 100 published scientific articles, a book on human-computer interaction and over 30 patents. For his work in computer vision, he received the National Science Foundation CAREER award, which recognizes leaders in their scientific field. In 2019, he received the Ernst and Young Entrepreneur of the Year award.

"Part of what makes the Q-SYS Platform and Ecosystem so exciting are the possibilities to create and deliver new software-based capabilities that generate market opportunities and improve people's lives," concluded Jaynes. "I look forward to working with the Q-SYS team to fulfil the organization's vision to create the next chapter in AV experience innovation."
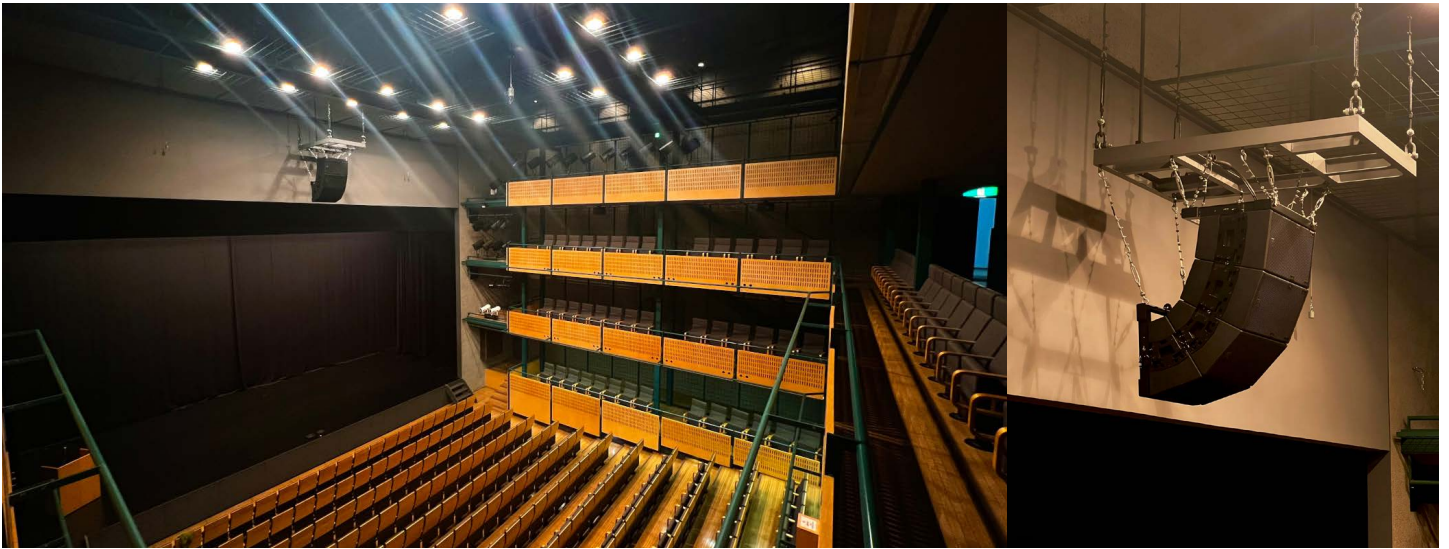
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Martin Audio TORUS Covers All Bases at Tsukuba's Capio Hall

JAPAN: The Tsukuba Capio complex in Japan's Tsukuba city, Ibaragi, incorporates indoor sports halls, theatres and meeting rooms, while Tsukuba itself is renowned for being a scientific city of the future city. Opened in July 1996, Capio Hall has provided an authentic atmosphere for theatre and dance, with its distinctive seating arrangement and high-quality stage facilities.

Capio Hall recently underwent a major sound system overhaul, and new rigs were introduced, including the new Martin Audio TORUS as the main PA.

Nobuhito Endo, technical manager of rental company Sigma Communications, who support the theatre, set out the reason for the upgrade and his choice of TORUS: "Originally, the proscenium centre loudspeakers were exposed, and a cluster of

several point-source systems was flown from the grid. Naturally, we considered utilising a line array replacement but found a problem. While the hall wasn't very deep, the three-storey horseshoe layout of the auditorium was vertically too great for the coverage angles.

"It was quite clear that a considerable number of line array cabinets would be needed if we wanted to provide complete vertical area coverage from its highest point, without converging on the frame of the stage."

It was then that the Constant Curvature array solution came to mind. Martin Audio's new TORUS rig provides a practical solution for locations with high ceilings and a need for short throws. As a constant curvature array, TORUS combines optimised coverage, perfect SPL and cost efficiency.

During the renovation process, a vertical array comprising 4 cabinets —2 each of the T1215 and T1230, offering 15° and 30° vertical dispersion respectively— were deployed in grids at the proscenium to cover the vertical 90°, angled to deliver the sound from the third floor to the front seat of

the first floor. Furthermore, a Martin Audio XD12, supplemented by an SX118 subwoofer, was specified for the side column and powered by iK42 DSP amplifiers. For infills and balcony seats, six Blackline X8s were deployed.

Takahisa Ota, who was responsible for the tuning of the system, said, "Originally, we planned a front wide/back narrow dispersion pattern, but as we adjusted this while listening to the sound, we discovered that specifying everything to a horizontal 90° would give a better coverage. In that way, the proscenium could cover 80% of the venue. We adjusted the delays and SPL of the Blackline X8s so that they were blended to the proscenium, to cover the remaining tiny area.

You can adjust the angle of the TORUS waveguide even with grills attached and this flexibility is such an advantage in situations like this."

Endo concluded, "Capio Hall has to meet the requirements of various types of public events. Recently, students' dance presentations have been taking place frequently, and consequently, a higher level of sound pressure has been required. In this application, TORUS and the subwoofers have enough headroom to cope, and I am extremely satisfied with the choice of the new sound system."

Martin Audio

NEXO Extends the Fine Dining Experience at GU Bistronomy

VIETNAM: Born from a passion for fine wine and the culinary arts, GU Bistronomy provides an impeccable fine dining experience to customers in the Thanh Xuan District of Hanoi. From the prestigious wine list, drawn from more than fifty prominent regions to the flair and creativity of the kitchen team, every detail is designed to ensure that diners have long-lasting memories of the impressive new restaurant.

Bistronomy's detailed approach is extended to its choice of sound system at GU, with owners determined that sound quality should match the same high standards as other important areas of the customer experience. Thus, the goal was that speakers complement the sumptuous interior design of the restaurant rather than detract from it.

For local audio technology specialists **Pro Sound** this meant installing a system based around NEXO's ultra-compact ID14 speakers, with cabinets finished in the same red used as the accent colour of soft furnishings throughout the venue.

Employing a custom-designed 4-" coaxial driver and a 1.4" diaphragm HF motor, the ID14 delivers a smooth, clean sound from a cabinet measuring just 130mm wide, 130mm high and 120mm front to back. To ensure maximum versatility, the ID14 can be specified with either 100° x 100° or 90° x 140° HF dispersion.

In a system designed in collaboration with the team at NEXO distributor Bao Duong Co using NS-1 software to predict SPL and frequency coverage, a total of 14 x ID14s are deployed, supplemented by 6 x ID84s, 4 x ePS10s and pairs of NEXO ePS6 and PS8. The bass extension comes from 5 x NEXO eLS400 and 2 x eLS600 subs, with amplification and processing supplied by a rack of 7 x NEXO NXAMPMk2 powered controllers.

"ID14 is the perfect loudspeaker for a high-end hospitality venue like GU" commented Pro Sound owner and managing director Trung. "Guests enjoy pristine, full-range sound with consistent SPL coverage, which helps to create a relaxed vibe in the room without filling it full of ugly boxes."

NEXO

Mahajak Outfits Thailand's Largest Water Park with Water-Resistant HARMAN Solutions

THAILAND: Opened in 2022, Andamanda Phuket is currently one of the largest leisure and entertainment destinations in Thailand. Incorporating the famous Andaman Islands' natural geography and unique landscapes into its design, the park features numerous family-friendly attractions including a 16,000 sqm wave pool, 300m white sand beach, and Thailand's longest lazy river ride.

To enhance the visitor experience across the park's many attractions, Proud Real Estate Public Company Limited required a high-quality audio and visual system that was seamless, user-friendly, and built to withstand the area's wet and humid conditions. Mahajak Development Co., Ltd met those requirements with a carefully curated selection of reliable, water-resistant AV solutions by JBL Professional, BSS and Soundcraft.

The new AV system covers all five key areas in the park; The Pearl Palace, the Emerald Forest, Naga Jungle, the Great Andaman Bay, and Coral World. The Pearl Palace not only welcomes visitors to the park, but it also houses the central computer system that channels music and announcements throughout the park. To optimize the computer's performance and usability, the Mahajak team installed a BSS BLU-USB link interface to connect the computer to a BSS BLU-100 signal processor for seamless playback and effortless sound configuration. Additionally, a BSS EC-4BV Ethernet controller allows for individual volume control in each zone using an easy-to-use interface design.

For the audio component, JBL Control 14C/T 4" coaxial ceiling loudspeakers supplied the indoor areas with dynamic and clear audio, while the weatherproof JBL Control 25-1 and 28-1 loudspeakers ensure wide coverage and high-fidelity audio for the outdoor spaces. Both speakers are also equipped with the optional JBL WeatherMax-treated grille cover for maximum, IP55-rated protection against the elements.

For the high-traffic, outdoor corridor spaces, JBL Control 88M landscape speakers utilize a minimalist design and highly durable enclosure to ensure 360° coverage and strong output even during peak park hours. The communal spaces like the beach and bar areas utilize a combination of JBL Control 28-1 speakers and JBL AWC129 all-weather compact speakers, the latter of which features a 12" woofer with a Kevlar-reinforced cone and a 3" voice coil for distinct speech intelligibility and extended frequency

response for music. Additionally, JBL Control SB2210 subwoofers complement these speakers with a warm, punchy low-end sound that is ideal for live performances, events and more.

To host events around the Water Park, the Mahajak team provided a portable sound system featuring JBL EON610 powered speakers, JBL PRX815 floor monitors with built-in Wi-Fi and JBL PRX818XLF compact subwoofers. The team included a Soundcraft Ui16 16-channel digital mixer to ensure premium sound quality with simple and intuitive controls.

A spokesperson for Mahajak reported to HARMAN that working on Andamanda Phuket was a fulfilling project for everyone involved. They also noted their continued faith in HARMAN Professional Solutions' wide selection of versatile products to consistently meet the client's needs.

"We would like to congratulate Proud Real Estate Public Company Limited for the successful opening of their outstanding Andamanda Phuket water park," said Amar Subash, VP & GM, HARMAN Professional Solutions of APAC. "At HARMAN, we pride ourselves in delivering extraordinary experiences and would like to thank Mahajak Development Co., Ltd for working with us on this opportunity."

HARMAN

Yealink Joins PSNI Global Alliance as PVP

GLOBAL: Prominent Unified Communications specialist **Yealink** has announced an exciting new alignment after joining the PSNI Global Alliance, the world's largest global network of premier technology integrators and service providers, as a Global Preferred Vendor Partner (PVP).

The PSNI Global Alliance Preferred Vendor Partner program is available to an exclusive group of manufacturers, distributors and service providers in the professional AV industry. The program connects vendors such as Yealink and PSNI's Certified Solution Providers (CSPs) to pursue market opportunities, and enable worldwide, standardized solutions to their customers.

"We are pleased to partner with PSNI Global Alliance and bring together our leading Teams and Zoom Rooms devices and UC&C solutions to global customers." Said Rowena Fan, vice president of Yealink global channel, "PSNI Global Alliance is known for its powerful AV networks and capabilities to improve the integrations and optimization of ProAV solutions. This partnership will offer strong support for our business."

A market leader in the UCC space, Yealink ranks No.1 in the global market share of IP Phones and is the Top 5 leader in the video conferencing market (Frost & Sullivan, 2021).

"We are delighted to welcome Yealink's expertise to the PSNI Global Alliance," added Tom Roberts, director of vendor programs for PSNI Global Alliance. "2023 is already proving to be another year of exceptional growth for the Alliance and we are excited for the future. We look forward to a wealth of success alongside one of the world's most prominent UCC providers."

All vendors within the PSNI PVP program are pre-screened by the Certified Solution Providers of The Alliance to ensure that only the best technology providers are represented. Customers who engage with The Alliance are assured seamless installation and support, benefiting from the collective expertise of PSNI's integrators and vendors alike.

PSNI Global Alliance

LD Systems Fosters a Divine Atmosphere at Dhamatri's Shri Shyam Mandir

INDIA: One of the most famous temples located in the heart of Dhamatri in Chattisgarh has recently commissioned a major upgrade that has truly elevated the spiritual experience for all those ardent believers and worshippers who visit the holy site.

Shri Shyam Mandir is a Hindu temple located in Dhamtari, and is dedicated to Lord Krishna, who is also known as Shyam. Needless to say, the temple attracts a large number of devotees from the surrounding areas and all over the country, and has stood as a beacon of spiritual atonement for several years now.

Recently, the temple authorities commissioned a detailed overhaul of the premise, and particularly the audio solution, with the view to provide a more immersive and engaging experience for its devotees. And as part of the overhaul proceedings, a meticulously designed audio solution comprising the LD Systems SAT82 G2 loudspeakers have been installed on-site. Dynatech's impressive CS4001 power amplifiers were chosen to power the comprehensive loudspeaker system; and the entire high-performance audio solution was designed and commissioned by 8mm Solutions – one of the region's most reputed AV system solution provider.

Commenting on the project, audio expert Deepak Gupta of 8mm said: "I was looking for a sound system that could help to ensure that the sound quality is consistent throughout the entire temple, regardless of where a worshipper is sitting. I found that the LD Systems SAT82 G2 is a passive two-way speaker designed for use in small to medium-sized sound reinforcement applications like the Shri Shyam Mandir, and therefore decided to install LD Systems SAT82 G2 at the Mandir. The frequency response, volume and coverage is really good; and the sound system definitely plays an important role in creating an engaging and immersive experience for worshipers at the temple. The sound system is designed to amplify well, and the spoken words, music and chanting are now clearer as a result of the upgrade."

LD Systems

StageMix

Eastern Railway Headquarters' Fairlie Place Auditorium Exudes Engineering Excellence And Sonic Artistry

INDIA: In the bustling city of Kolkata, India, the Eastern Railway Headquarters stands tall as a beacon of architectural grandeur. Nestled within this iconic building is the magnificent 600-seater Fairlie Place auditorium—a testament to cutting-edge AV system integration. As Ajay Kumar, retired principal CSTE, Fairlie Place, Eastern Railway Headquarter exclaims "I appreciate the attention to detail that has gone into the design of system!"

Spearheaded by renowned system integrator Satelite Electronics in collaboration with Vardhaman Mega-Tech (VMT), the audio system at the auditorium offers an unparalleled sensory experience; where British Acoustics - a pioneer in audio technology – takes center stage with their Alpha Source 412-95 loudspeakers and PW618S subwoofers, accompanied by a host of other stand-out products to complete this sonic masterpiece.

"The sound quality delivered by the system is exceptional, exceeding our expectations in every way. The clarity and fidelity of the British Acoustics speakers are unmatched, and the overall balance of the system is perfect" comments Anup Kumar Biswas, system integrator and MD Satelite Electronics.

At the heart of the Fairlie Place auditorium's audio system lies the Alpha Source 412-95 high-performance passive loudspeakers from British Acoustics, whose precisely placement at FOH comes together to offer an exceptionally rich sound experience thanks to their precision engineering and powerful output that affords exceptional frequency response and dispersion characteristics. And complementing the Alpha Source speakers to perfection are the PW618S subwoofers from British Acoustics that take on the responsibility of delivering impactful low-frequency reproduction. The subwoofers provide deep and resonant bass, adding richness and depth to the overall sonic landscape of the auditorium; with the seamless integration of the Alpha Source loudspeakers and PW618S subwoofers at FOH creating a truly cohesive and balanced sonic experience that captivates the audience.

The system performance is further enhanced with multiple BRT-26 compact trapezoidal, point-source loudspeakers that have been strategically placed throughout the venue to ensure optimal coverage and clarity; along with multiple units of the Radial25TW

IP67-rated 2-way speaker system that offer durability without compromising on audio fidelity. The BRT-26 speakers and the Radial25TW speakers act as an extension of the main FOH solution, as together they enable precise localization of sound while maintaining consistent sound quality across the entire auditorium, thereby delivering seamless audio to every seat and enhancing the immersive experience for the audience.

British Acoustics' TK 9000 and TK 5000 power amplifiers, paired with the versatile Q350i mixer amplifier, form the backbone of the Fairlie Place auditorium's audio system; offering unwavering reliability and ample power to drive the loudspeakers with precision and clarity, while also enabling

seamless integration of multiple input sources and precise zone control to empower sound engineers the ability to fine-tune the audio system to match the unique requirements of each event.

"We are proud to have been a part of this project and to have worked with such a talented and dedicated team. The sound installation at Fairlie Place, Eastern Railway Headquarters is a testament to the quality of our products and the expertise of the team who worked tirelessly to ensure that every aspect of the project was executed with precision and attention to detail" concludes Jeff Mandot, national sales manager, VMT.

VMT   British Acoustics

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AtlasIED and Fyne Audio Announce Strategic Collaboration

GLOBAL: AtlasIED has announced a strategic investment in high-performance UK-based loudspeaker manufacturer, Fyne Audio. The partnership combines AtlasIED's expertise in integrated solutions with Fyne Audio's premium transducer technologies to open broader market opportunities for both companies.

Fyne Audio of Glasgow, Scotland, was founded in 2017 with support from investors including Scottish Enterprise, Scotland's national economic development agency. The management and engineering teams are all audio veterans, specifically in the field of point source technology for commercial and residential applications. The company has seven loudspeaker product ranges, including multiple award-winning products from the entry-level F300 Series to the contemporary flagship F1 series. Fyne Audio's "retro-inspired" Vintage and Vintage Classic loudspeaker series secured industry accolades with an unrivalled blend of heritage, experience, and engineering. Optimized by the very latest techniques in transducer design, the company's IsoFlare constant directivity driver features coincidentally aligned mid-bass and tweeter sections for a true point source, ensuring wide and controlled dispersion for optimum coverage.

"AtlasIED is one of the most respected companies in the industry and has decades of experience delivering commercial audio products and solutions," said Anji Sosna, managing director at Fyne Audio. "As we've observed the evolution of the audio industry, we recognized AtlasIED as the ideal partner for us to reach our goals and create more opportunities for Fyne Audio technology to delight customers in more markets."

AtlasIED is one of the largest manufacturers of diverse commercial audio ecosystems in the industry. The company's high-performance Atmosphere audio system combines digital audio processors, amplifiers, graphical user interfaces, programming software, and controls to set a new operational and performance standard for digital audio systems for a range of commercial applications, including restaurants, bars, hotels, houses of worship, and retail establishments.

"When we started looking at premium solutions for commercial audio our team knew they wanted to harness the advantages of point source technology and began a collaboration with Fyne Audio," said Matt Czyzewski, EVP of AtlasIED.

John Ivey, president of AtlasIED, continued, "Our long-term commitment to the company and the technology was further demonstrated by making a significant investment in Fyne Audio, and establishing a collaborative partnership."

Part of AtlasIED's long-term vision and journey is a commitment to continued innovation based on client feedback and industry evolution. The investment in Fyne Audio is key in this pathway for AtlasIED and will result in both quick and deliberate advancement for the organization.

AtlasIED

Scalable's Latest Hire is Strategic Step in Expanding Company's Global Operations

GLOBAL:

Jim Laschinger has joined Scalable Display Technologies as its senior executive, Business Development and Client Success. In this role, Laschinger will be instrumental in helping expand into new markets, particularly in the field of live events, attractions and immersive experiences.

Laschinger brings a wealth of success in operations, sales and business development. With nearly 40 years of experience, Laschinger has worked with many industry-leading organizations, including Solotech, Green Hippo and coolux International, to drive sales development, manage business processes and increase visibility and market presence. Laschinger will manage business relationships while expanding Scalable's customer base with exciting new opportunities.

"We are thrilled to welcome Jim to our growing team," said James Pietsch, director of global accounts for Scalable Display Technologies. "Jim is highly regarded in the industry and brings a wealth of experience in business development and client success. Scalable has grown immensely over the last few years. As part of our growth, we are invested in hiring talented professionals that provide our customers with a personalized and helpful experience. Jim will be instrumental in developing and cultivating relationships with customers."

"I'm very impressed by Scalable's roadmap," said Laschinger. "It's exciting to join a team that already provides cutting-edge, intuitive solutions to many different market segments, including simulation, entertainment and hospitality, and education, and increase their visibility in others. Scalable's user-friendly software simplifies the creation of even the most complex projection mapping and edge-blending projects and keeps them looking their best for years to come with little to no on-site maintenance required. My role is to promote Scalable's world-class software and hardware solutions to new markets, build and maintain strong, long-lasting relationships with clients, and collaborate with our partners to better understand their unique business objectives, and that's why I'm so excited by it."

Scalable's latest hire is the next strategic step in expanding the company's global operations. Scalable is bolstering Jim's position with two additional technical service hires to ensure clients receive the same quality of service and support that Scalable is renowned for.

Individuals interested in connecting with Laschinger can do so on LinkedIn or by contacting him directly at jim.laschinger@scalabledisplay.com to organize a meeting.

Scalable

Dr Paul Henderson and Stephen Siegel.

Fulcrum Acoustic Announces Début of Fulcrum Immersive

GLOBAL: Fulcrum Acoustic has announced the formation of Fulcrum Immersive, as a result of acquiring the company Venueflex. The goal of the acquisition was to provide a complete set of hardware and software tools that enable designers and integrators to design and deploy immersive solutions in a modular, scalable manner from small to large.

Fulcrum Immersive technologies tailor venues for optimum performance and, in the process, promote a higher level of audience engagement and a more consistent audience experience. The holistic approach includes software modelling tools, hardware and software signal processing modules, loudspeakers, amplifiers, and acoustic treatments that completely address project requirements from conception through installation. In addition to the technological aspects

of the acquisition, Fulcrum Immersive gains the expertise of sales, technical, and customer service personnel.

Stephen Siegel, president of Fulcrum Acoustic, commented on the formation and his relationship with Dr Paul Henderson, formerly with Venueflex, who will now serve as Fulcrum Acoustic VP of Software & Immersive, "In the 20+ years that I've known Paul, I've watched him create a number of compelling technologies. Paul demonstrated some of the spatial tools that he had developed and expressed interest in partnering to bring these to a broader market. As we discussed further, it was obvious that Paul's technologies and team would be a natural extension of our core business."

Dr Paul Henderson is equally optimistic about the formation of Fulcrum Immersive, "I've enjoyed a long relationship with Stephen, Dave Gunness, and many of the Fulcrum staff, and have been impressed over the years with their innovations in loudspeaker technology and Fulcrum's commitment to customers. As our immersive audio tools started taking form, it was obvious that the fusion of our two brands could bring powerful immersive experiences to new audiences across the globe. The future of Fulcrum Acoustic and Fulcrum Immersive is very bright, and we are very excited to develop some great new products and tools together."

Fulcrum Acoustic

Integrated System Design Crafts an Unforgettable Dining Experience at PLEO with Harman Professional

INDIA: Nestled in the heart of Mumbai's bustling BKC business district, Pleo is a remarkable restaurant that delights its patrons with a fusion of Indo-European and Asian cuisines. Beyond its delectable menu, however, Pleo offers a unique dining experience that seamlessly blends fine dining and casual ambiance. And central to the enchanting atmosphere is the carefully designed professional audio solution that has been methodically commissioned by reputed Mumbai-based AV solutions providers Integrated System Design; who chose industry-leading brand JBL by Harman Professional to ensure that Pleo offers an exceptional aural experience for diners and elevates the overall atmosphere of the venue.

"Pleo's commitment to providing a truly exceptional dining experience extends beyond its exquisite menu. Not only do we look to tantalizes taste buds with our diverse culinary offerings, but we also look to envelop our diners in a sonic tapestry that would definitely enhance their overall dining experience. The professional audio solution here has been expertly designed and commissioned by Integrated System Design, and contributes to the restaurant's inviting atmosphere and immersive ambiance. From the indoor section to the outdoor patio, every corner of Pleo resonates with exceptional audio quality, creating a harmonious dining experience for patrons" comments the restaurant's manager.

As soon as patrons step into Pleo's indoor dining section, they are greeted by a carefully crafted soundscape that complements the restaurant's inviting ambiance. And through this, it becomes evident that Integrated System Design meticulously have designed and deployed a bespoke system comprising some of JBL's leading products to ensure an immersive audio experience throughout the indoor area.

The primary Front of House (FOH) system features two units of the JBL AC299 two-way loudspeakers along with a single unit of the JBL AC28 loudspeaker that have been precisely positioned in an L-C-R format near the bar section to provide accurate and balanced sound reproduction; while delivering focused audio coverage in this crucial area.

Furthermore, the team have also incorporated a high-performance surround sound system comprising four units of the JBL Control 29AV loudspeakers, that has been expertly matched to the FOH system to create a cohesive listening experience for diners. Each of the speakers within the indoor section have been strategically placed to deliver consistent and uniform

audio distribution, enveloping diners in a sonic blanket of immersive sound.

And to further elevate the listening experience, Pleo's indoor section boasts three units of the JBL ASB6118 subwoofers that deliver powerful and precise low-frequency reproduction; adding depth and richness to the overall soundscape.

Pleo also features a plush DJ console area within the indoor section, which has been equipped with the industry standard XDJ RX3 controller system from industry leader PioneerDJ, thereby offering DJs seamless control over their mixes during performance nights. And accompanying the DJ console are two units of the JBL EON 712 monitors that provide crystal-clear sound for accurate DJ monitoring and performance.

Moving outdoors, Pleo's patio section offers diners an al fresco experience, complete with scenic views and a refreshing atmosphere. Integrated System Design has extended their expertise to ensure that the audio quality seamlessly transitions from the indoor to the outdoor area. Five units of the JBL Control

28-1 loudspeakers have been strategically positioned in the outdoor patio section to offer a uniform sound experience for patrons seated outside. These weather-resistant speakers deliver exceptional audio performance, complementing the serene outdoor ambiance.

The entire audio system at Pleo is powered by the reliable DCI8600N power amplifiers from Crown, guaranteeing optimal performance and power distribution; while unparalleled control is achieved through a single unit of the BLU50 networked loudspeaker processing system from BSS which provides precise control over audio routing, EQ, and signal processing. And to achieve an optimal mix experience, Pleo employs the use of Soundcraft's super-efficient and versatile Signature10 mixing console that offers intuitive operation with impeccable sound quality and allows the in-house sound engineers to fine-tune the audio experience to perfection.

"There's absolutely no doubt that the high-performance audio system from Harman Professional enhances the overall ambiance of Pleo. Our team approached the needs of venue in an absolutely meticulous manner, and we've managed to craft together a comprehensive solution that outshines in every possible performance metric. Whether guests are savoring the culinary delights indoors or enjoying the outdoor patio, the carefully designed audio setup ensures that every moment is accompanied by an immersive and captivating soundscape; thereby setting the stage for an unforgettable dining experience!"

Integrated System Design

New Firmware Update for WolfVision Cynap Systems

WolfVision's new BYOM (Bring Your Own Meeting) web conferencing feature for its Cynap systems is available immediately, free of charge with the latest firmware update v1.58, for Cynap Pure models and above.

In addition to Cynap's existing multi-platform web conferencing functionality which enables Zoom, Microsoft Teams and WebRTC web meetings to run on a Cynap, it will now be possible to toggle to 'BYOM Mode' on a Windows or Mac laptop running WolfVision's vSolution App to connect wirelessly to a Cynap system and run web meetings directly from a laptop. This enables any web conferencing service to be used, and controlled via the meeting host's device, whilst at the same time being connected to the camera, microphone and speaker peripherals already installed in the meeting room.

The improvements to both video and audio quality provide a professional hybrid meeting environment and help to offer a consistent meeting experience

for both in-room and remote meeting attendees. Up to four meeting attendees are also able to share content wirelessly into the web conference from any laptop, smartphone or tablet, providing a high-quality collaborative hybrid working and learning experience for everybody.

Additionally, a feature enhancement in firmware update v1.58 provides the benefit that where a Cynap Pure Mini or Cynap Pure is connected via HDMI to an installed Zoom Room or Microsoft Teams Room when screen sharing wirelessly to the Cynap, mirrored content will be presented directly into the web conference.

Content is automatically displayed on the second display screen, separately from the remote meeting participants. When screen sharing is finished, the Cynap HDMI connection turns off automatically.

WolfVision/Cynap Firmware Update

MZ Series from HH Electronics Provides Multi-Zone Install Zone Control

Drawing on HH's five decades of experience in the field of amplifier design and development, the company has launched its new MZ Series range of high-performance multi-zone install zone amplifiers, pre-amplifier, and wall controller. The MZ Series range caters to retail, leisure, café, bars and halls.

At the heart of the range is the **ORIGIN multi-core platform**. Its unique processor uses 56-bit floating point precision to ensure input routing, level controls and EQ settings introduce no digital artefacts and provide enhanced headroom. Configurable limiting per zone allows for mixing and matching both Hi Z and Low Z speakers, giving flexibility for multiple situations. ORIGIN's ECO power saving allows for less than half a watt of power consumption in standby mode, perfect for continuous usage whilst lowering energy consumption.

Three robust, easily operable 1U rack amplifier models are available. The **MZ-140D**, 2 Zone, featuring 2 x

individual 140 Watt RMS Class D amplifiers, **MZ-140Q** (4 Zone, 4 x 140 Watt) and **MZ-280Q** (4 Zone, 4 x 280W) can be configured to run 70/100 Volt or at minimum 4-ohm impedance. Each amplifier is a zone, and there are front panel controls for volume, two-band EQ and source selection per zone. There are five flexible input channels, each with a front panel mounted to gain trim control. Dual combi microphone inputs allow two individual mics to be connected simultaneously both with auto or manual priority modes. Front 'scribble' strips allow the installer to easily identify each zone and input identification. A dedicated fire/emergency input can override the system.

The range also includes the **MZ-64P,** a 4 zone-control pre-amplifier offering 5 fully-featured input channels so audio can be directed accordingly. The amplifiers and pre-amp are supported with wall controllers to enable remote control over input source and volume, available in US/EU formats in both black and white.

HH Electronics/MZ-64P

ClearOne Adds Eight New Bundles to COLLABORATE Versa

ClearOne has launched eight new COLLABORATE Versa packaged hardware systems to provide optimized audio and video performance for conference rooms and personal office spaces. The updated lineup of bundled solutions aims to empower businesses of all sizes and budgets to leverage powerful conferencing capabilities that include automatic voice tracking, face tracking and echo cancellation.

Thus, whether a company is upgrading technology in existing spaces, opening a new location, or undergoing construction and design changes, the new solutions can efficiently deploy quality audio and video combined with powerful special features that make hosting meetings easier than ever.

One of the most powerful solutions is the COLLABORATE Versa Room CT 160, which uses the USB audio-enabled Beamforming Ceiling Tile (BMA CT) microphone to bring cost-effective professional conferencing audio to medium and large-sized meeting rooms. The microphone array has an integrated two-channel amplifier that provides 20W of audio power and makes it as easy as possible to connect the two included in-ceiling speakers. The BMA CT delivers automatic echo cancellation, noise cancellation and adaptive microphone steering, while

the UNITE 160 4K camera offers AI-controlled video auto-framing and smart face tracking with 12x optical zoom. The automatic tracking features keep the speaker or meeting host in the frame, and the powerful zoom creates greater flexibility for camera placement.

For spaces where camera zoom is less important and a wider angle is desired, buyers can deploy the COLLABORATE Versa Room CT, which offers the same audio excellence using the BMA CT but swaps in a UNITE 60 4K camera to capture a wider 120° field of view with 3x digital zoom. All automated functions are included as well.

For smaller rooms or personal offices, the COLLABORATE Versa 20 combines a 1080p UNITE 20 Pro Webcam with a CHAT 50 portable personal speakerphone to create an ultra-simple option that can even be used on the go. The 100° wide-angle camera can be secured onto any display or monitor using the included dampening clip. For rooms requiring ultimate simplicity and BYOD flexibility, the COLLABORATE Versa 20 Plus solution adds a Versa USB Hub that provides single USB connections for simple, ergonomic connection of peripheral devices to room PC or laptops.

The COLLABORATE Versa 160 solution gives small-to-medium rooms plug-and-play connectivity with high-quality audio and HD video that enhances the BYOD meeting room experience. This solution combines the aforementioned UNITE 160 4K PTZ camera with a Versa USB Hub and the robust CHAT 150 speakerphone that is equally at home in a small conference room as in a personal or home office. To ensure every unique space has an optimized solution, the COLLABORATE Versa 60 also offers the CHAT 150 and Versa Hub but swaps out the UNITE 160 4K PTZ camera for the wide-angle UNITE 60 4K.

COLLABORATE Versa Pro 160 improves the BYOD experience in mid-sized conference rooms by adding professional quality audio and video. Comprising

ClearOne's Ceiling Microphone Array, CONVERGE Huddle DSP mixer and UNITE 160 4K PTZ camera, this solution improves BYOD experiences for flexible use rooms with AI processing that can track an individual or frame an entire group for perfect framing and focus. Spaces requiring a wider camera angle can be outfitted with the COLLABORATE Versa Pro 60, which offers the same audio quality paired with the wider field of view captured by the UNITE 60 4K camera.

ClearOne's solutions are designed to support all leading collaboration platforms, including Microsoft Teams, Google Meet, GoToMeeting, Zoom and Webex.

ClearOne/COLLABORATE Versa 150

Upgrade Your Workflow with HuddleCamHD HC-Joy-G4 Joystick

A new generation of serial PTZ control, the HC-JOY-G4 joystick is designed to deliver seamless, user-friendly workflow across a wide range of working environments and demands.

Designed with the same pedigree as the award-winning PTZOptics Superjoy, the HuddleCamHD HC-JOY-G4 delivers a feature-rich performance in a simple, reliable, sleek, and compact package. Its intuitive and ergonomic design features seven camera quick-select buttons for fast and easy switching between sources, with an on-screen display for an instant, always-on access to settings and functions. The HC-JOY-G4's precision three-axis joystick gives you ultimate control over each camera's functions, and a selection of user modes including Basic, Basic PTZ, Matrix, and more makes it easy for users of all levels to quickly and easily produce powerful, professional video.

HuddleCamHD HC-JOY-G4 is compatible with a wide range of serial production environments and control protocols, easily and seamlessly integrating into your workflow, or even becoming your new control centre. Its tactile, rubberized controls and pressure-sensitive multifunctional encoders give you instant, precise, real-time access to essential functions including pan, tilt, and zoom, as well as focus and transitions between presets for a truly professional production. Iris, shutter speed, and gain settings enable you to dial in your lighting and exposure, and red and blue gain controls help refine your colour balance.

Finally, with its all-metal housing, the HC-JOY-G4 is designed to withstand the demands of even the most rigorous production schedules.

HuddleCamHD/HC-JOY-G4

Extron Introduces 4K/60 Multi-Window Processors with Annotation Support

Extron's new MGP 641 xi multi-window processors allow for scaling and presenting of up to four 4K/60 source signals on a single canvas. The company's exclusive Vector 4K scaling engine ensures that downscaled and upscaled content is presented with pristine image quality.

In addition to four HDMI inputs that support data rates up to 18 Gbps, the HDCP 2.3-compliant processors include an HDMI background input for presenting live, non-scaled content behind the source windows. The MGP 641 xi SDI model supports 4 x 12G-SDI as well as 4 x HDMI sources. An HDMI output accommodates a local display, while the DTP3 output drives a remote display located up to 330 feet (100 meters) away with identical content.

To emphasize your talking points, easily annotate over live content enabled with an optional LinkLicense. Annotations can include free-hand drawings, shapes, lines, and pointer arrows, each in selectable colours. The multi-window processors provide customizable window layouts, video and logo keying, window transition effects, as well as source and output rotation. 2-channel embedded audio can be extracted or passed to the video output. Providing enhanced content presentation with on-screen annotation and more, the MGP 641 xi processors are ideal for high-end environments and live events.

The MGP 641 xi is also well-suited for presenting multiple HDMI sources on a single display, and the MGP 641 xi SDI model includes 4 x 12G-SDI inputs for additional system flexibility. Its powerful scaling engine, rack-mountable form factor, and a wide variety of presentation and transition effects all combine to create a flexible signal-processing solution for corporate boardrooms, training rooms, and live environments such as public auditoriums. It is equally effective in mission-critical venues that require the display of live information, from a situation room or control room to cascading multiple MGP 641 xi units in a command centre.

Extron/MGP 641 xi

Loudspeakers Designed for Q-SYS Deliver Optimal Sound with Simplified Setup

Q-SYS' PL Series is a portfolio of performance installation loudspeakers designed to enhance any Q-SYS system in a broad range of entertainment applications, including auditoriums, houses of worship, theatres, small sports venues and more.

The Q-SYS PL Series includes a wide range of form factors (line array, point source and subwoofer), allowing integrators to ensure an optimal audio experience for each unique space. When paired with the power of the Q-SYS Platform, including Q-SYS processing and network amplifiers, PL Series lets integrators take advantage of simplified setup and custom voicings (Intrinsic Correction), advanced telemetry, monitoring and customizable end-user control.

For applications requiring higher-performance audio, the PL Series features a weatherized enclosure (IP54 rating) in a range of options:

• **PL-LA models** are two-way passive line arrays (8" and 12") ideal for front-of-house needs in small to medium-sized venues. Integrators can deliver

simplified deployment and amazing sonic performance through custom voicings and filter sets by pairing with native Q-SYS network amplifiers. In addition, they feature QSC Length-Equalized Acoustic Flare (QSC LEAF) waveguide providing superior acoustic performance through highly optimized internal sound paths.

• **PL-DC models** are two-way point source loudspeakers with directivity control. The dual-4" and dual-6" are ideal as stage fills, delays or under-balcony fills, while the 8" and 12" can act as delays or be deployed in distributed systems. The three larger models also include reconfigurable half-horn assemblies that enable more control over the sound coverage area for optimal design flexibility.

• **PL-SUB** are passive subwoofers (10", 12", 15" and 18") in a range of size options with a compact form factor. Additionally, the two larger subwoofers offer omnidirectional or cardioid coverage when deploying two or more subwoofers.

As a native Q-SYS endpoint, integrators can take advantage of the full-featured **Q-SYS Control** engine. Furthermore, enlisting **Q-SYS Reflect Enterprise Manager** enables full remote monitoring and management from anywhere.

Q-SYS/ PL Series

Shaping the New Digital Future

In the current digital age, leaders, entrepreneurs and decision-makers must not only keep up-to-date with fast-advancing technology capabilities and market trends, but also take charge to shape the new digital future in their respective industries – or risk getting disrupted by newer technologies. Solution showcases, expert insights, networking opportunities – everything needed to take that step forward is right here, at the largest Professional AudioVisual and Transformative Solutions Exhibition and Summit.

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Airtame Share to Call Hybrid Conferencing Feature Simplifies Screen Sharing

Airtame has launched its new Share to Call feature that solves one of the biggest pain points experienced in hybrid meetings by allowing any person in the meeting room to instantly share their screen into a Zoom or Teams call without the hassle of joining the call from their device (in which they have to mute their microphone and speaker, turn off their camera, and then start sharing).

In addition to making screen sharing faster and easier during hybrid meetings, Share to Call eliminates audio feedback when users forget to mute before joining a call to share. It also saves battery power since the user's computer doesn't have to use its resources to run a conference call. Plus, it also saves bandwidth on the local network – as in-person participants no longer have to load all call contents on their devices.

Users can now share their screen as a room host that started the call, as a local participant in the same room, and as a remote participant. The process is easy: one meeting participant starts the call as a 'room host' using Airtame Hub. Then, a second user in the

meeting room can launch the Airtame application, select the room/device and click "share screen." An intuitive pin code then appears on the screen to verify that the user is in the room and permitted to share. The sharing user can select whether they'd like to share their entire screen, or a specific window (which ensures no notifications or unwanted content is shared into the call).

Once shared, the user's screen is visible both locally in the meeting room and for remote participants using Microsoft Teams or Zoom. For local participants, it is possible to screen share through the Airtame desktop app – with Miracast, AirPlay, and Google Cast compatibility coming soon.

Share to Call is now available on the Airtame Hybrid offering, so long as device firmware is updated to version 5.2, and the Airtame app is updated to version 4.6.3. The Airtame Hybrid offering consists of both hardware and software. Airtame Rooms – the software component running on Airtame Hub – integrates with multiple services, enabling flexibility and ease. Airtame Hub – the hardware component – enables the premiere Airtame experience for screen sharing, digital signage, and seamless hybrid conferencing.

Airtame Help Center for Feature Set Up

LG CreateBoard Enhances Classroom Experience

Ideal for digital classrooms, LG Electronics Singapore's LG CreateBoard boasts a 40-point (a max of 40 points is detected in the Windows environment, while a max of 32 points is recognized in the Android environment) multi-touch screen that provides smooth, interactive writing and drawing experiences. It also offers seamless collaboration with dedicated digital learning applications and remote management with an easy-to-use cloud-based solution.

A cloud-based device management solution designed for schools and other learning environments, LG ConnectedCare DMS (Device Management System) makes it simple to remotely monitor and manage multiple LG CreateBoard displays. LG ConnectedCare DMS has an intuitive-to-use integrated dashboard that gives IT managers the ability to monitor their educational institutions' LG CreateBoard displays and remotely control simple display functions. They can also send alerts to LG CreateBoard to make students and teachers aware of messages or push notifications to remind everyone about upcoming school events. While a subscription is required for LG ConnectedCare DMS, users can manage up to 100 compatible display devices.

All the latest LG CreateBoard models (86TR3DK, 75TR3DK and 65TR3DK) are equipped with a 3,840 ×

2,160 (UHD) resolution display that provides 40-point multi-touch functionality. The versatile, new products facilitate interactive learning experiences and are ideal for learning games, collaborative activities, and much more.

More than Just a Board

Among the many convenient features for educators offered by LG's new learning displays are QR access and Smart Viewing. With QR verification, instructors can easily access their own Google Drive and Microsoft OneDrive on LG CreateBoard and quickly share teaching materials with students without having to print them out. Meanwhile, the Smart Viewing feature makes it possible to display two or more materials on screen, either in separate windows or overlaid in picture-in-picture mode. This function helps students better understand instructions and learning content by allowing them to view multiple documents, videos, or other materials simultaneously. It should be noted that multi-window mode may not work for some apps, and picture-in-picture mode is available for external source screens.

Suitable for digitalised learning spaces, LG CreateBoard solutions come with the LG CreateBoard Lab application, which offers a variety of writing tools that can boost student engagement. Available as an application, LG CreateBoard Share enables the wireless screen sharing of up to nine screens on LG CreateBoard at the same time. This lets students easily share files from their devices and view their work together with the teacher, creating the opportunity for constructive feedback and the sharing of ideas.

LG/CreateBoard

BAP Celebrates 20 Years in Business

BAP Team at their annual dinner.

An inconspicuous drive in a 4-wheel SUV by four guys who happened to have industry-related experience became a significant event as their common purpose to dedicate their experiences to do something for the AV industry led to the establishment of BAP on 5th June 2003.

Over the last 20 years, BAP has become a leading systems integration company for Audiovisual, Lighting and Control Systems. BAP's continued success is a testament to the vision and dedication of its founders and the hard work and expertise of its team.

BAP strives to be a leading system solution provider by delivering sustainable, flexible and tailor-made solutions to each client by leveraging technology to improve their operations and increase efficiency.

The Beginning

In 2003, when there was another pandemic named SARs and network wireless microphones were yet to be borne, BAP was awarded a campus development project covering about 150 teaching venues. The goal was to implement a hygienic and personalised teaching environment throughout the campus after SARs by providing a closed-circuit wireless microphone system.

Each teacher had their own wireless microphone (no more shared microphones), which they could use in any teaching venue without being restricted. This implementation achieved two primary purposes, the first being that since the teacher had their own microphone and there was no need to use shared microphones, it provided a safer and hygienic teaching environment. The second is that the IT administrator did not need to provide public microphones, thus minimising equipment maintenance time and administration cost.

BAP was responsible for the design, installation, project management, T&C and training for this project. "We held several sizeable workshops over six months to communicate to end users and educate the new way of using personalised microphones throughout the campus," said **Finson Lam, managing director of BAP.**

Challenging Projects

"The campus development project mentioned above was one of the most challenging projects because it was not just an installation job for us. We felt it was like a revolution to change how teachers communicated using the latest teaching technology," commented **Marco Tang, director of sale at BAP.**


Lee Shau Kee Building.

Another challenging project for the BAP team was the campus development of the Lee Shau Kee Building at the Hong Kong University of Science & Technology in 2012. During that time, the university had an analogue audiovisual system deployed throughout the campus. However, the university decided to make the Lee Shau Kee building a completely digital system with a new backbone structure for digital signalling and processing, advanced technology and devices. Users needed to learn the system from scratch from the management level, project team, facility administrators, system operators, and teachers.

"It was one of the most challenging projects. We had to educate the users on how to use the digital systems to reap their full benefit and, more importantly, how digital will help them be more productive and effective. For the end-users, it was a major shift from what they were used to and transforming from their analogue world to the digital world in every aspect. We conducted seminars, workshops and training sessions on different topics at different levels. The outcome was a successful project which gained numerous appreciation from the client," said a pleased Marco.

Proud Moments

2012 to 2013 was significant for BAP due to the implementation of digital audiovisual systems for various campuses, including the Hong Kong University of Science and Technology. Other universities BAP had to install the digital audiovisual systems included The Chinese University of Hong Kong, Hong Kong Polytechnic University and the City University of Hong Kong. A total of 6.5 new buildings that involved over 400+ venues, and BAP had to complete all of these venues within 12 months. "It was a busy period for us, but we were able to complete all the projects within the given period, and we take pride that we not only implemented the systems, but we were able to educate all the users on the benefits and best practices in using the digital systems," said Marco.

Another significant moment of pride for BAP is their work with Lutron dimming and energy control systems in Macau's casino segment. "We are proud to say that we installed Lutron systems for at least 60% of the gross area of casinos in Macau. It's a proud number for us. Our works included new building installation, system upgrades in existing premises, and system maintenance/support to ensure the lighting system is in operation 24/7."
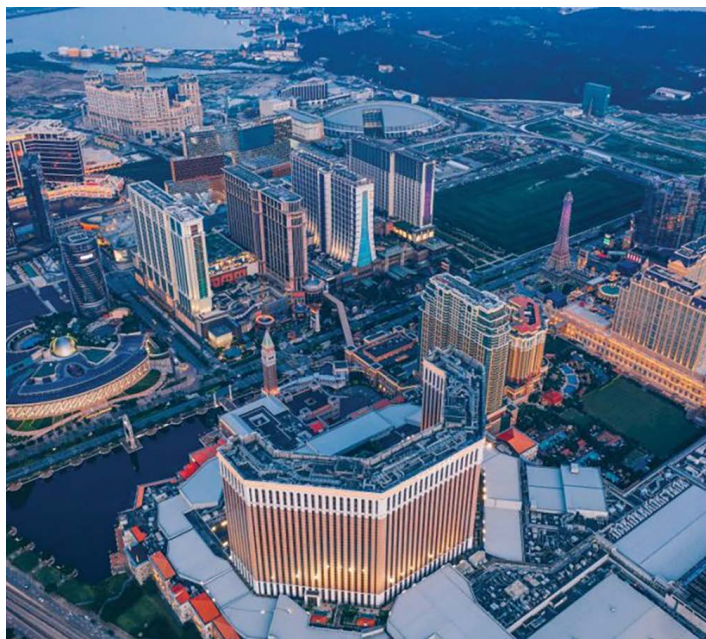
BAP installed Lutron lighting solutions to at least 60% of the gross area of casinos in Macau.

Marco added, "From these projects, we could see how strong our teams are and our company's capability to deal with large-scale projects, from the design phase to project management, installation to user training and system support. We always deliver our projects to high-quality standards within the industry and thus gained confidence from clients over the 20 years."

COVID-19

The COVID-19 pandemic presented significant challenges for businesses worldwide, and BAP Technology Consultants Limited was no exception. The reasons why COVID-19 created more challenges than SARS/global financial crises were due to numerous reasons. One was global supply chain disruptions resulting in delays and shortages of goods and services, which had a ripple effect on businesses across various industries, leading to increased costs. Then there were business disruptions that resulted in work restrictions. Staff were forced to adopt remote work or work shifts, which created communication, collaboration and working hours challenges. In

addition, there were labour disruptions due to compulsory government restrictions where those infected by COVID-19 were required to be quarantined for days and could not get to work. Furthermore, people who did not take sufficient vaccination were not allowed to access the premises. This had significant uncertainty and disruption for labour resources. The ability of BAP to plan and move forward was impacted heavily due to uncertainty created by COVID-19.

BAP, however, managed the situation through a flexible and adaptive approach that prioritised the safety and well-being of employees and customers while seeking new opportunities and strategies to overcome the challenges posed by the pandemic.

"We monitored the latest developments related to the pandemic and assessed the potential impact on their operations, supply chain and clients. This helped the company identify potential risks and opportunities and develop strategies to mitigate those risks. We also kept developing contingency plans that outlined how we would respond to various scenarios, such as supply chain disruptions, workforce shortages and changes in demand. The plan was always to be flexible and adaptable enough to changing circumstances," said **George Lau, director of Finance and Administration, BAP**.

Beyond that, BAP prioritised their employees' and clients' safety and well-being by implementing health and safety protocols, such as regular cleaning and disinfection of facilities, providing personal protective equipment/materials, and adopting flexible work arrangements to accommodate individual needs.

"We leveraged technology to enable remote work and collaboration and enhance customer engagement. This helped us to maintain productivity and efficiency while complying with social distancing and other

Sands Resorts was one of the many casinos in Macau where BAP installed Lutron systems.

safety measures. We were also willing to innovate and adapt our products and services to meet clients' changing needs during the pandemic. This required our ability to learn new products/services, explore new distribution channels and adopt new business models. We believe all the steps we had taken during COVID-19 helped us through this difficult period that enabled us to come out as one unit," said **Cliff Lee, project director, BAP.**

The Future of the AV Industry and BAP's Role

"For the AV industry, the future is promising as the demand for cutting-edge AV solutions continues to grow across a wide range of industries and applications. AV technology in education, corporate training, healthcare, entertainment, and multi-purpose events is expected to increase significantly in the coming years," said Finson.

Finson adds, "One key trend in the professional AV industry is the move towards more immersive and interactive experiences, enabled by advanced technologies such as virtual and augmented reality, 3D

projection mapping and interactive displays. Another trend is the adoption of cloud-based solutions for content creation, management, and distribution. Cloud-based AV solutions offer more flexibility and scalability, allowing organisations to manage and distribute content across multiple locations and devices easily. Finally, the integration of AV technology with other emerging technologies such as artificial intelligence, machine learning, and the Internet of Things (IoT) is expected to further enhance the capabilities and applications of AV solutions in the future."

Finson highlights, "On the other hand, the future of the intelligent lighting control industry is expected to continue to evolve and innovate, driven by the increasing demand for more energy-efficient and sustainable lighting solutions. Some of the key changes that are expected to shape the future of the industry include:

 - Increased adoption of smart city technologies: As more cities worldwide embrace the concept of smart cities, intelligent lighting control systems are expected

BAP was also involved in the digital transformation of the Hong Kong Polytechnic University.

to play a vital role in optimising energy usage and enhancing the quality of life for citizens.

- Greater integration with the Internet of Things (IoT): The integration of intelligent lighting control systems with other IoT devices and platforms is expected to increase, allowing building managers to monitor and control lighting systems remotely and in real time.

- Greater use of artificial intelligence (AI) and machine learning: AI and machine learning algorithms are expected to become more prevalent in intelligent lighting control systems, allowing for more sophisticated optimisation of lighting performance and energy usage.

- Expansion of wireless and mesh networking technologies: The use of wireless and mesh networking technologies is expected to expand, allowing for greater flexibility and scalability in deploying intelligent lighting control systems.

- Greater emphasis on user experience and wellness: The importance of user experience and wellness is expected to become a greater focus in intelligent lighting control systems, emphasising creating lighting environments that enhance productivity, mood, and overall well-being.

Overall, the future of the intelligent lighting control industry looks bright, with continued innovation and technological advancements expected to drive growth and transform the way that buildings are lit and managed."

"BAP can play a key role in the future of professional AV and intelligent light control industries by providing customised solutions that meet specific needs of our clients in a cohesive platform," affirms Finson.

BAP currently has about 50 employees with operations in Hong Kong, Macau, and Shenzhen.

BAP TECHNOLOGY CONSULTANTS LTD

Integrate Middle East Makes its First Impression

The inaugural edition of Integrate Middle East – organized from May 16-18 at the Dubai World Trade Centre – perhaps, may have opened a new chapter in the trade show's dynamics for the professional audio-visual and systems integration fraternity in the region. At least for those who had been feeling missing the ProAV event flavour in the otherwise bustling and potentially big buyers' market, particularly after the exit of InfoCommMEA five years ago. The first impression is something to reckon.

An SI Asia report by Ram Bhavanashi.

Yes. For one entering the show floor of the inaugural edition of Integrate Middle East organized from 16-18 May, 2023, at the Dubai World Trade Centre, the first impression was a kind of finding a missing link. Though not yet fully defined, judging from the perspective(s) of seasoned trade show exhibitors and visitors, it did appear to be moving in the direction. Co-located with the CABCAST coming in with its 29th edition, the Integrate Middle East (IME) 2023 event appeared to be drawing from the strengths of the popular event platform for broadcast, satellite, digital media and production segments in that both events are B2B platforms with a good mix of overlaps, and a significant number of visitors being common for both. Though the number of exhibitors from pure ProAV segment appeared to be less in number than what one would have expected compared to its 29-year-old big brother, the first edition of IME did have some potential ProAV and allied industry segments such as digital media, 3D, AI, VR and video communication and signal management- with a visible majority from digital signage and LED video wall solutions segment.

The LED Dominance

From a pure perspective of ProAV, hogging the limelight among the 70-plus exhibitors, was the Chinese LED solutions major Absen who amazed the visitors with two very distinguishing displays. One was a very characteristic 3D digital experience on a 100 sqm LED digital wall – made of its latest innovation Neptune Series with 2.6mm pixel pitch version (NT2.6 LED) aimed at large indoor applications – and an experiential 90 sqm LED screen for virtual production- together lining up almost 60 per cent of the wall on one end.

Other prominent exhibitors staking their claim in the 3D domain were Epson, who demoed their 3D experiential competencies using their proprietary 3LCD projection technology; Dalma Electronics LLC who created an impressive Virtual Reality experience using Absen LED

screens; LEDMAN and LianTronics who brought to the show what they called '*naked-eye-3D*' technology powered by COB (chip-on-board) technology; and Muxwave – the Chinese IC technology major credited with developing the world's first holographic invisible screen – brought its prided solution to awe the audiences.

The '*naked-to-eye 3D*' appeared to be the fanciest thing in LED and 3D solutions market, as most exhibitors from the domain seemingly highlighted their booth exhibits with that offering.

The chip-on-board (COB) technology powered exhibit from Lain Tronics featured its latest VT Series solution with ultra-finer pixel pitch below 1.0mm to produce crystal-clear images free of moiré pattern. Adopted common cathode technology and high-efficiency light-emitting chips are said to reduce power consumption by 40 per cent. That apart, its *attach-to-shell* power supply and optimal circuit board layout brings excellent heat dissipation, lower surface temperature, and more stable operation.

The other attraction from the Shenzhen-based LED major featured what they say the *WOW 3D* solution- again, an indoor naked-eye 3D solution best suited for enterprise showrooms, art exhibitions, product launches, education, and other applications. Characterized by a unique W shape, it's a seven-sided seamless LED display meant to form multi-dimensional cross-screen virtual performance spaces, which can maximize the 3D effect to produce sensory comfort.

According to the company rep on the show, this WOW solution pitches much stronger against the conventional 3D display because of its competence to deliver deeper immersive experience as it can integrate of formats IoT, AR, VR, XR and more.

Another Shenzhen-based LED major LEDMAN Optoelectronics, besides featuring its own COB technology-3D solution, marked the inaugural Integrate ME event with three other LED formats- Interactive, Immersive, and noticeably *household* - something unique in professional events.

Called LEDHUB, the interactive solution from LEDMAN was a 138-inch interactive conferencing system with ultra HD resolution LED screen coming with a promise of all-in-one design and function yet minimalist appearance, multi-touch and multi-screen projection.

Unilumin, another strong EMEA player from China, demonstrated its latest solutions, catching up from where it left at ISE 2023. The Middle East show was characterized by the demo of Upanel 1.2SII Pro on one side, and UMicro 0.4 4K on the other, said to be the *finest pixel pitch display* at the show. Furthering the pixel pitch experience was experiential control room environments.

That apart, Unilumin – for the first time – demonstrated its lighting products that are highlighted by the SmartPole multifunctional unit that blends lighting and display control system for efficient city management.

Muxwave – another member of the Shenzhen bandwagon – continued its master play of super thin transparent holographic screen demo where it left in ISE and ILSE, with yet another fascinating holographic act.

The Stakes Projected

Playing a close second to LED exhibitors were another set of visual solutions providers- the projection segment, represented by Benq, Christie, and Epson.

Theming its show at the event with '*shape the future of immersive experience*,' Taiwanese projection major BenQ showcased its latest BlueCore Series laser projectors designed to create immersive and realistic simulated environments. While the projection range is deployable for diverse applications across the industry spectrum, catching the attention on the booth was BenQ's dome highlighting their solutions for real estate segment where real, on-field projects are taken as exemplifying showcases for reinforcing BenQ's solutions for the segment.

That part, the Taiwan projection major also demoed interactive LED displays and smart projectors that augment the on-field visual impact of the solutions for the corporate segment.

Christie Digital brought to show floor its popular Griffyn Series range of RGB laser projectors- that are highlighted by the Griffyn 4K50-RGB, the lightest, brightest, and most energy-efficient 50,000 lumen laser projector on market that can illuminate any surface with bright visuals while operating at 55dBA at full brightness.

Augmenting the Griffyn show were the Christie M 4K25-RGB projector featuring an incredibly small factor – in a reinvention of the rugged and reliable

M Series – and 4K22 HS laser projector that comes with a 22500 lumens brightness, narrowing the gap between 1-chip and 3-chip DLP projectors.

3LCD projection pioneer Epson demonstrated the EB Range projectors that are highlighted by the world's smallest, compact unit with 21000 lumens brightness, the EB-PU2220B that is complemented by the EB-PU2216B that come with 16000 lumens brightness.

With easy installation, set-up and maintenance, Epson's EB-PU2220B is the smallest 20,000lm 3LCD projector globally yet delivers a high-impact immersive experience for large auditoriums, live events, concerts, and conference rooms.

The EB-PU2216B, on the other hand, supports premium laser projection with a 4K enhancement and a 20,000-hour virtually maintenance-free laser light source.

Another projector catching the visitors' attention was the Epson EB-805F- a bright and scalable ultra-short throw display solution that promises projection of 130 inches and seamless images on ultra-wide screens.

Standing out in the otherwise dominant LED or projectors show were, of course, two audio majors – Masterpiece representing HARMAN and Thomson representing Sennheiser – both launching new products for the global markets from the IME platform.

HARMAN introduced what they called the Garden Speakers from JBL- the GSF Series and the GSB Series, both meant for entertainment applications under the rugged outdoor environments such as garden settings. The GSB in-ground landscape subwoofers augment the low-frequency performance of JBL GSF full-range landscape speakers to provide

rich, full-range sound in lawn and garden areas of hospitality, corporate and retail spaces.

 Available in hunter green and tan finishes, these speakers are the perfect sound solution for diverse outdoor applications including shopping malls, theme parks, sports venues, hospitality venues, and any application calling for a stylish, robust, great-sounding landscape speaker system.

Sennheiser, on the other hand, introduced its latest two-way/bi-amplified studio monitor the KH150 under the Neumann brand.

Coming with 6.5-inch woofer in bass reflex cabinet, the KH 150 unit provides stunning low end and high SPL capability with undiminished clarity. DSP-controlled electronics ensure linier phase response and allow room-adaptive collaboration via Neumann's revolutionary MA1 monitor alignment.

The CABCAST Spectrum

The CABCAST, driven by its sheer establishment and connect with the industry, had a huge representation of exhibitors including country pavilions from Russia, UK, Germany, France, Egypt, and China, and satellite communication enterprises from a host of countries.

However, the centrestage of the show was taken by NEOM – the most ambitious ever project of the Kingdom of Saudi Arabia '*made to change*' the world – showcasing its competencies to provide game-changing opportunities for various segments- this time for creative fields such as production.

Apparently, the Saudi Government-funded initiative took to the CABCAST to reinforce it's the immensity of the opportunities that it brought to field. Providing enticing infrastructure and technical support to content production segment is just of its 14 identified areas of entrepreneurial exploits.

Juxtaposed to Neom was The Dubai Studio City, more or less promising to offer similar-class opportunities to studio production segment.

Going by its sheer connect with the satellite communications industry, the CABCAST had drawn huge representation from almost all the major countries in the region, and dedicated pavilions from leading players.

Integrate Middle East will return next year from **21 to 24 May 2024** at the same venue.

Integrate Middle East

CTS Workshop by AVIXA

As measure of friendly gesture with the DWTC for the inaugural edition of Integrate Middle East, AVIXA conducted workshops for CTS aspiring professionals from 15-17 May in Dubai.

The preparatory course for the workshop was intended to help the aspirants explore the CTS exam content and work collaboratively with peers. The programme helps the candidates to comprehend the areas concerning provisioning , selling, operating, and troubleshooting AV solutions; networking; conducting AV finance activities; and project management besides learning test-taking strategies and what to expect the day of the exam.

T S Gopalakrishnan, AVIXA's Regional Director-India & GCC oversaw the programme.

Reshaping The Edusphere

How World-Class Professional AV Technologies Continue to Impact the Present and Future of Learning Spaces

by Elton Noronha

Modern-day schools, colleges, universities, and adult learning centres are viewed as incubators of exploration and invention. And these days, educators are more of collaborators in the learning process, as they constantly seek new knowledge and acquire new skills alongside their students. Education leaders across the world usually work towards achieving the vision of creating learning experiences that provide the right tools and supports for all learners to thrive. And in the midst of it all, technology has become a vital tool in transforming the teaching and learning process.

When technology is deployed in the right manner within education and learning practices; educators have been able to provide for a more authentic and well-rounded learning experience. Not only does technology help to affirm and advance relationships between educators and students by reinventing

conventional approaches to learning and collaboration; but it also plays a pivotal role in adapting these new learning experiences to efficiently meet the needs of all stakeholders. More importantly; the increasingly inclusive nature of technology in general has helped greatly in shrinking long-standing equity and accessibility gaps.

When carefully designed and thoughtfully applied, technology has been found to accelerate, amplify, and expand the impact of effective teaching practices.

For example, amid the devastation caused by the pandemic, it's safe to say that governments, teachers, students and corporates benefited by accelerating digitalization efforts and adopting various forms of technologies within their workflow routines. The current generation of digitally native learners lapped

up this transition by educators thanks to the highly adaptable and non-obtrusive nature of today's technology. On the other hand, although initially resistant, teachers too discovered digital tools to be welcome assistants while managing schedules, keeping parents included, and doling out and marking assignments.

The rather forced adoption of new-generation technologies accompanied by wider access to smartphones, has made online learning accessible and affordable to larger masses globally. Considering technology-enabled assessments as an example – these support learning and teaching by communicating evidence of learning progress and providing real-time insights to teachers, administrators, families, and, most importantly, the learners themselves. These assessments can be embedded within digital learning activities to reduce interruptions to learning time.

Having said this; learning, teaching, and assessment enabled by technology require a robust infrastructure. Some of the key elements of this infrastructure include high-speed connectivity and a slew of products and systems that must be made available to teachers and students when they need them. Additionally, a comprehensive learning infrastructure also includes digital learning content and other resources as well as professional development for educators and education leaders.

The entire ecosystem as described above is commonly referred to, in today's day, as EdTech; and an interesting anecdote about this is that the global EdTech market is expected to grow to about US$260 billion by 2028; with Asia and the Indian subcontinent leading the way by a fair margin. Driving this growth is a steady influx of investment into the sector by

several educational institutions as well as business organizations that include various forms of training and educative initiatives as a part of their strategic operations model.

Take for example the City University of Hong Kong (CityU), where a complex infrastructure of leading professional AV products has been deployed. Most notably, CityU spotlights over 150+ sets of Shure MXW microphones, which cumulatively have now become the de-facto solution at the venue. Touted as the largest deployment of its kind in Asia, CityU have noted multiple benefits of deploying a single point solution.

According to **Deep Batra, section head of the engineering and design section, computing services centre, City University of Hong Kong**, "We at CityU take great pride in housing progressive pro AV technologies and solutions packages, all of which have come together sublimely to create a world-class learning ecosystem for our students, teachers, and other staff members. By choosing to work with a single manufacturer in Shure, and going a step further in choosing just a single product line in the MXW series of microphones (which comprises several clip-on, headset, handheld and gooseneck variants); we've been successful in ensuring an unmatched consistent user experience throughout our campus. Not only has this solution afforded us with high-quality audio and performance along with stable and jam-free operation; but it has also allowed users greater flexibility in providing them with their very own device to use, which means no more sharing of microphones. Plus, it offers an unparalleled ease in device management and efficient remote pairing – all of which can be quickly accessed through the IT Service Desk. More

importantly, the fact that we aligned with a single brand means that stock shortages and lack of future production capability aren't really a concern for us. At the same time, this solution has helped us ensure that we're positively environment conscious. All-in-all, CityU today stands proud as a trend-setter in pushing the envelope when it comes to deploying industry leading pro AV infrastructure to deliver extraordinary user experiences. And we're confident that institutions around the world will take cue from us and work towards building similar high-quality learning environments through the use of high-performance pro AV technologies like the Shure MXW microphones."

With CityU as a prime example, it becomes clear that professional AV technology has now been fully acknowledged as an integral part of the infrastructural requirements for EdTech applications. Therefore, it should come as no surprise that the growth of the global EdTech market will have a direct impact on the growth of the professional AV market as well.

Pro AV Technologies for Edutech Applications

Several professional AV manufacturers and solution providers across the board have stepped up their game when it comes to offering tailored technologies and solution packages for EdTech applications that offer better flexibility and usability while enhancing the user experience and improving performance and user outcomes.

Take for example Sennheiser, who share that they have noticed a greater adoption of wireless ceiling microphone systems that can elevate in-room audio and at the same time, and capably support a

hybrid education model in recent times. According to **John Oh, sales director of business communication for Southeast Asia, Sennheiser,** the COVID-19 pandemic and the shift towards hybrid learning as well as the strong emphasis on hygiene and touchless solution has played a key role in driving this trend.

Sennheiser ceiling microphones help free students and lecturers' hands for simulation exercise.

John informs, "Before the pandemic, many educational institutions did not have the capability to support a hybrid learning model, which is now a non-negotiable. With this shift in behaviour and mindset, we are also seeing a significant trend in using touchless audio solutions for simulation exercises in educational institutions. One example is in medical practice, where students need both their hands to complete their exercises. The challenge is to ensure that the learning environment is as natural and similar to real-life as possible – and of course that does not involve holding or wearing a microphone. In fact, we did a project where we installed TeamConnect Ceiling 2 (TCC 2) in a Medical Simulation Centre at one of the universities in Vietnam. The school wanted a completely touchless and wireless audio solution as training sessions were for instructors and students to review for coaching and feedback. In total, 19 units of TCC 2 were installed in a simulated hospital environment that includes a hospital ward and operation theatre. We received

excellent feedback because students and trainers no longer need to worry about poor audio quality, battery changes or microphone positioning. Additionally, students no longer need to worry about missing out on key information and can hear clearly from anywhere in the room."

On the other hand, **Joe da Silva, vice president of marketing for Extron** shares that in recent years, the brand has developed certain new technologies and solutions based on an increasing customer demand for experiential learning approaches where bi-directional and hands-on learning strategies result in more personalized experiences.

Joe elaborates stating, "Having been at the forefront of AV technology with a strong focus on education, Extron is continually evolving our products and solutions to drive educational solutions. Some examples of Extron technologies targeted to enhance teaching and learning include technologies like the SMP Streaming Media Processors which make HyFlex learning possible by connecting students to live or on-demand lesson content anytime, anywhere, on any device; and ShareLin Pro wired and wireless presentation systems which enhance active learning by enabling anyone in the room to share content seamlessly. We've also introduced technologies like the MediaPort 300 4K USB bridge which seamlessly connects AV sources or systems with PC-based software codecs or cloud-based conferencing applications, and the NAV Pro AV over IP Series which creates flexible and scalable AV systems that provide a seamless way to grow or modify the reach of an establishment's AV systems with superior video and audio quality."
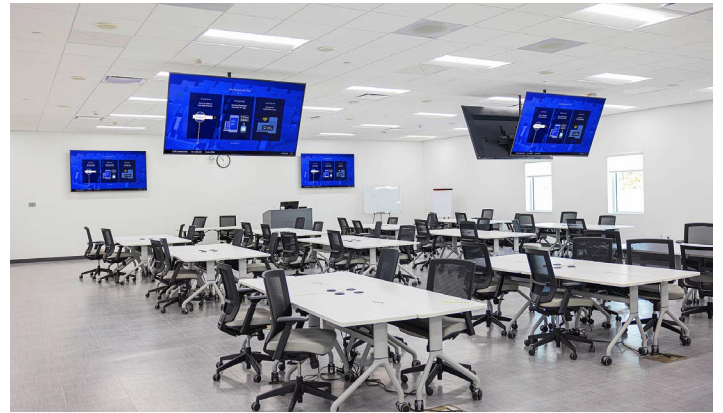
The Western Atlantic University School of Medicine class-rooms are equipped with AV that allows students to share their work in real time. Photo courtesy of Extron.

Referencing the Western Atlantic University School of Medicine (WAUSM) (an international medical school in Freeport, Bahamas), Joe explains that the university uses a variety of AV technologies to enhance learning experiences for students; where medical skills are taught in a hands-on active learning environment, which has been made possible by classrooms equipped with AV that allows students to share their work in real time. Classrooms outfitted with HD video conferencing enable remote learning; wherein AV over IP feeds of video content to digital signage displays located throughout the campus provide important information to students, faculty, and staff. According to Joe, the project scope included 22 distinct spaces requiring Extron AV solutions, including large classrooms, group study rooms with wired and wireless collaboration, conference rooms, exam rooms, simulation rooms, a debriefing room, and a student lounge; and Extron's NAV Pro AV over IP played a huge part in tying all the AV together.

Presenting a different perspective on the topic, **Nick Ma, CEO & CTO of Magewell** explains that the brand's approach towards the EdTech segment is driven by the

widespread adoption of online and hybrid learning, coupled with the transition from traditional AV signals to IP-based infrastructures, and the use of software-based solutions rather than dedicated hardware.

Magewell USB Fusion.

"Online and hybrid lectures often incorporate multiple video sources, and we've seen a trend towards educational users wanting to combine a greater number of sources but while still minimizing equipment and personnel requirements. It's with this in mind that we created our USB Fusion capture and mixing device, which lets users combine multiple cameras, screenshares and media file inputs into engaging presentations without the need for additional switching or mixing tools. We recently expanded USB Fusion in support of another key ongoing trend – students' BYOD (bring your own device). A new USB Fusion update added support for wireless casting inputs including Airplay, Google Cast and Miracast, enabling instructors to easily and securely bring student collaboration into their lecture presentations. At the same time, many of our solutions are designed to help protect customers' previous investments by enabling them to seamlessly bridge traditional signal-based products and infrastructures with new software-centric workflows and AV-over-IP architectures. For example, our Pro Convert series of encoders and decoders allows customers to easily and reliably convert between HDMI or SDI signals and

NDI AV-over-IP technology, while our plug-and-play USB Capture devices are the easiest way for users to bring professional AV signals into software for video conferencing, online lectures, streaming and more" affirms Nick.

Brand's Role in Helping Educational Facilities Through Key AV Considerations

While it may be taken for granted that every learning facility desires to incorporate top-notch professional AV systems of superior quality and performance value; the fact remains that no two learning facilities are identical. Each venue operates with its own set of unique educational objectives and distinct methodologies to achieve them; and consequently, the professional AV infrastructure necessary to meet these goals would also differ.

Having said this, there's also truth in the fact that learning facilities must consider a particular set of key factors when strategising for and outfitting their venues with a professional AV infrastructure that would do justice to their vision. These considerations are paramount in creating an optimal learning environment; and in this context, brands and manufacturers of professional AV technologies have the invaluable opportunity of playing a vital role in bridging the knowledge and expertise gap.

Joel Mulpeter, director, product marketing – Asia at Crestron Electronics explains that the brand offers crucial insights to their education customers based on the fact that a vast majority have been noted to be more interested in adopting technologies that add value to the workflows

of the classroom space to drive new modern approaches to teaching.

Joel elaborates, "We focus on three pillars when deploying AV systems and solutions for institutions; namely Remote Learning, In-room Technology, and Scaling Solutions. The pandemic led to many institutions turning to Remote Learning to keep their classes going. Some continue to offer remote or hybrid lessons, while others have reinstated in-person learning with remote learning as a backup when it is not possible to have in-person classes. In this scenario, the technology must ensure remote participants need to be able to see the lecturer and other students in the room, to hear them clearly, and get the emotional connection to stay engaged. The teaching staff needs to be able to intuitively bring in remote participants efficiently, and not let the technology add complexities to starting the lesson. At the same time, we've noticed that today, education has evolved from sitting in a classroom and absorbing information from an instructor; to now being able to communicate, collaborate and learn from both teaching staff and students. To enable two-way collaboration, sharing content between students and the instructor should be made seamless from personal devices. Also, when you have AV systems and technology deployed in every classroom throughout the campus, you will want to monitor and manage all these devices on a single unifying platform. You will need to resolve issues before they start and have the option to troubleshoot remotely for faster resolution. This keeps your AV/IT teams productive."

On the other hand, Extron's Joe de Silva shares that it's best to start with a roadmap of the requirements to meet educational goals and teaching strategies – irrespective of whether the institute is looking to renovate or create a new space altogether. According to Joe, it's important to consider how technology can support modern teaching approaches, like hybrid, HyFlex, and active learning. He believes if a space needs to support a variety of configurations, then the AV technology must be flexible and scalable; and that ensuring the technology is built on an integrated AV platform will allow for future flexibility.

"Given the essential role that audio-visual technology plays in education, it is advisable to first consider your enterprise network capabilities; starting with the distribution of audio and video signals over the IT network. Determine whether your existing network structure can achieve the desired reliability, performance, and security required by modern collaboration, recording, and streaming systems. For an optimal learning experience, the AV system must deliver pixel-perfect data, ultra-low latency, plus the protection of data. Extron AV technology meets all these requirements and delivers proven longevity and performance. Our breadth of products and their compatibility offers an upgrade path as needs evolve, helping to extend your investment's long-term value and lifespan" cites Joe.

On this topic, Sennheiser's John Oh affirms that learning facilities need to account for certain basic considerations like the room size, its purpose, the number of potential speakers in the room and what the organization hopes to achieve; which according to him play a key role in devising the best professional AV solution for their respective venues.

Speaking about the tailored solution that Sennheiser offers for classrooms, lecture halls and collaboration spaces of various sizes and use cases; John explains, "To assist our customers in finding the most suitable solution, we have the Sennheiser Business Communication Microphone Guide as well as the Room Planner. The Sennheiser Room Planner is a browser-based room configuration tool that can help

customers find the best solution for their specific meeting room environment. The software allows you virtually replicate your space, including chairs, tables, displays and even speaker locations. Based on your space, the tool then offers you the microphone(s) that are suitable for your space and coverage areas. However, we understand that software has its limitations when it comes to customized spaces. For those cases, we encourage customers to contact us, and we will be able to advise them accordingly."

Overcoming Challenges that Brands Face Within the Edtech Application Segment

There's little to no doubt that in today's rapidly evolving educational landscape, professional AV technology has emerged as a powerful enabler, transforming traditional classrooms into vibrant hubs of interactive learning. The integration of world-class professional AV solutions within the realm of Education Technology (EdTech) has provided educators with unprecedented opportunities to engage and inspire students, breaking down barriers to knowledge dissemination. However, this transformative synergy is not without its share of hurdles; as the EdTech application segment presents unique challenges for professional AV brands, demanding a delicate balance between cutting-edge innovation and practical implementation.

Foremost among these challenges is the need to cater to diverse educational settings, ranging from traditional schools to distance learning platforms, each with its own distinct requirements. Many a times, educational facilities incorporate a wide variety of products, systems and technologies, where interoperability becomes key to ensuring a smooth learning experience. This is just one of the

several challenges that manufacturers and brands of professional AV technologies are expected to overcome.

Speaking about this in greater detail, Magewell's Nick Ma shares, "Magewell's products are typically used as key interface or conversion solutions as part of a bigger system in conjunction with other third-party products, so interoperability is critical. We strive to support multiple standards and protocols to maximize compatibility with other vendors' solutions. For example, our Ultra Encode AIO live media encoder supports multiple encoding formats including H.264, H.265, NDI HX2 and HDI HX3, alongside streaming protocols including SRT, RTMP, HLS and many more. That said, we won't always be the first company to jump on a new emerging standard; we sometimes wait until the technology has matured so we can ensure that our customers have a positive experience that meets their business or educational goals. Our solutions are designed to make new technologies practical and affordable while shielding customers from the growing pains sometimes associated with being on the cutting edge. Integrating with other vendors' solutions is also important in this context, as doing so can improve the customer experience beyond simple interoperability. With this in mind, we have been partnering with some of the industry's leading innovators, and we also offer APIs for all of our key products to allow third-party developers to integrate tightly with our solutions."

Moreover, the rapid pace of technological advancements adds a layer of complexity to the equation. Professional AV brands are expected to stay at the forefront of innovation, continually developing solutions that are compatible, scalable, and future-proof; all without disrupting existing infrastructures.
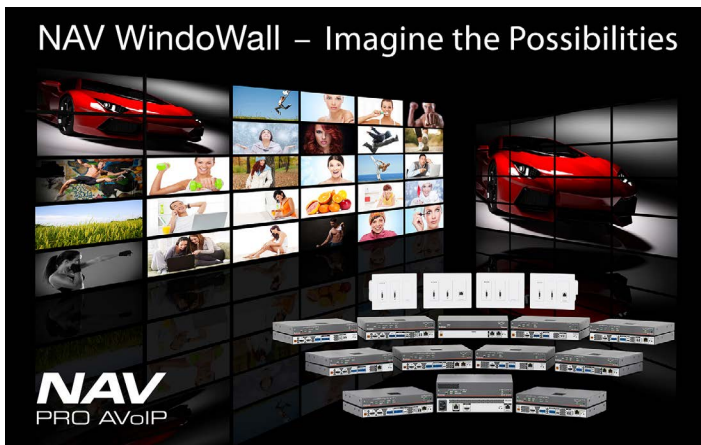
NAV Pro AV over IP technology from Extron.

Joe de Silva of Extron sheds light on this aspect as he comments, "AV vendors are experiencing accelerating demand from educational institutions at all levels to provide innovative products that can integrate seamlessly into their environments. As institutions typically have existing AV infrastructure, vendors must ensure their new offerings are designed to be compatible with older systems. One of our recent products designed to modernize learning environments is NAV Pro AV over IP technology for distribution and switching of ultra-low latency, high-quality audio and video signals over an Ethernet network at low bitrates. The NAV Series allows educational institutions flexible learning throughout campus, including classrooms, active learning labs, esports classrooms, and healthcare simulators. Designed to be future-ready, NAV provides learners with real-time, high-resolution AV content using highly scalable and easy-to-expand technology. In addition to delivering ground-breaking performance, NAV systems are easy to manage from a single point and bring extensive time-saving features for monitoring, diagnostics, and troubleshooting."

Then there's also the fact that manufacturers must be able to convince management teams of learning facilities about aspects of a system's overall performance metric that are sometimes quite intangible in nature. For example, the need for a particular set of audio technologies and systems that can qualitatively enhance the overall experience at a venue.

Referencing the challenges faced by professional audio solution providers within the larger gamut of comprehensive professional AV systems, John Oh explains that the biggest challenge that brands like Sennheiser face almost invariably comes down to highlighting the importance of good quality audio within the education/learning environment.

John expands on this, saying, "I think the pandemic has been the biggest lesson for all of us, but there is more to be done. As a manufacturer, we constantly champion the narrative on the importance of good quality audio and speech intelligibility in the new hybrid work and education environment through our webinars, content, thought leadership and interviews. It is difficult to put into words what good quality audio is because it needs to be experienced. Customers may think that what we have, for example, the TCC 2, is just another ceiling microphone. But through experiencing it first-hand, they will be able to hear the difference in terms of sound quality and speech intelligibility that the TCC 2 delivers. This is why when we moved into our current office, we fitted our meeting rooms with our newest solutions because we also use these rooms as our demo rooms. We truly believe that experiencing the product is the best way to test it."

To add to this, accessibility features such as closed captioning, audio description, and assistive listening systems, are now being seen as vital features that need to be seamlessly integrated into the overall AV solution to ensure equal participation and engagement for all learners. Basically, the idea of providing a more equitable learning experience for all participants has become a key demand for learning facilities across

the board; and professional AV solution providers are now expected to keep these aspects in mind while designing solutions that can be easily grown in the future.

"During the pandemic, the growing demand for hybrid learning has created significant pressure on finding solutions. Certain decisions were made to help us navigate through that period. However, as we transition to a long-term perspective on supporting remote learning, there is an increasing need to focus on capturing everyone in the room and providing an equitable learning experience for both in-person and remote participants," affirms Joel Mulpeter of Crestron Electronics.

The Next Big Thing in Pro AV for Edtech

As the boundaries of education continue to be redefined in the digital age, the integration of cutting-edge AV solutions has become paramount in providing immersive and interactive learning experiences. The rapid advancement of technology has opened new avenues for educators to engage students and facilitate knowledge acquisition in ways never before thought possible. With this in mind, industry leaders are diligently working towards a more accelerated development of innovative AV technologies tailored specifically to the unique demands of the educational landscape.

The next generation of professional AV for EdTech applications promises to revolutionize the way knowledge is imparted, transforming traditional classrooms into vibrant centres of interactive learning. And providing an educational facility's point of view on the matter, Deep Batra of CityU shares that the future of professional AV technologies for EdTech applications will depend on a mix of factors that

involve aspects like IoT dashboards and central management systems; AV over IP systems, products and management solutions; AI based tracking cameras and ceiling microphones; inter-system integration support via RestFul and other types of API; immersive and holograph display technologies; high-resolution, shock-proof, water-proof module type LED Walls; and indeed, sustainable power solutions (Wind / Solar / Hydro) to support central server room power demands.

While manufacturers have ceaselessly continued to overcome a multitude of challenges within the constantly evolving EdTech application segment to deliver quality technologies and systems that enhance the overall value proposition enjoyed by all incumbents; it is only natural to assume that they're also examining current day trends to predict future outcomes and therefore working on creating 'The Next Big Thing in Professional AV for EdTech Applications'.

Joel is of the opinion that EdTech applications will actively seek to utilize the network's capabilities to achieve scalability, adopt solutions as needs and technology evolve, and pivot accordingly over time; when making decisions for new solutions and deployments for their facilities.

On the other hand, brands like Extron have been focusing on devising new ways to support the latest learning environments and instructional modalities. As Joe informs, "Our cutting-edge technologies like the ShareLink Pro collaboration system enables users to simultaneously share content. Wireless connectivity allows for simple and quick, no-touch in-person collaboration using BYOD devices such as computers, tablets, or smartphones. Use of our latest ShareLink Pro LinkLicense for Active Learning easily deploys active learning spaces that offer universal content
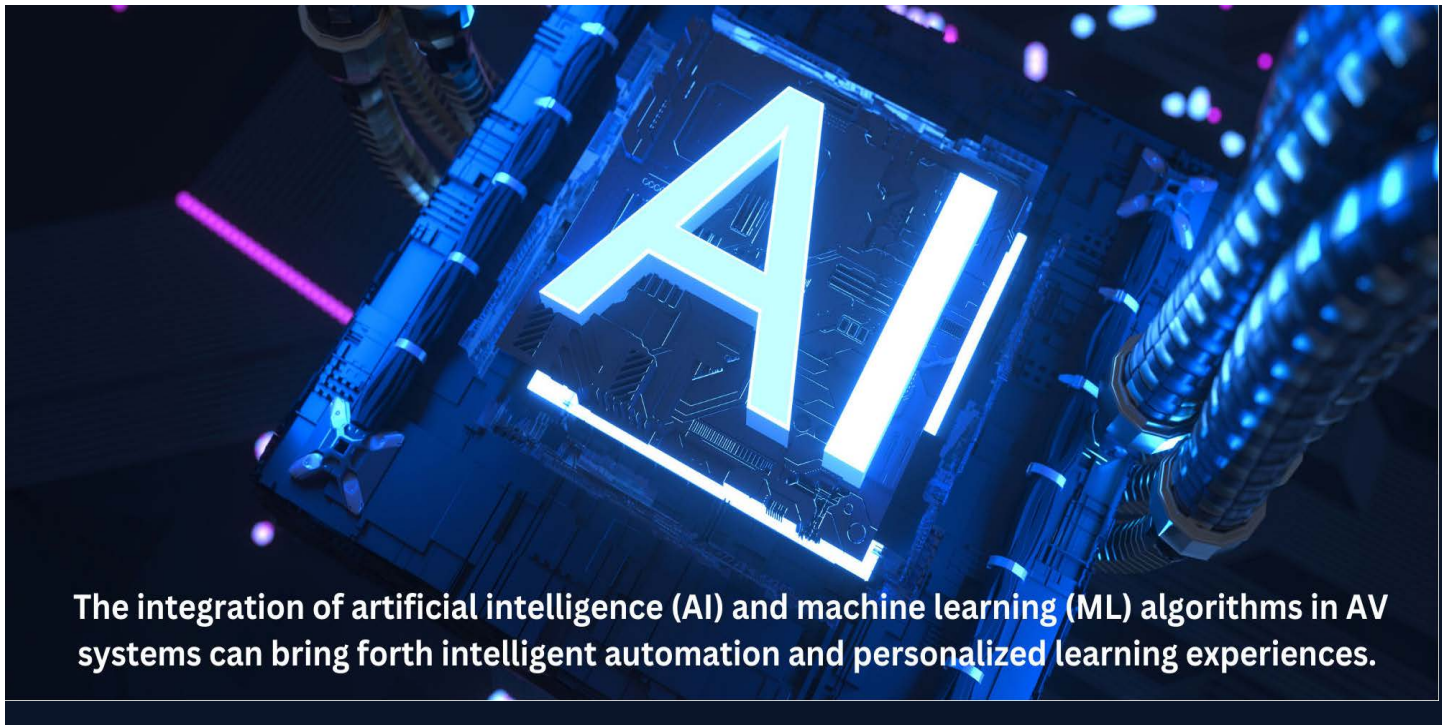
The integration of artificial intelligence (AI) and machine learning (ML) algorithms in AV systems can bring forth intelligent automation and personalized learning experiences.

sharing to engage students more fully during small groups, labs, or larger collaborative class projects."

Furthermore, the integration of artificial intelligence (AI) and machine learning (ML) algorithms in AV systems brings forth intelligent automation and personalized learning experiences. Experts anticipate that AI-powered AV solutions can adapt to individual student preferences, customize content delivery, and provide real-time feedback, fostering a student-centric approach that promotes self-paced learning and knowledge mastery.

Having said this though, John Oh of Sennheiser provides an alternative viewpoint on the subject, as he states, "While everyone is seeing the trend in AI in technologies, the adoption of such trends and market acceptance is the key factor here. Let me give you an example. AV distribution technologies have progressed quite significantly over the years, from HDMI over twisted pair, to HDBT to AVoIP, and so on. Is NDI the next distribution protocol? Let's not forget that there are also manufacturers who are recommending their

own proprietary protocols. However, not every user out there is actively adopting and keeping up with the latest trends. It really depends on the operational and functional requirements of each organization. Dante is of course the most used and adopted protocol by audio distributors and there is even Dante AV and control over Dante now, so it remains to be seen how end users will react to the distribution technologies that these organizations are pushing for. For Sennheiser, we have always been focused on pushing the boundaries of what we do best - providing the best audio experience through reliable and unique products that suit the needs of our customers."

Finally, we also have technologies like SDVoE which shows potential of efficiently addressing the three main concerns that learning facilities have most commonly faced in recent times i.e. interoperability, scalability and future-proofing systems.

SDVoE presents itself as the only off-the-shelf technology that offers a "full stack solution"; as it addresses the full 7-layer OSI stack and offers

solutions at every layer. SDVoE creates a flexible hardware and software platform which can enable many applications including matrix switches, KVM switches, video walls controllers and multi-view image processors. It can also be integrated into sources and displays, all networkable. But beyond that, SDVoE technology paves the way for the creation of whole new classes of applications. Basically, SDVoE technology is the standardized interface between endpoints and software; wherein it provides the momentum to create new classes of applications.

Talking about how SDVoE technology can best cater to EdTech and learning applications across the board, **Justin Kennington, president, SDVoE Alliance** explains, "Higher education facilities demand flexibility, because a single school might have so many different styles of room with unique AV requirements. Timelines, budgets and user experience are all critical for the educational end user. When budget is a driving factor, higher education facilities need a solution that delivers interoperability between brands. This way, if you pick a particular vendor this year, but you need to switch to a different vendor next year due to budget, it's good to know that a platform like SDVoE enables this flexibility. With SDVoE technology, the solutions that are purchased today are going to work with the technology that is purchased tomorrow."

The SDVoE Alliance unites ecosystem partners, including AV equipment manufacturers, AV software developers, switch manufacturers, chipset designers, technology providers, and system integrators, under a single banner to foster collaboration and empower interoperability for a global customer base.

"Additionally, higher education facilities need solutions that are available. Traditionally, installations are completed during the summer. As a result, higher education facilities need their technology to arrive on time to accommodate their strict installation timelines. Their specific timelines require a solution that's available when they need it. A product delay due to supply chain challenges, which have become increasingly common, can be troublesome for a higher education facility. SDVoE's ASIC-based solution is widely available in comparison to the chips required for FPGA-based AV-over-IP products, enabling SDVoE Alliance member companies to meet customer delivery demands amid ongoing supply chain disruptions. As a result, more than 85% of SDVoE members can ship products within two weeks" concludes Justin.

Crestron

Extron

Magewell

Sennheiser

SDVoE

Billboard Live Elevates New Yokohama Location with JBL Professional and Martin Professional

HIBINO and SC Alliance equip the live venue with JBL Professional audio and Martin lighting for an immersive and unforgettable audience experience
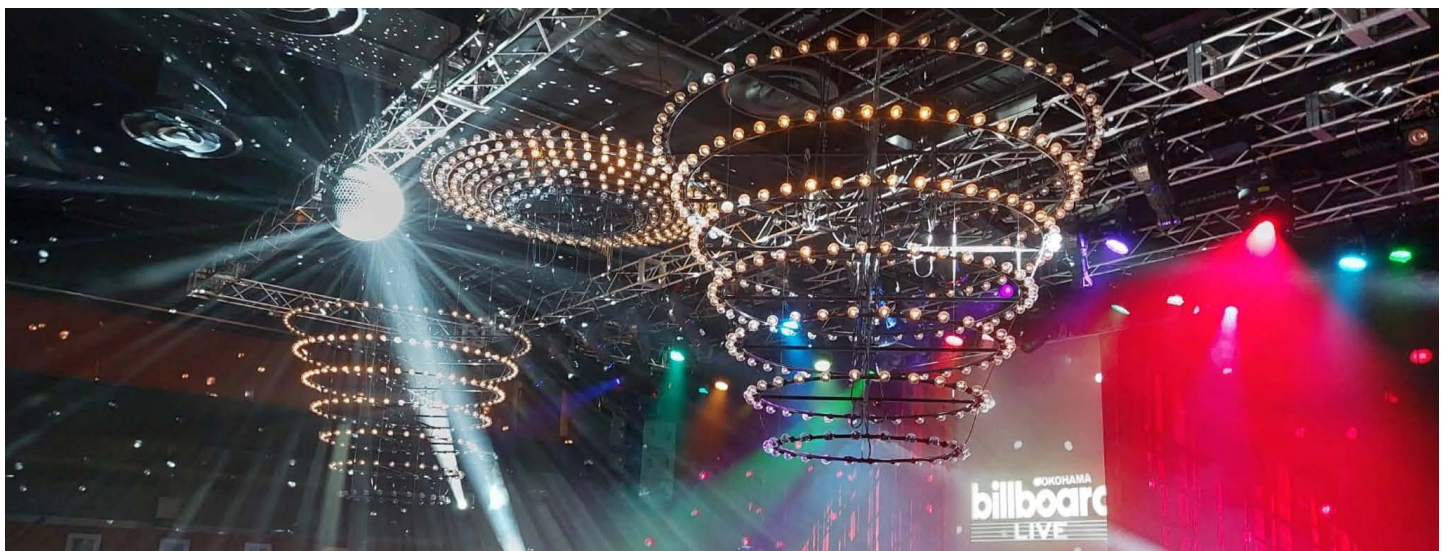
FACTFILE

Project Name: Billboard Live

Project Location: Yokohama, Japan

Project Segment: Entertainment

Systems Designers and Integrators: HIBINO and SC Alliance

AV Highlight: Audio and lighting solutions for world-class live set-up for range of performances

Key AV Brand: HARMAN JBL professional audio and Marting professional lighting solutions

To provide Billboard Live's latest venue in Yokohama with a world-class live setup suitable for a wide range of performances, HIBINO and SC Alliance collaborated with HARMAN Professional Solutions to select and implement a range of JBL Professional audio and Martin professional lighting solutions.

In addition to venues in Tokyo and Osaka, Billboard Live recently launched a third location in the up-and-coming Kitanaka area of Yokohama. The venue boasts a gigantic floorspace of approximately 1,000 square meters and a 300-seat capacity. Along with hosting internationally renowned performers and local artists, the venue also provides an unrivaled culinary experience thanks to a carefully curated menu by Japan's finest chefs. To elevate the overall guest experience with state-of-the-art live sound as well as
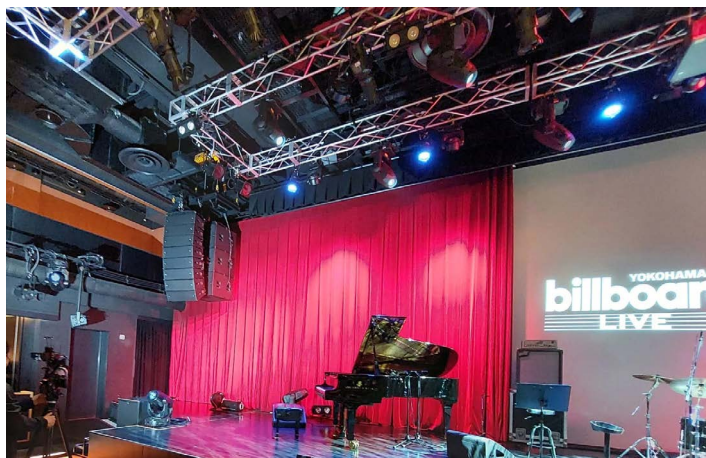
immersive and impactful lighting, the HIBINO and SC Alliance installation team deployed JBL VTX and VRX Series speakers and Martin ERA Series lights.

For the audio component, the team installed the JBL VTX A8 and B18 high-performance speakers. Equipped with proprietary JBL woofers, custom-designed high-frequency transducers and advanced waveguide technology, the VTX A8 is a compact-yet-powerful line array capable of high, distortion-free output and consistently wide horizontal coverage of up to 110 degrees. When used in conjunction with the VTX B18 subwoofer, which applies the same features and technology as the A8 for reinforced low end, the combined system produces improved linearity, wider dynamic range and an impactful sound that reaches far-away audiences without overwhelming those close to the stage.

In addition to the VTX speakers, the rig also includes JBL VRX928LA two-way line array loudspeakers for the center and balcony fills. Featuring a Constant Curvature Array design and a Dual Angle pole socket, the JBL VRX928LA offers precise aiming and reliable coverage so that every audience member can experience optimal live sound. Finally, JBL VTX M20 monitor speakers offer the onstage performers the same high-quality sound and technology as the audience-facing rig.

"We needed a system that could simultaneously deliver a broad range of genres including jazz, pop, rock and hip hop," said Kosuke Takahashi, Touring Division at Tokyo Sanko. "We are impressed with how HARMAN Professional Solutions was able to deliver on that request. We have received great compliments from top artists who performed at our venue."

Along with sound, lighting effects are also critical for any live performance venue that wants to provide guests with a memorable experience. With this point in mind, the installation team selected Martin ERA 600 Performance fixtures and MAC Aura XB wash lights as the venue's main lighting system. The Martin ERA 600 sports a highly efficient 550W white LED engine that produces bright and sharp image projection up to 6,500K, while MAC Aura XB specializes in color blends thanks to its superior color mixing system and optimized lens design. The resulting lighting rig ensures saturated washes, vibrant effects, striking beams and more.

"We chose Martin lighting fixtures as it is a renowned brand with a comprehensive range of effects, versatile LED profile and limitless design possibilities," said Keita O-Kado, Booking Manager, Planning and Production Group, Billboard Division at Hashin Contents Link Corporation.

"Billboard Live is a premium live entertainment venue, and we are honored to bring its performances to life with stellar sound and lighting via our suite of world-class products" said Amar Subash, VP & GM, HARMAN Professional Solutions of APAC. "We would like to thank Hibino, SC Alliance and Rewire for entrusting us and we look forward to future collaborations."

HARMAN Pro

EYTE Creates Hybrid Classroom at Indira Management College

The hybrid classroom facilitates effective learning for both in-class and remotely located students

FACTFILE

Project name: Indira Institutes Management College

Project location: Pune, India

Project segment: Education

Project owner: SC Education Society

Project Management Consultant: Eyte Technologies Pvt Ltd, Mumbai

Project Design Consultants: Eyte Technologies Pvt Ltd, Mumbai

Project Acoustic Consultants: Eyte Technologies Pvt Ltd, Mumbai

Project Systems Integrator: Eyte Technologies Pvt Ltd, Mumba

Project Highlight: Hybrid Classroom deployment facilitating both in-person, and online learning; Ability to support multiple conferencing platforms simultaneously

In a classic exemplification of embracing technology for a post-pandemic hybrid environment, Pune's Indira Indira Group of Institutes Management College has recently created a hybrid classroom to facilitate effective and uninterrupted learning by the students. Mumbai-based Eyte Technologies Pvt Ltd took the pride of creating the desired space, in a record span of two weeks.

SI Asia provides an account.

Indira Group of Institutes Management College – one of the leading academic conglomerates in the education hub of Pune – has made its imprint strong and established not just among locals but also far-flung regions.

With several multi-discipline campuses in different cities across the country, the institution has a pan-India presence. In addition to the regular academic set-up, the Group also has a significant spread of distant education programme.

In the post-pandemic era of digital connectivity, the institution wanted to have their regular lectures to be recorded for distance education stream, and also

wanted to give the remotely-located students the opportunity to attend live lectures online.

The college had several requirements for the hybrid classroom, including the need for an interactive display, high-quality video conferencing equipment, and an advanced sound system. Additionally, the installation had to be completed within a tight schedule of two weeks, with minimal disruption to the ongoing academic activities.

In order to achieve its objective, the college administration chose Mumbai-based AV consultant and systems integrator **Eyte Technologies Pvt** Ltd to design and install the necessary AV technology. Eyte suggested that for the hybrid classroom, live lectures be done using smart boards, that will capture and send online to remote students along with the professor / teacher video. The AV feeds are simultaneously recorded and archived for review and reuse on later occasions.

"The initial design was to have SmartBoard for teaching aid, HD camera and Cloud VC to have online sessions; sound system for good audio; and some suggestions in light and acoustics for good local

The Samsung professional displays in the classroom

The Newline interactive display

experience to students as well," said **Abdul Waheed, managing director of Eyte Tech**, informs. "With little tweaks here and there, it was deployed as desired."

Eyte designed and installed a cutting-edge AV system that met all the college's requirements. The system included a Samsung professional display, Newline interactive display, Logitech Rally Teams MTR setup, QSC speaker system, and a dual display setup for the lecturer.

The Samsung professional display used in the classroom is a 55" 4K UHD Professional LED Display, which is ideal for delivering high-quality visuals in a variety of lighting conditions. For the SmartBoard, Eyte installed the Newline 86" 4K UHD Interactive Professional LED Display. The display is equipped with a touch-sensitive panel, which allows for interactive learning experiences.

The Logitech Rally Teams MTR setup is a state-of-the-art video conferencing system that provides crystal-clear audio and video. The system includes a Logitech Rally camera, a microphone, and a speaker, which work together to deliver a seamless video conferencing experience.

The system also supports multiple conferencing platforms, making it highly versatile. The QSC speaker system used in the classroom is a premium sound system that delivers high-quality audio for lectures, presentations, and video conferencing. The system includes QSC K10.2 powered loudspeakers, a QSC KSub powered subwoofer, and a QSC TouchMix-16 digital mixer, which work together to deliver a powerful and immersive audio experience.

The installation process was completed within the **two-week** timeline, with minimal disruption to the

college's academic activities. The installation team at Eyte worked closely with the college's IT team to ensure that the AV system integrated seamlessly with the college's existing technology infrastructure.

The expertise and dedication – brought in by team Eyte against hard-pressed timeline – transformed the learning environment into a whole new experience of hybrid, pretty much in tune with the time and requirement. The use of high-quality brands such as Samsung, Newline, Logitech, and QSC has ensured that the AV system is of the highest quality, delivering an immersive and engaging learning experience to students. It set a new standard for AV integration in educational institutions.

The hybrid classroom allows for both in-person and online learning, providing students with flexibility and convenience. The Samsung professional display, Newline interactive display, Logitech Rally Teams MTR setup, and QSC speaker system have made lectures more engaging and interactive. The dual display setup for the lecturer ensures that they have all the necessary information at their fingertips. The sound system has enhanced the audio experience, making lectures, presentations, and video conferencing more impactful and immersive.

According to Eyte chief, the big challenge for the integrator was to convert the conventional class room to hybrid learning space with minimal changes to existing set-ups. Technology deployment was one, while acoustics and lighting was the other. For the speech intelligibility was one factor of reckoning for both physical and online learning.

"Secondly, training the existing staff who had till then been only familiar with conventional blackboard and chalk sorts," explains Waheed. "We did it with

intent and intensity- of course with commendable support from the staff and management. For, without necessary training and familiarization, technology hardly benefits the user.

The college's faculty and students have provided positive feedback about the AV system, reliability, and advanced features. The interactive display has allowed for more engaging and interactive learning experiences, while the video conferencing system has enabled seamless communication with students who are attending classes remotely.

Says a very satisfied Santosh Kumar, the institution's director for IT: "It delivers top-notch quality and enables smooth integration with our virtual classroom. Despite the distance, our students can feel connected and engaged; The students and faculty are happy about the overall audio visuals."

According to him, the set-up, and installation procedure was stress-free for them because of Eyte team's quick response to any queries and technical difficulties.

"Our virtual classroom's success was greatly influenced by the Eyte team's persistence, adaptability, and readiness to fulfill our requirements," he commended. "We are sincerely appreciative of the partnership we have built with Eyte, and we're looking forward to working together in future.

EYTE

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