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"The advantage with AVoIP solution is that once we cross the sweet spot (in terms of the scale of the project), AVoIP solution is more cost effective than a traditional system."

**Maureen Aw, Workplace Technology Practice Lead
at PTS Consulting Singapore Pte Ltd**



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To read more go to Installation on page **59**



Thomas Richard Prakasam

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Our cover story journeys through the ages, from ancient times to the cutting edge of space exploration, as India unveils its latest marvel: a state-of-the-art space museum in Jhansi, a testament to its technological prowess and ambition. This immersive experience, crafted by Pan Intellectcom and Axis 3D Studios, with support from tech giants like Digital Projection and ElectroVoice, takes visitors on a breathtaking audio-visual journey through India's space odyssey.

Amidst the rapid advancements in automation, digitalization, and AI, the professional AV industry is undergoing a profound transformation.

Breaking free from closed systems, it embraces open solutions like AV over Internet Protocol (AVoIP), revolutionizing AV integration and democratizing access for datacom networking professionals. But is AVoIP truly a game-changer? Industry insiders and pioneers weigh in, shedding light on the complexities and implications of this technological shift in our feature article.



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The Rules of the Game Have Changed

by Brian Pickowitz, Vice President of Marketing, LEA Professional



LEA Professional amplifiers were deployed at the REXPERIENCE centre within REXKL in Kuala Lumpur, Malaysia.



*Brian Pickowitz, Vice President
of Marketing, LEA Professional*

The days of point-to-point connections are long past in commercial AV applications. Almost everything today is digital and networked, offering integrators several advantages in terms of installation and commissioning time. A strong industry-wide trend is looking at ways that AV products and services can be virtualised in the cloud, whether remote monitoring, virtualised DSPs, or broadcast production. While it's likely that physical endpoints like mics and speakers will still be required in the room for the foreseeable future, a lot of the rest of the signal chain is up for grabs as integrators and

manufacturers keep pushing the envelope regarding what's possible with virtualisation and AI.

Evolving Offerings and Technology to Match Consumer Trends

Consumer trends are pivotal in shaping the direction of commercial AV offerings and technological advancements, as businesses must continually adapt and innovate to meet their target audience's changing preferences, needs, and behaviours. As consumer trends evolve, commercial offerings and technology must also evolve to remain relevant and competitive.

One key aspect of this evolution is the increasing demand for personalized experiences. Consumers expect businesses to tailor their products, services, and interactions to their preferences and interests. This trend has prompted companies to invest in technologies such as artificial intelligence, machine learning, and data analytics to gather insights into consumer behavior and deliver personalized experiences across various touchpoints. From personalized recommendations and targeted advertising to customized product offerings and interactive content, businesses are leveraging technology to create more meaningful and engaging customer experiences.

Furthermore, the rise of digitalization and the proliferation of connected devices have fundamentally transformed consumer expectations and behaviors. Consumers now expect seamless omnichannel experiences that allow them to interact with brands anytime, anywhere, and on any device. In response, businesses are embracing digital transformation

initiatives and investing in technologies such as cloud computing, mobile applications, and Internet of Things (IoT) devices to create frictionless experiences across online and offline channels. By leveraging these technologies, businesses can enhance convenience, accessibility, and engagement for their customers while gaining valuable insights into their behavior and preferences.

The Cloud Migration (and how integrators can benefit)

Digital AV and IT are closely knit since they use the same infrastructure. IT services and solutions have successfully migrated to the cloud for several years, so it makes sense that AV begins a similar migration. Many of the benefits of IT operations in the cloud can benefit AV well.

Cloud infrastructure allows AV integrators to scale their resources up or down based on project demands. Whether they're handling a small installation or a large-scale deployment, integrators can quickly adjust their computing power, storage capacity, and networking resources to meet the needs of each project without investing in additional hardware or infrastructure.

By migrating to the cloud, AV integrators can reduce upfront capital expenditures on hardware and data center infrastructure. Instead, they can leverage pay-as-you-go pricing models and only pay for the resources they consume, resulting in cost savings and improved financial flexibility. Additionally, cloud-based solutions eliminate the need for ongoing maintenance and upgrades, further reducing operational costs.



Cloud-based collaboration tools enable AV integrators to collaborate with clients, team members, and partners from anywhere in the world. Whether sharing project files, collaborating on design plans, or remotely monitoring client systems in real-time, cloud-based collaboration platforms facilitate seamless communication and collaboration, streamlining project workflows and improving efficiency.

Cloud infrastructure allows AV integrators to deploy and provision resources quickly and easily. Instead of waiting for hardware to be purchased and installed, integrators can spin up virtual machines, storage volumes, and networking resources in minutes, accelerating project timelines and improving time-to-market for their solutions.

Cloud providers invest heavily in robust security measures to protect their infrastructure and data centers from cyber threats and unauthorized access. By leveraging cloud security services and best practices, AV integrators can enhance the security posture of their solutions and better protect sensitive customer data and intellectual property.

As with many things in business, integrators can set themselves apart by embracing cloud solutions early on and building a reputation for cloud experience. Having a collection of case studies that prove their cloud credibility with new clients can go a long way toward building customer confidence in the proposed solution and integrator partner behind it. Much like AV integrators had to embrace IT technology and learn new skill sets during the digital adoption,

a similar evolution will be required to become subject matter experts in cloud offerings, so start early.

Not all Clouds are Created Equal

A significant aspect that separates cloud infrastructure is the underlying architecture and technology stack employed by different providers. While some cloud providers may utilize proprietary technologies and architectures, others may adhere to open-source standards and embrace interoperability with third-party tools and services. The choice of architecture can have profound implications for factors such as performance, compatibility, and vendor lock-in, making it essential for integrators and manufacturers to assess their specific requirements and preferences when selecting a cloud provider.

Another critical consideration is the geographical reach and availability of data centers offered by cloud providers. Not all providers have an equally extensive global footprint, and the proximity of data centers to end users can significantly impact latency, data sovereignty, and regulatory compliance. Organizations with specific geographic requirements or performance expectations must carefully evaluate the cloud providers' coverage and distribution of data centers to ensure optimal service delivery.

Moreover, the range of services and features provided by cloud platforms can vary widely, with some providers offering a comprehensive suite of integrated solutions while others focus on specific niches or specialties. Integrators and manufacturers must carefully assess their requirements for computing, storage,

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networking, security, and other services and select a cloud provider that can meet their needs effectively. Factors such as service level agreements (SLAs), customer support, pricing models, and ecosystem partnerships can also influence the suitability of a cloud provider for specific use cases and workloads.

REXKL Case Study

Kuala Lumpur is a city steeped in rich history and traditions. Originally a small hamlet of just a few houses and shops, it stands proud as the capital of Malaysia and is home to 1.8 million people. At the heart of Kuala Lumpur lies a new community and cultural hub, REXKL. Designed within what was once the legendary Rex Theatre, the two-story, 60,000-square-foot building features retail shops and restaurants in the basement and a picturesque bookstore and exhibition space on the upper floor. Featuring

the original theater's brick and exposed structure, it is now a modern, industrial marvel that hosts performers and exhibitors. With a desire for the space to captivate guests with vivid visuals and audio, the venue deployed LEA Professional amplifiers in the REXPERIENCE center, or RXP for short, within REXKL as part of its grand reopening and reinvention.

Set in a former movie theater, RXP reimagines the legacy of the Rex cinema space by bringing in a new, cutting-edge digital art experience. As the first immersive venue in Malaysia, the venue team wanted to get the details right and spent over a year planning, working with the participating visual artists, and designing the spatial audio tracks. The immersive environment includes 18 projectors mapping visual elements on the walls and floor, while the

spatial audio design required that the venue be fully modelled in 3D.

Eighteen compact two-way loudspeakers, backed by four subwoofers, are strategically located throughout the RXP to provide the spatial audio listening experience. To help meet the range of audio needs, the integrator chose a combination of two of LEA Professional's Connect Series 1504D and five Connect Series 704D for the digital art experience. The 1504Ds power the subwoofers, while the 704Ds support the two-way loudspeakers. Both models include 96 kHz-capable Dante and AES67 connectivity options.

The high-power IoT-enabled four-channel 1504D provides 1,500 watts per channel into 2, 4, and 8 ohms and 70Vrms and 100Vrms. The CS1504D includes advanced DSP with 96 kHz linear phase FIR crossover filters, acoustically transparent look ahead RMS and peak limiters, 32-bit floating-point DSP with built-in sample rate converters, and two Smart Power Bridge channels.

Conversely, each 4-channel 704D delivers 700 watts per channel. It supports high-Z (70V or 100V) and low-Z selectable by channel, giving the venue much-needed design flexibility and enough additional capacity to support future expansion efforts.

The Connect Series delivers an industry-first professional amplifier family to feature cloud connectivity, a revolutionary advancement and a significant benefit for anyone maintaining the systems. With LEA Cloud, AV teams can remotely control and monitor the amplifiers

regardless of the location or time of day. Whether from within the REXKL or on another continent, controlling the Connect Series amplifiers from afar helps teams work more efficiently, reducing travel and saving time and money.

Final Thoughts

The status quo is a moving target in pro AV, and nowhere is that more true than the advancement of cloud-based offerings. Cloud infrastructure will continue to drive innovation, agility, and competitiveness in today's pro AV landscape. Remote monitoring systems like the LEA Cloud offer significant benefits to integrators in supporting customer systems and even providing the potential for new income streams through support contracts. Virtualisation of hardware and software emulation can enhance capabilities and system longevity, but it's not without risk. While cloud infrastructure offers numerous benefits, it's essential to recognize that not all providers and offerings are equal. Integrators and manufacturers must carefully evaluate factors such as underlying architecture, geographical reach, available services, and support options to effectively select a cloud provider that aligns with their requirements and objectives. By embracing cloud technology, integrators can streamline their operations, deliver innovative solutions, and stay competitive in today's dynamic AV market.

LEA Professional

SDVoE Technology Bolsters Flexible Communication for Hybrid/HyFlex Classrooms at Ritsumeikan Asia Pacific University

JAPAN: Established in 2000, the Ritsumeikan Asia Pacific University (APU), located in Beppu, Oita, Japan, is a multicultural campus that is home to nearly 6,000 students. Approximately half of APU's student body comprises of international students originating from 106 countries and regions. These individuals of varying languages, cultures and values study and live side-by-side with the goal of international mutual understanding. Moreover, one in two faculty members is of foreign nationality, and the official languages of the campus are English and Japanese.

The University's curriculum, which emphasizes discussion and practice between faculty and students, is separated between three distinctive colleges, including the College of Sustainability and Tourism, College of Asia Pacific Studies, and the College of International Management. Notably, the College of Sustainability and Tourism, which opened in Spring 2023, aims to develop human resources who employ academic scholarly knowledge and innovative research to solve contemporary issues and global challenges in sustainable development and tourism.

Challenge

The College of Sustainability and Tourism focused on building circular communications while utilizing tourism to conserve resources and create value. The curriculum addresses humankind's inevitable challenges of the 21st century through a two-way approach – sustainability science, which examines the development of sustainable societies, and tourism, which influences local economies and cultures. APU's focus with the College of Sustainability and Tourism is to keep with the mission of emphasizing discussion





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Solution

APU integrated **IDK Corporation**'s IP-NINJAR P-Series Transceiver model in classroom J101 in the "Green Commons" building to provide simplified video and audio switching, unified **SDVoE** and Dante communication, and flexibility to follow each teacher's teaching-style. By leveraging an AV-over-IP solution, APU has the flexibility to be able to active communication and discussion between onsite

and practice. The new building, which was constructed ahead of the colleges opening, required a new audio-visual system which bolsters flexible communications for hybrid and HyFlex classrooms.

APU required an audio-visual system with a simplified user experience. Each teacher has their own teaching-style, and the AV system was needed to be selectable by following teachers teaching-style. Additionally, APU's existing point-to-point base system did not provide a flexible experience and proved to be challenging for group-discussion between onsite and remote students. APU wanted to have the simpler system which integrates video, audio, and control as one system with minimum latency and noise on video and audio. APU required real-time monitoring of the progress of all group discussion to teachers and the status of the audio-visual system for real-time technical support.

students and remote students, and multi-view function provides monitoring capability of those group discussion to teachers. Transceiver and Dante Audio Bridge products provided simplicity, less cabling, and less energy (sustainability) for the AV systems.

By integrating and implementing IP-NINJAR solution, APU can monitor progress of group work and discussion by using multi-view functions. APU has a divided, yet unified, system between audio and video between SDVoE and Dante, which provides simple routing and control to end users. Finally, APU can monitor the audio-visual system through network and WebGUI.

These results satisfied APU's requirement to AV system, and APU provides one of most sophisticated education to their students in the world from Japan.



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Creative Technology Expands Middle East Systems Integration Team with Key Acquisitions



MIDDLE EAST: Creative Technology (CT) a global leader in delivering cutting-edge audio-visual solutions, is pleased to announce the expansion of its Systems Integration (SI) department in the Middle East with the addition of four highly skilled professionals.

These strategic hires underscore CT's commitment to providing exceptional service and expertise to our valued clients. The newly appointed team members bring a wealth of experience and specialised skills to their roles, enhancing CT's capabilities in various aspects of Systems Integration. With the recruitment of a Business Development Manager, Solutions Architect, Contracts Manager, and AV Estimator, each member of the expanded team brings a unique set of skills and accomplishments.

CT welcomes Hassan Kteish, an accomplished Business Development Manager with a proven track record in delivering results and establishing long-lasting client connections. "I am thrilled to join Creative Technology and look forward to leveraging my experience and driving business growth in the Middle East" noted Kteish.

Also new to the team is Hossam Kurdi, a seasoned Solutions Architect specialising in Audio Visual Solutions Design, who joins the team with a rich portfolio of notable projects.

In addition, Saleem Ismail, an expert Contracts Manager with a strong background in Civil Engineering, brings a wealth of knowledge in contract development, negotiation, and management.

And finally, Jeffrey Bain, an experienced AV Estimator with over 26 years in the industry. His ability to design sophisticated AV systems and expertly manage projects will further enhance CT's capabilities in delivering customised solutions to its clients.

Huw Godfrey, Head of Systems Integration for CT Middle East, rounds up, "We are delighted to welcome these exceptional professionals to the Creative Technology team. Their diverse backgrounds and proven track records will strengthen our Systems Integration division and enable us to continue delivering innovative solutions and exceptional service to our clients in the Middle East."

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Brompton Technology Celebrates Shenzhen Office's Fifth Anniversary

CHINA: This year marks a significant milestone for **Brompton Technology** a leading global manufacturer of LED video processing solutions, as it celebrates the fifth anniversary of its base in Shenzhen. The opening of the Shenzhen office in March 2019 strategically positioning the company in High-Tech Industrial Park, Nanshan, was prompted by customer demand and the city's status as a hub for LED panel manufacturing.

Brompton's decision to establish a dedicated office facilitated seamless communication and support for local clients. Fast forward five years, and the company's Shenzhen team support Brompton's customers with account and project management, calibration, operations, technical product queries, training, field application engineering, and marketing.

To mark the occasion, the team will host a celebratory event at the office on 7 March. Brompton's CEO, Richard Mead, will be joined by Elijah Ebo, Director of APAC Operations, Pokman Chu, General Manager (China), Summer Zhang, Deputy General Manager (China), and many other members of the team in China and the UK to unveil a cutting-edge demo stage featuring an LED volume driven by Brompton Tessera LED processors.



This demo stage facility serves multiple purposes, including hosting internal and external training sessions for partners, clients, and prospective clients, and conducting Brompton and partner-specific training sessions. It also provides a dedicated space for in-house events and for partners to showcase demonstrations, fostering innovation, knowledge-sharing, and collaboration within the industry.

Equipped with industry-standard technology, the stage boasts an impressive array of equipment, including an LED volume comprising 60 ground-stacked ROE Visual BP2V2 panels, a StarTracker Max tracking system by Mo-Sys, disguise VX2 media server and RXII render node, and an ARRI Alexa 35 camera and ARRI Skypanel and Orbiter lighting fixtures. It is completed with a sound system, sync generator, and camera tripod.

"The demo stage will serve as a versatile platform, acting as a training centre and client showcase," explains Pokman Chu, General Manager of China at Brompton Technology. "The team will be able to host various events, including seminars on emerging technologies, live events, virtual production, broadcast, and fixed installations. With an open-door policy, we aim to encourage partner utilisation and



industry collaboration. The comprehensive demonstrations will cover complete, end-to-end virtual production workflows, emphasising xR and related technologies, with the initiative designed to create a hub for knowledge and support, benefiting both the local community in South China and beyond."

On its fifth anniversary, Brompton's Shenzhen office commemorates remarkable growth and robust partnerships. The operation now boasts an 18-strong team across various departments, including Calibration, Operations, Project Management, Marketing, Technical Support, and Training – supporting a growing base of panel manufacturer partners and studios.

"The team's flexibility and adaptability have been evident through multiple office moves, reflecting their ability to thrive amid rapid expansion as well as their commitment to further growth," adds Ebo, "With such a strong team in China, led by Pokman Chu and supported by Summer Zhang, we are well-positioned for on-going success."

Ebo concludes, "Our current focus involves installing the demo stage, fostering a closer market ecosystem, and providing extensive training and technical support. We remain committed to innovation and collaboration, addressing the needs of our valued customers in the dynamic landscape of LED video processing."

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AnterPro Introduces Vietnam To HOLOPLOT



V **VIETNAM:** In a move set to revolutionize the professional audio landscape in Vietnam, **AnterPro**, a leading provider of professional AV and FX solutions based in Ho Chi Minh, has unveiled its partnership with **HOLOPLOT**, the renowned pro audio company hailing from Berlin, Germany. This strategic alliance marks the introduction of HOLOPLOT's groundbreaking technology, the HOLOPLOT Matrix Array, to the Vietnamese market, promising to redefine sound reproduction as we know it.

HOLOPLOT has garnered international acclaim for its pioneering approach to audio technology, characterized by a fusion of science, software, and hardware innovation. And at the heart of its offerings lies the HOLOPLOT Matrix Array, a revolutionary sound system hailed by industry experts as a paradigm shift in audio engineering. This transformative technology has already found its way into some of the world's

most prestigious projects, including the Sphere in Las Vegas and the Lightroom installations in London and Seoul, cementing its status as the go-to solution for high-performance audio environments.

AnterPro affirms that its decision to introduce HOLOPLOT to Vietnam reflects its commitment to delivering cutting-edge AV solutions to its clientele. As a trusted distributor of renowned brands such as Showven and CLF Lighting in Vietnam, AnterPro is well-positioned to champion the adoption of HOLOPLOT's revolutionary technology in the local market. And the company firmly believes that the HOLOPLOT X1 holds the potential to have a significant impact on the market in the near future.

The X1, HOLOPLOT's flagship offering, represents the pinnacle of this innovation, boasting a matrix arrangement of loudspeaker drivers in a multi-layered configuration. This design enables unprecedented control over sound propagation in both horizontal and vertical axes, delivering exceptional sound quality and coverage across a wide frequency spectrum. One of the key distinguishing features of the HOLOPLOT X1 is its ability to provide complete sound control, a capability that was previously unattainable with traditional audio systems.



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Pink Noise Professionals Coalesces a Classy & Efficient Sound System at PF Chang's First Indian Outlet In Mumbai



bustling kitchen adds a touch of culinary theater to the ambiance. Adding to this allure and elevating the dining experience is the carefully curated soundscape that has been seamlessly woven into the fabric of the restaurant through an understated yet classy audio system, meticulously designed and installed by the esteemed **Pink Noise Professionals**. Recognizing the significance of ambiance in enhancing patrons' enjoyment, the management team at P.F. Chang's sought out an audio solution that would blend seamlessly with the restaurant's refined aesthetic while delivering unparalleled clarity and performance.

In response to this challenge, Pink Noise Professionals embarked on a comprehensive assessment of the space, meticulously analyzing its acoustic dynamics to determine the optimal audio solution. Drawing upon their expertise and utilizing state-of-the-art technology, the team identified the Neo 6 loudspeakers from renowned Spanish manufacturers WORKPro as the ideal choice for achieving the desired balance of aesthetics and performance.

Characterized by their compact yet powerful design, the Neo 6 loudspeakers were

INDIA: Mumbai's Lower Parel district has recently become home to India's inaugural P.F. Chang's outlet, nestled within the elegant confines of One Lodha Place. Renowned for its fusion of American Chinese cuisine and captivating ambiance, this new establishment has captured the attention of local diners and culinary enthusiasts alike.

Upon stepping into P.F. Chang's, guests are enveloped in a sensory journey that begins with a cascade of cherry blossoms adorning the space. The interior, boasting rich hues of gold, black, and red, pays homage to the vibrant colors synonymous with Chinese culture. Custom-painted murals punctuate the walls, while a captivating window into the



strategically positioned throughout the restaurant, ensuring a uniform and immersive audio experience for diners. From the intimate confines of the bar to the expansive dining area, every corner of P.F. Chang's resonates with crystal-clear sound, enhancing the overall ambiance and elevating the dining experience to new heights.

And driving the meticulously crafted loudspeaker system at PF Chang's Mumbai are the PA1254 amplifiers from WORKPro, chosen for their compact footprint and exceptional efficiency. With Pink Noise Professionals' meticulous attention to detail in system tuning,

patrons can enjoy a flawless audio experience that perfectly complements the culinary delights on offer.

Speaking about the collaboration, a spokesperson for P.F. Chang's expressed their delight with the outcome, stating, "At P.F. Chang's, we believe in creating memorable experiences for our guests, and sound plays a crucial role in shaping the ambiance of our restaurant. Thanks to the expertise of Pink Noise Professionals, we now have a world-class audio system that enhances every aspect of our diners' journey, from the moment they walk through our doors."

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Visiontek AVE Elevates the Worship Experience for Realzone Christian Ministries



PHILIPPINES: Realzone Christian Ministries Inc. has stood proud as a beacon of spiritual solace for its congregation at Molino IV Bacoar in the Philippines. And armed with a steadfast commitment to delivering quality worship experiences, the ministry recently embarked on a transformative journey to enhance their congregation space; with the endeavour culminating in the acquisition of a cutting-edge professional AV infrastructure meticulously designed and commissioned by **Visiontek AVE** – a renowned AV solutions provider based in Pateros, Philippines.

Realzone Christian Ministries, a revered house of worship, recognized the importance of leveraging technology to enrich their worship sessions. Understanding this need for

innovation, they entrusted Visiontek AVE with the task of conceptualizing and implementing a comprehensive AV solution that was not just tailored to their unique requirements, but would hold true on every metric of performance, usability, adaptability and longevity.

Visiontek AVE's approach to successfully meeting the ministry's expectation lay in their unwavering dedication to understanding their clients' vision. And the collaboration commenced with extensive consultations between Visiontek AVE's expert team and the managing committee of Realzone Christian Ministries. Through these discussions, Visiontek AVE gained invaluable insights into not just the ministry's aspirations, but also the physical challenges that would need overcoming in order to pave the way for a bespoke AV solution.

Central to the upgrade is the congregation hall, a sacred space where sermons and musical performances converge to inspire and uplift. Recognizing the vital importance and sacrosanct nature of the space; Visiontek AVE's expertise shines through in the installation of a state-of-the-art P2.5 Hi-refresh rate front access LED wall system, which Visiontek designed and manufactured in-house. Serving as the primary backdrop of the plush stage that hosts pastors and praise-n-worship musicians alike; this immersive visual display captivates the audience with stunning imagery, seamlessly complementing the worship experience.

And perfectly complementing the captivating visuals is a meticulously crafted and precisely tuned high-performance audio system that adorns the stage.



Flanking the stage are three units of the Vantec-20A active line array modules from **DAS Audio** <https://www.dasaudio.com/en/>, renowned for their crystal-clear sound reproduction and powerful performance, coupled with multiple Vantec-18A active subwoofers strategically positioned beneath the stage that offer deep and impactful low-frequency fidelity. The line array modules and subs come together to form an audio system that not just assures world-class performance, but more importantly, enriches the worship experience as it envelops the congregation in an unparalleled sonic experience, resonating with clarity and depth.

Further enhancing the spiritual ambiance, is the efficient lighting infrastructure, that has been designed and installed to seamlessly integrate with the LED videowall and audio systems to provide a truly cohesive multi-sensory experience. The synergy between these components not just elevates the performance experience for performers, but also invites the audience to fully immerse themselves within this heightened worship ambiance, thereby fostering a deeper connection with the divine.

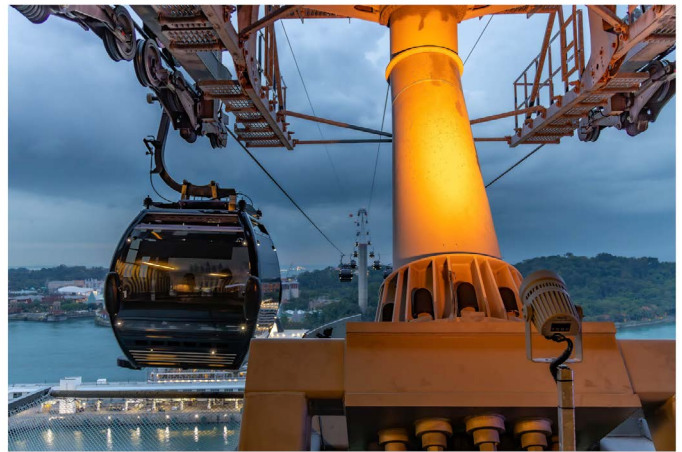
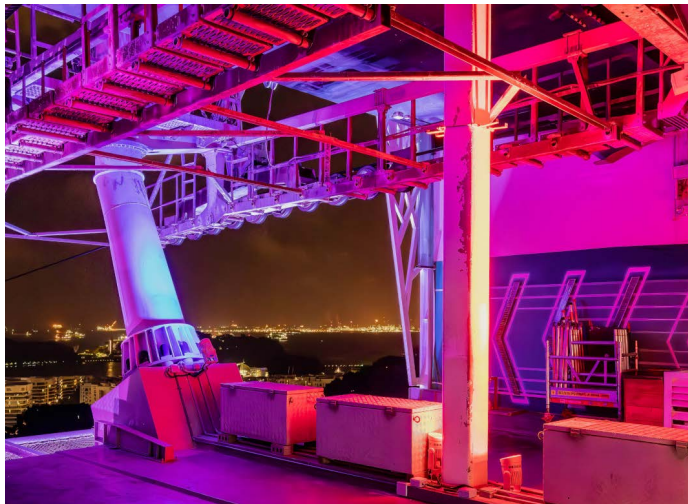
Most crucially though; in a testament to Realzone Ministries' vision for inclusivity and Visiontek AVE's commitment to helping them keep up with the empowerment capacities that modern-day technologies afford – the capabilities of the newly installed AV infrastructure extends well-beyond the confines of the congregation hall. Recognizing the importance of reaching congregation members unable to attend in person, Visiontek AVE incorporated a state-of-the-art live-streaming



and broadcast system. Equipped with a UE50 4K PTZ camera system from Panasonic that is controlled through the AW RP60 compact remote PTZ Camera Controller and an ATEM Television Studio Pro 4k switcher from Blackmagic Design, this cutting-edge setup ensures that worshippers can participate in the spiritual journey from anywhere, transcending physical boundaries, without having to compromise on the quality of the worship experience.

At the heart of Visiontek AVE's success lies their meticulous planning and execution. From the initial consultations to the final installation, every aspect of the project was approached with precision and attention to detail. Through their unwavering dedication and expertise, Visiontek AVE has not only met but exceeded the expectations of Realzone Christian Ministries, delivering a transformative AV infrastructure that enhances the worship experience for all.

Martin Exterior Wash Series Enhances Mount Faber Cable Car Station with Dramatic Lighting



Officials recently hired AVL Acoustic Systems to implement a lighting installation to emphasize the charm of the cable car rides and deliver immersive experiences for visitors and events held at the Mount Faber venue. AVL Acoustic System worked closely with LuxLight and **Harman Professional Solutions** to design and install an array of Martin Exterior lighting fixtures to provide positive guest experiences with vibrant colour and dynamic lighting.

SINGAPORE: AVL Acoustic Systems and Luxlight recently collaborated to illuminate Singapore's iconic Mt. Faber cable car station with state-of-the-art Martin Exterior Wash 110 RGBW lighting fixtures.

Mount Faber is a hill located in Singapore's southern central region, offering panoramic views of the city's skyline, as well as the surrounding islands and the sea. It is a popular tourist attraction and is often visited by locals and visitors alike. At the summit of Mount Faber is a cable car station, which offers a scenic cable car ride to Sentosa Island, another popular tourist destination in Singapore. There are also several lookout points on the hill, including the Faber Point and the Merlion Lookout, which offer breath-taking views of the city and its natural surroundings.

"Selecting Martin Professional has been an excellent choice," said Marc Brandon Hor, Project Consultant, AVL Acoustic Systems Pte Ltd. "We were seeking versatile and innovative lighting fixtures backed by strong support and a reputable brand in the industry. Martin is a well-respected brand in the lighting industry, known for its high-quality, innovative lighting solutions. Choosing Martin can provide peace of mind knowing that you are investing in reliable and well-designed lighting fixtures. We look forward to working together again when we expand the project further to enhance the overall experience."

The team selected Martin architectural lighting fixtures for their versatility, energy efficiency, enhanced durability, and robust weather



protection. Martin's IP-rated Exterior Wash 110 fixtures can withstand environmental factors such as water and dust, making them ideal for both indoor and outdoor use. Their longevity and low maintenance requirements ensure reliable performance and contribute to reduced cost of operation. Martin Exterior Wash 110 fixtures are equipped with QUAD LED technology to provide superior colour mixing and deliver impressive output while remaining energy efficient and compact.

The team successfully executed the project while ensuring minimal disruption to the daily operations and night maintenance of the cable car station. The professional teams displayed their expertise and flexibility, worked within a short timeframe, and swiftly resolved any

challenges encountered during the installation process. Mount Faber Cable Car Station's new Martin Exterior Wash fixtures help it stand out among Singapore's picturesque scenery and further solidify its position as a must-visit destination for tourists and locals alike.

"We thank **Mount Faber Cable Car Station**, AVL Acoustic Systems and Luxlight for this collaboration," said Amar Subash, VP & GM, Harman Professional Solutions of APAC. "Martin's dynamic architectural lighting DNA is deeply embedded in performance and entertainment. With our high standards and cutting-edge technology, we strive to consistently deliver creative versatility for permanent installations, both interior and exterior, for our esteemed clients."

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Robin Sim Strengthens G&D Team in the APAC Region

APAC: Guntermann & Drunck GmbH (G&D) is expanding its operations to the APAC region to meet the needs of its customers from various industries and regions. For more than 35 years, the German manufacturer of KVM solutions for control rooms has been providing innovative products for air traffic control, industrial and process automation, defence, broadcast, oil and gas, and maritime applications.

In this context, Robin Sim will support the G&D sales team. His expertise and many years of experience will contribute to offering customized solutions that promise customers greater security and user-friendliness in control rooms. With over three decades of experience in critical infrastructure in the areas of digitalization, security, command, control and operational environments, Robin Sim brings a comprehensive understanding of market requirements. "His expertise will be invaluable in understanding the needs of our customers in the region and providing customized solutions," says CEO Thorsten Lipp. "The increasing demand for our products and services in APAC requires us to improve our service and local support to effectively meet the requirements of our customers." The company is thus pursuing its continuous growth strategy and plans to expand its activities in other markets.

The long-term objective is to open a new location in Singapore, under the leadership of



Robin Sim, which will bring significant benefits to the region in the future. By strengthening G&D's market presence and penetration in APAC, the KVM manufacturer will be in a better position to respond to local market conditions and customer needs. This step will contribute to the company's growth in the APAC region.

G&D is a leading manufacturer of KVM products for system-relevant applications in control rooms. The KVM solutions developed by G&D contribute to increasing the security of the IT technology deployed, and simultaneously making operations smarter and more convenient for control room staff. The broadest KVM portfolio on the market includes KVM extenders, switches, and matrix switches for extending, switching, and distributing keyboard, video, and mouse signals. All devices are of course compatible and can be used in combination. "I look forward to working with customers and G&D systems to develop solutions for modern and future-oriented control rooms," states Sim.



Adam Hall Group Appoints Link Audio as Exclusive LD Systems Distributor in Australia

AUSTRALIA: The Adam Hall Group is further expanding its international sales network. Since March 01, 2024, Melbourne-based **Link Audio** has been the new distribution partner for the **LD Systems** pro audio brand in Australia. With this expanded partnership – Link Audio has also been responsible for the exclusive distribution of the Gravity brand since 2021 – the event technology manufacturer, headquartered in Neu-Anspach, Germany, is aiming to establish the diverse sound and sound reinforcement solutions of its pro audio brand on the continent and distribute them even more extensively.

"We are delighted to have found an exclusive distribution partner for LD Systems in Australia

in Link Audio," says Markus Jahnel, COO of the Adam Hall Group. "The retail, rental and installation market is a particular challenge simply because of Australia's geographical size, and it plays an important role in our international endeavours. Link Audio is a dynamic and flexible company that has many years of sales experience with renowned audio brands and has also been the exclusive distributor of Gravity's stand solutions in Australia for several years. We're looking forward to an extended cooperation where we make LD Systems even more popular in Australia."

Michael Jago, Managing Director at Link Audio, says: "We are delighted to be distributing LD Systems in Australia. For us, LD Systems fulfils all the criteria of a modern pro audio brand: high audio quality and development standards, user-centric designs, innovative features, and a constantly growing, perfectly coordinated portfolio. LD Systems thus enriches our existing range in a special way."



Optimal Audio Enriches the Sonic Appeal of Jade Eatery & Sips and Sarai Restaurant



Jade Eatery & Sips, Bandung, Indonesia.



Sarai Restaurant, Singapore.

partner for both establishments, enriching their atmospheres with unparalleled soundscapes. Nestled under a burnished copper roof, Jade Eatery & Sips beckons patrons into a realm of modern Asian cuisine and crafted cocktails. The venue exudes sophistication with its elegant interiors, a plush horseshoe-shaped bar, and a picturesque outdoor terrace. However, what truly sets Jade apart is its captivating soundscape, a result of a collaboration between pro AV solutions provider **Sontastic**, and Optimal Audio.

Aligning their approach with Jade's inherent premium design philosophy, Sontastic's integration team opted for Optimal Audio's Cuboid range of loudspeakers; owing to the fact that these sleek enclosures seamlessly blend into the venue's aesthetic while delivering rich, high-fidelity sound throughout the lounge. With the installation of the loudspeakers being meticulously planned and executed to cover the entire expanse at Jade; the Cuboid loudspeakers, known for their impressive bass, mid-band clarity, and vocal projection, ensure a consistent and immersive music experience across every corner of the venue. Moreover, the flexibility of Optimal Audio's mounting

SOUTHEAST ASIA: Enjoying culinary delights and sophisticated dining experiences have now become a crucial aspect of modern-day life in recent times; with the fusion of exquisite flavours and immersive ambiance being considered paramount to the overall dining experience. And as dining establishments around the world aspire to live up to such standards, two venues in particular – namely Jade Eatery & Sips in Bandung, Indonesia, and Sarai Restaurant in Singapore's Tanglin Mall – have come to be recognized as torch-bearers of sorts in the intricate world of premium dining; where every detail is meticulously crafted to elevate the patron's experience. Among the plethora of details, the auditory component plays a significant role no doubt; and Optimal Audio has emerged as the preferred audio



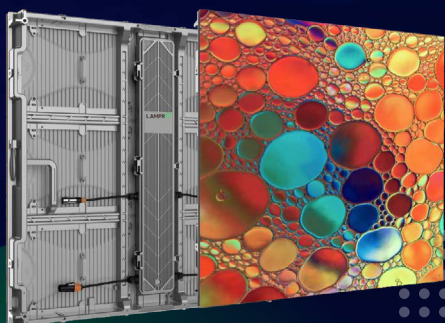
hardware facilitated a clean and straightforward installation, while allowing the team to maintain both the visual appeal as well as the sonic performance of the space.

On the other hand, at Singapore's Tanglin Mall, Sarai Restaurant stands as a beacon of Thai culinary excellence, offering a fusion of traditional dishes with modern innovation. The restaurant's opulent ambiance, adorned with warm lighting and luxurious finishes, truly does set the stage for a fine dining experience like no other. Complementing this ambiance is an intricately crafted audio, courtesy of **XC Lighting Pte Ltd** and Optimal Audio.

At Sarai, Optimal Audio's UP6 ceiling speakers and Sub10 subwoofers have strategically

been deployed across the expanse of the venue which encompasses various sections such as the lobby, the main dining hall and the private dining areas, to deliver immersive soundscapes without compromising the venue's aesthetic integrity. According to the design and integration team, the UP6 ceiling speakers ensure consistent, full sound distribution, while the Sub10 subwoofers add depth and impact to the audio landscape. And by integrating Optimal Audio's Zone 4 controller as a key component of the audio setup, the team were able to ensure precise dispersion of sound across the various distinct zones, thereby enhancing the overall dining experience while also affording unparalleled control over tailoring the music experience across each section.

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Barco-powered Global Art and Technology ARTE MUSEUM Opens in Dubai Mall

UAE: **ARTE Museum**, the internationally acclaimed immersive digital art venue produced by the world-class Korean digital design company **d'strict**, has officially opened its doors for the first time.

WARTE Museum Dubai invites guests to immerse themselves in a space of 30,000 square feet, showcasing works inspired by nature in its breath-taking exhibition 'Eternal Nature'. This exhibition incorporates both the natural landscapes and the cultural backdrop of the city as new media artworks. Each of the 14 zones of the exhibition immerses audiences in works of stunning beauty and powerful elements of nature. Blending the lines between reality, fantasy, and hyper-reality by using digital technology, viewers find themselves at the base of towering waterfalls and strolling beaches as they admire the aurora borealis. As their journey through the galleries progresses, audiences are surrounded by blooming camellia flowers, undulating waves, and bioluminescent animals in the jungle, as well as thundering pink clouds.

"It is with great pleasure that we unveil ARTE Museum Dubai. Our paramount mission is to transport our audience into an awe-inspiring digital realm, meticulously crafted to awaken all their senses," stated Sean Lee, the Chief



Executive Officer of d'strict. ARTE Museum's inaugural exhibition in the Middle East is going to become a must-visit experiential attraction for both tourists visiting Dubai and residents looking for cultural activities with their families."

In 2022, d'strict signed a framework agreement designating **Barco** as the sole supplier of all the projectors for the company's upcoming international digital art museum projects in the next four years. The deal, with a total value projected to exceed 15 million euros, includes a hardware delivery of three-chip and single-chip DLP laser projectors, access to **Barco's Insights Management Suite** for global fleet management and a tailored high-standard **service offering** which is streamlined for all geographies. This Dubai installation powered by forty-seven G62-W9 projectors and twenty-nine UDM-4K22s marks a significant milestone ARTE Museum's expansion.

"Through our partnership with d'strict, we've cultivated a robust alliance rooted in mutual trust and innovation," expresses Ta Loong Gan, Executive Vice President Immersive Experiences at Barco. "Our commitment to providing superior technology and reliable service, coupled with



d'strict's visionary approach ensures that ARTE Museum offers a consistently breath-taking experience worldwide. Together, we ensure that every visitor, no matter where they are, can indulge in the awe-inspiring beauty of digital art."

The holistic experience also includes accompanying scents crafted uniquely for each work and a soundscape created by Music Director Young-gyu Jang, a globally renowned composer with a stellar reputation for his award-winning work on the scores of more than 50 films and television shows including the critically acclaimed "Train to Busan" (2016) and "Mask Girl" (2023). Jang's compositions are thoughtfully designed to seamlessly enhance the impact of each artwork.

The combination of sensory creativity and various media technologies, such as projection mapping, multi-image control, and sensor-based interaction system, provides an experience full of ingenuity and delight, the uncanny and the familiar. It is a new form of art space where the space itself becomes a work of art.

"ARTE Museum pushes the boundaries of innovation to the next level by blending art and technology into a unique digital canvas. Our objective is to trigger all the senses of our visitors to invite them into a uniquely immersive and lasting experience," said Jin Lee, Vice President at d'strict as well as the Creative Director of ARTE Museum



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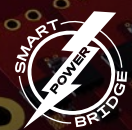
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LEA Professional Partners HL Group to Expand Throughout Middle East



MIDDLE EAST: In a move to ensure worldwide reachability, **LEA Professional** has partnered with manufacturer's representative **HL Group** to expand throughout the Middle East. LEA Professionals' extensive technology catalogue, featuring intelligent IT solutions, industry-leading DSP, and smart power management will elevate customer satisfaction and provide a unique and wide range of technology solutions to HL Group's customers.

Founded in 2017 by Co-Founder and Group Director Mike Gopal, HL Group will work to bring LEA Professional's vast technology offerings to the Middle East Gulf Region, offering LEA's award-winning Network Connect series of professional amplifiers and companion Dante

Connect series that provide the same features as well as Dante and AES67 connectivity. 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.

"We're always aiming to bring the highest quality technology to our customers," said Nadim Labban, HL Group General Manager "Our values, strategy, commitment, and trust. And it is clear LEA Professional aligns with those values. We're looking forward to the upcoming opportunities that this partnership will bring for us and our customers."

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**. This calibre of offerings makes LEA Professional the perfect partner for HL Group's expansive customer base.

"LEA Professional is on a mission to expand our global footprint," said Scott Robbins, VP of Sales at LEA Professional. "HL Group is an established player in the industry and will aid us in this mission. HL Group's commitment to its customers is commendable and aligns with our goal to do the same. We look forward to a wonderful and rewarding partnership."

Riedel Announces Strategic Partnership with Hibino Intersound Corporation to Expand Distribution in Japan



JAPAN: Riedel Communications announced a new partnership with Hibino Intersound Corporation, one of Japan's leading distributors in the Pro AV industry, to enhance its presence in the Japanese market. With the partnership set to commence in April 2024, Hibino Intersound Corporation will distribute Riedel's cutting-edge intercom solutions, including the Bolero wireless intercom system, the Artist digital matrix intercom platform, and the SmartPanel user interface, as well as the MediorNet real-time media network, encompassing both TDM and IP configurations.

"We have always admired Riedel's commitment to innovation and their products' reputation in the market. The MediorNet line is expected to play a pivotal role as we expand our business scope," said Hiroshi Ikegaki, Representative Director of Hibino Intersound Corporation. "Integrating Riedel's renowned intercom systems and advanced network products with our robust audio and video systems empowers us to deliver more sophisticated and complete solutions."

The collaboration with Riedel allows Hibino Intersound Corporation to enhance its product offerings, providing customers with



comprehensive solutions that streamline operations and improve user convenience. Hibino Intersound Corporation's commitment to excellence aligns with Riedel's reputation for quality and ease of setup.

"The partnership with Hibino Intersound Corporation opens up exciting new business opportunities for both companies in the Japanese Pro AV market," said Guillaume Mauffrey, Director of Sales in Asia at Riedel Communications. "Their extensive distribution network and industry expertise, combined with our innovative product lineup, will undoubtedly lead to a new era of connectivity and workflow efficiency for our customers."

Lightware Visual Engineering Appoints Tan Tiong Leng as Systems Specialist



SOUTHEAST ASIA:
Lightware Visual
Engineering a

leading manufacturer of
connectivity solutions for the

professional integrated systems market and a pioneer in signal management, has announced the appointment of Tan Tiong Leng as its new Systems Specialist for Southeast Asia. In his role, Tan will serve as a key advisor and technical consultant for all Lightware products across the region.

Collaborating with Candice Siow, Regional Director for Southeast Asia, and the wider regional team, Tan will utilise his extensive experience in client-facing positions to assess customers' requirements and determine optimal solutions for them. Furthermore, he will be responsible for developing and delivering technical presentations and demonstrations, ensuring Lightware Visual Engineering's partners and customers remain up to date with their latest solutions and services.

Tan's appointment aligns with Lightware's continuous regional investment strategy and commitment to expanding its operations across Southeast Asia. This strategy began with Siow's arrival in December 2023 and was reinforced

by the recent addition of Alison Liew, Business Development Specialist for Southeast Asia.

With 16 years of experience at Panasonic within the region, including the role of Head of Department for the Professional Display team, Tan brings a wealth of expertise to Lightware. He holds a Bachelor of Engineering Degree from the National University of Singapore.

"We are excited to welcome Tan Tiong Leng to Lightware as our new Systems Specialist for Southeast Asia. He comes with a rich background of expertise and demonstrated success, proven during his time at Panasonic. This appointment aligns seamlessly with Lightware's dedication to propelling growth within the region and ensuring exceptional connectivity solutions for its customers and partners. With Tan's addition to the team, we are further positioned to strengthen our market presence and make significant progress towards achieving our strategic objectives." said Candice Siow, Regional Director for Southeast Asia, Lightware.

"I am thrilled to be part of the Lightware team and to play a role in its ongoing expansion within the region. I am excited to take on the role of a key advisor and technical consultant, providing support for all Lightware products," added Tan Tiong Leng, Systems Specialist for Southeast Asia, Lightware. "The technology developed by Lightware is already having great success within Southeast Asia, I am looking forward to contributing towards this and the growth of the company."

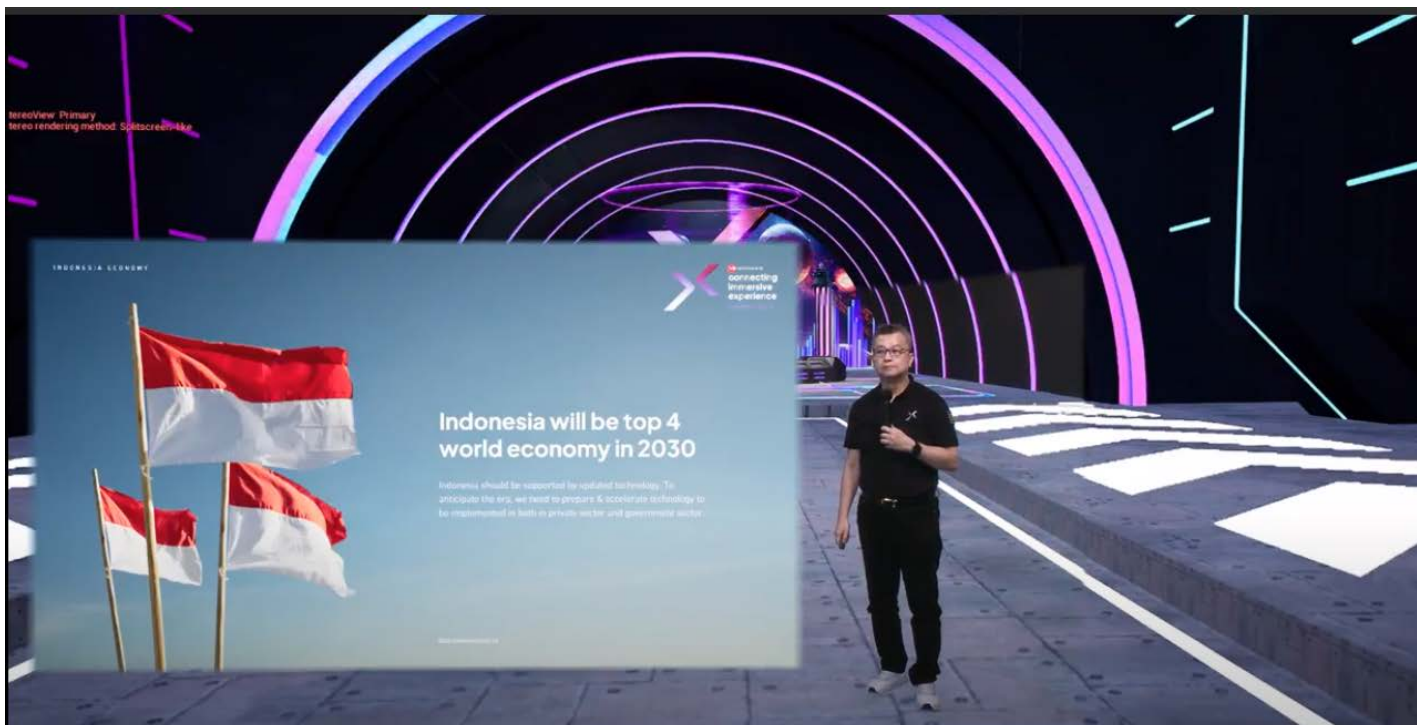


Exploring the Future of Immersive Tech at CIX Summit 2024

INDONESIA: The Connecting Immersive Experience (CIX) Summit 2024, the first and largest immersive technology conference and exhibition in Indonesia, is set to push the boundaries of immersive technology. As a pioneer in technology exploration, CIX Summit 2024 aims to inspire innovation and usher in a new era of immersive experiences. Taking place at the Jakarta Convention Center from August 22 to 24, 2024, CIX Summit 2024 will offer immersive experiences exploring the future. According to NextMSC, the global artificial intelligence (AI) market is projected to reach USD 196.63 billion by 2024, up from USD 142.32 billion in 2022. Meanwhile, **Precedence Research** forecasts the AI market to grow to USD 1.85 trillion by 2030.

The Indonesian government estimates that the country's digital economy potential will reach USD 146 billion by 2025, becoming the largest in Southeast Asia, driven in part by the rise of immersive technology propelled by several key factors. First, government initiatives such as the "Indonesia Digital 2025" program demonstrate strong support for technology development given its potential for economic growth.

Additionally, there is a surge in consumer demand for immersive experiences, particularly in the gaming, entertainment, and education sectors, driven by the increasing accessibility of VR and AR devices. Second, Indonesia has robust technology infrastructure, including high internet penetration and widespread smartphone usage, providing a solid foundation for the advancement of immersive technology. These solid factors propel Indonesia's immersive technology market forward.



Rudi Hidayat CEO V2 Indonesia and Chairman CIX presenting about the event that was streamed on 15 March 2024.



Projections from IDC indicate a significant growth trajectory, with a projected average annual growth rate (CAGR) of 30.4% from 2020 to 2025. This growth is supported by increasing demand for immersive experiences, broader content availability, and robust technology infrastructure in Indonesia.

"We are excited to explore the forefront of technology and provide a platform for industry leaders, innovators, and enthusiasts to converge. Our mission is to showcase the latest advancements in AI technology, immersive technology, digital transformation, and usher in a new era of immersive experiences," said Rudi Hidayat, Founder & CEO of V2 Indonesia.

Furthermore, Rudi Hidayat emphasized that CIX Summit aims to propel Indonesia to the forefront of technology innovation. With the ambitious goal of making Indonesia the fourth best country in the world by 2030, CIX Summit will gather a host of speakers and industry figures to drive Indonesia's market thinking.

"With CIX Summit 2024, we present a captivating stage for industry players, innovators, and technology enthusiasts to explore the boundless potential of immersive technology. We are committed to being a catalyst for change in delivering captivating immersive experiences," said Ridhi Mahendra, Chief of CIX Summit 2024.

In an era where new technologies are reshaping the global landscape, CIX Summit goes beyond traditional conferences, offering an extraordinary opportunity to delve into revolutionary developments shaping the future of technology.

What to Expect:

- **Cutting-edge Exhibition:** Explore the most advanced XR, AR, and VR technology exhibitions, presented by leading companies and pioneering startups.
- **Inspirational Keynotes:** Gain insights from thought leaders and visionaries shaping the immersive technology landscape.
- **Networking Opportunities:** Connect with professionals, investors, and individuals who share a passion for pushing the boundaries of technology innovation.
- **New Business:** Discover the next big thing in artificial intelligence, immersive technology like XR, and digital transformation as new startups propose their revolutionary ideas and products.
- **Global Impact:** Explore the global impact of immersive technology through discussions and presentations from experts across various industries.

Event Format:

- **Technology Conference:** Engage in thought-provoking discussions and gain actionable insights from leading speakers, industry pioneers, and thought leaders shaping the future of technology.

- **Technology Exhibition:** Step into the future with our technology exhibition – an interactive showcase of the most cutting-edge products, solutions, and breakthrough technologies.

- **Business Networking:** Expand your professional network by connecting with like-minded peers, potential collaborators, and experts in the field.

The list of confirmed speakers as of March 18:

- Triari Senawirawan (MD Warner Music)
- Radityo Triatmojo (CEO ShopeePay)
- Andi S. Boediman (Ideosource Entertainment)
- Harry K. Nugraha (CD Intel Indonesia)
- AWS has confirmed to bring a high-level speaker from the United States (name to be confirmed)
- Dharma Simorangkir (CEO Microsoft Indonesia)
- William Utomo (Founder & COO IDN Media)
- Nugroho (CEO Telkomsel)

"Transform your customer experiences with the power of digital innovation at CIX Summit. Discover the latest trends in AI, immersive technology, and more, all in one place," said Iwan Setiawan, Advisor of CIX Summit 2024.

CIX Summit 2024 is not just a conference and exhibition, but a gateway to the future of immersive technology that promises to uncover revolutionary innovations, facilitate invaluable connections, and shape the landscape of tomorrow's technology.

For more information about CIX Summit 2024, visit www.cix-summit.com

Outline and Aga Audio Technology Sign Exclusive Distribution Partnership in China

CHINA: Outline S.r.l. a leading European manufacturer of professional loudspeaker systems and FPGA-based signal processing solutions, is delighted to announce an exclusive distribution partnership with **Guangzhou Aga Audio Technology Co., Ltd**, a distinguished distributor in the Chinese audio market. This agreement grants Aga Audio exclusive distribution rights for Outline products across China, Hong Kong, and Macao.

Over the past years, Aga Audio Technology has successfully installed various Outline high-performance point-source systems tailored for permanent installations. With their growing technical expertise, Aga Audio is now poised to expand its offerings to include Outline's line-array systems and audio processors, including Newton. This strategic decision reflects Aga Audio's commitment to delivering comprehensive audio solutions to its customers.

"I would like to express my sincere gratitude to Outline for developing products specifically targeted to the Chinese entertainment market. Their dedication to understanding the unique needs of our customers and delivering innovative solutions has been instrumental in our success over the past years. As we embark on this partnership, we are excited



to further leverage Outline's expertise and product range to offer our customers even more comprehensive audio solutions," affirmed Anson Ai, General Manager at Aga Audio Technology.

"Aga Audio Technology has always been committed to excellence, and our growing technical expertise is a testament to our dedication to providing top-notch audio solutions to our customers. With highly skilled technicians in the live/touring industry, we are now well-positioned to expand our offerings to include Outline's renowned line-array systems and processors, considered among the top four or five premium brands worldwide in terms of pure audio performance," Ai added.

"We are honoured to establish our partnership with Aga Audio Technology," remarked Fernando Rey Méndez, Outline's Sales Director. "Aga Audio's growing technical expertise, now extending into the live/touring sector, alongside their historical proficiency in permanent installations, perfectly complements Outline's values. Additionally, their network of local dealers ensures comprehensive coverage of Chinese territory. Together, we aim to expand Outline's presence and deliver superior audio experiences to customers across China."

K-array Announces new Kramer Control Plug-in for Kommander Amplifier Range

INTERNATIONAL: Italian manufacturer of professional audio **K-array** solutions, has just announced the extension of its control plug-in portfolio to include a new integration with Kramer Control. Kramer Control is an enterprise-class cloud-based control and management solution providing IT and AV managers an easy way to control, monitor and support AV systems, infrastructures, and any third-party devices. Utilising the full API of Kramer Control, the new driver will enable greater integration possibilities for K-array's flagship Kommander range of amplifiers.



"Through Kramer's intuitive control platform, our Kommander amplifiers can now be implemented seamlessly into a Kramer-based control system," explains Matteo Barbaro, Software Product Manager at K-array. "This is an exciting step as integrators now have fewer barriers when it comes to integrating our professional audio solutions into a range of spaces, such as corporate, government



or education environments." "The technical partnership with Kramer follows our trend of being as compatible as possible with all the control system manufacturers," continues Barbaro. "Our goal is to improve the integration experience whilst eliminating any potential user pain points."

The announcement of this new partnership is a continuation of K-array's commitment to software development, following the release of plug-ins for other control platforms including Crestron, Q-Sys, AMX and Control4. Further software partnership announcements are expected throughout 2024.

"By providing consultants and integrators with all the necessary tools to interact with and manage K-array products, they will be able to work more efficiently, which in turn benefits the end user," concludes Barbaro. "We'll continue working to expand the technologies that our products can integrate with and in turn, ensure our solutions are at the front of the minds of integrators when they are specifying on projects."

Void Acoustics and China's Real Music Acoustics & Lighting Technology Co Ltd Announce Distributor Partnership



CHINA: Void Acoustics is proud to announce its partnership with Real Music Acoustics & Lighting Technology Co Ltd as its distributor for the Chinese market. This appointment is part of Void's continued growth in the Asia-Pacific (APAC) region.

Established in 2008, Real Music Acoustics has solidified its position as one of China's earliest professional audio commercial application companies. Focusing on audio consultancy, promotion, sales, installation, tuning, and related services, the company boasts extensive experience in product channel sales and integrated systems, catering to a wide range of venues, including theatres, cultural tourism projects, stadiums, clubs, and commercial performances.

As a Void Acoustics distributor, Real Music Acoustics will offer the full range of Void products to the Chinese market, including the signature Cyclone speaker series and the eye-catching Air series.

Alex Skan, Managing Director at Void Acoustics, said: "We are delighted to welcome Real Music Acoustics to our network of distributors. Their proven track record and extensive expertise in the professional audio industry make them the ideal partner to represent the Void brand in China. We're excited to extend Void Acoustics' reach into this region and offer our audio solutions to even more customers."

Headquartered in Xi'an, Real Music Acoustics' channel marketing and service network covers the entire country, ensuring prompt responses to customer needs and delivering high-quality end-to-end services for Void products.

The partnership comes at a time of growing demand for high-end audio solutions in China, with Void Acoustics reaching **a milestone number of projects across the APAC region** <https://voidacoustics.com/news/article/void-acoustics-apac-growth>. Recent installations in some of the region's biggest clubs, luxury hotels, and festivals have established the company's reputation in APAC as an innovative audio solution provider capable of delivering immersive sound systems with an equal focus on aesthetics.

Real Music Acoustics' commitment to excellence and customer satisfaction aligns perfectly with Void Acoustics' values, adding to a growing list of distribution partners.



Richie Wang, General Manager at Real Music Acoustics & Lighting Technology Co Ltd, said: "We are excited to collaborate with Void Acoustics to bring innovative speaker solutions to the Chinese market. With our combined strengths and resources, we are confident that we will meet and exceed our customers' expectations, providing them with unparalleled audio experiences."

Fedrick Lu, APAC Sales Manager at Void Acoustics, said: "It's incredibly exciting to

welcome Real Music Acoustics into the Void family. There is a growing demand for our line of aesthetic and top-of-the-line sound systems in China's entertainment and hospitality industries, and we're confident this partnership will help deliver the Void experience to a wider customer base."

Void looks forward to a successful partnership with Real Music Acoustics as they work together to elevate the standard of audio excellence in China.

EAW Promotes James Bamlett to Senior Director of APAC and EMEA Sales

APAC: Eastern Acoustic Works (EAW) announces the promotion of James Bamlett to Sr. Director of APAC and EMEA Sales. In his previous role as Director of APAC Sales, Bamlett managed EAW's current distributors and helped increase sales throughout the Asia Pacific region from his base in Southeast Asia. In his new role, Bamlett is responsible for adding new distributors and managing the existing sales channel in the APAC (Asia Pacific) and EMEA (Europe, Middle East, and Africa) regions.

"James has a proven track record of managing existing distributors and expanding sales, and we are confident that he will continue to excel in this new position," says T.J. Smith, president of Eastern Acoustic Works.



Bamlett has many years of experience in the pro audio industry, including working as a technical support consultant and touring system engineer. He joined EAW almost 25 years ago, starting in a product specialist role before transitioning to sales. His technical background together with his sales skills have enabled him to expand EAW's presence in the APAC market.

"I look forward to this opportunity to work more closely with our partners in EMEA and help expand EAW's footprint in both the APAC and EMEA regions," says Bamlett. "With the impressive growth EAW has seen in recent years and the continuous addition of innovative products to our portfolio, it's an exciting time to be part of the company's journey."

Inaugural Harman Professional Tour Summit Highlights Immersive Audio Technology



overviews and demonstrations as well as presentations by the HARMAN Global Product Line Management Team leaders such as George Georgallis, Director for Performance Audio and Dale West, Senior Applications Engineer for Performance Audio.



Attendees were also briefed on success stories of music festivals like the MTV Video Music Awards, and concerts in 2023 by top tier artists such as Sam Smith, The Foo Fighters and K-Pop star Seong Si Kyung powered by JBL Professional and Martin Lighting tour products.

Apart from showcasing current line array and point source speakers from the JBL VTX-A and F-Series, powered by Crown Amplifiers, the JBL SRX900 Series of self-powered line arrays were presented along with lighting fixtures from the highly successful Martin Professional range. A number of new products were also showcased including the Martin MAC ONE and the JBL Venue Synthesis 3D prediction software; which was launched during the Integrated Systems Europe (ISE) trade show earlier this year.

SINGAPORE: The first day of the **HARMAN Professional** Tour Summit 2024 kicked off on March 4th at the Gateway Theatre, in Singapore with an overwhelming attendance of more than 150 attendees including audio engineers, rental companies, event management companies, consultants and performance facilities managers.

Spanning over two days, the Tour Summit is the first event by HARMAN to focus on the Touring and Performance market in the Asia-Pacific region and was attended by HARMAN Professional's Senior Leadership Committee, including President, Brian Divine and Senior Vice President for Product Development, Andy Flint. The event programme consisted of product

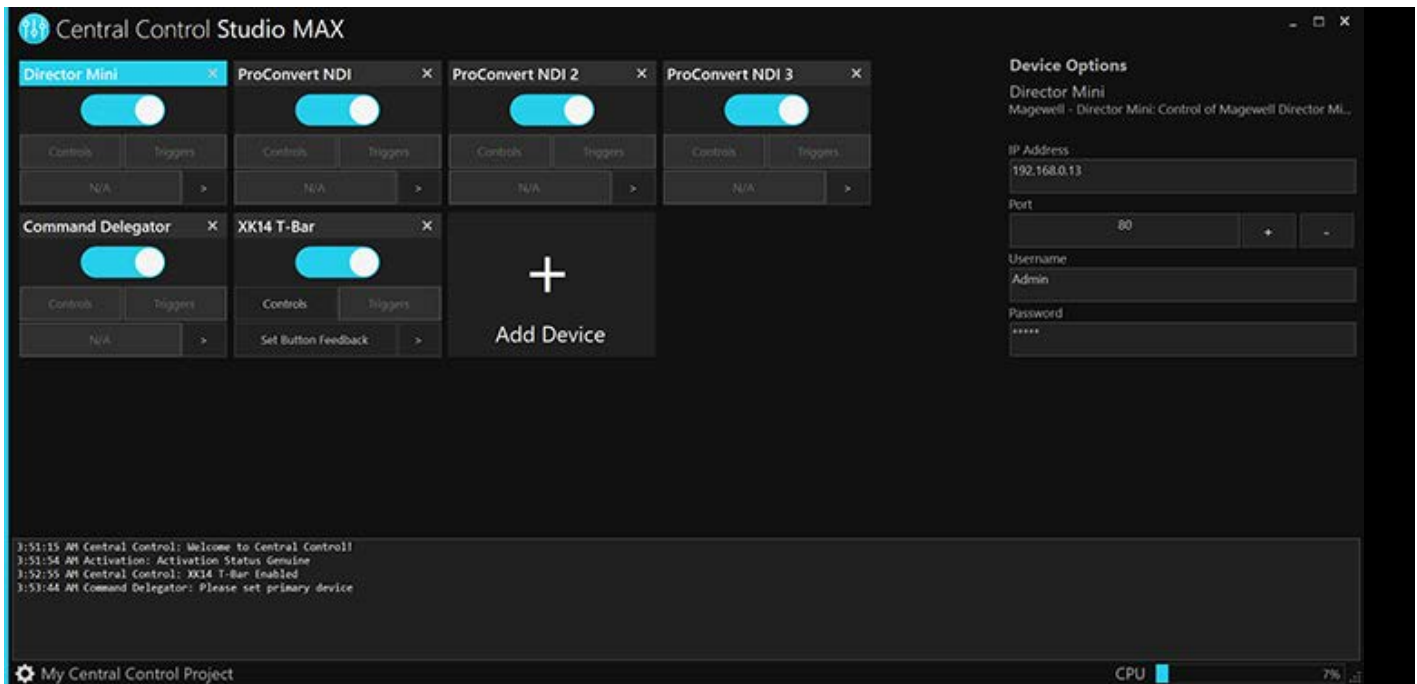


The star of the show was the JBL Immersive Audio demonstration powered by FLUX:: SPAT Revolution. HARMAN recently acquired FLUX:: (December 2023) and this was the first time that JBL customers in APAC were able to experience the effect of combining FLUX:: with JBL loudspeakers. Attendees were treated to an immersive audio experience like no other in a session hosted by Hugo Larin, the Senior Business Development Director for FLUX::. During the evenings, Tour Summit guests were treated to live music experiences delivered through installed JBL Tour sound systems at two of Singapore's liveliest venues – Hero's situated in the heart of Singapore's Central Business District and the Topsy Unicorn Beach Club on Sentosa island. At Hero's, local band Gravity entertained the crowd with powerful vocals and an enigmatic performance, while the smooth grooves served up by Topsy Unicorn's in-house DJ kept audiences on their feet.

"The HARMAN Tour Summit was a resounding success with positive feedback from all attendees who experienced the live demonstrations of our state-of-the-art products and technologies. This event could not have been better timed given the current boom in the events and live music industry. The addition of FLUX:: into the HARMAN portfolio ensures that we can deliver truly immersive experiences for live events and fixed installations. We certainly expect to see the adoption of HARMAN Tour products continue to grow and to power more high-profile concerts and festivals in 2024," said **Amar Subash, Vice President and General Manager, HARMAN Professional APAC.**

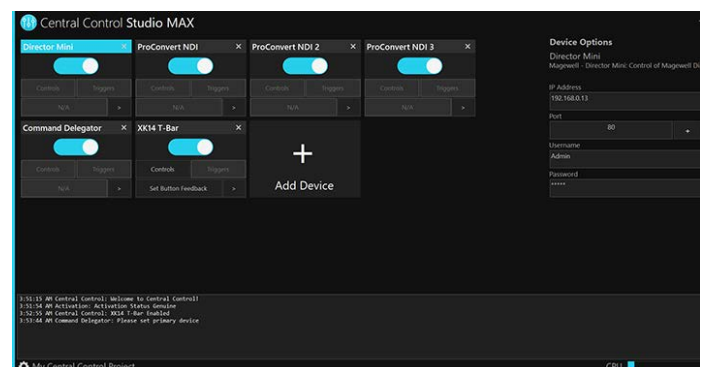
A video round-up of the highlights of the HARMAN Professional APAC Tour Summit 2024 can be found here: <https://youtu.be/2QzxQZosCbk>

Central Control Integrates with Magewell Production and IP Conversion Solutions



Magewell and **Central Control** have partnered to integrate support for two of Magewell's highly-acclaimed production and IP workflow solutions in the latest version of Central Control's automation and show control software. Central Control 4 includes new modules for controlling Magewell's **Director Mini** all-in-one production and streaming system and **Pro Convert** multi-protocol streaming and video-over-IP decoders.

Central Control 4 is a live show control and automation application that bridges a wide variety of production devices – including video mixers, graphics systems, lighting consoles, PTZ cameras, media servers and more – with over 50 control surfaces and protocols such as X-Keys, Elgato Stream Deck and MIDI controllers.



Central Control 4

The new Director Mini module for Central Control 4 provides control of scene switching, graphics triggering and audio (including VU meters and "scribble strips" when using a Behringer X-Touch control surface). Meanwhile, the new module for Pro Convert decoders allows easy selection of source video streams.

*Magewell Director Mini*

Magewell's Director Mini is a complete, portable production and streaming system that combines multi-input switching, graphics, streaming, recording and monitoring in one compact device. Director Mini lets users easily produce engaging multi-camera content through an intuitive touchscreen interface and companion mobile app.

Pro Convert decoders transform live, IP media streams into high-quality HDMI or SDI outputs for connection to monitors, projectors and

production gear. The devices decode H.264 or H.265 compressed video in many streaming protocols – including SRT, RTMP, RTSP, HLS and more – as well as High-Bandwidth NDI, NDI HX2 and NDI HX3.

"We are thrilled that Central Control has added support for Director Mini and Pro Convert decoders," said Nick Ma, CEO and CTO of Magewell. "Central Control 4 vastly expands the ways that our solutions can be controlled and automated by third-party tools even if they don't directly integrate with our offerings."

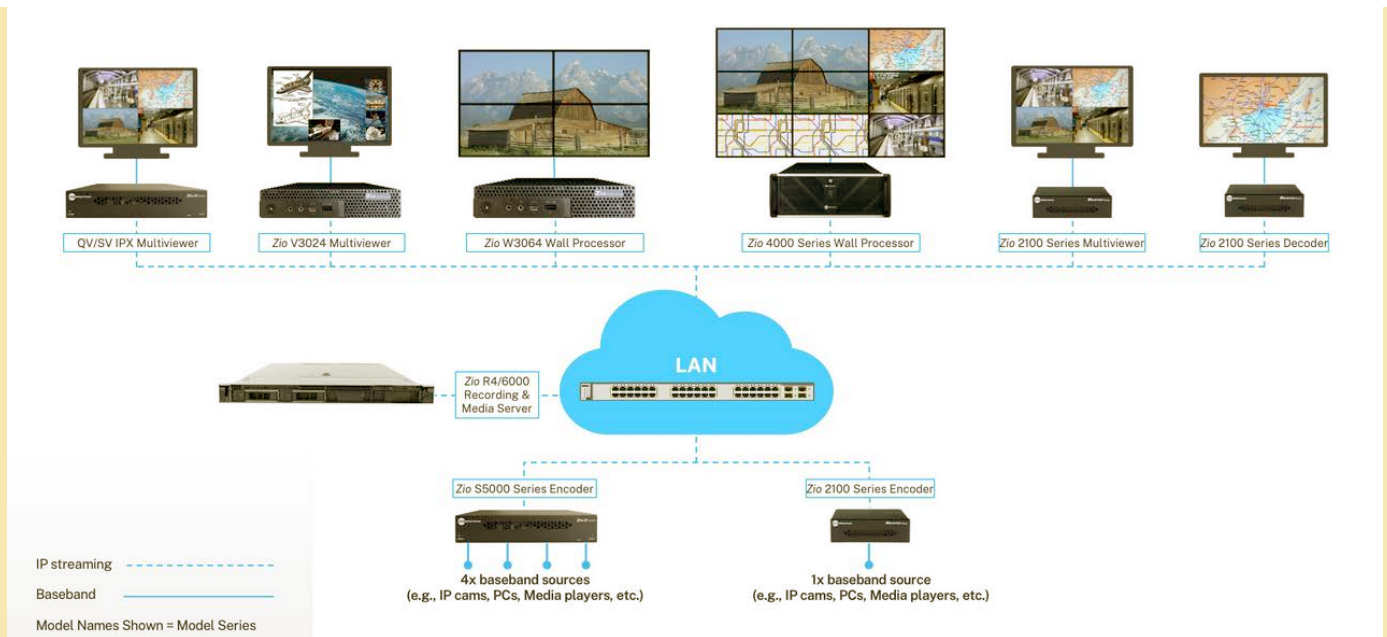
"By allowing essentially any controller to control practically anything, Central Control 4 is especially valuable for productions that use a diverse array of equipment," said Joe de Max, Director at Central Control. "We received many customer requests to add support for Magewell solutions, and we're excited to make Director Mini and Pro Convert decoders part of the Central Control ecosystem."

RGB Spectrum Unveils Video Recording System for Mission-Critical Environments

RGB Spectrum, an industry leader in mission-critical video for real-time decision support, announces the unveiling of its **Zio Recording System**. This innovative system features support for third-party IP signal sources as well as Zio-generated streams. Currently available in both commercial and ruggedised versions.

The Zio Recording System supports camera, computer, and other signals up to 3840x2160, 60Hz. Additionally, it supports third-party playback applications like VLC and playback on its own decoders and multi-viewers.

Designed for scalability and versatility, the Zio Recording System is available in 1RU and 2RU configurations, depending on storage



requirements. It is fully compatible with the entire Zio product family, including encoders and decoders, multi-viewers, and video walls. Users can choose H.264 or H.265 video compression, allowing optimal video quality or bandwidth efficiency based on specific needs.

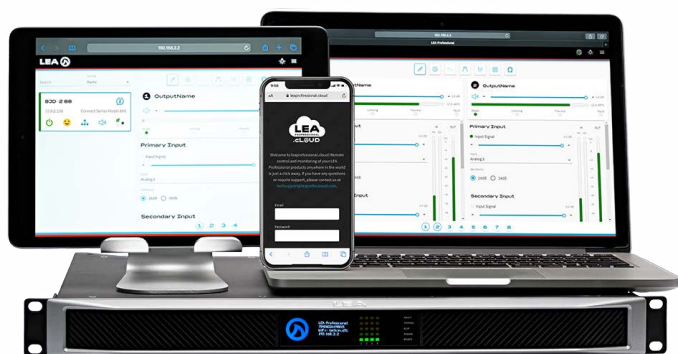
The Zio Recording System comprises several key components. The recorders offer storage capacities to accommodate varying requirements and can simultaneously record and playback up to 30 IP streams. With a FIFO architecture for efficient recording and the ability to export video segments for external playback, users have comprehensive control over recorded content. The system supports single stream and synchronized group playback with full control, including Jump to Time, Pause, Resume, and variable playback speeds from 0.1x to 10x.

Encoders are available in single- or multi-channel options, in standard or ruggedized enclosures, and are BAA—and TAA-compliant to

meet requirements for government applications. Decoders come in a variety of single- and multi-window configurations, in standard or ruggedized enclosures, with TAA or BAA/TAA compliance, depending on the model. An optional ruggedized server manufactured in the U.S. by Mercury Systems is available for mobile and military applications. Ruggedized versions of all components are used by the U.S. Navy and other armed services.

The Zio Recording System represents a significant advancement in IP video recording technology, offering unparalleled performance, reliability, and versatility.

LEA Professional Adds New Features and Capabilities to Popular LEA Cloud Platform



Dedicated to providing expansive technology offerings to customers worldwide, **LEA Professional** has announced substantial updates to its popular **LEA Cloud platform**, a part of LEA Professionals' extensive technology catalogue, featuring intelligent IT solutions, industry-leading DSP, and smart power management. The new cloud-specific features will expand capabilities for all LEA Cloud users.

LEA Cloud provides remote monitoring and control for LEA amplifiers and gives system integrators robust, reliable, and secure monitoring and control capabilities. Now, LEA Cloud users will be able to perform over-the-air (OTA) firmware updates, ensuring all installations are kept up to date with the latest firmware. Status information will be even easier to monitor through the new dashboard view, which allows users to see the health of all their LEA installations on a single screen.



Additionally, LEA Cloud now supports event and fault notifications via text or email alerts, allowing integrators to be notified of system alerts immediately. These notifications allow for proactive communication and system maintenance so that issues can be addressed promptly, often before end users are even aware a problem occurred – and it provides an additional service that integrators can add to their recurring revenue models.

According to Brian Pickowitz, Vice President of Marketing at LEA Professional, the company will continue to be a leader in cloud-based technology for the pro audio industry by regularly adding features to the LEA Cloud that benefit all of their customers worldwide. What is more, LEA Professional's latest platform enhancements provide integrators with more ways to proactively support their customers by adding a layer of support that their competitors will find difficult to match.

The Rise of Networked Audio



*For many years, the installed audio world has grappled with the expense and compromise in performance that long cable runs between power amplifiers and multiple loudspeakers can bring. **Genelec R&D Director Aki Makivirta** explores this problem, and how to solve it.*

The Challenge

Installed audio systems often contain many loudspeakers, spread over a wide area to create an even distribution of audio inside a building or a hall. Traditionally, the challenge has been the long distances between power

amplifiers and loudspeakers, with one power amplifier sometimes feeding several parallel loudspeakers.

Two main solutions exist – a low impedance loudspeaker directly connected to a conventional amplifier, or the use of step-up transformers between the amplifier and loudspeakers. In the first case, covering longer distances increases the resistance in the interconnecting cable, and while increasing the cable thickness can compensate for this, it creates more expensive installations. Step-up transformers allow cables to be kept thin. When the transformer at the amplifier output increases the voltage in the interconnecting cable, this reduces the current needed to deliver the power, while the power loss in the interconnecting cable depends on the current alone. Using relatively thin cables, even with high power levels, has made 70 and 100 Volt ‘constant-voltage’ systems extremely popular, but using transformers does bring challenges in terms of audio quality and bandwidth. At higher signal

levels distortion can be high, and the useful bandwidth can be limited and compromised.

As a result, the industry has been looking for an audio solution that combines the benefits of step-up transformers without their downsides. The emergence of digital technology has helped deliver audio to installed loudspeakers without any degradation, since digital bits require little power and can be delivered over very thin cables. However, such loudspeakers must contain their own power amplifiers, and therefore require a power supply. So, what's the next step?

The Solution

Firstly, we need a distribution system that doesn't compromise audio quality, or limit the audio channel capacity of the system. It must also use standard hardware and cabling to reduce system cost and make installation easy – and should operate via a single cable to the loudspeaker.

Modern networks like Ethernet are agnostic about the data they carry. They offer all the benefits detailed above, and today are common in virtually any new building. IP networks can carry any format of loudspeaker supervision, monitoring, and management data, and Audio-over-IP has become a standard technology – offering the highest audio quality without limiting the number of audio channels. This makes Ethernet a great candidate for a next-generation installed audio system.

Since we are looking for a single cable solution, this cable must also deliver the loudspeaker power we need to generate audio. Power-over-Ethernet (PoE) can indeed offer such power. A typical CAT cable used in such networks is thin,

with a typical conductor cross section of 0.15 sq.mm – and this is the only pathway available for the power to move. Usefully, PoE technology offers several power delivery levels on the CAT cable.

Smart IP Technology

At Genelec, years of research led us to develop our Smart IP loudspeaker family, which supports PoE, Audio-over-IP and loudspeaker management, all via a single CAT cable. Fundamentally, it has the advantages of the traditional constant-voltage speaker systems – but offers pristine audio quality without degradation over distance. Since it utilises the building's standard IP network infrastructure, Smart IP is an extremely scalable solution that's quick to install, and very easy to expand or re-configure.

When developing Smart IP, we started by focusing on the power source, since a loudspeaker needs short but large bursts of power in order to deliver the dynamics of music and speech. However, the level of PoE power that's available continuously is limited – so we developed a proprietary new power supply technology that enables us to transform this constant power source into the dynamic power output needed within the loudspeaker. This enables rich and unconstrained music and speech output with limited PoE power.

So, with a growing family of wall, ceiling and pendant loudspeaker models, Smart IP closes a historical loop. It maintains the simplicity of building installed audio – but opens the window to new, uncompromised quality enabled by smart digital design.

Genelec Smart IP

AV-ICN EXPO

AV INTEGRATION COMMUNICATION NETWORKING EXPO

Advent of Innovative Display Technologies Fulfills AV-ICN Expo 2024

Explosion in OOH(Out-of-Home) LED market fuels adoption of latest display technologies



Ramesh Chetwani, Project Director, AV-ICN Expo and Anil Chopra, Founding Director, AV-ICN Expo

Exponential Growth in Display in India Exploiting New Technologies

Massive adoption of LED displays by OOH advertising, retail, and hospitality in digital signage has increased the distributor strength in the AV industry. Import and inventory is high on account of runaway growth in consumption.

“Display environment in India is maturing rapidly. Interactive displays offered by many

companies today serving the education market and entry level corporate market. Newer solutions like self-adhesive transparent LED displays and very large touch screen video walls as also inventive displays in residential AV is advancing the display landscape in India,” says **Anil Chopra, Founding Director, AV-ICN Expo**. “Evidently the display market becomes more challenging and surely the display market will be served by high quality and fulfilling standard specs. This means there is a huge potential in India in the display sector for the new companies,” envisions Anil Chopra.

“AV-ICN 2024 will attract a large number of systems integrators attending the show for solutions in display for almost all applications. Education by far is a major sector with innumerable government tenders for massive deployment of AV classrooms. Government education tenders are for 30,000 – 50,000 classrooms. In retail, major brands storefronts to the smallest retailer shop have digital signage. Hospitality sector which per se is in extremely high growth uses digital signage. With the array of metros and airports and

upgradation of all railway platforms, display signage in infrastructure is witnessing growth like never before,” mentions Anil Chopra. He adds, “The manpower and talent need of the AV industry in India are increasing and probably attracting top talent from the IT industry. AV and IT are integrating for all communications of audio and video on broadband. With the deployment of 5G the corporate conferencing is enlarging.

“We are building the show in response to the market demand in display and digital signage. The show this year will satisfy all attendees, professionals from the AV industry as well as AV consultants and systems integrators looking for solutions,” says **Ramesh Chetwani, Project Director, AV-ICN Expo.**

The upcoming AV-ICN Expo at the NESCO Centre, Mumbai will have an edition of CAVS with top-level faculty and well-researched curriculum. Top exhibitors like Epson, Viewsonic, Optoma, Hikvision, Kramer, Absen, Mindstec Distribution (Chrisite, Maxhub, Delta, Datapath, Netgear, B-Tech AV Mounts,

Blustream, Iport, Element One, Uniguest, RTI, Telycam, NewTek, Sound Control Technologies, Kordz, Mago, T1V, MTC, Cabletime, Magnum, RDL, Wavex, Pro Control, Goget, and Polywall), AET LED Displays, Atenti LED Display, DI Impex, Infonics Technologies, Newtech Video Systems, Pixel LED, Sepl Visual Solutions will join AV-ICN Expo. Other exhibitors include Sunrise LED Tech, Tentech LED Display, Zuper LED Media Pvt Ltd., R J Enterprises, ViewSonic, Elite Screens, AV Master Technology, Canara Lighting, Leksa Lighting, Nikita Distributors, Apna Studio, Godox, Hawaii LED, G H Starled Display, Global LED, Everglow LED, and Rzone Pixel.

Leading AV industry management and technology leadership will be the speakers and the panellists at the fifth AV-ICN Conference. The conference is held in AV-ICN hall. The conference topics will cover disruptive display technologies, digital classroom technologies, holographic displays, AR/VR for 3D experiential retail and office space design. A panel discussion on AV Design Challenges in India (Synopsis: Ashram and temple landscape to accessibility hierarchy and logistical challenges, Indian AV has its own dramatic need for AV solutions in AV design.) is also scheduled for AV-ICN. The CAVS classroom is also held in the AV-ICN hall. The conversions of the AV industry at AV-ICN Expo of AV consultants, systems integrators, distributors, and management of top brands will indeed be an excellent networking opportunity. AV-ICN is concurrent with the **PALM Expo** with 205 exhibitors combined. Pro audio solutions for sound install for auditoriums and entertainment, integrated PA install, AV rental, are exhibited at the PALM Expo, which is connected with the AV-ICN hall.

AV-ICN



L to R: Anil Chopra, Founding Director, AV-ICN Expo, Narendra Naidu, Rhino Engineers, Kelvin Ashby King, Clarity Consulting, Ramesh Chetwani, Project Head, AV-ICN Expo, Gaurav Sood, General Manager, Hyve India at the PALM & AV-ICN Expo 2023

EPSON India AVSI Meet in Chennai:

Reassuring the Industry-bonding with 'Tech Innovate'

Three LCD projection & printing solutions major Epson brings together Indian AV's Who's Who

by Ram Bhavanashi



Epson India's Senior General Manager Harish A K addressing the audience.

Epson India Private Limited (EIPL) – Indian arm of the Japanese three LCD projection and printing technologies major – recently organized a gala and *vision-for-the-future* industry-connecting initiative outside Chennai. *Tech Innovate 2024* – as the one-day event is titled – essentially unveiled Epson India's breakthrough initiatives in the domain of its three LCD projection business, besides the *Sustainability Vision* of its Japanese parent, as also the cloud-based client support module across the spectrum.

The event, held at the Radisson Blu Resort Temple Bay Mamallapuram some 56 km south of Chennai, was attended by a wide-spectrum of Indian AV that comprised consultants, integrators and technology partners from across the country.

Some of the prominent attendants of the 100-plus AV fraternity at the event included Kaushik Mukhopadhyay & team from AVID; Sajeev Srinivasan, Boppana, and Madhu from Resurgent Technologies; Sushil Nayal, and



Poonam Chawda from Vega Global India; Kelvin Ashby-King from Clarity Consulting; Bhavin Sureliya from ISSPL; Ashok Sharma & team from EDS; Aman Arora & team from Magical Theatre; Sooraj K Paul from Godrej AV Solutions; Harshen Naidu & team from Rhino Engineers; Rajasekhar from Tekinovate-Consulting; Ramesh & Suraj from Black Box; Partha Pratham Das from TechnoGuru; Mehul Nandasana from Rajinfo; Renjith SS from ital solutions; Madhu Ashwath from AVFX; Hareet Bansal from Bansal Audio Visual Systems; independent consultant Mithun Pangal from Mumbai, and Raju P from SVSAV Technologies.

The main event was preceded by a gala dinner on the previous evening at the picturesque beach-front of the resort while the main event on the morning of Wednesday, 20 March filled the large Ballroom of the venue.

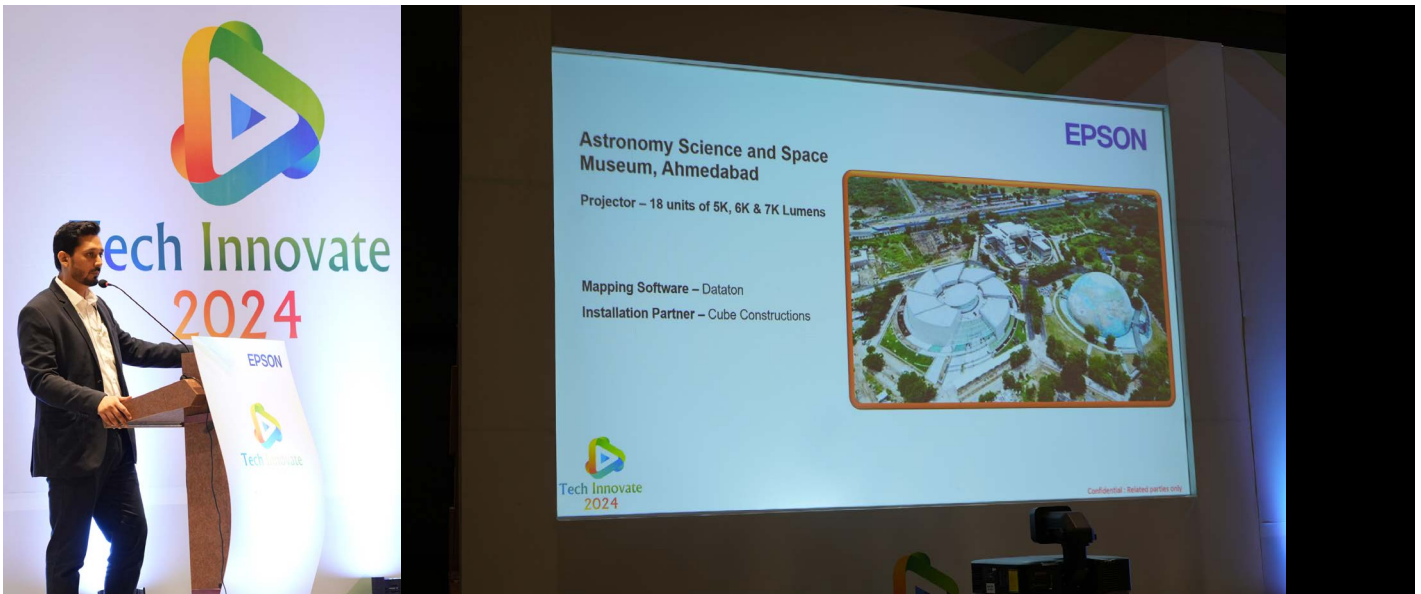
Epson India's Senior General Manager Harish A K, who heralded the event, presented to the industry the grand vision that the Japanese



The EDS team at the event.

major had been crafting for the future. Harish articulated his address with a blend of Epson's *Sustainability Vision*; its committed focus on the LCD projectors business; and the strong growth charts it achieved during the year.

Detailing the company's green vision to go completely zero carbon-emission company by 2050, he reiterated the measures being initiated by the company. Epson had in fact unveiled its *Green Environmental Vision* in March 2021 itself to go fully green by 2050. The Vision



Arbaaz Khan, Product Manager at Epson Bengaluru, presented a series of iconic install case studies in India and Asia.

entailed Epson to reduce total emissions from its business processes by 2030- in line with the resolution of *Science Based Targets initiative (SBTi)* that revised its criteria to reduce the global warming temperatures to 1.5⁰ C from earlier level of 2.0⁰ C.

The other important Goal of the vision entailed the company to go fully carbon-negative and underground resource free by 2050. It also set mid-term milestone targets for 2025 – the *Epson 25 Renewed* – that describes the company's aspirations for sustainable and enriched communities by working with customers and partners.

'Projecting a Bright Future'

While acknowledging increasing dominance of flat panels in the visual solutions business, Harish observed that the projectors business did flourish with greater impact, and has expanded its horizons to diverse segments. Underscoring Epson's aggression in the domain, he highlighted how Epson's projector business

has grown during the year, posting impressive revenues and going strong for the months to come.

"Projection business is here to stay," Harish asserted. "In fact, we see it growing stronger and expand faster than it was before."

Underscoring that both the market, and Epson's strategies are bullish in the current scenario, it can only scale higher and higher in the times to come, he observed.

Projection Illustrated

Arbaaz Khan, Product Manager at Epson Bengaluru, presented a series of iconic install case studies in India and Asia that had Epson projectors as the mainstay, and how they rendered the installs fulfilling cases. The case studies showcased on the big-screen included :

- Adiyogi install at Coimbatore
- Global Vipassana Pagoda at Mumbai
- Astronomy museum at Ahmedabad

- Lalita Ghat & Kashi Vishwanath Ghat at Varanasi
- Kanha Shanti Vanam at Hyderabad

That apart, he also showcased Epson's massive installs in Tokyo and Seoul, underscoring the projection brand's increasing imprint across Asia Pac.

A very significant part of his presentation was the expanding portfolio of Epson projectors. Epson now have projectors for all the segments of the market, viz, entry-level, middle-level, and the high-end, and more with varied options like Aspect Ratio, brightness etc.

Some of the key points to reckon are: 21:9 & 16:6 aspect ratios for Hybrid and education set-ups. New Super UST projector EB-810E with throw of 0.16. New wireless presenter ELPWP10 and ELPWP20

He also highlighted how Epson has strengthened its technical support mechanism via cloud-based network, reaching out the client service request faster and farther.

Dedicated to a Cause, Taking the Industry in Stride



Giving his Closing Remarks, **Satyajeet Satpathy**, **Epson India's Director-Sales & Marketing**,

reiterated Epson's philosophy and commitment to the cause it believed: 'Sustainability, efficiency, compactness, precision and innovation- all blending to a vision to enrich lives of people and contribute to a better world.

Endorsing Harish's views, Satyajeet asserted Epson's renewed focus on projection business, even as it furthers its core competency areas. Commending the AV design and integration community for continued support and faith in Epson's solutions the Epson India Director reiterated the company will strive to up the ante every time.



S V Ramprasad, Director National Sales at Epson India, thanked the gathering for its participating in the event, and making it a fulfilling experience.

Competence Exhibited

A highlight of the event was exhibiting the key solutions and technologies mastered and marketed aggressively by Epson. They included Edge-blending solution; 3LCD; 1-chip DLP; 3D projection mapping; hybrid meeting solution; and home projection.

A Game-Changer

"It's an absolute game-changer for AV Systems Integrators in India," lauded **Kaushik**

Mukhopadhyay, CEO of AVID. "Arbaaz's presentation on the latest and vast product line-up to suit all market segments was nothing short of remarkable; it offered insightful glimpses into the cutting-edge technologies shaping the industry's future," he observed. "The case studies were a testimonial to serve as a strong reference point."

According to him, the event's organization reflected a commitment to excellence in every detail. The choice of venue at the Radisson Blue Resort provided a serene and conducive environment for networking and learning; The evening was particularly fulfilling where attendees were treated to an enchanting vocal performance by Saroj Kashyap, adding a touch of cultural richness and entertainment to an already exceptional experience.

"The Epson Tech Innovate 2024 exceeded all expectations, offering AV Systems Integrators in India a unique opportunity to engage with industry leaders, explore cutting-edge technologies, and forge valuable connections," he commended.

Endorsing with more or less similar impression came from **Sooraj K Paul of Godrej.** "Epson didn't have so vast a product range earlier; it is so pleasant see the product portfolio expanding so wide, to address almost every segment, and stratum of the market," he said. "More, the technical support with such sophistication will go a long way in binding the AV community with the brand."

According to him, Epson's sustainable vision for future obviously stands them in the forefront of industry's leadership, and drives home a point or



two for the design and integration community to render their installs as much as possible eco-friendly.

For **Sushil Nayal of Vega Global,** the event's focus on its vision and expanding product range was something to reckon with acknowledgement of the brand's aggression and commitment to the cause of industry as also society.

Says **Partha Pratham of TechnoGuru:** "I'm pleased to be here; be able to see in person what Epson stands for, and how impacting its solutions can be." While they all believe in the brand, an initiative of this sort goes a long way in connecting the vibes and bonding with the industry.

Epson India

"It's been some time since we had AVSI Meets which we used to have regularly before COVID. Post-pandemic, we have come even stronger and expanded our solutions portfolio significantly to spread our presence to a wider market spectrum. We felt it's time we converged once again with our fraternity to thank it and reassure our bonding with it."

- Harish A K, Senior General Manager, EIPL

The Connectivity Conquest

Does AV over IP Have What it Takes to Redefine the Future of Professional AV?

by Elton Noronha



Amidst the whirlwind of advanced automation, accelerated digitalization, and ever-evolving artificial intelligence that has captured the wonder of professionals across industries; the pro AV industry has borne witness to a significant transformation within its very own bounds. Bidding farewell to closed proprietary systems in its stride to embrace more open and accessible solutions, this paradigm shift within the pro AV industry has effectively dismantled barriers to entry for pro AV integration, and extended opportunities to a broader community

of datacom networking professionals; with the advent of audiovisual over Internet Protocol (AVoIP) being hailed as a driving force behind this evolution.

But then, the question arises – Is AVoIP a true game-changer?

In pursuit of our answer, we immerse ourselves in the complexities, relying on insights from industry insiders and AVoIP pioneers to illuminate our path.



Understanding AVoIP Technology

Reshaping the way AV systems are designed, deployed, and experienced – AVoIP, at its core, leverages the power of internet protocol (IP) networks / standard Ethernet computer networks, such LAN (Local Area Network) and even WAN (Wide Area Network), to transmit high-quality audio and video signals; as it triumphantly transcends the limitations of traditional AV infrastructures. Unlike conventional AV systems that rely on dedicated cabling and hardware, AVoIP harnesses the power of existing network infrastructure, enabling organizations to leverage their investment in IT infrastructure for AV applications. By decoupling AV signals from physical connections, AVoIP liberates AV systems from the constraints of traditional cabling, allowing for seamless integration across diverse environments. Whether it's a small conference room or a large-scale enterprise deployment, AVoIP adapts effortlessly, offering unparalleled flexibility to meet the unique needs of each application. Moreover, the scalability of AVoIP means that organizations can easily expand their AV infrastructure to accommodate future growth and evolving requirements, without the need for costly hardware upgrades or rewiring.

For example, since AVoIP leverages IP-based switches that offers limitless channel capacity and liberates users from the constraints of fixed channels; the need for expansion is effortlessly met by simply adding IP-based switches to the network, which in-turn also bypasses the need for cumbersome hardware overhauls. This departure from swapping out proprietary switches for higher-capacity models represents

a fundamental shift in the pro AV landscape, wherein previously existing incumbrances like having to account for discontinued manufacturer products and investing time, effort and money in sourcing appropriate matching hardware has effectively been nullified; as AV integration becomes accessible to anyone with expertise in IP networking. This convergence of AV and IT not only streamlines deployment and maintenance processes but also opens the door to a myriad of possibilities in terms of scalability, interoperability, and cost-effectiveness, making AVoIP a natural choice in today's dynamic pro AV environment, where organizations demand seamless connectivity, scalability, and flexibility.

Furthermore, AVoIP technology empowers organizations to embrace the era of distributed AV, where content can be seamlessly shared and distributed across multiple locations in real-time. Whether it's streaming live presentations to remote participants or enabling collaborative workflows across geographically dispersed teams, AVoIP breaks down barriers, fostering greater connectivity and collaboration. With AVoIP, organizations can create immersive and interactive AV experiences that transcend physical boundaries, enriching communication and fostering innovation.

As we delve deeper into the myriad benefits of AVoIP technology, it becomes apparent that its impact extends far beyond the realm of AV integration. From enhanced flexibility and scalability to seamless connectivity and collaboration, AVoIP represents a paradigm shift in the way we conceptualize and deploy AV solutions.

Protocols & Standards



RTSP
Real-Time Streaming Protocol

AES67



SDVoE[®]
ALLIANCE



Implementation Of AVoIP Technology

The successful implementation of AV over IP depends on a harmonious co-existence of a myriad of crucial factors.

Bandwidth Capabilities: First up, the successful implement AV over IP warrants a robust and properly configured network infrastructure, wherein a reliable Ethernet network with sufficient bandwidth to handle the transmission of audio and video signals proves to be paramount. The bandwidth required is governed by the number of streams and desired video resolution i.e. 4K video transmission would need significantly more network overhead than 1080P for example. Broadly speaking, 1Gigabit Networks are the minimum requirement to run AV over IP but will require more signal compression, whereas 10Gigabit networks are usually noted to offer better scope and capability for more efficient flow of AV over IP traffic with lesser need for signal compression; depending on the scale and topology of the project.

It is also important to precisely consider the number of AV endpoints, the desired signal resolution at each AV endpoint, and the overall network requirements – all of which would allow for the most-favourable placement of network switches, encoders and decoders; thereby minimising cable lengths and enhancing signal integrity. On the other hand, using newer and better standard cables such as Cat6A not only allows for better transmission but also easier upgrading of systems when needed.

Quality of Service (QoS): Considering the fact that AV signals by their very nature are time sensitive, the employment of Quality of Service (QoS) mechanisms would ideally be needed to prioritise AV traffic and ensure smooth and uninterrupted delivery. Implementing QoS policies allows for easier prioritisation of AV signals over non-time sensitive data transmission, thereby guaranteeing high-quality playback and minimising any latency issues. Utilising switches that are specifically designed to handle AV over IP traffic, or configuring switches to support multicast traffic and



IGMP (Internet Group Management Protocol) snooping which enables efficient distribution of AV streams to multiple endpoints is highly recommended.

Protocols & Standards: AV over IP systems utilise various transmission protocols and standards to facilitate the efficient transfer of audio and video signals; of which commonly used protocols include TCP/IP (Transmission Control Protocol/Internet Protocol), UDP/IP (User Datagram Protocol/Internet Protocol) and RTP/RTSP (Real-time Transport Protocol / Real time Streaming Protocol); which define how data packets are formatted, transmitted and received across the network. AES67 and Dante are standards that enable possibility to transmit audio signals independently alongside video signals while affording seamless integration of different audio devices and systems and providing low-latency, high-quality audio transmission over IP networks.

On the other hand, SDVoE (Software Defined Video over Ethernet) and NDI (Network Device Interface) are video-over-IP protocols that offer high-quality video transmission, scalability and low latency for AV over IP systems, alongside real-time video sharing and collaboration over standard networks. And before transmission over the network even takes place, the audio and video signals are encoded and compressed to reduce their size and optimise network bandwidth utilisation, with popular compression formats being H.264 and H.265 (also known as MPEG-4 AVC and HEVC, respectively), both of which are widely used in AV over IP systems for their efficiency in compressing the signals while maintaining near perfect high-quality playback.

Leveraging the precise implementation of the aforementioned industry standards and protocols allows AV over IP systems are able to achieve interoperability, efficient compression and seamless integration across various audio and video devices, while enabling the delivery of high-quality AV content within an IP-based ecosystem that is comprised of a diverse range of products from differing manufacturers.

Key Considerations and Benefits of AVoIP Solutions

To meet the demands of discerning clients, it is important for professionals to note that designing spaces is no longer just about precise blueprints; rather, it's about orchestrating experiences. And AVoIP, with its network-centric ethos, has redefined the very essence of design and implementation as it empowers designers and integrators to dream bigger, scale higher, and innovate endlessly, as they no longer find themselves confined by physical constraints.

As organizations embrace the potential of AVoIP technology, several key considerations come to the forefront in recommending and implementing AVoIP solutions. From network infrastructure integrity to security concerns, navigating the complexities of AVoIP integration requires a nuanced approach. These are critical factors that influence the performance and stability of AVoIP systems, which in turn have a significant impact on the benefits that such systems they bring to clients and the overall AV integration market.

Throwing more light on the topic are **Chua Zhi Dong, Vice President, engineering and design at ESCO Pte Ltd**, and **Maureen Aw, Workplace Technology Practice lead at PTS Consulting Singapore Pte Ltd**; as they present their views

on the transformative impact of AVoIP on design and implementation approaches, and the overall impact on reshaping the contours of the professional AV landscape.

Established in established in 1989 with its HQ in Singapore, and offices across Indonesia, Korea, Philippines, India, Malaysia, Hong Kong, Shanghai, Taiwan and Vietnam; ESCO Pte Ltd's diverse portfolio includes three key pillars, namely Audio-Visual & Unified Communications, which empowers seamless collaboration and communication; Hostile Mitigation & Integrated Security solutions which ensures the safety and protection of client assets with state-of-the-art technology and expertise; and ESCO's innovative ELMO Solution, which has been noted to revolutionize efficiency and performance through advanced automation and optimization.



**Chua Zhi Dong, Vice President,
engineering and design, ESCO Pte Ltd**

According to **Chua Zhi Dong**, evaluating network infrastructure and security protocols when recommending AVoIP solutions to clients is paramount. Emphasizing the need for thorough assessments to ensure compatibility and mitigate potential risks, particularly in sectors with stringent security requirements, he elaborates, "AVoIP solutions affords greater scalability and flexibility compared to the current

HDBT solutions, such that AVoIP systems can be expanded or reconfigured easily for different purposes by simply adding or reassigning network endpoints. Furthermore, since AVoIP solutions reside in the network structure, it allows for the possibility of having a centralized platform for control and management while reducing potential points of failure, as AVoIP solutions usually only requires a single LAN cable connection for data and power. However, as AVoIP relies heavily on network infrastructure for signal distribution, it warrants the need for a more network-centric approach to the entire system design, with an even greater need to consider several factors such as network bandwidth, latency etc. Therefore, AV designers are now required to be equipped with deep understanding of network fundamentals to ensure that the AV solution proposed and network infrastructure are in line with each other's compatibility."



**Maureen Aw, Workplace Technology
Practice lead at PTS Consulting Singapore
Pte Ltd**

Largely resonating with the Chua's views, **Maureen Aw** affirms that in her experience of working with PTS Consulting (Singapore) Pte. Ltd on projects involving the extensive deployment of AVoIP solutions; the tangible benefits of AVoIP technologies, such as greater



scalability, flexibility, and cost-effectiveness have proven to be key considerations in designing and deploying AVoIP solutions. PTS Consulting (Singapore) Pte. Ltd. has established itself as a prominent figure in technology innovation since its inception in 2004. The company boasts a diverse range of expertise across various disciplines, enabling it to adopt a comprehensive approach to technology solutions while effectively articulate and execute the technology vision of its clients. By fostering a culture of innovation, collaborating with trusted partners, and striking a balance between creativity and technical proficiency; the company has been successful in co-creating well-optimized and engaging digital experiences that are grounded in data and technology through meticulous designs and the seamless integration of different technologies.

Maureen highlights the fact that the long-term cost savings associated with AVoIP has proved to be a crucial metric, especially in cases where client organizations are looking to leverage existing network infrastructure for AV applications, as she explains, "Your network infrastructure, integrity, bandwidth requirements, etc. would be crucial to the performance and stability of an AVoIP system, especially if we are running on the client's existing network infrastructure – this needs to be evaluated thoroughly and determine if it is suitable and/or a new network is required for the AVoIP solution. Other than that, security consideration is an important factor, especially so in this day and age where cyber security is such a big thing. We have a lot of clients in the financial and government sectors who have extremely stringent security requirements due to highly confidential content and hence this needs to be

taken very seriously. Sometimes these devices need to be white listed, go through penetration test and other security tests process before they can be deployed on the project. Having said this, one cannot deny that at the end of it all, the project comes down to dollar and sense. The advantage with AVoIP solution is that once we cross the sweet spot (in terms of the scale of the project), AVoIP solution is more cost effective than a traditional system. This is also where the value of the consultant lies; where we help our clients design a cost-effective solution that meets the requirements with the right choice of technology.

The key is in discerning the right technology that aligns with the nature of the project, weighing the pros and cons, and also taking into consideration the people operating and maintaining it. People, technology and space (the type of projects) are all important considerations that go hand in hand."

Challenges and Opportunities in Designing High-Performance AVoIP Solutions

The ever-evolving tapestry of AV integration, decisions are not just choices; they are calculated compositions of technology and strategy. And as consultants and integrators navigate the labyrinth of AVoIP solutions, it is clear that there's an extensive thought process of weighing key considerations to uncover hidden gems of innovation that can perfectly fit a project's needs and the client's vision of what they desire to achieve. From network integrity to cost-effectiveness to security concerns and interoperability issues; navigating the complexities of AVoIP integration requires careful consideration and expertise, especially



considering the fact that each of these variables holds the power to shape the narrative of AV integration and the capacity for unparalleled experiences with seamless connectivity. A multi-laminar accoutrement of challenges and opportunities is what best describes the nitty-gritties that come together to form the current complex world of the AVoIP ecosystem.

“Transmitting AV signals over IP networks may give rise to security concerns, as these signals may be vulnerable to interception or unauthorized access,” points Chua, as he identifies security concerns as a primary challenge in transmitting AV signals over IP networks, while emphasizing the importance of collaboration between AV integrators and IT/network teams to address vulnerabilities and ensure data protection in AVoIP deployments.

Maureen, on the other hand, emphasises the value of proof-of-concept (POC) testing in validating interoperability and performance across various AVoIP products and solutions, while also underscoring the need for collaboration between manufacturers, integrators, and consultants to refine and improve AVoIP technologies and raise industry standards while driving innovation,

as she notes, “I believe that on top of textbook answers that you’d get from cutsheets or from the manufacturers, the key is to do a proof-of-concept (POC), especially when it involves combining various AVoIP products and solutions from different manufacturers. Many things should work in theory, but based on my experience, sometimes you need to try them out meticulously to know if those theories hold true. It is also true that manufacturers depend on feedback from us to further fine tune and improve their product in the next update. In my opinion, this is a healthy process, and it is important that manufacturers, system integrators and consultants come together so that everyone learns and grows together, while raising the bar for industry standards as a whole.”

Collaborative Partnerships that Address Concerns and Enhance Performance

From enabling a world where audio and video signals traverse networks with unprecedented fluidity, to unshackling AV systems from the limitations of hardware-centric approaches – the disruptive potential of AVoIP and the paradigm shift it has heralded within the professional AV integration landscape is palpable. And as Chua and Maureen rightly

pointed out, the successful integration and deployment of high-performance AVoIP solutions hinges on collaborative partnerships between manufacturers and industry professionals.

To this effect, the collaborative efforts undertaken by leading manufacturers of AVoIP solutions like Aurora Multimedia Corp and Crestron Electronics to ensure their products meet the evolving needs and standards of the AV integration market, deserve recognition.



Mavis Leung Manager, Technical Sales, Asia at Crestron Electronics,

Heralded as a leading innovator and manufacturer of advanced control and automation systems for a wide variety of applications and with integrated solutions to monitor, manage, and control audio, video, and lighting, shades, and climate; Crestron's portfolio of products and solutions have created a niche for the brand to pride itself on streamlining technology to improve the quality of life for people in corporate boardrooms, conference rooms, classrooms, hotel rooms, auditoriums, and in their homes. According to the company, collaboration with consultants and system integrators is fundamental to delivering exceptional AV solutions, as **Mavis Leung Manager, Technical Sales, Asia at Crestron Electronics**, informs, "Collaboration with

consultants and system integrators is integral to ensuring that our AV-over-IP (AVoIP) products not only meet but exceed the evolving needs and standards of the AV market. We understand the importance of seamless deployment and utilization of our solutions, which is why we invest in comprehensive training programs, hands-on workshops and developing software tools. Drawing from our experience in training thousands of engineers for the DigitalMedia content distribution platform, we extended similar efforts to educate our partners on integrating DM NVX technology into existing network infrastructures".



Crestron DM NVX.

Mavis reveals that the genesis of the DM NVX stemmed from a convergence of cutting-edge technologies and a vision for unparalleled performance, as Crestron identified the need for high-quality, low-latency video delivery at a competitive price point. She also shares that the DM NVX's focus on reliability and security by prioritizing factors like visually lossless image quality and near-zero latency has allowed the company to ensure seamless performance across diverse use cases, while the adherence to enterprise-class networking and security



standards (obtaining certifications like FIPS, JITC, and NIAP to address concerns in high-security environments), coupled with the development of proprietary codec to overcome limitations of existing codecs (in collaboration with partners at Intopix), has garnered widespread acclaim for the DM NVX.



Paul Harris, CEO, Aurora Multimedia Corp

On the other hand, Aurora Multimedia Corp that has been at the forefront of technological innovation in professional AV, consistently pushing the boundaries of what's possible. Inspired by a forward-thinking ethos, Aurora embarked on the development of AVoIP products over a decade ago, recognizing its pivotal role in modern infrastructure. **Paul Harris, CEO, Aurora Multimedia Corp** elaborates, "Over 10 years ago we looked at AV over IP both 1G and 10G and knew it would be an important part of today's infrastructure. The first thing we did that really separated us apart was the transceiver concept to lower the amount of SKU and to give more capability in a single unit. Aurora was the first company to make a single box or wall plate become an encoder or decoder. We did not stop there as we added other features like channel mapping, rapid deployment, software-based Dante/AES67 (another Aurora industry first), and more."



Aurora Multimedia RXT-4D.

Paul affirms that collaboration with consultants and system integrators is not just a practice—it's a cornerstone of Aurora's innovation process as he shares the company's strong belief in the fact that end-user requirements coupled with feedback from dealers, consultants, and end-users is what drives product development. This collaborative approach is exemplified by the development of the RXT-4D as Paul informs, "We designed a new product called RXT-4D which is a beamforming Dante microphone with 4" control panel. While discussing his product during its proto phase with various dealers, consultants, and end users, we added AV over IP encoding capabilities to it as well as additional LED indicators, and 3.5mm TRS Jack. In this example while they loved the concept they had additional needs to round out the product which we are always more than happy to accommodate."

Furthermore, he elucidates to the fact that Aurora Multimedia's commitment to addressing concerns related to latency, bandwidth, and



network security is evident in their product design philosophy. With ultra-low latency and dynamic bandwidth allocation (ability to use as little as 100Mbps to as high as 800Mbps based on the content), Aurora's AVoIP solutions deliver unparalleled performance while adapting to varying network conditions. Moreover, adherence to industry standards like 802.1x, AES256, SSH, https, etc; ensures robust network security, thereby making products like the VPX and IPX Series a trusted choice for demanding applications.

Future Outlook and Advancements in AVoIP Technologies

Casting one's gaze towards the horizon of AV integration, where the dawn of tomorrow meets the promise of innovation, and amidst the echo of technological advancements, AVoIP stands as a harbinger of change poised to once again reshape the trajectory of the industry through a fusion of imagination and possibility, according to industry experts.

Further advancements and innovations are touted to pave the way for new possibilities and applications in the AV landscape, complete with desired results in latency control and enhanced compression ratios.

Chua Zhi Dong predicts a future of simplified integration steps and enhanced scalability with AVoIP technologies; anticipating that advancements in hardware and software will enable easier implementation of upgrades and replacements in AVoIP systems, as he asserts, "AVoIP technologies helped to simplify the integration steps, but at the same time, still providing the necessary scalability and flexibility. It might not be the most cost-

effective solution at the moment, but in the long run, advancements in AVoIP solutions will afford greater ease of implementing hardware upgrades or replacement."

Sharing her belief that future advancements in AVoIP solutions through increased industry collaboration will drive increased efficiency and interoperability, **Maureen** touts a decrease in prices and latency will continue to expanding the scope of AVoIP applications and fuel further growth in the AV integration market. "Cost saving for AVoIP comes in terms of the infrastructure and maintenance, by utilising existing organisational network and eliminating the need for a separate dedicated AV cabling. The scalability and flexibility of AVoIP systems contribute to long-term cost-effectiveness by reducing the need for future infrastructure upgrades or expansions. And I believe with the advancement in technology we will see less latency, higher compression ratio, more lossless transmission, and an overall decrease in prices of the products. This in turn means that it will open up more possibilities and more application for the usage," she quips, while noting that in besides scalability, flexibility and cost-effectiveness, there is also an impact on the skillset required for the technical personnel operating and maintaining the system, as faults / failures in AVoIP systems usually need further device and network configurations to get the system running again, which in turn would warrant the need for increased personnel with relevant IT knowledge and skillset to manage such systems.

On the other hand, manufacturers like Aurora Multimedia and Crestron Electronics envision that anticipated developments and innovations

will drive an increased adoption of AVoIP technologies across a wider set of users and application segments.

Paul reveals advancements like 2.5Gbps and 10G with USB 3.1 support, coupled with key strategic business decisions will allow Aurora to stay ahead of emerging trends. "Over the next 3 years there will be more advancements in the space. 2.5Gbps will become more popular as 8K tries to creep into the market space and 10G will also become more popular more so for the inclusion of USB 3.1. Aurora is always staying on top of these technologies as we alpha test with many of the semiconductor companies while developing new technologies unique to Aurora to separate us from the rest. Too many products these days just copy but to be a true leader one must innovate and expand beyond the normal. This is why 'Changing the Typology of AV' is our company's slogan!" he exclaims.

And finally, Crestron believes that the company's prized DM NVX platform is poised to drive the adoption of AVoIP technologies through continuous innovation and development; with a focus on enhancing reliability, security, and scalability, further fuelling advancements in form factor and application versatility. **Mavis** emphasizes, "The future of AVoIP technologies in the professional AV industry will likely be shaped by innovations that enhance reliability, security, and scalability while delivering an immersive multimedia experience. And Crestron's DM NVX AV-over-IP platform is well-positioned to lead in this space. As evidenced

by the imminent milestone of one million units shipped, DM NVX has already established itself as a market-leading solution trusted for its reliability and security in a variety of applications. Moving forward, we anticipate further development in form factor of AV-over-IP solutions to achieve a wide variety of application in different spaces. Crestron's ongoing commitment to innovation and investment in the DM NVX platform ensures that we will continue to deliver cutting-edge solutions that meet the evolving needs of the professional AV industry, empowering our partners and users to create seamless and immersive audiovisual experiences."

[Aurora Multimedia](#)

[Crestron Asia](#)

[ESCO](#)

[PTS Consulting \(Singapore\)](#)

INDIA

A Brush with Brilliance - The Silly Fellows Using Barco Projectors Illuminate van Gogh's Legacy for the First Time in India

The iconic masterpieces from van Gogh are illuminated with unparalleled clarity and depth



Photo copyright: The Silly Fellows.

In the heart of Chennai, India, a cultural spectacle unfolds as the “The Real Van Gogh Immersive Experience” makes its debut. Presented by The Silly Fellows and Spectrum AV India as audiovisual supplier, this groundbreaking showcase offers a unique opportunity for art enthusiasts to immerse themselves in the world of Vincent van Gogh like never before. Powered by the **Barco**

G100-W22 projectors, the iconic masterpieces are illuminated with unparalleled clarity and depth, offering attendees an immersive journey through the artist’s life and body of work. This innovative approach promises to bring the impressionist’s vibrant colours and characteristic brush strokes to life in a manner that transcends traditional art appreciation.



FACTFILE

Project Name: The Real Van Gogh Immersive Experience

Project Location: Chennai, India

Project Segment: Exhibition

Project Consultant: The Silly Fellows

Project Systems Integrator: Spectrum AV India

Key AV Solution: Barco G100-W22 projectors

A Canvas of van Gogh's World

With "The Real Van Gogh Immersive Experience" India gets to interact with Vincent van Gogh's art through an unique and engaging immersive experience. The exhibition features four carefully curated rooms taking visitors on a mesmerising journey through van Gogh's extraordinary life.

The Education Room serves as an informative and insightful introduction, providing context and background to the tapestry of van Gogh's life and artistic journey. The Infinity Room, as the name suggests is an expansive space where visitors will find themselves in a mesmerizing environment, setting the stage for a transformative experience.

The Immersive Room is the centerpiece of the experience transporting visitors deeper into the world of van Gogh. Immersive projections and sensory elements enhance the interaction between the audience and the artist's creations. As the play of visuals and sound synchronize to create this one-of-a-kind experience, "The Real Van Gogh Immersive Experience" aims to go beyond the traditional gallery setting with the amalgamation of cutting-edge technology and van Gogh's timeless artistry.

After the immersive journey, visitors have the opportunity to explore The Merchandise Store and an Art Themed Cafe, providing a space for reflection and relaxation, allowing attendees to unwind and discuss their impressions of the exhibition.

Exploring the Brilliance of van Gogh's Vision

For every artainment venue, the primary goal is to bring the original vision of the artist and the intricacies of each masterpiece to life in the best possible way. The Silly Fellows want to bring out the clarity and depth of the art showcased, highlight van Gogh's recognizable technique and create an immersive experience like never before.

Image quality and colour reproduction are key. It demands calibration, ambient light control, image optimization and seamless alignment. The teams at The Silly Fellows and Spectrum AV navigated these complexities with meticulous testing and calibration processes.

Elevating the Immersive Experience with Barco

"The selection of Barco G100-W22 projectors proved instrumental in achieving the exhibition's objectives," Mainak Sengupta at Barco India says. He also added that these single-chip DLP laser projectors meet The Silly Fellows

requirements in terms of image quality, reliability, and flexibility, making them the ideal choice for illuminating van Gogh's masterpieces in all their glory.

Renowned for their exceptional image performance, flexibility, and reliability, the G100 projectors open up new possibilities with higher brightness levels than ever before. Jay Mathuria at Spectrum AV India says: "With 22,000 lumens brightness the Barco projectors bring the digital van Gogh content to life with unparalleled clarity, vibrancy and meticulous details."



G100-W22.

In addition, the G100-W22 projectors and their stable lens holder and extensive GC-lens range offer outstanding flexibility. This ensured smooth blending in the multi-channel setup, while also providing the flexibility to adapt to unique venue layouts when touring to other locations.

Barco's reputation for quality and reliability ensured an immersive experience for the exhibition attendees that exceeded expectations.

A Transformative Artistic Encounter

As "The Real Van Gogh Immersive Experience" unfolds in Chennai and embarks on its tour across India, attendees are treated to an unforgettable sensory journey. While the 19th-century artist may not have been appreciated in his lifetime, his work has the capability of sparking joy in the mind's of all viewers. The bright colours and swirls of paint capture the hearts of people and transports them to their happy places; this immersive exhibit is a great first step for falling in love with art. The fusion of cutting-edge technology and van Gogh's timeless patrimony transcends traditional boundaries, inviting visitors to immerse themselves in the beauty and complexity of his work.

By harnessing the power of Barco's G100-W22 projectors, The Silly Fellows was able to elevate "The Real Van Gogh Immersive Experience" to new heights, offering attendees an unforgettable journey through the artist's world. "At Silly Fellows, we're truly impressed with the exceptional performance of the Barco G100-W22 projectors," says Sharan John at The Silly Fellows. "They've allowed us to accentuate the vivid color palette and bold techniques of van Gogh's masterpieces in ways we never thought possible."

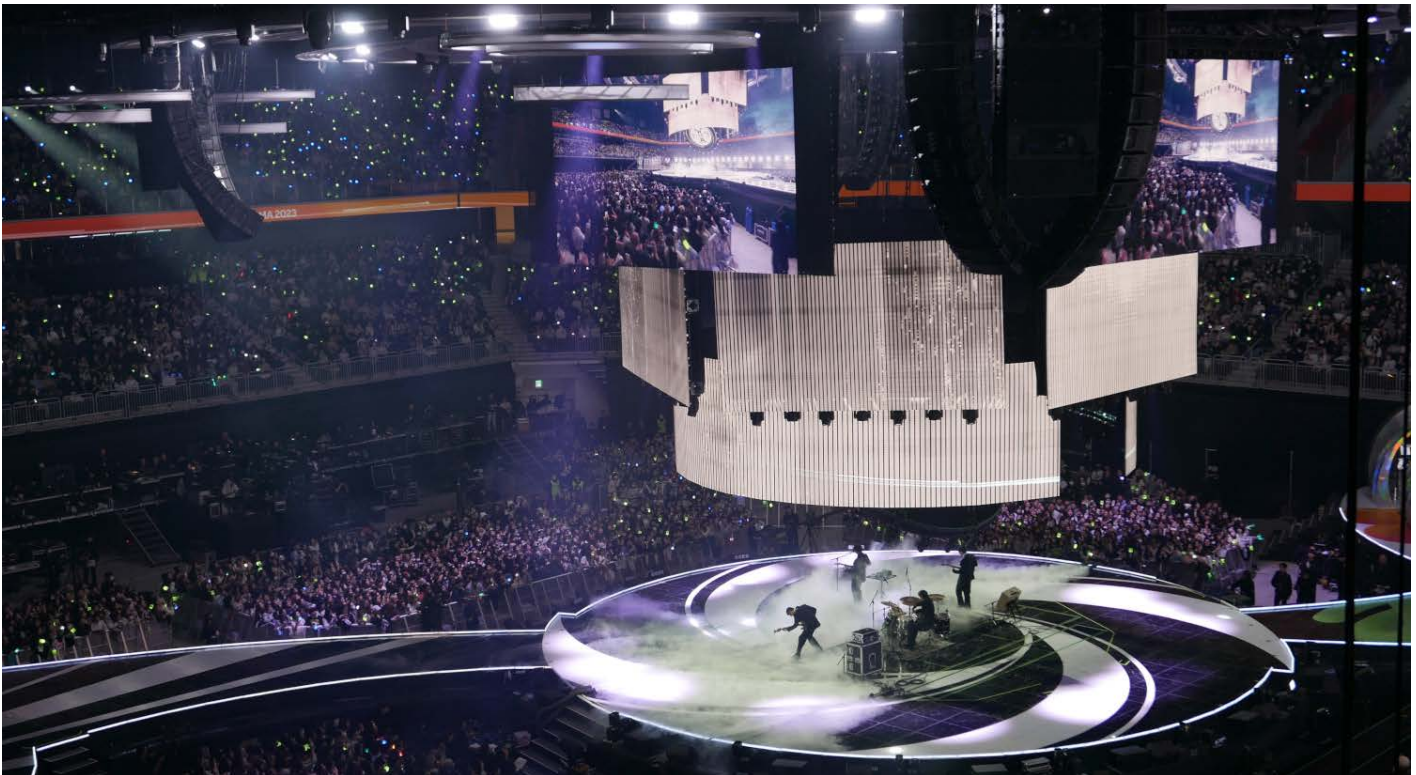
With stunning visuals and immersive technology, the exhibition captivates audiences, cementing its status as a must-see cultural event in the Indian region. With each stroke of color and play of light, the exhibition sparks joy and wonder in the hearts of all who experience it.

Barco

SOUTH KOREA

Meyer Sound and Mohegan INSPIRE Set New Bar for Destination Entertainment

Three separate PAs for concerts, sports and a full concert and delay stack system ensure all demands can be met at the INSPIRE Arena



The **Mohegan INSPIRE Entertainment Resort**, located an hour from Seoul on Yeongjong Island at Incheon International Airport, is South Korea's premier entertainment destination, featuring a five-star hotel, gaming facilities, an indoor water park, conference spaces, and an immersive "digital entertainment street" offering shopping, dining, and entertainment.

Mohegan INSPIRE aims to attract 3.5 million visitors annually, tapping into the global explosion of K-pop and K-culture. Central to this

ambitious plan is the 15,000-seat Inspire Arena, which features a state-of-the-art **Meyer Sound** system.

INSPIRE Arena is built for a wide array of entertainment, from concerts to e-sports tournaments. From the outset, offering turnkey top-of-the-line AV technologies, anchored by world-class sound, was the top priority. "We have a sound system, a lighting system, and a rigging system," explains Kevin Reilly, Mohegan Gaming and Entertainment's Corporate Director

FACTFILE

Project Name: INSPIRE Arena at Mohegan
INSPIRE EntertainmentResort

Project Location: Yeongjong Island, South
Korea

Project Segment: Hospitality

Project Systems Integrator: Ingang Audio

Key AV Solution: Meyer Sound PANTHER,
LEOPARD, and LINA system

of Entertainment Technical Operations. “We designed it so a Western act can show up basically with backline and I have sound and lights and video and a stage and barricade all here.”

Reilly, a 27-year Mohegan veteran, says that this rider-friendly approach mirrors that at the organization’s flagship Mohegan Sun resort in Connecticut, which features a Meyer Sound Lyon and Leopard system. “For all of the shows that we’ve done at Mohegan Sun, we don’t hear ‘no, I don’t want to use your Lyon/Leopard rig,’” he laughs.

INSPIRE Arena’s Meyer Sound concert PA includes 50 Panther large-format linear line array loudspeakers, six Leopard compact linear line array loudspeakers, 32 1100-LFC low-frequency control elements, and 32 MJF high-power stage monitors. Meyer Sound Leopard compact linear line array loudspeakers serve as front fills. The system offers Milan capabilities and is managed by a Galileo Galaxy Network Platform.

A powerful Meyer Sound announcement PA system, featuring 109 LINA very compact linear line array loudspeakers and six 1100-LFC low-frequency control elements, adds versatile

sound reinforcement support. “We tuned the Meyer PA for the main concert PA, and they tuned the announcement PA for sports,” says Reilly. “I told the Meyer team, ‘I want to do comedy, and I need to tie these together. Can you help me make that happen?’ So, I essentially have three separate PAs: the concert PA, the sports PA, and a full concert and delay stack system. You have all the tools here to do what you came to do.”

Meyer Sound systems were supplied and installed by Ingang Audio of Seoul, with support from Andrew Poh, Meyer Sound’s Technical Sales Support, Asia; and Charlie Albin, Technical Support Specialist, UK.

“INSPIRE Entertainment Resort, as the name suggests, is a multifaceted entertainment venue where various forms of entertainment are possible,” explains Ingang Audio Senior Director Ilwhan Park. “It was crucial to achieve high-quality sound that customers can consistently experience from any space.”

Meyer Sound systems support venues throughout the Inspire complex, with a Leopard compact linear line array loudspeaker system at the pedestrian mall’s performance stage, Leopard and 900-LFC low-frequency control



INSPIRE Arena.

elements in the main ballroom, and LINA very compact linear line array loudspeakers and ULTRA-X40 compact loudspeakers throughout the Splash Bay water park.

“With Meyer Sound speakers installed throughout the Inspire Resort, clear and high-quality sound can be experienced in any space, including the arena, the ballroom for events and conferences, Splash Bay, Aurora Bar, and Aurora Street,” says Park. “Furthermore, by installing the same brand in each space, convenience in overall sound system operation and after-sales service were also anticipated.”

The arena soft-opened in December with the 2023 Melon Music Awards show, which was presented in the round using supplemental speakers provided by Sound Alliance Korea.

“I had the opportunity to attend the first main event at INSPIRE Arena, the 2023 Melon Music Awards,” says Park. “The sound experienced throughout the event, utilizing Meyer Sound

Panther, was truly impressive. This was not just my personal impression, but the innovative sound system was widely recognized by the audience and media covering the event.”

Other inaugural events included shows by K-pop stars Taemin, TVXQ, and AKMU. The grand opening was on March 5, followed by performances by the Inspire Salute, featuring iconic K-pop artists PSY and Taeyang; a concert by K-pop star Epik High; and the WTT international table tennis championship.

“INSPIRE Arena is truly the venue of the future,” says Scott Gledhill, Meyer Sound’s Director of International Sales. “It’s optimal for live entertainment, and for the K-pop market. The project’s success is a testament not only to Meyer Sound’s commitment to delivering unparalleled sonic experiences but to Kevin Reilly’s visionary approach and the standards he sets for leading the way in entertainment venues worldwide.”

INDIA

India's Space Vision Manifested in AV

A unique space museum opens at Jhansi, with innovative immersive technology play

by Ram Bhavanashi



The exterior of the Jhansi Space Museum.

India – perhaps, journeying through the age of museums, alongside the space age – has a new, grand statement in a space museum. Created at Jhansi, as part of the Jhansi Smart City Project, the technology-powered Indian space vision – from time immemorial to Chandrayaan-3 – is a masterly creative work of immersive audio-visual ensemble, curated by Pan Intellectcom in association with content creator Axis 3D Studios, and technology partners Digital Projection,

Dataton-WatchOut, Full Dome Pro, ElectroVoice and more.

The museum was inaugurated mid- March by Uttar Pradesh Chief Minister Yogi Aditya Nath.

SI Asia presents an account of the ambitious space museum. Read on:

FACTFILE

Project Name: Art Space Museum at Jhansi

Project Location: Rani Laxmi Bai Park, Jhansi, Uttar Pradesh, India

Project Segment: Infotainment

Project Management Consultant: STUP Consultants

Project Design Consultants: Axis 3Dee Studios

Project Architects/Interior Designers: Axis 3Dee Studios

Project Acoustic Consultants: Pan Intellectom Ltd.

Project Systems Integrator: Pan Intellectom Ltd.

Project Contractors: Pan Intellectom Ltd. (Turnkey Contractor)

Key AV Brands: Electro Voice speakers, Dataton for Media Management, Digital Projection projectors, Full Dome Pro for Dome solution and LBT Electronics for RGB lights

Project Highlights: Multiple edge-blended projection mapping on curved screens, planets, etc; Dome Theatre; Kinetics Installation; Mapping on Mural; Immersive Projection; Seamless Backlit Displays; Large 4 sided hologram and Interactive Gaming
It's a manifestation of a different kind. The story of mankind vis-à-vis its 'space' in the universe! A story retold from the antiquity-old perspective of Indian genius that scaped the space before anyone else, arguably better than anyone else, and bequeathed to humanity more authoritatively than anyone else.



The Origin

The Space Museum at Rani Laxmi Bai Park in Jhansi, in the North Indian State of Uttar

Pradesh – created as part of the Jhansi Smart City development project – is an arguably one-of-its-kind expedition in Infotainment; a masterly creative blend of exquisite craftsmanship; an insightful, and immersive story-telling; and an ingenious weaving of audio-visual technology.

A ₹45 crore (US\$5.4million approx.)-initiative by the Jhansi Smart City Limited (JSCL), working under the aegis of Smart Cities Mission of Government of India, the museum is all about how Indian genius from its antiquity to the modern day has explored, nay, expounded the *brahmāṇḍa*(the universe), and enriched the human understanding of the space surrounding

as well as transcending the planet earth. It all started in Jan, 2022, when **Avinash Rai, IAS**, the then **Municipal Commissioner of Jhansi**, and CEO of JSCL ideated to create at Jhansi a world-class facility on space science that would be on par with, if not better, than international standards. The idea was to showcase the vast subject of universe and India's contribution to the cause of space science from the earliest times to Chandrayaan-3, in the medium of sophisticated audio-visual technology, and present it in a very lucid fashion.

JSCL moved swiftly and worked towards getting a team on board, in terms of both AV technology solutions vendor, and subject matter experts to create content for AV framework to speak through. Thus came on board:

- * AV systems integrator- PAN Intellectcom (who also handled a massive chunk of acoustic work)
- * Content curator- Avijit Samajdar, Director, Axis 3D Studios

- * Subject matter expert Dr. Debiprosad Duari- eminent space scientist and Director-Research & Academic at M. P. Birla Institute of Fundamental Research, Kolkata

There is also a galaxy of high-profile officials from the JSCL who have put in their mind and mettle to make the project a marvel of men 'n' matter.

"The ideation was simple to begin with- to ignite curiosity among young visitors, in our geographical history; tracing our grand heritage back to the brilliant minds of the past who



pioneered in astronomy," **Harbir Singh, Managing Director** of the AV systems integration firm **PAN Intellectcom** reveals. "This via a sophisticated medium of audio-visual technology, and acting subtly from behind, while making subject speak lucidly from front."

According to him, the client wanted creation of an experience hitherto unseen in this part of the world, incorporating latest, cutting edge technology and immersive content creation.



His deputy, and **General Manager at PAN, Sankalp Srivastava** adds: "The objective was not just establishing a space museum; it was to educate visitors on

the illustrious antiquity of India's past, and the invaluable contributions made by ancient, medieval and current generations in the field- all this, utilizing cutting-edge technology."



According to **Avijit Samajdar, Director of Axis 3D Studios**, they ideated various options at the drawing board, and finally zeroed in on a combination of diverse

technology models, in tune with the topic of the space chosen, to create a complete experience for the visitors.

The combination of technology models thus ideated is:

- * **Kinetic models** – to show the indomitable

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human spirit of going beyond its limitations to explore the unknown, including Chandrayaan-3

* **Blended Projections** – to show the origin, and the theory of expansion of the Universe

* **Projection Mapping** - to depict the dynamics of solar system; the scale of planets vis-à-vis the earth as well as the story of astronomical discoveries made by ancient Indian geniuses, as narrated by Aryabhatta

* **Holograms** – to show the birth, life and death of stars

* **Multi-surface fully immersive experiences** – to depict the Mother Earth, humanity's only home and its relation to humans, and vice versa

* **Full dome projection** – to present a fantastic journey to the edge of the known universe and humans' existence therein

* **LED Walls & Screens** – to unravel out facts and details of the subjects involved

* **Interactive screens** – to stimulate interest of the visitors through various topics and quizzes on the subjects chaptered in the museum

* **Immersive Games** – to fully immerse the visitors through intelligent gaming and journey them to

Given the exalted objective, the project team had truly a big task on hand. They had to do a very extensive research and exploration to gain a comprehensive understanding of the requirements for the project. They visited quite a few venues of space science both in and



The Hologram is aimed at creating an immersive experience.

outside India before conceptualizing the content design.

"We drew significant inspiration from our international experiences, particularly from the *CosmoCaixa Science Museum* in Barcelona," reveals Avijit Samajdar. "The Spanish museum is renowned for its innovative use of technology to convey scientific concepts effectively," he observes. "We embarked on a journey to reach the clouds, and now as we gaze beyond, we rejoice in our ability to soar among the stars."

According to him, the museum's layout is thoughtfully crafted to unfold a rich tapestry of experiences as visitors journey through its galleries. Each exhibit seeks to enrich and engage both young and old alike, fostering a deeper understanding and appreciation of the cosmos.

The Task Big Bang

The subject depths touched upon and depicted are veritably galactic. Consider this:

Gallery 1 – Origin of the Universe: Soon after passing the Reception of *Raasi Mandala (the twelve Raasis of Zodiac)*, begins the journey

The journey encompasses exploration beyond the Milky Way galaxy, encountering phenomena such as the Andromeda galaxy and Black Holes, reaching distances of up to 10 billion light-years away. Through this awe-inspiring experience, visitors are reminded of the sheer insignificance of the Earth in the vast cosmic scheme, highlighting humans' collective existence on this tiny dot amidst the cosmos.

Additionally, the dome theatre offers other engaging content on various space-related topics for visitors to explore and enjoy.

"This museum offers a truly unparalleled experience unlike anything visitors have encountered before," sums up Harbir. "We've incorporated elements that captivate the interest of both the commoners and connoisseurs- in their own levels."

Changing Constellation

Veritably galactic that it might look like, the museum hasn't taken its current shape like an easy go. It had its own phases of modifications, as the Client side comprising high-ranking officials with deep knowledge about the subject value-added from time to time.

"One significant modification involved complete redesign of the Reception Area based on the stakeholder input," recalls Sankalp. "Pulkit Garg, IAS, who was then heading the JSCL, provided unwavering support for all proposed improvements."

According to the PAN Exec, the use of humanoids via kinetics was among the notable additions.

"Following India's successful expedition of *Chandrayaan-3* – landing on the moon's darker side in August 2023 – we decided to incorporate a working model of the spacecraft 'landing' on a replica of the lunar surface created on the museum's dome."

Also, according to him, the initial plan to integrate a seamless hologram was revised to create independent, standalone holographic projections. This amendment allowed visitors to operate them simultaneously and independently.

Even as this was shaping up, the PAN chief Harbir Singh felt the experience would soar higher into the outer space if they had a projection mapping of the solar system. The stakeholders agreed, and it culminated into that crescendo.

Technology to Visualize the 'Space'

After due diligence and evaluation, it was decided to opt for Digital Projection for all visual functionalities. Similarly, Electro-Voice speakers were chosen for audio. For synchronizing the audio and visual content seamlessly, the team opted for domain leaders Dataton WatchOut software.

The audio component here doesn't have any headphone set-up, which is common to most museums, to listen to the audio in respective zones. The audio calibration is done in such a way that the visitors in a particular zone hear only the audio of that zone, without any overlap from other zones.

According to Sankalp, the integration team had installed a special sound hardware to maintain zonal integrity of the audio.

For running the content on Dome Theatre, seamlessly integrating multiple projectors in the dome format, the team opted for American domain leader FullDome.pro's solution.



Comments **Tushar Srivastava, Director-India, Digital Projection**, from an OEM perspective: "The space museum holds immense significance for Digital

Projection India, not just as a source of pride but also as a showcase of projectors' brilliance that has truly enhanced the overall experience."

For him, while it is extremely difficult to choose which of the many inspiring things inside is more awesome than the others, the dome theatre and the immersive zone with its captivating content would make the visitors

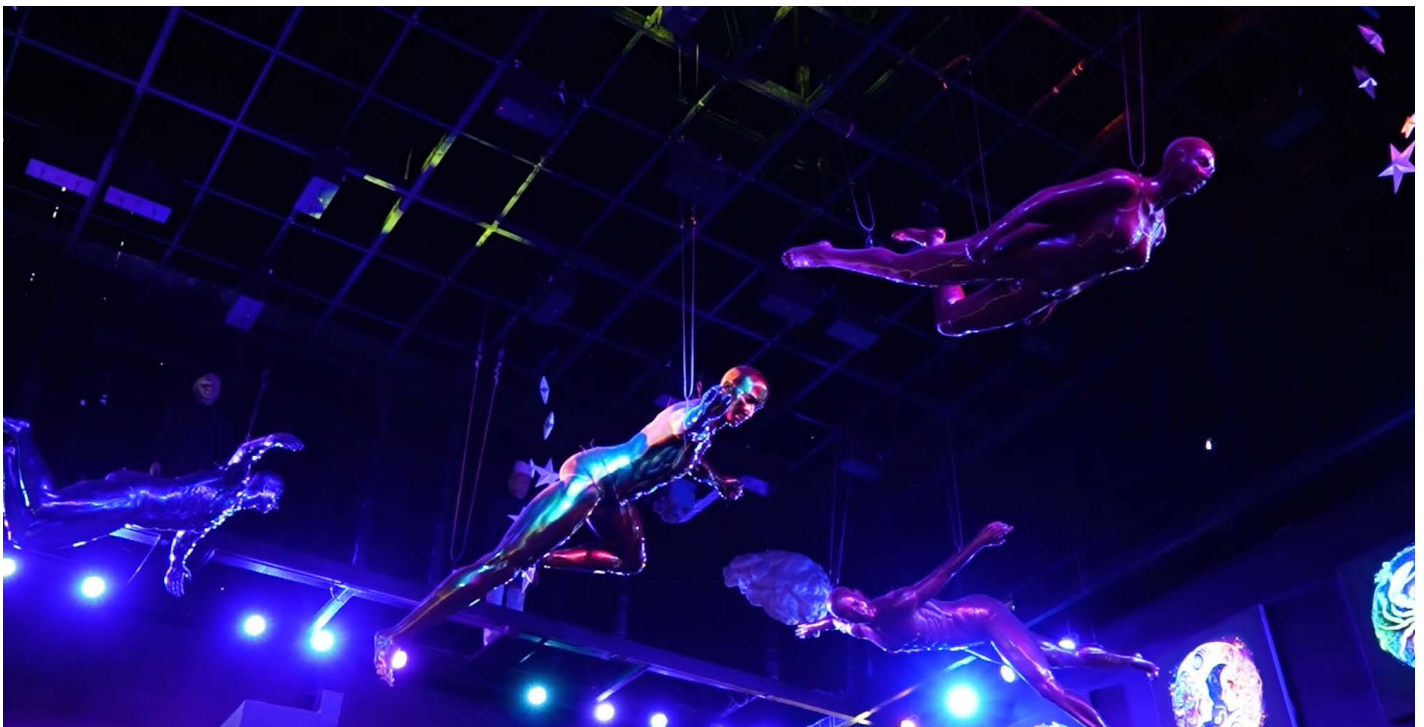
takeaway a great immersive experience and understanding of the subject, powered by technology.



Ashok Sharma of Dataton WatchOut is just as excited. "The way PAN Intellect team led it all, moved around, and captured the nuances, as we trained

their personnel on making the WatchOut do its best is simply fulfilling," he commends. "We are only delighted that we are chosen for such prestigious project."

On the content part, Avijit's team – in collaboration with leading-edge CG tools – custom created immersive dome content depicting the journey through the universe. In addition, subtle 'Schumann Resonances'



High roofs were created to accommodate the suspended Kinetic Humanoids.

were incorporated into the music to enhance the outer-world experience. The content also features RTCC (Real-Time Colour Cancellation) technology, enhancing color vibrancy on the projection surface.

The content team, while it worked on the space story, its scripting expertise had been guided and value-added all through the journey by Dr. Debiprosad Duari as the *Subject Matter Expert* to the project. A Fellow of the *Royal Astronomical Society* and a Member of the *International Astronomical Union*, besides being at the helm of M. P. Birla Institute of Fundamental Research, Kolkata, Dr. Duari brought to exhibit his expertise to hone the content to an immersive effect.

Challenges of 'Space'

A museum of this scale couldn't happen without a challenge. While coordination and time constraint is very generic thing, it had it's own kind of challenges.

Synchronization between the physical structure and application of technology modules posed a significant challenge. The building design had to be meticulously planned from the drawing stages to accommodate the heavy technology used in various zones.

"Special considerations were made for features such as high-roofs in the Reception area to accommodate suspended kinetic humanoids, and the Chandrayaan-3 model," reveals Sankalp. "Acoustic treatment was essential for the dome to ensure optimal Surround Sound without interference," he explains. "Walls were specially treated to accommodate giant signages and

backlights as well as acoustically meticulous audio."

Installing the chosen format on-site also presented logistical challenges, as well as complexities and delicacies associated with the systems. "The building design was carefully crafted to integrate seamlessly with the technology requirements to ensure that the physical structure supported the chosen formats synchronously," explains Harbir. "Changes were incorporated as necessary to accommodate Avijit's innovative designs, while ensuring overall integrity of the project."

Experiencing the Space Expedition

The final outcome is a fruition of hard labour by everyone involved, says the PAN chief. The museum stands a testament to the culmination of innovation, and dedicated effort and innovation. "This journey has been profoundly fulfilling."

According to Avijit, one of the most captivating exhibits in the museum is the main reception area, which serves as a tribute to India's rich heritage and incredible achievements it made throughout history.

Adorning the facing wall in the area is a mural of Aryabhatta, the esteemed 5th-century mathematician and astronomer. Through a mesmerizing projection mapping, Aryabhatta's image comes alive, narrating the groundbreaking discoveries made by him and his contemporaries, which continue to underpin modern mathematics and astronomy.

"The sight of kinetic humanoids gracefully moving up and down captivates visitors,



Interactive games incorporated to entice and involve young minds.

symbolizing humanity's relentless pursuit of knowledge." Avijit explains. "Even as they get immersed in it, the intricately designed circuit on the floor symbolizes how scientific advancements have propelled humanity's exploration into space and beyond," he elaborates. "The reflection of these humanoids on the mirrored floor serves as a poignant reminder of our ancestors' contributions to the scientific knowledge that shapes our world today."

Acknowledgement

The Pan chief humbly acknowledges the support he received from the JSCL ranks that included Dr Adarsh Singh, IAS, Former Divisional Commissioner/Chairman of JSCL; Satya Prakash, IAS, Divisional Commissioner/Chairman Jhansi Smart City; and Bimal Kumar Dubey, IAS, Municipal Commissioner/CEO JSCL Ltd.

"We own a huge amount of gratitude to these officials not just for their knowledge, but the grand support they extended one after the other," Harbir acknowledges. "Also a special word of thanks to KB Singh, Nodal Head-PMC, JSCL, who, since the inception of this project, has always been there to suggest improvements and ensure successful completion of this project."

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