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Command & Control Rooms of Today and Tomorrow

INTERVIEW

Amy Zhou
Magewell Sales Director,
on Bridging Traditional
Video with Software/IP
Workflows



INSTALLATION

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“A key challenge in command and control, which is a global trend, is the increasing volume of information from numerous systems. This is coupled with a desire in the Command and Control sector for larger, but fewer monitors. This shift is driven by the need to maximize user efficiency and create the best possible working environment”

Tom Fitzgerald, Black Box KVM Product Manager

To read more go to Feature on page 48





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

In an era of rapid technological advancement and increasing complexity in global operations, Command and Control Centres (C&Cs) have become the nerve centres of decision-making and crisis management. As organisations face unprecedented challenges in managing vast amounts of information and coordinating responses across diverse platforms, professional audiovisual (AV) technology is more critical than ever. From real-time data visualisation to seamless system integration, professional AV solutions ensure C&Cs operate with maximum efficiency and

effectiveness. Our feature article explores the evolving landscape of AV technology in C&Cs, examining its current capabilities, challenges, and future trends, with insights from industry-leading experts.



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Magewell Leads the Way in Bridging the Gap Between Traditional Video Signals with Software and IP Workflows



The Melbourne Cricket Ground upgraded its AV distribution in Function rooms with Magewell NDI-based solutions such as the Magewell Pro Convert NDI encoders and decoders; Pro Convert AES67 audio converters and its Control Hub management software.

Founded in 2011, Magewell designs and develops hardware and software for video and audio capture, conversion and streaming in the broadcast, production and professional AV markets. For over a dozen years, customers have trusted Magewell for their reliable yet cost-effective video capture, IP conversion, and streaming products. While ensuring the ease of use and reliability of its products, Magewell always pays close attention



to cutting-edge technology developments to maintain its leading role of innovations and its open attitude of embracing standards. The simplicity, reliability, and cost-effectiveness are always the goals of Magewell which also make Magewell's products one of the preferred choice of integrators, end-users, and OEM customers for bringing high-quality AV signals into and



out of IP networks and popular software. In this issue, SI Asia chats with **Amy Zhou, Sales Director of Magewell** about the company's latest solutions and future plans.

Could you provide an overview of Magewell's latest solutions? What motivated their development, and what specific gaps or needs do they address in the market?

For years, Magewell has been a market leader in helping production and AV professionals bridge traditional and IP-based media workflows with innovative solutions to convert between signals and streams. Magewell's recent new Modator family brings the reliability and low-latency performance of the company's standalone encoders and decoders to a high-density, modular, rackmount form factor.



The new Modator 2U chassis is designed to fit standard rack deployments and has slots for up to 10 modules. Users can configure frame network settings and monitor the status of the chassis and installed modules through the integrated 4.8-inch LED touchscreen or browser-based web interface. Dual power supplies and optimized heat dissipation enable reliable 24/7 operation. As IP-based production and distribution deployments continue to grow in



Amy Zhou, Sales Director of Magewell

scale, customers often want a higher-density form factor for greater space efficiency. The new Modator series delivers our hallmark reliability and low-latency performance in a scalable solution that addresses this need.

In which market segments is Magewell experiencing the most significant growth, and what factors are driving this trend?

Magewell has seen the significant growth in corporate and education as well as medical segments where users are exploring how to leverage the IT-centric solutions and products, such as Pro Convert NDI converters and Ultra Encode to help them improve the efficiency at work. Products like USB Fusion continues to enhance the strength of video to create a more engaging presentation.



From Magewell's perspective, what are the key factors influencing technology adoption and adaptation within the industry?

Understanding customer needs and market trends is crucial. Magewell must stick to what features and capabilities customers are looking for in their video capture and streaming solutions. One also needs to continuously innovate to offer products with improved performance, efficiency, and reliability. Keeping up with industrial standards means a lot to ensure compatibility and reliability in diverse usage scenarios. Collaborating with industry partners, such as software developers, content creators, and system integrators, can accelerate adoption. Magewell engages in joint development projects, participate in industry events, and leverage partnerships to enhance product capabilities and market reach.

There is no doubt about the anticipated growth of IP networks. Magewell solutions work within this space. How does the company foresee this influencing its strategic direction and product development further?

In terms of markets – since Magewell was founded, we have offered solutions for both the broadcast and production market, as well as for the Pro AV market. In recent years there has been increasing convergence between the two markets, with users in what would traditionally have been considered Pro AV verticals – such as corporate and education – increasingly adopting production technologies. The move to video over IP and IT-centric solutions has

accelerated this, as it has lowered the cost barrier of entry for AV users to become their own content producers. At Magewell, we have many solutions – from our video capture devices to our streaming encoders – where exactly the same product is now popular in both markets.

Looking ahead, what challenges and opportunities does Magewell foresee in the near future? How is the company preparing to navigate these challenges and capitalize on potential opportunities?

Overall, our focus continues to be on developing innovative tools that help customers bridge traditional video signals with software and IP workflows for both production and distribution. Under that umbrella, we continue to advance our existing product lines with new capabilities while also expanding into new product areas – for example Director Mini, but we also launched our first dedicated audio products.

We are also working hard to forge new partnerships with other like-minded, innovative manufacturers to work together to help improve customers workflows and expand our interoperable ecosystem.

Magewell



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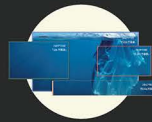
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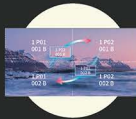
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2-in-1 LED controller



LED Video Wall Controller

WyreStorm and Control Concepts Join Forces to Enhance AV Signal Management

GLOBAL: WyreStorm, an award-winning audio-visual solutions manufacturer, announced a strategic partnership with Control Concepts, the premier provider of specialised software and services for the Audio Visual (AV) industry. This collaboration aims to provide software development and control programming services.

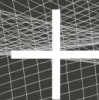
The Control Concepts team of technology professionals has consistently delivered reliable and intuitive AV system operations, enabling manufacturers, technology managers, consultants, integrators, and end-users to be

more effective and efficient. By leveraging mainstream programming languages and creative solutions, Control Concepts has time and again surpassed the perceived boundaries and constraints of traditional audiovisual systems.

WyreStorm, renowned for its comprehensive range of AV distribution and Unified Communication solutions, offers a unique multiplatform product lineup that includes HDBaseT, HDMI, Fiber, and the three AV over IP technologies of the NetworkHD line. WyreStorm's products are known for their value and compatibility with the latest 4K standards, providing seamless integration and tailored solutions for any AV application. Their powerful, reliable, and simple solutions have made them a trusted name in the industry, ensuring every AV project is a success.

The partnership between Control Concepts and WyreStorm is set to bring groundbreaking advancements to the AV industry by combining

Strategic Partnership

The WyreStorm logo features the brand name in a bold, green, sans-serif font. A red and white graphic element resembling a stylized 'S' or a signal waveform is positioned to the right of the text.The Control Concepts logo consists of the words 'CONTROL' and 'CONCEPTS' in a light blue, uppercase, sans-serif font. A light blue circular graphic element, resembling a stylized 'C' or a signal waveform, is positioned between the two words.



Control Concepts' expertise in software development and system programming with WyreStorm's cutting-edge AV distribution technologies. This collaboration will facilitate seamless AV signal management, enabling businesses to operate with greater efficiency and effectiveness.

"Our partnership with WyreStorm marks a significant milestone in our mission to enhance AV system communication and integration," said Steve Greenblatt, President of Control Concepts. "By joining forces, we are poised to deliver innovative solutions that meet the evolving needs of the AV industry, providing our clients

with unmatched performance and reliability." "We are thrilled to partner with Control Concepts, a leader in AV software and services," said WyreStorm CEO, George Lau. "This collaboration allows us to further our commitment to delivering top-tier AV distribution solutions that are both powerful and easy to integrate. Together, we will continue to set new standards in the AV industry."

[WyreStorm](#)

[Control Concepts](#)

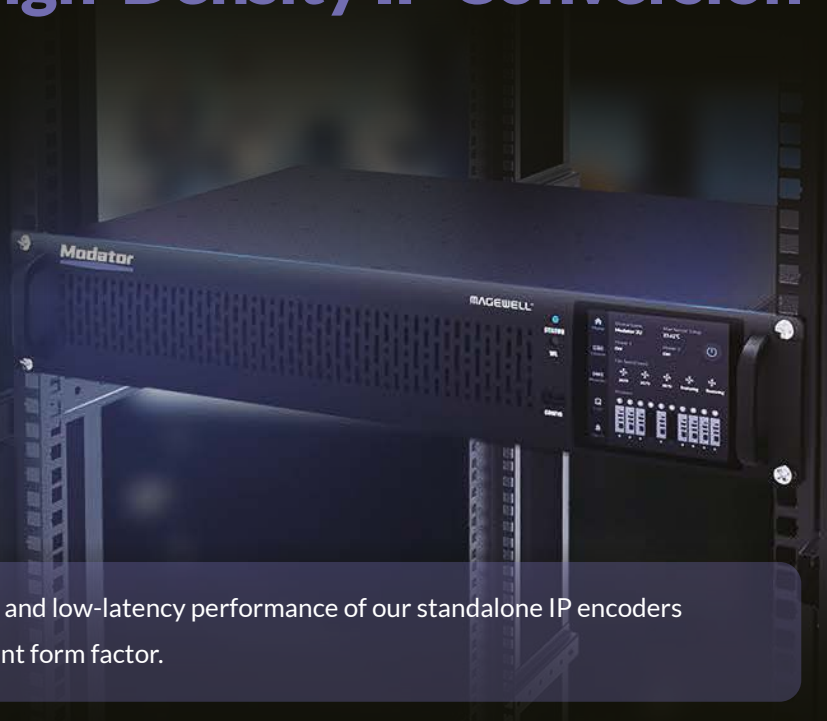
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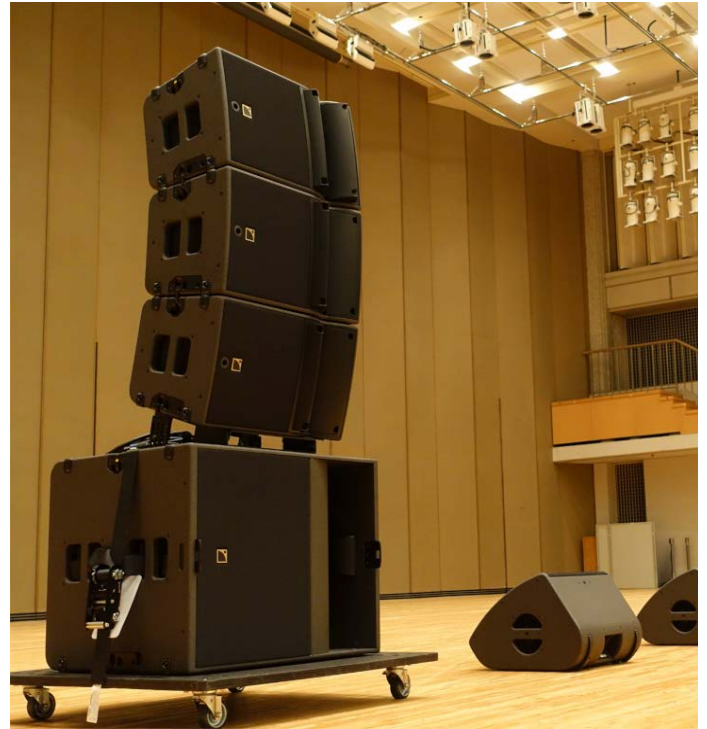
www.magewell.com/s/modator

International Conference Center Transforms with New L-Acoustics Kiva II

JAPAN: Within the serene 120,000 sqm Peace Memorial Park in downtown Hiroshima, Japan, the International Conference Center Hiroshima (ICCH) stands as a beacon of global dialogue and cultural exchange. Since its opening in 1989, this prestigious venue has hosted high-profile events, including the G7 Summit press conferences and the Tokyo Olympics Torch Relay Celebration. At its heart lies the 1,504-capacity Phoenix Hall, a versatile space that welcomes a diverse array of events throughout the year.

Despite its illustrious history, the ICCH faced a significant challenge. The subterranean Phoenix Hall's ageing sound system no longer met the exacting standards required for international conferences, academic meetings, and live performances. Full-range clarity was lacking, and coverage to balcony audience seats was notably reduced in SPL.

"The Phoenix Hall hosts a variety of events, including classical music concerts, but is most often used for international conferences and academic meetings, where the clarity of sound and speech intelligibility are of the utmost importance," explained Maki Shimizu of

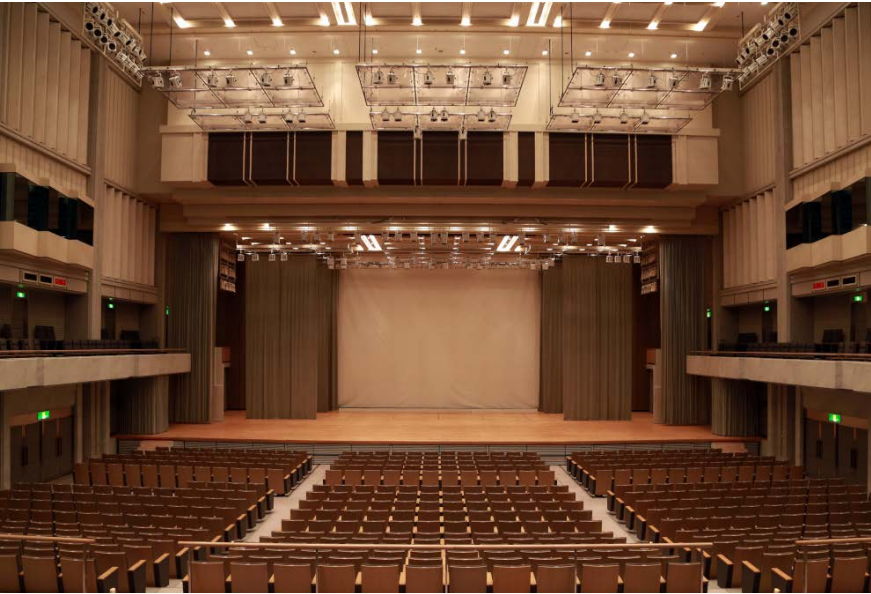


Shinomoto Shomei, who manages sound and lighting at the ICCH.

Recognizing the need for a transformative solution, the ICCH team turned to L-Acoustics Certified Provider Distributor Bestec Audio. Together they embarked on a journey to design a system that would not only address the current challenges but also elevate the venue's audio capabilities to new heights.

Using L-Acoustics Soundvision 3D modelling software, Bestec Audio crafted a bespoke solution that met several requirements. The new system needed to provide even coverage throughout the hall without interfering with the acrylic soundboard above the stage proscenium, swiftly adapt to various staging and seating configurations and ensure full coverage of the balcony seats.

The result? A state-of-the-art L-Acoustics Kiva II professional sound system that has



transformed Phoenix Hall's audio experience. The main LCR system features nine Kiva II per hang, optimized to cover both the ground floor and the first balcony seats. An additional L/R system of four Kara II per side serves the second balcony. For arena setups, the bottom Kiva II enclosures are deactivated to prevent sound spillage onto the larger stage area. In this configuration, three X12 boxes are added to cover audience seats behind the stage.

Additional X12 and X15 HiQ speakers ensure crystal-clear sound reaches balcony overhangs, while a mobile system of three L-Acoustics A10 Focus atop one KS21 subwoofer offers enhanced flexibility for live concerts. The entire system is driven by 12 LA4X amplified controllers installed in the hall's control room, where Hiroki Shimizu, the hall's professional PA system operator mixes with a pair of L-Acoustics 108P active monitors.

"It has become so much easier now since all the L-Acoustics speakers have the same sonic signature," marvelled Hiroki Shimizu. "Situations

where there isn't much time before a presentation or performance are common. Instead of doing a one-two check on the main PA, I can insert a high pass filter on the input channel of the microphone and adjust any channel that peaks with feedback,"

The new L-Acoustics system complements the ICCH's already impressive technological infrastructure, which includes on-site transmission capabilities for speeches and presentations, simultaneous interpretation in up to six languages, and hybrid online streaming broadcast solutions.

With this audio upgrade, the International Conference Center Hiroshima has solidified its position as a world-class venue. "Bestec efficiently provided a comprehensive audio solution for the ICCH," Hiroki Shimizu concluded.

"The brand-new L-Acoustics system delivered a world-class signature sound, consistent tone and ideal SPL throughout Phoenix Hall. We can eagerly continue hosting some of the world's most momentous events right here in Hiroshima."

As the ICCH embarks on this new chapter, it stands ready to amplify the voices of global leaders, artists, and thinkers, ensuring that every word and note resonates with clarity and impact throughout the historic Phoenix Hall.

L-Acoustics

Ban Leong Technologies is ATEN's Latest Authorized Distributor

SINGAPORE: ATEN International has appointed **Ban Leong Technologies** as its authorized distributor in the region.

The collaboration with Ban Leong Technologies is set to significantly enhance ATEN's brand presence across Asia. Leveraging Ban Leong's extensive distribution network and market expertise, ATEN anticipates a substantial increase in brand awareness and sales opportunities.

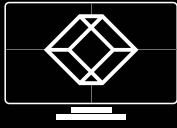
"ATEN is thrilled to cooperate with Ban Leong Technologies to provide access to our products and solutions in the Singapore market," said Mike Chiang, ATEN's Assistant Vice President of the Sales Division 1. "ATEN offers robust

solutions, including a wide range of integrated KVM, professional AV, SOHO, and intelligent power products, tailored to meet specific business requirements. Our solutions are backed by reliability and stability to fulfil diverse customer needs. Through our partnership with Ban Leong Technologies, we can offer the most immediate and excellent service in Singapore. In the future, we anticipate greater opportunities to expand our market in Singapore, looking forward to discovering new prospects in the region through this collaboration."

Since 1993, Ban Leong Technologies has evolved from a traditional IT products distributor into a modern, technology-driven specialist, managing over 50 authorized distributorships across its regional sales offices in Singapore, Malaysia, and Thailand. Covering segments from consumer, commercial, and online spaces for the brands they represent, Ban Leong's development of these new sales channels will assist ATEN in meeting the increasing local demands for AV/IT solutions.

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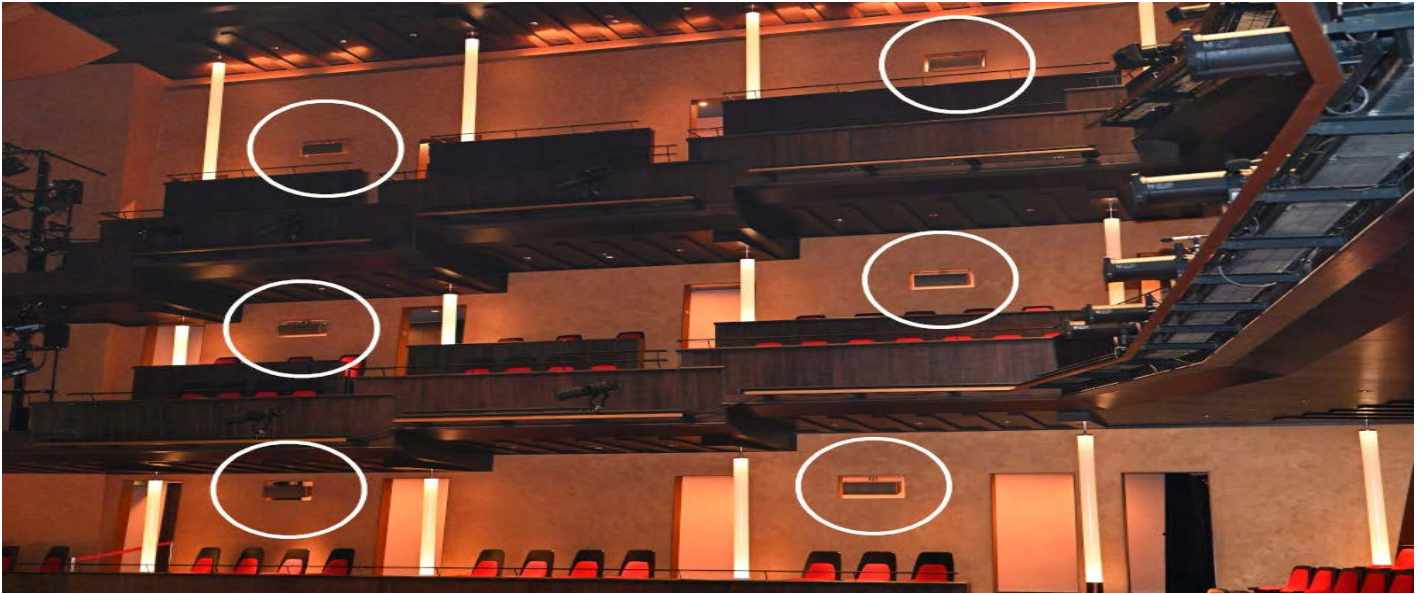
Dante and Yamaha Provide Immersive Live Performances at Kani City Cultural Creation Center

JAPAN: Kani is a city located in the south-central Gifu Prefecture of Japan. With a population of approximately 100,000 residents, Kani is known for the multitude of golf courses in the eastern part of the city, which collectively cover almost 10% of the city's land. At the heart of the city lies the Kani City Cultural Creation Center. Built to serve as the city's civic focal point, the Kani City Cultural Creation Center doesn't think of itself as an arts centre but as a "human home" filled with people's memories and promotes socially inclusive theatre management that fosters connections. The venue was built to present civic activities, including large-scale performances that involve local talent, community-building workshops, and nurturing performing artists and community arts workers.

The main theatre of the Kani City Cultural Creation Center is designed primarily for live theatrical performances with an acoustic reflection pattern that has a short reverberation time of about 1.6 seconds. In early 2024, the venue hosted an event in which contemporary dance was performed to an orchestral accompaniment. The performance involved dancers on stage while the orchestra was seated in an orchestra pit at the front of the stage that was raised from the pit floor to stage level at different times in the performance.

The event challenged the venue staff to find a way to enhance the experience for the audience as the theatre's acoustic reflectors and additional curtain decorations used in the performance would significantly absorb the sound and not provide a rich, reverberant and immersive atmosphere. The acoustic and audio engineers saw this as an opportunity to elevate the audio experience for the audience, so they reached out to Yamaha to use its renowned **Active Field Control (AFC) Immersive Audio System** that would transfer audio over a **Dante** network.





“The AFC system is based on the assumption that all signals, from the AFC engine and digital mixer to the processor, are exchanged via Dante,” said Hayato Ikeda, a sound engineer with the Kani City Cultural Creation Center. “This theatre has permanent audio equipment that is fully compatible with Dante, from the Yamaha digital mixer to the power amplifiers, so we were able to make the decision to give AFC a try.”

The detailed, dimensional regenerative electronic reverberation control capabilities of Yamaha’s AFC Enhance were used in the theatre to create acoustic spaces in which acoustic images were positioned and controlled by AFC Image. For AFC Enhance, two rows of four microphones were hung from the ceiling to collect the natural sound in the theatre, and Ikeda used that sound to process and create a consistent resonance throughout the room regardless of the orchestra pit position. For AFC Image, 37 microphones were set up in the orchestra pit, and seven boundary microphones were mounted on stage for the dancers. The microphones in the pit were mainly targeted at string instruments and reinforced the

parts of the performance where the sound of string instruments has difficulty reaching the audience when the orchestra pit is lowered. The microphone inputs were passed to a Yamaha QL5 digital mixer for EQ before being sent to the AFC engine for spatial processing before being amplified through 37 NEXO speakers installed throughout the theatre.

The effect of the spatial audio experience delivered during the performance was transformative and sounded very natural – so natural that when Ikeda turned off AFC Enhance during practices, it felt “strange.” There were also no complaints from the musicians and the maestro, who were very strict about sound quality, which was an endorsement of its own.

“We made full use of Dante during the show, transmitting data from all 52 microphones through the Dante-enabled Yamaha digital mixers and the AFC engine and out to the amplifiers,” said Ikeda. “This performance would have been virtually impossible without Dante.”

Yamaha

E&E Seamlessly Integrates JBL Systems into International French School

SINGAPORE: The International French School recently embarked on a crucial project to enhance its audio-visual capabilities. Faced with the need to replace and upgrade their ageing speaker system, the school turned to **Electronics & Engineering Pte Ltd (E&E)** for a solution that would not disrupt their day-to-day activities and events. The result was a seamless installation of six JBL SRX906 and two JBL SRX918S speakers, transforming their auditory experience.

The primary goal for the International French School was clear: to replace and upgrade their existing speakers to ensure that daily events,

including performances and assemblies, could proceed without interruption. The importance of clear, high-quality sound in these settings cannot be overstated, as it directly impacts the engagement and satisfaction of both performers and the audience. "The E&E team understood these needs and communicated effectively throughout the process, ensuring that the installation met the school's expectations, and supported their diverse audio-visual needs," shared Gerald Chew, Head of Distribution Sales, Electronics & Engineering Pte Ltd.

The new JBL SRX906 and SRX918S speakers have greatly improved the quality of the music and shows performed. The impact of the new AV system has been significant and positive. The quality of music and performances has seen a noticeable improvement, enhancing the overall experience for both the audience and the performers. The feedback from the audience has been overwhelmingly positive since the new speakers were installed.

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Powersoft is Right Fit for Flagship CROSSOVER Store

MALAYSIA: Powersoft's T Series amplifier platform, known for its efficiency, flexibility and performance, is powering the CROSSOVER store in the vibrant Exchange TRX shopping centre in Kuala Lumpur's international financial district. CROSSOVER is a multi-label retail space and concept flagship store housing labels such as Carhartt WIP, Aries and Patta. The shop needed to transform the in-store audio experience to match its avant-garde retail ambience.

In pursuit of clear, consistent and high-quality audio, the sustainability-conscious store approached loudspeaker manufacturer NNNN, which specified Powersoft T Series amplifiers to power its speakers. In choosing the T Series, NNNN aimed to deliver maximum energy efficiency and clear, consistent and high-quality audio throughout the store, as well as a long-term value proposition for the client without compromising on performance.

Integrator **Concept Associates (KL) Sdn Bhd** decided to tailor the audio setup to the unique architectural features of the store, ensuring even distribution of sound without overpowering certain areas, while seamlessly blending in with the store's sophisticated design and avoiding impacting the shopping experience during the installation process.

"Our client insisted on using Powersoft to fully optimise their speaker system," stated Julian Noor, senior application engineer of Concept Associates (KL) Sdn Bhd, which was approached to provide advice on which Powersoft amplifier to use with the newly purchased NNNN x OJAS ON7 speakers. "They had the confidence that Powersoft amplifiers were the right products to use with their system."

For the installation at the CROSSOVER concept store, Powersoft T604A was selected for its superior audio performance, integration flexibility and energy efficiency. Noor explains that T604A's ability to deliver high power with minimal energy consumption aligned with the store's sustainability goals, making it the "ideal choice" for this installation.

"The T604A amplifier also has built-in DSP, which came in handy," states Noor, adding that the integrator no longer needed to rely on a third-party speaker management system or processor. "Since each stack of NNNN x OJAS ON7 [is] tri-amped, the TestSYS function in [Powersoft software] ArmoníaPlus allowed us to quickly test if all the drivers were internally wired and functioning properly," he adds.

Concept Associates (KL) Sdn Bhd worked closely with Powersoft technicians to develop custom presets that matched the store's unique acoustic profile. In ArmoníaPlus, NNNN's speaker presets are available, although a few ON7 system speakers require manual configuration.



The installation was carried out without any hiccups, with the ON7 speakers placed near the main entrance of the store – one facing the main entrance and the other facing inwards, both placed in front of a pillar. The Powersoft amplifiers were integrated into the store's tills. Two Powersoft T604A are powering two stacks of NNNN x OJAS ON7, and the store is using its own Pioneer DJ console in combination with a Yamaha MG10XU mixer. It was important to integrate the amplifiers and speakers into the store's design to ensure the equipment was unobtrusive yet effective.

After the installation, the integrator provided comprehensive training for the store's staff to easily adjust the system settings as needed.

As CROSSOVER's flagship shop, the concept store needed to prioritise sound quality, ease of use and cost efficiency to set a new standard

for in-store audio experiences. "This installation highlights the importance of selecting the right audio equipment and partners to achieve a seamless integration of technology and design," comments Noor, "ultimately enhancing the overall customer experience."

According to the CROSSOVER concept store, since the new audio system was installed, customers have reported a significantly more engaging and pleasant shopping experience, while the store staff found the system easy to operate. "What's more, the store has observed a reduction in energy consumption that's been attributed to Powersoft amplifiers' high efficiency, which has been contributing to lower operational costs," concluded Noor.

Powersoft

Nightspot Named After KV2 Sound System

CHINA: The latest addition to Meishan's cultural landscape is a ground-breaking entertainment venue with a capital investment of over 50 million RMB (over £5.4M). The principal investor – a highly successful Chinese media and showbiz entrepreneur – visited several large clubs before deciding on what he wanted for his venue. He was so impressed by what he heard at the FOREVER club in Wuhan – a massive KV2 venue that was billed as China's biggest nightclub project of 2022 – that he decided not only on a KV2 system for his venue but that he would even name the club after it. KV2 Hub in Meishan opened earlier this year to huge acclaim.

Conveniently situated in the heart of the iconic Rose International M District in Meishan, KV2 Hub offers a premier location that caters to both modern and traditional audiences. Spanning over 2300 square meters of column-free space, the venue features a diverse range of offerings including 60+ seating areas, six private party rooms, leisure zones, and trendy Instagrammable photo spots.

Billed as a pioneer of the fusion of audio-visual expression, KV2 Hub collaborates with renowned artists to redefine rave and nightclub culture. Through the integration of cutting-edge technology and state-of-the-art hardware, the venue promises a unique and unforgettable entertainment experience for its patrons. Part of the signature of the new



space is its audio system which comprises four powerful, long-throw **VHD2.0 mid-high enclosures** arranged in two vertical arrays left and right of the main stage supplemented by four **VHD2.21 ultra-low frequency subwoofers** for the ultimate club sound experience with none of the fatiguing distortion or uneven dispersion often experienced in large clubs. A further two VHD2.0 enclosures act as a vocal system. Combined with a custom sound matrix crafted by professional acousticians to ensure perfect coverage exactly where it is needed, KV2 Hub sets new standards of sonic excellence in Meishan's entertainment landscape.

On the visual side, the effects are every bit as stunning – the Hub boasts over 400 square meters of boundary-breaking LED visual matrix by HuaMeiTe, complemented by collaborations with top-tier stage design teams, ensuring a benchmark immersive experience for all clubbers.

A bold attempt to redefine the electronic music experience in Meishan and beyond, KV2 Hub's vision is to expand into China's major cities and partner with global cultural institutions to establish itself as a leading cultural brand with a lasting impact on the entertainment industry.

KV2 Audio



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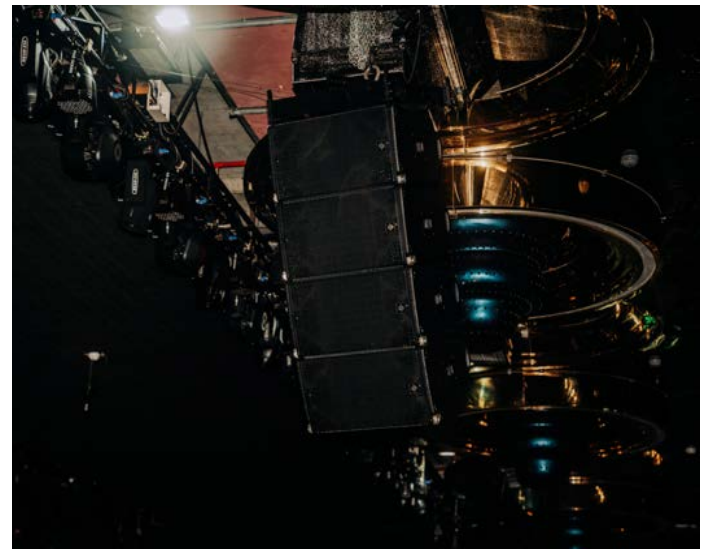
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ADM Doubles Up with CODA Audio

VIENTNAM: ADM Club in Da Nang is one of the biggest bars in Vietnam. Luxuriously appointed, with stunning interior design, the venue hosts a wide variety of performances, from international DJ sets and laser shows to some of the country’s leading live acts, including Trinh Thang Binh, Lam Chan Huy and Chau Khai Phong. ADM’s investment in its audio and lighting provision reflects its determination to set the very highest standards on behalf of its discerning clientele at this premier entertainment hub.

Experienced integrator Viet KTV Electronics Company Ltd of Hanoi was engaged to supply and install a CODA Audio system for the venue and chose the company’s flagship AiRAY line array as the centrepiece. A total of 20 pieces of AiRAY were complemented by 9 x SCP dual 18” sensor-controlled subwoofers and 4 x SC2-F dual 15” sensor-controlled bass extensions. The



system is driven by 6 x CODA Audio LINUS14 and 1 x LINUS10C DSP amplifiers.

Vu Phi Diep, Founder of Viet KTV commented, “We are honoured to be the supplier of this high-end sound system from CODA Audio for ADM. The venue is an incredibly impressive place where people can chill and enjoy themselves whilst immersed in world-class audio.”

Following the success of the installation at ADM Da Nang, the venue’s owners went ahead with a further project in the busy commercial



city of Bien Hoa. The venue opened in early 2024 and, as was the case in Da Nang, ADM Bien Hoa was equipped with another CODA Audio system installed by Viet KTV, again based around AiRAY. This time Viet KTV deployed a system comprising 12 x AiRAY with 4 x SC2-F and 3 x SCP, driven by 5 x LINUS DSP amplifiers. 2 x CODA Audio CUE TWO compact 3-way stage monitors completed the picture.

Vu Phi Diep continued, "Taking forward the success of the first project at ADM Da Nang, the venue in Bien Hoa has once again been equipped with CODA Audio. Predictably, the

system has completely won over the customers and helped to create a top-class entertainment destination with sound quality beyond expectations!"

CODA Audio Global Business Lead, Paul Ward, concluded, "Viet KTV are doing great work in Vietnam as our distributor and as a leading integrator. The fact that the installation in Da Nang led directly to the Bien Hoa project is a testament both to the quality of our systems and the Viet KTV team's expertise in deploying them for optimal outcomes."













[CODA Audio](#)

COEX

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Kind-Hearted Initiative Leads to Installation of Genelec 4000 Series Loudspeakers

JAPAN: Connected to the largest freshwater lake in Japan, Karahashi Deck is a multifunctional facility offering water sports, corporate training, education, and a glass-enclosed restaurant with a stunning view. Sitting on the banks of the Seta River, the new venue is operated by Biwako Rowing Club – an organization that offers rowing classes to children with disabilities. The newly opened picturesque café and restaurant, La Cosso, offers a naturally serene environment, which is complemented by six 4020 installation loudspeakers from Genelec.

Alongside its water sports lessons and educational seminars, Karahashi Deck aims to provide employment support for people with disabilities, through work in the café, boat repairs and additional roles across the site.

Genelec helped to provide a relaxing environment where people with and without disabilities can interact without boundaries. “La Cosso was designed to offer a space with a natural atmosphere so that everyone who visits automatically feels at ease,” noted Shuichi Sakata, Manager of Biwako Rowing Club. “Sound within the space was an important factor in helping customers relax. Cafés are – of course – about eating, but I also think there’s



an element of enjoying the space and time you spend there. I think music plays a huge part in that. The music and the quality of the sound make a big difference to the atmosphere and the impression it leaves on our customers. We are very grateful that Genelec helped us to create a space like La Cosso.”

Biwako Rowing Club worked alongside Neighbor Food Co – who were the project consultants – on the design and implementation of the sound system inside La Cosso. It was Neighbor who suggested using Genelec, and the size, sound and design instantly impressed staff members. The loudspeakers are responsible for music distribution in the café, and they’re simple enough to operate so that staff can manage the audio system with ease.

The music source is typically a smartphone or tablet, connected via Bluetooth to a PreSonus StudioLive AR8c mixer. However, if a customer decides to bring in a Mac or PC for special events, a PreSonus AudioBox GO USB interface is then inserted between the computer and the mixer.



“When I arrive in the morning, all I have to do is turn on the output device and start playing,” added Sakata. “Genelec’s loudspeakers have built-in amplifiers, as well as Intelligent Signal Sensing technology that automatically turns on the power when music is played, so the products are really convenient. Even when you go home after work for the day, the power will automatically turn off after a certain period.”

The interior design of La Cosso was just as important as the sound. Located so close to Lake Biwa, the design reflects its natural surroundings with a wood grain finish that harmonizes with the lake in front of it – highlighted by large windows looking out over the water. Genelec loudspeakers in RAW aluminium finish were chosen to match the natural feel of the café, as Sakata explained: “The texture of recycled aluminium enclosures with a RAW finish was the best choice. When

we installed the loudspeakers, the staff were surprised at how well they matched the interiors. I heard that Genelec values the natural environment, which makes them highly compatible with venues like ours where we encounter nature every day.”

Karahashi Deck’s La Cosso restaurant brings together the natural beauty of Japan. Not only does it sit alongside one of the most stunning freshwater lakes in the country, but it also showcases the best in humanity, offering permanent work for people with disabilities. Genelec’s 4020 installation loudspeakers offer a relaxing soundscape that ensures La Cosso can continue its mission by providing a space in which everyone can learn and work comfortably.

Genelec

Bose Professional Celebrates Global Expansion with Tokyo Office

JAPAN: Bose Professional celebrated the grand opening of a new sales office and Experience Center in Tokyo, Japan, marking a major milestone in the company's continuing international expansion.

Located in the Tamachi neighbourhood of Tokyo, conveniently accessible by multiple major transportation lines, the new 270m² office combines sleek, modern business spaces and meeting rooms with a 130m² Experience Center, designed for education and demonstration and featuring Bose Professional's line-up of loudspeakers, power amplifiers, processors, controllers and software.

The entire Bose Professional Japan team was honoured to host an Opening Ceremony on May 20, 2024, attended by CEO John Maier, Vice President of International Sales Hans Vereecken, Director of Sales, Japan, Kazuhiro Terada, as well as esteemed guests, industry leaders, and valued partners including representatives from Nomura Real Estate Development Co., Ltd., USEN, ITOKI, and M&H. The event featured speeches with Maier serving as Guest of Honour, a ribbon-cutting ceremony, and concluding with a traditional Kagami-Biraki sake toast to commemorate the occasion.

"We are very pleased to have successfully opened the Bose Professional Japan office and Experience Center," said Terada. "We



would like to take this opportunity to express our sincere gratitude to all of you for your kindness and support. With the establishment of our independent company and the opening of our office, all of us at Bose Professional will continue to strive for further development of our business and to meet the needs of our customers."

In 2024, Bose Professional opened new offices and Experience Centers in Singapore; Beijing, Shenzhen, and Shanghai, China; Osaka, Japan, and plans to open seven more offices in 2024, in locations including Dubai, UAE, Paris and London. The company also plans to open a new Bose Professional global headquarters and Experience Center early next year in Hopkinton, Massachusetts.

"It's our mission to deliver amazing audio solutions and services to our customers around the globe," said Maier. "I am so proud of what the Bose Professional team here in Japan, and around the world have accomplished by achieving these milestones in our company's history. I can't wait to travel to more offices and cut more ribbons as we deepen our 50-year legacy of partnerships and continue to grow our global organization."

Bose Professional



Xilica and Avientek Announce Distribution Agreement for Select Markets

GCC: Xilica and Avientek, one of the Middle East & Africa's leading distributors for audio, video, unified communications and education technology, have announced a strategic distribution agreement for select GCC markets including the United Arab Emirates, Oman, Bahrain, Qatar, and Saudi Arabia. Through this new partnership, Xilica and Avientek (<https://www.avientek.com/>) will collaborate to deliver comprehensive, flexible audio solutions for medium and large collaboration rooms, teaching spaces and government facilities including conference rooms, boardrooms, classrooms, lecture theatres and courts.

"We're very pleased to sign with Avientek as our commercial distribution partner for the GCC," said James Knight, CEO, Xilica. "Avientek's approach to distribution is centred on adding value to resellers through integrated pre-sale design, services, and support, which mirrors well our own commitment to customer experience. Their reputation amongst customers is particularly strong and we can think of no better partner to help us continue to grow business in the commercial channel across the Gulf."

Founded in 2016, Avientek is a leading value-added distributor of professional audio, video, unified communications and education



L-R: Manu VM, Director, Avientek; James Knight, CEO, Xilica; Vikesh Thamban, General Manager (Audio), Avientek.

technology across India, the Middle East and Africa with offices in all three regions. Its expansive portfolio includes solutions from Creston, Logitech, Sennheiser, Barco, Yealink, Legrand and other leading organisations. This new partnership with Xilica will enable Avientek customers to leverage fully integrated audio, video and control solutions from Avientek's staple of brands, with a special focus on flexible, scalable professional audio systems that cover spaces from small to large – the courtroom to the executive boardroom.

"As Avientek continues to grow its audio portfolio, Xilica and its products are an ideal fit that bring together different parts of our portfolio and help our teams deliver truly integrated audio, video and control solutions for customers from our range of top quality brands," said VM Manu, Director, Avientek. "Xilica's technology is particularly impressive and the ongoing direction and strategy resonates well with us. We look forward to supporting their partner base in the GCC and delivering great solutions together."

Xilica

Focusrite plc Purchases Innovate Audio to Support Immersive Sound Strategy

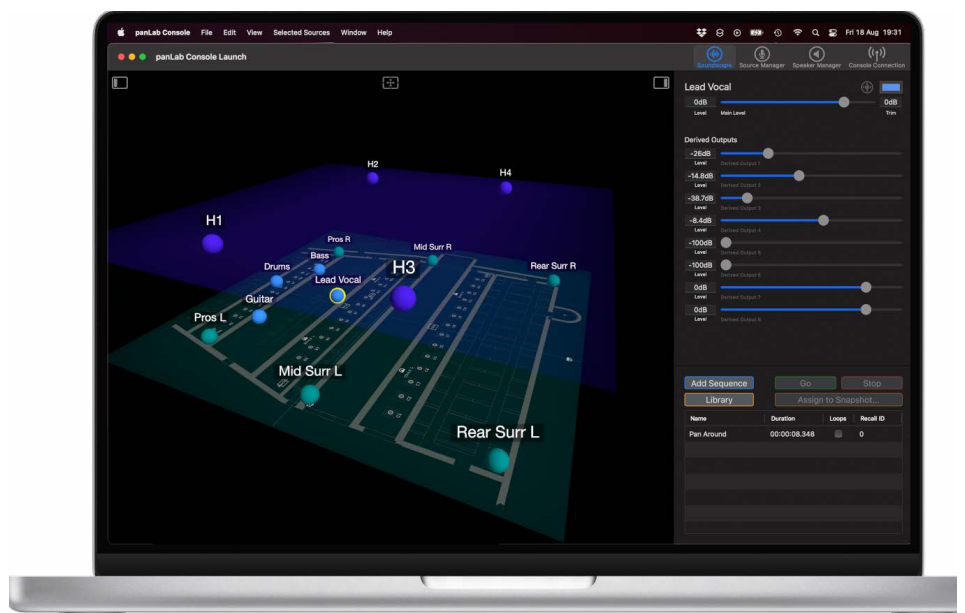
GLOBAL: Focusrite plc has announced the acquisition of UK-based Innovate Audio, the company behind the popular panLab spatial audio solutions. This follows the earlier acquisition of TiMax and builds upon Focusrite Group’s commitment to immersive sound.

With the acquisition, it has been agreed that panLab solutions will join the TiMax brand, meaning **TiMax** can now offer the most comprehensive range of immersive sound solutions on the market, with everything from entry-level panning software through to full delay-matrix spatial processors and performer stage tracking. Innovate Audio founder, Dan Higgott will also join TiMax as a Senior Product Developer.

Tim Carroll, CEO of Focusrite commented: “The acquisition of **Innovate Audio** represents another strategic expansion within our Audio Reproduction business, enhancing our product range and building a customer journey into Immersive Audio. From cost-effective simple panning to

the most advanced TiMax solutions, we now have the most complete lineup in the sector. We are an immersive sound powerhouse of comprehensive solutions, and this aligns perfectly with our mission to deliver exceptional audio experiences within live and installed environments. I’m also delighted to welcome Dan Higgott to the fold, who I know will make a significant contribution to the TiMax team moving forward.

Both panLab 3 and panLab Console have proved popular with sound designers the world over with over 10,000 downloads achieved and the solutions being used in iconic venues from Sydney Opera House to the National Theatre. With panLab 3 users enjoy a spatial audio mixing solution, built to work seamlessly with QLab that is typically up and running in 5 minutes. With panLab Console, users can achieve an object-based audio workflow, whilst utilising the console they already own. The macOS app adds spatial audio capabilities to a range of digital mixing consoles with mixer Input and Output Channels becoming objects on the panner.



By extending the Focusrite Group’s business into new products and markets, which complement its existing offerings within the Audio Reproduction business, the acquisition is strategically aligned with the Group’s previously communicated aims of growing the core customer base, expanding into new markets, and increasing lifetime value for customers.

Dan Higgott, Founder of Innovate Audio, concluded, “I am absolutely thrilled that Innovate Audio is joining the Focusrite Group. This opportunity marks an exciting new chapter

for both Innovate Audio and me personally. Our spatial audio products panLab and panLab Console now have an exciting new home, where they can thrive and integrate with world-class brands. I am delighted to be joining the brilliant Dave Haydon and Robin Whittaker, as we deliver an extremely exciting roadmap of new products to the TiMax family.”

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DirectOut Welcomes Sonos Libra as New Distributor

Southeast Asia: DirectOut has officially appointed Sonos Libra as its distributor for Thailand and Vietnam.

Sonos Libra has built an outstanding reputation in Thailand and Vietnam as a provider of quality professional audio distribution services. With its commitment to customer satisfaction and expertise in audio distribution and processing, Sonos Libra is the ideal partner to strengthen DirectOut’s presence in Southeast Asia.

“DirectOut’s approach to audio distribution and processing has caught the attention of many professionals in recent years and further strengthened their reputation. It was therefore a great solution to add to our catalogue. The highly flexible clocking and redundancy

options of the PRODIGY series are obviously highly desirable and add tremendous value to projects and applications where downtime is not an option,” said Simon Rains, Chief Engineer & Education Director of Sonos Libra, enthusiastically about the partnership.

The partnership with Sonos Libra will enable DirectOut to bring its state-of-the-art solutions to an even wider regional customer base. With offices in Bangkok, Ho Chi Minh City and Hanoi, Sonos Libra is ideally positioned to provide excellent local service and support.

“We welcome Sonos Libra to our DirectOut family with open arms,” says Luca Giaroli, Chief Solutions Officer of DirectOut. “Their long-standing expertise and relentless pursuit of the highest quality and customer satisfaction reflect our own beliefs. This partnership will undoubtedly contribute to providing our customers in the area with not only best-in-class solutions but also an unrivalled service experience.”

DirectOut



L-R: Pakphoom Sununtha, Simon Rains, Alfonso Martin, Luca Giaroli (DirectOut), Nattapoom Pumipuntu.

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- **Breaking Through Ceilings:** Transforming House of Worship Experiences while Retaining Traditional Practices
- **Future Forward:** AI Innovations on the Horizon: Predict and prepare for the next wave of AI-driven innovations in AV, positioning Singapore at the Forefront

- **More for Less:** How AI Integration Create More with Less Resources, Tailoring Experiences Along the Way
- **The Future is Here:** Holograms in Healthcare & the Challenges Behind Them
- **Unlocking the Potential of Digital Signage and OOH Media:** Strategies for Effective Engagement and Impact
- **Future of OOH Media:** Integration with AI and Data Analytic Transforming Market Personalisation
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Sony Integrates TeamViewer for Advanced Remote Management of BRAVIA Professional Displays

GLOBAL: TeamViewer has integrated its cutting-edge technology into Sony BRAVIA Professional Displays. This strategic partnership aims to improve the maintenance and incident response capabilities of commercial displays used in dynamic environments such as restaurants, shopping malls, and airports around the world, including Southeast Asia. As a result, TeamViewer and Sony customers in the region can improve operational efficiency and promote sustainability in their daily operations.

The integration allows for highly secure, unattended remote access to **BRAVIA Professional Displays**, enabling system integrators and service providers in Southeast Asia to deliver immediate support while minimising downtime and service costs. Developed in collaboration with Sony, the new integrated solution allows for full display control in both Customer and Pro modes which is critical for service providers in the region.

The highly secure remote access capability can be easily deployed via a proprietary Sony application package paired with an always-on functionality to ensure fast and reliable



connections. This technology offers significant advantages for Southeast Asian markets, where large commercial displays are integral to advertising and sharing information in vibrant urban areas.

Alfredo Patron, Executive Vice President Business Development at TeamViewer, said: "This integration confirms TeamViewer's role as a leading provider of best-in-class remote connectivity solutions, particularly in the digital signage and commercial display sector. Sony's choice of our solutions for critical remote access underscores our capabilities in security and reliability. We expect that this partnership will enable a significant ecosystem of service providers to further extend the efficiency of their operations and the value they deliver to the end customer."

Thorsten Prsybyl, Head of European B2B Partnerships at Sony, said: "Sony is very pleased to welcome TeamViewer to our partner network. TeamViewer is an indispensable partner to be able to support our customers with a powerful, yet universal monitoring and control solution. We will now be able to better serve our large number of customers and meet the high standards they expect from Sony."

TeamViewer

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Christie HS Series Illuminates Bridges along Suzhou Creek

CHINA: Christie HS Series 1DLP laser projectors are illuminating major bridges along the scenic Suzhou Creek in Shanghai, making them come alive at night with fascinating content that enhances the city's aesthetic appeal.

As a cornerstone of the municipal government's vision to enhance the allure of this iconic waterway, this initiative not only beautifies the surroundings but showcases the city's deep cultural heritage as well. It also serves to educate both locals and visitors alike about the historical significance of the bridges and the creek. Christie's trusted partner, [Shanghai Qingying Digital Technology](#), played a pivotal role in the design and installation of multimedia solutions that brought this vision to life.

Over 30 [Christie DWU15-HS laser projectors](#) are used to illuminate Jiangning Road Bridge and Gonghe New Road Bridge, two magnificent structures along the meandering Suzhou Creek that are a testament to Shanghai's urban and economic development. Eight projectors are discreetly installed beneath Jiangning Road Bridge to project stunning images spanning 53 meters (174 feet) in length and 18 meters (59 feet) in width. Additionally, two dozen DWU15-HS projectors are positioned on both sides underneath the Gonghe New Road Bridge, creating captivating visuals measuring 63

meters (207 feet) long and 49 meters (161 feet) wide after nightfall.

"This pioneering project aims to boost tourism and proudly presents Shanghai as a global city that values both its historical heritage and modern advancements," said Chao Fu, Technical Supervisor, Shanghai Qingying Digital Technology. "The Christie DWU15-HS projector, with 15,750 lumens, was selected for its compact footprint, durability, and excellent colour reproduction. These attributes have made it the preferred choice for large-scale projections, consistently delivering breathtaking visuals at venues in Shanghai and beyond."

Fu emphasized the project's distinctive challenges, navigating tight installation spaces under the bridges while striving for even brightness across extensive projection areas. Innovative approaches like cross-projection and projector stacking played a crucial role in maximizing visual impact.

The glossy surface under Jiangning Road Bridge presented a further obstacle with its pronounced reflections. To counter this, the team applied frosted paint, adjusted lenses, and strategically stacked projectors at focal points to ensure uniform brightness. In addition, weatherproof enclosures were utilized to protect the projectors from waterfront humidity.

These solutions successfully tackled the various challenges, enabling the installation and calibration to be completed in just four weeks. "The DWU15-HS, equipped with Christie BoldColor+ technology, has certainly exceeded expectations," remarked Fu. "Not



©Shanghai Qingying Digital Technology.

only did it deliver deeper blacks with more natural and realistic onscreen visuals, the installation process was also simplified with its compact design and versatile omnidirectional capabilities.”

He continued, “We are truly privileged to contribute to revitalizing and enhancing this area, showcasing Shanghai’s rich cultural heritage. Moreover, this project has deepened our expertise in installing projectors in tight spaces and highlighted the importance of precautions when dealing with steep angles in such environments.”

April Qin, Senior Sales Director for China, Enterprise, Christie, commented, “The successful completion of this illumination project with our proven HS Series laser projectors underscores their exceptional performance and reliability. Credit goes to the

meticulous installation and innovative solutions by the Shanghai Qingying team, which have wonderfully transformed the Suzhou Creek bridges into attractive nighttime landmarks. This collaboration enhances the urban landscape and exemplifies our dedication to advancing projection technology.”

Christie

INFiLED's Mega Screen: A Stunning Addition to the Dubai Mall Aquarium

DUBAI: INFiLED, a leading global manufacturer of LED displays, shared an impressive new installation at Dubai Mall Aquarium. This location is one of the most iconic places in Dubai, representing not just an attractive location for tourists but also a space where cultures and experiences come together.

In response to the needs of the end user, EMAAR, INFiLED provided **MV-Series** along with the MV-Edge series with a 3.9mm pixel pitch that covers an expansive area of over 980 square meters, reaching 70 meters in width and 14 meters in height, 64 million pixels, being the largest indoor LED screen in Dubai INFiLED's seamless curve on both ends was consequently selected for the main need: a display that not

only showcased advertising but also effectively communicated relevant information in this major setting.

Samer Otaibi, INFiLED VP of Sales in the Middle East states "Collaborating with EMAAR always demands meeting high standards, and they consistently set benchmarks to outpace the

competition. This marks a moment of pride for us as we contribute to The Dubai Mall's charm with our monumental 980 sqm screen, We are thrilled to have our flagship indoor LE screen installed at The Dubai Mall.

Within this circumstance, Blue Rhine Industries emerged as a key partner in the achievement of a groundbreaking installation. Recognized for its expertise in visual communication and display technologies, Blue Rhine Industries played a pivotal role as an INFiLED partner for this big project.

John V Joseph (Sales Director for Blue Rhine Industries) shares: "Embarking on the installation above a live aquarium within a dynamic mall environment presented intricate challenges that necessitated specialized expertise, Operating exclusively during nighttime hours, the team executed the project with precision, navigating complexities to minimize disruption to the delicate live aquatic ecosystem. Prioritizing the well-being of the fish demanded a unique blend of technical proficiency and conscientious execution throughout the process.





“We love creating large spectacles. This one had to be special. Located indoors at the heart of Dubai Mall in a high footfall atrium and above one of EMAAR’s main attractions are the Dubai Aquarium and Underwater Zoo. We had specific design, installation, and operational criteria for this system. Our partners and project team raised up to the challenge and delivered this extraordinary spectacular,” shares Hazim Omari, Senior AV Consultant-EMAAR.

Installing the largest DOOH indoor screen in such a high-profile setting presented a set of challenges. The weight of the cabinet emerged as a critical factor, and the MV-Series, with its weight efficiency of only 20kg per sqm, proved to adapt during the installation process. In

addition, meeting the aesthetic expectations of the place required meticulous planning and execution. INFiLED products went through rigorous testing and securing certifications from globally reputable labs, demonstrating exceptional performance and guaranteed reliability in diverse environmental conditions.

The successful installation of INFiLED’s solution in The Dubai Mall not only demonstrates the company’s commitment to innovation and quality but represents one of the biggest led display installations in the UAE.

INFiLED

Union Reaffirms its Faith in Martin Audio

INDONESIA: The Union Group, renowned for its Food & Beverage (F&B) establishments in Jakarta, Indonesia, operates various outlets under multiple brands. Known for its quality bistro fare, well-crafted cocktails, and some of the city's best cakes, the group's venues are scattered throughout Jakarta's most dynamic areas. Each location features the brand's signature interiors, but with unique details specific to each venue.

Recently, The Union restaurant and bar at Pondok Indah Mall, a namesake of the group, underwent an audio upgrade to enhance its ambiance, particularly during weekends when DJs and live bands perform. The 200-seat venue, which offers a fusion of Western and Eastern cuisines with an emphasis on local delights, also boasts a full-fledged bar.

Previously, the restaurant used Martin Audio's AQ5 speakers. Eric Haslim of P.T Rhema Multi Perkasa, who originally supplied and installed the sound system, was once again called upon for the upgrade. "Previously, the restaurant had to bring in a portable system to reinforce the audio for the DJ and the band. The AQ5, with its 5-inch drivers, did not provide sufficient punch for live performances. The management felt that the portable speakers were not conducive and took up space. Furthermore, away from the performance space, the audio through the AQ5s was not as punchy as it should be," Eric explained.



Eric recommended replacing the AQ5s with Martin Audio CDD8 speakers. Ten units of CDD8s were installed, replacing the AQ5s without needing to reinstall cables or change locations. "When we first installed the systems in the restaurant, we ensured proper coverage across the entire space," Eric added. The CDD8s were complemented with four units of SX212 Double 12 subs and one unit of a Double 10 sub.

"The impact is immediately noticeable. The articulation of the vocals and the music is much easier on the ears. Less space is also used for the live entertainment and DJ set. The CDD8s are suitable for both live music and background music with the increased dimension of the speakers," commented Eric. He mentioned that the dBA level is kept to 70 for background music and between 90 to 100 dB for live music. Celto amps drive the passive CDD8 speakers, with preamp support from Hill Audio. Loudspeaker management is handled via Martin Audio's DX6.

The loudspeakers are installed at a high level, above the heads of customers, and are not pointed directly at them. "This was done to enable guests to have conversations without competing with the music," said Eric.

Martin Audio

29 - 31 October 2024

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Extron USB-C for Pro AV Design Guide Now Available



Extron’s new USB-C for Pro AV Design Guide is now available for download. This vibrant, full-colour handbook navigates the reader through the evolution of USB technology, from its inception to the latest USB-C standards. It covers cables, connectors, and communication protocols essential for seamless connectivity between USB hosts and peripherals. The guide is loaded with details on USB connectors, the integration of USB-C with AV systems, crucial design considerations, and real-world examples of flawless system designs across various scenarios.

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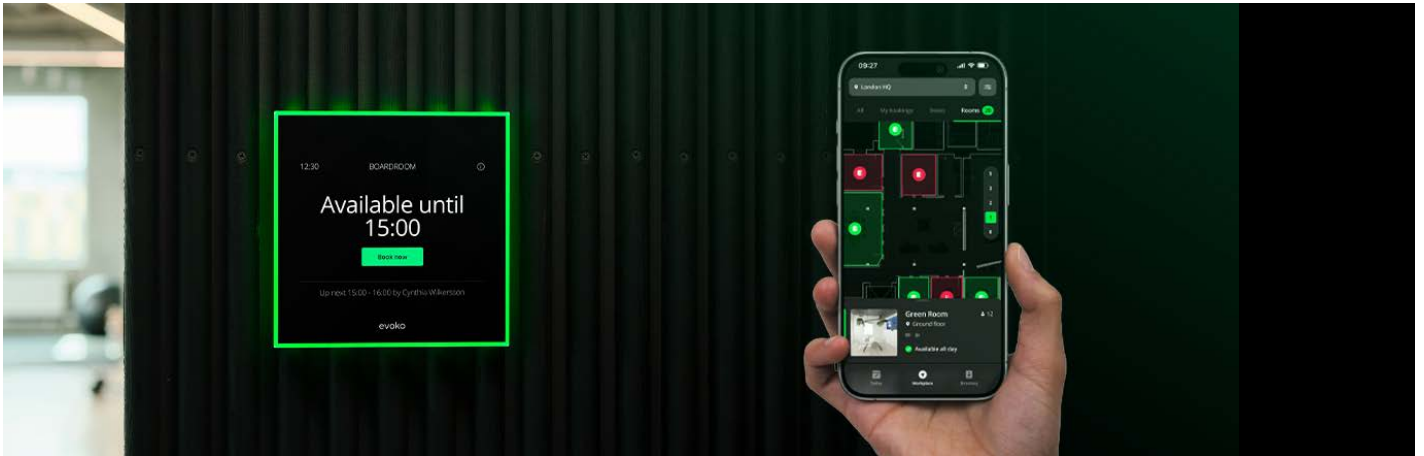
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Click below to download your copy of the first edition of the USB-C for Pro AV Design Guide.

[Extron/Pro AV Design Guide](#)

Room Booking at the Tip of Your Finger with Biamp's Evoko Naso



Now shipping, Evoko Naso from Biamp delivers a cloud-connected, highly intuitive room management experience that streamlines meeting room booking. A new user interface makes it even easier to book a room at the touch of your fingertip. New compatibility with Google Workspace—in addition to Microsoft Outlook—means scheduling can now be accomplished through two of the most popular cloud-based calendar applications.

The updated Evoko Workplace is an intuitive, cloud-based management system that integrates seamlessly with the newly revamped Evoko Naso room scheduling panels and Evoko Kleo desk booking devices. Comprised of the Workplace App and Workplace Admin, the new unified system eliminates double bookings, provides real-time visibility into room and desk availability, integrates with Microsoft 365 and Google Calendar, and offers data-driven insights to optimize workspace utilization.

Here are the highlights to look forward to:

Unified: One admin portal for all Evoko system management & device monitoring

Seamlessly Integrated:

- Support for Google Workspace

Easier to install and deploy thanks to improved calendar integration

User-Friendly:

- New improved user interface on Evoko Naso
- More responsive Evoko Naso device
- One flow for desks and rooms in the Evoko Workplace App
- New features & updates to the Workplace App

Helpful:

- New tool for booking overview and management
- Updated insights page
- Updated Overview Screen with floor plans

[Biamp/Evoko Naso](#)

LEA Professional Announces Advanced DSP Versions of Connect Series Amplifiers



LEA Professional has introduced advanced DSP versions of its industry-renowned Connect Series amplifiers. These amplifiers join the company's extensive technology catalogue, which offers intelligent IT solutions, industry-leading DSP, and smart power management.

The new advanced DSP versions of the Connect Series include 350-, 700-, and 1500-watt models with D-units providing Dante and AES67 connectivity. Available in 2 channels (CS352-ADSP, CS702-ADSP, CS352D-ADSP, CS702D-ADSP) and 4 channels (CS354-ADSP, CS704-ADSP, CS1504-ADSP, CS354D-ADSP, CS704D-ADSP, CS1504D-ADSP) offerings, each features 96kHz linear phase FIR crossover filters with 2048 taps per channel, 4 seconds of input delay, under 10-second power-on to audio when PoE is used, and FIR-based speaker tunings.

The new advanced DSP versions enhance LEA Professional's award-winning Network Connect Series of professional amplifiers and companion Dante Connect Series. With the ability to harness the power of the cloud for remote control, monitoring, notifications, and more from any internet-enabled device, the Connect Series allows integrators to stay connected from anywhere in the world.

LEA Professional's smart amplifiers are the most feature-rich amplifiers available in the industry – featuring onboard 96kHz DSP, cloud connectivity, WebUI, third-party API control, real-time load monitoring, Lo-Z/70V/100V selectable by channel, smart power bridge, fault monitoring, high-efficiency power design, over 3,000 speaker tuning presets, and LEA's advanced amplifier control software, [SharkWare](#).

[LEA Professional/CS1504](#)

Chief TiLED dvLED Universal Wall Mounts Made for Easy Installation of Video Wall Panels

Chief's TiLED dvLED Universal Wall Mounts are the next generation of TiLED dvLED wall mounts that offer unparalleled flexibility and compatibility across a multitude of interlocking panels. Designed for adaptability, scalability, and precision, these universal wall mounts simplify the installation process, reduce installation time from days to hours, and provide a uniform display with no misaligned pixels or gaps between panels.

Catering to the growing demand for efficient video wall installations, the TiLED dvLED universal wall mounts boast cutting-edge features that ensure flawless installations, accommodating displays with pixel pitches below 1 mm. With its three-axis adjustments (X, Y, and Z), the mount provides precise alignment and levelling capabilities on uneven surfaces, ensuring uniform video wall installations for most interlocking dvLED displays. The double-depth adjustment mechanism ensures a perfectly flat video wall installation, while the independent column adjustment allows for precise levelling. Additionally, the independent Y-axis adjustment at each panel edge helps set a flat and level base for the dvLED video wall, while the double-depth Z-axis adjustment creates a perfectly level video wall installation.

The Chief TiLED dvLED Universal Wall Mounts are highly adaptable and stockable, making them easy to specify, order, and install. The



mounts are sized for 27" interlocking dvLED panels with plans for future size expansions and feature new floating button-capture technology and universal mounting hardware, which streamlines installation. One set of part numbers can be ordered and stocked globally to fulfil a variety of video wall installation needs. The mounts can be ordered in two-, three-, or four-panel lengths and mixed and matched with extender mounts to achieve the exact installation height needed.

[Chief/TiLED dvLED Universal Wall Mounts](#)

Scalable Display Technologies Collaborates with Realmotion for Unified Integration



Scalable Display Technologies, a software provider that automatically calculates image alignment, colour, intensity and geometry of multiple projector displays, has integrated with **Realmotion** a real-time media server and software platform to streamline the configuration and calibration processes of multi-projector setups, revolutionizing the way displays are maintained in entertainment environments.

Scalable is known for its software that automatically calibrates display geometry, colour and intensity across multiple projectors, resulting in a single, seamless digital canvas. As the inventors of this technology, Scalable has a 20-year history of developing auto-calibration and meeting the most demanding accuracy standards for their clients. Trusted by industry leaders worldwide, Scalable has earned a reputation for delivering unparalleled image quality and consistency across various applications, including simulation, training, architecture and design, broadcast and production, higher education, arts and entertainment.

Scalable's integration with Realmotion is designed to simplify the user experience, improve workflow efficiency and support ongoing maintenance. With this integration, Realmotion users can effortlessly load their Scalable calibration into Realmotion, eliminating manual calibration and adjustments needed over time. Utilizing cutting-edge computer vision technology, Scalable automates the calibration process with cameras, ensuring precise alignment and uniformity across all projectors. This seamless integration accelerates the system setup process and automates the ongoing maintenance for even the most minor shifts in the projectors' image over time.

Scalable

Atlona Adds HDBaseT Input to Popular Omega Series Switcher

Atlona is now shipping a new version of the AT-OME-MS42, one of its most popular Omega Series matrix switchers that helps customers simplify the connectivity infrastructure inside learning and meeting spaces.

The new AT-OME-MS42-HDBT 4x2 matrix switcher introduces an HDBaseT input alongside local USB-C and two HDMI connections, building in a remote input option that removes the need for a separate HDMI signal extension solution. The product includes HDMI and HDBaseT outputs (one each) with selectable switching modes to simplify configuration and user operation for presentation requirements.

The OME-MS42-HDBT supports HDBaseT extension for video up to 4K/60 4:2:0 over 330 feet (100 meters) of category cable alongside embedded audio, control, Ethernet and USB. All HDMI connections and the USB-C input support 4K HDR and 4K/60 4:4:4, with downscaling capabilities to support 1080p resolution out of the HDMI output. The switcher's integrated USB extension addresses the challenge of connecting between USB devices at remote locations, accommodating up to four host PCs through USB 2.0 type B and USB-C ports, and remotely over HDBaseT. A built-in USB 2.0 hub provides connectivity for two peripheral devices such as a camera, microphone, speakerphone, or keyboard and mouse.



The OME-MS42-HDBT's diverse connectivity options and problem-solving capabilities open the switcher to an array of use cases inside education and corporate environments. Installers can conceal the unit inside a lectern in learning spaces, allowing an instructor to send video from a laptop to a projector and confidence monitor. The remote input capability over HDBaseT cleanly accommodates a student presenter elsewhere in the room. Inside corporate businesses, the OME-MS42-HDBT acts as the centerpiece for delivering source content to meeting and conference room displays, with the HDBaseT input supporting laptop connections via wall or table access. Video conferencing applications in any AV environment benefit from the various USB interface options for local and remote USB devices, with the ability to switch AV and USB together between host PCs.

[Atlona/Omega](#)

From Data To Decision

How Advanced Professional AV is Shaping Command & Control Rooms of Today and Tomorrow

by Elton Noronha



In an era marked by rapid technological advancement and increasing complexity in global operations, Command and Control Centres (C&Cs) have become the nerve centres of decision-making and crisis management. And as organisations face unprecedented challenges in managing vast amounts of information and coordinating responses across diverse platforms, the role of professional audiovisual (AV) technology has never been more critical. From real-time data visualisation

to seamless integration with existing systems, professional AV solutions are pivotal in ensuring that C&Cs operate with maximum efficiency and effectiveness.

The following article delves into the evolving landscape of AV technology in C&Cs, exploring its current capabilities, challenges, and future trends, as we gain key insider insights from some of the industry's leading experts.

Command & Control Centres - The Lore

In its most simplified form, command and control centres are specialised environments where information, technology, and human expertise converge to facilitate effective decision-making and resource management. They vary significantly in their purpose and scope, encompassing a wide range of types such as situation centres for government authorities, crisis management centres, security operations centres, network operations centres, and more.

At their core, command and control centres are designed to centralise the monitoring and control of an organisation's operations through the use of advanced technologies that enable real-time data visualisation, communication, and collaboration. And the primary function of a command and control centre is to provide situational awareness, which involves collecting, processing, and displaying relevant data to support informed decision-making.

In emergency situations, these centres coordinate response efforts, manage resources, and communicate with stakeholders to mitigate the impact of crises; whereas in routine operations, they monitor system performance, detect anomalies, and ensure the smooth functioning of various processes. And since these centres essentially facilitate real-time decision-making by providing a centralised view of operational data and enabling coordinated responses; they are widely considered as the foundation of 'mission-critical' operations across various sectors including defence, healthcare, transportation, utilities, law enforcement, emergency services, and large-

scale corporate operations - where timely and accurate information is paramount.

That being said, the effectiveness of a command and control centre hinges on the reliability and efficiency of its infrastructure and systems, which together form the backbone of its operational capabilities.

C&C Essential Operational Requirements

Command and control centres operate 24/7, necessitating AV systems that are robust and dependable. Equipment failures can have catastrophic consequences, making reliability a top priority. Plus, such systems are expected to ensure clear communication and accurate data representation at all times. Most importantly though, C&C centres must be ready to respond to any situation at a moment's notice.

To function effectively, a Command & Control Centre must meet several essential operational prerequisites. And it all begins with the fact that the centre must have robust data integration capabilities to handle diverse data sources and formats which afford efficient and accurate aggregation and analysis of data from a variety of video feeds, sensors, and databases in real time.

Secondly, the centre requires a high degree of reliability and redundancy. Given the critical nature of its operations, any failure in systems or components can have serious consequences. Therefore, C&Cs are designed with built-in redundancy to ensure continuous operation even in the event of a failure.

Lastly, effective user interface and interaction design are crucial, in that, operators must



be able to access and interpret data quickly and accurately. This requires intuitive control systems and ergonomic workstation designs that not only minimise cognitive load but also enhance decision-making speed.

Considering the aforementioned points, it should come as no surprise that most mission-critical C&C's around the world rely on world-class and industry leading professional AV equipment encompassing a range of technologies designed to facilitate data visualisation, communication, and control. The core components typically include:

Video Walls: Large-scale video walls are central to C&Cs, providing a comprehensive view of real-time data and video feeds. They are designed to display high-resolution images from multiple sources, enabling operators to monitor and analyse information effectively. The choice of video wall technology—such as LCD, LED, or projection-based systems—depends on factors like viewing distance, resolution requirements, and space constraints.

Audio Systems: Clear and reliable audio communication is essential in C&Cs. This includes intercom systems, public address systems, and audio distribution systems that ensure that all critical messages are heard clearly by operators and stakeholders.

Control Systems: These systems manage the operation of video walls, audio systems, and other AV components. They often include control panels, touchscreens, and software interfaces that allow operators to switch between different data sources and adjust settings as needed.

Unified Control Interfaces: Operators manage multiple AV inputs and outputs through unified control interfaces, streamlining operations and enhancing efficiency.

Data Management Systems: These systems handle the integration and processing of data from various sources. They include video management systems (VMS), data analytics tools, and other software solutions that facilitate the aggregation and visualisation of information.

But coalescing high-functioning world-class AV systems for critical, mission-ready C&Cs is no walk in the park; as designing and commissioning such optimized AV architectures usually involves several key considerations. Premier among them is the task of ensuring that new AV systems integrate seamlessly with existing infrastructure. This includes compatibility with third-party hardware and software, as well as the ability to interface with legacy systems. At the same time, AV systems are also expected to be scalable in order to accommodate future growth and changing requirements – the likes of which includes the ability to expand video walls, audio systems, and control interfaces as needed. Alongside, the design of AV systems for present day C&C's are expected to prioritise operator comfort and ease of use, by adhering to key requisites such as ergonomic workstation design, intuitive control interfaces, and features that reduce eye strain and cognitive load. Most crucially though, AV systems for C&C applications are mandated to be secure, highly reliable and include multiple redundancy features in order to ensure uninterrupted operation, given the critical nature

of the application. And this usually involves designing systems with failover capabilities and multiple backup components.

Challenges in Designing and Commissioning AV Systems and Solutions

Designing and commissioning AV systems for Command and Control Centres can present several challenges, key among which are interoperability, scalability, security, constant user training, and cost, according to experts.

Complex Integration, Interoperability & Scalability: Integrating new AV systems with existing infrastructure, especially in legacy environments, can be complex; and ensuring compatibility and seamless operation across different systems and platforms can be a significant challenge. “Increased digitation can lead to both more sources for traditional Control Room areas, plus the possibility for new kinds of Control Rooms. And the ability to manage larger number of sources in more flexible ways – easily display anything anywhere, and between sites, for example – is a key challenge, and one which we believe AV/KVM over IP will play a major role. As many will attest, Asia is by no means a single market. Although some fundamental requirements are the same everywhere, several markets have evolved with different expectations and commonly accepted technologies and core designs. Two obvious differences are the familiarity and comfort with different types of source distribution – video matrix switchers vs h264 encoders vs dedicated, low-latency transmitters and receivers – and the level of KVM adoption. Offering a solution that can cater to these



varying expectations is a key challenge, and catering to these expectations represent the opportunity,” shares **Michael Austin, Datapath’s Director of Channel Management, APAC.**



Plus, as demands grow and technologies evolve, scaling AV systems can be challenging. This requires designing systems that can accommodate future expansions and upgrades without major overhauls. As **Tom Fitzgerald, Black Box KVM Product Manager**, explains, “A key challenge in command and control, which is a global trend, is the increasing volume of information from numerous systems. This is coupled with a desire in the Command and Control sector for larger, but fewer monitors. This shift is driven by the need to maximize user efficiency and create the best possible working environment. Additionally, more applications are migrating to Virtual Machines (VM), both in public and private clouds. As leaders in KVM and AV technology, this presents a significant opportunity for us to lead with our solutions in alignment with these global trends”



Security Concerns:

With increasing cyber threats, ensuring the security of AV systems is critical.

Comprehensive security measures and regular testing are necessary to protect sensitive data and operations.

Particularly in

sensitive environments, it is essential to protect data transmissions and access controls to prevent unauthorised access and cyber threats.

“As cybersecurity threats and geopolitical tensions rise, the need for secure, resilient command and control solutions becomes paramount. Organizations must stay ahead of potential threats and ensure robust protection of their critical infrastructure” shares **Mathieu Dobbeleir, Barco’s Vice-President of Product & Solutions – Control Rooms.**

User Training: Operators must be adequately trained to use the AV systems effectively. This involves providing comprehensive training programs and ongoing support to ensure that staff are proficient in using the technology.

Cost: Implementing advanced AV systems can be expensive, and budget constraints may pose a challenge. However, investing in high-quality, reliable systems is crucial for the operational success of the command and control centre.

Current Industry Leading Professional Technologies

Though designing and commissioning AV systems for command and control centres is

fraught with many a hurdle; solutions to these challenges are indeed available. And these solutions usually come in the form of the vast variety of technologies, products and systems that some of the world’s leading professional AV manufacturers have created with the sole purpose of meeting such exigencies.

Several industry-leading AV brands are currently shaping the landscape of Command and Control Centres; key among which are Barco, BlackBox, Datapath, IHSE and Matrox Video.

Barco

Throwing light on Barco’s business ethos and it’s approach towards delivering solutions catered to the Command and Control sector, Mathieu informs “Barco’s AV solutions are designed to significantly enhance the user experience for operators through several key aspects which includes ergonomics, simplicity and tailored-fit. Our products are built with operator comfort in mind. Barco distinguishes itself in the Command and Control market through several key differentiators. Firstly, our displays are renowned for their superior image quality and ease of installation and maintenance. We ensure that our visualization solutions deliver clear, reliable, and high-resolution images that enhance situational awareness. More importantly, our software and controllers stand out due to their simplicity, scalability, and security. We design our solutions to be user-friendly, easily expandable, and fortified against cyber threats, ensuring that they meet the evolving needs of modern control rooms. Perhaps the most crucial part of our business ethos, though, is our emphasis on security. Barco is ISO 27001 certified, reflecting our commitment to information security

management. This certification demonstrates our adherence to international standards and best practices. We continuously invest in security enhancements and pursue vertical-relevant certifications to stay ahead of emerging threats and regulatory requirements.”



Barco UniSee II

Barco's flagship offering within the Command and Control domain is the UniSee II – a comprehensive system that offers a 55-inch bezel-less LCD video wall with a native resolution of 1920x1080 (Full HD). It boasts a brightness of 800 nits, ensuring clear visibility even in well-lit environments. It provides superior colour accuracy and uniformity across the entire video wall, essential for critical decision-making in control rooms. The modular design of Barco UniSee II allows for easy installation, maintenance and scalability, wherein the panels can be quickly replaced without disrupting the overall setup. And the UniSee Mount ensures perfectly aligned screens and gap-free viewing experience, contributing to the overall visual excellence.



Barco CTRL

On the other hand, the Barco CTRL is a comprehensive control room management platform that streamlines workflows, enhances operational efficiency, and supports collaborative decision-making. It supports integration with multiple data sources, enabling operators to visualize, analyse, and interact with critical information seamlessly. The intuitive user interface of Barco CTRL is designed for ease of use, allowing operators to focus on their tasks without being bogged down by complex software operations. Built with a security-first approach, Barco CTRL includes features such as role-based access control, encryption, and regular security updates to safeguard sensitive data. Plus, as a software platform, Barco CTRL offers robust API support, enabling integration with third-party hardware and software solutions, which ensures that Barco CTRL can work harmoniously with existing VMS (Video Management Systems), data analytics tools, and other critical applications used in command and control environments; all while supporting a variety of data sources as well as a multiple monitor shapes & setups.

Perhaps most importantly, The UniSee II's integration with the Barco CTRL platform ensures seamless, secure operation and enhances operator comfort.

Black Box

“Our range of products in this space is extensive, offering solutions for virtually any command and control room. Whether it's a small control room needing simple desktop switching, or larger, highly secure, interconnected command and control rooms, Black Box has a comprehensive selection. And our extensive breadth of product offerings coupled with our ability to create tailored solutions for any command and control centre – regardless of size, interconnections, or security requirements – is what draws customers to Black Box. Our Emerald family of products is one of the most widely used control room solutions, designed with current trends in mind” explains Tom as he speaks about the key factors that make Black Box solutions a preferred choice within the Command and Control

control multiple systems with just one keyboard and mouse across multiple monitors. And the latest addition to the Emerald line is the Emerald DESKVUE multi-source user station, which allows users to customize their workspace with up to four monitors, connecting and controlling up to 16 separate systems simultaneously. The company assures that this matrix product is infinitely scalable and has no distance limitations since it uses standard IP. And with its AV WALL functionality, it can also operate as a 2x2 video wall processor. Also, through its rich API, customers are adding layers of automation to aid the workflow in Control Centres. For example, if an alarm goes off somewhere, the system sends API to switch sources to look camera and data sources for the user to work on the alarm. This saves the operator time on responding to the alarm.

Additionally, Black Box offers a certified secure range of KVM products that meet NIAP or EAL4 requirements for environments where security is paramount.

Tom further explains that the Emerald is designed for five nines of reliability, featuring a highly secure design and constant updates, with no single point of failure and numerous redundancy options. The Emerald system assures secure access to target Servers or Workstations and Virtual Machines (VMs); with this security being based on multiple layers of control – KVM domain, encrypted communications, user login, access control, zones, peripheral access control and security alerts. Users have access to physical and virtual machines, as well as H.254/5 streams. And equally important is the fact that the system features ultra-low bandwidth usage, reducing



Emerald DESKVUE

Black Box's Emerald is a highly innovative KVM over IP product that can integrate with their Freedom II KM switches, enabling users to

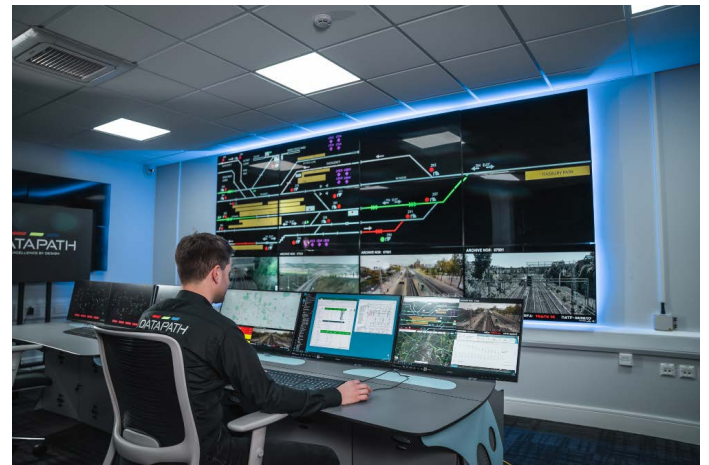
network costs while maintaining a perfect user experience.

The Emerald DESKVUE multi-source user station can be used to create multi-level user access with detailed permissions, in addition to LDAP (S)/Active Directory integration for centralized user management, while offering session logging and audit trails for compliance. The Emerald product uses standard 1GbE network interfaces, making it infinitely scalable. Alongside, it supports resolutions up to 1920x1200 or 4K UHD (3840x2160) depending on the model; while offering low-latency performance suitable for real-time applications, adaptive compression to maintain responsiveness over varied network conditions, optimized bandwidth usage through advanced compression and protocol efficiency, and configurable settings to match network capabilities.

Alongside, the company is particularly excited about the EMD3000GE, called Emerald Gateway, which enables sharing of Virtual Machines and Video streams among multiple of users directly integrated within the KVM system. And finally, the company also offers the ControlBridge Multisystem and Room Control Touch Panel, which is a programmable controller that will control all forms of Black Box deployment and can set up entire configurations with one press on the touchscreen display.

Datapath

Datapath asserts that its Aetria solution offers a comprehensive platform for managing and visualising data in C&Cs; as it allows operators to manage multiple data sources and video walls from a single interface; while the Aetria



Aetria

Workstation provides a personal video wall for each operator, thereby facilitating secure and efficient real-time collaboration and content sharing.

Michael spotlights the Aetria system along with some of Datapath's other tailored offerings for command and control applications, as he informs "Our major area of growth, and what we see as THE key solution of the future, is our Aetria solution; whose integrated nature and design flexibility proves to be a key distinguishing point that sets us apart from the competition. Aetria is purposely designed to be scalable to any requirement – be it a single operator workstation or a huge governmental project involving 1000s of sources and dozens of operators. This solution can be put together in any number of ways, offering seamless integration of whatever capabilities are needed – from video wall processing to AV over IP and KVM. The secure Aetria API allows simple integration with third-party tools, services, or products; which allows integration with control technologies like touch panels to pro-actively make changes in Aetria. It also allows Aetria to respond to triggers in external systems, for example to change the content being shown on



a video wall when an alarm is triggered. We also have Aetria modules available for Crestron and Q-SYS for easy integration into their respective development environments. And in addition to our renowned video wall processing, we now offer receiver-based video wall solutions, flexible PC-based KVM solutions, and traditional but advanced receiver-based KVM solution. As KVM/AVoIP gets more widely adopted, customers are increasingly concerned about security – something we also address through user rights and stream encryption”

Alongside, the company’s Aligo series of transmitters offer visually lossless, zero latency, KVM-able streams by utilizing 10G infrastructure, which is becoming more common and affordable; while simultaneously offering H264/H265 streams, which are cheaper to implement, over 1G infrastructure for endpoints where more compression and latency are acceptable. Furthermore, the upcoming Aligo card product is said to significantly reduce the amount of required rack space and power cabling. Finally, the Aetria Workstations provide unique capabilities in displaying any type of source anywhere within an operator’s screens, maintaining mouse and keyboard control of sources and adding the ability to push sources to windows within a video wall.

Michael reveals that Datapath video wall controllers can support large numbers of inputs and outputs inputs and outputs and a wide variety of source types. And when coupled with the company’s software, the system enables operators to easily display their many sources in whatever arrangement is needed on video walls – whether they be LCD, LED, cubes, or projectors. Adding the Aligo KVM/AVoIP products offers full flexibility to send the highest

quality, lowest latency streams to the endpoints that need this – including the transmission of 4 such high quality streams across a single 10G network cable. And for more design flexibility, they also offer more compressed, low latency H264/H265 streams where the best performance is not required.

Within the brand’s range of operator solutions, Aetria workstations offer flexible windowing of KVM-able sources within any screen, while the Aligo series enable unique KVM support for displaying and controlling all outputs or individual outputs of multi-output source PCs. For enhanced security, all Aligo and H264/H265 streams generated are AES128 encrypted; and Aetria utilizing full user rights for restricting which sources, which video walls, which operator solutions, etc., are accessible to any given user.

And finally, the newly released Aetria Touch Panel is a dedicated tablet device that provides finger-tip control of video walls, whereas the VSNMini 300 – another brand new release from the company – is a modern personal video wall controller with slick, compact aesthetics on the outside, but with all the critical components and heavyweight processing power expected in mission-critical environments on the inside.

IHSE

Designed for high-performance and scalable operations, IHSE’s Draco tera KVM matrix system is said to be the brand’s flagship solution for c&c rooms as it is said to support a wide range of video formats and integrate seamlessly with existing infrastructure, thereby making it ideal for modernising existing application venues.



Terence Teng, CEO of IHSE ASIA, provides an in-depth explanation of the various factors that make IHSE's systems and solutions a preferred choice for existing as well as new command and control

venues, as he states, "IHSE's KVM solutions are distinguished by their advanced integration, security, reliability, and energy efficiency, making them the preferred choice for Command-and-Control Centres worldwide. IHSE integrates both proprietary and IP network data transmission methods, offering versatile hybrid KVM solutions. Each device is configurable to meet specific installation sizes, budgets, and safety requirements, eliminating unnecessary interfaces. This modular approach allows for straightforward upgrades and expansions, ensuring that our solutions evolve with your needs. IHSE products are trusted by international security and government organizations for their certified cyber-resilient and protected computer access. Our line-up of secure extenders are CC EAL4+ certified, providing the highest level of data security and reliability for 24/7 operations. Designed for continuous operation under full load, IHSE devices adhere to a consistent redundancy concept, ensuring uninterrupted performance. Many components can be replaced during operation, minimizing downtime and maintaining operational efficiency. Furthermore, IHSE products consume 20% less power compared to industry competitors, resulting in significant energy cost savings and reduced CO2 emissions. This commitment to energy efficiency not only lowers operational costs but also supports environmental sustainability.

IHSE's commitment to advanced technology, security, reliability, and sustainability sets our KVM solutions apart, making them the optimal choice for modern Command and Control Centres."

Draco tera KVM Matrix Switches



IHSE's flagship products, specifically the Draco tera switching system, are said to offer unparalleled flexibility, security, and performance. And there are quite a few key technical specifications that are said to enable the Draco system to stand out from the crowd.

Firstly, the Draco tera system enables operators to seamlessly switch between computers and AV sources, instantly connecting to any device and distributing video signals to screens. It supports 8 to 576 non-blocking assignable ports, providing extensive scalability and built-in redundancy for uninterrupted operation. Capable of routing all types of AV and computer signals, the Draco tera system ensures the highest video resolutions are maintained, while also being highly secure and protected against cyber-attacks. By design, it prevents signal overlaps, ensuring control and signal data are physically separated. Each channel is switched discretely, eliminating the risk of data path overlap and ensuring secure data transmission. The Draco tera system also supports precise access rights management, essential for



government and military installations. It allows for the effective separation of classified and unclassified data and environments, ensuring compliance with stringent security protocols. Similarly, the Draco tera KVM Matrix Switches provide instant access and management of numerous connected sources, allowing seamless switching and sharing of information across any size of computer installation.

On the other hand, the Draco vario KVM Extenders enable remote computer relocation with no delays or quality loss, ensuring secure and optimal maintenance in environmentally controlled server rooms; while also reducing hardware bulk, noise, and heat in user environments. Alongside, the Draco U-Switch allows operation of multiple computers and monitors with a single keyboard and mouse, reducing workspace clutter and improving ergonomics. And finally, the Tera Web Control is a mobile-friendly media control application that intuitively manages single and multi-console workstations, enhancing operational efficiency and comfort.

Terence informs that multiple switches can be integrated into larger matrix systems, allowing for continuous expansion without losing functionality or performance. More importantly, security levels can be upgraded with EAL4+ certified Secure Extender series, meeting stringent specifications and allowing for defined access rights.

Matrox Video

Matrox Video's encoders and decoders are known to provide high-quality media distribution over IP, as their products' compatibility with 1G and 25G networks ensures flexibility and cost-efficiency in scaling C&C systems.



Rob Moodey, Manager of Strategic Partnerships at Matrox Video delves into the details of this and more, as he shares, "With a comprehensive product portfolio, Matrox Video provides system integrators and

IT managers with secure, reliable, ultra-low latency video technologies to power next-gen IP-based control rooms and mission-critical environments. Backed by free customer support, the company's products stand out for their longevity, scalability, performance, and support for open standards. Known for ensuring high-quality images with clear detail, Matrox Video products are a trusted solution for command and control environments that demand real-time monitoring and response, rapid decision making, and real-time collaboration. Matrox Video high-performance video solutions for IP-based command and control centres include the Matrox MaeveX encoders and decoders, Matrox Extio 3 IP KVM extenders, and video wall products including Matrox LUMA Pro graphics cards and the new highly scalable, fully IP Matrox Mura DVW distributed video wall appliance. Ideal for command and control environments, our products implement a suite of security protocols to help safeguard physical assets, including verified and encrypted firmware updates, HTTPS control communication, lock-out services, and continuous vulnerability updates."

Detailing some of the key products within the brand's portfolio for the Command and Control segment, he informs that the Matrox MaeveX 6100 Series and the new Matrox MaeveX 7100 Series encoders and decoders that support

Matrox MaeveX 7100 Series

single and multichannel, ultra-low latency, low bitrate, high-quality, simultaneous streaming and recording and zero-latency pass-through for real-time output of AV content in collaboration-focused environments. On the other hand, Matrox Extio 3 IP KVM extenders combine with the Matrox KMLync USB keyboard/mouse switch to enable remote monitoring and control of systems across a multi-monitor workspace with up to four 4K or 16 full-HD displays. Alongside, Matrox LUMA Pro graphics cards produce versatile baseband and IP-based video walls with robust H.264/H.265 decoding. And the high-performance IP-based 4K distributed video wall appliance i.e. the Matrox Mura DVW, enables users to combine multiple units to easily create a fully synchronized video wall of any size. Using a serverless architecture and providing a powerful web configuration tool for easy setup and operation, the Mura DVW distributed video wall appliance delivers PTP-synchronized and framelocked video to as many as 64 4K displays. Supporting H.264 and H.265 over 1/2.5 GB networks, and controllable with the proven Matrox NetAPI, each Matrox Mura video wall appliance can decode up to four 4Kp60 streams in 4:4:4. As a result, system integrators can effortlessly deploy high-density, cost-effective, fully IP-based distributed video walls with significantly less hardware and cabling.

Plus, the company's ST 2110/IPMX-ready encoders/decoders and converters enable users to distribute high-quality compressed media over IP across multiple infrastructure.

Potential Future Trends

As command and control centres continue to evolve, several trends are expected to shape the future of professional AV technologies. These include increased automation, integration of AI and machine learning, advancements in data analytics, IoT, adoption of cloud-based solutions, and more.

Increased Automation, AI and Machine

Learning: Automation will play a significant role in enhancing the efficiency of C&Cs; which includes automated data integration, real-time analytics, and proactive system management. In tow, Artificial intelligence will become increasingly important in command and control centres, enhancing data analysis, predictive analytics, and decision-making processes. AI algorithms can process vast amounts of data in real-time, providing valuable insights and automating routine tasks. The integration of AI and machine learning technologies is expected to enhance the capabilities of command and control centres. Terence aptly notes, "AI and machine learning are set to revolutionise command and control centres by enabling more intelligent data processing and decision support."

Remote Operations + Integration with IoT:

The Internet of Things (IoT) will enable C&Cs to integrate with a broader range of devices and systems; which will facilitate more comprehensive monitoring and control capabilities. Tom shares his views on the



matter, stating “Command and control rooms are frequently interconnected across various locations, requiring information to be accessible at multiple sites, and this necessity has driven the trend towards systems standardizing on secure IP solutions.”

Advancements in Video Wall Technology:

Video wall technology is likely to continue advancing, with improvements in resolution, colour accuracy, and modularity. Future video walls may offer even greater flexibility and customisation options, allowing for more dynamic and immersive displays that would enable even more detailed interaction with visual data, and hopefully enhance situational awareness.

Enhanced Interactivity & Resource Sharing:

Future AV systems will offer even greater interactivity, with advanced touchscreens, gesture control, and voice recognition technologies. This will enable operators to interact with information more intuitively and efficiently. Additionally, resource sharing is another trend that seems to be on the rise. Michael informs, “There is a growing awareness and usage of AV over IP and switched KVM which can help operators deal with the growing number of sources and system complexity that more modern control rooms require. We see increased demand for flexibility in how sources can be shared to video walls or between users, as well as source sharing between multiple control rooms.”

Sustainability: There will be a greater focus on sustainability in the design and operation of command and control centres. Mathieu affirms, “There is a growing emphasis on sustainability

in the command and control sector.

Organizations are looking for energy-efficient technologies and solutions that minimize environmental impact while maximizing operational efficiency.”

Virtual and Augmented Reality:

VR and AR technologies create immersive training scenarios, allowing staff to practice responses to various situations in a controlled environment. These technologies are particularly useful for crisis simulations and training exercises.

Cloud-Based Solutions: These solutions can provide scalable and flexible access to data and applications, reducing the need for on-premises infrastructure. Rob highlights the potential of cloud solutions as he states, “Cloud-based AV systems offer the flexibility and scalability needed for modern command and control environments, enabling seamless integration with existing infrastructure.”

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10

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Florian Rotberg
Managing Director,
Invidis Consulting,
Germany

DAY 1 | September 3

10:30 AM – 11:35 AM
Room 104A-B, Level 1

OPENING SESSION

Navigating New Horizons: Insights and Innovations Shaping India's Pro AV Landscape

11:30 AM – 1:30 PM
Room 102, Level 1

SMART & SUSTAINABLE CITIES

Empowering Sustainable Cities: Connected, Resilient, and Thriving
Co-organized with All India Institute of Local Self Government (AILLSG)

2:00 PM – 4:20 PM
Room 104B, Level 1

IMMERSIVE STORYTELLING

Immerse & Inspire: Crafting Experiences, Shaping Narratives through Technology and Creativity
Co-organised with Themed Entertainment Association (TEA)

2:00 PM – 3:45 PM
Room 102, Level 1

LEARNING SOLUTIONS

The Future of Learning Spaces: Transforming Education with Technology

2:00 PM – 4:15 PM
Room 104A, Level 1

CYBERSECURITY

Securing the Future: Cybersecurity Strategies, Economics, and Risk Management
Co-organized with Computer Society of India (Mumbai Chapter)



DAY 2 | September 4

10:30 AM – 12:45 PM

Room 104A, Level 1

DIGITAL SIGNAGE

The Power of Pixels – An Insight View of Digital Signage

Co-organized with invidis consulting

This session is sponsored by PPDS – Philips Professional Displays

10:30 AM – 12:30 PM

Room 104B, Level 1

EDUCATION

Educating for Tomorrow's Jobs: Aligning Education and Skilling Initiatives

Co-organized with ICT Academy

10:30 AM – 12:30 PM

Room 102, Level 1

CONTENT PRODUCTION & STREAMING

AI & Beyond: Scripting India's Content Renaissance

2:00 PM – 4:00 PM

Room 104A, Level 1

ENTERPRISE IT

Harnessing Digital Innovation for Transformative Growth and Governance in Enterprise IT

Co-organized with Computer Society of India (Mumbai Chapter)

2:00 PM – 4:00 PM

Room 104B, Level 1

COMMAND & CONTROL

The Future of Command and Control:

Technological Advancements and Industry Trends

2:00 PM – 4:00 PM

Room 102, Level 1

CONFERENCE & COLLABORATION

AI-Powered Collaboration:

Unleashing Innovation While Safeguarding the Future of Work

DAY 3 | September 5

10:30 AM – 12:30 PM

Room 104A, Level 1

LIVE EVENTS, EXHIBITION STANDS & EXPERIENTIAL PLANNING

Co-organised Event and Entertainment Management Association

(EEMA) & Association of Exhibitions Stand Designers and Constructors

(AESDAC)

10:30 AM – 12:30 PM

Room 104B, Level 1

AUDIO

The Future of Audio: Innovation, Optimization, and Standardization

10:30 AM – 12:30 PM

Room 102, Level 1

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CTS Exams – How to Successfully Study for it? (with CTS Mock Exams)



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SINGAPORE

Assyafaah Mosque Upgrades AV Technology to Enhance Efficiency and Productivity

Extron's TLP Pro 1230WTG Touchpanel Revolutionizes Mosque's Operations



Assyafaah Mosque, a spiritual hub accommodating around 4,000 worshippers, located at 1 Admiralty Lane, Singapore, has been a pillar for the Muslim community since its opening on April 9, 2004. As part of the Phase III Mosque Building Fund programme, it replaced the older Jumah Sembawang and Naval Base Mosques. Fast forward to October 2023, the mosque embarked on a significant technological upgrade to its audiovisual (AV) systems, aiming to boost efficiency and enhance the worship experience.



FACTFILE

Project Name: Upgrade of AV Technology at Assyafaah Mosque

Project Location: Northern part of Singapore

Project Segment: House of Worship

Project Consultant: Unitedventus Engineering (S) Pte Ltd

Project Systems Integrator: Maxx Media

Key AV Brands: Extron, LG, Epson, Bose and Shure

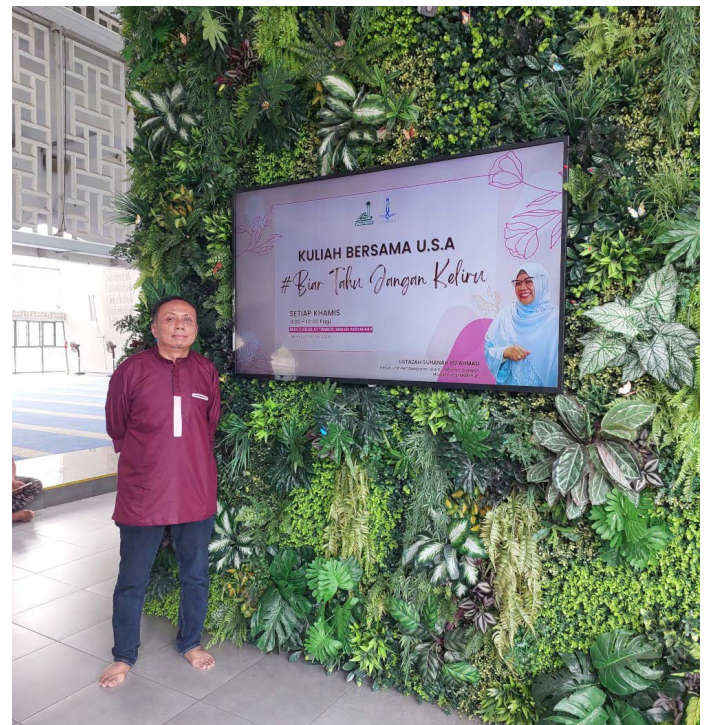
The Need for Modernization



Izuan M Rais, the Mosque Executive Chairman, emphasized the pressing need for the upgrade. “Our AV systems were outdated analogue set-ups using coaxial cables. Technology has evolved rapidly, and we were looking for technology that will enhance the experience of all involved.”

Taking a holistic approach, the mosque management upgraded not just the main

prayer hall but also classrooms, common areas, and extended prayer spaces. **Sham from Unitedventus Engineering (S) Pte Ltd,** a trusted consultant for many mosque projects in Singapore, was brought on board to manage the integration.



“Our primary challenge was the tight timeline—we started in late October and had to complete everything before Christmas. With Extron and our systems integrator Maxx Media’s help, we succeeded. Extron’s solutions were pivotal,

particularly the TLP Pro 1230WTG Touchpanel working in tandem with the IPCP Pro 550 control processor and the SMP352 recording and streaming processor. The Touchpanel, became the core of our operations,” Sham noted. This is the first installation of the Extron TLP Pro 1230WTG Touchpanel in a mosque in Singapore.

The Heart of the System: Extron TLP Pro 1230WTG Touchpanel



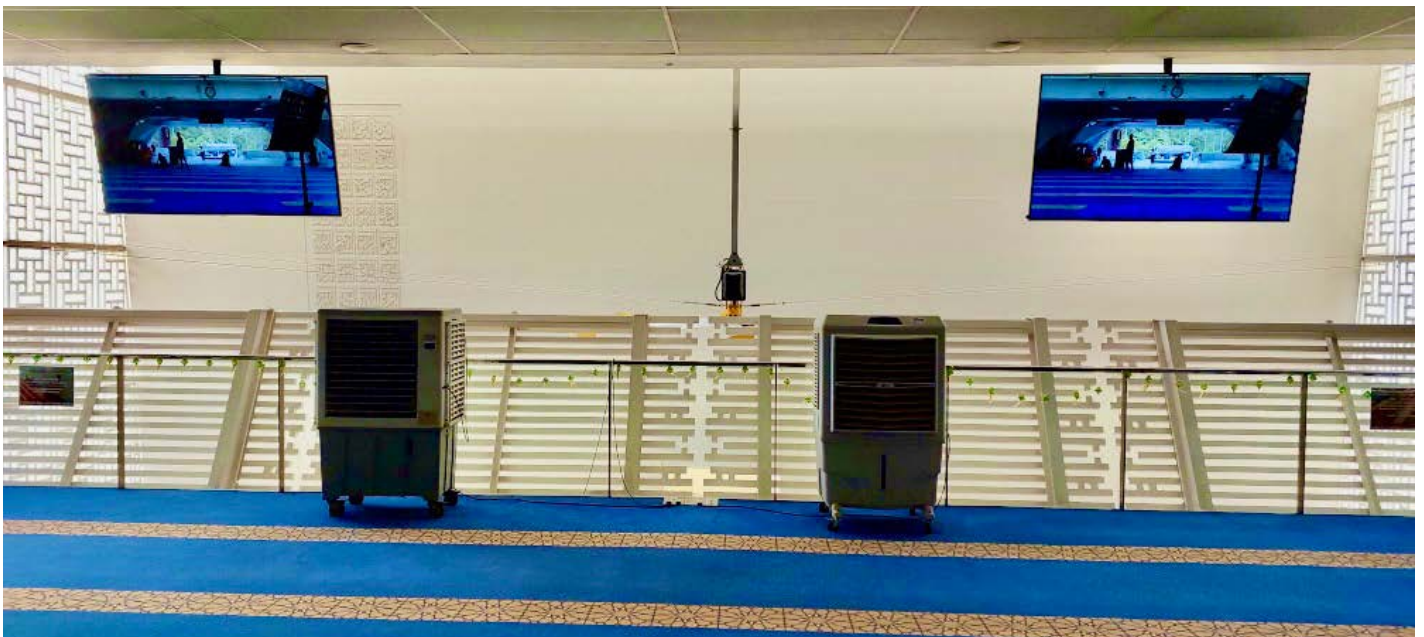
The Extron TLP Pro 1230WTG is a 12" Ultra-wide Tabletop TouchLink Pro Touchpanel.

At the control room’s core is the Extron TLP Pro 1230WTG, a 12” Ultra-wide Tabletop TouchLink Pro Touchpanel linked to the IPCP Pro 550 control processor at the equipment rack. Sham highlighted its capabilities: “The Touchpanel allows us to remotely control cameras, audio, and streaming. It simplifies preset recalls and improves operational efficiency, enabling us to manage various AV sources seamlessly.”

The Extron TLP Pro 1230WTG offers full-motion video preview with a direct HDMI input, allowing the control team to verify content before streaming. Its Gorilla Glass screen is tough, scratch-resistant, and smudge-proof, ensuring durability.

Displays for Better Engagement

The mosque now boasts 11 LG displays, ranging from 65 to 85 inches, used for streaming worship services, classroom teaching, and



Two LG displays help worshippers follow the service from the second floor extended prayer space.



digital signage. For instance, worshippers in the extended prayer space on the second level can follow proceedings via eye-level LG displays. Image capture is handled by an Aver AI Professional Tracking Camera PTC330UNV2, controlled through an Aver PTC Camera Controller CL01 integrated with the SMP352.

Izuan commented, “The quality of the video is very good. The AVer PTZ camera that were installed features superior 4K 60 fps streaming and a 30X optical zoom lens and is embedded with intelligent SmartShoot technology, which ensures good quality and framing.”

Classroom Transformation



Epson Laser Ultra Short-throw projectors were installed at 11 classrooms.

Classrooms have seen significant upgrades too. Previously, teachers used whiteboards and pull-down projection screens. Now, three classrooms feature LG 75TR3DK-B Touch Displays, while 11 others are equipped with Epson Laser Ultra Short-throw Projectors. “These interactive displays and projectors have made teaching more efficient and engaging,” said Izuan. “Teachers can now save and

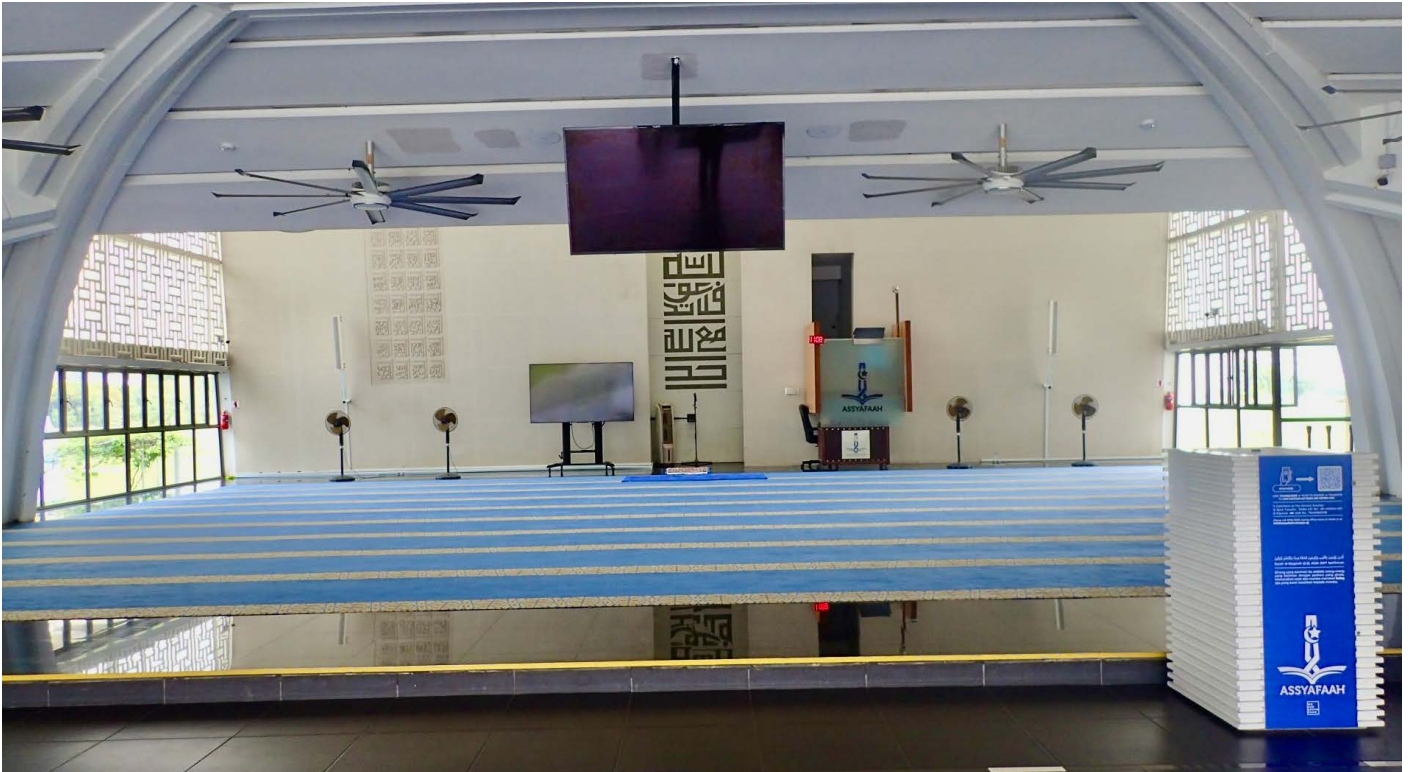
distribute notes directly from the interactive systems, boosting productivity and student participation.”



The LG Interactive display in an adjustable mount to cater to larger audiences when the divisible classrooms are opened.

The divisible classrooms, equipped with LG Interactive displays, offer flexible arrangements for larger audiences. “We can adjust the displays sideways, ensuring everyone has a clear view, eliminating the need for projectors in these spaces,” Sham explained.

Sham added that via the TLP Pro 1230WTG Touchpanel it was easy to control and stream content to the displays in the classrooms, if needed. “The ability to bring content where it is needed is useful. There might be occasions where an event in the main hall, might need to be streamed to all the displays and now this is possible unlike in the past. It offers the mosque more options with ease, which is certainly a huge benefit.”



Main Prayer Hall.

Superior Audio Experience

Audio enhancements were also a focus. The main prayer hall had two units of Bose EX1280 DSP and MSA12X loudspeakers that were installed in January of 2023. “During this upgrade phase, we decided to further supplement the main prayer hall with two units of Bose MSA12X with 12 units of DM ceiling speakers powered by Bose P2600 amplifier acting as delays. Four units of Bose DM surface mount again powered by Bose P2600 amplifier was installed at the basement car park. Around the other areas of the mosque building, we integrated 64 units of Bose FS ceiling speakers complemented with a pair of FS surface mount speakers, that are powered by PSX series amplifier with signal processing handled by two units of Bose DSP EX1280.

We also improved the speech aspect with the integration of Shure UA844+SWB-UK Antenna/

Power Distribution System and Shure SLXD24A/ SM58 microphones that ensures clear audio delivery. These improvements provide freedom of movement for users and superior clarity for listeners,” Sham stated.

Conclusion

The AV technology upgrade at Assyafaah Mosque, spearheaded by Extron’s TLP Pro 1230WTG Touchpanel, has transformed its operational efficiency and user experience. “The quality of our video and audio systems is outstanding, and the interactive displays have significantly enhanced classroom engagement,” Izuan concluded. The mosque’s comprehensive AV upgrade stands as a testament to how modern technology can enrich spiritual and educational environments.

Extron



JAPAN

Tokyo University of Science Adopts Cutting-Edge AV Solutions for Hybrid Learning

The dynamic intellectual environment within the Management of Technology Department necessitated a state-of-the-art AV solutions to facilitate seamless interaction and learning



Tokyo University of Science, situated in Kagurazaka, Tokyo, stands as one of Japan's premier institutions for science and technology; with its Department of Management of Technology (MOT) (a graduate-focused program within the Graduate School of Management), dedicated to nurturing advanced professionals who can integrate science, technology, and management principles.

Known for priding itself on its diverse student body, MOT hosts incumbents from varied

professional backgrounds, wherein, many students hold positions at leading companies in Japan, while others are retired professionals seeking to expand their knowledge and share their experiences. The program's schedule, with lectures primarily held in the evenings and on Saturdays, accommodates students travelling from outside central Tokyo, fostering a rich and inclusive learning environment.

A cornerstone of MOT's educational philosophy is the importance of clear communication –

FACTFILE

Project Name: Department of Management of Technology, Tokyo University of Science

Project Location: Tokyo, Japan

Project Segment: Education

Systems Integrator: Sony Marketing Corporation

AV Highlight: To adopt state-of-the-art pro AV technologies to enhance seamless hybrid learning experience

Key AV Brands: Sony, Bose

a principle reinforced by its distinguished professors and the diverse perspectives brought by its students. This dynamic intellectual environment necessitates state-of-the-art AV solutions to facilitate seamless interaction and learning, both in-person and online.

Recognising this need, Sony Marketing Corporation, a leading technology company in Japan and a partner dealer of Bose Professional in the region, stepped in to provide MOT with advanced AV solutions.

The integration of 4K ultra-HD cameras, microphones, and loudspeakers, have now allowed MOT to boast a superior AV solution that supports a seamless hybrid learning experience. This advanced distribution system enables professors to deliver high-value lectures, including those by guest speakers, to a broader audience. The number of participants is no longer confined to those physically present, significantly expanding the reach and impact of MOT's educational offerings.

With the educational facility housing a number of small discussion rooms and mid-sized classrooms where students engage with stock

price movements, the design and integration team have installed the Videobar VB1 all-in-one USB conferencing device. This intuitive solution combines Bose Professional-quality audio with ultra-HD video clarity, enhancing online communication.

"I strongly feel that the energy of the classroom can now be shared with those who participate remotely. Creating a sense of unity by eliminating the difference between online and onsite was our greatest focus," shares Professor Wakabayashi, Director of MOT.

While hybrid learning presents certain challenges, MOT has turned these into lasting benefits. The program can now offer both in-person and remote learning options indefinitely, enhancing inclusivity and diversity. This flexibility allows students who work or live outside Japan to enrol, further enriching the learning environment. Additionally, professors can record lectures, including classroom and chat discussions, creating an invaluable archive for on-demand learning.

Wakabayashi also emphasised the enduring value of physical experiences, as he shared



“The more we expand the online aspect of our lives, the more we will realise and value the preciousness of experiences and encounters in real, actual places.”

And this is where the design and integration team’s dexterity and capabilities shine bright, as their efforts have been noted to definitively reinvigorate the on-site teaching/learning capabilities at the MOT.

Sony’s latest AI technology camera – which tracks professors automatically and delivers clear video of whiteboards – have been installed to enhance the visual learning experience at the facility’s principle learning room. And complementing this are Sony’s ceiling microphones which ensure high-quality audio for both classroom speech reinforcement and online distribution, while also offering a more hygienic alternative to handheld microphones.

Alongside, the installation also includes Bose Professional’s acclaimed Panaray MSA12X loudspeakers, which enhance speech intelligibility with natural amplification and minimal feedback throughout MOT’s fan-shaped, theatre-style classroom. Central to the system is the ControlSpace EX1280-C

conferencing processor, which distributes clear audio to online students, creating a unified classroom experience. The collaborative efforts of Bose Professional and Sony engineers in tuning the acoustics of the room ensured that MOT’s requirements were met, resulting in a successful hybrid classroom setup.

While complimenting the impact of the newly integrated pro AV system at MOT; Professor Wakabayashi also envisions further potential in the hybrid classroom solution facilitated by Sony and Bose Professional; as he states “It’s a great advantage to have solutions with both video and audio, and to be able to propose custom solutions for each learning space,” Wakabayashi explained. “I hope the knowledge gained at MOT will be further disseminated. For MOT students, learning is both an intellectual endeavour and entertainment. It is possible to deliver the entire lesson online with greater context using the power of technology.”

MOT’s adoption of cutting-edge AV technology represents a significant step towards realising the ideal educational environment for the next generation. The integration of intuitive video and audio solutions not only amplifies the excitement and enthusiasm of the classroom but also bridges the gap between onsite and online learning, ensuring a cohesive and engaging experience for all students. And with the intention of building on these developments, MOT’s forward-thinking approach of adopting state-of-the-art pro AV technologies to enhance education looks to provide a blueprint for other institutions to follow in the pursuit of a more inclusive and effective learning experience.

Bose Professional

SINGAPORE

K-Array Brings Nature to Jet-Setters at Changi Airport

Moment Factory's third collaboration with one of the best airports in the world transforms layovers into an immersive journey through Singapore's lush landscapes



@Moment Factory.

Consistently voted one of the world's best airports by Skytrax, **Changi Airport** in Singapore recently unveiled its latest attraction: Terminal 2 which now boasts an immersive experience across two installations aimed at recreating the wonders of Singapore's natural environment. The two multimedia installations, named Digital Sky and Wonderfall were created by multimedia studio **Moment Factory**, in close collaboration with the design studio **BOIFFILS Architectures**

and implemented by systems integrators **Electronics & Engineering** (Wonderfall) and **Electro-Acoustics Systems** (Digital Sky). Moment Factory also designed the soundscape of both installations and a K-array system was chosen to provide sound reinforcement for this ambitious installation.

"For our third collaboration with Changi Airport Group, the trust already established with the client allowed us to push the envelope, both



FACTFILE

Project Name: Changi Airport

Project Location: Singapore, Singapore

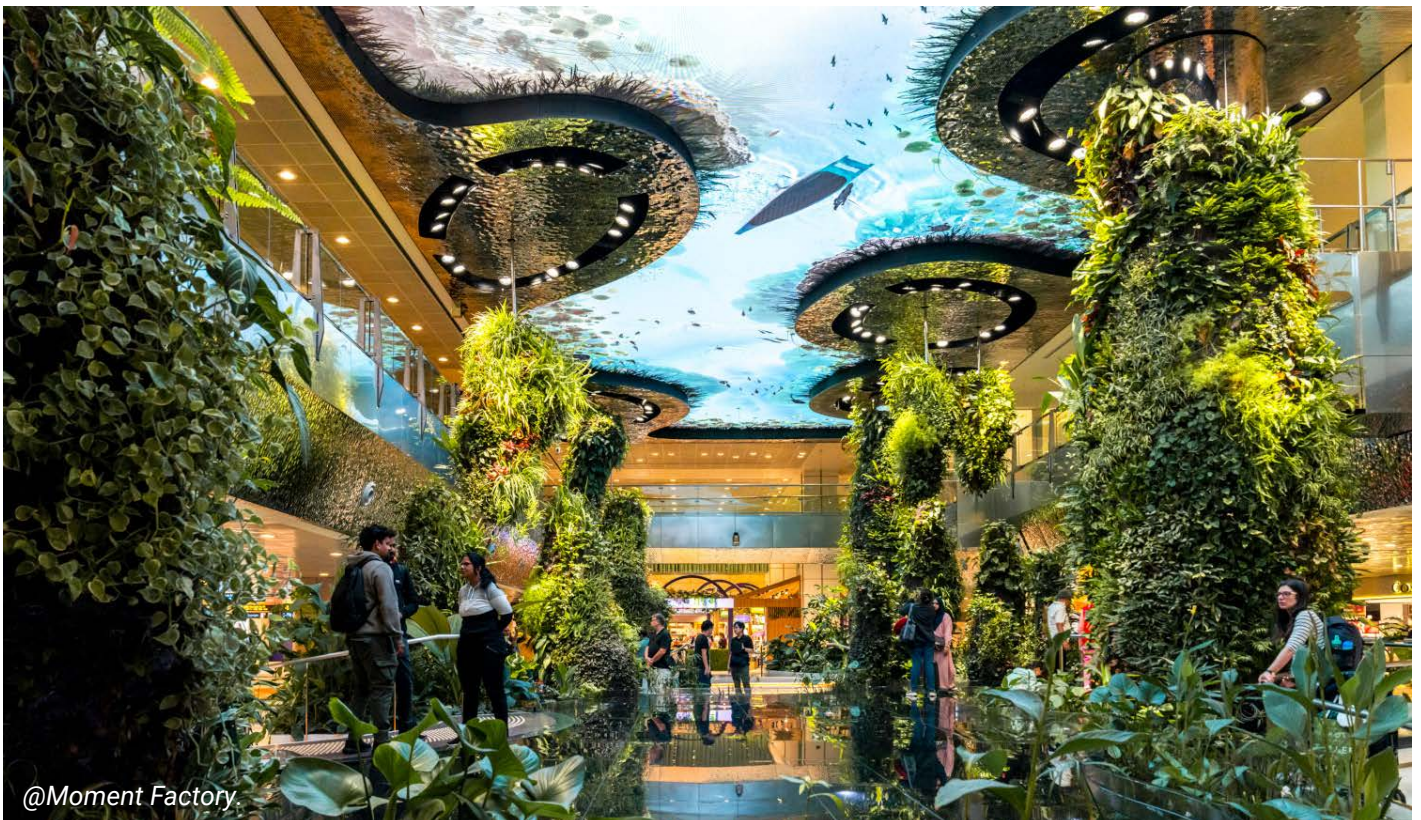
Project Segment: Visitor Attraction

Systems Designers and Integrators: Moment Factory, BOIFFILS Architectures, Electronics

& Engineering (Wonderfall) and Electro-Acoustics Systems (Digital Sky)

AV Highlight: To create a unique, immersive audio-visual experience that blends nature with technology in an airport setting

Key AV Brands: K-Array, QSC



creatively and technically,” explained Fady Atallah, Creative Director at Moment Factory. “With these installations, travellers can immerse themselves in Singapore’s nature with two unique experiences on their journey: an awe-inspiring moment at the Wonderfall and a surprising pause under the digital sky in the Dreamscape.”

The Digital Sky, an overhead LED installation above the airport’s airside Dreamscape Garden, required an audio system to create a natural soundscape as visitors move through the space. The soundscape is procedurally generative, meaning that instead of arranging the soundscape on a timeline, it is generated in Audiokinetic Wwise software using a weighted



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random algorithm. The sound can be modified by changing certain parameters and values in real-time to trigger changes in the density and mix of all its layers. These parameters can also be controlled via an Unreal Engine capsule to respond to changes in the time of day and local weather conditions, creating a unique experience that blends reality with imagination for passengers awaiting their departing flight.

On the other hand, the Wonderfall is a landmark feature of the Terminal 2 Departure Hall. Here, a four-story digital waterfall, measuring 18 metres wide and 14 metres high, displays an array of creative waterfall imagery on a 34.4-megapixel LED wall, interspersed with animations and recreations of roaring ocean waves which never fail to stop busy travellers in their tracks.

Both installations, whilst having a visual focus, required sound systems that would blend into the space while providing high-quality, lifelike soundscapes. A K-array solution was selected due to the performance, reliability, and compact design of the brand's loudspeakers, allowing integrators to install the products carefully with minimal disruption to the installation design.



@Moment Factory.

Furthermore, both the Wonderfall and Digital Sky are set amongst real-world vegetation, so K-array's IP64-certified loudspeakers make them an ideal choice in the presence of water and humidity.

The Wonderfall required considerable audio reinforcement as between ambient interludes, the LED screen displays a 3-and-a-half-minute show consisting of an immersive waterfall animation set to a bespoke piano composition by composer Jean-Michel Blais. Here, the systems integrators opted for a system based



AUGUST 2024



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around K-array's **Vyper series loudspeakers**. These ultra-flat line arrays create minimal visual impact due to their sleek design.

19 Vyper units are supported by two equally slimline Kobra line array elements and four mid-size Domino units. The addition of four, metre-long **Python loudspeakers**, each with twelve closely spaced 3.15" neodymium magnet woofers, ensures maximum throw and reproduction of the entire vocal range. These loudspeakers are mounted on the surrounding living wall of foliage to ensure minimal visual distraction. Four **Rumble** subwoofers take care of the low-end frequencies, integrated below the wall, whilst a total of 16 metres of **Anakonda** ultra-flexible loudspeaker units provide a seamless wall of audio around the bottom of the LED wall. The system is driven by five of K-array's own **Kommander KA84 amplifiers**, providing powerful DSP and integration with the QSC control system.

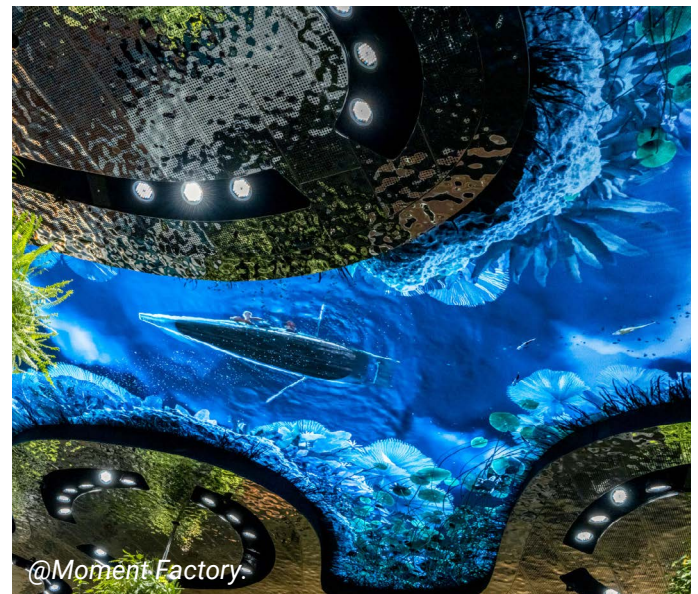
Airside, the Digital Sky at Changi Airport's Dreamscape enjoys audio through K-array's Vyper, Kobra and Domino loudspeakers. 19 Vyper units ensure consistent audio coverage, reinforced by six Kobra and eight **Domino** loudspeakers. Audio playback across the Dreamscape and the Wonderfall is handled via Delta Media Server Infinity by 7th Sense.

"By installing the loudspeakers on the ceiling, balcony and hidden in the vertical garden structures, we could localise the sound of individual birds and wildlife in space," explained Joseph Browne, Interactive Sound Designer at Moment Factory. "This effect was achieved by using the spatial audio tools in Wwise, as well as driven by the location of actors in Unreal Engine. For example, if an eagle flies overhead on the Digital Sky, this triggers a corresponding sound effect in the correct location in the garden sound system."



The placement of the K-array loudspeakers to create an immersive experience in the Dreamscape Garden is demonstrated every 30 minutes in a show that brings the space to life through a three-dimensional orchestral soundscape utilising all 33 loudspeakers. The sound system allows for the individual instruments to be mixed into different locations in the room, resulting in an enveloping musical experience. Whilst the cellos and strings are played from the ceiling, the piano melody comes from the balconies, whilst the mandolin emanates from the garden loudspeakers, literally surrounding passengers with music.

From the hypnotising waves of Wonderfall to the tropical haven of the Dreamscape Garden, Moment Factory has utilised the latest innovations in AV technology to reconnect travellers with the natural world. “By blending a dynamic soundscape with visual content, we’ve created a harmonious environment that



immerses guests in the Garden City’s natural beauty,” concluded Atallah. “At Changi Airport, travellers can enjoy moments of true tranquillity and wonder in the midst of one of the world’s busiest transportation hubs.”

K-Array

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